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Oakland, California 94612

Final Feasibility Study for the General Services Area Operable Unit Lawrence Livermore National Laboratory Site 300

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Environmental Protection Department
Environmental Restoration Division

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Certification

I certify that the work presented in this report was performed under my supervision. To the best of my knowledge, the data contained herein are true and accurate, and the work was performed in accordance with professional standards.

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Executive Summary

This Feasibility Study (FS) was prepared at the request of the U.S. Department of Energy (U.S. DOE) by Lawrence Livermore National Laboratory (LLNL) for the General Services Area (GSA) operable unit (OU) of the LLNL Site 300 Experimental Test Site near Tracy, California. It is prepared in accordance with the terms outlined in the Site 300 Federal Facility Agreement (FFA) negotiated between U.S. DOE, U.S. Environmental Protection Agency (U.S. EPA), California Department of Toxic Substances Control (DTSC), and California Regional Water Quality Control Board (RWQCB). This FS is prepared in compliance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA). This FS also complies with DOE Order 5400.4 by including an assessment of general environmental considerations/impacts posed by future remedial action as required by the National Environmental Policy Act (NEPA). Together with the Final Site-Wide Remedial Investigation (SWRI) report (Webster-Scholten, 1994), which characterized Site 300, the FS forms the basis for developing, evaluating, and selecting remedies for the GSA OU.

The GSA OU is located in the southeast corner of Site 300. This OU addresses soil and ground water contamination at the GSA on LLNL property and on adjacent private property to the south and northeast along Corral Hollow Creek to property owned by Physics International. For the purposes of this report, the GSA OU has been divided into two subareas: the central GSA and eastern GSA, based on differences in hydrogeology, contaminant source areas, and the location of ground water contaminant plumes.

Historical and analytical data obtained as part of the SWRI indicate that volatile organic compounds (VOCs) were released to the subsurface from past operations in the central GSA and eastern GSA. The release points identified as the source of VOC contamination in soil/rock, soil vapor, and ground water in the central GSA include a former drum storage rack, a steam cleaning/sink area, and several dry wells that were used for disposal of solvents and other chemicals. In the eastern GSA, data indicate that several debris burial trenches contribute to a plume of VOCs in ground water.

Since 1982, ground water monitoring, surface and subsurface soil sampling, soil vapor surveys, and soil vapor flux sampling have been conducted at the GSA OU. Trichloroethylene (TCE) has been the most frequently detected VOC in soil/rock and soil vapor as well as in ground water. TCE has been identified as the primary chemical of concern, typically comprising 85 to 95% or more of the total VOCs detected. Other chemicals associated with the TCE releases in the OU include tetrachloroethylene (PCE), 1,1-dichloroethylene (DCE), 1,2-DCE, and freon compounds. These data also indicate that no significant concentrations of metals, high-explosive compounds, radionuclides, PCBs, or other contaminants have been released to the environment in the GSA OU.

The highest TCE concentration detected in ground water in the central GSA was 240,000 µg/L in a sample bailed from an open borehole in the vicinity of the former Building 875 dry wells. VOCs have also been detected at significantly lower concentrations (up to 180 µg/L TCE) in ground water from monitor wells in the vicinity of the other four confirmed release sites in the central GSA. As a result of the chemical releases at the central GSA dry wells, a TCE ground water plume extends 200 ft east-southeast into the Corral Hollow Creek alluvium.

In the eastern GSA, TCE has been detected in ground water in the vicinity of and downgradient from the debris burial trench release site at concentrations of up to 74 µg/L. A TCE ground water plume extends eastward from the debris burial trench area and turns northward as it enters the alluvium of the Corral Hollow paleostream channel. The plume currently extends approximately 2,300 ft downgradient from the debris burial trench release site.

To address the VOC contamination, LLNL implemented CERCLA Removal Actions to remediate VOCs in soil and ground water in the central GSA and in ground water in the eastern GSA. Since April 1993, a ground water treatment system (GWTS) has been in operation in the central GSA at the former Building 875 dry well pad area. To date, over 270,000 gal of ground water have been extracted and treated. Following dewatering of the dry well pad area through ground water extraction, soil vapor extraction and treatment was initiated in July 1994. The total mass of VOCs extracted through ground water and soil vapor remediation activities to date is 9,080 g. In the vicinity of the eastern GSA debris burial trench area, ground water extraction and treatment has been conducted since June 1991. To date, over 50 million gal of ground water have been extracted and treated in the eastern GSA GWTS with 2,357 g of VOCs removed from ground water. Analytic data indicate that VOC concentrations in ground water collected from monitor wells in the vicinity of the remediation systems have decreased significantly since the initiation of the removal actions.

A baseline risk assessment was performed as part of the SWRI to evaluate the potential risk and hazard to adults and ecological receptors that may be exposed to contaminants detected in soil and ground water. The assessment evaluated exposure and risk from predicted and measured concentrations of VOCs and other contaminants:

- In surface soil throughout the OU
- In ambient air inside Building 875,
- In ambient outdoor air throughout the OU,
- In alluvial ground water from hypothetical wells at the central GSA and eastern GSA site boundaries, in ground water pumped from off-site well CDF-1, and in off-site alluvial ground water at the sheep ranch well SR-1, and
- In ecologically significant media throughout the OU.

The National Contingency Plan (NCP) states that, for known or suspected carcinogens, acceptable exposure levels are generally concentration levels that represent an excess, upper bound, lifetime cancer risk to an individual of between 10^{-4} and 10^{-6}, using information between dose and response. The 10^{-6} risk level shall be used as the point of departure for determining remediation goals for alternatives when ARARs are not available or are not sufficiently protective because of the presence of multiple contaminants at the site or multiple pathways of exposure. The 10^{-4} to 10^{-6} risk range is generally acceptable when used for risk-management decisions. The U.S. EPA (1989) indicates that a noncancer hazard index (HI) greater than 1.0 may be associated with noncarcinogenic adverse health effects.

The risk and HI estimates for use of shallow ground water from a hypothetical well at the site boundary near the Building 875 dry well area yielded a risk of 7×10^{-2} and an HI of 560. These values indicate that if well water from this area were used on a regular basis, it would present an unacceptable risk of cancer as well as a potential for noncancer adverse health effects. However, water in this area is not currently used for domestic purposes; and remediation activities are underway to remove ground water contaminants and central plume migration. The calculated risks and HIs for potential residential use of ground water at the eastern GSA site boundary, and at the off-site wells CDF-1 and SR-1, range from 5×10^{-5} to 1×10^{-5}; the HIs range from 1.4×10^{-1} to 5.0×10^{-1}.

Our estimates of excess cancer risk (2×10^{-10} to 2×10^{-7}) or HI (5.6×10^{-5} to 8.5×10^{-3}) indicate that potential excess cancer risk and noncancer hazard are well within acceptable levels. These estimates are based on adult on-site (AOS) exposure to surface soil contaminants through inhalation of resuspended particulates, ingestion, and dermal adsorption from surface soils in the GSA. Also within acceptable levels are the estimates of excess cancer risk (7×10^{-7} to 2×10^{-7}) and HI (6.2×10^{-3} to 2.4×10^{-2}) for AOS exposure through inhalation of VOC vapors that flux from soil to outdoor air. For the debris burial trenches and vicinity, these risk and hazard values are used in conjunction with those values presented in the SWRI report to provide a range of potential risks associated with the outdoor air in this area.

Adults on site who work in Building 875 may be exposed to VOCs that flux from soil to indoor air. For this exposure scenario, our calculations yielded an estimate of potential risk of 1×10^{-5} and an HI of 3.0×10^{-1}.

As part of the FS process, we identified the federal, state, and local chemical-, location-, and action-specific Applicable or Relevant and Appropriate Requirements (ARARs), as well as other criteria to be considered (TBC). The identification of ARARs and TBCs, combined with site conditions, potential exposure routes and receptors, and potential impacts to human health and the environment, resulted in the development of the following remedial action objectives (RAOs) for the GSA OU.

RAOs consist of media-specific goals for protecting human health and the environment. Three RAOs have been developed for the GSA OU based on potential impacts to human health and the environment. Two RAOs (ground water and indoor air) are based on potential adverse impacts to human health modeled in the SWRI report baseline risk assessment. One RAO (ground water) is based on potential adverse impacts to the environment. Although no specific environmental risks were identified in the SWRI report ecological risk assessment, this RAO addresses protection of beneficial uses of ground water. These three RAOs are as follows:

For Human Health Protection:

- Prevent human ingestion of the ground water containing VOC concentrations (single carcinogen) above the State and Federal drinking water maximum contaminant levels (MCLs), a cumulative excess cancer risk (all carcinogens) greater than 10^{-6}, and a cumulative HI (all noncarcinogens) greater than 1.
- Prevent human inhalation of VOCs in vapor in concentrations above those that pose an excess cancer risk greater than 10^{-6}.

For Environmental Protection:

- Restore water quality, at a minimum, to water quality objectives which are protective of beneficial uses (MCLs in this case).

- Restore water quality, at a minimum, to water quality objectives which are protective of beneficial uses (MCLs in this case).

General Response Actions capable of achieving these RAOs at the GSA OU include administrative controls, contaminant containment/mobility restriction, extraction, treatment, and disposal. Based on these General Response Actions, technology and process options were explored and assembled into three alternatives. Although specific innovative technologies are not discussed as integral components of the presented alternatives, they will continue to be considered for application to the site throughout the process of remediation. Appropriate innovative technologies may be introduced into the remedial process if site conditions change or technology development and testing indicate a potential for cost-effective and expedited remediation.

The key features of the alternatives and present-worth costs are summarized in Table EX-1. Alternative 1, the required no-action baseline alternative, includes administrative controls, continued ecological surveys, and ground water monitoring. Alternative 2 includes all elements of Alternative 1, but provides human health exposure control by sealing and abandoning two threatened off-site water-supply wells, replacing them with one new well away from the potential plume migration path, and providing contingency point-of-use treatment for another water-supply well. Both scenarios of Alternative 3 (3a and 3b) include all elements of Alternative 2 and add active remediation of the soil and ground water through soil vapor and ground water extraction and treatment.

These alternatives were compared using the first seven of the following nine U.S. EPA evaluation criteria:

1. Overall protection of human health and the environment.
2. Compliance with ARARs.
3. Long-term effectiveness and permanence.
4. Reduction of toxicity, mobility, and volume.
5. Short-term effectiveness.
6. Implementability.
7. Cost.
8. State acceptance.
9. Community acceptance.

The results of the comparative analysis of the remedial alternatives are presented in Table EX-2. State and community acceptance will be addressed in the Record of Decision (ROD) report following comments on the FS report and the Proposed Plan.

As part of DOE NEPA/CERCLA integration requirements, we also evaluated the potential impacts that implementation of the remedial alternatives could have on the environment on site and off site. As part of this evaluation, the environmental human health risk from a worst-case accident scenario was also assessed.

Table EX-1. GSA operable unit remedial alternatives.

	Alternative 1 No action	Alternative 2 Exposure control	Alternative 3a Remediation and protection of the $Tnbs_1$ regional aquifer	Alternative 3b Ground water plume remediation
Key features:	Administrative controls. Continued ecological surveys. Ground water monitoring.	All elements of Alternative 1 plus: Seal and abandon water-supply wells CDF-1 and CON-1. Replace with new water-supply well. Contingency point-of-use treatment for water-supply well SR-1.	All elements of Alternative 2 plus: Soil vapor extraction and treatment for 10 years in central GSA. Ground water extraction and treatment in eastern GSA for 10 years. Ground water extraction and treatment in central GSA for 30 years.	All elements of Alternative 2 plus: Soil vapor extraction and treatment for 10 years in central GSA. Ground water extraction and treatment in eastern GSA for 10 years. Ground water extraction and treatment in central GSA for 55 years.

Table EX-1. (Continued)

	Alternative 1 No action	Alternative 2 Exposure control	Alternative 3a Remediation and protection of the $Tnbs_1$ regional aquifer	Alternative 3b Ground water plume remediation
Active remediation goals:	Not applicable/no active remediation.	Not applicable/no active remediation.	Soil vapor: 0.36 $ppm_{v/v}$ TCE (soil vapor concentration in equilibrium with ground water at MCL for TCE and health protective for workers inside Building 875). $Tnbs_1$ regional aquifer and eastern GSA alluvial aquifer: MCLs. Central GSA alluvial aquifer: 100 µg/L TCE (maximum ground water concentration at source, which can be left in place while still being protective of the $Tnbs_1$ regional aquifer).	Soil vapor: 0.36 $ppm_{v/v}$ TCE (soil vapor concentration in equilibrium with ground water at MCL for TCE and health protective for workers inside Building 875). $Tnbs_1$ regional aquifer and eastern GSA alluvial aquifer: MCLs. Central GSA alluvial aquifer: MCLs.
Estimated time to achieve active remediation goals:	Not applicable.	Not applicable.	Soil vapor: 10 years $Tnbs_1$ Regional aquifer and eastern GSA alluvial aquifer: 10 years. Central GSA alluvial aquifer: 30 years.	Soil vapor: 10 years $Tnbs_1$ regional aquifer and eastern GSA alluvial aquifer: 10 years. Central GSA alluvial aquifer: 55 years.
Total project life:[a]	80 years	80 years	70 years	60 years

Table EX-1. (Continued)

	Alternative 1 No action	Alternative 2 Exposure control	Alternative 3a Remediation and protection of the $Tnbs_1$ regional aquifer	Alternative 3b Ground water plume remediation
1995 Present-worth cost (3.5% discount rate):	$4.27M	$4.57M	$18.05M	$19.75M
1995 Nondiscounted cost (0% discount rate):	$11.16M	$11.42M	$28.84M	$35.29M
3% Inflated cost (negative 3% discount rate)[b]:	$45.46M	$45.50M	$61.43M	$80.76M

[a] Project life is based on monitoring until five years after MCLs are reached in both the $Tnbs_1$ regional aquifer and the alluvial aquifer. MCLs are reached by active remediation and/or natural attenuation and dispersion.

[b] 3% inflated costs are presented in Appendix H only.

1. Introduction

This Feasibility Study (FS) was prepared by Lawrence Livermore National Laboratory (LLNL) for the General Services Area (GSA) operable unit (OU) of the LLNL Site 300 experimental test facility near Tracy, California, in accordance with the terms outlined in the Federal Facility Agreement (FFA). The FFA was negotiated between the U.S. Department of Energy (DOE), U.S. Environmental Protection Agency (EPA), California Department of Toxic Substances Control (DTSC), and California Regional Water Quality Control Board (RWQCB). The FFA provides the framework for the conduct of the site cleanup and preparation of necessary regulatory documents. This FS is prepared in compliance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA). The FS, along with the previously conducted *Site-Wide Remedial Investigation* (SWRI) (Webster-Scholten, 1994), forms the basis for evaluating and selecting alternative technologies for remediation of contaminants beneath the GSA OU. The FS process involves:

- Identifying remedial action objectives based on Applicable or Relevant and Appropriate Requirements (ARARs).
- Identifying general response actions.
- Identifying potential treatment and containment technologies and the associated process options.
- Screening various technologies and process options based on their effectiveness, implementability, and cost.
- Assembling the selected technologies into alternatives for remediation of contaminants beneath the GSA OU.

1.1. Purpose

The purpose of this FS is to develop and evaluate alternatives for remedial action at the GSA in accordance with CERCLA/SARA and the National Environmental Policy Act (NEPA). The FS process will also result in the selection and subsequent implementation of cost-effective remedial alternatives to provide adequate protection of human health and the environment.

The FS is based on the remedial investigation of the GSA study area presented in Chapter 14 of the SWRI report (Webster-Scholten, 1994) and additional data obtained as part of the GSA Characterization Plan field work conducted in early- to mid-1994. This chapter provides a summary of the information presented in the SWRI report and presents the findings of the Characterization Plan field work. Chapters 2 through 5 present the determination of ARARs, evaluation of technologies, description of alternatives, analysis of alternatives, and recommended alternatives. Chapter 6 presents environmental considerations based on implementation of the alternatives.

During the characterization phase of the remedial investigation, the GSA was divided into two subareas: the eastern and central GSA. This division helps simplify discussions of differences in local hydrogeology, contaminant source areas, and location and migration of the contaminant plumes. However, as part of the FS process discussed in Chapter 2, we identified federal and state ARARs which, combined with the site conditions, potential exposure routes and receptors, and potential adverse impacts to human health and the environment, resulted in the development of remedial action objectives (RAOs) for the GSA OU:

For Human Health Protection:

- Prevent human ingestion of the ground water containing VOC concentrations (single carcinogen) above the State and Federal drinking water maximum contaminant levels (MCLs), a cumulative excess cancer risk (all carcinogens) greater than 10^{-6}, and a cumulative hazard index (HI) (all noncarcinogens) greater than 1.
- Prevent human inhalation of VOCs in vapor in concentrations above those that pose an excess cancer risk greater than 10^{-6}.

For Environmental Protection:

- Restore water quality, at a minimum, to water quality objectives which are protective of beneficial uses (MCLs in this case).

Based on these common RAOs, the remedial alternatives for the eastern and central GSA are discussed together in Chapter 4 and evaluated against the National Contingency Plan (NCP) evaluation criteria in Chapter 5. Each alternative was developed taking into consideration the unique properties of and differences between the eastern and central GSA. The alternative costs were based on modeling conducted to evaluate the length of time necessary to meet the RAOs for ground water in these areas. However, there are different remedial designs and project lives estimated for these two areas based on differences in contaminant concentrations, ground water flow, and plume configurations.

1.2. Background

LLNL Site 300 is a DOE experimental test facility operated by the University of California. The facility is located in the eastern Altamont Hills about 13 miles southeast of the main Laboratory in Livermore and 8.5 miles southwest of Tracy (Fig. 1-1). Site 300 is primarily a high-explosives (HE) test facility that supports the LLNL weapons program in research, development, and testing associated with weapon components. This work includes explosives processing; preparation of new explosives; and pressing, machining, and assembly of explosives components. Site 300 activities also include hydrodynamic testing for verifying computer simulation results, obtaining equation-of-state data for weapons materials, evaluating material behavior at assembly joints and welds, evaluating the quality and uniformity of implosion, and evaluating the performance of post-nuclear test design modifications (LLNL, 1991). Occasionally, experiments performed at Site 300 do not involve high explosives. These experiments may require more space or isolation or may have other requirements that cannot be met at the Livermore Main Site (U.S. DOE, 1982). Access to Site 300 is restricted.

Prior to August 1990, investigations of potential chemical contamination at Site 300 were conducted under the oversight of the California RWQCB-Central Valley Region. In August 1990, Site 300 was placed on the National Priorities List (NPL). Since then, all investigations, including the preparation of the SWRI report, have been conducted in accordance with CERCLA under the oversight of the three supervising regulatory agencies: EPA, RWQCB, and DTSC.

The GSA encompasses the area designated as OU 1 in the FFA and is located on the southeast edge of Site 300 (Fig. 1-2). Included in this OU are off-site areas to the south, east, and northeast of the GSA property. The GSA provides administrative and support services for Site 300, including motor pool and vehicle repair, painting, maintenance, and chemical storage. The GSA has been informally divided into two areas for the SWRI and this FS: central and eastern. Volatile organic compounds (VOCs) and other compounds were released to the subsurface from past operations in the central and eastern GSA. Analytical data presented in the SWRI report indicate that VOCs are present in soil/rock, soil vapor, and ground water. These data also indicate that no significant concentrations of metals, HE compounds, radionuclides, polychlorinated biphenyls (PCBs), or other chemical compounds have been released to the environment at the GSA OU.

Trichloroethylene (TCE) has been the most frequently detected VOC in soil/rock and soil vapor as well as in ground water within the GSA OU. TCE has been identified as the primary chemical of concern; other chemicals associated with the TCE releases in the OU include tetrachloroethylene (PCE), 1,1-dichloroethylene (DCE), 1,2-DCE, and freon compounds.

The release points that are identified sources in the central GSA are a former drum storage rack, a steam cleaning/sink area, and several dry wells that were used for disposal of solvents and other chemicals. In the eastern GSA, data indicate that several debris burial trenches contribute to the plume of VOCs in ground water.

1.2.1. Description of Site 300

Site 300 is located in the southeastern Altamont Hills of the Diablo Range, about 30 miles east of San Francisco Bay. The site covers 10.4 mi^2, most of which is in San Joaquin County (Fig. 1-1). The western one-sixth of the site is located in Alameda County.

The topography of Site 300 consists of a series of steep hills and canyons generally oriented northwest to southeast. Elevation ranges from about 500 ft in the southeast corner to about 1,750 ft in the northwestern area. Grassland cover grows seasonally. The climate of Site 300 is semiarid and windy. The average annual rainfall for the 27-year period from 1965 through 1991 was 10.03 in. The wind is predominantly from the west-southwest; the temperature extremes in 1991 ranged from 102°F in July to 27°F in December. The estimated potential evaporation (defined by the U.S. Department of Agriculture as the amount of moisture a plant could use if it had all the moisture it needed) at Site 300 is about 30.6 in. (USDA, 1966).

The seven major plant habitats occurring at Site 300—four upland habitats and three less extensive wetland habitats—consist of 14 plant communities containing 343 plant taxa. The upland habitats are introduced grassland, native grassland, coastal sage scrub, and oak woodland. The rare wetland habitats consist of northern riparian woodland, vernal pool, and, the most frequently encountered, herbaceous wetlands. Fauna observed at Site 300 include 20 species of reptiles and amphibians, 70 species of birds, and 25 species of mammals. Mammals include mice, hares, squirrels, skunks, foxes, and black-tailed deer. Detailed ecological information, including an assessment of endangered species at Site 300, is included in the SWRI report.

Site 300 has been divided into seven OUs based on the nature and extent of contamination identified in the site-wide remedial investigation of Site 300 (Webster-Scholten, 1994). The GSA OU (OU 1) is located in the southeastern portion of the site. The remaining six OUs (Fig. 1-2) include:

- Building 834 to the north—OU 2.
- Pit 6 to the west—OU 3.
- HE Process Area Building 815 to the immediate west—OU 4.
- Building 850/Pits 3 and 5 to the northwest—OU 5.
- Building 832 Canyon to the northwest—OU 6.
- Sitewide Monitoring—OU 7.

Off-site land use in close proximity to the Site 300 boundary (Fig. 1-3) includes:

- Gallo ranch to the south, and Connolly ranch to the south and east—primarily used for cattle grazing.
- California Department of Fish and Game ecological preserve to the east.

- Carnegie State Vehicular Recreation Area (SVRA) to the southwest—an outdoor recreational facility for private and commercial off-road motorcycle riding, testing, and racing.
- Physics International, Inc., to the northeast—a privately owned HE testing facility.

1.2.2. Site 300 History

LLNL, operated by the University of California for U.S. DOE, began weapons research operations at the Livermore Main Site in 1952. At that time, LLNL was a part of what was then the University of California Radiation Laboratory (UCRL). In July 1953, UCRL proposed the location for an HE test site along Corral Hollow between Livermore and Tracy. Experiments with HE began at the site in 1955. The size of the original site was approximately 3 mi^2. In 1957, the site was enlarged to 10.4 mi^2 (U.S. DOE, 1982). In 1971, the Livermore portion of UCRL became LLNL. Prior to acquisition by UCRL, land use in the area of Site 300 was limited to sheep and cattle grazing.

In 1977, the U.S. Navy transferred ownership of a 7.44-acre parcel on the eastern edge of Site 300 to LLNL to be used as a pistol range, subsequent to its use by the U.S. Navy as a fire-fighting experimentation area. Currently, this parcel is unused (Graham, 1990). In February 1991, LLNL acquired 11.6 acres of the adjoining Connolly Ranch at the southeastern edge of Site 300. The parcel had been in the Connolly family since the 1890s and had been used for seasonal cattle grazing. LLNL plans to use the property to facilitate eastern GSA remediation (Graham, 1991).

1.2.3. Corrective Actions and Facility Upgrades

Concurrent with the remedial investigation of Site 300, we conducted several corrective actions and facility upgrades. The locations of these activities are shown in Figure 1-4. Each project is briefly described below.

1.2.3.1. Pit 6 Protection Measures

After pit 6 was closed in February 1973, a 1- to 3-ft-thick native soil cap was placed over the area. In 1981–82, a drainage ditch was constructed north of pit 6 to divert sheet flow away from the landfill area (Taffet, 1990).

1.2.3.2. HE Rinsewater Lagoon Closures

In 1985, we removed nine HE rinsewater lagoons from service and replaced them with two double-lined surface impoundments. Soils beneath the lagoons were investigated, and the lagoons were capped under RWQCB guidance in 1989 (Carpenter et al., 1988).

1.2.3.3. HE Open Burn Treatment Facility Closure

In July 1993, we submitted a closure plan for the Building 829 High-Explosives Open Burn Treatment Facility (HE-OBTF), located in the northwestern part of the HE Process Area (Fig. 1-2). The HE-OBTF is used to thermally treat explosives-process waste generated by operations at Site 300 and explosives research at LLNL. DTSC currently is reviewing the closure plan report (Lamarre et al., 1993).

1.2.3.4. Well Sealing and Abandonment

From 1988 to 1991, we sealed and abandoned eight inactive water-supply wells at Site 300. Four of these wells were located in the East Firing Area and West Firing Area (EFA/WFA), two in the HE Process Area, and two in the GSA. The wells were sealed to prevent contaminants from migrating into other aquifers beneath the site. This topic is discussed in Lamarre et al. (1988), Taffet et al. (1989), Crow and Toney (1991), McIlvride et al. (1990), and Webster-Scholten (1994).

1.2.3.5. Removal/Replacement of Firing Table Gravels

In 1988, we removed gravel containing low activities of tritium and low concentrations of metals and uranium beneath six HE firing tables in the EFA/WFA. At the three active firing tables, the gravels were replaced by fresh materials. This topic is described in Lamarre and Taffet (1989), Taffet et al. (1990), and Webster-Scholten (1994).

1.2.3.6. EFA/WFA Tritium Evaporator

We have pilot-tested a treatment system involving a 20-ft-high atomizing tower that was shown to evaporate tritium-bearing ground water from the well 8 spring at a maximum rate of 40 gph (Taffet and Oberdorfer, 1991). The evaporator was permitted for operation; however, treatment was discontinued to avoid transferring tritium to the atmosphere.

1.2.3.7. Underground Fuel Storage Tank Removal

Three underground storage tanks (UST) located near Buildings 801 and 850 in the EFA/WFA and Building 874 in the GSA were determined to have caused releases of diesel and/or kerosene to the surrounding soil. The contaminated soil was excavated and treated using enhanced soil bioremediation (ESB), and the sites were closed in accordance with environmental regulations.

1.2.3.8. Enhanced Soil Bioremediation

We are using ESB to reduce concentrations of diesel fuel in soil excavated during UST closure activities in the GSA. During the summer of 1990, we conducted an ESB pilot study with about 1 yd^3 of soil that was contaminated with diesel fuel. During the summer and fall of 1991, we used the findings of the 1990 ESB pilot study to design and operate a full-scale ESB for 100 yd^3 of soil with average concentrations of 83 mg/kg total-extractable-petroleum-hydrocarbons (TEPH) diesel. The contaminated soil was spread out on a gravel pad, tilled, watered, and fertilized on a regular schedule. After four months, the average TEPH-diesel concentrations had declined to 40 mg/kg. This full-scale ESB program is still in operation.

1.2.3.9. Building 834 Complex Remediation

We have remediated some of the VOCs in the subsurface beneath the Building Complex 834 by soil excavation and aeration, soil venting, and ground water extraction and treatment (Bryn et al., 1990; Landgraf et al., 1994). In addition, this facility has been used as a test bed for several innovative technology projects, including an EPA Superfund Innovative Technology Evaluation (SITE) test of a PURUS-pulsed, ultraviolet soil-vapor treatment system; an electrical soil-heating pilot test; and a demonstration of an electron accelerator to treat soil vapor (Matthews, 1992). In May 1994, ground water extraction and treatment were restarted at the core of the Building 834 Complex as part of a CERCLA Removal Action. Ground water treatment involves batch air sparging and granular activated carbon (GAC) vapor treatment.

1.2.3.10. Central GSA CERCLA Removal Action

A ground water and soil vapor extraction and treatment system was installed and is currently operating to remove VOCs released from two dry wells (sumps) in the central GSA as part of a CERCLA Removal Action. Ground water is being extracted from seven extraction wells and treated by air sparging, and the VOCs released as a result are processed through GAC canisters. Soil vapor is being extracted and treated using GAC. An EPA SITE test of a Peroxidation Systems, Inc., UV/H_2O_2 ground water treatment system was performed in 1992. As of September 30, 1994, over 100,000 gal of ground water have been treated (Rueth, 1994).

1.2.3.11. Eastern GSA CERCLA Removal Action

In June 1991, we installed a CERCLA Removal Action ground water treatment system (GWTS) to remediate VOCs, primarily PCE and TCE, emanating from one or more debris burial trenches in the eastern GSA. Ground water is extracted from three extraction wells, treated with an air sparger, and discharged to the Corral Hollow creekbed. As of September 30, 1994, a total of over 50 million gal of ground water have been treated (Rueth, 1994).

1.2.3.12. RCRA Capping of Landfill Pits 1 and 7

We installed 8-ft-thick Resource Conservation and Recovery Act (RCRA) caps consisting of several engineered layers of natural earth materials, including 2 ft of low-permeability clay, on pits 1 and 7, two inactive landfills in the EFA/WFA study area. The RCRA caps are designed to prevent infiltration of precipitation that might cause the landfill contents to leach into ground water. We are currently monitoring the effectiveness of these landfill caps.

1.2.3.13. Endangered Species Reintroduction

In 1992, we reintroduced a rare, endangered plant species, the large-flowered fiddleneck (*Amsinckia grandiflora*), into the Site 300 ecosystem. Site 300 contains two of the three known natural extant populations of this plant. We hope to create a third sustainable population of *Amsinckia grandiflora* at Site 300.

1.2.4. Site 300 Geology

Regional geologic maps and stratigraphic columns for Site 300 based on studies prior to 1981 have been modified by recent investigations conducted by LLNL during the preparation of RI/FS documents. Detailed geologic logs have been prepared for most boreholes and monitor wells at Site 300. A more detailed discussion of Site 300 geology is presented in Chapter 3 of Webster-Scholten (1994).

1.2.4.1. Stratigraphy

Bedrock strata exposed within Site 300 have been correlated with five mappable geologic units (Webster-Scholten, 1994). These units are the late Cretaceous Great Valley sequence (Kgv), the late Paleocene to mid-Eocene Tesla Formation (Tts), the mid-Miocene Cierbo Formation (Tmss), the late Miocene Neroly Formation (Tn), and the Pliocene nonmarine unit (Tps) of Dibblee (1980). These bedrock units are locally overlain by mid- to late-Pleistocene terrace deposits and late Pleistocene to Holocene floodplain, ravine fill, landslide, and colluvial deposits (Carpenter et al., 1991; Dibblee, 1980) (Table 1-1). A schematic stratigraphic column for Site 300 is presented in Figure 1-5. Summary lithologic descriptions of these geologic units are provided in Table 1-1. Distributions of the various units are shown on the Site 300 geologic map (Fig. 1-6).

1.2.4.2. Structure

Site 300 is located in an area of historical seismicity and Quaternary folding (Eaton, 1986; Namson and Davis, 1988; Wentworth and Zoback, 1989). Structural features within Site 300 are shown on Figure 1-7.

1.2.4.2.1. Folds. The bedrock sequence within Site 300 has been slightly deformed into several gentle, low-amplitude folds (Fig. 1-7). These folds include:

- Patterson anticline—controls bedding attitudes throughout much of Site 300; the southern limb of the structure strikes nearly east-west and dips toward the south at 5 to 25 degrees; the northern limb strikes toward the northwest and dips northeast, typically at 5 to 15 degrees.
- East Firing Area (EFA) syncline—informally named the EFA syncline, is a very broad, open, gently northeast-plunging fold with a wide, nearly flat axial trough (Taffet et al., 1990).
- HE Process Area syncline—a southeast-plunging syncline, underlies the HE Process Area in the southerly portion of Site 300 (Fig. 1-7).

1.2.4.2.2. Faults. Three general types of faults have been identified within Site 300:

- West-northwest trending, high-angle, presumably strike-slip faults.
- Discontinuous, north-northeast-trending, normal faults mapped chiefly in the east-central portion of Site 300 (Webster-Scholten, 1994).
- West-northwest-trending, high-angle reverse and thrust faults that are mainly present on the south flank of the Patterson anticline (Webster-Scholten, 1994).

Locations of principal faults within Site 300 are listed below and shown on Figure 1-7.

- Corral Hollow–Carnegie Fault Zone—interpreted as a right lateral strike-slip fault that crosses the southwestern portion of Site 300 and extends southeast and west beyond the limits of the site (Raymond, 1973; Dibblee, 1980). This fault system is regarded as active and is judged capable of generating an earthquake in the range of M_S = 6.3 to 7.1 (Carpenter et al., 1992).
- Elk Ravine Fault—a complex structure composed of pre-Holocene strike-slip faults, reverse faults, normal faults, and local folds. Two branches of the Elk Ravine Fault have been mapped as extending across Site 300 from northwest to southeast (Dibblee, 1980) (Fig. 1-7).
- Possible Midway Fault extension (Dibblee, 1980)—a possible southeasterly extension of the Midway Fault mapped north of Site 300 across the northeastern corner of Site 300 (Fig. 1-7). The fault is classified as potentially active based on geomorphic criteria and possible associated microseismicity (CDWR, 1979).
- Terrace Fault (informal name)—a high-angle reverse fault or fault zone within the southern portion of Site 300 (Fig. 1-7). Farther east, the projection of the Terrace Fault enters the southern HE Process Area.
- Unnamed Fault (informal name)—a well-defined, north-south trending fault. Approximately 50 ft of pre-Holocene normal offset occurs along this near vertical fault.

1.2.4.2.3. Joint and Fracture Systems. Joint sets are observed most often in the well-indurated rocks within Site 300. These rocks include the Great Valley Sequence, Tesla Formation, and Neroly Formation. Joint sets are observed locally in more indurated portions of the Tps unit, but well-defined joints are uncommon in these sediments and in the poorly-indurated Cierbo Formation strata.

Rock outcrops at Site 300 are pervasively fractured. Frequently, thin-bedded claystones are intensely fractured. At various locations throughout Site 300, persistent zones of high-angle (often vertical), closely-spaced, healed, and well-cemented fractures form resistant outcrops. These cemented fracture zones are generally 1 to 4 ft wide, cut across regional bedding, strike dominantly north to northeast with a vertical or near vertical dip, and may extend over 1 mi in length.

As presented in Chapter 3 of the SWRI report (Webster-Scholten, 1994), cores from monitor wells and exploratory boreholes often contain fractures. Fracture intensity has been characterized using the rock quality designation (RQD) system of Deere et al. (1969), locally supplemented by downhole video studies. In drill cores, iron and manganese oxide and other weathering products are visible on some fracture and bedding plane surfaces to average depths of about 100 ft. The presence of these minerals suggests circulation of oxygen-bearing ground water to these depths through the fracture network. Fractures below 100 ft are generally closed and may be filled with carbonates, sulfides, opaline silica, and clay minerals (Webster-Scholten, 1994).

1.2.4.3. Seismic Setting

Site 300 is located near the eastern margin of the seismically active San Francisco Bay region and is also within about 4 mi of the seismically active Coast Ranges-Central Valley boundary (Eaton, 1986; Namson and Davis, 1988). Seismic monitoring by LLNL (Hauk, 1990) confirms microseismic activity within the Altamont Hills in the region surrounding Site 300. Table 1-2 lists principal active and potentially active faults in the San Francisco Bay region, and in the Altamont Hills and Central Valley margin areas.

Facilities at Site 300 may experience earthquake shaking from three seismic sources. These sources are:

- A major earthquake on a principal Bay Region fault.
- A strong earthquake generated by a local fault within the Altamont Hills.
- A major earthquake on a regional fault along the Coast Ranges-Central Valley boundary or possibly beneath the western portion of the San Joaquin Valley.

1.2.5. Site 300 Hydrogeology

This section describes the general framework of the hydrogeologic model of Site 300, including the occurrence of surface water and ground water, and natural ground water chemistry. Details specific to the GSA are presented below in section 1.3.4.

1.2.5.1 Surface Water

There are no perennial streams at Site 300. Surface water at the site consists of intermittent runoff, springs, and natural and man-made ponds. Surface water drainage basins are shown on Figure 1-8. Surface water sometimes occurs locally as a result of discharge from cooling towers.

1.2.5.1.1. Springs. There are 24 springs at Site 300 (Fig. 1-9). Most of the springs have very low flow rates and are recognized only by small marshy areas, pools of water, or vegetation. Vegetation surrounding the springs includes cattails, nettles, willows, and grass. Only three of the springs have flow rates greater than 1 gal/min.

1.2.5.1.2. Other Surface Water. Site 300 contains three man-made surface water bodies (Fig. 1-9). A sewage treatment pond is located in the southeast corner of the site in the GSA, and two lined, HE rinse-water impoundments are located in the HE Process Area study area. The Carnegie SVRA residence pond is located off site just east of pit 6 at the mouth of Middle Canyon. In addition, there are four small, off-site stock watering ponds in the area north of Site 300. As mentioned above, other surface water at Site 300 results from blowdown water from cooling towers.

There is a natural pool in the northwest corner of Site 300 within the EFA/WFA. It is a perennial pool created by ponding of water in a natural depression.

1.2.5.1.3. Drainage. The major drainages at Site 300 are Elk Ravine in the EFA/WFA study area; Draney Canyon, Davis Canyon, Drop Tower Canyon, Firing Range Canyon, Middle Canyon, and Paper Canyon in the Pit 6 Area study area; Long Canyon in the HE Process Area study area; and 832 Canyon, which extends along the western edges of the Building 834 and Building 833 study areas to the central GSA (Fig. 1-8). Water flows in these drainages only after heavy storms. The occasional runoff from these drainages eventually flows into Corral Hollow Creek. This creek is an intermittent stream that flows eastward along the southern boundary of Site 300 toward the San Joaquin Valley.

1.2.5.2. Ground Water

Site 300 is a large and hydrogeologically diverse site. Due to topographic relief, stratigraphic heterogeneity, and structural complexity, the stratigraphic units described in section 1.2.4 and Table 1-1 are discontinuous across the site. Consequently, unique hydrogeologic conditions govern the occurrence and flow of ground water and the fate and transport of contaminants beneath each OU. We have defined individual hydrologic units consisting of one or more stratigraphic intervals that comprise a single hydraulic system within each study area. These hydrologic units and their stratigraphic components are shown in Figure 1-10 and are described in detail in Webster-Scholten (1994). Site-wide stratigraphic relationships are depicted in cross-sections A-A' and B-B' (Fig. 1-11). The hydraulic relationships between the northwest and southeast portion of the site, however, have not been well established due to sparse well control in the center of the site. Separate potentiometric surface contour maps for the six major hydrologic units at Site 300 are shown in Figure 1-12. The discontinuous potentiometric surface contours between the northwestern and southeastern parts of the site are also due to a lack of well control.

In the northeast part of Site 300, ground water occurs under unconfined to confined conditions primarily within the $Tnbs_1$ and Tmss stratigraphic units, which are part of the Qal-Tmss hydrologic unit. As shown by the potentiometric surface contours, the general ground water flow direction in the EFA/WFA is to the east (Fig. 1-12), which is controlled primarily by the dip of the bedding planes. Perched water-bearing zones also occur within Quaternary alluvial sands and gravels, and fractured siltstones and claystones of the $Tnbs_1$ and Tmss stratigraphic units. These perched zones are highly discontinuous and variable.

Throughout most of the southeastern part of Site 300, the $Tnbs_1$ hydrologic unit is a continuous, regional water-bearing zone (Fig. 1-12). Ground water in the $Tnbs_1$ hydrologic unit occurs within sandstones of the $Tnbs_1$ stratigraphic unit under confined to flowing artesian conditions. As shown by the potentiometric surface contours, ground water generally flows to the south and southeast (i.e., in the direction of dip) in the southeastern and southern parts of Site 300 (Fig. 1-13). In the eastern GSA, the $Tnbs_1$ stratigraphic unit occurs as a subcrop beneath Corral Hollow alluvium as part of the Qal-Tmss hydrologic unit, and ground water occurs under semiconfined to unconfined conditions. The ground water flow direction in this unit is controlled primarily by the orientation of the permeable alluvial sediments beneath the Corral Hollow Creek floodplain.

Other water-bearing zones that exist in the southeastern part of the site include the $Tnbs_2$ and Tps hydrologic units. Ground water occurs under unconfined to artesian conditions in the $Tnbs_2$ hydrologic unit beneath the HE Process Area study area. The ground water flow direction in this unit is also dip-controlled and sub-parallels the flow direction in the underlying $Tnbs_1$. Perched ground water occurs primarily in gravel channels within the Tps hydrologic unit beneath the Building 834 and the HE Process Area study areas. The ground water flow direction within these shallow, perched zones is controlled by the channel geometry of the water-bearing unit and the dip direction.

Ground water supply wells within Site 300 and within 0.5 mi of the site are shown in Figure 1-14. Site 300 ground water level concentrations of total dissolved solids (TDS) generally range from 300 to 2,000 mg/L, specific conductivity ranges from 770 to 2,400 mhos/cm, and pH generally ranges from 7 to 9. The ground water in this area commonly contains naturally occurring selenium and arsenic above drinking water Maximum Contaminant Levels (MCLs).

1.3. GSA Background

The GSA is located in the southeast corner of Site 300 and covers approximately 83 acres of LLNL property. The GSA is composed of a cluster of buildings, including administration offices and equipment fabrication and repair shops, that were constructed primarily for support of Site 300 activities. As part of the site-wide remedial investigation of Site 300, six remedial investigation study areas were defined, one being the GSA study area. As a result of the nature and extent of contamination identified in the GSA, the GSA and downgradient plumes were designated as the GSA OU for the purpose of this feasibility study.

1.3.1. Description of the GSA

The GSA OU encompasses the administrative and service areas in the southeast corner of Site 300, the sewage treatment pond area, and downgradient ground water plumes located on adjacent private property to the south and northeast along Corral Hollow Creek to property owned by Physics International. Following completion of the SWRI, as part of the GSA Characterization Plan work, we conducted further investigations at this off-site private property immediately adjacent to and hydraulically downgradient of the GSA (Fig. 1-15).

For the purposes of this report, the GSA OU has been divided into two subareas: the central GSA and the eastern GSA (Fig. 1-15). The subarea division is based on differences in hydrogeology, contaminant source areas, and the location of ground water contaminant plumes. The eastern GSA is defined as the on- and off-site areas east of the sewage treatment pond while the central GSA is defined as the on- and off-site areas west of the sewage treatment pond. Due to recent ground water plume definition, what was referred to as the western GSA in previous documents is now included in the HE Process Area.

Privately owned properties adjacent to the GSA include:

- Gallo Ranch to the south.
- Connolly Ranch to the south and east.
- Etchelet property to the northeast.

Each of these three parcels is sparsely populated and used primarily for livestock grazing. East of Site 300 is an ecological preserve operated by the State of California Department of Fish and Game. Environmental impacts on the ecological preserve associated with the selection of remedial alternatives are considered in Chapter 6 of this FS. North of the ecological preserve and northeast of Site 300 is land owned and operated by Physics International. This firm operates an explosives test facility on their property.

1.3.2. GSA History

The first buildings in the GSA were constructed between 1957 and 1958. The newest structure, Building 883, was constructed in 1983. Eleven permanent buildings are located in the central GSA. As indicated in Table 1-3, a number of buildings in the GSA are used as painting, welding, and repair facilities. Past activities at these facilities contributed to the release of solvents and other VOCs to the subsurface. The central GSA also contains parking lots and storage areas. The eastern GSA has a sewage treatment pond and overflow pond that treat sewage generated within the GSA. The sewage treatment pond and overflow pond are operated under CRWQCB Waste Discharge Requirement permit no. 85-188. Other facilities within Site 300 have their own waste disposal systems (LLNL, 1988).

Five permanent buildings owned by the California Department of Forestry (CDF) are located off-site on the Connolly Ranch property within 150 ft of the Site 300 boundary at the GSA (Table 1-4). They are used for housing and equipment storage. No other off-site buildings are being considered in this FS.

The Department of Fish and Game ecological preserve to the east of Site 300 was formerly part of Site 300. In 1973, 99.15 acres were transferred to the State of California for the preserve, and 7.44 acres were transferred to the Navy for continued use for fire-fighting experimentation (Graham, 1990). In 1977, the Navy program was terminated, and the 7.44 acres were transferred back to LLNL. Currently, this land is not used by Site 300 personnel.

The three properties adjacent to the GSA are currently and have been historically used for livestock grazing. In 1952, the CDF leased a small parcel of the Connolly ranch and constructed the Castle Rock Fire Station (Erwin and Balesteri, 1991). The fire station is currently in use.

1.3.3. GSA Geology

The geology of the-GSA is summarized below. The local geology and hydrogeology strongly influence the extent of subsurface contaminant plume migration and subsequently the selection of alternative remedial technologies. A geologic map of the OU is shown in Figure 1-16. GSA hydrogeology is discussed in section 1.3.4. Hydrogeologic cross sections of the GSA are referenced in section 1.3.4. Depths of stratigraphic contacts used to construct these cross sections are presented in Chapter 14 of the SWRI report (Webster-Scholten, 1994) and in Appendix A of this FS.

1.3.3.1. Stratigraphy

The GSA is underlain by unconsolidated Quaternary alluvial (Qal) and terrace deposits (Qt and Qoa) associated with ancestral and present-day stream channels of Corral Hollow Creek. These deposits consist of brown clay, silt, sand, and gravel lenses. Most of the central GSA is blanketed by Quaternary terrace deposits (Qt and Qoa) composed of Franciscan Assemblage gravels and cobbles in a silty sand matrix. Quaternary alluvial deposits predominate in the eastern GSA. According to Carpenter et al. (1988), the Quaternary terrace remnants represent deposits of ancestral Corral Hollow drainage systems. The Qt, Qoa, and Qal units are essentially flat-lying in the GSA and unconformably overlie the late Miocene Neroly and Cierbo Formations. In general, the Neroly Formation in the GSA and vicinity is composed of poorly consolidated, blue-weathering volcaniclastic sandstone and siltstone with interbedded claystone and rare conglomerate. Neroly Formation beds dip generally from 8° to 18° south-southwesterly.

Three regional Neroly Formation stratigraphic members have been encountered in wells drilled in the GSA: $Tnbs_2$ (upper blue sandstone member), $Tnsc_1$ (middle siltstone and claystone member), and $Tnbs_1$ (lower blue sandstone). The $Tnbs_2$ sandstone has been encountered only in the central GSA wells and is unconformably overlain by terrace and older alluvial deposits. The claystones and siltstones of the $Tnsc_1$ unit are found in wells drilled in the central GSA, but geologic mapping and borehole data indicate that this unit is discontinuous in the eastern GSA. The blue-gray sandstone of the $Tnbs_1$ is present at depth below the central GSA and subcrops below the alluvium or outcrops in the eastern GSA.

The Miocene Cierbo Formation conformably underlies the Neroly Formation and has been encountered in well W-873-01 and former well 19 in the central GSA, and in well W-25N-04 in the eastern GSA. However, information regarding this unit obtained from these wells is limited.

The Cierbo Formation has also been encountered in monitor wells and boreholes drilled on the California Department of Fish and Game property along Corral Hollow Creek; here the formation is unconformably overlain by Qal and Qoa.

1.3.3.2. Structure

The Quaternary alluvial and terrace deposits blanketing the GSA are essentially flat-lying. These units unconformably overlie Neroly bedrock units that dip 8° to 18° south-southwest as shown in the structural contour map of the $Tnbs_1$ claystone marker bed (CMB) (Fig. 1-17). The $Tnbs_1$ CMB is a horizon that is easily correlated on GSA borehole geophysical logs and is recognized throughout the GSA as well as the entire southeastern part of Site 300. Interpretation of the bedrock structure is based on structural mapping of the $Tnbs_1$ CMB in the subsurface integrated with surface outcrops, and is consistent with the interpretation of seismic data in the GSA. Bedrock dips steepen to the east as each Neroly stratigraphic unit subcrops beneath alluvial deposits.

Principal faults mapped in the vicinity of the GSA include the Corral Hollow–Carnegie Fault system, the Terrace Fault, and the Callahan Fault (Fig. 1-6). The Carnegie Fault trends northwest-southeast in the southwest part of Site 300 and merges with the Corral Hollow Fault southwest of the GSA. This fault system is considered to be active (Carpenter et al., 1991). The Terrace Fault, a high-angle reverse fault, is located in the southern part of Site 300 and extends northeast-southwest. The Callahan Fault, located just east of the eastern GSA, trends north-south.

Within the GSA, a reverse fault with approximately 8 ft of apparent slip is exposed in the cut slope north of Building 874. The presence of two other subsurface faults in the GSA is suggested by geologic, geophysical, and hydrologic data.

A fault has been identified south of Corral Hollow Road generally trending in an east-west direction. The information regarding this fault is based on seismic reflection data and correlation with well borehole lithologic logs and geophysical logs. These logs indicate the presence of a normal fault with approximately 30 ft of offset in the area south of Building 875, with the down side to the south as shown in cross sections A-A' and B-B' (Figs. 1-18 and 1-19). Seismic reflection data indicate that the fault dips about 70° to the south.

A second fault has been identified toward the east end of the sewage treatment pond which trends in a northwest-southeast direction subparallel to the Callahan Fault. The presence of this fault is indicated by stratigraphic offset based on borehole lithologic and geophysical log correlation. The logs indicate a vertical fault with approximately 20 ft of offset, with the down side to the east as shown in cross sections C-C' and D-D' (Figs. 1-20 and 1-21).

Both faults are present at depth in the Neroly Formation but do not extend into the alluvium, indicating that there has been no recent movement along either fault.

Abundant joints and fractures are present in the Neroly Formation in the GSA and vicinity. Mineral coatings of manganese and iron oxides have been found on fractures in drill cores, indicating that these are natural fractures, not drilling-induced fractures. Most fractures observed in drill cores are subparallel to bedding planes in brittle claystone and siltstone and near vertical joints in resistant, locally-cemented sandstone beds (McIlvride et al., 1990).

1.3.4. GSA Hydrogeology

This section summarizes the general hydrogeology of the GSA, including the occurrence of surface water, ground water, and natural ground water chemistry. Ground water is the primary contaminated media in the GSA. The local hydrogeology controls the fate and transport of contaminants in ground water beneath the downgradient portion of the OU. A more detailed description of the GSA hydrogeology is presented in Chapter 14 of the SWRI report (Webster-Scholten, 1994).

1.3.4.1. Surface Water

There are no perennial streams or standing bodies of water within the GSA except for an asphalt-lined sewage treatment pond located in the eastern GSA and operated under RWQCB WDR No. 85-188. This pond treats domestic waste generated within the GSA. Corral Hollow Creek, located south and east of the GSA, is the closest surface-water body. The creek is intermittent and it is dry for most of its length almost year-round. The creek typically flows only for a few days or weeks each winter in response to periods of heavy rainfall (McIlvride et al., 1990).

Natural surface water in the GSA generally exists only as surface runoff during severe (>0.3 in./h) or prolonged (>2 h) storm events (Bryn et al., 1990). Surface water runoff, when present, generally drains south or southeast toward Corral Hollow Creek, as shown in Figure 1-22. Natural surface runoff in the area is rare because of the semiarid climatological conditions that prevail at Site 300. However, surface runoff may be augmented by concentrated runoff from local asphalt or concrete parking lots.

Surface water in the central GSA is directed into a network of storm drains and ditches that flow collectively into culverts, which discharge on the side of the hill adjacent to Corral Hollow Road. Surface water in the eastern GSA drains along steep ravines and flows into a series of culverts that extend beneath Corral Hollow Road and discharge onto the floodplain of Corral Hollow Creek. Surface water runoff from the eastern GSA infiltrates rapidly upon reaching the permeable alluvium of the Corral Hollow Creek floodplain. Because of the highly permeable nature of some of the Corral Hollow alluvium, treated ground water from the eastern GSA GWTS is discharged to a selected off-site location in Corral Hollow under an NPDES permit.

Ground water has been observed to daylight at the surface at three springs in the vicinity of the GSA: spring 1, spring 2, and spring GEOCRK (Fig. 1-23). Spring 1 is approximately 5,000 ft downstream from the CDF station, upslope on the west side of Corral Hollow Road. Spring 1 has perennial flow at an estimated rate of 1 gpm. Spring 2 is about 4,800 ft downstream from the CDF station on the west side of Corral Hollow Road. Spring 2 has also been classified as perennial; however, the flow rate of this spring is too low to measure. Both springs 1 and 2 are located on the California Department of Fish and Game ecological preserve.

Spring GEOCRK is in the Corral Hollow Creek streambed about 4,500 ft downstream from the CDF station. The flow rate of spring GEOCRK has not been measured; however, the flow from this spring appears to exceed 5 gpm (Gregory, 1993). Inorganic ground water chemistry data indicate that the water emanating from this spring contains a significant component derived from the underlying Cierbo Formation bedrock rather than the alluvium (McIlvride et al., 1990).

1.3.4.2. Ground Water

Ninety-eight ground water monitor wells have been installed in the GSA to define, characterize, and monitor the extent and movement of contaminants in ground water. Fifty-seven monitor wells have been installed in the central GSA and 41 in the eastern GSA and vicinity. Well depths range from 22 ft (well W-35A-06) to 498 ft (well W-873-01). Well locations are shown on Figures 1-24 and 1-25. Appendix F of the SWRI report contains the ground water elevation data through December 1991. Appendix A of this FS contains the ground water elevation data through 1994.

Hydraulic tests have been performed on selected wells in the central and eastern GSA to determine the hydraulic characteristics of the hydrologic units and to define hydrostratigraphic relationships. The results of these tests are summarized in Table 1-5. Well completion data are provided in Tables 1-6 and 1-7 and shown on Figures 1-26 and 1-27. Hydrogeologic cross sections of the central and eastern GSA are presented in Figures 1-18, 1-19, 1-20, 1-21, and 1-28. The location map for these cross sections is presented in Figure 1-29.

Ground water geochemical data from GSA wells were also utilized to characterize the hydrologic units in the GSA. The geochemical data helped to verify interpretation of the flow paths, aquifer interconnections, and communication between hydrologic units. General mineral analysis from GSA wells included major cations and anions, pH, specific conductance, TDS, and natural background metalloids. A detailed discussion of the geochemical characteristics of the hydrologic units is included in SWRI, Chapter 14.

Three primary hydrologic units have been identified in the GSA based on their hydraulic, physical, and geochemical characteristics. Two hydrologic units are present only in the central GSA and one is present only in the eastern GSA. These hydrologic units are comprised of the stratigraphic units described above (Section 1.3.3.1). They are listed below by area and in order of increasing stratigraphic age and depth. A more detailed description of the hydrologic units in the central and eastern GSA is provided in Tables 1-8 and 1-9.

Central GSA

— Quaternary terrace deposits-Neroly middle siltstone/claystone ($Qt\text{-}Tnsc_1$) hydrologic unit, which includes stratigraphic units Qt, Qoa, Qal, $Tnbs_2$, and $Tnsc_1$.

— Neroly lower blue sandstone ($Tnbs_1$) hydrologic unit.

Eastern GSA

— Quaternary alluvium-Miocene Cierbo Formation (Qal-Tmss) hydrologic unit, which includes stratigraphic units Qal, $Tnsc_1$, $Tnbs_1$, and Tmss.

Although stratigraphic unit Tmss has been identified in wells drilled in the central GSA, penetration into this unit has not been sufficient to establish the hydraulic characteristics of the unit and its relationship to overlying units.

1.3.4.2.1. Central GSA: Quaternary Terrace Deposits—Neroly Middle Siltstone/ Claystone ($Qt\text{-}Tnsc_1$) Hydrologic Unit. The $Qt\text{-}Tnsc_1$ hydrologic unit is composed of stratigraphic units Qt, Qoa, Qal, $Tnbs_2$, and $Tnsc_1$; and it underlies most of the central GSA. Ground water elevations in this unit range from 491 ft above MSL in well W-35A-06 to 515 ft above MSL in well W-876-01. Ground water is generally encountered 10 to 20 ft below ground surface, with localized saturated fractures and lenses. Figure 1-30 shows the potentiometric surface elevations of the first water-bearing zone within the $Qt\text{-}Tnsc_1$ hydrologic unit. A cone of depression in the potentiometric surface is present in the vicinity of the Building 875 dry well pad as a result of ground water extraction from wells in that area. Unconfined ground water flows southward in the $Qt\text{-}Tnsc_1$ hydrologic unit. Where ground water in the $Qt\text{-}Tnsc_1$ hydrologic unit discharges to the stream channel alluvium in the Corral Hollow streambed, the ground water flow direction follows the streambed toward the east. The $Tnsc_1$ stratigraphic unit serves as a confining layer between the $Qt\text{-}Tnsc_1$ hydrologic unit and the underlying $Tnbs_1$ hydrologic unit, as indicated by water chemistry and hydraulic head differences between the two units. As shown in Table 1-10, water level elevations in the $Qt\text{-}Tnsc_1$ hydrologic unit are higher than in the underlying $Tnbs_1$ hydrologic unit. Although the $Tnsc_1$ stratigraphic unit has low porosity and primary permeability, our observations of mineral coatings on fractures in cores indicate that it has moderate fracture (secondary) permeability.

TDS values in the $Qt\text{-}Tnsc_1$ hydrologic unit range from 770 to 1,420 mg/L, and specific conductivity ranges from 1,080 to 2,100 µmhos/cm (averaging 1,536 µmhos/cm). TDS values in the $Qt\text{-}Tnsc_1$ hydrologic unit are higher than TDS values in the $Tnbs_1$ hydrologic unit. The pH values range from 6.5 to 9.3, with an average value of 8.1. Arsenic and selenium concentrations in all ground water samples were below the MCLs of 0.05 and 0.01 mg/L, respectively, for these natural metalloids. GSA ground water samples were not analyzed for total organic carbon (TOC).

1.3.4.2.2. Central GSA: Neroly Lower Sandstone ($Tnbs_1$) Hydrologic Unit. Hydrologic unit $Tnbs_1$ underlies the Qt-$Tnsc_1$ hydrologic unit throughout the central GSA. Data from wells completed in the $Tnbs_1$ unit in the central GSA indicate that saturated conditions exist beneath most of the GSA. Ground water elevations within this unit range from 493 ft above MSL in well W-7M to 514.7 ft above MSL in well W-843-02. Depth to ground water is approximately 160 ft below ground surface. The potentiometric surface elevation contour map of the $Tnbs_1$ hydrologic unit is shown in Figure 1-31. Within the $Tnbs_1$ hydrologic unit, ground water is confined and flows in a generally southerly direction, oriented subparallel to the bedding planes of the bedrock. In the vicinity of the sewage treatment pond, ground water in the $Tnbs_1$ becomes unconfined, and flow within this hydrologic unit is in a more easterly direction. The change in flow direction within the $Tnbs_1$ hydrologic unit in this area may be attributable to the fact that confining conditions of the $Tnbs_1$ aquifer change from confined to unconfined due to the erosional pinch-out of the $Tnsc_1$ confining layer. The change in pressure conditions is believed to cause ground water in the confined state to flow toward the area where unconfined conditions exist. In addition, periodic pumping from wells CON-1 and CDF-1 located to the east, which are completed in the $Tnbs_1$ regional aquifer, may also affect the ground water flow direction in this area.

Mineral data from ground water collected from ten wells completed exclusively in the $Tnbs_1$ hydrologic unit were used to characterize this unit. Ground water in the $Tnbs_1$ water-bearing zone is dominated by the sodium cation and contains no dominant anions. In general, ground water from the $Tnbs_1$ hydrologic unit is higher in sodium than water from the Qt-$Tnsc_1$ hydrologic unit.

Although, the pH in samples ranges from 5.8 to 8.9, the average pH of $Tnbs_1$ ground water is neutral. The average TDS concentration is 812 mg/L. A relatively low specific conductivity of 1,246 µmhos/cm was observed in the $Tnbs_1$ unit compared to the Qt-$Tnsc_1$ hydrologic unit. Samples from six wells completed in the $Tnbs_1$ hydrologic unit were analyzed for arsenic and selenium. Arsenic concentrations in these ground water samples ranged from 0.002 to 0.009 mg/L, well below the MCL. Selenium was not detected in any sample.

1.3.4.2.3. Eastern GSA: Quaternary Alluvium-Miocene Cierbo (Qal-Tmss) Hydrologic Unit. In the eastern GSA, ground water in the Qal-Tmss hydrologic unit is unconfined to semiconfined. Ground water elevations range from 445 ft above MSL in well W-25D-02 to 491 ft above MSL in well CON-2. Depth to ground water is approximately 18 ft below ground surface. Where the $Tnsc_1$ confining layer is absent (north of Corral Hollow Road), the potentiometric head elevations measured in December 1991 in wells W-7D (completed in the $Tnbs_1$) and W-7DS (completed in the Qal) are 488.87 ft and 488.93 ft, respectively (Table 1-10). These wells are located within 25 ft of each other. In this area of the eastern GSA, the $Tnbs_1$ bedrock subcrops beneath the Qal, and the lack of significant head differences between the Qal and $Tnbs_1$ indicates that the bedrock is in hydraulic communication with the alluvium.

As shown in Figure 1-18, the $Tnsc_1$ is present in the vicinity of the cluster wells W-25N-07, W-25N-10, W-25N-11, W-25N-12, and W-25N-13. Differences in the potentiometric head measured in alluvial (Qal) well W-25N-07 and the four $Tnbs_1$ wells range from 0.2 to 0.8 ft (Table 1-10). In this area, the $Tnsc_1$ acts as a local confining layer and the $Tnbs_1$ bedrock is not in direct hydraulic communication with the overlying alluvium. However, directly north of these wells, the $Tnsc_1$ is absent, and the $Tnbs_1$ subcrops beneath the alluvium in the updip direction. The head differences (0.2 to 0.8 ft) between the eastern GSA Qal and $Tnbs_1$ cluster wells are relatively small compared to head differences (up to 7 ft) observed between the Qal and $Tnbs_1$ in the central GSA wells.

A potentiometric surface elevation contour map of the first water-bearing zone (Qal) within the Qal-Tmss hydrologic unit is shown in Figure 1-32. As shown in this map, ground water in the Qal flows eastward before turning northward to follow the Corral Hollow Creek streambed. Ground water flow within this stratigraphic unit occurs primarily within the sand and gravel lenses and stringers of high hydraulic conductivity oriented parallel to the axis to the valley. While data indicate that alluvium and underlying $Tnbs_1$ sandstone are in hydraulic communication, the ground water flow direction in the two units may differ. Due to the much higher hydraulic conductivity of the Qal, ground water in this stratigraphic unit tends to follow a preferential flow path through the saturated alluvial deposits of Corral Hollow. Ground water in the deeper water-bearing zones of the $Tnbs_1$ generally follows regional $Tnbs_1$ ground water flow direction toward the south, oriented parallel to the bedding planes of the bedrock. The shallow $Tnbs_1$ functions as a transition zone between the alluvium and deeper $Tnbs_1$ sandstone (Fig. 1-13). An easterly component of flow exists immediately west of wells CON-1 and CDF-1, possibly as a result of pumping from these $Tnbs_1$ wells (Fig. 1-31).

Hydraulic communication between Qal and Neroly bedrock units is also supported by data obtained from hydraulic tests conducted on water-supply wells CDF-1 and CON-1 and 20 nearby water level observation wells. The drawdown observed in the alluvial wells induced by pumping in CDF-1 and CON-1 is the result of (1) the fact that well CDF-1 is screened across the alluvium and the $Tnbs_1$ sandstone, and (2) hydraulic communication between two stratigraphic units where the $Tnbs_1$ subcrops beneath the Qal, north of CDF-1 and CON-1.

Analyses for ground water chemistry were performed on water samples collected from 25 monitor wells completed in the Qal-Tmss hydrologic unit in the eastern GSA. Generally, the ground water chemistry data support conclusions drawn from hydraulic test data about hydraulic communication between adjacent units. Concentrations of TDS in ground water samples collected in the Qal-Tmss hydrologic unit range from 300 to 2,360 mg/L, with an arithmetic average of 972 mg/L. The pH values range from 7.4 to 8.7, with an arithmetic average of 7.9. Sodium is the dominant cation in wells in the eastern GSA, whereas potassium is present only in minor amounts. The dominance of the sodium cation is pronounced in ground water from wells screened in the lower Neroly bedrock portions of the hydrologic unit. Ground water samples from wells completed in the shallow alluvium exhibit more balanced cation ratios. For example, the cation balance in ground water samples from wells W-25N-10, W-25N-12, W-25N-13, CDF-1, CON-1, and CON-2 is more heavily dominated by sodium than in other ground water samples in the overlying alluvium, which exhibit more balanced cation ratios. These wells are completed in the $Tnbs_1$ stratigraphic unit and are located south of Corral Hollow Road where stratigraphic unit $Tnsc_1$ separates $Tnbs_1$ from the alluvium.

Ground water samples from seven monitor wells in the eastern GSA were analyzed for the natural metalloids, arsenic and selenium. Arsenic concentrations ranged from trace amounts to below detection limits. Selenium was detected in a sample from well W-25N-15 at the federal MCL of 0.01 mg/L. Arsenic and selenium are commonly present as trace constituents within ground water in the Neroly Formation.

1.3.4.2.4. Recharge and Discharge. Recharge and discharge in the central GSA and the eastern GSA are affected by:

- Low precipitation.
- High evapotranspiration.
- Infiltration of precipitation into, and ground water flow through, Corral Hollow Creek floodplain alluvium immediately south of the OU.
- Surface runoff from northwest-southeast-trending drainage basins.

The recharge and discharge characteristics of the $Qt\text{-}Tnsc_1$ and $Tnbs_1$ hydrologic units in the central GSA and the Qal-Tmss hydrologic unit in the eastern GSA are summarized in Tables 1-11 and 1-12.

1.3.5. Beneficial Uses of Ground Water

1.3.5.1. Description of Water-Supply Wells

There are no active on- or off-site water-supply wells in the central GSA. Former water-supply wells 7 and 19 are located on site approximately 150 ft east of Building 875. Because ground water samples from both wells have shown occurrences of VOCs, these wells have been sealed and abandoned to prevent any potential vertical migration of VOCs between hydrologic units along screened intervals or gravel packs.

Although there are no on-site water-supply wells in the eastern GSA, there are two active off-site water-supply wells, CDF-1 and CON-1, located on private property to the south. This property is owned by the Connolly Ranch and leased to the CDF Castle Rock Fire Station, as shown in Figure 1-33. The production rate of well CDF-1 is about 40 gal per minute (gpm), and about 21 gpm for well CON-1. A third active, off-site water-supply well, Sheep Ranch-1 (SR-1) is located approximately 3 mi north of the eastern GSA. There are also two inactive water-supply wells, GALLO-2 and CON-2, in the area. Details of these five wells can be found in Table 1-13.

Active off-site water-supply well CDF-1 operates intermittently to fill a pressure tank that supplies water to the CDF Castle Rock Fire Station. The station is occupied only during the summer fire season. The well diameter is 6 in., and the depth to water is about 15 ft below the ground surface. Well CON-1, the other active off-site water-supply well, provides water for the Connolly Ranch, mainly for stock watering. The well casing diameter is 8 in., and the static water level is about 18 ft below the ground surface. This well pumps intermittently to fill a water tank located on a nearby hill to the south. Neither well is used as a primary drinking water source.

LLNL is currently discussing the logistics of providing the Connolly Ranch with alternative water sources, which would ultimately allow the sealing and abandonment of wells CON-1 and CDF-1.

The third active off-site water-supply well, SR-1, is located about three miles downstream of the eastern GSA along Corral Hollow Creek (Fig. 1-33). Little information is available for well SR-1. A well driller's log gives the total depth drilled and the year of drilling (Table 1-15). An approximate production rate for the well is about 80 gpm. The well is used intermittently to fill the ranch water-supply storage tank. The Physics International well, PHYS-1 (Fig. 1-14), is on a hillside above Corral Hollow Creek. The well is not believed to be in use. No other information for the well is available.

The two inactive wells, GALLO-2 and CON-2, could almost be considered abandoned because they apparently have been used very little, if at all, over the last seven or more years, and they are not in good repair (Carlsen, 1993). For the purposes of this FS, an inactive water-supply well is defined as a well that has not been used in the recent past and for which there are no plans for use as a water-supply well in the future. Well CON-2 is a 3-ft-diameter, hand-dug well from the 1930s used in support of construction activity for the Hetch Hetchy water system. We have installed a casing in this well to allow collection of monitoring samples, but there are no plans for this well to be used as a water-supply well in the future. Depth to water is about 18 ft below the ground surface. Well GALLO-2 has no pump. The well casing diameter is 8 in. The historic static depth to water has been about 22 ft below the ground surface.

Additional information on water-supply wells in the GSA and vicinity is presented in SWRI, Chapter 14 (Webster-Scholten, 1994).

1.3.5.2. Inorganic Water Quality

We evaluated the inorganic quality of ground water in the GSA relative to potential beneficial domestic, agricultural, and industrial use. Details of water quality studies are presented in Chapters 3 and 14 of the SWRI report. Water quality chemical data is in Appendix H of that report.

Water quality and general mineral data indicate that three ground water types appear to be present in the GSA.

- Streambed recharge water that has a higher-than-usual concentration of calcium, magnesium, and bicarbonate. This water is associated with the Corral Hollow older terrace deposits (Qt) and the Corral Hollow alluvial/stream gravels (Qal). Four wells (W-35A-02, W-35A-03, W-35A-05, and W-7ES) located near the center of the Corral Hollow Creek channel display a fairly well-defined water quality subgroup. Piper trilinear diagrams presented in Chapter 14 of the SWRI report indicate that these wells have higher relative concentrations of Ca^{++}, Mg^{++}, and bicarbonate (HCO_3^-) ions than other wells in the vicinity. The TDS values for these wells and others in this unit are almost always above 700 mg/L, higher than the secondary MCL of 500 mg/L.
- Neroly Formation ground water with higher concentrations of sodium and sulfate. These aquifers are informal members of the Neroly Formation members: $Tnbs_2$, $Tnsc_1$, and $Tnbs_1$. Analytical data for ground water samples from the Neroly Formation display several water quality patterns. For example, former water-supply well 19, which was completed only in the lower $Tnbs_1$, is high in sodium and sulfate relative to other ground water. For other wells completed in the Neroly Formation, such as off-site water-supply wells CDF-1 and CON-1, ground water samples appear to be a mixture of water components from several units (i.e., $Tnbs_2$, $Tnsc_1$, and $Tnbs_1$)
- Cierbo Formation (Tmss) ground water with higher concentrations of sodium and chloride. This water is in the Cierbo sandstone. Ground water from monitor well W-25N-04, completed in the Tmss unit, is high in sodium and chloride relative to other wells in the vicinity, and the TDS is high (1,500 mg/L).

These three ground water types are mixed locally as the result of hydraulic communication between the Neroly and Cierbo Formations and the overlying alluvium; this communication occurs in a pattern made complex by the variable subcrop bedrock geology in the GSA. In general, the water quality of GSA ground water is fair to poor. Many wells exhibit elevated chloride concentrations, and most wells show sulfate concentrations and TDS higher than secondary MCLs (Marshack, 1991). The secondary MCL for chloride is 250 mg/L. For sulfate, the proposed primary EPA MCL is 400 mg/L, while the secondary state and federal MCLs are 250 mg/L. The TDS secondary MCL is 500 mg/L. Sodium concentrations in ground water are also high, mostly above 200 mg/L. Although there is no MCL for sodium, the EPA Health Advisory for human health and welfare is 2 mg/L sodium.

High levels of TDS, sodium, and chloride make water brackish and nonpotable for humans. High sulfate concentrations render drinking water unpalatable. For example, Site 300 water-supply wells 18 and 20 (Fig. 1-14) have sulfate concentrations above the secondary MCL of 250 mg/L, and TDS concentrations of approximately 700 mg/L, which is in excess of the secondary MCL of 500 mg/L. Because of this, most buildings at Site 300 provide bottled drinking water. As mentioned above, off-site water-supply wells CDF-1 and CON-1 are typically used for stock watering and domestic purposes other than drinking. Bottled water is the primary source of drinking water at the California Department of Forestry facility and the Connolly Ranch.

High TDS in ground water is also unfavorable for industrial and agricultural uses. The agricultural water quality goal for TDS is 450 mg/L, and for chloride 106 mg/L (Marshack, 1991). Water with TDS over 1,000 mg/L is not suitable for agriculture except for salt-tolerant plants (Romijin, 1986).

To obtain a reliable source of quality drinking water for the LLNL Site 300 explosives test facility, DOE entered a contractual agreement (Contract Nos. AT[04-3]-269 and DE-AC-03-76-SF16820) with the City and County of San Francisco (CCSF) in 1960 for water services from CCSF's Hetch Hetchy water-supply system (U.S. DOE, 1960; Moran, 1990). As a result of these contracts, funding was made available to Site 300 in 1992, and the pipeline to connect the Hetch Hetchy Thomas Shaft access (approximately 5 miles south of the GSA) to Site 300 was completed in 1994. Tie-in to the Site 300 water-supply system is scheduled for fiscal year 1995.

1.4. Nature and Extent of Contamination

Several investigations in the GSA were conducted to determine the nature and extent of contamination. Source characterization involved collecting data to identify contaminant source locations, types of contaminants, and the physical and chemical characteristics of the contaminants present as discussed in Chapter 14 of the SWRI. This section of the FS summarizes the nature and extent of contamination (primarily TCE) in air, soil vapor, soil, and ground water in the central and eastern GSA.

1.4.1. Chemical Use

1.4.1.1. Central GSA

Solvents and other VOCs have been used in the central GSA craft shops and facilities. Undetermined quantities of these chemicals were released to the subsurface as a result of past activities in the central GSA. Prior to 1982, dry wells in the central GSA were used to dispose of rinsewater, and process- and wash-water. Some of these dry wells have been identified as release sites for the chemicals found in the soil, rock, and ground water. Between 1983 and 1984, the dry wells were investigated and closed (Lamarre et al., 1989).

Since 1983 hazardous wastes have been temporarily stored at Building 883, a permitted hazardous waste storage facility. Containerized waste from Site 300 is collected at Building 883 prior to transportation for subsequent recycling, treatment, or disposal. Waste handling has been documented for this facility since it was constructed, and no spills have been recorded (Greci, 1992).

1.4.1.2. Eastern GSA

Undetermined quantities and types of debris and chemicals were disposed of in debris burial trenches located in the eastern GSA during the 1960s and 1970s. Trenching of the debris burial area, interviews with former and present employees, and examination of aerial photographs indicate that primarily metal, ceramic, and glass debris from the craft shops were disposed of there (Wade et al., 1991).

1.4.2. Chemical Releases

In the initial source screening of the GSA OU, 37 potential release sites were identified, as listed in Table 1-14 and shown in Figures 1-34 and 1-35. Detailed information on release sites in the GSA is presented in Chapter 14 of the SWRI report (Webster-Scholten, 1994).

Of the 37 potential release sites in the GSA identified by source screening, seven have been confirmed as chemical release sites. Six of the confirmed release sites are located in the central GSA and one is in the eastern GSA. They are:

- The Building 879 steam-cleaning/sink facility.
- Two former adjacent dry wells (875-S1 and 875-S2) approximately 50 ft south of Building 875.
- A decommissioned solvent drum rack and underground solvent retention tank north of Building 875.
- A former dry well (872-S) south of Building 872.
- A former dry well (873-S) south of Building 873.
- A debris burial trench east of the sewage treatment overflow pond in the eastern GSA.

During the GSA characterization work, an additional potential release site was identified: a debris burial trench located northwest of the sewage treatment pond. Existing data are insufficient to determine whether this debris burial trench continues to act as a source of contamination to soil and/or ground water.

TCE is the primary chemical released to the surface and subsurface as a result of past storage, disposal, or use in the GSA. Other contaminants identified in the GSA include PCE, 1,1-DCE, and cis-1,2-DCE. TCE typically comprises 85 to 95% or more of the total VOCs detected, and PCE accounts for most of the remaining 5 to 15%. Tables 1-15 through 1-19 summarize the chemicals of potential concern in the GSA. The database on which these tables are derived is presented in Appendices G and H of the SWRI report and Appendix A of this FS.

1.4.3. Nature and Extent of Contamination in Soil Vapor

Extensive soil vapor surveys (SVSs) were conducted in the central and eastern GSA to identify sources of contamination. Chapter 2 of the SWRI report contains descriptions of SVS methods. The results of passive and active vacuum induced (AVI) SVSs conducted in the central and eastern GSA are summarized in the following sequence of figures:

- Figures 1-36 through 1-41 show TCE concentrations in soil vapor measured in the AVI SVSs conducted October 1988 through July 1989.
- Figure 1-42 shows TCE flux as measured by total ion counts (tics) in soil vapor samples collected in the passive SVSs conducted in April and May 1990 and in additional samples collected in January and October 1991.

The database from which these figures were prepared is presented in Appendix I of the SWRI report.

In general, the TCE distribution patterns obtained using both the passive and AVI SVS techniques are in agreement. SVS data are correlated with source areas such as former dry wells, drum storage areas, and debris piles. However, the results from each method or each different sampling period are not quantitatively compared because numerous variables influence the amount of soil vapor detected by either method (Vonder Haar et al., 1991).

Additional passive SVSs were conducted in January and February 1994 in the central GSA and on Gallo Ranch property in order to optimize the placement of the GSA Characterization Plan wells. Thirty-seven passive soil vapor points were deployed on Gallo Ranch property south of Buildings 873 and 875 in a grid pattern with approximately 50- to 100-ft spacings. After 18 days of exposure, the passive soil vapor collectors were retrieved and sent for analysis to Northeast Research Institute's (NERI) Lakewood, Colorado, laboratory. No VOCs were detected in any of the 37 collectors analyzed as measured in total ion counts (Fig. 1-43).

Eighteen passive soil vapor collectors were deployed on site in the central GSA in the area west of the sewage treatment pond. The collectors were deployed in two transects: one from the Building 875 dry well pad area running generally eastward to the eastern GSA debris burial trench area and a second transect running north-south through the debris burial trench area located northwest of the sewage treatment pond. The collectors were retrieved after 15 days of exposure and sent for analysis to NERI's Lakewood, Colorado, laboratory. TCE was detected in 14 of the 18 collectors at levels of up to 2,027,090 tics in the Building 875 dry well pad area (Fig. 1-44). The recent soil vapor data for surveys conducted in the GSA and on Gallo Ranch property are presented in Appendix A.

1.4.4. Nature and Extent of Contamination in Air

In September 1994, we obtained direct measurements of VOC soil flux in the GSA OU using the emission isolation flux chamber methodology (U.S. EPA, 1986) with samples collected in SUMMA™ canisters. The continued industrial use of VOC solvents and fuels in the area makes it difficult to determine if VOC vapors present in ambient air are the result of volatilization from the subsurface or from industrial use. Consequently, VOC concentrations in ambient outdoor and indoor air could not be measured directly. Detailed descriptions of the emission isolation flux chamber methodology and our sampling protocol are presented in Appendix B. The objectives of this sampling effort were to:

- Identify chemicals of potential concern that may be emitted to ambient air.
- Collect sufficient data to calculate a statistically significant 95% upper confidence limit of the soil flux emission rates.
- Obtain adequate data for purposes of conducting a risk assessment.

Site characterization data and passive SVS data collected in January and February 1994 (Figs. 1-43 and 1-44) were used to identify and delineate the boundaries of three discrete sampling zones:

- Building 875 dry well area (unpaved area approximately 50 ft south of Building 875).
- Central GSA (area west of sewage treatment pond).
- Eastern GSA (area east of sewage treatment pond).

Figure 1-45 shows these VOC soil flux sampling zones and the emission isolation flux chamber sample locations. The central and eastern GSA were divided into grids following the methodology presented in Air/Superfund Technical Guidance Series, Volume II (U.S. EPA, 1990). Central and eastern GSA grid cells used for sample locations were selected randomly, with the number of samples based upon the area of each sampling zone. The Building 875 dry well area sampling zone is defined as the unpaved strip between the parking lot south of Building 875 and Corral Hollow Road in the vicinity of the former dry wells. A random sampling approach for selecting sample locations could not be reasonably applied to this sampling zone. The Building 875 dry well area has many obstacles (such as trees and the soil vapor extraction platform) that make location of random samples difficult. Flux chamber sample locations were, therefore, chosen in the field to best characterize expected VOC soil flux in the Building 875 dry well area. The number of locations to be sampled in the Building 875 dry well area was based upon the approximate area of the sampling zone. In each sampling zone, an additional sample was collected at the location expected to have the highest soil vapor flux, based on review of available data. This "control point" sample was collected at two different times during the diurnal cycle to represent variations in soil flux between the maximum and minimum diurnal temperatures. A detailed discussion of the methodology used to establish sampling zones and locations is presented in Appendix B.

In the central GSA, a total of 21 locations were sampled for soil flux; in the eastern GSA, a total of 18 locations were sampled; and in the Building 875 dry well area a total of 13 locations were sampled for soil flux. At each sample location, air samples were collected in SUMMA™ canisters using the emission isolation flux chamber methodology. The SUMMA™ canisters were analyzed using EPA method TO-14, which measures the concentration of 39 analytes. Table 1-20 presents a list of the analytes measured by the TO-14 method and their respective detection limits. In addition to the soil flux samples, method blank samples were collected for each isolation chamber. The results of the method blank analyses were used to qualify the VOC soil flux measurements. A discussion of the method blank collection, QA/QC and data evaluation used to identify the chemicals of potential concern is presented in Appendix B. Table 1-20 lists those analytes determined to be present in the soil flux measurements after the method blank evaluation.

The results of the TO-14 analysis ($ppm_{v/v}$) used to calculate measured soil flux are presented in Appendix A. Values for soil flux measured at individual sample locations, calculation methods, and pertinent field data are presented in Appendix B. Chemicals of potential concern identified in VOC flux analyses and their corresponding 95% UCLs are presented in Table 1-16. A total of 15 different analytes were detected in the soil flux samples. TCE was detected in samples collected from six locations. Four of these locations occurred at the Building 875 dry well area, where the maximum measured soil flux was 1.68×10^{-5} mg/m$^2 \cdot$ s. Samples collected from one location in each of the central and eastern GSA areas detected TCE with a maximum measured soil flux of 3.73×10^{-6} and 1.77×10^{-6} mg/m$^2 \cdot$ s, respectively. PCE was detected at only one location in the Building 875 dry well area with a maximum measured soil flux of 2.20×10^{-6} mg/m$^2 \cdot$ s.

1.4.5. Nature and Extent of Contamination in Surface Water

Surface water sampling has been limited in the GSA. Corral Hollow Creek is the closest surface water body to the GSA; however, creek flow is intermittent, and the creek is dry for most of its length almost year round. No VOCs or BTEX have been detected in the surface water samples collected from Corral Hollow Creek or in springs 1, 2, and GEOCRK located downstream from the CDF fire station (Fig. 1-23). Appendix H of the SWRI report and Appendix A of this FS contain the chemical database for surface water (Webster-Scholten, 1994).

1.4.6. Nature and Extent of Contamination in Soil and Rock

Rock and soil samples were collected from 75 boreholes in the GSA and analyzed for VOCs, BTEX, and metals. Appendix G of the SWRI report contains the chemical database for soil/rock samples. Appendix A of this FS contains the chemical database for soil/rock samples collected as part of the GSA Characterization Plan work.

1.4.6.1 Central GSA

VOCs, including TCE, PCE, and cis-1,2-DCE, were the primary contaminants detected in soil and rock samples collected in the central GSA. Maximum TCE concentrations in borehole soil/rock samples are shown in Figures 1-46 and 1-47. Maximum PCE concentrations in borehole soil/rock samples are shown in Figures 1-48 and 1-49. Maximum 1,2-DCE concentrations in soil/rock samples are shown in Figures 1-50 and 1-51. As shown in Figure 1-52, TCE is mainly confined to soil and rock within the Qt, Qal, $Tnbs_2$, and $Tnsc_1$ stratigraphic units within the central GSA. Maximum TCE concentrations in vadose zone soil/rock borehole samples are shown in Figure 1-53.

The highest concentrations of TCE, PCE, and 1,2-DCE in soil/rock samples in the central GSA occur in the vicinity of the Building 875 former dry wells 875-S1 and 875-S2, as shown in

Figures 1-46 through 1-49 and 1-51. VOCs were detected at all depths in boreholes in this area; however, maximum concentrations of TCE (360 mg/kg), PCE (390 mg/kg), and 1,2-DCE (0.07 mg/kg) were detected at depths of 20 to 35 ft. Detailed descriptions of borehole sample results are provided in Chapter 14 of the SWRI report. The high VOC concentrations in borehole soil samples from this area indicate that dry wells 875-S1 and 875-S2 were the most significant release sites in the central GSA.

VOCs were also detected in soil/rock samples collected from boreholes in the vicinity of the other four confirmed release sites in the central GSA: the decommissioned solvent drum rack, dry wells 872-S and 873-S, and the Building 879 steam-cleaning facility. TCE, PCE, and 1,2-DCE were detected in soil and rock samples at concentrations ranging from 0.0002 to 0.9 mg/kg at 15 ft in well W-875-02. This well is located north of Building 875 in the vicinity of the former solvent drum rack. Unsaturated soil samples collected from well W-872-02 drilled adjacent to dry well 873-S contained TCE at concentrations up to 0.014 mg/kg. Low concentrations of TCE (0.0013 mg/kg), Freon 113 (0.0039 mg/kg), and 1,2-DCE (0.008 mg/kg) were detected in soil samples collected from the borehole for monitor well W-872-02 immediately adjacent to former dry well 872-S. TCE and cis-1,2-DCE were detected in soil samples collected to a depth of 20.5 ft in the borehole drilled for well W-889-01, located approximately 50 ft east of the Building 879 steam cleaning/sink area.

As part of the GSA Characterization Plan work conducted from March through August 1994, 13 additional boreholes were drilled in the GSA and adjacent Gallo and Connolly properties. No VOCs were detected in soil or rock samples collected from 7 of the 10 boreholes drilled in the central GSA and vicinity. TCE was detected in soil samples collected from pilot boreholes for wells W-35A-10, W-7P, and W-7PS in the central GSA in concentrations ranging from 0.003 mg/kg in well W-7PS to 0.015 mg/kg in well W-35A-10 (Fig. 1-47). The TCE detected in saturated soil samples from well W-35A-10 and W-7PS pilot boreholes are thought to result from adsorption of TCE to soil particles as the TCE ground water plume moves through the areas in which these wells are located. Well W-7P is located in an area that has been identified as a debris burial trench (Fig. 1-35)

1.4.6.2. Eastern GSA

TCE, PCE, and 1,2-DCE have been detected in borehole soil samples collected in the eastern GSA in the vicinity of the debris burial trench. Maximum TCE concentrations in borehole soil samples are shown in Figures 1-54 and 1-55. Maximum PCE concentrations in borehole soil samples are shown in Figures 1-56 and 1-57. Maximum 1,2-DCE concentrations in soil samples are shown in Figures 1-58 and 1-59. In the eastern GSA, TCE has been detected in the Qal, $Tnsc_1$, and $Tnbs_1$ stratigraphic units; however, the TCE appears to be concentrated in the Qal (Fig. 1-60).

In the eastern GSA, maximum TCE and PCE soil concentrations (0.19 mg/kg TCE at 38.5 ft in W-25N-07 and 0.009 mg/kg PCE at 5.5 ft in W-26R-07) were detected in the vicinity of the debris burial trench, as shown in Figures 1-55 and 1-56.

No VOCs were detected in soil or rock samples collected from two of the three boreholes drilled for wells W-25N-25 and W-25N-26 in the eastern GSA and vicinity as part of the GSA Characterization Plan work (Figs. 1-55, 1-56, and 1-58). TCE was detected in one soil sample collected from the pilot borehole for well W-25N-28 at a concentration of 0.0006 mg/kg.

1.4.7. Nature and Extent of Contamination in Ground Water

A total of 98 ground water monitor wells have been installed in the GSA. Ground water samples from these wells have been analyzed for VOCs, aromatic and fuel hydrocarbons, and metals. Appendix H of the SWRI report contains the chemical database for ground water samples collected through December 1991. Appendix A of this FS contains the chemical database for ground water samples collected through September 31, 1994, including samples from wells drilled as part of the GSA Characterization Plan work.

1.4.7.1. Central GSA

1.4.7.1.1. VOC Contamination in the Qt-Tnsc$_1$ Aquifer. Fifty-seven monitor wells were installed in the central GSA (Fig. 1-24). The highest concentrations of TCE (240,000 µg/L), PCE (25,000 µg/L), and 1,2-DCE (1,000 µg/L) in ground water samples (bailed from an open borehole) in the central GSA occur south of Building 875 in the vicinity of the former dry wells 875-S1 and 875-S2. As shown in Figures 1-61 through 1-64, a plume of TCE, as well as co-contaminants PCE, 1,2-DCE, and Freon 11, extend east-southeast from the 875 dry well pad into the Corral Hollow Creek alluvium. The contaminant plume appears to be confined to the Qt-Tnsc$_1$ hydrologic unit in this area, where the Tnsc$_1$ confining layer prevents the downward migration of contaminants.

During the drilling of well W-875-07 at the Building 875 dry well pad, a ground water sample was bailed from the open borehole prior to installation of the well. Dense nonaqueous-phase liquid (DNAPL) was observed in the sample. Laboratory analysis of this sample measured TCE at 240,000 µg/L, PCE at 25,000 µg/L, 1,1-DCE at 4,000 µg/L, cis-1,2-DCE at 1,000 µg/L, and 59,000 µg/L of other VOCs (including fuel hydrocarbons). TCE concentrations in ground water samples from other wells installed at this location (wells W-875-08, -09, -10, -11, -15, and W-7I) ranged from 800 µg/L to 69,000 µg/L. Ground water samples from these wells have historically contained TCE at concentrations indicative of the presence of DNAPLs (> 11,000 µg/L); however, analytic data from recent ground water samples indicated that the concentrations of TCE were below levels considered to be indicative of the presence of DNAPLs in the saturated zone. However, residual DNAPLs may be present in soil in the dewatered zone and/or vadose zone.

VOCs were also detected in ground water samples collected from monitor wells in the vicinity of the other four confirmed release sites in the central GSA: the decommissioned solvent drum rack, dry wells 872-S and 873-S, and the Building 879 steam-cleaning facility. Concentrations of TCE (up to 180 µg/L), PCE (up to 6.5 µg/L), and 1,2-DCE (up to 88 µg/L) have been detected in ground water samples from monitor well W-875-01 located north of Building 875 in the vicinity of the former solvent drum rack. TCE has been also detected in ground water samples from monitor wells W-889-01 and W-876-01, located north and west, respectively, of the solvent drum rack area. The Building 879 steam-cleaning/sink area and the 879-E dry well (an unlined drainage ditch), both located upgradient from these wells, are the likely release sites for VOCs found in these wells. TCE has been consistently detected in well W-872-02, located in the vicinity of former dry well 872-S (Fig. 1-61). A ground water plume containing TCE and Freon 11 emanating from the vicinity of the former dry well 873-S, south of Building 873, indicate that the dry well was a chemical release site (Figs. 1-34, 1-61, and 1-64).

As part of the GSA Characterization Plan work, four additional off-site wells, W-35A-08, -09, -10, and -14, were installed in the Qt-Tnsc$_1$ hydrologic unit south of Building 873 on Gallo property to delineate the downgradient extent of the VOC plume in this aquifer. Ground water samples from two of the new off-site wells, W-35A-09 and W-35A-10, contained TCE at concentrations of 4.0 µg/L and 35 µg/L, respectively. No VOCs were detected in wells W-35A-08 and W-35A-14 (Fig. 1-61). The southern boundary of the ground water plume is defined by wells W-35A-08, -14, -02, and -03. A ground water sample collected from well W-7PS, which was installed on-site west of the sewage treatment pond in April 1994 to determine the eastern extent of the VOC plume, contained TCE at a concentration of 17 µg/L.

1.4.7.1.2. VOC Contamination in the Tnbs$_1$ Aquifer. Historically, TCE has been detected in ground water samples from four monitor wells west of the sewage treatment pond (wells W-7A, W-7G, W-7L, and W-7N) that are completed in the Tnbs$_1$ hydrologic unit (Fig. 1-65). In

March through July 1994, five additional ground water monitor wells (W-35A-07, -11, -12, -13, and W-7P) were installed to determine the extent of VOC contamination in the $Tnbs_1$ hydrologic unit in the central GSA (Fig. 1-65). No VOCs were detected in ground water samples collected from wells W-35A-07, -11, and -12 located on Gallo property south of the central GSA. Ground water from well W-35A-13 contained TCE at a concentration of 1.6 µg/L. Well W-7P was installed northwest of the sewage treatment pond in the suspected location of a debris burial trench. A ground water sample from this well contained TCE at a concentration of 31 µg/L.

No VOCs have been detected in ground water samples from well W-35A-05, completed in the $Tnbs_1$ hydrologic unit southeast of Building 875. Well W-35A-07 was drilled in March 1994 to determine if VOCs were present in ground water in the $Tnbs_1$ hydrologic unit in the vicinity of Building 875. No VOCs were detected in ground water samples from this well. These data indicate that the $Tnsc_1$ siltstone/claystone member acts as a competent confining layer in the vicinity of Building 875, preventing migration of TCE from the shallow Qt-$Tnsc_1$ aquifer into the underlying $Tnbs_1$ regional aquifer in this area.

Data indicate that TCE concentrations have generally been decreasing in all $Tnbs_1$ monitor wells in the central GSA since 1990. The historical maximum observed TCE concentration in ground water from the $Tnbs_1$ aquifer was 44 µg/L in well W-7G in August 1989. The maximum observed concentration in all $Tnbs_1$ wells in third quarter 1994 was 4.4 µg/L in well W-7L. There has been a 76% average concentration decrease between historical maximum observed concentrations and third quarter 1994 ground water concentrations for all central GSA $Tnbs_1$ wells. The measured decrease in TCE concentrations may be attributable to the sealing and abandonment of wells 7 and 19 in 1988 and 1989. When in use, these wells pumped up to 200 gpm and may have reversed the updip hydraulic gradient, causing TCE to migrate into the $Tnbs_1$ through a $Tnbs_1$ "window" as shown in Figures 1-66 and 1-67. This "window" exists in areas where:

- The alluvium directly overlies and/or is in hydraulic communication with the $Tnbs_1$ regional aquifer, and
- Contamination is present in the overlying alluvial aquifer.

When pumping ceased from wells 7 and 19, the pre-pumping hydraulic gradient is believed to have been reestablished in the $Tnbs_1$ and, as a result, the TCE concentrations in the bedrock aquifer decreased.

1.4.7.2. Eastern GSA

Forty-one monitor wells were installed in the eastern GSA (Fig. 1-25). In the eastern GSA, a TCE ground water plume extends eastward from the debris burial trench area and turns northward as it enters the alluvium of the Corral Hollow paleostream channel. The plume extends approximately 2,300 ft downgradient from the debris burial trench release sites in the alluvium (Fig. 1-68). Ten monitor wells have been installed from the eastern GSA northward along Corral Hollow Creek to identify the alluvial plume pathway. Analytical data indicate that, as of third quarter 1994, the ground water plume extends beyond well W-25M-01, which is located approximately 2,300 ft north of the debris burial trench; however, no VOCs were detected in downgradient wells W-25D-01 and W-25D-02 or in well W-24P-03 located east of Physics International (Fig. 1-68). The highest TCE concentration reported in ground water samples collected from wells completed in the vicinity of the debris burial trench is 74 µg/L in well W-26R-03 in January 1992.

TCE has also been detected in ground water collected from wells completed in the shallow $Tnbs_1$ unit near the debris burial trench source area at concentrations up to 71 µg/L (well W-26R-01) in June 1992. TCE concentrations tend to decrease with distance and depth from the debris burial trench area as shown in Figure 1-69. Data indicate that the TCE detected in ground water in the $Tnbs_1$ unit is limited, for the most part, to portions of the $Tnbs_1$ unit, which directly underlies the contaminated shallow alluvial plume (the $Tnbs_1$ "window") as shown in Figures 1-66 and 1-67. Three new $Tnbs_1$ monitor wells (W-25N, -26, and -28) were installed in May and June 1994 to delineate the downgradient extent of the TCE plume in the $Tnbs_1$ hydrologic unit in the eastern GSA (Figure 1-69). TCE was detected at a concentration of 1.2 µg/L in a ground water sample from well W-25N-28; however, no VOCs were detected in ground water samples from the other new monitor wells.

1.4.8. Ongoing Remedial Actions

As a result of the remedial investigation for Site 300, LLNL implemented interim CERCLA Removal Actions to remediate VOCs in soil and ground water in the GSA. In the central GSA, soil and ground water remediation activities are ongoing to reduce contaminant mass at the Building 875 dry well pad area. In the eastern GSA, ground water is being extracted and treated to control ground water plume migration.

1.4.8.1 Central GSA

Since April 1993, a ground water treatment system (GWTS) has been in operation in the central GSA at the former Building 875 dry well pad area as part of a CERCLA Removal Action. Ground water is presently being extracted from six $Qt\text{-}Tnsc_1$ extraction wells at the Building 875 dry well pad area. The ground water is treated at the GWTS and discharged on site. GWTS influent and effluent are monitored in accordance with the CERCLA Removal Action Substantive Requirements as mandated by the California RWQCB. To date, over 270,000 gal of ground water have been extracted and treated in the central GSA ground water treatment system and 3,400 g of VOCs removed from ground water. Since ground water extraction began, five of the six extraction wells dried out indicating that the bedrock has been effectively dewatered. Following dewatering of the Building 875 dry well pad area through ground water extraction, soil vapor extraction and treatment was initiated in July 1994 as discussed below.

A comparison of VOC ground water data collected from $Qt\text{-}Tnsc_1$ wells during the third quarter 1994 to the historical maximum observed concentrations indicates an overall decrease in VOC concentrations. Specifically, the maximum observed TCE concentration for all $Qt\text{-}Tnsc_1$ wells in samples collected in the third quarter of 1994 was 10,000 µg/L, representing a decrease from the historical maximum observed concentration of 240,000 µg/L in a bailed ground water sample collected from well W-875-07 in March 1992. Third quarter 1994 analytical data suggest that ground water samples collected from the Building 875 dry well pad wells do not contain TCE at concentrations indicative of the presence of DNAPLs in the saturated zone. However, residual DNAPLs may be present in soil in the dewatered zone and/or vadose zone. The drop in TCE concentrations may be partially attributable to ground water and soil vapor extraction and treatment efforts ongoing in the central GSA.

In July 1994, soil vapor extraction (SVE) and treatment activities were initiated in the central GSA Building 875 dry well pad area. The objective of soil vapor extraction is to 1) reduce soil VOC concentrations at this source area to levels that are protective of ground water, 2) address possible presence of residual adsorbed DNAPLs in the dewatered zone, and 3) reduce VOC concentrations in soil vapor to mitigate inhalation risk inside Building 875. Soil vapor is extracted from 7 wells and treated by vapor-phase GAC to reduce VOC concentrations in soil (Fig. 1-53). The SVE system operates 8 h/day, 5 days/week at a flow rate of about 20 standard cubic feet per minute (scfm) with average TCE vapor concentrations on the order of 200 ppm_v. The total VOC mass removal rate estimated from these values is 288 g per 8-h day. To date, 5,680 g of VOCs have been extracted from soil vapor. Ground water extraction and treatment were conducted prior to and simultaneously with all phases of soil vapor extraction. The total mass of VOCs extracted through ground water and soil vapor remediation activities to date is 9,080 g.

1.4.8.2. Eastern GSA

Since June 1991, a CERCLA Removal Action has been conducted in the eastern GSA at the debris burial trench site. Ground water is extracted from three extraction wells at a combined flow of 45 gpm and treated with an air sparger, and VOC vapors are treated by GAC canisters. Treated effluent water is discharged to the southwest in the Corral Hollow creekbed under NPDES permit number CA 0082651 (order number 91-052). To date, over 50 million gal of ground water have been extracted and treated in the eastern GSA ground water treatment system with 2,357 g of VOCs removed from ground water.

Data collected through third quarter 1994 indicate that TCE concentrations have been generally decreasing in all eastern GSA alluvial wells since 1992. There was an average TCE concentration decrease of 75% in eastern GSA alluvial wells between the historical maximum concentration and the concentration in third quarter 1994. The maximum observed concentration in eastern GSA alluvial wells in third quarter 1994 was 25 µg/L, a significant decrease from the historical maximum concentration of 74 µg/L in well W-26R-03 in January 1992.

The 1 µg/L isoconcentration contour for the ground water VOC plume in the eastern GSA previously extended 4,750 ft downgradient from the debris trench area and the 5 µg/L isoconcentration contour extended 4,625 ft downgradient based on fourth quarter 1991 (SWRI) data. Third quarter 1994 data indicate that the µg/L isoconcentration contour for the ground water VOC plume now extends only 2,300 ft downgradient from the debris burial trench area, while the 5 µg/L isoconcentration contour extends only 500 ft downgradient. This decrease in plume length may be partially attributable to remediation efforts in the eastern GSA.

1.5. Contaminant Fate and Transport

For the SWRI report (Webster-Scholten, 1994), we developed conceptual models to identify the probable migration processes of the chemicals of potential concern from release sites and source media in the GSA OU to selected potential exposure points. These conceptual models provided the basis for selecting the quantitative models used to generate estimates of contaminant migration rates and exposure-point concentrations. The exposure-point concentrations were then used to estimate the magnitude of exposure to contaminants in the baseline public health evaluation presented in Chapter 6 of the SWRI report (Webster-Scholten, 1994).

Since the completion of the SWRI report, additional field studies were conducted to better characterize VOC vapor flux from soil and better define the release rates of VOC vapor from soil. New models were implemented to estimate exposure-point concentrations of VOCs in outdoor air from measured soil vapor flux. The results from these models are used in conjunction with those provided in the SWRI report to provide a range of potential risks associated with outdoor air at the GSA. Table 1-21 presents the release areas, migration processes, and exposure points identified in the GSA OU and evaluated in the risk assessment provided in the SWRI report. This table also presents the mathematical models used to estimate contaminant migration rates and the exposure-point concentrations for the chemicals of concern in each environmental medium presented.

1.5.1. Atmospheric Fate and Transport

In the following sections, we present our estimates of the concentrations of VOCs and other contaminants in the GSA OU that may:

- Be present on resuspended soil particles.
- Volatilize from soil and migrate to ambient air.
- Volatilize from soil and migrate to Building 875 indoor air.

These estimates are based on modeling done for this FS and the SWRI report.

1.5.1.1. Estimation of the Concentration of Contaminants Bound to Resuspended Soil Particles

Surface soils (≤0.5 ft) in the GSA are contaminated with minor amounts of VOCs, including PCE, TCE, chloroform, and the metals, cadmium, copper, and zinc (Table 1-15). As described in Chapter 5 of the SWRI report, we used the 95% UCL of the mean contaminant concentration in surface soil, and site-specific data on total suspended particulates, to estimate the concentration of airborne contaminants bound to resuspended soil particles throughout the OU (Webster-Scholten, 1994).

1.5.1.2. Volatilization and Migration of Contaminants from Soil

The method used to complete the series of direct flux measurements at three locations in the GSA is described in Section 1.4. This section describes how the VOC soil flux measurements were used to estimate outdoor exposure-point concentrations of VOCs in ambient air in the vicinity of the Building 875 dry well area, in the central GSA, and in the eastern GSA. A detailed discussion of the models applied to estimate exposure-point concentrations from soil flux measurements is presented in Appendix B.

To estimate the concentration of contaminants that migrate from soil and diffuse into Building 875, we used the 95% UCL of the mean contaminant concentration in soil to a depth of 12 ft; we used this value in a model to estimate the concentrations of VOCs in air inside Building 875 (Webster-Scholten, 1994).

1.5.1.2.1. Estimation of the Concentration of Contaminants That Migrate from Soil into Ambient Air. We applied a simple box model to estimate exposure-point concentrations of VOCs in ambient air in the immediate vicinity and directly above three exposure locations in the GSA OU. The three source area boundaries are described in Section 1.4.4 and shown in Figure 1-45. The VOC soil flux rate, presented in Table 1-16, is assumed to be continuous over each source area and equal to the 95% UCL soil flux rate calculated for each source area. The box model applied to the GSA OU is from the recent American Society for Testing and Materials (ASTM), *Emergency Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites* (ASTM, 1994). We could not apply a standard air dispersion model because it is not suitable for providing estimates of exposure-point concentrations directly above an area source. Consequently, we selected a box model approach applicable to the prediction of short- and long-term local exposures resulting from any area source. Although the ASTM box model is simple to apply, it is also very conservative. Because the models and assumptions used were conservative in calculating exposure to contaminants in air, they provide an upper bound limit to expected inhalation exposure concentrations. Actual air concentrations corresponding to our measured VOC soil flux emissions are expected to be lower than those estimated by application of this model. A detailed discussion of the model, calculations, and parameters used to estimate exposure-point concentrations is presented in Appendix B.

Table 1-22 shows exposure-point concentrations of VOCs in ambient air calculated for the central and eastern GSA and the Building 875 dry well area. The estimated exposure-point concentrations for TCE and PCE in the Building 875 dry well area outdoor air were 1.63×10^{-4} and 2.64×10^{-5} mg/m^3, respectively. For the central and eastern GSA, the estimated exposure-point concentrations for TCE were 2.71×10^{-5} and 2.70×10^{-5} mg/m^3, respectively. PCE was not detected in either of these two areas.

1.5.1.2.2. Exposure to Contaminants that Flux from Soil and Diffuse Through Concrete into a Building. In the SWRI report (Webster-Scholten, 1994), we presented estimates of concentrations of VOCs in air inside of Building 875 (see Chapter 5 of the SWRI report). These VOC concentrations were used to calculate potential exposure, risk, and hazard to an adult working inside Building 875. Table 1-21 presents the indoor air exposure-point concentrations calculated for Building 875. The estimated exposure-point concentrations for TCE and PCE in the Building 875 indoor air were 1.03×10^{-2} mg/m^3 and 1.10×10^{-3} mg/m^3, respectively.

A soil vapor extraction (SVE) and treatment system has been operating at the Building 875 since July 1994. One of the objectives of soil vapor extraction in this area is to reduce soil vapor VOC concentrations to mitigate inhalation risk inside Building 875. Analytic soil vapor data from the Building 875 dry well pad SVE wells indicate that VOC concentrations in soil vapor are significantly decreasing over time.

The cumulative excess cancer risk (1×10^{-5}) calculated for Building 875 indoor air was based on VOC concentrations from soil samples collected in the vicinity of the Building 875 dry well pad prior to the start-up of the soil vapor extraction system. It is likely, due to on-going soil remediation activities through soil vapor extraction, that current VOC soil concentrations are lower than what was used to calculate this excess cancer risk in the SWRI baseline risk assessment. As discussed further in Chapter 4, Section 4.3.1.1, VOC concentrations in soil vapor will be monitored as part of remedial alternatives to ensure that the inhalation risk inside Building 875 is adequately managed.

1.5.2. Contaminant Fate and Transport in Ground Water

The fate and transport of VOCs in ground water were considered for both the central and eastern GSA, as well as a combined central and eastern GSA plume scenario. For the central GSA, exposure-point concentrations were estimated at the site boundary and modeled to water-supply well CDF-1. For the eastern GSA, exposure-point concentrations were estimated for a theoretical well at the site boundary and two plumes commingling at well CDF-1, and were modeled to a downgradient water-supply well SR-1. A detailed discussion of the estimation and modeling to obtain exposure-point concentrations is provided in Chapter 14 of the SWRI report (Webster-Scholten, 1994).

1.5.2.1. Central GSA

TCE and other VOCs have been detected in ground water from monitor wells drilled in the vicinity of the Building 875 dry well area and other central GSA release sites, indicating downward migration of VOCs from soil to ground water following the original releases. The TCE detected in ground water from wells southeast (downgradient) of the Building 875 dry well pad area indicates that the VOC plume is migrating laterally in a south-southeast direction. Because the maximum concentrations of TCE in soil and ground water have been detected in wells drilled in the Building 875 dry well area, this area was modeled for the SWRI report. Because VOC plumes emanating from the five other release sites in the central GSA have much lower concentrations of TCE and are either upgradient or cross-gradient of the dry well area, they were not modeled.

The 95% UCL of the mean concentration of VOCs in ground water from five wells at the Building 875 dry well release site was used to estimate the site boundary exposure. Although we did not explicitly model the transport of VOCs in ground water to the site boundary, we made the health conservative assumption that the 95% UCL for TCE at the Building 875 dry well pad monitor wells (35,849 µg/L) will reach the Site 300 boundary, located less than 20 ft to the south. We also assumed that human exposure could result from potentially contaminated ground water if a hypothetical domestic water-supply well were to be installed at the site boundary in the future.

We applied the Wilson and Miller (1978) analytical model to simulate the migration of TCE through the alluvial ground water system to water-supply well CDF-1. This model simulates the transport of volatile contaminants based on the conservation of mass and considers the flux of solute injected through a fixed source volume into a modeled aquifer. The model assumes that TCE migrates through a saturated, porous media with uniform, steady-state flow. Hydrogeologic parameters based on observed field data were available, and assumptions were made for the other parameters based on values accepted as reasonable for the observed conditions. Sensitivity analyses were run to provide a measure of the variability if other hydraulic parameters were used. A detailed description of how the model was set up and a discussion of results is provided in Chapter 14 of the SWRI report (Webster-Scholten, 1994).

Based on this simulation, the model predicts a maximum 70-year average concentration of TCE of 38.3 µg/L in alluvial ground water reaching well CDF-1. By applying a volume dilution factor of 1:9 to the predicted TCE concentration in the alluvial aquifer, we obtained a concentration of 3.8 µg/L TCE in the pumped water. The 1:9 dilution factor was derived from CDF-1 hydraulic test data, which indicate that approximately 10% of water is withdrawn from the shallow alluvial aquifer while 90% is withdrawn from the deeper $Tnbs_1$ regional aquifer. Analytic data from ground water samples collected from CDF-1 indicate that ground water in the $Tnbs_1$ does not contain TCE or other VOCs at this receptor point.

1.5.2.2. Eastern GSA

In the eastern GSA, the detection of TCE in shallow alluvial ground water indicates that TCE has migrated downward from release points in the debris burial trench into the Qal-Tmss hydrologic unit. TCE concentrations in downgradient alluvial wells indicate that the contaminant has also migrated laterally from the debris burial trench area eastward and turns northward as it enters the alluvium of the Corral Hollow paleostream channel.

For the SWRI, no modeling was performed for the transport of VOCs in ground water to the site boundary; rather, we made the health conservative assumption that the 95% UCL for TCE at the debris burial trench area (33.9 µg/L) will reach the Site 300 boundary, 125 ft to the south, where human exposure to potentially contaminated ground water could result if a hypothetical domestic water-supply well were to be installed at the site boundary in the future.

To estimate the exposure-point concentration at water-supply well CDF-1, we considered a scenario where the VOC plumes from the eastern GSA debris burial trench area and the central GSA Building 875 dry well area commingle at the CDF-1 receptor point. A health conservative assumption was made that the maximum historic TCE concentration (61 µg/L) in the debris burial trench in the eastern GSA would reach the CDF-1 well. When ground water arriving from the central GSA reaches its maximum 70-year average TCE concentration of 38.3 µg/L, the addition of 61 µg/L TCE from the eastern GSA release site would cause the resultant TCE concentration to rise to about 100 µg/L (i.e., 61 µg/L + 38.3 µg/L = 99.3 µg/L). Application of the 1:9 dilution factor discussed above results in an exposure-point concentration of 10 µg/L TCE for water pumped from well CDF-1.

To assess the potential for contaminant migration in ground water to water-supply well SR-1, we modeled TCE transport in the alluvial aquifer from the debris burial trench using the PLUME analytical model. The PLUME model simulates the transport of volatile contaminants through saturated soil by liquid-phase advection, hydrodynamic dispersion, linear partitioning, and degradation processes. The constant source term used in the model (100 µg/L) was derived from the commingled eastern GSA and central GSA plume scenario. Hydrogeologic parameters based on observed field data were available, and assumptions were made for the other parameters based on values accepted as reasonable for the observed conditions. We ran sensitivity analyses to measure the variability if other hydraulic parameters were used. A detailed description of how the model was set up and a discussion of its results is provided in Chapter 14 of the SWRI report (Webster-Scholten, 1994).

The model predicted a maximum TCE concentration and maximum 70-year average concentration of 10.4 µg/L in alluvial ground water at well SR-1. As no construction details were available for this well, we did not speculate on possible alluvial water dilution and used 10.4 µg/L TCE as the exposure-point concentration.

Other VOCs, such as PCE, have also been detected in ground water in the eastern and central GSA. We estimated the transport of these other VOCs by applying the ratio of their measured concentration to the concentration of TCE, and then applying that value to the TCE transport results.

1.5.2.3. 95% UCLs for VOC Plumes in Ground Water in the Central and Eastern GSA

For this FS we calculated new 95% UCLs of the mean concentration of VOCs in ground water in the vicinity of the GSA release sites including:

- The Building 875 dry well area.
- The Building 872/Building 873 dry well area.
- The Building 875 solvent drum rack area.
- The eastern GSA debris burial trench area.

We made these calculations based on data collected through September 30, 1994. A discussion of the statistical methods used in the calculation of the 95% UCLs is presented in the SWRI report (Webster-Scholten, 1994). The calculation of the 95% UCLs for VOCs in ground water using current, post-SWRI data was conducted in order to: 1) update and enhance our understanding of contamination in the vicinity of the release sites, 2) evaluate any changes in VOC 95% UCLs, and 3) provide a basis for comparison in future evaluation of remediation progress.

1.5.2.3.1. Comparison of Baseline Ground Water 95% UCLs at the Building 875 Dry Well Pad Area. As noted in Section 1.5.2.1, we calculated the 95% UCL of the mean concentration of VOCs in ground water from the Building 875 dry well area in the SWRI (Webster-Scholten, 1994). These calculated values were used to represent the potential exposure-point concentrations of contaminants at the site boundary nearest to the release site. These calculations were made based on data collected through March 31, 1992.

To obtain a current understanding of contamination in the vicinity of the Building 875 dry well release area, we calculated a new set of 95% UCLs (based on the same set of wells) using data collected through September 30, 1994. A comparison of the 95% UCLs calculated for the SWRI with current, post-SWRI 95% UCLs indicated that the 95% UCL of TCE, the primary contaminant of concern, has not changed substantially since the SWRI, while the 95% UCLs for PCE and 1,1,1-trichloroethane have decreased. However, the 95% UCLs for 1,1-dichloroethylene and cis-1,2-dichloroethylene have increased relative to the values presented in the SWRI. In addition, a number of compounds have been detected in these wells that were not present at the time of the SWRI. These compounds are 1,1,2-trichloroethane, 1,1-dichloroethane, 1,2-dichloroethane, chlorobenzene, chloroform, and trans-1,2-dichloroethylene. Summary statistics for contaminants in these and other wells that characterize additional release sites in the GSA are provided in Appendix C.

1.5.2.3.2. 95% UCLs for VOC Ground Water Plume in the Vicinity of Other GSA Release Sites. As discussed above, we also calculated the 95% UCL of the mean concentration of VOCs in ground water for the plumes in the vicinity of the Building 872/Building 873 dry well area, the Building 875 solvent drum rack area, and the eastern GSA debris burial trench release sites, based on data collected through September 30, 1994. Summary statistics for contamination in wells that characterize these release sites, as well as the 95% UCLs calculated for this FS are provided in Appendix C. These 95% UCLs will be used as a basis for comparison in future evaluations of remediation progress.

1.5.3. Estimation of Ecological Exposure-Point Concentrations

In Chapter 5 of the SWRI report, potential exposure-point concentrations were presented for contaminants of potential concern in environmental media considered to be ecologically significant. Environmental media are considered ecologically significant if biota can be exposed to the contaminants through direct contact with the media, or if the contaminants in the media transfer to other media with which biota may come in contact. For the GSA, the following environmental media are considered ecologically significant and were evaluated to estimate ecological exposure-point concentrations:

- Surface soil (≤0.5 ft) throughout the study area.
- Subsurface soil (>0.5–12.0 ft) in the eastern GSA in the vicinity of the debris burial trenches and the sewage treatment pond.
- Off-site surface water (spring GEOCRK) in the eastern GSA.

Table 1-15 presents the 95% UCL of the mean concentration of the contaminants of potential concern found in surface soil. These data were used to evaluate exposure to biota through inhalation of resuspended particulates, as well as through direct and incidental ingestion of contaminated surface soil.

Table 1-18 presents the 95% UCLs of the mean concentration of the contaminants of potential concern found in subsurface soil in the vicinity of the debris burial trenches and in the vicinity of the sewage treatment pond, both in the eastern GSA. These data were used to evaluate potential exposure through direct and incidental ingestion of these contaminants of concern by burrowing vertebrates. These data were also used to predict the concentrations of contaminants in subsurface burrow air and, thus, potentially available for inhalation by burrowing vertebrates. We estimated the concentration of VOCs that may be present in subsurface burrow air as a result of volatilization from subsurface soil as well as the concentration of metals present in subsurface burrow air bound to resuspended particulates. Subsurface soil data were also used to predict concentrations of contaminants in vegetation because, as a result of root uptake, contaminants would be available for ingestion by herbivorous vertebrates.

Table 1-19 presents the 95% UCLs of the mean concentrations of contaminants of potential concern detected in the off-site spring GEOCRK. These data were used to evaluate exposure to terrestrial vertebrates through direct ingestion of contaminated surface water. They were also used to evaluate potential exposure to aquatic biota through direct immersion in the surface water. Surface water data were also used to predict the concentrations of contaminants in aquatic vegetation because, as a result of root uptake, contaminants would be available for ingestion by herbivorous vertebrates.

1.6. Risk Assessment

This section summarizes the potential human health and ecological risk associated with the chemicals of concern at the GSA. Tables 1-23 through 1-26 provide the potential human health risks and hazard indices (HIs) associated with exposure to chemicals of concern, presented in the SWRI report. Based upon characterization data obtained after the baseline human health risk assessment was completed for the SWRI, we prepared a series of additional estimates of risk and hazard associated with adult on-site exposure to VOCs in outdoor air in the vicinity of the Building 875 dry well pad, the central GSA, and the eastern GSA. The results of this evaluation and the associated calculations of risk and hazard are discussed in Section 1.6.2 and are presented in Tables 1-27 through 1-37. The results of our ecological assessment are discussed in Section 1.6.4, and are summarized in Tables 1-38 through 1-41. This discussion also includes an evaluation of characterization data obtained after the baseline ecological assessment was completed. Details of the baseline public health assessment and ecological assessment of the GSA are presented in Chapter 6 of the SWRI report.

1.6.1. Baseline Human Health Assessment

In the baseline human health assessment, we developed two principal scenarios to evaluate potential human exposure to environmental contaminants in the GSA OU. The first of these scenarios pertains to adults working in the GSA. This scenario addresses potential health risks attributable to contaminants in soil, where an adult on-site (AOS) is presumed to work in the immediate vicinity of the contamination over the entire period of employment at the site (25 years). Our second scenario pertains to residential (RES) exposures, which are associated exclusively with use of contaminated ground water.

1.6.1.1. Baseline Evaluation of Risk and Hazard Associated with AOS Exposure to Surface Soil Contaminants

Considering the GSA as a whole, we evaluated risk and hazard associated with the potential AOS exposure to contaminated surface soil from inhalation of resuspended particulates, dermal absorption of contaminants following direct contact with contaminated soil, and incidental ingestion. The potential exposure-point concentrations of surface soil contaminants for direct dermal contact and incidental ingestion are the same as the 95% UCL of the mean contaminant concentration in surface soil (Table 1-21). These calculations yielded estimates of individual excess lifetime cancer risk of 2×10^{-7} for inhalation of resuspended particulates and 2×10^{-10} for ingestion and dermal absorption of surface soil contaminants. The corresponding HIs are 5.6×10^{-5} for inhalation and 8.5×10^{-3} for ingestion and dermal absorption.

1.6.1.2. Baseline Evaluation of Risk and Hazard Associated with RES Use of Contaminated Ground Water

We calculated the risk and hazard associated with potential RES use of contaminated ground water from a hypothetical water-supply well located at the site boundary nearest to the Building 875 dry wells. The individual excess lifetime cancer risk attributable to the potential use of ground water at this location is 7×10^{-2}, and the corresponding HI is 560. These values indicate that if ground water at the site boundary in the central GSA were to be used for residential purposes on a regular basis, there would be an unacceptable incremental excess cancer risk and an unacceptable noncancer health effects hazard.

We also evaluated risk and hazard associated with potential residential use of contaminated ground water at the site boundary nearest to the eastern GSA debris burial trenches. The individual excess lifetime cancer risk attributable to the potential use of ground water at this location is 5×10^{-5}, and the corresponding HI is 5.0×10^{-1}. In addition, we calculated the risk and hazard associated with potential residential use of contaminated ground water at two off-site locations, wells CDF-1 and SR-1. The individual excess lifetime cancer risks attributable to the potential use of ground water at these locations are 1×10^{-5} and 2×10^{-5}, respectively. The corresponding HIs are 1.4×10^{-1} and 1.6×10^{-1}.

1.6.1.3. Baseline Evaluation of Risk and Hazard Associated with AOS Exposure to Subsurface Soil Contaminants

In the SWRI report (Webster-Scholten, 1994), we presented estimates of concentrations of VOCs in air inside Building 875 and outdoors in the vicinity of the eastern GSA debris burial trenches, based on contaminant data from subsurface soil (see Chapter 5 of the SWRI report). These VOC concentrations were used to calculate potential exposure, risk, and hazard to an AOS at each of the two locations noted above. As reported in the SWRI, these calculations yielded incremental excess cancer risks of 1×10^{-5} and 1×10^{-4}, and HIs of 3.0×10^{-1} and 8.6×10^{-1}, respectively.

1.6.2. Adult On-Site Exposures in the GSA—Estimates of Risk and Hazard Based on Direct Measurements of VOC Flux from Soil to Air

We recently completed a series of direct VOC vapor flux measurements in the vicinity of the eastern GSA debris burial trenches. We obtained these measurements because of the difficulties in accurately estimating VOC vapor flux from soil to air using contaminant data from subsurface soil, and the uncertainties introduced into our baseline estimates of risk and hazard as a result. Direct vapor flux measurements were also made in a region of the central GSA where post-SWRI characterization data indicated potential subsurface VOC contamination, and in the vicinity of the Building 875 dry wells. The results of those measurements and the associated calculations of potential exposure, risk, and hazard are presented here. For the debris burial trenches and vicinity, these risk and hazard values are used in conjunction with those values presented in the SWRI report to provide a range of potential risks associated with the outdoor air in this area. No previous baseline calculations are available for potential AOS exposure, risk, and HI in the central GSA, or outdoors near Building 875. Accordingly, the values presented for these two locations represent our current understanding of the potential risks and non-cancer hazards associated with subsurface VOCs in these two regions of the GSA.

As described in Section 1.4, we obtained direct measurements of VOC vapor flux from soil using emission isolation flux chambers at three locations in the GSA (Fig. 1-45). These three locations are the Building 875 dry well area, the central GSA, and the eastern GSA. In Section 1.5 and Appendix B, we describe how VOC soil vapor flux measurements were used in conjunction with a simple box model (ASTM, 1994) to estimate exposure-point concentrations of VOCs in ambient air in the vicinity of these three locations. We then evaluated potential AOS exposure to contaminants detected in isolation flux chambers by calculating the potential risk and hazard associated with inhalation of VOCs that flux from soil into the atmosphere in the vicinity of the Building 875 dry well area, the central GSA, and the eastern GSA debris burial trenches.

Calculations of cancer risk and noncancer HIs for the three potential exposure locations followed the methods described in Chapter 6 of the SWRI report. Table 1-27 summarizes available toxicity information for contaminants detected in isolation flux measurements. Tables 1-28 through 1-33 provide location- and chemical-specific exposure-point concentrations of each contaminant, pathway exposure factors (PEFs), chemical-specific doses, and toxicity values. A detailed description of the method and parameters used to derive the PEFs is also presented in Chapter 6 of the SWRI report (Webster-Scholten, 1994). Summaries of the chemical-specific hazard quotients (HQs) and contribution to risk, as well as the location-specific estimates of total risk and HI, are presented in Tables 1-34 through 1-36.

For AOS exposure to contaminants in outdoor air in the vicinity of the Building 875 dry well area, we calculated a total cancer risk of 2×10^{-7} and a HI of 6.2×10^{-3}. The excess lifetime cancer risks attributable to AOS exposure to VOCs that flux from soil to ambient air in the vicinity of the central and eastern GSA are 7×10^{-7} and 2×10^{-7}, respectively. The corresponding HIs are 1.2×10^{-3} and 1.3×10^{-3}.

Adult employees of LLNL who work outdoors in the GSA OU could be exposed simultaneously to contaminants by inhalation of resuspended particulates, direct dermal contact with surface soil, incidental ingestion of surface soil, and inhalation of VOCs that flux from soil. We selected the vicinity of the central GSA for our calculations of additive risk and HI associated with AOS exposures because our calculations indicated higher levels of cancer risk and HI for this location than for exposures associated with the Building 875 dry well area and the eastern GSA. Because the Building 875 dry well area, central GSA, and eastern GSA are separated by approximately 200 ft, we did not examine concurrent exposures to VOCs from the three sources.

Table 1-37 presents the additive individual excess cancer risk and HI for AOS exposures in the GSA OU as well as the contribution to the totals from each source or transport medium. The values given in Table 1-37 indicate a total additive risk of 9×10^{-7} and a total additive HI of 9.8×10^{-3}.

1.6.3. Summary of Human Health Risk Assessment

The National Contingency Plan (NCP) states that, for known or suspected carcinogens, acceptable exposure levels are generally concentration levels that represent an excess, upper bound, lifetime cancer risk to an individual of between 10^{-4} and 10^{-6}, using information between dose and response. The NCP also states that the 10^{-6} risk level shall be used as the point of departure for determining remediation goals for alternatives when ARARs are not available or are not sufficiently protective because of the presence of multiple contaminants at the site or multiple pathways of exposure. The 10^{-4} to 10^{-6} risk range is generally acceptable when used for risk-management decisions. The U.S. EPA (1989) indicates that a noncancer HI greater than 1 may be associated with noncarcinogenic adverse health effects.

Thus, our estimates of excess cancer risk (2×10^{-10} to 2×10^{-7}) or HI (5.6×10^{-5} to 8.5×10^{-3}) indicate that potential excess cancer risk and noncancer hazard are well within acceptable levels. These estimates are based on AOS exposure to surface soil contaminants through inhalation of resuspended particulates, ingestion, and dermal adsorption from surface soils in the GSA. The estimates of excess cancer risk (7×10^{-7} to 2×10^{-7}) and HI (6.2×10^{-3} to 2.4×10^{-2}) for AOS exposure to VOCs that flux from soil to outdoor air calculated from direct vapor measurements, are also within acceptable levels. The estimated cancer risk and non-cancer hazard for air inside Building 875 (1×10^{-5} and 3.0×10^{-1}, respectively) are in the range where risk management actions may be necessary.

The calculated excess cancer risks and HIs for potential residential use of ground water in the vicinity of the eastern GSA debris burial trenches or at the off-site wells CDF-1 or SR-1 range from 5×10^{-5} to 1×10^{-5}; the HIs range from 1.4×10^{-1} to 5.0×10^{-1}. The excess cancer risk and HI calculated for use of ground water at the site boundary near the Building 875 dry wells yielded an estimate of potential excess cancer risk of 7×10^{-2} and an HI of 560. These values indicate that if well water from this area were used on a regular basis, it would present an unacceptable excess cancer risk as well as a potential for noncancer adverse health effects. However, water in this area is not currently used for domestic purposes, and Removal Action remediation activities are currently underway to remove ground water contaminants.

1.6.4. Ecological Assessment

The baseline ecological assessment as presented in Chapter 6 of the SWRI report only considered the eastern GSA. Since its completion, additional data from both the central GSA and the eastern GSA have been collected and evaluated to further define the potential for ecological hazard by contaminants present in the GSA OU. An evaluation of these data is also presented below.

1.6.4.1. Baseline Ecological Assessment

For the ecological assessment of the eastern GSA, the abundance of the California ground squirrel and black-tailed deer populations, the reproductive potential and life span of individual San Joaquin kit fox, and the abundance of aquatic populations at spring GEOCRK were selected as ecological assessment endpoints. To estimate potential hazard from exposure to contaminants of potential concern, HIs were calculated for individual ground squirrels, black-tailed deer, and kit fox; and toxicity quotients (TQs) were calculated for aquatic populations (Tables 1-38 through 1-41). An HI or TQ greater than 1 indicates that an elevated ecological hazard potentially exists.

The combined oral and inhalation HI for cadmium exceeded 1.0 for the kit fox, ground squirrel, and black-tailed deer (adult and juvenile for all three species). For all three species, this was primarily a result of direct and indirect ingestion of cadmium in surface soil. Data from surveys of ground squirrel burrows conducted in 1986 and 1991 indicated an increase in the overall Site 300 ground squirrel population. The robust ground squirrel population at Site 300 suggests that only individual squirrels could potentially be at risk from cadmium exposure, and that the overall population remains healthy. Although there is no evidence for kit fox in the OU, data suggest that they could be at risk from exposure to cadmium should they den in the eastern GSA.

Toxicity quotients were calculated for aquatic population exposure to copper and zinc at spring GEOCRK. The TQs were below 1.0 for the Federal Ambient Water Quality Criteria (AWQC) method, but greater than 1.0 for the California Applied Action Levels (AAL) method. This evaluation indicated a potential for impact to these populations from exposure to copper and zinc. Although these elements are present in spring water from GEOCRK, their occurrence is believed not to originate from Site 300, as upgradient water that enters the spring area does not contain elevated levels of copper or zinc.

1.6.4.2. Evaluation of Recent Ecological Data

Since the completion of the SWRI report, additional ecological data have been collected from both the central GSA and eastern GSA. Although the central GSA is primarily paved, small portions are unpaved and can be utilized by ecological receptors, primarily burrowing vertebrates. These areas include:

- The Building 875 dry well area.
- The portion of the central GSA east of former water-supply well 7 and west of the sewage treatment pond.
- The area surrounding and extending to the east of the Building 883 corporation yard.

As part of the recent characterization of the central GSA, additional surface soil and subsurface soil samples were collected and analyzed for VOCs and metals. These data are presented in Appendix A. Although these data were not subjected to the extensive ecological evaluation described in Chapter 6 of the SWRI report, they were qualitatively evaluated to assess the potential hazard the contaminants may pose to ecological receptors. Our evaluation suggests that cadmium and VOCs are present in surface and/or subsurface soil in the Building 875 dry well area at concentrations corresponding to HIs that were predicted in the SWRI report to pose a potential hazard to burrowing vertebrates. In addition, cadmium in surface soil in this area may pose a potential hazard to grazing vertebrates. Although VOCs have been detected in subsurface soil samples obtained near the Building 883 corporation yard as well as the area west of the sewage treatment lagoon, the concentrations are present at levels below those predicted by similar evaluations in the SWRI report to pose a hazard to burrowing vertebrates.

Since the completion of the biological surveys conducted for the 1992 EIR/EIS report (U.S. DOE, 1992), a total of seven biological surveys have been conducted in the central GSA. Areas surveyed included the area west of the sewage treatment pond and off-site areas along Corral Hollow creek. Sensitive species observed in other portions of the central GSA not directly surveyed were also noted. The only sensitive species observed in the central GSA was the American badger, which was observed to be denning just south and east of the Building 883 corporation yard. Cadmium was not detected in the five soil samples collected in the vicinity of the corporation yard (3SS-27-01 through -27-03 and W-7PS and W-7P). However, foraging in the area just east of the sewage treatment lagoon in the eastern GSA or in the vicinity of the dry well pad could potentially expose these animals to cadmium.

Additional soil samples were also collected and analyzed for VOCs and metals in the eastern GSA. These samples were collected in the off site areas of Corral Hollow Creek in the vicinity of the CDF station and the CDFG ecological preserve. Cadmium was not detected in any of the soil samples collected in the eastern GSA subsequent to December 31, 1991. These data further suggest that cadmium contamination in the soil in the eastern GSA is limited to the area just east of the sewage treatment lagoon.

A total of seven biological surveys were also conducted in the eastern GSA. The only sensitive species observed was the red-legged frog. Breeding populations of red-legged frogs were observed in the reach of Corral Hollow Creek behind and northeast of the CDF station and into the CDFG ecological preserve.

As reported above, the evaluation of TQs presented in the SWRI report indicated a potential hazard to aquatic populations in spring GEOCRK from copper and zinc. To further evaluate this potential hazard, we conducted two bioassays on samples collected from spring 1 and spring GEOCRK. The two bioassays conducted were the *Ceriodaphnia dubia* (water flea) chronic 7-d toxicity test (EPA Method 1002) and the *Selenastrum capricornutum* (algae) 4-d growth test (EPA Method 1003). These tests were selected as being representative of the types of species expected in these springs. Appendix A presents a detailed discussion of the sampling and test procedures, as well as the results. Toxicity to the two test species was not detected in samples from either spring. Thus, although the TQ evaluation presented in the SWRI report indicated a potential hazard to aquatic populations in spring GEOCRK, the more rigorous bioassay test did not detect any toxicity. We therefore conclude that levels of copper and zinc detected in spring GEOCRK do not present a hazard to aquatic populations.

For both the eastern GSA and the central GSA, localized areas have been identified that contain cadmium in soil at concentrations that may pose a potential hazard to grazing vertebrates. Since the completion of the SWRI report, Environmental Restoration Division personnel have been recording date and location of all deer sightings made during normal work activities. To date, no deer sightings have been recorded for the GSA on-site areas. All deer sightings have been made near permanent springs, such as those in the southwest corner of Site 300. Although not conclusive, this information suggests the localized areas in the GSA containing cadmium contamination in soil are not regularly used by the Site 300 deer population.

2. Remedial Action Objectives

Remedial Action Objectives (RAOs) are specific goals for protecting human health and the environment. The development of these goals involves health protective Applicable or Relevant and Appropriate Requirements (ARARs) and the results of the remedial investigation (Webster-Scholten, 1994), including the human and ecological risk assessments. ARARs and risk-based requirements are discussed below, followed by a summary of the RAOs.

Because of the changing and evolving nature of public policy, risk assessment, environmental law, and remediation technology, the development of RAOs, ARARs, and cleanup goals is an ongoing and iterative process and may not be finalized until the Record of Decision (ROD).

2.1. Identification of Applicable or Relevant and Appropriate Requirements

CERCLA Section 121 (d)(2)(A) requires that remedial actions meet any federal standards, requirements, criteria, or limitations that are determined to be legally applicable or relevant and appropriate. CERCLA Section 121 (d)(2)(A)(ii) requires state ARARs to be met if they are more stringent than federal requirements. In addition, the National Contingency Plan (NCP), published in 40 CFR 300, requires that local ordinances, unpromulgated criteria, advisories, or guidance that do not meet the definition of ARARs but that may assist in the development of remedial objectives be listed as "to be considered" (TBC).

Based on CERCLA guidance, LLNL has divided ARARs into three areas:

1. Chemical-specific requirements that define acceptable exposure concentrations or water quality standards.
2. Location-specific requirements that may restrict remediation activities at sensitive or hazard-prone locations such as wildlife habitat and flood plains.
3. Action-specific requirements that may control activities and/or technology.

Table 2-1 lists current ARARs developed by the signatories to the Site 300 FFA for the GSA operable unit. Additional TBCs are also included to assist in determining what may be necessary to protect human health and the environment. Table 2-2 is a summary comparison of alternatives and corresponding ARARs and other factors to be considered for the GSA operable unit.

2.2. Chemical-Specific ARARs

2.2.1. Risk-Based Requirements

Table 2-3 summarizes risk by media in the GSA operable unit based on the baseline risk assessment and subsequent air monitoring and modeling described in Section 1.5. As shown in Table 2-3 and discussed below, ground water and air inside Building 875 exceed the 10^{-6} (one in one million) elevated excess cancer risk threshold (see 40 CFR Section 300.430(e)(i)(A)(2)) or the hazard index (HI) of one for non-carcinogenic health effects (U.S. EPA [1989]).

The baseline human-health risk assessment identified TCE, PCE, 1,1-DCE, cis-1,2-DCE, 1,1,1-TCA, chloroform, bromodichloromethane, benzene, ethylbenzene, toluene, and xylene as chemicals of potential concern in ground water at the GSA operable unit (Webster-Scholten, 1994). Of these, only TCE, PCE, 1,1-DCE, benzene, chloroform, and bromodichloromethane are classified as known or suspected human carcinogens (Table 2-4). The remaining five compounds are a concern, however, due to possible noncarcinogenic health effects (Webster-Scholten, 1994). Since ground water beneath the GSA is potential drinking water, actions are warranted to reduce contaminant concentrations to acceptable levels. Applicable state and federal ARARs for drinking water are discussed in Section 2.2.2.

As discussed in Section 1.5, potential risks identified in the baseline risk assessment were further evaluated by taking direct measurements of VOC flux from the surface and subsurface soil to outdoor air. These measurements indicated that potential inhalation risks were acceptable. Modeling results for flux from subsurface soil containing VOCs to indoor air in Building 875 indicate that the potential inhalation risk (1×10^{-5}) is in the range (10^{-4} to 10^{-6}) where risk management measures may be necessary. Since the vadose zone near Building 875 contains a potential source of VOCs to ground water and soil vapor, remediation of this soil may be warranted to reduce potential future risks associated with ingestion of contaminated ground water and inhalation of VOC vapors inside Building 875 (see Section 2.2.3).

As previously discussed in Section 1.5, surface soil containing elevated cadmium concentrations at some localities may pose elevated risk/hazard for wildlife. However, limited data indicate that wildlife exposure is not likely since elevated cadmium concentrations are associated with nonhabitat areas such as roads and parking lots. If future data indicate that habitat of rare, threatened, or endangered species is affected, we will discuss any course of action, as necessary, with the regulatory agencies.

2.2.2. Federal and State ARARs

Table 2-4 presents state and federal Maximum Contaminant Levels (MCLs) for chemicals of concern in ground water in the GSA operable unit. Because ground water is used for drinking water and MCLs apply directly to public drinking water systems with 15 or more service connections, ground water at Site 300 is considered a potential public drinking water source under federal and state law.

The U.S. EPA uses MCLs as a cleanup standard for contaminated water that is, or may be used for, drinking water. Under CERCLA, the most stringent concentration limit is the ARAR for the chemical of concern. Under the Safe Drinking Water Act (SDWA), the state may set more stringent standards for public drinking water systems. As shown in Table 2-4, the state has set more stringent MCLs for 1,1-DCE, cis-1,2-DCE, benzene, ethylbenzene, and xylenes. Because TCE comprises 80–95% of the ground water contamination in the GSA, TCE is used as an indicator chemical for all remedial alternatives. However, monitoring will be conducted to ensure remediation of the other chemicals of concern in GSA ground water meets the MCL clean-up standard.

State Water Resources Control Board (SWRCB) Resolution No. 68-16 reflects the state's policies for "maintaining high quality of waters in California." Commonly referred to as the anti-degradation policy, it applies to discharging waste that might affect the existing high quality of the water it is discharged into and, in turn, affect its beneficial use. The policy requires that discharges of waste to existing high quality waters are required to meet best practical treatment or control. Also applicable is Title 23, CCR, Division 3, Chapter 15, for governing discharges of waste. SWRCB Resolution No. 92-49 establishes policies and procedures for the oversight of investigations and cleanup activities resulting from discharges that affect or threaten water quality. This policy authorizes regional boards to oversee cleanup activities and to require complete cleanup of all waste discharged. These policies are ARARs for the discharge of waste to ground water.

SWRCB Resolution No. 88-63 specifies that all surface and ground waters of the state are considered suitable, or potentially suitable, for municipal or domestic water supply with the following exceptions: those water bodies with yields below 200 gal per day (gpd), total dissolved solids (TDS) exceeding 3,000 mg/L (ppm), or contamination that cannot reasonably be treated for domestic use by either best management practices or best economically achievable treatment practices. In the GSA operable unit, ground water TDS ranges from about 300 mg/L to 2,600 mg/L, and well yields can exceed 200 gpd. Thus, ground water in the GSA operable unit is considered potentially suitable for drinking water supply under this resolution. This is consistent with beneficial uses for ground water in the vicinity of Site 300 defined in the RWQCB Basin Plan, an additional state ARAR.

2.2.3. Preliminary Remediation Levels

To comply with state and federal ARARs and CERCLA risk-based requirements, actions should be attempted to restore full beneficial use of ground water within the GSA operable unit. Because ground water near the GSA is used for drinking water supply, the preliminary remediation levels for the chemicals of concern are the MCLs presented in Table 2-4. Because off-site ground water concentration trends have decreased in response to pilot Removal Action activities and natural attenuation to levels near or below MCLs, this goal is probably achievable off site but may be technically and economically infeasible in more highly contaminated areas on site.

State Water Board Resolutions 68-16 and 92-49 indicate that background conditions should also be a long-term remedial goal. However, at this time, available site and industry data are insufficient to evaluate whether remediation to background levels is technically or economically feasible. The inability to evaluate these factors results mainly from subsurface complexity and uncertainty about the site-specific efficacy of ground water extraction to remediate all portions of the ground water plumes. Information available on pump-and-treat remediation at Site 300 and ground water modeling at the GSA (Appendix E) and other sites with conditions similar to those in the GSA operable unit indicate that ground water extraction will accelerate VOC removal. However, industry experience shows that chlorinated solvents, such as TCE, often become sorbed onto low-permeability, clay-rich sediments that have limited capacity to diffuse (i.e., desorb) the contaminant back into ground water, thereby decreasing remediation efficiency and increasing remediation time and cost. In addition, the low-permeability, clay-rich units may retain VOCs for decades or longer and, during periods of no pumping, recontaminate remediated ground water and sediments. Because of the small scale and heterogeneous nature of geologic features that affect sorption and hydraulic properties and the impracticability of characterizing them, these factors are not fully defined for the GSA operable unit. Therefore, attaining background conditions may not be possible. However, since this is an important policy issue with the state, it is expected that the achievability of this potential long-term goal will be reevaluated in the future as additional monitoring and remediation performance data, and/or new remediation technologies become available. For the purposes of this feasibility study, Appendix E presents a modeled scenario for remediation on a conceptual basis (i.e., assuming isotropic and homogeneous conditions) to limit-of-detection concentrations (i.e., <0.5 μg/L) to provide information on possible cleanup times and costs associated with this potential state requirement.

Risk evaluations indicate that VOCs in subsurface soil may pose an inhalation risk to site workers inside Building 875. Risk management measures should be initiated to reduce the potential for site worker exposure to VOC vapors inside Building 875. In addition, VOCs in subsurface soil near Building 875 represents a potential source for continued ground water contamination. Therefore, steps should be taken to reduce these subsurface VOC concentrations to a level that is protective of ground water (MCLs or background). Preliminary screening calculations presented in Appendix E indicate that a TCE soil vapor concentration of about 0.36 $ppm_{v/v}$ will achieve the MCL goal, whereas a soil vapor concentration of 0.036 $ppm_{v/v}$ would be required to achieve background concentrations in ground water.

2.3. Location-Specific ARARs

2.3.1. Faults

California seismic regulations (22 CCR 66264.18[a]) prohibit location of new treatment, storage, or disposal (TSD) facilities, or substantial modification of existing facilities, within 200 ft of a Holocene fault. Evidence of Holocene activity has not been observed in the vicinity of the GSA within 200 ft of planned treatment facilities or treated ground water discharge points (Webster-Scholten, 1994 and Carpenter et al., 1991). Thus, these regulations have been excluded as an ARAR for the GSA operable unit.

2.3.2. Wilderness Areas, Wildlife Refuges, and Scenic Rivers

No area within or near Site 300 is designated as a federal wilderness area, wildlife refuge, or scenic river. The California Department of Fish and Game (CDFG) maintains an ecological preserve adjacent to the eastern Site 300 boundary. No remedial action activities will occur within this preserve, and potential discharges of treated water will be conducted in a manner that is consistent with CDFG ecological management guidelines.

2.3.3. Floodplains and Wetlands

The GSA operable unit is located adjacent to the 100-year floodplain associated with Corral Hollow Creek. As shown in Figure 2-1, the floodplain is bounded to the north by Corral Hollow Road, and as such, no portion of Site 300 lies within the floodplain (U.S. DOE, 1992). Corral Hollow Creek is a likely discharge point for treated water from the eastern GSA. 22 CCR 66264.18(B)(1), which states that TSD facilities within a 100-year floodplain must be designed, constructed, operated, and maintained to prevent washout of any hazardous waste by a 100-year flood, is applicable, since discharge lines and other components of the treatment facility lie within the floodplain. Any future treatment facilities that may be built on the floodplain will be constructed in accordance with this requirement as well as those outlined in DOE regulations found in 10 CFR 1022.

Other areas that are consistent with the state and federal definition of wetlands (U.S. DOE, 1992) have been identified at or near Site 300. Although these areas are not currently regulated as wetlands by the U.S. Army Corps of Engineers (Coe, 1991), any future treatment-related activities will be carried out in accordance with DOE regulations (10 CFR 1022).

2.3.4. Historical Sites and Archaeological Findings

A discussion of archaeological investigations at Site 300 and descriptions of the historic sites near the GSA are presented in Chapter 6. Additional surveys may be conducted prior to remedial activity to ensure that no historic properties will be affected by the activity, in accordance with the federal and state location-specific ARARs in Table 2-1. Remedial project construction personnel will be advised of the possibility of buried cultural artifacts and be alerted to likely indicators.

2.3.5. Rare, Threatened, or Endangered Species

The SWRI report (Webster-Scholten, 1994) and Site 300 EIR/EIS (U.S. DOE, 1992) indicate that portions of Site 300 are potential habitat for several species that have been designated by the federal and state governments as threatened or endangered. Those federally-listed species for which habitat have been identified but which have not been observed at Site 300 include the San Joaquin kit fox (endangered), the Alameda whipsnake (threatened), and the valley elderberry longhorn beetle (threatened). In addition, the flora species commonly known as the large-flowered fiddleneck (endangered) grows on site. Several federally-designated candidate species, as well as species identified as being of special concern by the state, have either been observed on site or may potentially occur on site. Rare, threatened, or endangered species that have been observed in surveys conducted since the Site 300 EIR/EIS are discussed in detail in Chapter 6. Federally-listed threatened or endangered species observed since the EIR/EIS surveys include the peregrine falcon (endangered) and the Swainson's hawk (threatened). Chapter 6 also discusses changes in listing status that have occurred since the Site 300 EIR/EIS.

LLNL is committed to protecting all potential habitats for these species. Mandatory 60-day advance notification of all ground-breaking activities will initiate an ecological survey by an LLNL biologist to identify the presence of sensitive species and to mitigate any adverse impacts of the project.

2.4. Action-Specific ARARs

Most action-specific ARARs address treatment, transportation, and disposal of hazardous waste. Table 2-1 includes descriptions of action-specific ARARs that may be associated with possible remedial actions. A detailed discussion of ARAR compliance for specific technologies and cleanup activities is included in Chapter 5.

2.5. Remedial Action Objectives

Remedial Action Objectives (RAOs) consist of media-specific goals for protecting human health and the environment. RAOs should specify contaminant(s) of concern, exposure route(s), and an acceptable contaminant concentration or range of concentrations. Three RAOs have been developed for the GSA OU based on potential impacts to human health and the environment. Two RAOs (ground water and indoor air) are based on potential adverse impacts to human health modeled in the SWRI report baseline risk assessment. One RAO (ground water) is based on potential adverse impacts to the environment. Although no specific environmental risks were identified in the SWRI report ecological risk assessment, this RAO addresses protection of beneficial uses of ground water. These three RAOs are as follows:

For Human Health Protection:

- Prevent human ingestion of the ground water containing VOC concentrations (single carcinogen) above the State and Federal drinking water maximum contaminant levels (MCLs), a cumulative excess cancer risk (all carcinogens) greater than 10^{-6}, and a cumulative HI (all noncarcinogens) greater than 1.
- Prevent human inhalation of VOCs in vapor in concentrations above those that pose an excess cancer risk greater than 10^{-6}.

For Environmental Protection:

- Restore water quality, at a minimum, to water quality objectives which are protective of beneficial uses (MCLs in this case).

The VOC contaminants of concern for the GSA OU, as well as the State and Federal MCLs for these VOCs, are listed in Table 2-4.

3. Evaluation and Screening of General Response Actions and Remedial Action Technologies

3.1. Overview and Evaluation of Screening Process

As presented in Chapter 2, our primary objectives for the GSA operable unit (OU) are to prevent the ingestion of ground water contaminated with VOCs above MCLs and prevent indoor inhalation of contaminated soil vapor.

In this chapter, we evaluate and screen a number of response actions and remedial technologies capable of achieving these RAOs. These actions and technologies include methods of controlling and/or removing contamination in ground water and soil, which could contaminate ground water in the future, and preventing contaminated soil vapors from entering Building 875. In Section 3.2, we describe the General Response Actions we have selected to address our RAOs. In Section 3.3, we screen remedial technologies and process options based on applicability, effectiveness, implementability, and cost. In the last section, we present technologies retained through this screening process. Certain retained technologies will be combined to form the remedial alternatives presented in Chapter 4. All technologies discussed in this chapter are described in Appendix D.

3.2. General Response Actions

General Response Actions describe those actions that can achieve the remedial action objectives established in Chapter 2. These actions are intended to: 1) mitigate potential exposure to, 2) control the migration of, and/or 3) remediate the chemicals of potential concern identified in the SWRI report (Webster-Scholten, 1994) and summarized in Chapter 1 of this report. Seven General Response Actions have been identified for the central and eastern GSA:

- No action.
- Administrative controls.
- Containment.
- Extraction/excavation.
- Treatment.
- Disposal.

Table 3-1 summarizes the seven response actions for the GSA. For our discussion below, we combine extraction/excavation, treatment, and disposal since, in practice, they are integrated. The response actions discussed below apply to both the central and eastern GSA, unless otherwise noted.

3.2.1. No Action

In CERCLA feasibility studies, a no-action alternative is used as a basis for comparison with other remedial actions. All ongoing activities except ground water monitoring would cease under this response. Natural degradation, dispersion, adsorption, dilution, and volatilization are the only processes that would take place, and will occur regardless of our intervention.

3.2.2. Administrative Controls

Administrative controls can involve a range of measures, from simply posting signs and installing fences to regulated restrictions on the use of property. Administrative measures can have the effect of limiting human activities/access or restricting use of contaminated ground water. These measures help to mitigate potential routes of exposure.

3.2.3. Containment

As a General Response Action, physical and/or hydraulic containment can be used to control the migration or mobilization of contaminants. It can be directed at containing a ground water contaminant plume or at preventing recharge water from creating or spreading a ground water contaminant plume. Containment can also help control soil vapor migration via soil vapor extraction.

Below-ground physical barriers (i.e., ground water containment systems constructed of low-permeability materials such as slurry walls and grout curtains or hydraulic barriers created by injection of treated ground water) prevent or severely restrict the flow of ground water and contaminants. These subsurface barriers can be installed at or near plume margins to inhibit further migration of contaminants primarily in the horizontal direction.

Interceptor trenches and surface covers are used to reroute recharge water or leachate and restrict the flow of ground water and contaminants. Surface covers can also retard leaching of contaminants from the soil to ground water.

Physical barriers alone, while they may be protective of human health and the environment, would result in relatively slow VOC removal by natural degradation compared to more active alternatives. Physical barriers are commonly used in combination with extraction techniques, such as pumping or *in situ* (in place) treatment. Often, the depth or lateral extent of ground water contamination can limit the implementability of containment or cause containment to be too expensive to consider as a viable response action.

Hydraulic containment via ground water extraction has been used to control the TCE plumes in the eastern GSA and central GSA as part of CERCLA Removal Actions since 1991 and 1994, respectively.

3.2.4. Extraction/Excavation with Treatment and Disposal

Removal of subsurface contamination in ground water, soil, and/or soil vapor may involve extraction or excavation of the contaminated media followed by treatment and then disposal or discharge of the treated media. This combination of response actions is intended to permanently remove contaminants from the site.

Ground water extraction consists of pumping from either wells or trenches. Volatile contaminants can be removed from unsaturated soils by soil vapor extraction, which usually consists of applying a vacuum to one or more wells screened in the vadose zone.

Innovative extraction technologies include methods that help to mobilize and remove contaminants from ground water and/or soil/rock *in situ*. Possible extraction methods are surfactants, steam flooding, joule heating, and hot air injection. These methods would be used in conjunction with ground water extraction or soil vapor extraction (SVE).

Treatment of contaminated media can include *in situ* as well as *ex situ* methods. *In situ* methods destroy or convert contaminants in ground water and/or soil/rock to less toxic compounds. Possible *in situ* methods are air sparging and biological enhancement.

Ex situ treatment methods separate, destroy or convert contaminants in extracted ground water, vapor by-products from ground water treatments, soil vapor, or soil. Possible *ex situ* ground water treatment methods include sorption to aqueous-phase granular activated carbon (GAC), air stripping, air sparging, aqueous-phase electron acceleration, UV/oxidation, and biological treatment. Possible *ex situ* vapor treatments include vapor-phase GAC sorption, thermal oxidation, catalytic oxidation, vapor-phase electron acceleration, resin sorption, and UV/oxidation.

If treatment only separates the contaminant, such as sorption onto GAC, the contaminant must then either be properly disposed of at a licensed facility or further treated. Typically GAC will be thermally treated at an off-site facility to destroy the sorbed contaminants.

Methods for disposal of treated ground water include discharge to surface water, discharge to sanitary sewer or storm drain, discharge to a sewage treatment pond located near the eastern GSA, on-site surface discharge, reinjection, on-site recycling/reuse, off-site uses, and air misting.

The method for disposal of treated air emissions is discharge to the atmosphere.

3.3. Evaluation and Screening of Remedial Technologies and Process Options

Table 3-2 summarizes the screening and evaluation of the General Response Actions, technology types, and process options available for the remedial alternatives.

The General Response Actions are listed in the first column of Table 3-2. Listed with each General Response Action are one or more technologies that are considered potentially viable. The table documents our reasons for retaining or eliminating a technology from further consideration, based on four criteria: applicability, effectiveness, implementability, and cost. The last column indicates if the technology was retained for consideration in the development of our remedial alternatives (presented in Chapter 4 of this report).

The response actions and technologies retained after the preliminary screening are discussed below. Innovative technologies are addressed in Section 3.4.

3.3.1. No Action

Under a no-action scenario, it is likely that the chemicals of concern in soil, soil vapor, and ground water will be reduced in concentration through the natural processes of degradation, dispersion, dilution, and volatilization. San Joaquin County Ordinance No. 3675/Development Code Section 9-1115 requires water-supply wells to have a minimum annular seal of 100 ft below ground surface. Thus, it is unlikely that shallow contamination could potentially affect a new public or domestic water-supply well. Although VOC concentrations will be reduced by natural processes, this alone may not be entirely protective of human health because contaminants would not be actively mitigated and migration of the VOCs in the ground water could continue.

3.3.2. Administrative Controls

In both the central and eastern GSA, several applicable administrative controls are retained to mitigate potential exposure to contaminants in ground water and the vadose zone. Fencing and warning signs can be installed to warn people about the potential hazard from drinking ground water from water-supply wells. These measures would be particularly effective when combined with the use of existing security guards and patrols at Site 300. Also, DOE may establish land use restrictions that prevent the use or disturbance of locations with vadose zone or ground water contamination.

3.3.3. Containment

Containment may be protective of human health by restricting or controlling containment migration and thus exposure. However, containment by itself does not actively remove contaminants from the subsurface. Low-permeability asphalt surface covers retard leaching of contaminants from soil in source areas, especially in the central GSA. Asphalt surface covers would also help prevent short circuiting of air flow during SVE. Source areas in the central GSA are already paved with asphalt. Because concentrations of contaminants in soil are low in the eastern GSA, paving as a means of containment is not necessary in this area.

3.3.4. Extraction/Excavation

3.3.4.1. Ground Water

Ground water extraction involves pumping VOC-contaminated ground water from strategically placed extraction wells to prevent further migration of dissolved contaminants and to accelerate mass removal. This process option may also include a network of piezometers to monitor water levels and the effectiveness of hydraulic capture. We are presently operating ground water extraction systems at both the central and eastern GSA as part of interim CERCLA Removal Actions.

3.3.4.2. Vadose Zone

For vadose zone remediation, vacuum-induced soil venting is the technology chosen for detailed evaluation because it is compatible with existing treatment options and with the physical characteristics of the subsurface materials in the GSA.

Induced SVE consists of applying a vacuum to one or more vadose zone extraction wells to enhance volatilization and to remove high-volatility contaminants. Industry experience indicates that this process is very effective for remediating most chlorinated solvents and volatile fuel hydrocarbons. Induced SVE can also be used in conjunction with ground water extraction.

Vadose zone properties, such as permeability and moisture content, as well as the areal extent and depth of contamination, must be considered in designing a soil vapor extraction (SVE) well field. This technology is typically used in conjunction with vapor-phase GAC treatment to prevent the release of VOCs to the atmosphere.

Drawbacks to this extraction technology include the uncertainty in predicting the time required to achieve the remedial objectives and difficulties in extracting all hazardous materials from a heterogeneous vadose zone. The treatment of air emissions can also be a significant operational expense (LLNL, 1991a). We are presently operating an SVE system in the central GSA as part of a CERCLA Removal Action.

3.3.5. Treatment

3.3.5.1. Ground Water

3.3.5.1.1. GAC Adsorption. Aqueous-phase GAC adsorption is a well established technology for ground water treatment that is generally effective for removing high-molecular-weight compounds and chlorinated solvents. Activated carbon removes contaminants from water by adsorbing them onto its surface. A GAC adsorption system consists of a packed column with an internal/plumbing system to distribute the water evenly through the carbon bed. Organic compounds adsorb onto the surface of the GAC as the water flows through the fixed bed. The spent GAC may be either disposed of as hazardous waste or thermally regenerated by heating the carbon in a natural gas-fired furnace, thereby completely desorbing the organic compounds from the surface of the GAC. Desorbed compounds can then be thermally oxidized or driven off and collected for reuse. After regeneration, the GAC is no longer considered a hazardous waste and may be reused. However, regeneration reduces the adsorptive capacity of GAC and the used material eventually must be disposed of and replaced. GAC consumption is dependent upon flow rates, vapor stream moisture content, and contaminant concentrations. GAC can be subject to clogging from carbonate precipitation or biofouling; therefore, pretreatment of the influent water stream may be required. Generally, GAC is cost effective for low-flow and low-concentration applications (LLNL, 1991a).

3.3.5.1.2. Air Stripping. Air stripping is a process in which VOCs are removed from water by bringing VOC-contaminated water into contact with air. This is commonly achieved with air stripping towers or trays. In conventional air strippers, ground water is sprayed into the top of an air stripping column. Water cascades down through packing material within the column, thereby increasing the surface area of the water. A blower forces an upward air stream through the water, transferring VOCs from water to air.

Tray aeration is achieved by spraying extracted ground water into an inlet chamber. The water flows along baffled aeration trays and air is blown up through small-diameter holes in the trays. A froth forms, creating a large mass transfer surface. The high air-to-water ratio causes the organic contaminants to volatilize into air, leaving substantially reduced concentrations of VOCs in the water. Low-profile tray options provide the flexibility to optimize the system by changing the number of trays to meet flow rate and contaminant concentration needs.

Air stripper design, operation, and maintenance must be tailored to the general water quality at the site. High calcium and magnesium hardness, which exists in ground water at Site 300, can clog the packed columns, reduce efficiency, and increase operating costs. This technology is usually used in conjunction with vapor-phase GAC to eliminate VOC discharge to the atmosphere.

The cost is dependent upon flow rates, ground water geochemistry, and VOC concentrations. Generally, air stripping is cost effective for high flow rates and high VOC concentrations, unless water hardness causes operating problems (LLNL, 1991a).

3.3.5.1.3. Air Sparging. Air sparging consists of forcing air through coarse air bubble diffusers into large tanks filled with contaminated water. The agitation of the water and contact with forced air promotes the volatilization of VOCs. This technology would be used in conjunction with vapor-phase GAC (LLNL, 1991a). High calcium and magnesium hardness, which occurs in ground water at Site 300, can clog the sparging tank components, reduce efficiency, and increase operating costs. Generally, air sparging has lower energy efficiency than air stripping and is cost effective for low flow rates and high VOC concentrations, unless elevated water hardness causes operating problems. We presently inject CO_2 into the air sparging tanks in the central and eastern GSA treatment facilities to reduce mineral precipitation. These systems treat ground water extracted from the central and eastern GSA as part of the interim CERCLA Removal Action.

3.3.5.1.4. UV/Oxidation. UV/oxidation uses an oxidizing agent, such as hydrogen peroxide or ozone, and ultraviolet (UV) light as an agent to augment the dissociation of the oxidizing agent to a hydroxyl radical. By destroying the VOCs, UV/oxidation processes minimize the amount of waste that requires further treatment or disposal (LLNL, 1991a).

A type of UV/oxidation technology is Perox-Pure™, a chemical oxidation technology that was demonstrated under EPA's Superfund Innovative Technology Evaluation (SITE) program at the GSA OU. Over a three-week period in September 1992, about 40,000 gal of VOC-contaminated ground water were treated in the Perox-Pure™ system. For the SITE demonstration, the Perox-Pure™ system achieved TCE and PCE removal efficiencies of about 99.7 and 97.1%, respectively. In general, the system produced an effluent that contained no TCE, PCE, and 1,1-dichloroethane (DCA) above detection limits, and chloroform and 1,1,1-TCA slightly above detection limits. The system also achieved chloroform, DCA, and TCA removal efficiencies of 93.1, 98.3, and 81.8%, respectively. The treatment system effluent met California drinking water action levels and federal drinking water MCLs for TCE, PCE, chloroform, DCA, and TCA at the 95% confidence level (U.S. EPA, 1993).

3.3.5.2 Vadose Zone

3.3.5.2.1. GAC Adsorption. The use of vapor-phase GAC is a well established technology for the removal of VOCs from air streams. With few exceptions, most VOCs can be effectively removed from the vapor effluent of an SVE system or a ground water air sparging/stripping treatment system using a GAC system. GAC is effective over a broad VOC concentration range in the air stream, although the mass of organic compounds that will be adsorbed per unit mass of GAC increases as the concentration of the compounds in the air to be treated increases. High moisture content in the vapor and elevated temperatures can limit the sorptive capacity of carbon, necessitating additional vapor treatment, such as a moisture accumulator, installed upstream of the GAC canisters. Spent GAC can be disposed of as hazardous waste, regenerated on site using steam, regenerated in an off-site kiln, or incinerated in an off-site furnace. However, regeneration reduces the adsorptive capacity of GAC, and the used material eventually must be disposed of and replaced. Annual treatment costs associated with GAC can be high initially; costs decrease as VOC concentrations in the soil vapor decrease over time (LLNL, 1991a).

3.3.6. Disposal

After treatment, disposal of ground water and air emissions will be required. The following is a discussion of the five available options.

3.3.6.1. Treated Ground Water

3.3.6.1.1. Permitted Discharge to Surface Water. We are presently discharging ground water from the eastern GSA ground water treatment system (GWTS) under a National Pollution Discharge Elimination System (NPDES) permit as part of the eastern GSA interim CERCLA Removal Action. This permit allows a maximum 30-d-average daily dry weather discharge of 86,400 gal (60 gpm) from the GWTS. The permit dictates daily testing of influent and effluent for VOCs and total dissolved solids (TDS) the first week of operation, weekly testing for the first month, and bimonthly testing thereafter. VOCs are not to exceed 0.5 ppb (µg/L) (monthly median), and 5 ppb (µg/L) (maximum for total VOCs in a single sample). These limits apply to 1,1-DCE, 1,2-dichloroethylene (1,2-DCE), TCE, PCE, 1,1-DCA, 1,2-DCA, 1,1,1-TCA, and chloroform. All other VOCs in excess of 0.5 ppb (µg/L) are prohibited. The permit also requires treated discharge water to have a pH between 6.5 and 8.5, and the increased turbidity of receiving waters not to exceed 10% of background levels.

3.3.6.1.2. Permitted Discharge to Sewer Pond. Negotiations are ongoing with regulatory agencies for the possible use of the GSA sewage treatment pond as a discharge point for treated ground water. Discharging treated ground water to the GSA sewage treatment pond would allow the treated ground water to be recycled, as well as limit the amount of makeup water currently supplied by the Site 300 water-supply system.

3.3.6.1.3. On-Site Surface Discharge. We are presently discharging treated ground water from the central GSA to an on-site surface location, under Substantive Requirements issued by the California Regional Water Quality Control Board as part of the central GSA CERCLA Removal Action. The treated water is collected in a storage tank until 10,000 to 20,000 gal have accumulated, then it is sprayed into a remote canyon over an area of approximately 16,000 ft^2. This recharge rapidly infiltrates the exposed $Tnbs_1$ regional aquifer sandstone in the canyon. The Substantive Requirements allow a maximum 30-d-average daily dry weather discharge of 72,000 gal (50 gpm). The permit requires monthly testing of influent and effluent for ground water VOCs, electrical conductivity, TDS, and pH. Under the central GSA Substantive Requirements, VOCs are not to exceed 0.5 ppb (µg/L) (monthly median), and 5 ppb (µg/L) (maximum for total VOCs in a single sample). These limits apply to TCE, PCE, 1,1-DCE, 1,2-DCE, 1,1-DCA, 1,1,1-TCA, 1,1,2-TCA, chlorobenzene, chloroform, carbon tetrachloride, and xylenes.

3.3.6.1.4. Reinjection. Reinjection wells can function as a means to discharge treated ground water, hydraulically control plume movement, and reduce cleanup times. For purposes of flow control, ground water injection would need to take place within the capture zone of ground water extraction wells (U.S. EPA, 1991).

3.3.6.1.5. Air Misting. Air misting is a method of discharging treated ground water by forcing it through spray heads that separate the water into fine droplets (i.e., atomization) as it is expelled into the air. This process allows maximum areal dispersion of discharge, eliminating problems associated with surface discharge (e.g., erosion). Air misting is being applied as part of the Site 300 Building 834 CERCLA Removal Action and is being used to discharge treated well development and sample purge water at Building 833. Because misting is applicable for low flow rates, it would only be a supplementary form of treated ground water disposal, due to the high ground water extraction flow rates in the GSA.

3.3.6.2. Treated Air Emissions

3.3.6.2.1. Permitted Discharge to Air. We are presently discharging treated vapor at both the central and eastern GSA GWTS under permit by the San Joaquin Valley Unified Air Pollution Control District. The treatment consists of the following steps: (1) an air-sparging tank enhances the volatilization of organic compounds in extracted ground water, (2) the VOC-enhanced air is fed into two sets of two GAC canisters in series, and (3) the treated air is then released into the atmosphere. Treated vapor from the central GSA SVE and treatment system is also discharged under permit by the San Joaquin Valley Unified Air Pollution Control District. The central GSA soil vapor treatment system also consists of two GAC canisters in series. We monitored emissions from the GAC canisters for TCE on a daily basis for the first month of operation and are currently conducting weekly monitoring. Upon breakthrough of the first GAC canister, that canister is replaced with the second GAC canister and a new canister is added.

3.4. Innovative Technologies

Although we have evaluated several innovative technologies in our screening process, they are not considered technically feasible at this time and are not retained in the development of the remedial alternatives. However, we retain the option of testing and/or implementing new or innovative technologies for the GSA. This option is consistent with LLNL's and DOE's objectives of conducting environmental remediation projects to allow better, faster, and more cost effective treatment options to be tested and used in the future.

3.5. Summary of Retained Technologies

Through the development and screening of General Response Actions and remedial technologies, we have retained numerous actions and technologies. These actions and technologies were considered when developing the remedial alternatives discussed in Chapter 4. Table 3-4 summarizes the retained technologies for ground water and vadose zone remediation in the GSA. Retained technologies that were incorporated into Chapter 4 alternatives were chosen based on applicability, implementability, effectiveness, cost, site-specific requirements, and best professional judgment. These technologies are noted in Table 3-4.

4. Description of Remedial Alternatives

In this chapter we present three remedial alternatives to address subsurface contamination in the General Services Area (GSA) operable unit (OU). Each of the remedial alternatives is developed using specific retained technologies described in Chapter 3.

The three remedial alternatives are:

- Alternative 1: No Action.
- Alternative 2: Exposure Control.
- Alternative 3: Ground Water and Vadose Zone Remediation.

Two scenarios of Alternative 3 are presented: Alternative 3a (Remediation and Protection of the $Tnbs_1$ Regional Aquifer), and Alternative 3b (Ground Water Plume Remediation). Both scenarios of Alternative 3 include the same approach to vadose zone remediation, but have different objectives for ground water remediation. All three remedial alternatives are summarized in Table 4-1.

To develop these three remedial alternatives, we incorporated specific retained technologies based on applicability, implementability, effectiveness, cost, site requirements, and best professional judgment. Therefore, not all retained technologies from Chapter 3 are presented as components of the alternatives. For example, we selected air stripping treatment of extracted ground water in preference to aqueous-phase granular activated carbon (GAC) or air sparging on the basis of long-term cost effectiveness and/or maintenance issues. Specific innovative technologies are not discussed as integral components of the presented alternatives. However, as discussed in Chapter 3, innovative technologies will continue to be considered for application to the site throughout the process of remediation, and may be introduced into the process if site conditions change or technology development and testing indicate a potential for cost-effective and expedited remediation.

Of all volatile organic compounds (VOCs) detected in the GSA, TCE has been identified as the primary chemical of concern (COC) because it has been most frequently detected and because of its relatively high concentrations (historically up to 240,000 µg/L). As a result, trichloroethylene (TCE) was used as the target COC in developing the remedial alternatives and preparing cost estimates for them. All remedial alternatives are equally suitable for the other VOCs detected in the GSA. Concentrations of other chemicals of concern will be monitored as part of all remedial alternatives to evaluate the effectiveness in meeting remediation goals defined in Sections 2.2.2 and 2.2.3.

To determine project lifetimes for each alternative, modeling was performed for one or more of the following contaminant removal mechanisms:

- Removal of VOCs in the vadose zone by soil vapor extraction (SVE).
- Removal of dissolved VOCs in ground water by natural attenuation.
- Removal of dissolved VOCs in ground water by ground water extraction and treatment.

Project lives for Alternatives 1 and 2 are assumed to be the length of time necessary for natural attenuation and dispersion to reduce ground water VOC concentrations to a preliminary remediation goal of maximum contaminant levels (MCLs). Project lives for Alternatives 3a and 3b are based on modeling of SVE, ground water extraction, and natural attenuation to reduce ground water concentrations to a preliminary remediation goal of MCLs.

Modeling was also used to determine proposed locations for ground water extraction wells and to predict extraction flow rates in Alternatives 3a and 3b. Modeling conclusions and assumptions as they pertain to each alternative will be discussed in the following sections. A complete description of the modeling, assumptions, and results is presented in Appendix E.

Cost estimates based on modeled project lives for each alternative are presented in Appendix F. Consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and because some contamination will be left in place, DOE/LLNL will reevaluate remediation performance, cost effectiveness, feasibility, and protectiveness at least every 5 years. As presented in the recent National Research Council report (NRC, 1994), the ability of restoring ground water to MCLs is unlikely at most sites, using active pumping or solely through natural attenuation and dispersion. Therefore, required level of cleanup, remedial actions, and project life may be revised as a result of these periodic remediation evaluations. Revisions may apply to the entire contaminant plume or specific areas within the plume such as the eastern GSA or the central GSA.

We also calculated the length of time needed to operate the SVE system in source areas until soil vapor VOC concentrations are decreased low enough to achieve and maintain "background" ground water quality. The calculations are presented in Appendix E. Appendix H discusses additional design considerations (e.g., additional SVE wells) and costs associated with additional SVE. For purposes of comparison, modeling was also conducted to predict the length of time necessary for ground water extraction and/or natural attenuation to reach background levels of VOCs. For purposes of this document, "background" is defined as below the analytical detection limit for TCE, which is 0.5 µg/L. Appendix H presents additional costs and project lives for achieving background levels, including the cost of continuing ground water extraction until background levels are reached.

For all alternatives, ground water sampling and analysis and elevation monitoring would be conducted throughout the project life. This is to assure that changes in hydrogeologic conditions do not result in the redistribution or migration of VOCs such that the conditions specified in the baseline risk assessment are no longer valid, and to assess the effectiveness and progress of remediation. Ground water sampling and analysis programs are alternative-specific and are discussed below in detail for each alternative. The proposed ground water monitoring programs are also summarized in Table F-6, Appendix F. Water levels would be measured at least quarterly in all wells throughout the projected project life. Specific details of ground water and soil vapor monitoring networks will be presented in the Remedial Design document.

4.1. Alternative 1—No Action

A no-action alternative is included to provide a baseline for comparison to other remedial alternatives. It does not meet RAOs. Ground water and soil vapor extraction systems currently in place and operating would be turned off, leaving natural attenuation of VOCs as the sole mechanism for meeting the remediation goal. We have assumed that ground water monitoring in existing wells and administrative controls would continue as described below until 5 years after the remediation goal has been met. No additional monitor wells would be installed.

Easily implementable administrative controls are included in this alternative. These controls provide a degree of protection to human health by restricting access to or activities in certain areas of contamination.

The current program of conducting ecological resource surveys for sensitive species prior to the initiation of any ground-disturbing activities would also continue. The need for detailed ecological resource surveys would be evaluated every 5 years as part of the contract renewal negotiations between the University of California and DOE. The next ecological resource survey evaluation is scheduled for 1997.

We estimated costs for Alternative 1 based on the ground water monitoring program described below. Cost estimates are presented in Appendix F. These costs include water level measurements, ground water sampling and analysis, QA/QC, project management, database management, and periodic project reporting. Modeling predicts that it would take approximately 75 years for natural attenuation and dispersion to reduce VOC concentrations in ground water to MCLs. With the additional 5 years of post-remediation monitoring, the present-worth cost of Alternative 1 is $4.27 million (a nondiscounted cost of $11.16 million) for a remediation goal of MCLs, based on a total project life of 80 years.

4.1.1. Ground Water Monitoring

The proposed ground water monitoring program for Alternative 1 consists of sampling 60 wells quarterly, 10 wells semiannually, and 28 wells annually for the first 5 years. After 5 years, the total number of wells sampled and sampling frequency would be reduced so that 70 wells would be sampled annually. Samples would be analyzed for VOCs by EPA Method 8010, and some wells in the central GSA would also be analyzed for fuel hydrocarbons by EPA Method 8020. Table F-6 (Appendix F) presents the proposed ground water monitoring program and identifies the purpose/location of each well.

Consistent with the NCP, the ground water data obtained as part of the Alternative 1 monitoring program would be reviewed at least every 5 years. If data indicate that contaminant concentrations, ground water flow direction, and/or velocity have changed, the monitoring program would be reevaluated.

Additionally, surface water from off-site springs and from springs 1, 2, and GEOCRK would be sampled and analyzed for VOCs, drinking water metals, general minerals, high explosives, tritium, and gross alpha and beta as part of an ongoing site-wide program of ecological studies.

4.1.2. Administrative Controls

The following administrative controls would be a component of Alternative 1, and of the other alternatives as well. Each administrative control is either currently in effect or easily implementable. Although each only applies to certain portions of the contaminated area, they provide an added degree of protection to human health.

San Joaquin County Ordinance No. 3675/Development Code, Section 9-1115, specifies that both public water-supply and individual domestic wells must have a minimum annular seal of 100 ft below ground surface. We consider this an administrative control that increases the degree of human health protection by restricting legal access to the contaminated ground water in the GSA OU because contamination is typically much shallower than 100 feet. Although enforcement of this control lies with the Environmental Health Division of San Joaquin County Public Health Services, it is currently in effect, so we have included it as a component of Alternative 1 as well as of the other remedial alternatives. However, this ordinance does not apply to supply wells that are currently in place (i.e., wells CDF-1, CON-1, and SR-1). Therefore, enforcement will only minimize the chance of human use of potentially contaminated water from newly installed wells.

Because DOE intends to retain stewardship of Site 300 for the foreseeable future, existing security patrols, site access restrictions, and fencing along the entire perimeter of Site 300 will be maintained. These restrictions will prevent public access (and thus potential exposure) to the source areas and areas of highest ground water contamination.

Additionally, DOE will continue to consider site conditions (especially in the vicinity of vadose zone contamination) prior to implementing construction of any facility to prevent potential worker exposure to subsurface contaminants.

4.1.3. Ecological Resource Surveys

As presented in Chapter 14 of the SWRI (Webster-Scholten, 1994) and Section 1.6 of this report, the ecological risk assessment indicates that cadmium in surface soil in the GSA may pose a potential elevated risk to individual ground squirrels, black-tailed deer, San Joaquin kit foxes, and possibly other sensitive burrowing species, such as the burrowing owl and the American badger. However, data indicate that the ground squirrel population at Site 300 has not been negatively impacted, and the potential impact to other burrowing species only exists if they den in the area. Qualitative evidence suggests that the deer population is not at risk, although data are insufficient to provide a quantitative estimate of population risk.

DOE/LLNL is committed to protecting all potential habitats for these species and therefore has an ongoing program to ensure that sensitive species are not negatively impacted by planned ground-disturbing activities at Site 300 (U.S. DOE, 1992). As part of the program, any area proposed for an activity that causes significant surface disturbance (e.g., well installation or facility construction) must be surveyed by a wildlife biologist for the presence of the San Joaquin kit fox (*Vulpes macrotis mutica*), the burrowing owl (*Athene cunicularia*) and the American badger (*Taxidea taxus*). During the spring, the area must also be surveyed for the large-flowered fiddleneck (*Amsinckia grandiflora*). The survey must be done no longer than 60 days prior to the initiation of any ground-disturbing activity.

In addition to the survey program, DOE/LLNL has initiated an employee awareness program. Flyers and posters describing how to identify sensitive species have been made available to employees. These flyers also identify who to contact if a sensitive species is observed at Site 300. A trained biologist from the LLNL Environmental Evaluations Group regularly attends Site 300 management meetings to keep Site 300 management informed and aware of ecological resource and sensitive species issues.

Should a sensitive burrowing species be observed in the area, mitigation measures outlined in the 1992 Sitewide EIR/EIS (U.S. DOE, 1992) and described in Chapter 6 herein would be implemented, as appropriate. These measures may include relocating the species under consultation with the California Department of Fish and Game.

The ecological risk assessment also indicated potential adverse effects to aquatic populations at spring GEOCRK in the eastern GSA from concentrations of copper and zinc. However, we do not believe that the occurrence of these elements originates from Site 300, and thus they are not addressed in this report.

Under this and the other remedial alternatives, ecological resource surveys would be conducted only as part of a proposed ground disturbance program.

4.2. Alternative 2—Exposure Control

In Alternative 2, as with Alternative 1, the ground water and SVE systems currently in operation would be turned off and natural attenuation and dispersion would be the only mechanisms for reducing ground water contamination. Although Alternative 2 does not meet RAOs, it would prevent human ingestion of ground water with contaminant concentrations above MCLs from existing water-supply wells (CDF-1, CON-1, and SR-1) by either eliminating existing water-supply wells that could potentially be affected by the ground water contamination plume in the future or by providing contingency response action for these wells.

Alternative 2 includes all components of Alternative 1 plus:

- Connolly property water-supply well replacement.
- Contingency point-of-use (POU) treatment at off-site well SR-1.

With the additional 5 years of post-remediation monitoring, the present-worth cost of Alternative 2 is $4.57 million (a nondiscounted cost of $11.42 million) for a goal of MCLs. This is based on a total project life of 80 years.

4.2.1. Connolly Property Water-Supply Replacement

Because the eastern GSA VOC plume is in close proximity to off-site water-supply wells CDF-1 and CON-1, these wells would be sealed and abandoned as a preventative measure. These two water-supply wells service the Connolly property and the CDF facility and would be replaced with one water-supply well to be installed at a location that is not at potential risk. At the time of the issuance of this document, an agreement between DOE/LLNL and the Connolly property owners is being prepared and the location of the new water-supply well is being determined.

4.2.2. Contingency Point-of-Use Treatment at Well SR-1

A point-of-use (POU) treatment system would be installed at off-site water-supply well SR-1 (Fig. 1-33) if necessary. Well SR-1 is an active water-supply well completed to a depth of at least 140 feet, located about 12,000 feet north of the eastern GSA along Corral Hollow Creek. It is used intermittently to fill a storage tank that supplies water to a local ranch. When operating, the well produces about 80 gal per minute (gpm).

In the SWRI report, modeling and subsequent baseline risk assessment were conducted to predict 1) potential TCE concentrations in alluvial ground water that could reach well SR-1, and 2) the risk and hazard associated with the potential residential use of contaminated ground water from this well. The individual excess lifetime cancer risk and corresponding hazard index attributable to the potential use of ground water from this well was calculated to be 2×10^{-5} and 1.6×10^{-1}, respectively.

Post-SWRI data indicate that the off-site plume has been successfully reduced and, therefore, the risk at this well is less than that calculated in the SWRI report. However, by discontinuing ground water extraction, the plume may resume migration and reach well SR-1 at concentrations above MCLs. Therefore, we have included capital costs to account for the potential installation of a POU treatment system in the event this well becomes contaminated in the future.

As part of the monitoring plan, guard wells W-25D-01, W-25D-02, and W-24P-03, located at the farthest extent downgradient from the source, will be monitored for VOCs. Should VOCs be detected in these guard wells, provisions would be made to regularly sample well SR-1. In the event that VOCs above MCLs are detected and confirmed in SR-1, POU treatment will be implemented for this well.

The POU treatment system would consist of a gravity-flow aqueous-phase GAC treatment system utilizing two, 1,000-lb GAC canisters connected in series and mounted on a double-containment skid. This system would have a treatment flow rate capacity of 50 gpm; therefore, the supply well pumping rate would need to be reduced. However, because the well is only used periodically, this would not significantly impact well usage. Sampling ports would be provided between the canisters, as well as at the inlet and exit pipes. A particulate filter would be installed on the inlet pipe to prevent clogging of the GAC canisters.

In the event that POU treatment becomes necessary, LLNL will develop and submit a plan for regulatory approval to permanently remedy the affected water supply. Because it is impossible to predict if and when these actions would be necessary or the availability of future treatment technologies, no cost estimates for these activities are included in this report.

4.2.3. Ground Water Monitoring

The ground water monitoring program for Alternative 2 would be the same as presented for Alternative 1 and is based on the same assumptions. As with Alternative 1, the ground water monitoring program would be reevaluated at least every 5 years to make adjustments in sampling locations, analyses, and sampling frequency as appropriate. Table F-6 presents the proposed ground water monitoring program.

Monitoring of springs 1, 2, and GEOCRK would also be the same as in Alternative 1.

4.3. Alternative 3—Ground Water and Vadose Zone Remediation

Alternative 3 would meet RAOs by using 1) ground water extraction and treatment to remediate contaminated ground water and 2) SVE and treatment to remediate the vadose zone, which could be a continual source of future ground water and soil vapor contamination.

Alternative 3 is divided into two scenarios: Alternative 3a and Alternative 3b. Both are the same with respect to the objective and method of vadose zone remediation, but differ in their respective objectives for ground water remediation.

As discussed in Chapter 1 and shown in Figure 1-53, vadose zone contamination in the GSA operable unit may be a continuing source of ground water contamination, particularly in the Building 875 dry well pad area. To address this potential source, both Alternatives 3a and 3b include SVE as the primary remedial technology to reduce vadose zone contamination (including potential DNAPLs in unsaturated bedrock), and eliminate it as a potential source of ground water contamination above MCLs. Because the majority of vadose zone contamination is found in the immediate vicinity of the Building 875 dry well pad, SVE efforts are focused in that location. The necessity of performing SVE at other locations in the GSA operable unit would be evaluated as remediation progresses. As discussed previously in Section 4, the feasibility of reaching MCLs by active pumping, or solely through natural attenuation and dispersion, is questionable; therefore, periodic reevaluations will be conducted as remediation progresses to determine if reaching this remediation goal is technically and/or economically practicable.

The objectives of ground water remediation differ between Alternatives 3a and 3b. The goal of Alternative 3a is to reduce VOCs in the alluvial aquifer to concentrations protective of the $Tnbs_1$ regional aquifer, but not actively remediate the alluvial aquifer to MCLs. Alternative 3b expands on the objective of Alternative 3a by remediating contaminated ground water in both the regional $Tnbs_1$ aquifer and the alluvial aquifer to MCLs or below.

As discussed in Section 2.2.3, it has not been determined whether it is economically and technically feasible to remediate the vadose zone, the alluvial aquifer, or the $Tnbs_1$ regional aquifer to background levels. Appendices E and H present a modeled scenario, including costs, for remediation to background levels. Alternatives 3a and 3b are currently presented in this feasibility study with aquifer remediation levels that would prevent ground water contamination above MCLs. Alternatives 3a and 3b could be expanded to include remediation to background levels if it is determined that it is feasible to do so.

4.3.1. Alternative 3a—Remediation and Protection of the $Tnbs_1$ Regional Aquifer

The objective of Alternative 3a is to meet RAOs by actively remediating both the vadose zone and ground water to the point where the beneficial uses of the $Tnbs_1$ regional aquifer are restored and protected and potential inhalation risks inside Building 875 are mitigated. Alternative 3a includes all components of Alternative 2 plus:

- SVE and treatment for 10 years in the vicinity of the Building 875 dry well pad to remediate vadose zone contamination to levels protective of ground water. Preliminary calculations indicate that soil vapor TCE concentration would need to be reduced to 0.36 $ppm_{v/v}$ to prevent ground water contamination above MCLs. SVE would also be used to remove potential DNAPLs.
- Ground water extraction and treatment for 10 years in the eastern GSA to reduce ground water VOC concentrations to MCLs or lower in both the alluvial aquifer and the hydraulically connected shallow $Tnbs_1$ regional aquifer.
- Ground water extraction, treatment, and reinjection for 10 years in the $Tnbs_1$ regional aquifer west of the sewage treatment pond (part of the central GSA) to reduce $Tnbs_1$ regional aquifer ground water concentrations to MCLs or lower.
- Ground water extraction and treatment for 30 years from wells located at central GSA sources to reduce concentrations in the alluvial/shallow bedrock aquifer to levels protective of the downgradient $Tnbs_1$ regional aquifer. Ground water fate and transport modeling indicates that ground water TCE concentrations at the central GSA source area need to be reduced to a maximum concentration of about 100 µg/L to ensure long-term protection of the $Tnbs_1$ regional aquifer.
- Ground water extraction and treatment for 30 years from wells screened in the alluvial aquifer at the western edge of the $Tnbs_1$ regional aquifer "window" to prevent further migration of concentrations above MCLs into the $Tnbs_1$.

After ground water extraction is discontinued, natural attenuation and dispersion are relied upon to finish reducing VOC concentrations to the preliminary remediation goal of MCLs. The present-worth cost of Alternative 3a is $18.05 million (a nondiscounted cost of $28.84 million) to reach MCLs in all GSA ground water. This is based on 10 years of SVE and monitoring, 10 years of eastern GSA ground water extraction and treatment, 30 years of central GSA ground water extraction and treatment, and a total of 70 years of ground water monitoring (including 5 years of post-remediation monitoring).

4.3.1.1. Soil Vapor Extraction (SVE) and Treatment

The objective of SVE is to reduce VOC contamination in the vadose zone to levels protective of ground water, i.e., MCLs and to reduce inhalation risk inside Building 875. To accomplish this objective, SVE and treatment would continue in the vicinity of the dry well pad south of Building 875, as described in Chapter 1 and shown in Figure 1-53.

The current SVE and treatment system uses seven extraction wells and treats the vapor effluent with two 140-lb vapor-phase GAC canisters connected in series. Based on field observations, we estimate that the current system adequately captures the contaminated soil vapor plume in the Building 875 dry well pad source area and that no additional SVE wells are necessary. The SVE system is currently extracting soil vapor with about 200 $ppm_{v/v}$ TCE at 20 scfm with soil vapor VOC concentrations showing a decreasing trend over time. The effectiveness of the existing system will continue to be evaluated and additional wells may be installed, if necessary. To reduce maintenance costs and increase carbon adsorption efficiency, the two 140-lb GAC canisters would be replaced with three 1,000-lb GAC canisters, connected in series. Figure 1-53 shows the locations of the SVE wells, and Figure 4-1 shows a schematic of the proposed upgraded SVE and treatment system.

The seven SVE wells are also used for ground water extraction (Section 4.3.1.3.2) and are successfully maintaining a dewatered zone in the immediate vicinity of the Building 875 dry well pad. This dewatering has exposed more soil to the applied vacuum of SVE, thereby significantly enhancing VOC mass removal. This dewatered zone would continue to be maintained while SVE is operating.

As discussed in Chapter 1, residual DNAPLs may be present in the vadose zone and dewatered bedrock in the vicinity of the Building 875 dry well pad. SVE and treatment would also address residual DNAPLs. SVE has been identified as a technology that can be effective in remediating DNAPLs in the unsaturated zone and preventing uncontrolled migration of VOCs in soil gas (U.S. EPA, 1992, U.S. EPA, 1993b). In addition, when SVE is coupled with lowering of the water table through ground water extraction, residual DNAPLs can be removed from below the original water table elevation (U.S. EPA, 1992). Another advantage to the SVE technology is that the precise location of the DNAPL need not be known; SVE can be used to remediate the general area where the presence of DNAPL is suspected (U.S. EPA, 1992).

As discussed in Appendix G, we estimate that about 40 gal of TCE were present in the vadose and dewatered zones in the vicinity of the Building 875 dry well pad prior to initiating SVE in July 1994. Assuming an extraction flow rate of 20 scfm, modeling presented in Appendix E predicts that SVE would need to continue for about 6 years to reach vapor concentrations that are protective of ground water, i.e., below MCLs. Preliminary screening calculations presented in Appendix E indicate that a TCE soil vapor concentration of about 0.36 $ppm_{v/v}$ will achieve this goal. We have conservatively assumed an SVE project life of 10 years. A remediation goal of 0.36 $ppm_{v/v}$ may be technically and cost-effectively impracticable. Therefore, this vadose zone remediation goal may need to be revised in the future.

An additional objective of soil vapor extraction in the Building 875 area is to reduce soil vapor VOC concentrations to mitigate inhalation risk inside Building 875. Analytic soil vapor data from the Building 875 dry well pad SVE wells indicate that VOC concentrations in soil vapor are significantly decreasing over time.

The cumulative excess cancer risk (1×10^{-5}) calculated for Building 875 indoor air was based on VOC concentrations from soil samples collected in the vicinity of the Building 875 dry well pad prior to the start-up of the soil vapor extraction system. It is likely, due to on-going soil remediation activities through soil vapor extraction, that current VOC soil concentrations are lower than what was used to calculate this excess cancer risk in the SWRI baseline risk assessment. As part of Alternative 3, VOC concentrations in soil vapor will be monitored utilizing soil vapor sampling points to ensure that the inhalation risk inside Building 875 is adequately managed. Should existing dedicated soil vapor monitoring points in the vicinity of Building 875 prove insufficient to demonstrate the effectiveness of soil vapor extraction in reducing the inhalation risk in Building 875, additional soil vapor monitoring points will be considered.

Based on field observations, we estimate that the seven extraction wells in the existing SVE system will sufficiently capture the soil vapor plume. During preparation of the remedial design report and throughout the lifetime of remedial efforts, the SVE system would be tested to determine the extent of effective vacuum influence and to optimize performance. Optimization may include expanding the SVE system with additional wells to increase the area of influence, and/or implementing cyclic operation (e.g., alternating periods when system is on and off) to maximize the rate of contaminant mass removal.

4.3.1.2. Eastern GSA Ground Water Extraction and Treatment

As shown in Figure 4-2, ground water concentrations exceed MCLs in the eastern GSA in the vicinity of the former debris burial trench east of the sewage treatment pond. Ground water extraction and treatment in this area is designed to reduce ground water VOC concentrations to MCLs or lower to protect the $Tnbs_1$ regional aquifer. Because the alluvial aquifer directly overlies and is hydraulically connected to the shallow $Tnbs_1$ regional aquifer in this area, ground water extraction will need to continue until concentrations are reduced to MCLs in both the $Tnbs_1$ regional aquifer and the alluvial aquifer.

The eastern GSA ground water extraction system has been in operation since July 1991 and currently consists of three extraction wells pumping a total of up to 46 gpm. Based on modeling and field data associated with the existing extraction system (shown in Figure 4-2), this extraction well configuration sufficiently captures the plume in the eastern GSA to meet the goals of this alternative. The effectiveness of the existing system is discussed in Section 1.4.8.2. The performance and operating costs of the existing treatment system were used to evaluate the efficiency of the proposed remedial system.

As discussed in Chapter 1, the portion of the plume downgradient of the eastern GSA extraction wells that is not being actively captured has been retreating since ground water extraction was initiated. We anticipate that this trend will continue. Therefore, no additional wells need to be installed at this time.

The current eastern GSA ground water treatment system is located about 200 feet north of the three extraction wells, as shown in Figure 4-2. Extracted ground water is treated by a particulate filter followed by one baffled air-sparging tank that strips VOCs from the water. The water is then discharged by gravity to Corral Hollow Creek about 750 feet to the south. To minimize calcium and magnesium carbonate precipitation, CO_2 is injected into the influent and effluent water streams. Discharged ground water is monitored to ensure compliance with NPDES permit requirements.

The air-sparging vapor stream from each of the two sparging tanks is treated by two 140-lb vapor-phase GAC canisters connected in series and discharged to the atmosphere. The treated vapor stream is monitored to ensure compliance with San Joaquin Unified Air Pollution Control District permit requirements.

Under this alternative, the eastern GSA ground water treatment system would be upgraded. A low-profile tray air stripper would replace the existing air sparging tanks to increase VOC removal efficiency and reduce electrical costs. While vapor-phase GAC would continue to be used to treat the air stripper vapor stream, an air heater would be installed on the vapor effluent line of the air stripper to increase the vapor-phase GAC adsorption capacity by reducing the relative humidity. Also, a permanent shelter would be installed to protect the treatment system from the weather. Figure 4-3 shows a schematic of the proposed upgraded treatment system. Aqueous-phase GAC treatment was not selected because of concerns regarding possible biofouling and clogging that might require premature GAC replacement and thereby reduce system efficiency. Although costs for this alternative are based on use of an air stripping system, aqueous-phase GAC treatment is being further evaluated as a component of the final system design. The cost differential between these two treatment methods is not enough to significantly affect project costs presented in this document.

Ground water modeling predictions indicate that the eastern GSA ground water extraction and treatment system will remediate ground water to MCLs or lower in about 5 years. However, we have conservatively assumed that this system will need to operate for 10 years.

4.3.1.3. Central GSA Ground Water Extraction and Treatment

As discussed in Chapter 1, most VOC contamination in the GSA operable unit is present in the central GSA, primarily in the vicinity of the Building 875 dry well pad. We estimate that over 99% of the total calculated 134,000 g of TCE in the saturated zone of the GSA operable unit is present in the central GSA. While VOC concentrations in ground water are above MCLs in the $Tnbs_1$ regional aquifer west of the sewage treatment pond, the highest ground water VOC concentrations are in the upgradient overlying alluvial aquifer. A discussion of the effectiveness of the existing system is included in Section 1.4.8.1. The performance and operating costs of the existing treatment system were used to evaluate the efficiency of the proposed remedial system. Monitor and extraction well data associated with the existing system were used as modeling input parameters.

Under this alternative, ground water extraction in the central GSA would be performed to achieve three objectives:

- Reduce VOC concentrations in the $Tnbs_1$ regional aquifer to MCLs or below.
- Reduce the mass of VOCs in the alluvial aquifer such that concentrations above MCLs cannot migrate to the $Tnbs_1$ regional aquifer "window."
- Prevent migration of VOCs above MCLs from the alluvial aquifer through the $Tnbs_1$ regional aquifer "window" into the $Tnbs_1$ regional aquifer.

An additional benefit of ground water extraction is that dewatering in the area enhances SVE effectiveness by exposing more soils to the applied vacuum.

Ground water extracted in the central GSA would be treated using the existing treatment system with similar upgrades as proposed for the eastern GSA ground water treatment system. Currently, the central GSA ground water extraction system pumps a total of approximately 0.3 gpm as a result of successful dewatering in the vicinity of the Building 875 dry well pad. Ground water is pumped into a temporary storage tank and then treated in batches by a particulate filter followed by two air sparging tanks connected in series. Treated ground water is then pumped to another storage tank and discharged in 20,000-gallon batches to the ground surface about 2,000 feet to the northwest as shown in Figure 2-1. To minimize calcium and magnesium carbonate precipitation, CO_2 is injected into the influent and effluent water streams. Discharged ground water is monitored to ensure compliance with Substantive Requirements.

The air sparging vapor stream from each of the two sparging tanks is treated by two 140-lb vapor-phase GAC canisters connected in series and then discharged to the atmosphere. The treated vapor stream is monitored to ensure compliance with San Joaquin Unified Air Pollution Control District permit requirements.

As proposed for the eastern GSA ground water treatment system, the air sparging tanks would be replaced with a low-profile tray air stripper, a heater would be installed on the vapor line, and the system would be housed in a permanent shelter. Aqueous-phase GAC treatment may be considered in the final design, if appropriate. By extracting from additional wells (described below), we anticipate the total central GSA flow rate to increase from 0.3 gpm to 15.1 gpm. This would eliminate the need for influent batch storage; however, the larger effluent batch storage would remain in place at least until system flow rates and treatment efficiencies are optimized. As discussed below, a portion of the treated water discharge may be reinjected into the $Tnbs_1$ regional aquifer.

In addition to the installation of more ground water extraction wells, we estimate that about ten new piezometers would need to be installed for measuring water levels near the extraction wells to help evaluate ground water capture and remediation effectiveness. Locations for these piezometers would be determined after ground water extraction begins in order to optimize piezometer placement. Thus, the piezometers are not shown on well location figures.

4.3.1.3.1. Ground Water Extraction, Treatment, and Reinjection in the $Tnbs_1$ Regional Aquifer. To reduce VOC concentrations in the $Tnbs_1$ regional aquifer west of the sewage treatment pond to MCLs or below, ground water would be extracted from well W-7P, treated, and reinjected in well W-7C. As shown in Figure 4-2, extraction well W-7P is located in the $Tnbs_1$ "window" in the vicinity of a debris burial trench where VOC concentrations in the $Tnbs_1$ regional aquifer are highest (up to 58 µg/L TCE). Existing data are insufficient to determine whether the debris burial trench northwest of the sewage treatment pond continues to act as a source of contamination to soil and/or ground water. However, extraction from well W-7P would address the potential for this debris burial trench to act as an ongoing source of contamination. Extracted ground water would be treated at the central GSA treatment system along with ground water extracted from other central GSA wells. For cost estimation purposes, we have assumed that ground water extraction from the $Tnbs_1$ regional aquifer would start at the same time as the upgraded systems elsewhere in the GSA operable unit. In practice, we may wait until alluvial aquifer extraction stabilizes capture zones and further reduces contamination in the alluvial aquifer before initiating $Tnbs_1$ regional aquifer extraction.

As discussed in Chapter 1, the natural hydraulic gradient in the $Tnbs_1$ regional aquifer appears to naturally flush contaminants toward well W-7P. To enhance this flushing action and expedite remediation of the $Tnbs_1$ regional aquifer, treated ground water would be reinjected into well W-7C, located to the west, and screened downdip of well W-7P (Fig. 4-4). Hydraulic testing would be performed prior to reinjection to ensure that reinjection would not adversely affect remediation effectiveness or accelerate plume migration. Based on well development data, we anticipate an extraction rate from well W-7P of about 4.5 gpm. Reinjection into well W-7C would not exceed the rate of extraction from well W-7P.

In addition to hydraulic testing and prior to reinjection, treated ground water would be analyzed to verify complete removal of VOCs. Such analyses would also ensure that concentrations of inorganic compounds do not exceed levels found in water extracted from the $Tnbs_1$ regional aquifer.

Because the ground water modeling was restricted to two-dimensional analysis, modeling did not include ground water extraction and reinjection in the $Tnbs_1$ regional aquifer. However, because concentrations are similar to those detected in the eastern GSA and the $Tnbs_1$ regional aquifer has a relatively high hydraulic conductivity, we anticipate reaching MCLs at about the same time as in the eastern GSA. Therefore, for the purpose of developing costs for this alternative, we have assumed that extraction and reinjection in the $Tnbs_1$ regional aquifer will continue for 10 years.

4.3.1.3.2. Ground Water Extraction and Treatment at the Central GSA Source Area. As discussed in Chapter 1, the highest VOC concentrations in ground water in the GSA operable unit are found in the vicinity of the Building 875 dry well pad. Historically, highest TCE concentrations have been observed up to 240,000 µg/L, but remediation has reduced concentrations to a maximum of 10,000 µg/L TCE. Ground water fate and transport modeling indicates that ground water TCE concentrations at this source area need to be reduced to a maximum concentration of about 100 µg/L to ensure long-term protection of the $Tnbs_1$ regional aquifer. Once TCE concentrations in ground water are reduced to this level, natural attenuation and dispersion mechanisms would then prevent concentrations above MCLs from migrating to the edge of the $Tnbs_1$ regional aquifer "window."

As discussed in Chapter 1, the current central GSA ground water extraction system consists of seven extraction wells (W-7I and W-875-07, -08, -09, -10, -11, and -15). Pumping from these wells has successfully dewatered the immediate vicinity of the Building 875 dry well pad, significantly enhancing the effectiveness of SVE. Currently, the ground water extraction system pumps a total of approximately 0.3 gpm, primarily from well W-875-08, while the other wells are able to maintain the dewatered state with minimal intermittent operation.

To continue reducing VOC concentrations in ground water, a total of 13 ground water extraction wells would be operated in the general vicinity of the Building 875 dry well pad and upgradient dry wells near Building 873. Figure 4-2 shows the proposed locations and modeled capture zones for these wells. In addition to the seven currently connected ground water extraction wells, five existing monitor wells, W-7F, W-7O, W-872-02, W-873-06, and W-873-07, would be converted to ground water extraction wells due to their ideal locations. Additionally, one new well, W-7Q, would need to be installed.

As discussed in Appendix E and shown in Figure E-33, ground water fate and transport modeling predicts that about 75% of the total mass of dissolved/sorbed TCE would be removed in 10 years and about 95% would be removed in 30 years, leaving a maximum TCE concentration of about 100 µg/L in ground water near the Building 875 dry well pad. After 10 years, ground water modeling indicates that VOC concentrations near extraction wells

W-873-06 and -07 would be reduced enough to discontinue pumping from these two extraction wells. The other central GSA extraction wells would be required to continue pumping for a total of 30 years. Modeling predicts that after 30 years ground water concentrations near the source area would be reduced to a maximum of about 100 µg/L, and natural attenuation and dispersion would prevent concentrations above MCLs from reaching the $Tnbs_1$ regional aquifer "window."

4.3.1.3.3. Ground Water Extraction and Treatment at the Eastern Edge of the $Tnbs_1$ "Window." In conjunction with source area ground water extraction described above, ground water extraction would be conducted from three new extraction wells (W-7R, W-7S, and W-7T) to be installed in the alluvial aquifer about 150 feet west of the sewage treatment pond, as shown in Figure 4-2. These three extraction wells would capture VOCs not captured by the source area extraction wells and prevent them from migrating into the $Tnbs_1$ "window." Modeled ground water extraction capture zones are also shown in Figure 4-2.

Ground water extraction from these three wells would continue until ground water extraction at the source area (described in Section 4.3.1.3.2) is discontinued. These wells could then serve as compliance points to ensure that concentrations exceeding MCLs do not reach the $Tnbs_1$ "window" in the future. As discussed above, ground water modeling predicts that ground water extraction will likely be required for a total of 30 years to sufficiently reduce concentrations and protect the $Tnbs_1$ regional aquifer.

4.3.1.4. Ground Water and Soil Vapor Monitoring

The monitoring program is designed to provide sufficient data to evaluate remediation progress and track the reduction/migration of the ground water VOC plume. Table F-6 in Appendix F presents the proposed ground water monitoring programs for each alternative. All ground water monitor well samples would be analyzed for VOCs by EPA Method 8010, and selected ground water samples from the central GSA would also be analyzed for fuel hydrocarbons by EPA Method 8020. These proposed ground water sampling programs would be reevaluated and revised prior to implementation to ensure that adequate data are collected and analytical costs are properly managed.

For Alternative 3a, ground water samples would be collected quarterly from 65 wells, semiannually from 9 wells, and annually from 27 wells during the first 10 years of ground water extraction. Between years 11 and 30, after the eastern GSA system and two of the central GSA extraction wells have been turned off, overall sampling frequency would be reduced to quarterly for 37 wells, semiannually for 7 wells, and annually for 47 wells. After 30 years, when modeling predicts the central GSA system can be turned off, ground water sampling would be reduced further to semiannually for 37 wells and annually for 37 wells for 5 years of post-remediation monitoring.

To manage analytical costs and avoid duplicate sampling, ground water samples would not be routinely collected from the ten piezometers because of their close proximity to ground water extraction wells.

Monitoring of springs 1, 2, and GEOCRK would be the same as Alternatives 1 and 2.

Soil vapor concentrations would be monitored periodically from the seven extraction wells during the predicted 10 years of SVE to evaluate remediation progress and provide data for system optimization. We have assumed monthly sampling from all seven extraction wells. In practice, this frequency may be increased or decreased depending on data needs. In addition, existing dedicated soil vapor monitoring points in the vicinity of Building 875 will be monitored to evaluate the effectiveness of SVE in mitigating inhalation risk inside Building 875. Specific details of the ground water and soil vapor monitoring network will be presented in the Remedial Design document.

4.3.2. Alternative 3b—Ground Water Plume Remediation

The objective of Alternative 3b is to actively remediate VOCs in ground water to MCLs or below in both the $Tnbs_1$ regional aquifer and the alluvial ground water. Alternative 3b consists of all components of Alternative 3a but continues central GSA ground water extraction and treatment until MCLs are reached in both the $Tnbs_1$ regional aquifer and the alluvial aquifer. As with Alternative 3a, after 10 years the eastern GSA ground water extraction system would be turned off and extraction from central GSA wells W-873-06 and -07 would be discontinued. Modeling predicts that ground water extraction in the central GSA will likely be required for a total of 55 years to reduce VOC concentration to current MCLs. Compared to Alternative 3a, Alternative 3b would actively remove an additional 2,000 g of TCE (only about 1.5% of total dissolved/sorbed TCE mass). However, Alternative 3b does not rely solely on natural attenuation and dispersion to reach MCLs in the alluvial aquifer.

The present-worth cost of Alternative 3b is $19.75 million (a nondiscounted cost of $35.29 million) to reach MCLs. This is based on 10 years of SVE and monitoring, 10 years of eastern GSA ground water extraction, 55 years of central GSA ground water extraction, and 60 years of ground water monitoring.

4.3.2.1. Ground Water and Soil Vapor Monitoring

For Alternative 3b, ground water samples would be collected quarterly from 65 wells, semiannually from 9 wells, and annually from 27 wells during the first 10 years of ground water extraction. Between years 11 and 55, after the eastern GSA ground water extraction and treatment system and two of the central GSA extraction wells have been turned off, overall sampling frequency would be reduced to quarterly for 37 wells, semiannually for 7 wells, and annually for 47 wells. After 55 years, when ground water fate and transport modeling predicts that VOC concentrations in ground water have been reduced to MCLs and the central GSA extraction and treatment system can be turned off, ground water sampling would be reduced further to semiannually from 37 wells and annually from 37 wells for the 5 years of post-remediation monitoring. As with Alternatives 1, 2, and 3a, all ground water samples would be analyzed for VOCs by EPA Method 8010 and selected samples would be analyzed for fuel hydrocarbons by EPA Method 8020.

Monitoring of springs 1, 2, and GEOCRK would be the same as Alternatives 1, 2, and 3a.

Soil vapor monitoring would be the same as Alternative 3a.

Specific details of the ground water and soil vapor monitoring network will be presented in the Remedial Design document.

5. Detailed Evaluation of Remedial Alternatives

5.1. Criteria and Evaluation Process

This chapter presents our detailed analysis and comparison of the remedial alternatives developed for the General Services Area (GSA) operable unit (OU) that were described in Chapter 4. As required, all of the remedial alternatives, except Alternative 1 (No Action), meet the Remedial Action Objective (RAO) of preventing human ingestion of ground water with volatile organic compound (VOC) concentrations above maximum contaminant levels (MCLs). However, Alternative 2 would not meet this RAO if additional water-supply wells were to be installed at the site boundary. Only Alternatives 3a and 3b meet the RAO of preventing the potential inhalation of soil-flux-generated VOCs above health-based concentrations inside Building 875. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) identifies nine criteria to be used in the detailed analysis of alternatives:

1. Overall protection of human health and the environment.
2. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs).
3. Long-term effectiveness and permanence.
4. Reduction of toxicity, mobility, or volume.
5. Short-term effectiveness.
6. Implementability.
7. Cost.
8. State acceptance.
9. Community acceptance.

Each of these criteria is discussed below.

5.1.1. Overall Protection of Human Health and the Environment

This criterion addresses whether the alternative achieves and maintains protection of human health and the environment during implementation and after remediation objectives are achieved.

5.1.2. Compliance with ARARs

Unless a waiver is obtained, the alternative that is finally selected must comply with all location-, action-, and chemical-specific ARARs.

5.1.3. Long-Term Effectiveness and Permanence

This criterion is used to evaluate how each alternative maintains protection of human health and the environment. This includes evaluating residual risk and management obligations after meeting the RAOs.

5.1.4. Reduction of Toxicity, Mobility, or Volume

This criterion is used to evaluate if and how well each alternative reduces the toxicity, mobility, and/or volume of contaminants through treatment. It also addresses the amount of contaminants remaining on site after completion of remedial measures.

5.1.5. Short-Term Effectiveness

This criterion addresses the effectiveness of each alternative to protect human health and the environment during construction and implementation of each remedial action. This includes the safety of workers and the public, disruption of site and surrounding land uses, and time necessary to achieve protective measures.

5.1.6. Implementability

This criterion addresses the technical and administrative feasibility of each alternative. Factors considered include:

- Availability of goods and services.
- Flexibility of each alternative to allow additional modified remedial actions.
- Effectiveness of monitoring.
- Generation and disposal of hazardous waste.
- Permitting requirements.

5.1.7. Cost

Capital, operation and maintenance, monitoring, and contingency costs are estimated for each alternative and are presented as 1995 present-worth costs using a 3.5% discount rate. We also estimated nondiscounted costs to account for incremental (i.e., annual) project funding in 1995 dollars. In Appendix H we also include costs with a negative 3% discount rate to account for incremental funding with a 3% inflation rate.

5.1.8. State Acceptance

State agencies have reviewed and commented on this document. Analysis of technical and administrative concerns that these agencies may have regarding each of the alternatives will be addressed in the record of decision (ROD).

5.1.9. Community Acceptance

Public comments concerning each alternative will be addressed in the Responsiveness Summary of the ROD.

5.2. Detailed Analysis of Remedial Alternatives

This section presents evaluations of how each alternative addresses the first seven EPA criteria specified by the NCP. Table 5-1 summarizes the evaluation of the alternatives with respect to the first six criteria, and Table 5-2 compares costs, the seventh criterion. Evaluations of state and community acceptance will be addressed in the ROD following comments on this document and the subsequent Proposed Plan.

5.2.1. Evaluation of Alternative 1—No Action

Alternative 1 is designed to provide a baseline for purposes of comparison to other alternatives. Alternative 1 consists of:

- Ground water monitoring.
- Administrative controls.
- Continued ecological surveys.

5.2.1.1. Overall Protectiveness of Human Health and the Environment

Alternative 1 may not be protective of human health because no active measures are taken to reduce VOC concentrations in ground water or in the vadose zone. No water-supply wells are currently contaminated with VOCs originating from the GSA OU, and a San Joaquin County ordinance prohibits the installation of water-supply wells with an annular seal of less than 100 feet. However, off-site water-supply wells CDF-1 and CON-1 are located in close proximity to the dissolved VOC ground water plume and could become affected. Water-supply well SR-1 is located about 12,000 feet north of the eastern GSA and significantly downgradient of the ground water plume. Should ground water extraction activities at the GSA cease, the plume could potentially migrate far enough (i.e., over two miles) to affect well SR-1. Therefore, this alternative may not meet the RAO of preventing human ingestion of ground water with concentrations above MCLs. Additionally, Alternative 1 does not actively reduce VOC contamination, and therefore does not actively reduce the potential human health risk from drinking water from a hypothetical water-supply well "installed" at the site boundary adjacent to the Building 875 dry well pad, as calculated in the baseline risk assessment.

Alternative 1 does not meet the RAO of preventing potential inhalation of VOCs above health-based concentrations in Building 875.

Fencing and full-time security patrols are in place along the entire Site 300 boundary. These administrative controls effectively prevent public access to the on-site portion of the plume and source areas. Additionally, site conditions will continue to be incorporated in facility/construction management plans to prevent potential worker exposure to subsurface contaminants. These administrative controls are the only mechanisms of human health protection in this alternative.

No ecological risk from VOCs in subsurface soil or ground water was determined. However, because this alternative does not actively remediate soil or ground water, future risks could develop. Although elevated cadmium concentrations in surface soil were also noted during the ecological risk assessment, this alternative is protective of the environment. The ecological survey program currently in place would continue under this alternative and would act to protect burrowing animals that could be at risk from elevated cadmium concentrations in surface soil. Should a sensitive burrowing species be observed in the area, mitigation measures outlined in the 1992 Site-Wide EIR/EIS (U.S. DOE, 1992) and described in Chapter 6 herein would be implemented, as appropriate. These measures may include relocating the species under consultation with the California Department of Fish and Game.

5.2.1.2. Compliance with ARARs

This alternative meets all ARARs if natural attenuation and dispersion act to reduce VOC concentrations in ground water to background. Without natural attenuation and dispersion, VOC concentrations would remain well above MCLs, which would not meet the requirements of the Safe Drinking Water Act (requiring concentration reduction to MCLs), the Basin Plan, or State Resolutions 68-16 and 92-49 (requiring concentration reduction to background). Based on modeling presented in Appendix E, natural attenuation will take 75 years to reduce VOC concentrations to MCLs and 115 years to reach background (i.e., <0.5 μg/L) for all ground water in the GSA OU.

5.2.1.3. Long-Term Effectiveness and Permanence

The long-term effectiveness and permanence of this alternative rely solely on natural attenuation. Based on the continued enforcement of San Joaquin County Ordinance Number 3675/Development Code-Section 9-1115, which prohibits the installation of water-supply wells with an annular seal of less than 100 feet, Alternative 1 would serve to minimize the chance of human use of contaminated water off site because most of the contamination is present in the shallow aquifer. However, this ordinance does not apply to water-supply wells that are currently in place (i.e., well CDF-1, CON-1, and SR-1). Therefore, enforcement will only minimize the chance for human use of contaminated water from newly installed wells. It should be noted that the destruction and replacement of water-supply wells CDF-1 and CON-1 are being discussed with the property owner. Enforcement of this ordinance is solely under the jurisdiction of San Joaquin County and not under the jurisdiction of DOE/LLNL. Additionally, wells screened below 100 feet may still be hydraulically connected to shallower ground water-bearing units and pumping could draw shallower contamination down into the deeper units.

Because DOE plans to retain stewardship of Site 300 for the foreseeable future, administrative controls, operation of the Building 875 ventilation system, and ecological surveys are considered permanent.

5.2.1.4. Reduction of Toxicity, Mobility, or Volume

This alternative relies on natural attenuation and dispersion to restrict the mobility of VOCs in ground water. In addition, this alternative relies solely on natural attenuation and dispersion to reduce toxicity and volume of VOCs in all media.

5.2.1.5. Short-Term Effectiveness

The only activity performed under this alternative is ground water monitoring. Workers performing monitoring would use appropriate protective procedures, clothing, and equipment to prevent the possibility of injury or exposure. Other than potential risks currently present due to site contamination, the public would not be adversely affected by implementation of this alternative.

Ground water modeling results predict that natural attenuation and dispersion would take 75 years to reduce VOC concentrations to MCLs or below. Ground water monitoring would be continued for an additional 5 years beyond the attainment of the MCL goal.

5.2.1.6. Implementability

Long-term monitoring is readily implementable and provides a means for measuring the effectiveness of natural attenuation and dispersion. Also, by monitoring the ground water plume, decisions can be made at any time to implement additional remedial actions, if necessary.

5.2.1.7. Cost

Figure 5-1 and Table 5-2 summarize costs for all the alternatives, and a detailed analysis is presented in Appendix F. This alternative is the least costly of the alternatives. Based on 80 years of monitoring, the 1995 present-worth cost is estimated at $4.27 million (a nondiscounted cost of $11.16 million).

5.2.2. Evaluation of Alternative 2—Exposure Control

The objective of Alternative 2 is to prevent the potential ingestion of contaminated ground water by eliminating, or providing a contingency response action for, existing water-supply wells that could potentially be affected by ground water contamination in the future. Alternative 2 consists of all components of Alternative 1 plus:

- Connolly property water-supply well replacement.
- Contingency point-of-use (POU) treatment at water-supply well SR-1.

5.2.2.1. Overall Protectiveness of Human Health and the Environment

Alternative 2 protects human health by eliminating potential exposure pathways to existing water-supply wells. Off-site water-supply wells CDF-1 and CON-1 would be sealed and abandoned, and replaced with a new water-supply well located significantly cross- and/or up-gradient from the ground water plume. A contingency plan for installing a POU treatment system would be put in place if the plume migrates to off-site water-supply well SR-1. Combined with the San Joaquin County prohibition on installation of shallow water-supply wells, this alternative meets the RAO of preventing human ingestion of ground water with VOCs above MCLs. However, because VOCs are not actively remediated, potential beneficial uses of ground water would not be readily restored. A hypothetical water-supply well "installed" at the site boundary adjacent to the Building 875 dry well pad would be impacted until natural attenuation and dispersion reduce VOC concentrations to MCLs.

As with Alternative 1, Alternative 2 does not meet the RAO of preventing potential inhalation of VOCs above health-based concentrations in Building 875.

Alternative 2 includes ecological surveys (and appropriate response actions, if necessary) for sensitive burrowing species and is therefore protective of the environment from potential risks from cadmium in surface soils. However, like Alternative 1, because VOCs are not actively remediated, ground water and soil contamination would remain, which may pose a risk to the environment in the future.

5.2.2.2. Compliance with ARARs

Like Alternative 1, Alternative 2 relies solely on natural attenuation to meet remediation goals, and therefore may not comply with the requirements of the Safe Drinking Water Act, Basin Plan, and State Resolutions 68-16 and 92-49. Alternative 2 complies with all other ARARs.

5.2.2.3. Long-Term Effectiveness and Permanence

The long-term effectiveness and permanence of this alternative rely solely on natural attenuation. Under the continued enforcement of San Joaquin County Ordinance Number 3675/Development Code-Section 9-1115, which prohibits the installation of water-supply wells with an annular seal of less than 100 feet, Alternative 2 would serve to minimize the chance of human use of contaminated water off site since most of the contamination is present in the shallow aquifer. Enforcement of this ordinance is solely under the jurisdiction of San Joaquin County and not under the jurisdiction of DOE/LLNL. Additionally, wells screened below 100 feet may still be hydraulically connected to shallower ground water-bearing units and pumping could draw shallower contamination downward into the deeper units.

As mentioned in Section 5.2.1.3., this county ordinance does not apply to water-supply wells that are currently in place. However, Alternative 2 provides for sealing and abandoning wells CDF-1 and CON-1. A POU treatment system would be immediately installed at water-supply well SR-1 should VOC concentrations exceed MCLs. A permanent remedy would be determined and implemented as necessary.

Because DOE plans to retain stewardship of Site 300 for the foreseeable future, administrative controls, operation of the Building 875 ventilation system, and ecological surveys are considered permanent.

5.2.2.4. *Reduction of Toxicity, Mobility, or Volume*

This alternative relies solely on natural attenuation and dispersion to reduce toxicity, mobility, or volume of contaminants in soil and ground water, unless POU treatment is required at well SR-1. If POU treatment is implemented, VOCs sorbed onto GAC would be destroyed by thermal regeneration of the GAC.

5.2.2.5. *Short-Term Effectiveness*

The only activities performed under this alternative are drilling operations associated with sealing and abandoning two water-supply wells, installing a new water-supply well, operating the Building 875 ventilation system, and monitoring ground water. Workers performing these tasks would use appropriate protective procedures, clothing, and equipment to prevent the possibility of injury or exposure. Other than potential risks currently present due to site contamination, the public would not be adversely affected by implementation of this alternative.

Ground water modeling results predict that natural attenuation and dispersion would take 75 years to reduce VOC concentrations to MCLs or below. Ground water monitoring would continue for an additional 5 years beyond attainment of the MCL goal.

5.2.2.6. *Implementability*

Equipment, materials, and services necessary for drilling or POU treatment system construction and operation are available. Long-term monitoring is readily implementable and provides a means for measuring the effectiveness of natural attenuation and dispersion. Also, by monitoring the ground water plume, decisions can be made at any time to implement additional remedial actions.

5.2.2.7. *Cost*

The cost for Alternative 2 is only marginally greater than for Alternative 1 because the capital costs are mostly offset by monitoring one less well (two wells are sealed and abandoned and replaced with one well) over the life of the project.

Figure 5-1 and Table 5-2 summarize costs for all the alternatives and a detailed analysis is presented in Appendix F. Based on 80 years of monitoring, the 1995 present-worth cost of Alternative 2 is estimated at $4.57 million (a nondiscounted cost of $11.42 million).

5.2.3. Evaluation of Alternative 3—Ground Water and Vadose Zone Remediation

The evaluation for Alternative 3 is presented below for each scenario: Alternatives 3a and 3b. Both are protective of human health and the environment and actively remove the source of VOC releases from the vadose zone into ground water by employing soil vapor extraction. They differ in the degree to which active remediation (ground water extraction and treatment) is used to reduce dissolved VOC concentrations and, as a result, they have different active remediation goals and different project lives. Both versions include all components of Alternative 2 (exposure control).

5.2.4. Alternative 3a—Remediation and Protection of the $Tnbs_1$ Regional Aquifer

The objective of Alternative 3a is to meet RAOs by actively remediating both the vadose zone and ground water to the point where the beneficial uses of the $Tnbs_1$ regional aquifer are restored and protected and inhalation risk inside Building 875 is mitigated. Alternative 3a consists of all components of Alternative 2 plus:

- Soil vapor extraction and treatment in the central GSA Building 875 dry well pad.
- Ground water extraction and treatment in the central GSA.
- Ground water extraction, treatment, and reinjection in the $Tnbs_1$ regional aquifer (central GSA).
- Ground water extraction and treatment in the eastern GSA.

5.2.4.1. Overall Protectiveness of Human Health and the Environment

Like Alternative 2, Alternative 3a uses exposure control methods and administrative controls to provide initial protection to human health. Alternative 3a also provides additional protection to human health by restoring and protecting the beneficial uses of the $Tnbs_1$ regional aquifer through active remediation of VOCs in ground water to MCLs in that aquifer, and reducing concentrations in the alluvial aquifer sufficiently to prevent migration of VOCs above MCLs into the $Tnbs_1$ regional aquifer. Active reduction of VOC contamination in both the vadose zone and ground water would reduce the potential human health risk from drinking water from a hypothetical well "installed" at the site boundary adjacent to the Building 875 dry well pad. The ground water remediation goal in the alluvial aquifer would be set at a level protective of the deeper $Tnbs_1$ regional aquifer, rather than at a health-based goal.

Alternative 3a meets the RAO of preventing potential inhalation of VOCs above health-based concentrations in Building 875 by reducing soil vapor VOC concentrations through soil vapor extraction.

Alternative 3a employs ecological surveys and appropriate response actions, if necessary, to protect the environment. By actively reducing VOC concentrations in the vadose zone and ground water, potential future ecological risks are mitigated.

5.2.4.2. Compliance with ARARs

The goal of Alternative 3a is to use active soil vapor and ground water remediation to meet the requirements of the Safe Drinking Water Act for the $Tnbs_1$ regional aquifer. Alternative 3a may comply with the Basin Plan and State Resolutions 68-16 and 92-49 in the $Tnbs_1$ regional aquifer if MCLs are determined to be the lowest levels technically and economically feasible. This alternative relies on natural attenuation and dispersion, and therefore may not comply with the requirements of the Safe Drinking Water Act, the Basin Plan, and State Resolutions 68-16 and 92-49 in the alluvial aquifer.

5.2.4.3. Long-Term Effectiveness and Permanence

In the central GSA alluvial aquifer, ground water extraction and treatment would be discontinued before reaching MCLs, and natural attenuation and dispersion would be relied upon to reduce concentrations to MCLs or below. Monitoring would continue until after natural attenuation and dispersion reduce concentrations to MCLs or below to ensure long-term protectiveness of the $Tnbs_1$ regional aquifer.

This alternative removes the majority of dissolved VOC mass and, by using soil vapor extraction combined with dewatering in the Building 875 dry well pad area, removes a major potential source of future contaminant releases to ground water and soil vapor. If the goals (100 µg/L TCE) of active remediation are met, about 95% of the dissolved/sorbed mass will have been removed, leaving approximately 6,700 g of TCE to be passively remediated by natural attenuation and dispersion. For 100 µg/L TCE in ground water, the potential incremental excess cancer risk is 4.7×10^{-5}. The hazard index (HI) for this concentration is 1.56. Although other VOCs may also be present, they are likely to be in much lower concentrations, thus, not significantly increasing potential risk.

5.2.4.4. Reduction of Toxicity, Mobility, or Volume

Toxicity, mobility, and volume of extracted VOCs are eliminated by thermal regeneration of vapor-phase GAC used for both soil vapor treatment and treatment of air stripper vapor effluent. VOCs sorbed onto the POU treatment GAC would also be eliminated by thermal regeneration, if necessary. Migration of dissolved VOCs above MCLs would be controlled initially by ground water extraction and later by natural attenuation and dispersion. Potential VOC soil vapor flux is controlled by the soil vapor extraction system.

5.2.4.5. Short-Term Effectiveness

Workers performing extraction and treatment system installation and maintenance, drilling, or monitoring would use appropriate protective procedures, clothing, and equipment to prevent the possibility of exposure. The public would not be adversely affected by implementation of this alternative.

Ground water modeling predicts that ground water extraction and treatment in the eastern GSA will take 10 years to reach MCLs in both the $Tnbs_1$ regional aquifer and the overlying alluvial aquifer. In the central GSA, 10 years will also be required to reach MCLs in the $Tnbs_1$ regional aquifer. An additional 20 years (a total of 30 years) of ground water extraction and treatment would be required in the central GSA alluvial aquifer to reduce VOC concentrations sufficiently to prevent migration of VOCs above MCLs into the $Tnbs_1$ regional aquifer. Natural attenuation and dispersion would take an additional 35 years to reduce VOC concentrations to MCLs or below. Ground water monitoring would continue for an additional 5 years, for a total project life of 70 years.

5.2.4.6. Implementability

Equipment, materials, and services necessary for implementing Alternative 3a are available. Additional permitting would be necessary for reinjection of part of the treated ground water, but other treatment and discharge permits are already in place and would only require revisions to accommodate system upgrades and changes in flow rates. Long-term monitoring is readily implementable and provides a means for measuring the effectiveness of natural attenuation and dispersion.

However, the technical feasibility of achieving preliminary remediation goals of MCLs in the $Tnbs_1$ regional aquifer and at the edge of the $Tnbs_1$ "window" is uncertain. Recent studies of remediation progress at sites across the nation indicate that ground water extraction systems may not be able to reduce contaminant concentrations to federal and state standards (NRC, 1994). Modeling results for the GSA OU indicate that the low permeability of sediments in the Building 875 dry well pad area (the main VOC source area) is the most significant limiting factor to the effectiveness of ground water extraction because ground water flow rates and resultant well yields are very low. Additionally, it is likely that the clayey nature of these sediments limits the rate at which VOCs desorb into ground water. Site-specific data are not yet sufficient to prove technical impracticability, but future evaluations of remediation progress may conclude that less stringent remediation goals will need to be employed.

By monitoring the ground water and soil vapor, decisions can be made at any time to modify remedial actions or implement additional remedial actions if necessary.

5.2.4.7. Cost

Figure 5-1 and Table 5-2 summarize costs for all the alternatives, and a detailed analysis is presented in Appendix F. The 1995 present-worth cost for Alternative 3a is estimated to be $18.05 million. As discussed in Appendix F, present-worth costs represent the amount of money, which, if invested in the initial year of the remedial action and disbursed as needed, would be sufficient to cover all the costs associated with the remedial action. However, it is much more likely that funds would be provided incrementally (i.e., annually) throughout the project life. Therefore, we have also prepared estimates of costs that assume no present-worth discount rate. Based on this, the cost for Alternative 3a in 1995 dollars is $28.84 million.

5.2.5. Alternative 3b—Ground Water Plume Remediation

The objective of Alternative 3b is to meet RAOs by actively remediating both the vadose zone and ground water to the point where the beneficial use of both the alluvial aquifer and the $Tnbs_1$ regional aquifer is restored and protected. In addition, potential VOC soil vapor flux into Building 875 is controlled by the operation of a soil vapor extraction system. Alternative 3b consists of all components of Alternative 3a but continues ground water extraction in the central GSA until VOC concentrations are actively reduced to MCLs or below.

5.2.5.1. Overall Protectiveness of Human Health and the Environment

Like Alternative 2, Alternative 3b uses exposure control methods and administrative controls to provide initial protection to human health. Alternative 3b also provides additional protection to human health by restoring and protecting the beneficial use of the $Tnbs_1$ regional aquifer and potential beneficial use of the alluvial aquifer through active remediation of VOCs in ground water to MCLs.

Alternative 3b meets the RAO of preventing potential inhalation of VOCs above health-based concentrations in Building 875 by reducing soil vapor VOC concentration through soil vapor extraction.

Alternative 3b employs ecological surveys and appropriate response actions, if necessary, to protect the environment. By actively reducing VOC concentrations in the vadose zone and ground water, potential future ecological risks are mitigated.

5.2.5.2. Compliance with ARARs

The goal of Alternative 3b is to use active remediation to meet all ARARs except for the Basin Plan and State Resolutions 68-16 and 92-49 for both the $Tnbs_1$ regional aquifer and the alluvial aquifer. However, this alternative will meet the requirements of the Basin Plan and State Resolutions 68-16 and 92-49 if MCLs are determined to be the lowest levels, technically and economically feasible. Alternative 3b meets Safe Drinking Water Act requirements.

5.2.5.3. Long-term Effectiveness and Permanence

The goal of this alternative is to actively reduce VOC concentrations in ground water to MCLs or below. Like Alternative 3a, soil vapor extraction, combined with dewatering in the Building 875 dry well pad area, removes the source of potential future contaminant releases above MCLs to ground water as well as reducing soil vapor VOC concentrations. Monitoring would be continued for 5 years after discontinuing ground water extraction to ensure long-term effectiveness and permanence.

5.2.5.4. Reduction of Toxicity, Mobility, or Volume

Toxicity, mobility, and volume of extracted VOCs are eliminated by thermal regeneration of vapor-phase GAC used for soil vapor treatment and treatment of air stripper vapor effluent. VOCs sorbed onto the POU treatment GAC would also be eliminated by thermal regeneration, if necessary. Migration of dissolved VOCs above MCLs would be controlled initially by ground water extraction and later by and natural attenuation and dispersion. Potential VOC soil vapor flux is controlled by the soil vapor extraction system.

5.2.5.5. Short-Term Effectiveness

Workers performing extraction and treatment system installation and maintenance, drilling, or monitoring would use appropriate protective procedures, clothing, and equipment to prevent the possibility of exposure. The public would not be adversely affected by implementation of this alternative.

Ground water modeling results predict that ground water extraction will take 10 years to reach MCLs in both the $Tnbs_1$ regional aquifer and overlying alluvial aquifer in the eastern GSA and the $Tnbs_1$ regional aquifer in the central GSA. An additional 45 years, for a total of 55 years, of ground water extraction would be required in the central GSA alluvial aquifer to reduce VOC concentrations to MCLs. Ground water monitoring would continue for an additional 5 years. The total project life would be 60 years.

5.2.5.6. Implementability

Equipment, materials, and services necessary for implementing Alternative 3b are available. Additional permitting would be necessary for reinjection of a portion of the treated ground water, but other treatment and discharge permits are already in place and would only require revisions to accommodate system upgrades and changes in flow rates. Long-term monitoring is readily implementable and provides a means for ensuring the effectiveness of ground water and soil vapor extraction.

The technical feasibility of achieving the remediation goal of MCLs in both the $Tnbs_1$ regional aquifer and the alluvial aquifer is uncertain. Recent studies of remediation progress at sites across the nation indicate that ground water extraction systems may not be able to reduce contaminant concentrations to federal and state standards (NRC, 1994). Ground water modeling results for the GSA OU indicate that the low permeability of sediments in the Building 875 dry well pad area (the main source area) is the most significant limiting factor to the effectiveness of ground water extraction because ground water flow rates and resultant well yields are very low. Additionally, it is likely that the clayey nature of these sediments limits the rate at which VOCs desorb into ground water. Site-specific data is not yet sufficient to prove technical impracticability, but future evaluations of remediation progress may conclude that less stringent remediation goals will need to be employed.

By monitoring the ground water plume and soil vapor, decisions can be made at any time to modify remedial actions or implement additional remedial actions if necessary.

5.2.5.7. Cost

Although the project life of this alternative is estimated to be 10 years less than Alternative 3a, Alternative 3b is the most expensive of the presented alternatives. This is because Alternative 3b requires an additional 25 years of ground water extraction and treatment beyond Alternative 3a. During this time, operation and maintenance expenses are incurred and the ground water monitoring program is more extensive.

Figure 5-1 and Table 5-2 summarize costs for all the alternatives, and a detailed analysis is presented in Appendix F. The 1995 present-worth cost for Alternative 3b is estimated to be $19.75 million. As discussed in Appendix F, present-worth costs represent the amount of money, which, if invested in the initial year of the remedial action and disbursed as needed, would be sufficient to cover all the costs associated with the remedial action. However, it is much more likely that funds would be provided incrementally (i.e., annually) throughout the project life. Therefore, we have also prepared estimates of costs that assume no present-worth discount rate. Based on this, the cost for Alternative 3b in 1995 dollars is $35.29 million.

5.3. Comparative Evaluation of Remedial Alternatives

This section presents an evaluation of the characteristics of each alternative with respect to the first seven EPA evaluation criteria. Table 5-3 presents a comparison summary, which shows that the most significant distinguishing features among the alternatives are:

- Effectiveness of eliminating exposure/potential exposure pathways.
- Effectiveness of ground water VOC source removal and protection of the $Tnbs_1$ regional aquifer.
- Effectiveness in restoring ground water quality to levels that protect beneficial uses.
- Cost.

5.3.1. Overall Protection of Human Health and the Environment

5.3.1.1. Human Health

As discussed in Chapter 1, the only potential human health risks are possible ingestion of ground water with VOCs at concentrations exceeding MCLs, and potential inhalation of VOC vapors above health-based concentrations in Building 875. There are no existing exposure pathways to ground water with concentrations above MCLs. However, the ground water plume is in close proximity to off-site water-supply wells CDF-1 and CON-1. Also, off-site water-supply well SR-1, located over 12,000 ft downgradient of the ground water plume, could potentially be affected if the plume reverses its retreating trend and migrates further to the north. The baseline risk assessment also calculated an unacceptable excess cancer risk from a hypothetical water-supply well "installed" at the site boundary adjacent to the Building 875 dry well pad.

Alternatives 3a and 3b address risk to human health from potential inhalation of VOC vapors above health-based concentrations by reducing soil vapor VOC concentrations through soil vapor extraction.

With the exception of Alternative 1 (No Action), all alternatives address potential ground water VOC exposure from the three existing water-supply wells by either sealing and abandoning them (CDF-1 and CON-1) or providing contingency POU treatment (SR-1).

Only Alternatives 3a and 3b use active remediation to reduce VOC concentrations, which would reduce risk at a hypothetical water-supply well "installed" at the site boundary adjacent to the Building 875 dry well pad. Alternative 3b has a greater level of active risk reduction at this location than Alternative 3a because Alternative 3b actively reduces VOC concentrations in the central GSA alluvial aquifer to MCLs while Alternative 3a reduces VOC concentrations to a maximum of about 100 µg/L.

All alternatives include the same administrative controls to prevent access to contaminated ground water. Off site, each alternative relies on the third party enforcement of San Joaquin County Ordinance No. 3675/Development Code-Section 9-1115 to prevent installation of water-supply wells in contaminated aquifers. On site, where most of the contamination is located, fencing, full-time security patrols, and inclusion of site conditions into facility/construction plans prevent access and thus prevent exposure.

Alternatives 1 and 2 do not actively reduce VOC contamination, and therefore do not actively reduce the potential human health risk from drinking water from a hypothetical water-supply well "installed" at the site boundary, as calculated in the base-line risk assessment. Alternatives 3a and 3b both actively reduce this risk by active reduction of VOC concentrations in both the vadose zone and ground water. In addition, Alternatives 1 and 2 do not address risk to human health from potential inhalation of VOC vapors above health-based concentrations.

5.3.1.2. Environment

All the alternatives presented in Chapter 4 are equally protective of the environment with respect to elevated cadmium concentrations in surface soils by providing for continuing ecological surveys to ensure sensitive and endangered denning species do not inhabit areas of potential risk. As previously discussed, appropriate measures would be taken should a sensitive species be identified in potential areas of concern.

Alternatives 1 and 2 do not meet the environmental protection RAO. Alternative 3a meets the RAO for environmental protection in the $Tnbs_1$ regional aquifer by restoring water quality, at a minimum, to water quality objectives which are protective of beneficial uses (MCLs in this case). As it relies only natural attenuation and dispersion to reach MCLs in the alluvial aquifer, this alternative may not meet the RAO in the alluvial aquifer. Alternative 3b meets the RAO for environmental protection for both the alluvial and $Tnbs_1$ aquifer.

5.3.2. Compliance with ARARs

ARARs affecting each remedial alternative are presented in Chapter 2 in Tables 2-1 and 2-2. All alternatives meet all location-, action-, and chemical-specific ARARs, with the possible exceptions of the Safe Drinking Water Act (which requires contaminant reduction to MCLs) the Porter-Cologne Water Quality Control Act, the Basin Plan, and State Resolutions 68-16 and 92-49 (which require contaminant reduction to background). If natural attenuation and dispersion eventually reduce VOC concentrations to background (i.e., <0.5 µg/L), then Alternatives 1, 2, 3a, and 3b meet all ARARs. However, if natural attenuation and dispersion cannot be relied upon to sufficiently reduce VOC concentrations, Alternatives 1 and 2 do not meet the requirement of the Safe Drinking Water Act, the Basin Plan, or State Resolutions 68-16 and 92-49 and an ARAR waiver would need to be granted to meet all ARARs. The goal of Alternative 3a is to use ground water and soil vapor extraction to reduce VOCs to at least MCLs in the $Tnbs_1$ regional aquifer, and to a maximum of about 100 µg/L in the alluvial aquifer. The goal of Alternative 3b is to use ground water and soil vapor extraction and treatment to reduce VOCs to at least MCLs in all ground water in the GSA OU.

State Resolutions 68-16 and 92-49 provide for establishing alternate cleanup levels above background levels when economic or technical infeasibility is demonstrated. As discussed above, recent studies of remediation progress at sites across the nation indicate that ground water extraction systems may not be able to reduce contaminant concentrations to federal and state standards (NRC, 1994). Additionally, modeling results indicate that the low permeability of sediments near the primary VOC source area (Building 875 dry well pad) is the most significant limiting factor to the effectiveness of ground water extraction or dispersion. Therefore, the ability of any of these alternatives to reach the preliminary remediation goals is very uncertain.

Current site-specific data are insufficient to determine if the preliminary remediation goals are obtainable and, as such, compliance with ARARs is indeterminate.

Appendix H discusses costs and design considerations associated with reaching "background" concentrations.

5.3.3. Long-Term Effectiveness and Permanence

All alternatives except Alternative 1 (No Action) permanently eliminate the potential for ingestion of VOCs from water-supply wells CDF-1 and CON-1. While POU treatment at well SR-1 would not be a permanent remedy if VOCs above MCLs migrate that far, Alternatives 2, 3a, and 3b provide for selection of a permanent remedy in conjunction with implementation of POU treatment. Alternatives 3a and 3b actively remediate the vadose zone, which may act as a source of future ground water and soil vapor VOC contamination. Alternatives 1 and 2 do not include source mass removal.

After reaching MCLs in the $Tnbs_1$ regional aquifer, Alternative 3a discontinues ground water extraction upon reducing VOC concentrations to about 100 µg/L in the central GSA alluvial aquifer, and relies on natural attenuation to permanently protect the $Tnbs_1$ regional aquifer. However, monitoring would continue until natural attenuation and dispersion do reduce concentrations to MCLs and, if necessary, the ground water extraction system could be restarted if higher concentrations migrated to the new guard wells W-7R, W-7S, or W-7T. Alternative 3b, on the other hand, has the goal of actively remediating ground water in both the alluvial aquifer and the $Tnbs_1$ regional aquifer to MCLs.

5.3.4. Reduction of Toxicity, Mobility, or Volume

Neither Alternative 1 or Alternative 2 reduces toxicity, mobility, or volume of VOCs in ground water or in the vadose zone unless the POU treatment system proposed in Alternative 2 is installed and operated.

Both Alternative 3a and 3b restrict the migration of dissolved VOCs by ground water extraction. Additionally, if confirmed by hydraulic testing, reinjection at well W-7C would enhance plume migration control in the $Tnbs_1$ regional aquifer west of the sewage treatment pond.

VOCs removed by both soil vapor extraction and treatment of extracted ground water are adsorbed onto vapor-phase GAC. GAC would be thermally regenerated, thus destroying the VOCs and eliminating their toxicity, mobility, and volume. This applies to the active remediation treatment systems of Alternatives 3a and 3b and, if implemented, the POU treatment system (a component of Alternatives 2, 3a, and 3b).

5.3.5. Short-Term Effectiveness

Alternatives 3a and 3b immediately protect the public from existing potential exposure pathways. Alternative 2, while protecting the public from potential exposure at existing ground water receptor points (water-supply wells), does not address risk to human health from potential exposure to VOC vapors inside Building 875. None of the alternatives would result in any additional impact, except for potential further contamination of ground water in the vicinity of the Building 875 dry well pad and migration of the ground water plume that may result in discontinuing soil vapor and ground water extraction (Alternatives 1 and 2).

Alternatives 1 and 2 rely solely on natural attenuation and dispersion; ground water modeling predicts that it will take 75 years to reach MCLs. MCLs would be reached in 65 years under Alternative 3a and 55 years under Alternative 3b, based on modeling predictions of ground water extraction.

During construction of any facilities and during ground water and soil vapor monitoring, the appropriate protective clothing and equipment would be used by all workers to eliminate potential exposures.

5.3.6. Implementability

Alternative 1 is readily implementable. All proposed administrative controls are currently in place and ground water monitoring is ongoing.

Alternative 2 is also readily implementable. An agreement is currently being developed between LLNL and the owners of the Connolly property to seal and abandon water-supply wells CDF-1 and CON-1 and replace them with a single water-supply well out of the path of potential ground water VOC plume migration.

Alternative 3a and 3b are implementable, but will require additional hydraulic test data collection and modeling to determine extraction well placement and whether reinjection should be implemented as a component of treated water discharge/enhanced remediation. Discharge permits already exist for the central GSA soil vapor extraction and treatment system and ground water extraction and treatment systems at both the central and eastern GSA. These permits may require updating/modification to account for system upgrades and additional ground water extraction wells. A separate permit may be required for treated water reinjection.

All equipment and services necessary for any of the alternatives are available.

As discussed earlier, the feasibility of reaching MCLs or background concentrations either by active pumping or solely through natural attenuation and dispersion is uncertain. Remediation progress will be evaluated at least every 5 years and the remedial approach and remediation goals may be revised if necessary.

5.3.7. Cost

The estimated present-worth of the life-cycle costs for the GSA OU remedial alternatives ranges from $4.27 million to $19.75 million. Costs are summarized and compared in Table 5-2 and Figure 5-1. Capital, operation and maintenance, and monitoring costs were developed for each alternative and subtotaled. LLNL operational overhead costs such as General and Administrative taxes and Lab Directed Research and Development taxes are incorporated into these costs. A 20% contingency was added to develop total estimated present-worth costs for each alternative to an accuracy of –30% to +50%. As discussed in Chapter 4, we have also calculated costs based on a 0% discount rate (nondiscounted) to account for incremental (i.e., annual) funding throughout the project life rather than up-front funding of the entire project. These nondiscounted estimates range from $16.27 million to $41.00 million.

The costs for each alternative (except Alternative 1) were developed on the basis of preliminary engineering designs to meet the remedial action objective and the ARARs presented in Chapter 2. Cost estimates do not include implementation, operation, or maintenance of innovative technologies. Detailed cost and design assumptions regarding labor, equipment, construction, project and construction management, operations and maintenance, monitoring, overhead, and contingency are presented in Appendix F. LLNL procurement procedures, labor rates, and prices of equipment and services have changed since cost estimates were prepared for earlier feasibility studies. Therefore, these costs should not be compared to costs presented in previously issued feasibility studies for other OUs at Site 300. Additional time and costs for reaching background VOC concentrations (over and above reaching MCLs) are presented in Appendix H.

Differences in present-worth cost of the alternatives are due to the relative differences in the alternatives listed below:

- Alternative 1 has the lowest present-worth cost because it includes only monitoring and no remedial actions. However, costs are still significant because monitoring would be continued for up to 120 years.
- Alternative 2 has only a slightly higher present-worth cost than Alternative 2 because capital costs for replacing the two off-site water-supply wells and constructing a POU treatment system are relatively minor and are offset by reducing the number of wells being monitored by one (one less water-supply well). As with Alternative 1, costs are still significant because monitoring would continue for up to 120 years.
- Alternative 3a has a high present-worth cost because it includes installation and testing of 4 ground water extraction wells and 10 piezometers, upgraded treatment equipment, and buildings for each treatment system. Even more significantly, this alternative includes costs for operation and maintenance of the ground water and soil vapor extraction and treatment systems and significantly more frequent ground water monitoring to evaluate remediation progress.
- Alternative 3b has the highest present-worth cost because it includes all the capital costs of Alternative 3a and operates the central GSA ground water extraction system for an additional 25 years (for a total of 30 years in Alternative 3a and of 55 years in Alternative 3b). Although the total project life of Alternative 3b is shorter than that for Alternative 3a, monitoring costs are higher because sampling frequency is likely to be highest when ground water extraction is operating.

Appendix H presents total estimated costs based on three different method:

- Present worth (a 3.5% discount rate).
- Nondiscounted (a 0% discount rate).
- Inflated rate (a negative 3.0% discount rate).

The third method assumes, like the nondiscounted method, that project funding will occur incrementally (i.e., annually) throughout the project life, but also takes into account future inflation (assumed to be 3.0%). Costs calculated by the inflated rate method are not in 1995 dollars but in actual dollars spent over the project life.

6. Environmental Considerations

6.1. Introduction

The Record of Decision (ROD), issued on January 21, 1993, for the August 1992 Final Environmental Impact Statement and Environmental Impact Report for Continued Operation of Lawrence Livermore National Laboratory (LLNL) and Sandia National Laboratories, Livermore, California (U.S. Department of Energy [DOE], 1992) published DOE's decision to continue operation of LLNL, including near-term (within 5 to 10 years) proposed projects. One of the proposed actions described in the 1992 EIS/EIR is the remediation of soil and ground water contamination at Site 300.

As stated in the Federal Register, Vol. 55, No. 67 (April 1990), when DOE remedial actions under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 trigger the procedures set forth in the National Environmental Policy Act (NEPA), the procedural and documentation requirements of NEPA and CERCLA are to be integrated. According to DOE Order 5400.4, integration is to be accomplished by conducting the NEPA and CERCLA environmental planning and review procedures concurrently to avoid duplication, conflicting analysis, and delays in implementing remedial action on procedural grounds. The primary instrument for this integration is the RI/FS process, supplemented as needed to meet the requirements of NEPA. In compliance with the requirements of the DOE NEPA Implementing Procedures (10 CFR 1021), DOE Order 5400.4 (issued October 6, 1989) and the Council of Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of the NEPA (40 CFR 1500–1508, July 1986, as amended), this chapter provides additional information necessary to evaluate potential environmental impacts of the remedial alternatives under NEPA.

6.2. Relationship of the Proposed Remedial Alternatives to Other Activities at LLNL

The proposed remedial efforts are part of a larger effort by LLNL to mitigate contamination caused by past activities at Site 300. Past corrective actions and facility upgrades implemented by LLNL at Site 300 are described in Section 1.2.3. In addition to the General Services Area (GSA) Feasibility Study (FS) activities, several other FS actions will be conducted at Site 300 over the next 2 years. Specifically, these concern the Pit 6 Area, Building 850/Pits 3 and 5 Area, the HE Process Area, and the Building 834 Complex. Additional RI/FS actions may be necessary, depending on the results of ongoing characterization efforts at Site 300. None of the proposed GSA Remedial Alternatives will have impacts on, or interactions with, other remedial actions at Site 300.

6.3. Environmental Setting and Potentially Affected Environment

The location of the operable unit (OU), surrounding land uses, and descriptions of the geology, hydrology, and other aspects of the natural environment are summarized in Chapter 1. The descriptions presented below are those necessary to assess impacts as required under NEPA and those that have not been presented in other sections of this FS. A more detailed description of the Site 300 environment can be found in the 1992 EIS/EIR (U.S. DOE, 1992) and the SWRI report (Webster-Scholten, 1994).

6.3.1. Land Use and Socioeconomics

The GSA OU consists of approximately 83 acres located in the southeast corner of Site 300. It is located in San Joaquin County, a leading agricultural county with associated industries for food processing, wholesale trade, and transportation. Important nonagricultural employers include educational institutions, federal defense installations, and related service industries. Major transportation networks and facilities in the county include interstate and local highways, several major rail carriers, the Stockton Metropolitan Airport, and the Port of Stockton. Industrial activities are allowed if they are compatible with the County's applicable criteria for industrial land use.

Most of the area surrounding Site 300 is ranch land, privately held in parcels of section size (640 acres), although land immediately adjacent to Corral Hollow Road in the vicinity of Site 300 generally is held in smaller parcels ranging in size from 5 to 640 acres. The San Joaquin County General Plan has four designations for land use in the Site 300 area. The portion of Site 300 located in San Joaquin County is designated "Public and Quasi-Public—Other Governmental and Institutional." Areas north and east of Site 300 are designated "Agricultural." Areas south of Site 300 are designated "Recreation" or "Conservation."

LLNL operations at Site 300 are consistent with the San Joaquin County General Plan land use designations (U.S. DOE, 1992). Although there is no prime agricultural land at Site 300 or immediately adjacent to it, surrounding land is used primarily for cattle grazing. Much of the land adjacent to the Site 300 southern boundary is part of the Connolly and Gallo Ranches. Along the eastern site boundary is a 15-acre ecological preserve operated by the California Department of Fish and Game. The preserve was formerly part of Site 300, but, with the exception of 7 acres, was declared excess property in 1973 and transferred to the State of California. The California Department of Forestry (CDF) leases a small portion of the Connolly ranch located about 2,500 ft southeast of the main entrance to Site 300. The CDF Castle Rock Fire Station is located on this property. Two private companies, Physics International and SRI International, also test high explosives on private land east and south of the site, respectively. The State of California operates the 1,300-acre Carnegie State Vehicular Recreation Area (SVRA) located along the southwest side of Site 300 on Corral Hollow Road.

An EIR has been adopted for the proposed City of Tracy Urban Management Plan/General Plan. The Tracy Planning Area (TPA) encompassed by the plan would "build out" to a population of 160,000 by the year 2013. Under the plan's land use map, Site 300 is designated as "Federal Reserve/Open Space." Site 300 operations are consistent with this land use designation. Under the plan, the City of Tracy also designates land adjoining the eastern portion of the Site 300 northern border and the northern portion of the Site 300 eastern border as "Residential—Very Low (Density)" or "Open Space" and, together with its commercial and industrial elements, has a projected population of 23,000 by the year 2013. This area, bounded by Site 300 on the southwestern side and extending beyond I-580 to the northeast, is the location of the proposed Tracy Hills Community Area/Urban Center, which would consist of developed areas with two dwelling units per gross acre or less, and open space.

An important factor relative to land use in San Joaquin County is the availability of suitable water supplies. Ground water accounts for 30% of all San Joaquin County's water needs (San Joaquin County, 1992). The Tracy area has three major water sources: the Delta-Mendota Canal, the California Aqueduct, and San Joaquin Valley ground water aquifers. The Delta-Mendota Canal and the California Aqueduct are operated by the U.S. Bureau of Reclamation and the State Department of Water Resources, respectively.

The population of San Joaquin County increased by 18.6% between 1985 and 1990, to a total population of 480,628. In 1989, San Joaquin County had a total employed labor force of 181,000. The annual work force at Site 300 averages about 300 people, with temporary increases during construction projects. Most of the Site 300 work force is based within the GSA, where about 150 employees are currently assigned.

6.3.2. Vegetation, Wildlife, and Sensitive Species

Four major vegetation types are found in the GSA at Site 300. They are: (1) introduced grassland, (2) coastal sage scrub, (3) riparian woodland, and (4) blue oak woodland (Webster-Scholten, 1994). Most of the vegetation at Site 300 is grassland dominated by a mixture of introduced annual and native perennial grasses. Ongoing practices at Site 300 are considered to benefit site vegetation. These practices include the exclusion of grazing and other agricultural uses and the annual burning of approximately 2,000 acres in the northern and eastern portions of Site 300.

Vegetation at the proposed treatment facilities and discharge points consists primarily of annual grasses, although native perennial grasses may be found in less disturbed areas. South of the central GSA, very little vegetation is present along Corral Hollow Creek. South and east of the eastern GSA, the streambed has had some riprap added to the north bank near the CDF Fire Station, and the south bank (i.e., cutting edge) is about 10 ft high as the creek begins to flow through steeper terrain. Mulefat and small cottonwood saplings are present along the creek in this area. Vegetation in and along the banks of Corral Hollow Creek from the eastern GSA discharge point to a point about 90 ft downstream is periodically removed using mechanical equipment to prevent channel blockage during seasonal runoff.

A detailed, systematic survey for populations of rare and endangered plants was conducted at Site 300 in the spring of 1986 (Taylor and Davilla, 1986); an additional survey was conducted in 1991 in support of the 1992 EIS/EIR (U.S. DOE, 1992). Populations of the endangered plant species *Amsinckia grandiflora* occur in four locations at or near Site 300: in Draney Canyon, in Droptower Canyon, within the California Department of Fish and Game ecological preserve, and on the Connolly property (Pavlik, 1992). This species does not occur near areas affected by the proposed remedial activities.

The wildlife at Site 300 strongly reflects the dominance of grasslands. A total of 116 species of wildlife were observed at Site 300 during field surveys performed in 1991 in support of the 1992 EIS/EIR (U.S. DOE, 1992). The results indicated the presence of 26 species of mammals, 70 species of birds, and 20 species of reptiles and amphibians (U.S. DOE, 1992). Representative species observed in the undeveloped grassland areas include the fence lizard, California ground squirrel, red fox, coyote, western meadowlark, and turkey vulture. Nesting birds include the American robin, house finch, mockingbird, western bluebird, red-tailed hawk, American kestrel, copperhead shrike, greater roadrunner, great-horned owl, barn owl, and house sparrow.

The American badger (state species of special concern) is the only current special-status mammalian species observed at Site 300 in 1991 (U.S. DOE, 1992). The American badger was observed in the more rolling terrain in the northern portions of Site 300. Surveys in 1994 observed the American badger denning in the GSA about 90 ft north of Building 875 (Woollett, 1995). The 1992 Site-Wide EIS/EIR (U.S. DOE, 1992) listed the mountain lion (state protected species) as being observed at Site 300, and mountain lion tracks were observed in the northwest corner of the site in 1994 (Woollett, 1995). Site 300 is also located in the extreme northern portion of the range of the San Joaquin kit fox (federal endangered species and state threatened species). Detailed surveys for the kit fox were conducted at Site 300 in 1980 (Rhoads et al., 1981), 1986 (Orloff, 1986), and 1991 (U.S. DOE, 1992). Neither the kit fox nor active dens were observed at Site 300 during any of these surveys; however, three possible kit fox scats and one possible track were observed on site in 1991. At present, the kit fox is not considered a resident species at Site 300, although this area is potential habitat.

The California tiger salamander (federal candidate species and state species of special concern) was observed at Site 300 during 1986 surveys (Orloff, 1986). This species was not observed on site during 1991 surveys (U.S. DOE, 1992). However, in January 1995, three tiger salamanders were observed in a vernal pool in the northwest corner of Site 300 (Woollett, 1995). Potential habitat for the tiger salamander has also been identified about one mile downstream from the proposed discharge location for treated water from the eastern GSA treatment facility. Foothill yellow-legged frogs, western pond turtles, and western spadefoot toads are special status species that have been observed in the downstream reaches of Corral Hollow Creek east of Site 300.

The California horned lizard (state species of special concern) was observed during the 1991 field surveys (U.S. DOE, 1992). This species was observed in the more open grasslands with sandy or gravelly areas at the northern portion of the site.

The golden eagle and burrowing owl (both state species of special concern) and the tricolored blackbird (federal candidate species) were the only special-status bird species observed during the 1991 surveys (U.S. DOE, 1992). Immature and adult golden eagles were observed frequently at Site 300, soaring and feeding mostly in the rolling terrain in the northern portion of the site. All cliffs and other appropriate areas were searched for golden eagle nests, and none were observed. In 1986, the burrowing owl was a relatively common nesting species at Site 300, especially in the more gently rolling terrain in the north (Orloff, 1986). Surveys in 1991 confirmed that this species is still nesting at Site 300, but at reduced levels. The tricolored blackbird was observed nesting in cattail at two locations at Site 300 in 1986 (Orloff, 1986); this species was not observed nesting at Site 300 in 1991 (U.S. DOE, 1992). In March 1994, approximately 12 pairs of tricolored blackbird were observed nesting in Elk Ravine to the north and outside of the GSA (Woollett, 1995).

The following additional special-status birds have been observed at Site 300 since the 1991 surveys: peregrine falcon (federal endangered and state endangered), short-eared owl (state species of special concern), long-eared owl (state species of special concern); ferruginous hawk (federal candidate species and state species of special concern), white-tailed kite (state protected), northern harrier (state species of special concern), prairie falcon (state species of special concern), Swainson's hawk (federal threatened and state species of special concern), merlin (state species of special concern), loggerhead shrike (federal candidate species and state species of special concern), and horned lark (federal candidate species and state species of special concern) (Woollett, 1995). Of these species, only three have been observed in or near the GSA. The loggerhead shrike was observed near Building 875. The prairie falcon was observed in the Corral Hollow Creek floodplain south of the GSA and Corral Hollow Creek Road. The Swainson's hawk was observed about 1,500 ft east of the sewer pond near the elderberry bush stand.

The valley elderberry longhorn beetle is the only federally threatened sensitive insect presently considered to have potential to occur at Site 300 (U.S. DOE, 1992). This species occurs almost exclusively on elderberry bushes and, because several groups of elderberry bushes are present on site, Site 300 is considered potential habitat. The known locations of elderberry bushes at Site 300 are in Elk Ravine, far to the north of the GSA, in Corral Hollow Creek about 1,500 ft northeast of the sewer pond. No elderberry bushes are within a 300-ft-radius of the locations of any of the remedial activities proposed for the GSA.

On September 15, 1994, the U.S. Fish and Wildlife Service published the listing of three species of fairy shrimp that could occur at Site 300 (conservancy fairy shrimp [*Branchinecta conservatio*], longhorn fairy shrimp [*Branchinecta longiantenna*], and the vernal pool tadpole shrimp [*Lepidurus packardi*]) as endangered and one specie (vernal pool fairy shrimp [*Branchinecta lynci*]) as threatened pursuant to the Endangered Species Act of 1973, as amended (59 FR 48136). Although these species could occur at Site 300, none of these species were observed during sampling of water and soil in the most appropriate areas of Site 300 during 1991 (U.S. DOE, 1992). More recent surveys of the vernal pool have not indicated the presence of fairy shrimp (Woollett, 1995).

On February 2, 1994, the U.S. Fish and Wildlife Service published their intention to consider the California red-legged frog as endangered pursuant to the Endangered Species Act of 1973, as amended (*Federal Register*, Vol. 59, No. 22, February 2, 1994), thereby starting a one-year review period for public comment. The red-legged frog is also a state species of special concern. This species is known to exist in wetland areas near Site 300, primarily in the California Fish and Game preserve in Corral Hollow Creek east of Site 300 and approximately 1 mi downstream from the eastern GSA discharge point, and on Connolly property about 900 ft downstream of the eastern GSA discharge point. Red-legged frogs were also found in the SVRA residence pond about 1 mi west of the GSA during surveys conducted in support of the 1992 Site-Wide EIS/EIR (U.S. DOE, 1992). The residence pond is maintained using ground water pumped from SVRA drinking water-supply wells CARNRW1 and CARNRW2. A single red-legged frog larvae was observed in the Site 300 sewage pond during surveys conducted in support of the 1992 Site-Wide

EIS/EIR (U.S. DOE, 1992). Recent surveys indicate that the red-legged frog is not currently present in the sewage pond (Woollett, 1994).

On February 4, 1994, the U.S. Fish and Wildlife Service published their intention to consider the Alameda whipsnake as endangered (*Federal Register*, Vol. 59, No. 22, February 4, 1994), thereby starting a one-year review period for public comment. The Alameda whipsnake was observed on site in 1986 (Orloff, 1986). This species was not observed at Site 300 in 1991, although the closely related California whipsnake was recorded in two locations in 1991 (U.S. DOE, 1992). Potential habitat for the whipsnake subspecies is most commonly considered to be chaparral brush, broken by grassy patches and rocky gullies, or stream courses with scattered trees and shrubs (Orloff, 1986). Limited areas in the GSA could be potential habitat for the Alameda whipsnake.

One federal candidate species mentioned in the 1992 Site-Wide EIS/EIR (San Joaquin pocket mouse [*Perognathus inornatus*]) has since been reclassified to status category 3B ("names that do <u>not</u> represent distinct entities meeting the Endangered Species Act definition of species") (50 CFR Part 17, 56 FR 58805). Other than the fairy shrimp, the red-legged frog, the Alameda whipsnake, and the San Joaquin pocket mouse, there have been no new designated or proposed special status species or critical habitats at Site 300.

6.3.3. Air Quality

The California Air Resources Board conducts criteria pollutant monitoring in the San Joaquin Valley Air Basin to determine the area's ambient air quality and the area's compliance with federal and state ambient air quality standards. When an area meets compliance standards, it is classified as an "attainment" area under federal law. The entire San Joaquin Valley Air Basin, including Site 300, is designated as an attainment area for all criteria pollutants except ozone (O_3) and particulate matter less than 10 microns in size (PM_{10}). Elevated levels of O_3 and PM_{10} are a result of transport from urban areas, mobile source emissions, and agricultural activities. Ambient air quality at Site 300 is very good because of the region's sparse population and limited industrial and commercial development.

6.3.4. Noise and Traffic

The background noise at Site 300 is primarily from wind and vehicle traffic on Corral Hollow Road. Away from structures, wind noise levels may range from 70 to 80 decibels (dB), with gusts on ridgetops up to 90 dB (U.S. DOE, 1992). Detonations of explosives during experiments at firing tables at Site 300 can cause instantaneous short-term peak impulse noise level increases, occasionally to levels near 126 dB (Kang and Kleiber, 1993). Other noise sources include I-580; the Tracy Airport; the explosives testing at Physics International, Inc. and SRI International; traffic on Corral Hollow Road; and off-road vehicles operating in the SVRA.

Site 300 lies 18 road miles from the LLNL Livermore site and 10 road miles from central Tracy. The only access to Site 300 is from Corral Hollow Road, on the southern boundary of the site. I-580 lies to the north and east of the site. Patterson Pass Road is located near the northwestern edge of Site 300, but provides no access to the site. The primary access routes in the area are Corral Hollow Road from either the Livermore Valley or from I-580 and Tracy. Approximately 32% of the Site 300 workers reside in Tracy. Because there are only about 300 employees at Site 300, the various street segments traveled by Site 300 commuters are virtually free of traffic congestion. Traffic counts on Corral Hollow Road indicate that of the 325 average daily trips, approximately two-thirds are to or from Site 300 (LLNL, 1988). Traffic density on Corral Hollow Road will undoubtedly increase if the Tracy Hills Community Area/Urban Center matures to the projected 23,000 population.

6.3.5. Aesthetics

Site 300 is predominantly hilly grassland, with some blue oak trees, coastal sage scrub, rock outcrops, as well as interspersed herbaceous and riparian woodland wetland areas. Paved roads link the widely scattered facilities. Structures in the GSA, visible to the public from Corral Hollow Road, are well kept and partially screened by vegetation.

Annual controlled burning of grass at Site 300 impacts the aesthetic quality of portions of the site. However, those portions of Site 300 that are burned are only partially visible from Corral Hollow Road, or Site 300's northern and eastern boundaries. Furthermore, many other land owners in the area also conduct controlled burning on their property to prevent wildfires during the summer, when weather conditions create extreme fire hazards. The controlled burns at Site 300 are essential to prevent uncontrollable burns that could result from explosives testing north of the GSA. In addition, the controlled burns are thought to be the primary cause for the occurrence of native perennial bunch grass communities at Site 300; these communities are very rare throughout California (Taylor and Davilla, 1986).

6.3.6. Floodplains and Wetlands

The floodplain of Corral Hollow Creek does not extend north of Corral Hollow Road into the GSA, and there are no other 100-year floodplains on site. However, certain areas along Corral Hollow Creek, where proposed monitoring and remedial actions could occur, are within the 100-year floodplain (U.S. DOE, 1992). The floodplain in this area is dominated by weedy species, and near the central and eastern GSA, a few small cottonwood trees and some mulefat are present.

Wetlands at Site 300 were mapped during 1991 using the unified federal method (Federal Interagency Committee for Wetland Delineation, 1989), and 6.76 acres of wetlands were identified (U.S. DOE, 1992). These wetlands are small and are in areas associated with natural springs or runoff from four on-site building complexes. The majority of the wetlands (totaling 4.58 acres) occur at springs in the bottom of deeper canyons in the southern half of the site. Other wetlands (totaling 1.88 acres) were formed in areas where runoff from building cooling systems occurs. The only nonspring-fed natural wetland observed on site is a 0.32-acre vernal pool in the northwest section of Site 300. No wetland areas were identified within the area at Site 300 where proposed monitoring and remedial actions would occur.

Wetlands occur in the Corral Hollow Creek channel, although sandy soils, infrequent surface flow, and disturbance by off-road vehicles have limited development of wetland vegetation and soils. The creek rarely supports continuous water flow, but local springs are found at some points in the streambed. Continuous releases of treated water from the eastern GSA treatment facility have allowed riparian vegetation to become established downstream of the release point.

6.3.7. Cultural Resources

Archaeological evidence indicates that Central California has been inhabited since 9,000 B.C. Although little is known about the earliest prehistoric peoples, the Site 300 area is within the ethnohistoric tribal boundaries of two California Native American groups: the Costanoans (Ohlone) and the Northern Valley Yokuts. Researchers currently believe that both tribes probably used the area sporadically for marginal hunting and gathering.

During the Hispanic period (ca. 1750–1850), early Spanish explorers used Corral Hollow Canyon, where Site 300 is situated, as a minor thoroughfare between the valley and the San Francisco Bay Area. The Spanish, however, did not settle in Corral Hollow Canyon and no missions were established. Under Mexican rule, a land grant (Las Positas) was established northwest of Corral Hollow. The minimal water supply and difficult access to economic centers relegated Corral Hollow Canyon to the low capital enterprise of ranching.

The early American period (1850–1916) brought the first intensive exploitation of Corral Hollow Canyon, beginning with coal mining in the 1850s. Over the next 40 years, various mining interests operated there, but the coal was very low grade, difficult to mine and, consequently, never became economically viable. However, in 1890, high quality clay beds associated with the coal seams began to be mined (Ward and Williams, 1971). In time, the owner, James Treadwell, built two pottery manufacturing plants: one in Pottery (in the middle of Corral Hollow Canyon at Walden Spur) and the other at Carnegie, approximately 2 mi further east (within and south of the Site 300 southern boundary near pit 6). Treadwell also built three company towns (Tesla, Pottery at Walden Spur, and Carnegie) to support the mines and factories. The largest town, Carnegie (population 2,500), was located partly inside the southern boundary of Site 300 and partly south of Corral Hollow Road. By 1912, Carnegie was abandoned and, shortly thereafter, completely dismantled. By 1919, only mine tailings, plant foundations, dredging mounds, and miscellaneous depressions marked the industrial past of Corral Hollow Canyon (Busby et al., 1981). In 1960, the Carnegie site was approved as California State Registered Landmark number 740. The California State Park Commission, in cooperation with the Tracy District Chamber of Commerce, placed a plaque at the edge of Corral Hollow Road 5.9 mi west of I-580 (across the road from Site 300 gate 110).

Archaeological surveys conducted at Site 300 in 1976, 1981, and 1993 resulted in the location of 29 archaeological sites: 7 prehistoric, 21 historic, and 1 multicomponent site. The 1976 survey was a preliminary study that identified seven prehistoric archaeological sites (Deitz and Jackson, 1974 and 1976). The sites, however, were not officially recorded during this survey, and recent attempts to relocate four of these sites have not been successful. All of these sites were officially recorded using 1981 Bureau of Land Management forms and site recording standards (Busby et al., 1981). One additional site (historic graffiti) was found during a project survey in 1993, but has not been officially recorded.

Four of the 29 identified archaeological sites are located within 1/4 mi of the proposed project area. The following three sites have been officially recorded, but were not relocated during a 1990 field visit of the area:

- Ca-SJo-187H: Located approximately 1/8 mi north of the GSA OU, it originally consisted of a pile of weathered wood.

- Ca-SJo-168H: Located approximately 1/8 mi west of the GSA OU, originally recorded as a possible windmill foundation.
- Ca-SJo-181H: Located approximately 1/4 mi northwest of the GSA OU, originally recorded as a jumbled pile of assorted boards and standard-gauge railroad ties and spikes.

The fourth site, Ca-SJo-173H, consists of the existing archaeological remains of the residential portion of the town of Carnegie. This site is currently part of a Section 106 review process being conducted in consultation with the State Historic Preservation Office and the U.S. DOE as required by the National Historic Preservation Act (NHPA) of 1966, as amended, as the result of a separate project.

Section 106 of the NHPA identifies an area of potential effect (APE) as the area in which planned development may directly or indirectly affect a cultural resource. On June 18, 1993, the APE in the vicinity of the central and eastern GSA was surveyed for cultural resources. No new sites were found, and none of the above sites was identified within the central or eastern GSA.

6.4. Potential Environmental Impacts of the Remedial Alternatives

The human health and ecological risks associated with contamination in soil and ground water in the GSA are assessed in the SWRI, and a summary of these risks is presented in Chapter 1 of this FS. The implementation of the remedial alternatives would result in the same, or less, human and ecological risk with respect to the potential migration of contaminants from the GSA to exposure points. Other potential environmental impacts associated with the construction and operation of the remedial alternatives are presented in this section.

6.4.1. Alternative 1

Under this alternative, no action would be taken to intercept or remediate the GSA ground water plumes. The only physical activity required for Alternative 1 is the monitoring of existing ground water monitor wells and the maintenance of monitor wells and pumps. Ground water sampling activities and water level measurements would not have the potential to introduce additional contaminants to soils or ground water, or to release contaminants to the atmosphere. Institutional controls would be used to limit the potential for human exposure to contaminated soils and ground water. A detailed description of this alternative is presented in Chapter 4.

Consideration of Alternative 1 serves as a basis from which to evaluate proactive remediation alternatives, as well as the postulated basis of the baseline public health evaluation. Consideration of the "no action" alternative is required by CEQ NEPA regulations. Those areas of the environment that could be impacted by implementing Alternative 1 are discussed below.

6.4.1.1. Floodplain and Wetlands

None of the existing facilities are located in an identified wetland area. Some of the ground water monitor wells are located within the 100-year floodplain (FEMA, 1988; U.S. DOE, 1992). However, no adverse effects on human life or property are known as a result of monitoring or maintenance activities in the floodplain because these activities are short-term and do not require the permanent installation of new equipment or construction of structures in the floodplain.

The area immediately downstream of the existing eastern GSA discharge point in Corral Hollow Creek has developed obligate riparian species indicative of a wetland due to the presence of a continuous water source. Under this alternative, the release of treated water from the eastern GSA treatment facility would be terminated. Because this section of Corral Hollow Creek is normally dry in the summer, this vegetation would gradually return to original preproject levels.

6.4.1.2. Vegetation, Wildlife, and Sensitive Species

Since 1991, treated ground water from the eastern GSA GWTS has been discharged at the current Corral Hollow Creek discharge point near the CDF facility. Partially as a result of these discharges, riparian vegetation has become established immediately downstream of this location. Under Alternative 1, the releases from the existing eastern GSA treatment facility would cease. Riparian vegetation would likely return to preproject levels over time, and aquatic species and amphibians would either migrate downstream or return to preproject levels.

Some temporary and minor disturbances to vegetation and wildlife could occur from monitoring activities at off-site wells. Impacts would be relatively minor and short term, and would be minimized by restricting vehicular movement along Corral Hollow Creek to existing access routes.

6.4.1.3. Air Quality

If Alternative 1 were to be implemented, an extremely slow release of VOCs from soil vapor dispersion and evapotranspiration from surface soils and shallow ground water would likely continue for decades. These very low concentrations of VOCs would have minimal potential to adversely affect the air quality in the Site 300 area.

6.4.1.4. Noise and Traffic

Vehicular activity associated with the continued monitoring and sample collection would result in minor and periodic incremental increases in ambient noise levels. These impacts are anticipated to be insignificant.

6.4.1.5. Land Use

If the GSA ground water plumes were to continue to migrate off site, certain private land values and land use could be negatively affected because of the undesirable presence of contamination in the underlying aquifer. Because of a perceived hazard, property devaluation and land-use restrictions could occur even though the actual health effects posed by the contamination are not expected to be significant.

In the short term, institutional controls implemented under this alternative would limit the range of feasible uses of the GSA OU. These restrictions would only marginally reduce the economic value of the property below current values. With time, contaminant levels in the ground water plumes migrating from the central and eastern GSA would decrease through natural attenuation processes. Therefore, if land values were to decline initially, they might eventually return to values comparable to those for unimpacted land.

6.4.2. Alternative 2

The implementation of the second alternative for the GSA would result in all of the potential impacts discussed under Alternative 1 plus the additional potential impacts resulting from the installation of a point-of-use (POU) aqueous-phase GAC treatment system at off-site supply well SR-1 plus the replacement of the Connolly property water-supply well (CON-1). Ground water pumped from existing water-supply wells would be treated by the GAC to capture VOCs that may be present. The potential impacts associated with monitoring and maintenance activities would be the same as those resulting from Alternative 1. The potential environmental impacts associated with the installation and operation of POU treatment facilities are discussed below.

6.4.2.1. Soils

Construction-related disruption of the soil would occur during installation of the POU treatment facilities; however, the disturbed area would be very small, and any increase in soil erosion from wind and water would be short-term and insignificant. Under Alternative 2, best management practices (BMPs) appropriate for site conditions would be followed during the construction of the facilities to prevent the transport of disturbed soils or construction materials from the construction sites. For any areas that are disturbed during construction, the BMPs for Alternative 2 may include revegetation with native grasses and/or shrubs, if appropriate, to restore soils in the area to nearly original conditions. Construction activities would also be in accordance with the requirements of the NPDES California General Construction Activity Storm Water Permit. Alternative 2 would not impact any natural drainage and a California Department of Fish and Game Streambed Alteration Agreement would not be required. Any excess excavated soil, asphalt, or concrete would be sampled, analyzed, and disposed of in accordance with applicable state and federal regulations, local laws, and DOE orders.

6.4.2.2. Sensitive Species

Preconstruction surveys for Federal- or State-listed wildlife and vegetative species of special concern would be conducted within 60 days prior to ground-disturbing activities. The survey area would include a minimum 300-ft buffer zone around the proposed facility. Depending upon the results of the survey, additional mitigation measures, including the establishment of exclusion zones around any active dens found and the posting of these dens, may be required. These and other mitigation measures specified in the 1992 Site-Wide EIS/EIR would further minimize the already low potential for adverse impacts to sensitive species.

6.4.2.3. Air Quality

The construction of POU treatment facilities could result in minor increases in dust levels. If regulatory limits for dust suspension were found to be exceeded, water spraying for dust control would mitigate this condition. The contingency POU treatment systems would use aqueous-phase GAC to treat ground water pumped from the SR-1 water-supply well. Because the GAC would adsorb VOCs, VOCs would be released to the atmosphere.

6.4.2.4. Cultural and Historic Resources

Areas of potential effect will be surveyed prior to remedial activity to ensure that no historic properties will be affected by the activity, in accordance with the federal and state location-specific ARARs in Table 2-2. Construction activities associated with the proposed POU facility would be monitored to determine the presence of cultural resources (if any) unearthed during excavation. Construction activities to be monitored would include grading and trenching. Project construction personnel would be advised of the possibility of buried cultural deposits and would be alerted to likely indicators. Should any cultural resources be unearthed, an archaeologist would assess them at the construction site and have authority to halt disturbance of any cultural resources, conduct testing, and recommend mitigation measures in accordance with DOE and NHPA guidelines. Construction activities to be monitored would include grading and trenching. In addition, access to any identified cultural resource located near the proposed facility location, but not directly impacted by construction activities, would be restricted by means of stakes and flagging or warning fences.

6.4.2.5. Noise and Traffic

The installation of POU treatment facilities would result in temporary noise increases from equipment operation and standard construction practices. Vehicular activity associated with continued monitoring and sample collection would also result in temporary and minor noise increases. These impacts would be short term and would not be significant.

6.4.2.6. Aesthetics

The construction activities associated with the installation of the POU treatment facility would be exposed to public view from Corral Hollow Road. The visual impact of construction activities would be relatively short term and not significant. To mitigate the potential for adverse visual impacts, the GAC containers would be concealed from view or painted a neutral color that would match background colors.

6.4.3. Alternative 3

The implementation of Alternative 3 (i.e., 3a or 3b) for the central GSA and eastern GSA would result in most of the potential impacts discussed under Alternatives 1 and 2, plus the potential impacts resulting from ground water and soil-vapor extraction and treatment, and the installation of additional ground water extraction wells and pipelines. Land values, however, should not decline as much as under Alternatives 1 and 2 because remediation would tend to remove limitations to land uses. The potential environmental impacts associated with the construction and operation of ground water and soil-vapor treatment facilities for Alternative 3 are discussed below.

6.4.3.1. Surface Water

6.4.3.1.1. CGSA. The central GSA treatment system under this alternative would produce approximately 15 gpm of treated water. The treated effluent would be held in storage tanks prior to batch discharge on site to a remote canyon in the eastern GSA. The discharge rate would be about 50 gpm, with a maximum 24-h discharge of less than 20,000 gal. Treated water would be released through the existing manifold system and would either evaporate or infiltrate into the underlying sandstone at the release point. Treated water released on site during past discharges has infiltrated completely within 250 ft of the manifold. Releases of treated water are not expected to reach off-site areas or Corral Hollow Creek.

Effluent samples from the GWTS would be taken routinely from the holding tank and tested before release for compliance with the RWQCB substantive requirements. Treated ground water that meets these stipulations would not be chemically harmful to the environment or ground water. If treated water does not meet the requirement limits, it would be retreated prior to release.

6.4.3.1.2. Eastern GSA. Under this alternative, the eastern GSA treatment system would produce approximately 46 gpm of treated water. The treated effluent would be released to Corral Hollow Creek, which is normally dry near the CDF facility. Based on the results of a field test conducted at the proposed eastern GSA discharge point by the LLNL Environmental Restoration Division in February and March 1989, where treated ground water discharge was routed to the creekbed, a 43-gpm discharge flowed for approximately 100 ft along the creekbed before it completely infiltrated. Since 1991, releases of treated ground water indicate that in summer the discharges infiltrate within 330 ft. We anticipate that the releases under this alternative would continue to infiltrate within 350 ft of the discharge point.

The distance required for infiltration, however, would vary depending on factors such as season, storms, and ground saturation due to natural precipitation or other discharges. If the creekbed were to become plugged with fine materials or biological material, the extent of flowing water would probably increase until more permeable creekbed areas are encountered downstream. To maintain efficient recharge infiltration, it could be necessary to scarify the creekbed with hand equipment or periodically relocate the discharge point. The flow in Corral Hollow Creek would be closely monitored by LLNL to determine infiltration rates, distance of perennial flow down the creek, and water quality.

During normal years, releases under this alternative would evaporate or infiltrate to the aquifer and would not create a continuous flow through the ecological preserve in late spring, summer, or early fall. The length of the stream channel inundated as a result of these releases would be closely monitored. If, due to late-season storms or the influence of unknown subsurface geologic conditions, released water would create an unbroken stream through and below the preserve, an alternative release point in Corral Hollow Creek immediately downstream of the preserve would be used. The releases would supplement natural flow from springs in this area that maintain year-round flow in Corral Hollow Creek. A portion of the treated water could be released to the central GSA discharge area to prevent the releases from creating a continuous flow in Corral Hollow Creek through the preserve.

Treated ground water would be tested routinely to assure compliance with NPDES Waste Discharge Permit stipulations and to ensure that the water discharged is not chemically harmful to the downstream environment of ground water resources.

6.4.3.2. Soils

Construction-related disruption of the soil would occur during installation of the pipelines and extraction wells in the central and eastern GSA. Impacts are expected to be similar to those discussed under Section 6.4.2.1. BMPs appropriate for site conditions would be followed during the construction of Alternative 3 to prevent the transport of disturbed soils or construction materials from the construction sites. Any areas that are disturbed during construction would be revegetated with native grasses and/or shrubs to restore the GSA to nearly original conditions. Any excess excavated soil, asphalt, or concrete would be analyzed and disposed of in accordance with applicable state and federal regulations, local laws, and DOE orders.

Because released water infiltrates rapidly into natural soils and exposed sandstone in the central GSA, sheet runoff that could cause surface erosion is not expected. If continued releases create a surface flow that could transport soils, silt fences would be installed to catch and retain suspended soils in the discharge area.

In the eastern GSA, the increased flow in Corral Hollow Creek, resulting from the releases of treated water near the CDF facility or downstream of the preserve, could cause soil erosion to occur in the stream channel. If increased erosion did occur, downgradient sediment traps would be constructed to prevent downstream sediment migration.

6.4.3.3. Floodplain and Wetlands

None of the proposed treatment facilities would be located in a previously existing wetland area.

6.4.3.3.1. Central GSA. Obligate riparian species could become established along the length of the discharge area if the discharges were relatively continuous, although there has not been a significant change in the amount or type of vegetation in the release area as a result of releases to date (Woollett, 1995). Dense riparian vegetation could be expected to become established adjacent to the outflows wherever surface water is present throughout the dry season and soils are available. Riparian vegetation would be expected to die following termination of the ground water extraction program.

The ground water and soil vapor treatment facilities are not located in the Corral Hollow Creek floodplain. The potential impacts resulting from construction of the POU treatment facility and the installation of new ground water monitor or extraction wells in the floodplain are the same as those discussed under Alternative 2.

6.4.3.3.2. Eastern GSA. Obligate riparian species have become established along the length of the discharge area as a result of previous discharges from the eastern GSA treatment facility. Under this alternative, established riparian vegetation would be maintained adjacent to the outflows wherever surface water is present throughout the dry season. A significant amount of riparian vegetation would be expected to die following the termination of the ground water extraction and treatment program or as a result of any scarification of the streambed needed to promote infiltration or to remove barriers to runoff. The current agreement with the California Department of Fish and Game requires LLNL to leave vegetation that becomes established within 5 ft of any ponded water present as a result of ground water discharge (Carlsen, 1994). Vegetation outside this area may be partially removed according to the requirements listed in the agreement with the California Department of Fish and Game.

Under certain conditions (Section 6.4.3.1.2), treated water would be released downstream of the preserve. A spring (GEOCRK) on the southeast side of Corral Hollow Creek supplements storm runoff at this point and creates a continuous, year-round flow in the channel. Riparian vegetation exists on both sides of the channel except in areas where livestock have denuded channel banks. The stream channel at this point is relatively wide, and releases from the treatment facility would tend to increase the wetted area of the channel and the associated amounts of riparian vegetation. After the completion of the ground water extraction and treatment program, the amount of riparian vegetation in this area would most likely decline to preproject levels.

Certain portions of the release areas are within the 100-year floodplain (FEMA, 1988). Potential impacts to the floodplain under this alternative are essentially the same as those described for Alternative 2.

6.4.3.4. Vegetation and Wildlife

6.4.3.4.1. Central GSA. Vegetation conditions in the release area are indicative of the lack of perennial surface water; the plant community in the area consists largely of annual grasses. At present, the discharge area is dry except during storm events that create surface runoff and during releases of water from the existing central GSA treatment facility. Releases of treated water from the central GSA treatment facility could result in the establishment of riparian vegetation in the discharge area, although this has not occurred to date even with periodic releases. Riparian areas, if established, could provide habitat for amphibians and aquatic insects. The presence of water would generally be beneficial to other wildlife in the area.

Impacts to vegetation and wildlife could occur from the construction of the treatment facilities and from drilling, and monitoring activities would be the same as those discussed under Alternative 2.

6.4.3.4.2. Eastern GSA. Riparian habitat has become established immediately downstream of the release point for the existing eastern GSA treatment facility. The continued release of treated water to Corral Hollow Creek at this point would maintain this riparian vegetation and would generally be beneficial to wildlife.

If treated water were released downstream of the preserve, the releases would increase the naturally occurring flows at that point and would tend to increase the size of the wetted area of the stream channel. The increased wetted area would provide additional habitat for fish, amphibians, and aquatic insects and would generally be beneficial to wildlife. Riparian vegetation downstream of the release point would probably become established over a greater area of the stream channel.

The temperatures of surface flows in Corral Hollow Creek immediately upstream and downstream of the eastern GSA release point were monitored over a 5-month period in 1992. These measurements indicate that the release of treated water to Corral Hollow Creek does not raise or lower the temperature of natural streamflow. These measurements also indicate that the release of treated water downstream of the preserve would not significantly raise or lower streamflow temperatures in that location.

At either release point, a loss of established riparian vegetation, amphibians, and aquatic insects would be expected upon the completion of the ground water treatment program or if the streambed were scarified to increase filtration.

6.4.3.4.3. Impact of Selenium. At Site 300, some selenium occurs naturally in bedrock soils. LLNL is currently investigating the extent to which this natural selenium is present in ground water in the GSA. Selenium has been detected in ground water in several monitor wells in the GSA, and in ground water in off-site water-supply wells CDF-1 and Gallo-2. Since 1987, ground water samples from 50 monitor wells in the GSA were tested for the presence of selenium. Selenium concentrations in ground water samples from 15 wells ranged from 5 to 20 µg/L (ppb). Six wells yielded ground water with less than 5.0 µg/L of selenium, and 29 wells yielded ground water with no detectable selenium. Selenium has not been detected in water samples from surface springs in the Corral Hollow Creek stream channel downstream from the eastern GSA release point.

Because the proposed ground water treatment system would not be designed to remove the natural selenium that may be present in extracted ground water, treated water containing selenium could be released to the surface in the selected discharge area(s) over the life of the ground water extraction program. Natural selenium released in ground water could accumulate in sediments and biota in the release area(s) (Lemly and Smith, 1987) and could result in the accumulation of this element in the food chain. Studies have shown that selenium bioaccumulation in the food chain has caused poor reproductive success and mortality in aquatic birds (Ohlendorf et al., 1988).

The wells with the highest concentrations of selenium in ground water are in the eastern GSA. Under Alternative 3, ground water from the eastern GSA would be extracted from existing ground water extraction wells, commingled and treated at one treatment facility, and discharged. We believe that potential selenium concentrations in released water would be significantly lower than the concentrations found in extracted well water due to dilution.

The maximum contaminant level (MCL) for selenium in drinking water is 10.0 µg/L. Concentrations of selenium in treated discharge water in the eastern GSA are believed to be less than 5.0 µg/L under Alternative 3 and, therefore, the concentrations of natural selenium in treated discharge water would be below MCLs. The EPA has established National Ambient Water Quality Criteria for the protection of freshwater aquatic life (Marshack, 1991). The EPA criteria for selenium in freshwater is 5.0 µg/L. Because the concentration of natural selenium in released treated water would be below 5.0 µg/L, the release of ground water that may contain selenium would not be expected to adversely affect freshwater aquatic life in Corral Hollow Creek. If selenium concentrations in treated discharge water were projected to exceed 5.0 µg/L, additional treatment steps would be taken to remove selenium, or other discharge disposal options would be implemented.

6.4.3.5. Sensitive Species

6.4.3.5.1. Central GSA. The riparian habitat could become established in the release area as a result of the new water source. Habitat could be created for the tiger salamander, foothill yellow-legged frog, and red-legged frog, if enough water is released to maintain surface pools. Cattails that may become established could provide nesting habitat for the tricolored blackbird. Species that inhabit riparian areas created by treated water releases would likely migrate to other nearby suitable habitat (such as the ecological preserve to the east) following termination of the ground water extraction program, although some mortality of amphibian larva would be expected.

6.4.3.5.2. Eastern GSA. Riparian habitat that has become established downstream of the existing release point could be suitable for those species discussed in Section 6.4.3.4.2.

If the currently isolated bodies of water in Corral Hollow Creek were connected to form an unbroken flow in the late spring and summer, they could allow the upstream migration of predatory fish that are present in Corral Hollow Creek downstream of the preserve. If these fish migrated upstream to these isolated water bodies, they would most likely prey on amphibians and reptiles in the preserve or in inundated areas upstream from the preserve and below the proposed release point. The release of water to Corral Hollow Creek, therefore, could lead to a decline of the red-legged frog, yellow-legged frog, and tiger salamander populations in the preserve and Corral Hollow Creek. To avoid this potential adverse impact, the NPDES Waste Discharge requirements established by the California RWQCB require that the discharge shall not create a continuous flow in Corral Hollow Creek where it flows through the preserve between May 1 and October 1 each year (RWQCB, 1991).

As discussed previously, releases under this alternative would normally infiltrate into the bedrock (a portion would also evaporate) and would not create a continuous flow through the preserve during the late spring, summer, and early fall. The channel below the release point would be closely monitored as part of the proposed action, however; and if it were determined that released water would reach the upstream end of the preserve, an alternate release point downstream of the preserve would be used. Releases of treated water here would not allow an upstream migration of fish into the preserve.

6.4.3.6. Air Quality

For the central GSA, VOC concentration effluent vapor from both the ground water treatment facility (air stripping only) and the **soil vapor extraction (SVE)** facility would be treated by GAC prior to release to the atmosphere. These facilities would be operated in accordance with an air permit from the San Joaquin Valley Unified Air Pollution Control District. The air releases under this alternative would be within permit limitations and, therefore, would not significantly impact ambient air quality at Site 300.

Vapor air effluent from the eastern GSA ground water treatment facility (air stripping only) would also be treated by GAC to capture vapor-phase VOCs prior to atmospheric release.

6.4.3.7. Noise and Traffic

Drilling and installation of extraction wells would result in temporary noise increases from equipment operation. During construction of the treatment facilities, there would be some noise generated due to standard construction practices. Vehicular activity associated with continued monitoring and sample collection would also result in temporary and minor noise increases. These impacts would be short term and are not considered significant. The operation of the treatment systems is not expected to significantly increase the amount of noise generated by other equipment in the GSA.

Up to 85 dB of noise could be generated in the immediate proximity of each facility by the blowers for the treatment units and the vapor extraction system. This noise level is the permissible exposure limit for this type of equipment. Due to the remote nature of the facilities and lack of immediately adjacent sensitive receptors, the noise generated by the blowers would not have a significant impact.

6.4.3.8. Land Use and Socioeconomics

Implementation of Alternative 3 in the GSA OU would have beneficial effects on land use and socioeconomics. The treatment operations would act to limit contaminant plume migration and/or restore the ground water as a resource, thereby reducing the potential for restrictions on the range of future feasible uses of the land.

It is anticipated that implementation of this alternative would not require more than 10 additional workers. However, the number of workers actually at the site and the duration of their residence would be neither constant nor continuous. This increase in workforce would not represent a significant change and falls within the range of variability seen for normal operations at Site 300.

6.4.3.9. Aesthetics

The eastern and central GSA treatment facilities would be exposed to public view from Corral Hollow Road. To mitigate potential visual impacts, the number of new separate structures would be minimized, one style of architecture and color scheme would be employed, and landscaping and screen fences or walls would be used if found to be necessary by LLNL Space and Site Planning. The size and height of all required structures would also be kept to a minimum.

The existing treatment facility would be utilized for the eastern GSA alternative for the remainder of its useful operating life (about 5 years). The replacement treatment system would be installed at the location of the existing system. There would be temporary visual impacts resulting from drilling equipment installing new extraction wells. This impact would be short term and would not be significant.

6.5. Potential Accidents

The CEQ has issued regulations for implementing the procedural provisions of NEPA. The CEQ has determined that NEPA reviews of proposed actions need to consider the potential impacts to the environment resulting from reasonably foreseeable accidents. The NEPA review need not, however, consider potential impacts resulting from incredible accidents that are based on pure conjecture and are not within the rule of reason (CEQ, 1986). To evaluate all foreseeable impacts of the no-action alternative and the construction and operation of facilities required under the other remedial alternatives, potential accidents should be examined. Because VOC concentrations in ground water that would be treated in the central GSA are much higher than in ground water concentrations in the eastern GSA, a reasonably foreseeable potential accident scenario is presented for the central GSA only. This is considered to represent a "worst-case" scenario for the GSA. The reasonably foreseeable potential accident for the alternatives considered in the central GSA is discussed below.

6.5.1. Accidental Pipeline Rupture Scenario

An accidental rupture of the piping connecting all ground water extraction wells in the central GSA to the central GSA treatment facility would represent the reasonably foreseeable potential accident for the eastern and central GSA alternatives. It is assumed that the pipe rupture would occur after the end of the workday and would not be discovered until the following morning. This scenario anticipates that untreated ground water would be pumped at the maximum rate from the extraction wells unobserved for a period of 12 h. Under this scenario, a total of 10,900 gal of untreated water would be released to ground.

6.5.2. Potential Impacts of the Scenario

The primary impact of this release of untreated ground water would be the release of VOCs to the ground and to the atmosphere. The volume of water that would be released under this scenario is estimated to contain approximately 107 g of VOCs, 62 g of which would be TCE, if contaminants were assumed to be present at the average concentrations detected in ground water samples prior to 1994. More recent data suggest that actual concentrations may be lower than 1994 data indicated, and the amount of VOCs in released ground water during an accident would likely be lower than 107 g. The human health and environmental risk discussed below would, therefore, tend to bound the actual risks associated with potential accidents.

6.5.2.1. Human Health

After untreated ground water is released from the ruptured pipe and before infiltration, it is assumed that some of the VOCs in ground water would volatilize and be released into the atmosphere. Although most released water would infiltrate the ground, it is assumed for this discussion that all of the TCE in the released ground water (62 g) would be released to the atmosphere over a 12-h period. Based on the results of infiltration tests conducted in the discharge area for central GSA treated water, ground water would spread downgradient and cover approximately 1,000 ft^2 of ground surface prior to infiltration into the ground. Under this assumption, TCE would be continuously released from the surface of this wetted area to the atmosphere during the 12-h spill. The average concentration of TCE vapor in air at the release point is estimated to be 6.5×10^{-2} mg/m^3.

The American Conference of Governmental Industrial Hygienists (ACGIH) has established "Threshold Limit Value–Short-Term Exposure Limit" (TLV-STEL) as a 15-min time-weighted average exposure which should not be exceeded at any time during a workday (ACGIH, 1992-1993). The TLV-STEL for TCE is 269 mg/m^3. Workers can be exposed to concentrations of TCE up to this level without suffering from (1) irritation, (2) chronic or irreversible tissue damage, or (3) narcosis of sufficient degree to increase the likelihood of accidental injury, impair self-rescue, or materially reduce work efficiency. Because the concentration of vapor-phase TCE that the exposed worker would be exposed to (6.5×10^{-2} mg/m^3) would be 4,000 times less than the TLV-STEL, no adverse health impacts to workers at the facility would result from such a reasonably foreseeable accident at the proposed facilities.

Dispersion of TCE vapor in ambient air would tend to lower concentrations as vapor moved away from the release point. Therefore, the maximally-exposed off-site receptor would be exposed to lower concentrations of TCE than workers on site, and adverse impacts to the health of individuals off site would not be expected as a result of the postulated accident.

6.5.2.2. Soils

Results of an infiltration test conducted at the proposed discharge site indicate that the total volume of water would percolate back into bedrock ($Tnbs_1$). Because the pipeline rupture could occur in an area outside of the original source area, the release of untreated ground water could potentially contaminate surface soils and rock between the surface and the underlying aquifer that were previously uncontaminated.

Minor soil erosion could occur, depending upon the location of the rupture. It is anticipated that the majority of released water would infiltrate directly into the ground, and surface flow would not be great enough to cause significant surface erosion. Surface erosion that may occur would be within a developed area with good access, and would be easily repaired. Water would be released at a rate low enough that releases would not be expected to reach Corral Hollow Creek.

6.5.2.3. Sensitive Ecological Receptors

The postulated accident could result in the spread of contaminated ground water across the surface of the ground in relatively undisturbed areas of the central GSA. As noted previously, however, there are no critical habitats within the GSA that could be adversely affected by a spill of contaminated ground water. In addition, the spill would occur over a relatively short time and the amount of VOCs present in the released ground water (about 1/5 of 1 pint in more than 10,000 gal) would be small. Therefore, the potential for impacts to sensitive ecological receptors would be minimal.

6.6. Cumulative Impacts

The long-term environmental impacts that may occur in conjunction with, or as a result of, the GSA remediation activities potentially could contribute to the cumulative impacts of all remediation projects that may be occurring simultaneously at Site 300 in the future. The potential areas of concern in relation to cumulative impacts of Site-Wide remediation activities are human health, land use, air emissions, the generation of hazardous waste (primarily in the form of spent carbon), and the discharge of treated ground water.

6.6.1. Cumulative Impacts to Human Health

Existing soil and ground water contamination in the GSA currently contributes to the potential for risks to human health from the past release of hazardous materials at Site 300. The alternatives discussed in this chapter would reduce the potential for human exposure by implementing institutional controls, reducing the concentrations of contaminants, and reducing the potential for the further release of contaminants from soils in the GSA Area. The remedial alternatives for the GSA OU therefore, would tend to reduce the cumulative potential for human exposure to contamination at Site 300.

6.6.2. Cumulative Impacts to Land Use

Because the availability of ground water is a significant constraint to land use, ground water contamination at Site 300, including contamination in the GSA OU could have the potential to adversely affect land use in the Site 300 area and in areas downstream along Corral Hollow Creek. Should federal land be transferred to private ownership, land use in the GSA area would also be limited by deed restrictions for the GSA and nearby areas within the lateral extent of the ground water plume.

6.6.3. Cumulative Impacts to Air Quality

Under the no-action alternative, minor amounts of VOCs in soils or from alluvial gravels in Corral Hollow Creek could volatilize into ambient air. Also, as discussed in Section 6.5, equipment failure could result in the potential exposure of contaminated ground water to the atmosphere. In these two cases, existing contamination and remedial activities could potentially contribute to adverse impacts to air quality at Site 300.

Ground water and SVE and treatment would reduce the amount of contaminants that could potentially volatilize into ambient air at Site 300. The remedial alternatives for the GSA OU would, therefore, tend to reduce the potential adverse impacts to air quality from contamination at Site 300.

6.6.4. Cumulative Impacts Resulting from Hazardous Waste Generation

Spent carbon generated at the treatment facilities would increase the amount of waste generated at Site 300. This type of waste is routinely regenerated at a permitted off-site facility. The proposed action, therefore, would not require new, on-site facilities for the regeneration of used carbon.

6.6.5. Cumulative Impacts to Surface Water

The discharge areas, including discharge areas in Corral Hollow Creek, would not be used by any of the other proposed ground water treatment facilities at Site 300. Therefore, the discharge of treated ground water from the GSA OU would not contribute to the potential impacts of treated water discharges from other treatment facilities at Site 300.

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Figures

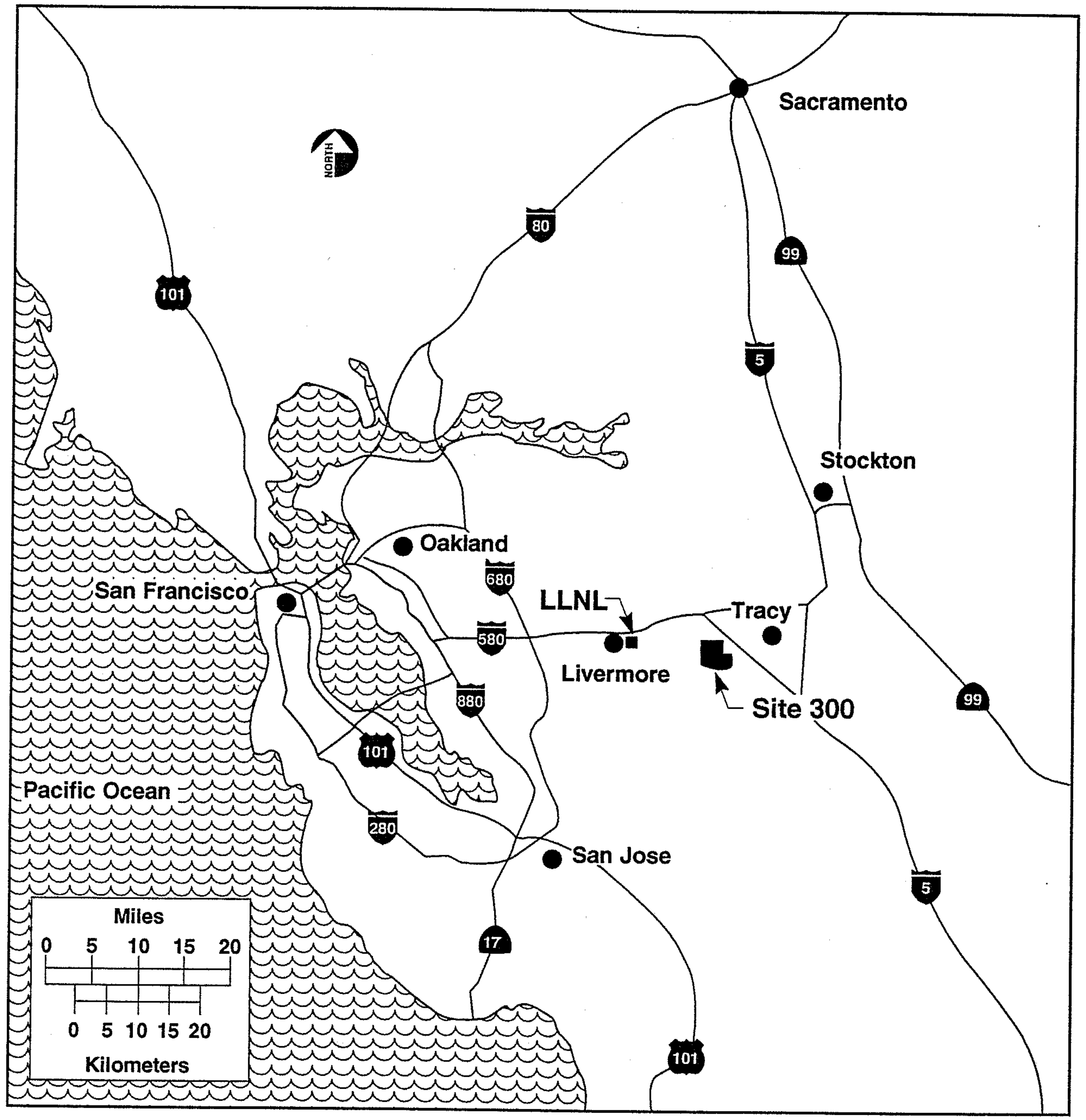

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Figure 1-1. Locations of LLNL Main Site and Site 300.

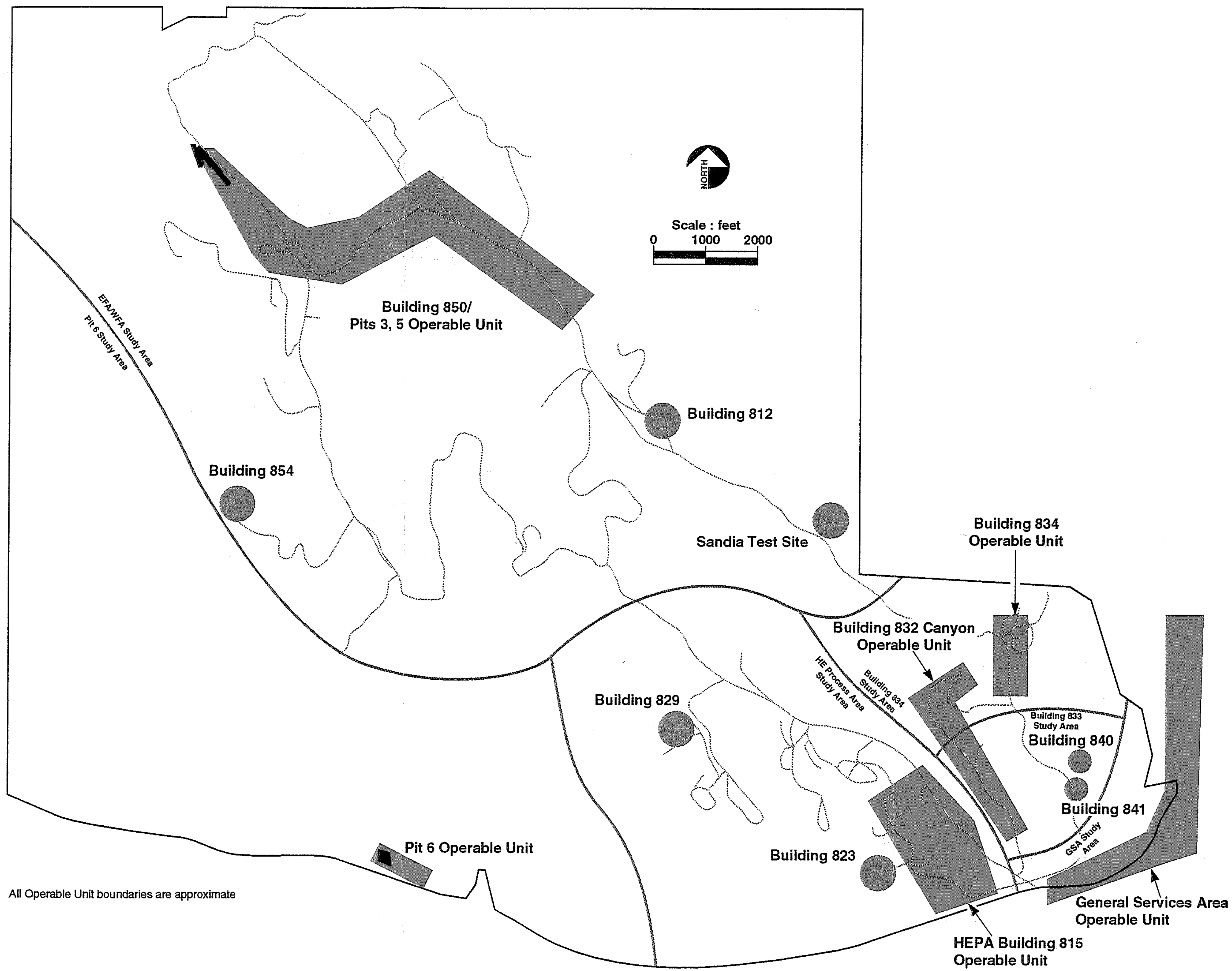


Figure 1-2. Operable units and SWRI study areas at LLNL Site 300.

Operable Units (OUs)

General Services Area (GSA) Operable Unit (OU-1)
Operable Unit addresses environmental contamination resulting from past solvent disposal in the area, causing VOC contamination of soil, bedrock, and ground water. Two primary ground water plumes have been identified, both extending offsite. CERCLA removal actions are ongoing to remediate both plumes, and two water-supply wells have been sealed to prevent vertical contaminant migration. Further characterization is being conducted.

Building 834 Operable Unit (OU-2)
Operable Unit addresses environmental contamination from chemical releases at the core of the Building 834 Complex. Past spills of TCE, which was used as a heat exchange fluid, have resulted in VOC (primarily TCE) contamination of soil, bedrock, and ground water in the perched water-bearing zone. Minor tetra 2-ethylbutylorthosilicate (T-BOS) and diesel fuel contamination are also present. Interim soil vapor and ground water extraction are ongoing as a CERCLA removal action.

Pit 6 Operable Unit (OU-3)
Operable Unit addresses environmental contamination from chemicals released from the pit 6 waste burial trenches, which were used in the past to dispose of material from Lawrence Berkeley Laboratory and LLNL Main Site. Although a variety of wastes were buried at pit 6, only VOCs have migrated beyond the pit boundaries. No remedial actions have been conducted except for surface drains and placement of a compacted native soil cover.

HE Process Area Building 815 Operable Unit (OU-4)
Operable Unit addresses environmental contamination from past TCE spills in the Building 815 area, where this solvent was used to clean scale from boilers. Low concentrations of the high explosive compounds RDX and HMX are also present. Interim remedial actions include the sealing/abandonment of two water-supply wells. Further characterization is planned for FY94-95.

Building 850/Pits 3 & 5 Operable Unit (OU-5)
Operable Unit addresses environmental contamination emanating from landfill pits 3 and 5, and from the Building 850 firing table. Tritium is the primary contaminant in ground water, although TCE is also present downgradient of pit 5. Interim remedial actions include removal of the firing table gravels and placement of a compacted native soil cover on pits 3 and 5.

Building 832 Canyon Operable Unit (OU-6)
The Building 832 Canyon Operable Unit addresses TCE contamination detected in spring 3. TCE has been used at several facilities in the area, primarily as a heat exchange fluid. Field activities are planned for FY95, and will include source investigations at Building 830, 831, and 832.

Sitewide Monitoring Operable Unit (OU-7) (not shown)
The Sitewide Monitoring Operable Unit includes sites where minor releases may have occurred, but no unacceptable risks to human health or the environment are present. This OU includes surveillance monitoring of Site 300 and offsite water-supply and monitor wells not included as part of other Operable Units.

Unassigned Sites

Unassigned sites are defined as areas where source screening indicates that releases may have occurred, but further investigation is required to determine if risk to human health or the environment is present. Currently unassigned sites include the Sandia Test Facility, and Building 812, 823, 829, 840, 841 and 854.

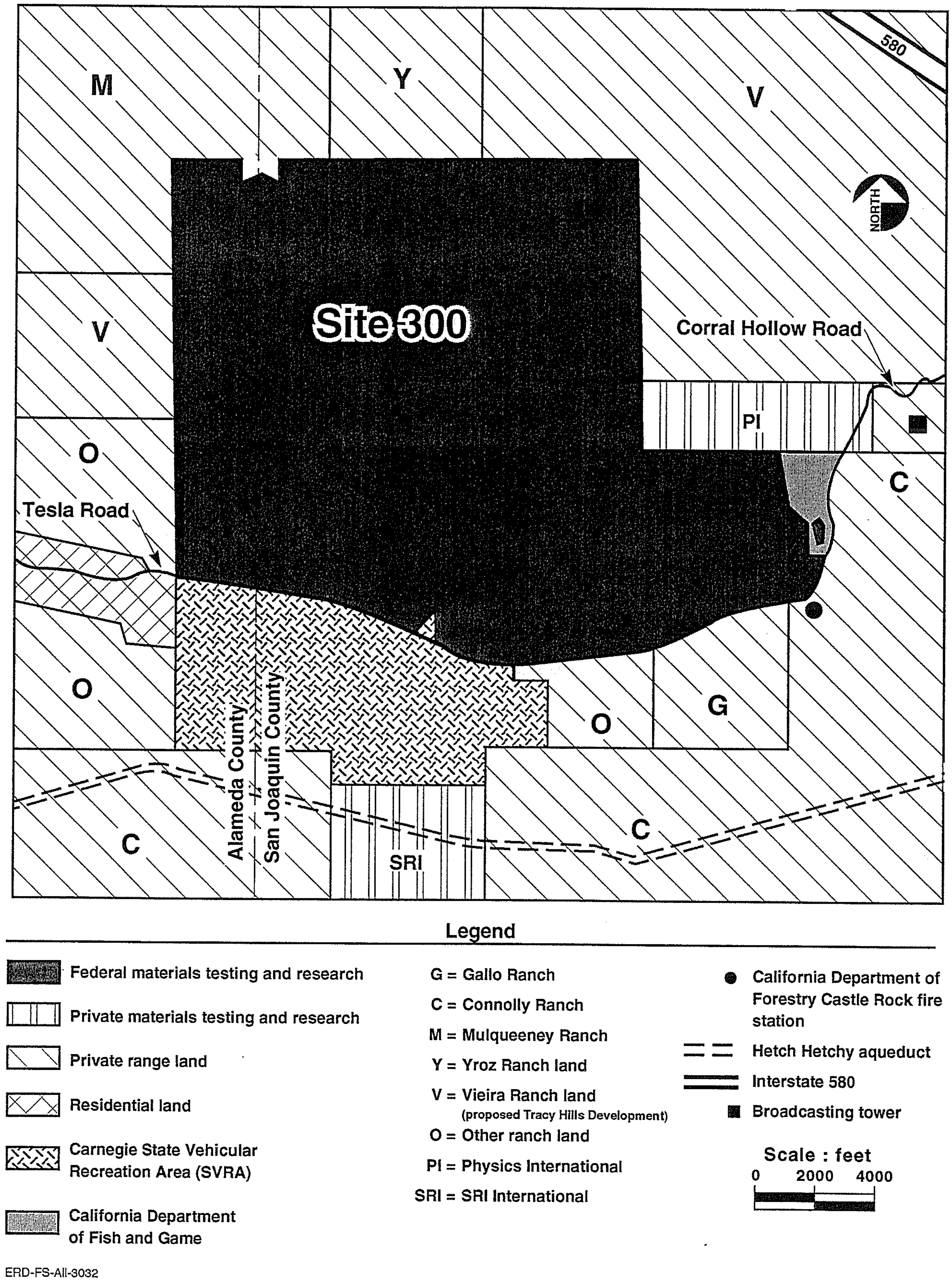
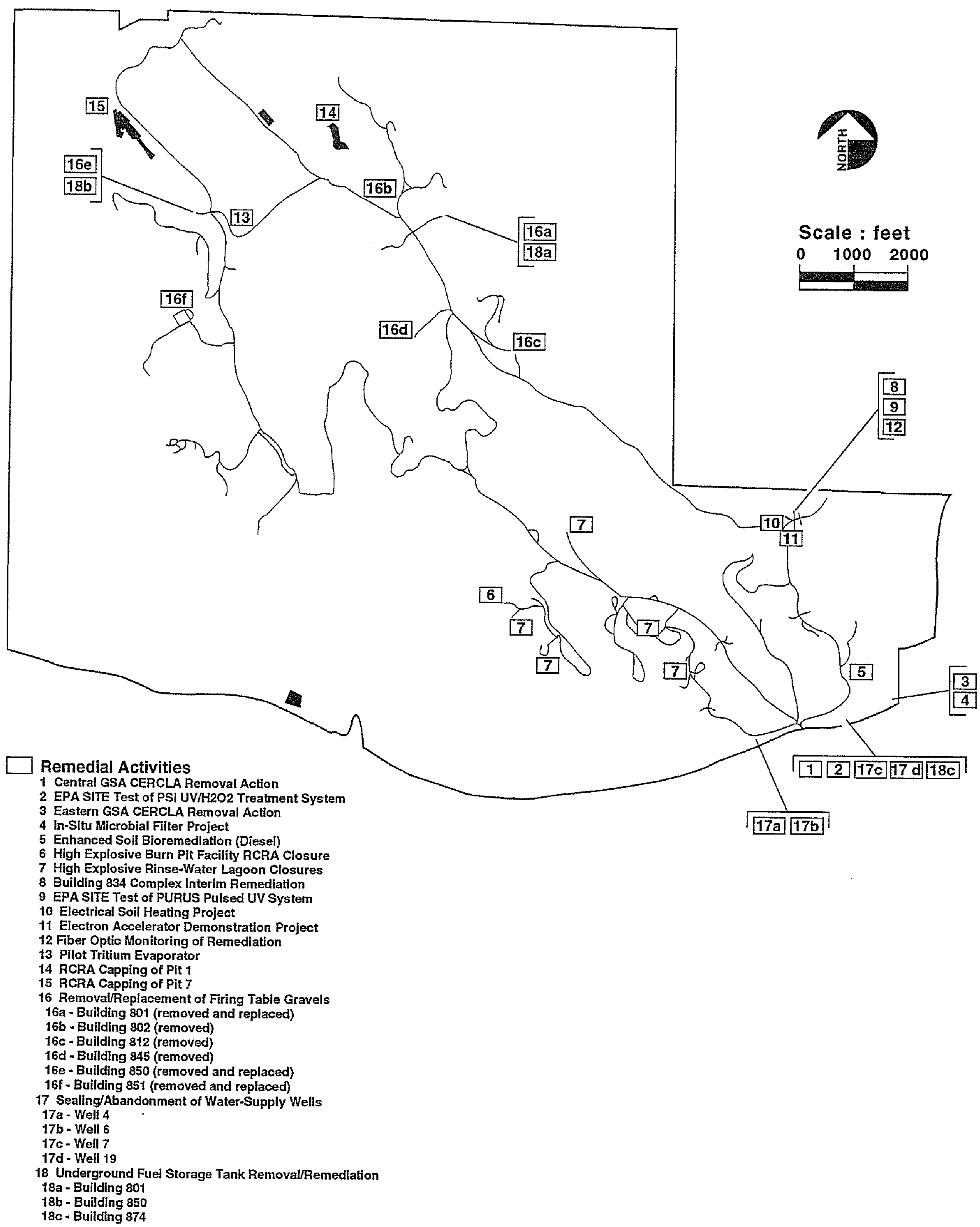


Figure 1-3. Land use in the vicinity of Site 300.



ERD-FS-AII-3064

Figure 1-4. Corrective actions and facility upgrades at LLNL Site 300.

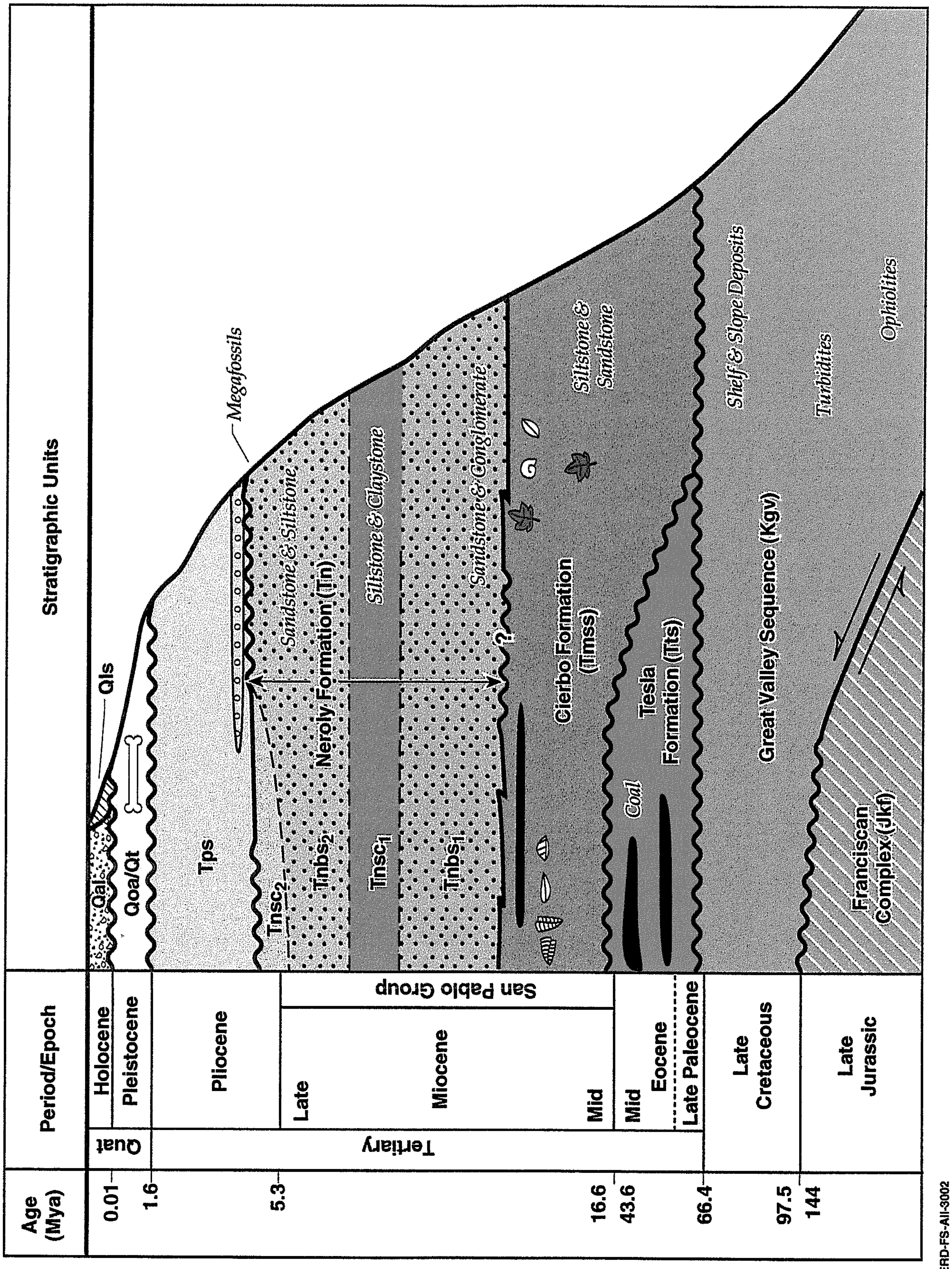


Figure 1-5. Schematic stratigraphy of Site 300.

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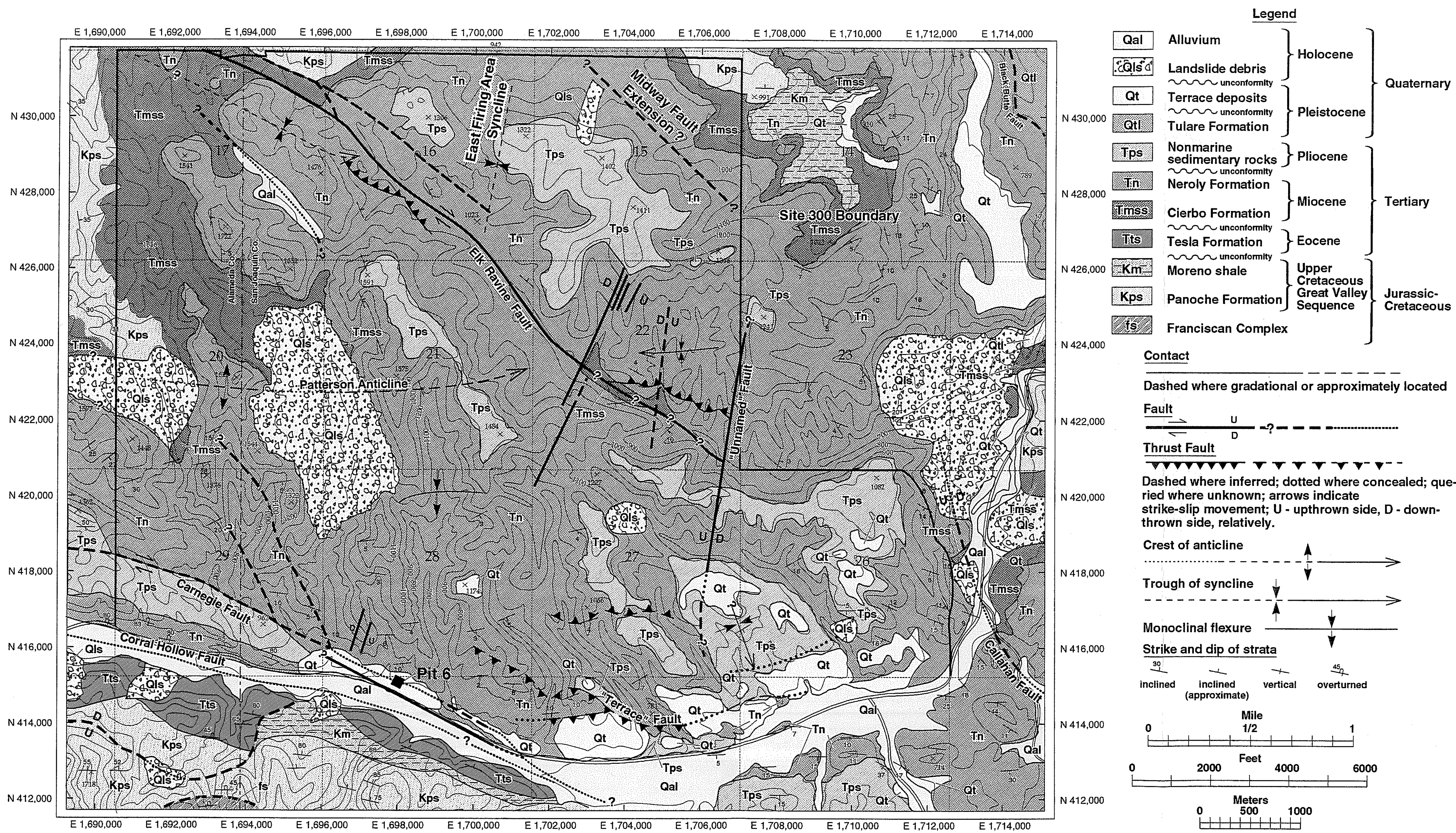

ERD-FS-ALL-3001

Figure 1- 6. Geologic map of Site 300 area (modified from Dibblee, 1980a; Raymond, 1969; and Dugan and Mateik, 1990).

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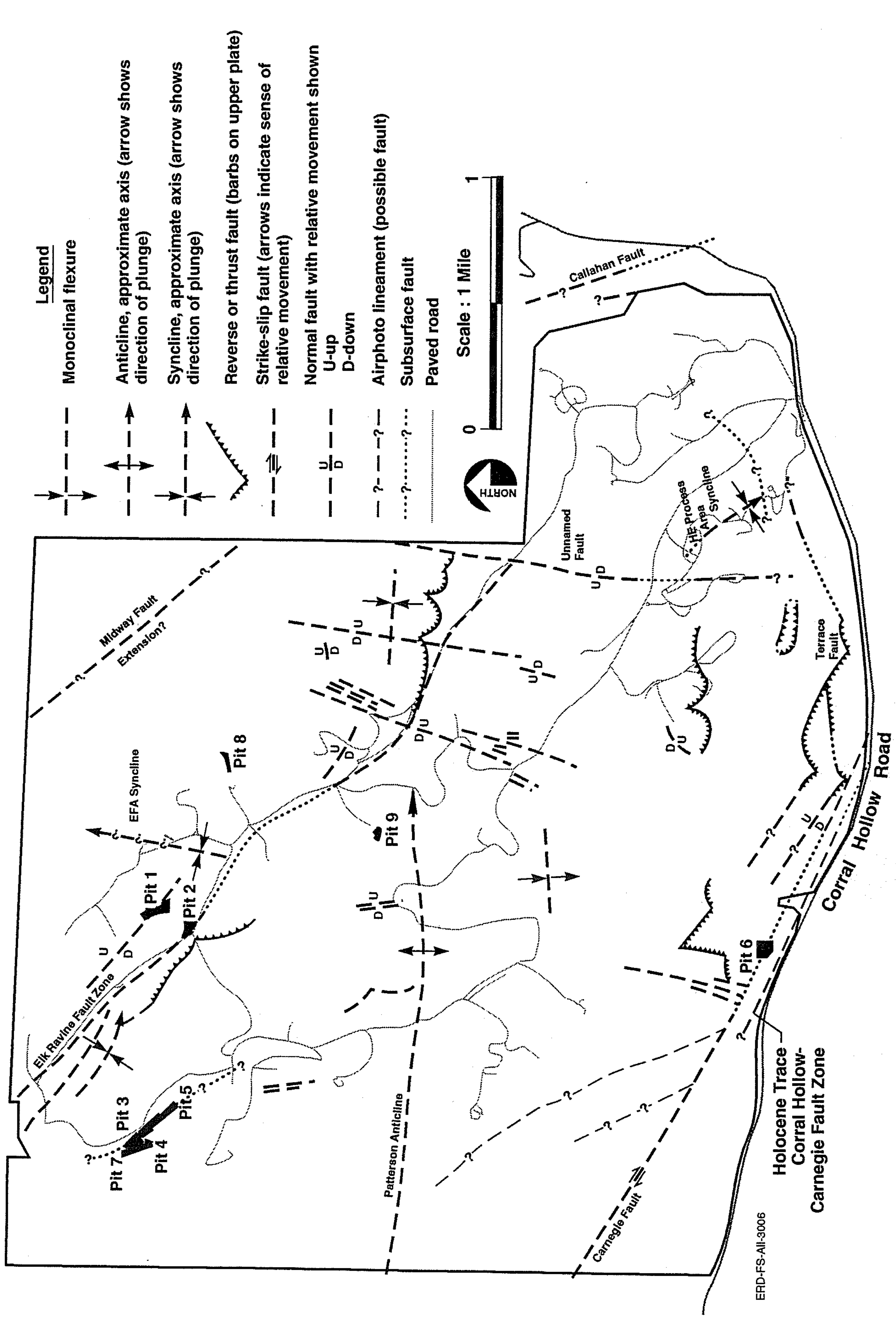
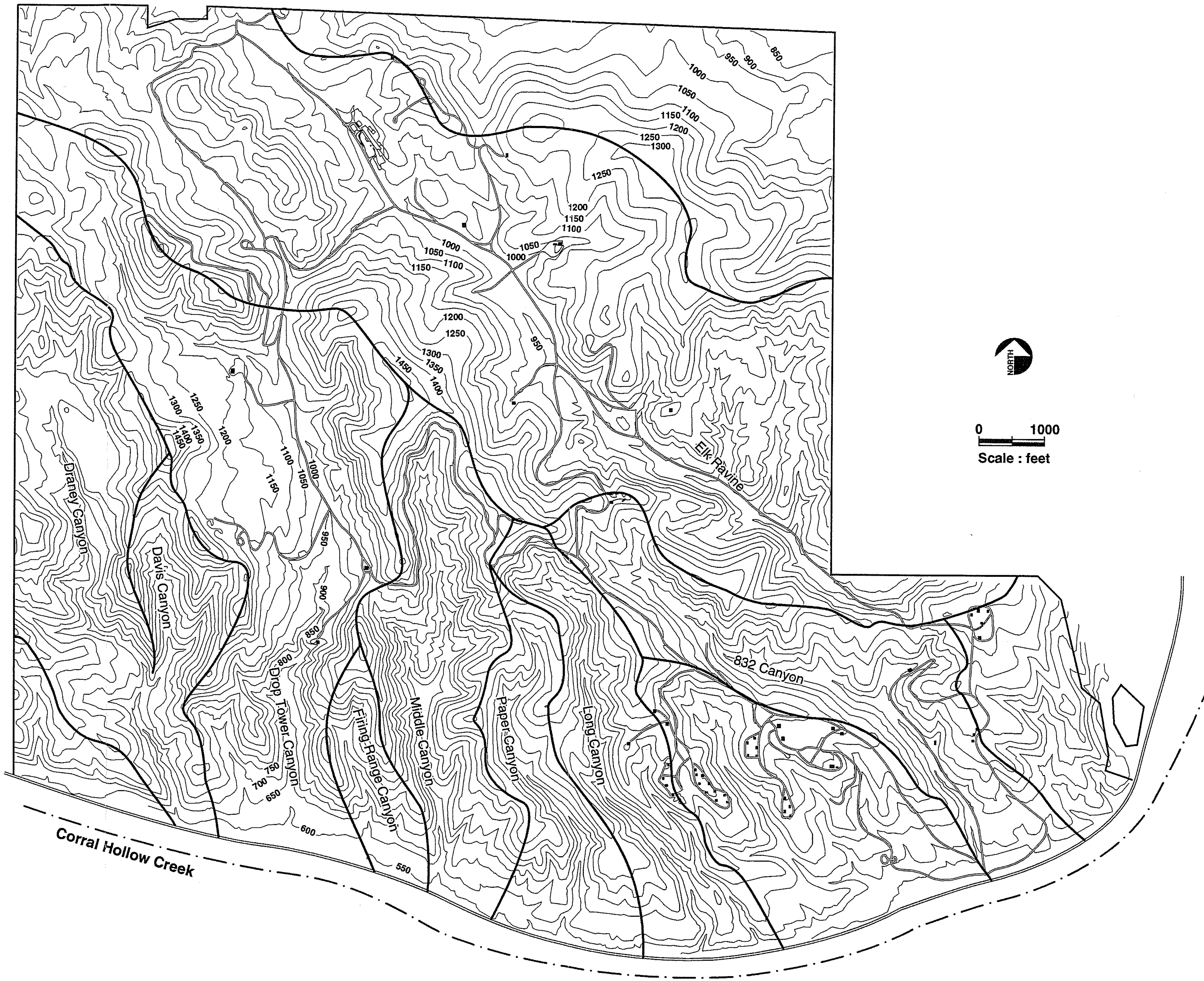


Figure 1-7. Map showing principal folds and faults, Site 300.



ERD-FS-All-3033

Figure 1-8. Surface water drainage basins at Site 300.

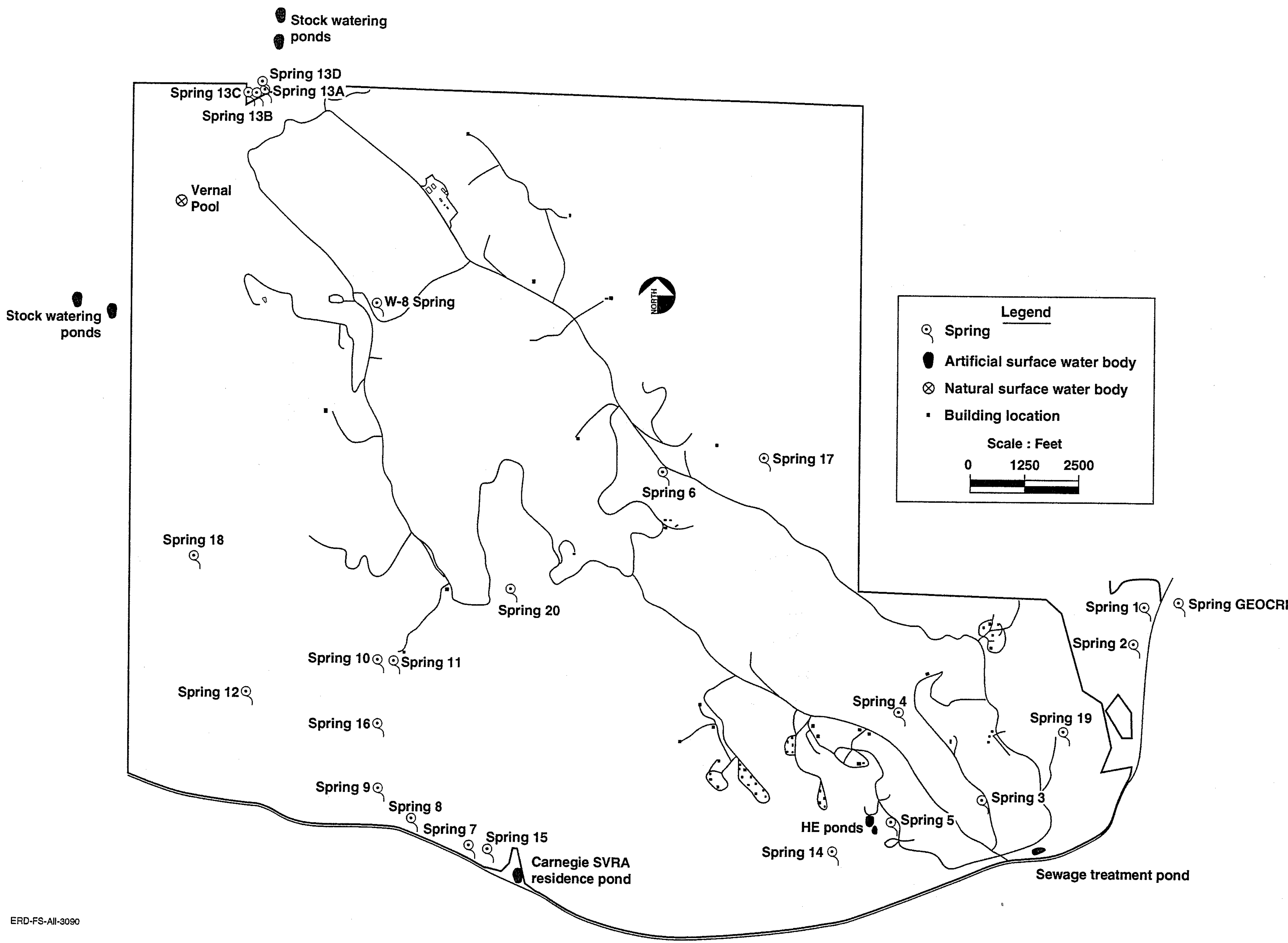


Figure 1-9. Surface water at Site 300.

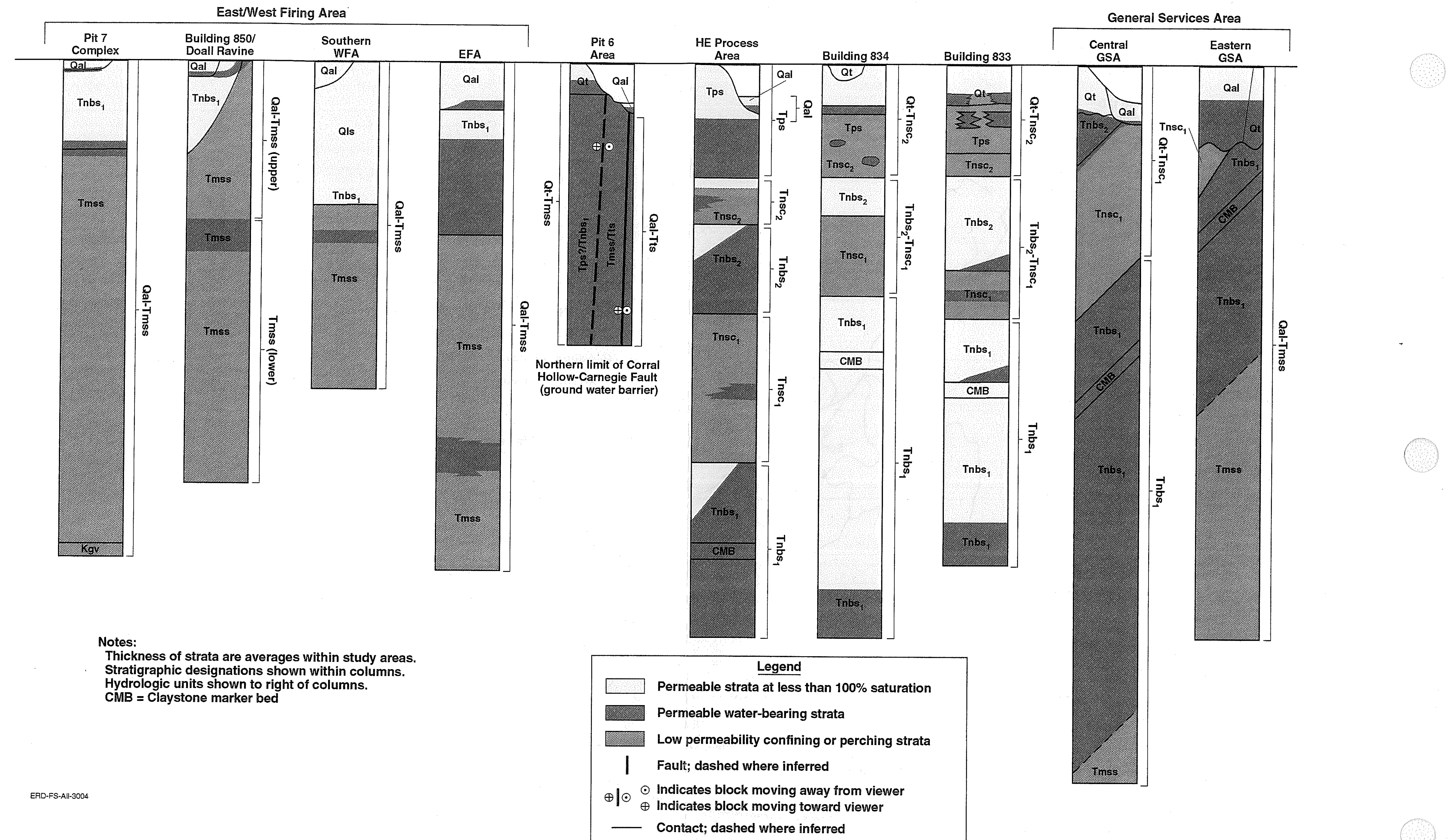


Figure 1-10. Stratigraphic and hydrologic units within the study areas at Site 300.

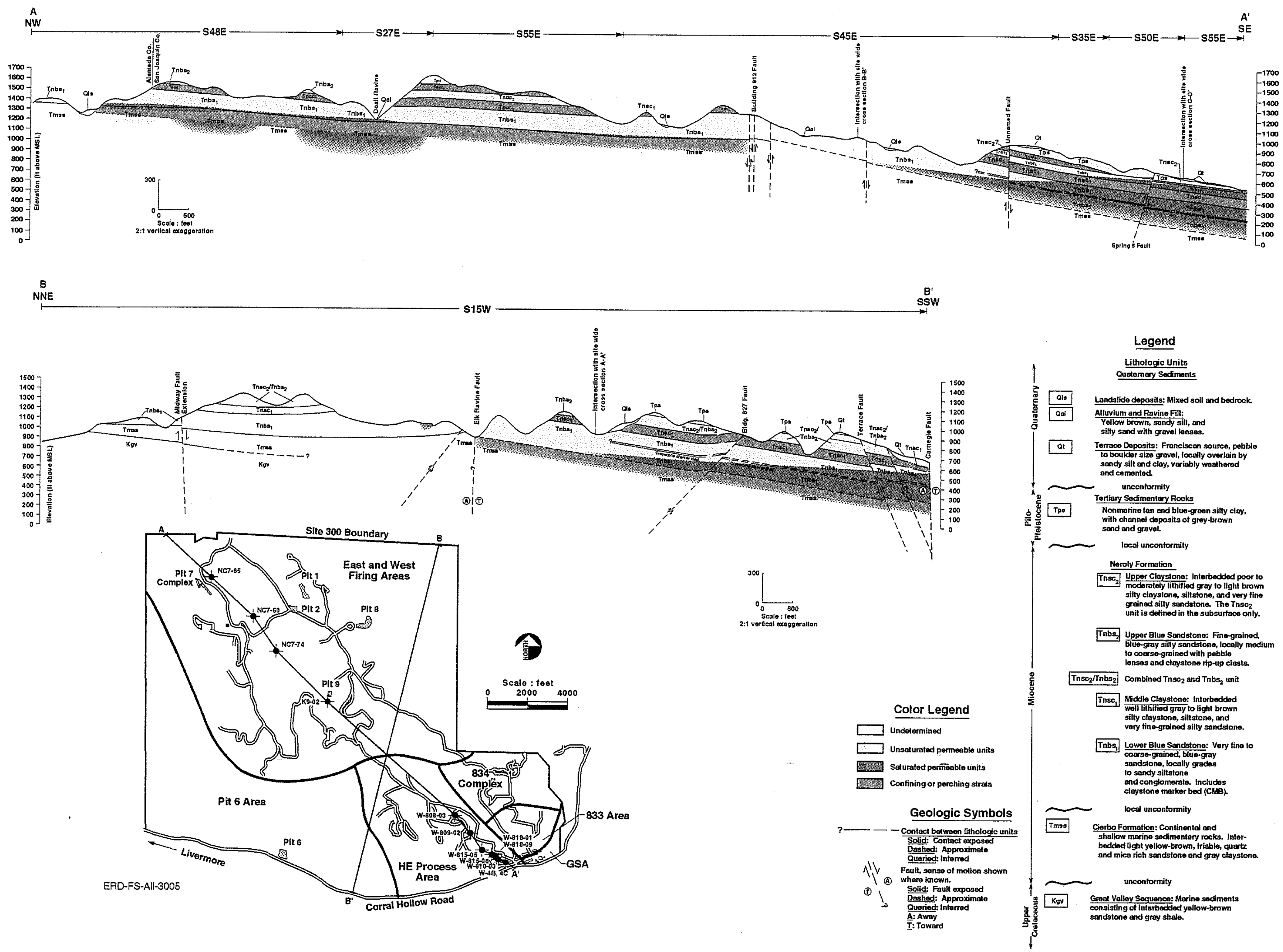


Figure 1-11. Site wide hydrogeologic cross sections A-A' and B-B'.

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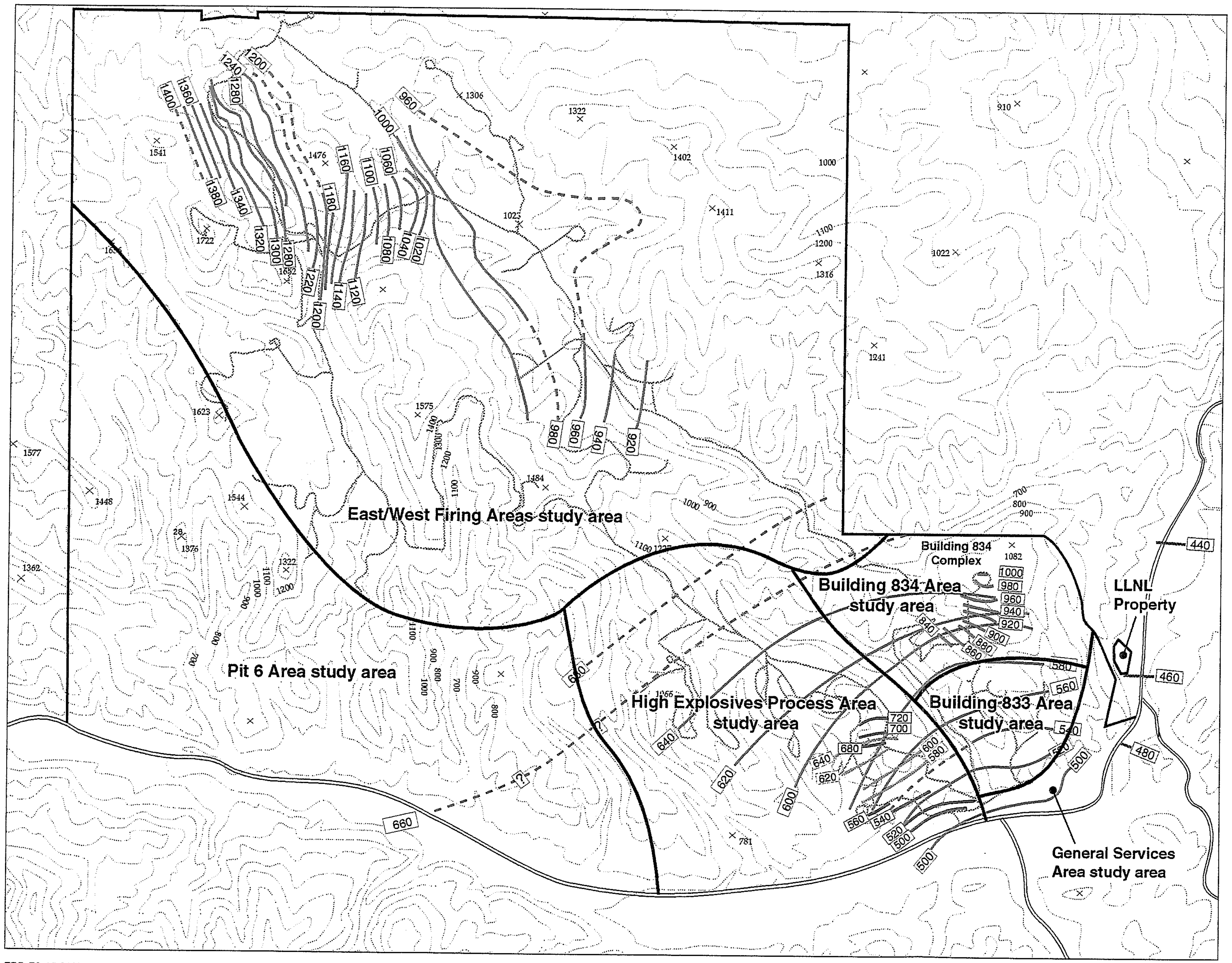

Legend

Qt-Tnsc$_1$ (Central GSA) and Qal-Tmss Unit (Eastern GSA)
Contours are shown for the first water-bearing zone within the Corral Hollow Creek alluvium and terrace deposits, and include some shallow bedrock wells. Ground water in this aquifer is semiconfined to unconfined. Ground water in the Qt-Tnsc$_1$ unit in the central GSA is partially derived from outflow from the bedrock aquifer north of the GSA. All bedrock strata that subcrop beneath the Quaternary alluvium (Qal) in the Corral Hollow Creek stream channel are in hydraulic communication via the alluvium.

Qal-Tmss Unit (Northwest Site 300)
Contours include data from wells completed in the Doall Ravine alluvium, and from some wells completed in bedrock, primarily the Neroly Formation lower blue sandstone (Tnbs$_1$) and the Cierbo Formation (Tmss), which is in direct contact with the alluvium. Hydraulic continuity of the Tnbs$_1$ regional aquifer with the southern portion of Site 300 is not established. Hydraulic continuity may be intermittent and dependent on temporal variations in recharge.

Tps Unit (Building 834)
Contours based on data from shallow wells completed in the perched water-bearing zone within the Pliocene nonmarine unit (Tps).

Tps Unit (HE Process Area)
Potentiometric surface contours are based on water levels measured in ground water monitor wells completed in the Pliocene nonmarine unit (Tps). Ground water in the Tps unit is perched in the northern part of the HE Process Area. Saturation in the Tps strata increases southward, and ground water is under artesian conditions near the southern boundary of Site 300.

Tnbs$_2$ Unit (HE Process Area)
Data contoured are from wells completed in the Neroly Formation upper blue sandstone (Tnbs$_2$) unit. The Tnbs$_2$ aquifer is saturated only in the HE Process Area in southeastern Site 300. Hydraulic conditions range from unconfined in the northern HE Process Area to flowing artesian to the south near Corral Hollow Road. This unit serves as a local off-site water-supply aquifer.

Tnbs$_1$ Unit (Southern Site 300)
Contours based on data from wells completed in the Neroly Formation lower blue sandstone (Tnbs$_1$) unit. The Tnbs$_1$ unit is unsaturated in the central portion of the site. Ground water in the Tnbs$_1$ is under flowing artesian conditions near Corral Hollow Road. The Tnbs$_1$ unit is in hydraulic communication with the Qt-Tnsc$_1$ and other water-bearing units in the southeastern portion of the site, either through direct contact or through mutual communication with the Corral Hollow Creek alluvium (Qal). This unit serves as a water-supply aquifer both on and off site.

Ground water potentiometric surface elevation contours in feet above mean sea level, dashed were approximately located and queried where uncertain.

Notes:
1) Ground water elevation data from December 1991.
2) Potentiometric contours shown on this plate are taken from figures presented in the hydrogeology sections of Chapters 9–14 in the SWRI report (Webster-Scholten, 1994). Wells and water level data used to generate potentiometric contours are included in those sections.

Feet: 0 2000 4000 6000
Meters: 0 500 1000

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Figure 1-12. Potentiometric surface elevation map of major water-bearing units at Site 300.

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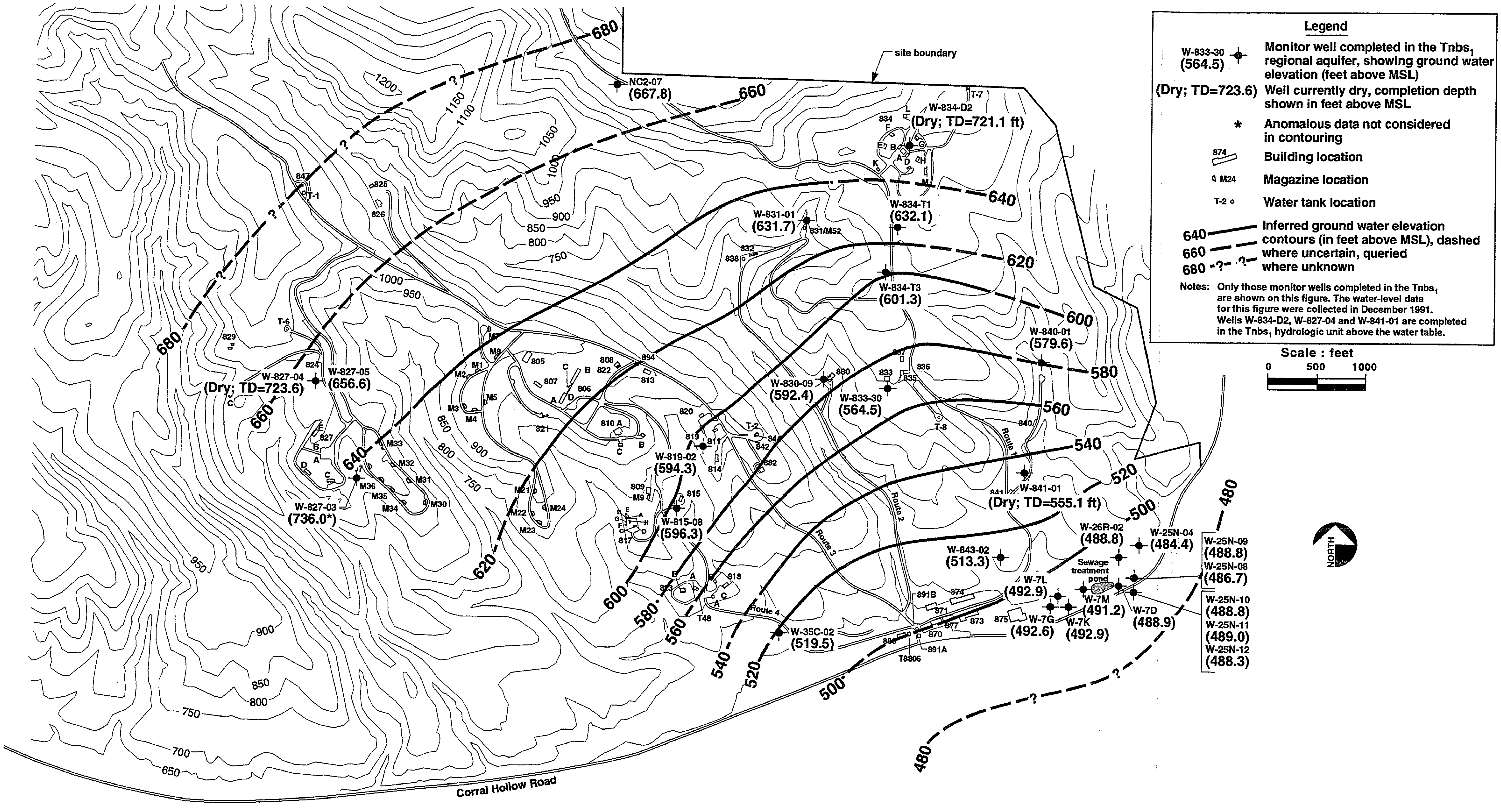
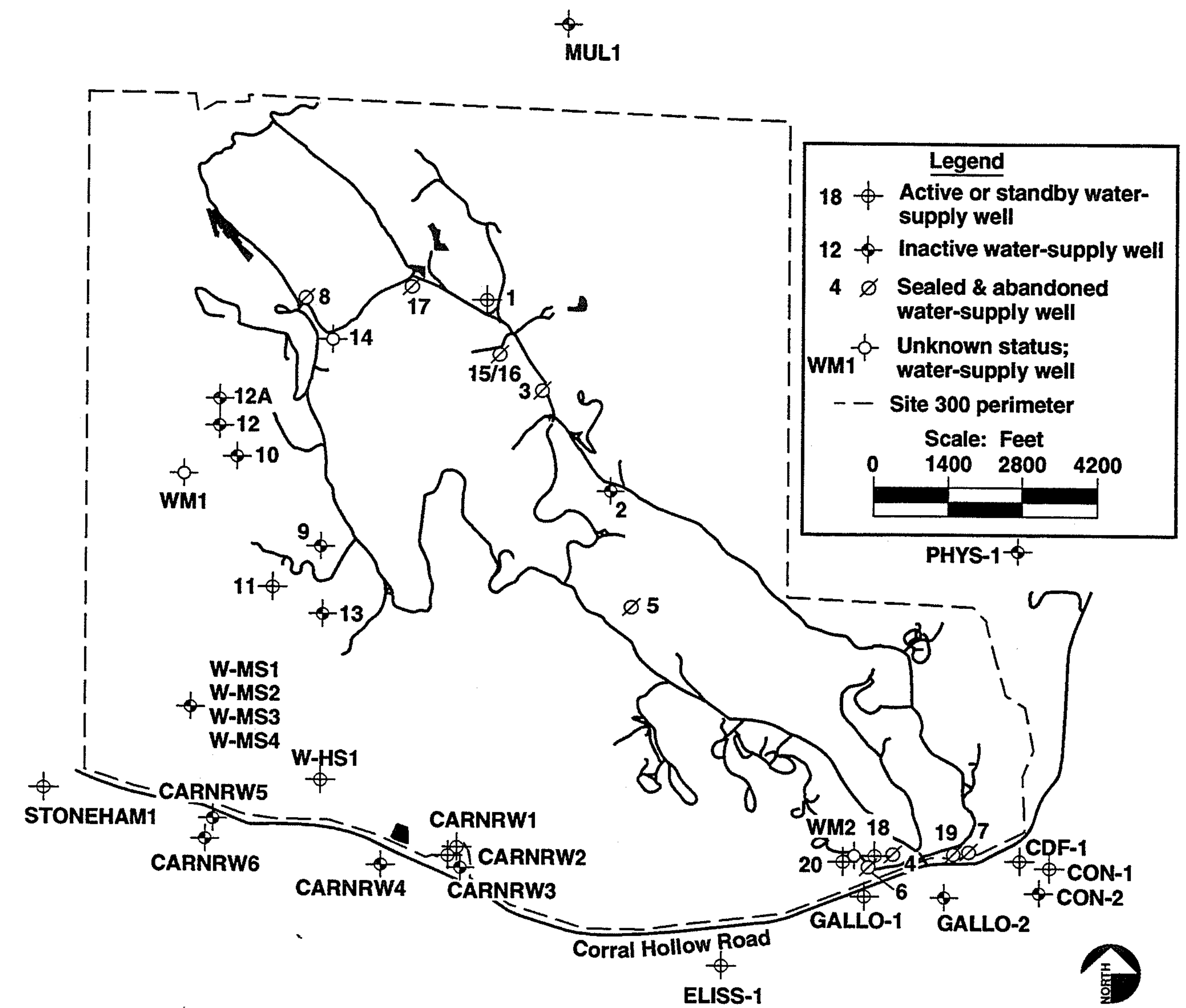
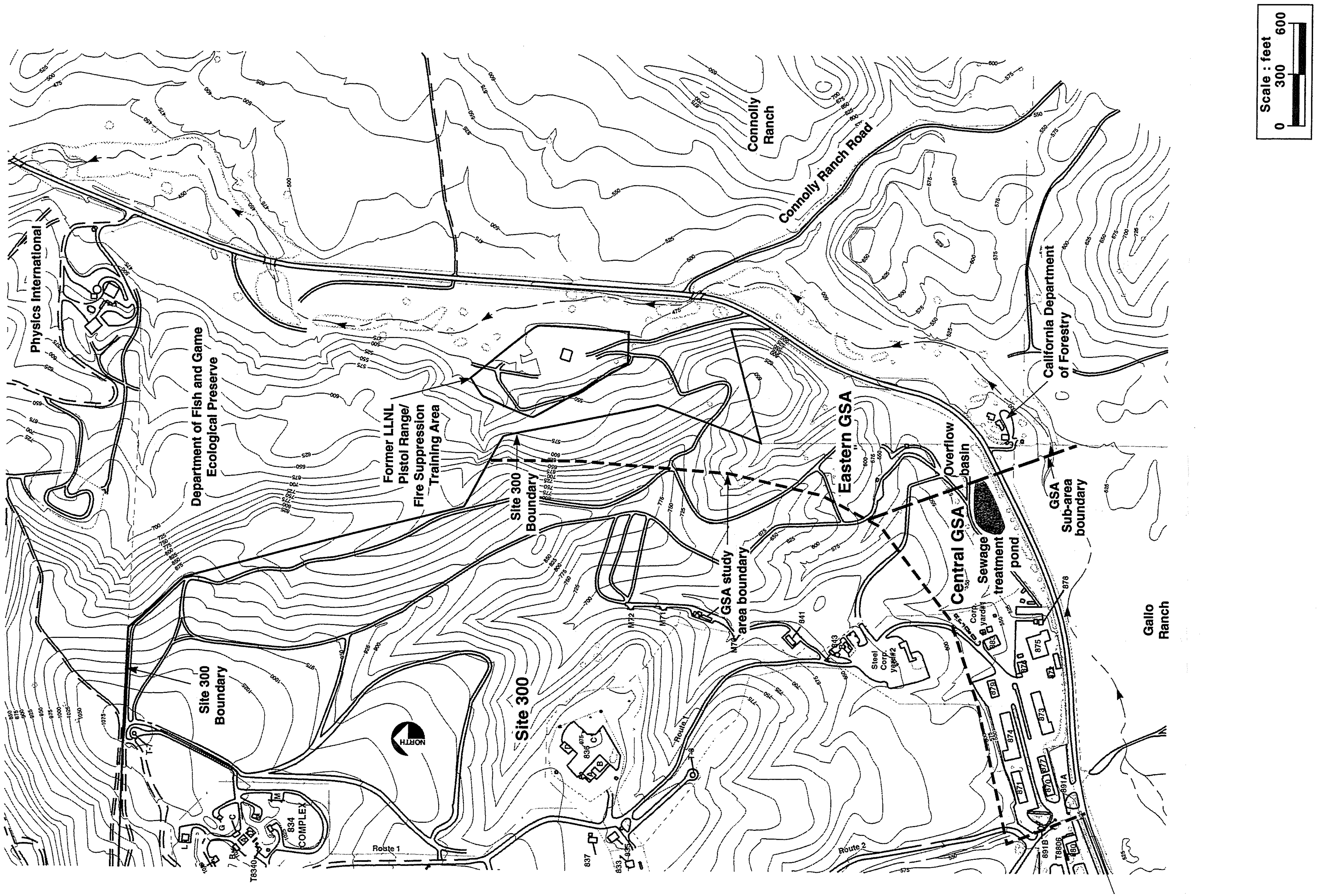


Figure 1-13. Potentiometric surface map of ground water for the Tnbs$_1$ regional aquifer in southeastern Site 300 (December 1991 data).



ERD-FS-All-3007

Figure 1-14. Ground water supply wells at and within 0.5 mi of Site 300.



ERD-FS-GSA-3010
EGSA-Base 600' (01/95)

Figure 1-15. Site map of the GSA and vicinity.

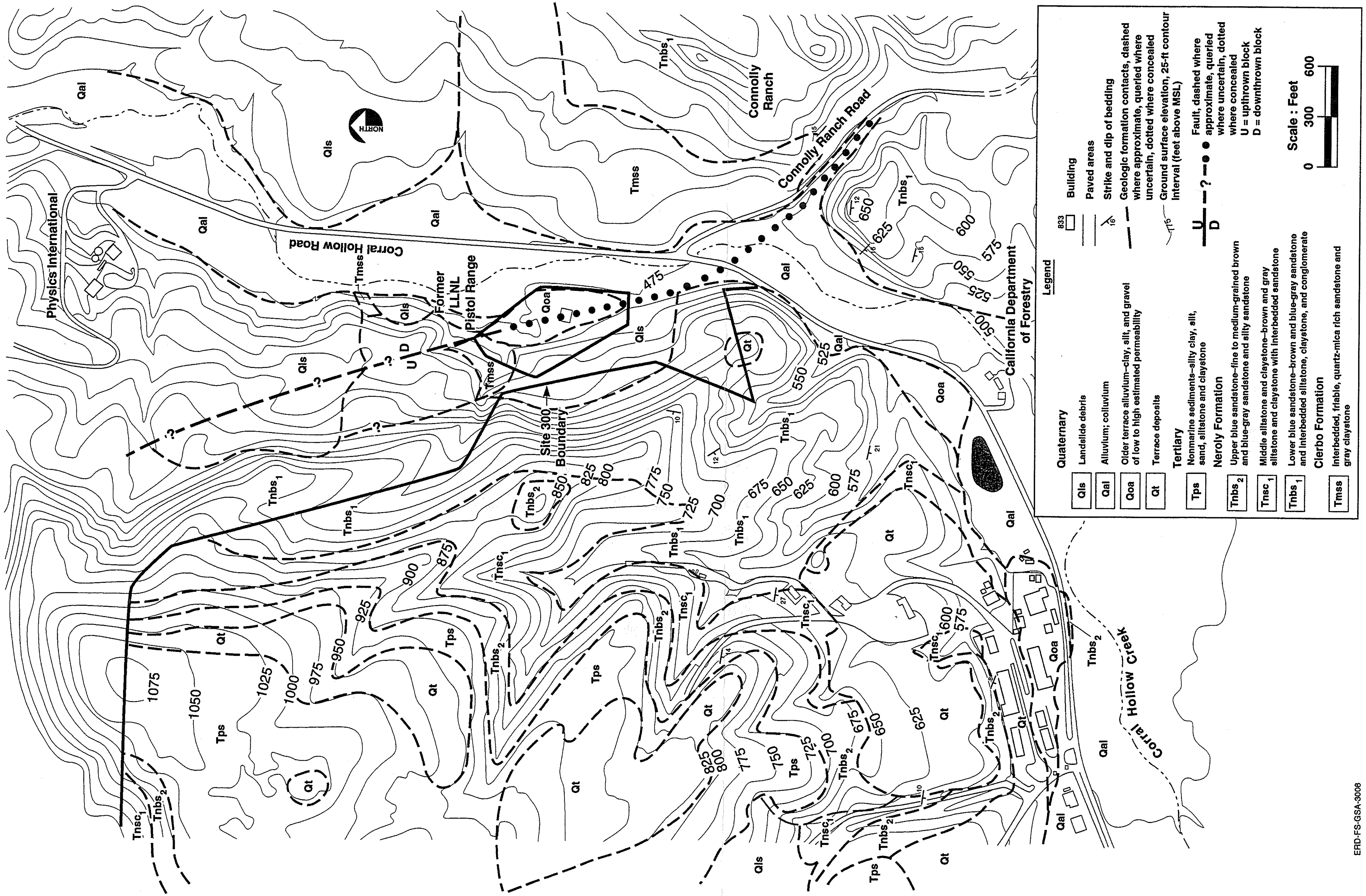


Figure 1-16. Geologic map of the GSA and vicinity.

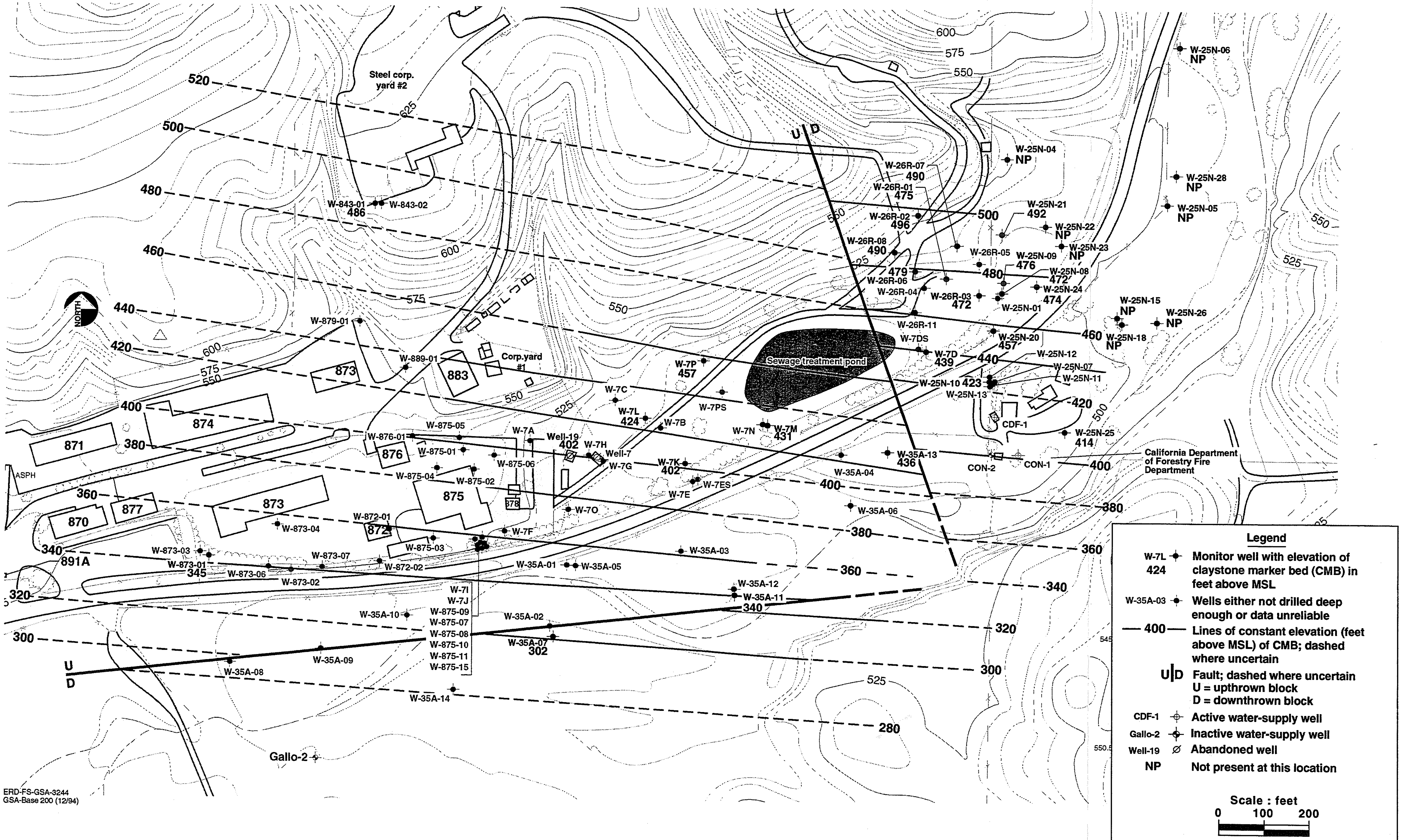
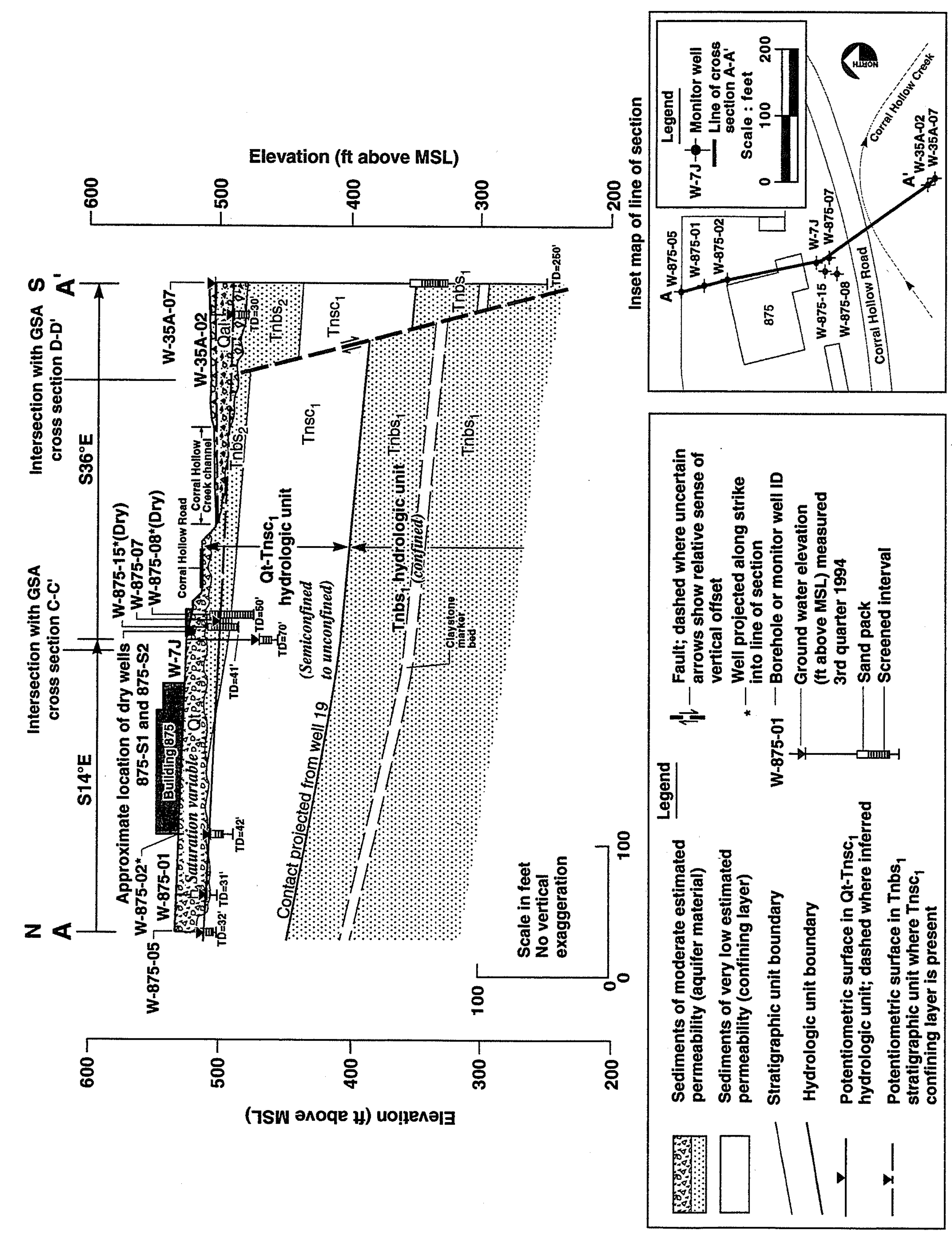


Figure 1-17. Structural contour map of the Tnbs$_1$ claystone marker bed in the GSA.

Figure 1-17



Figu...8. Hydrogeologic cross section A-A' in the Building 875 d... area.

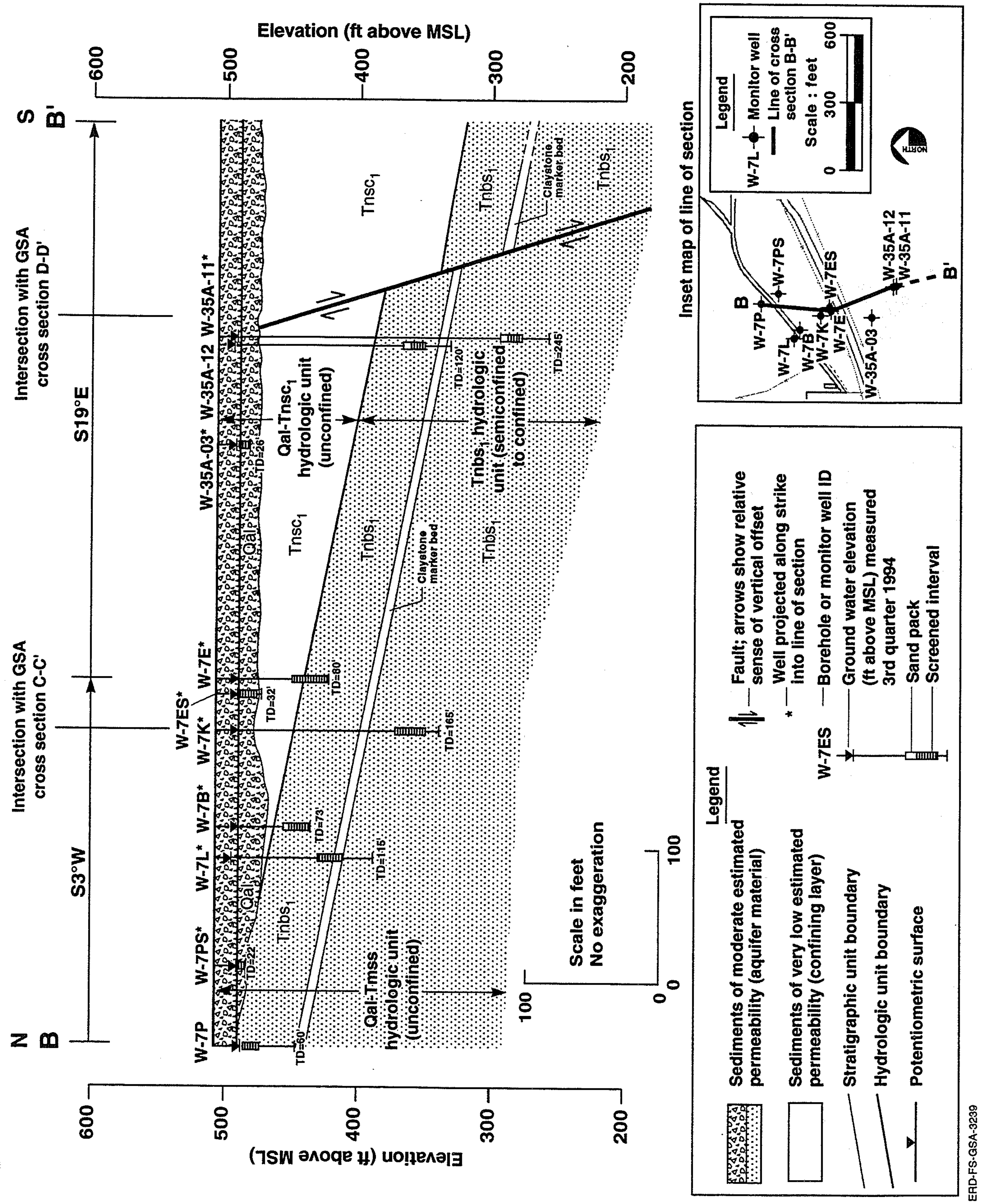


Figure 1-19. Hydrogeologic cross section B-B' in the central GSA.

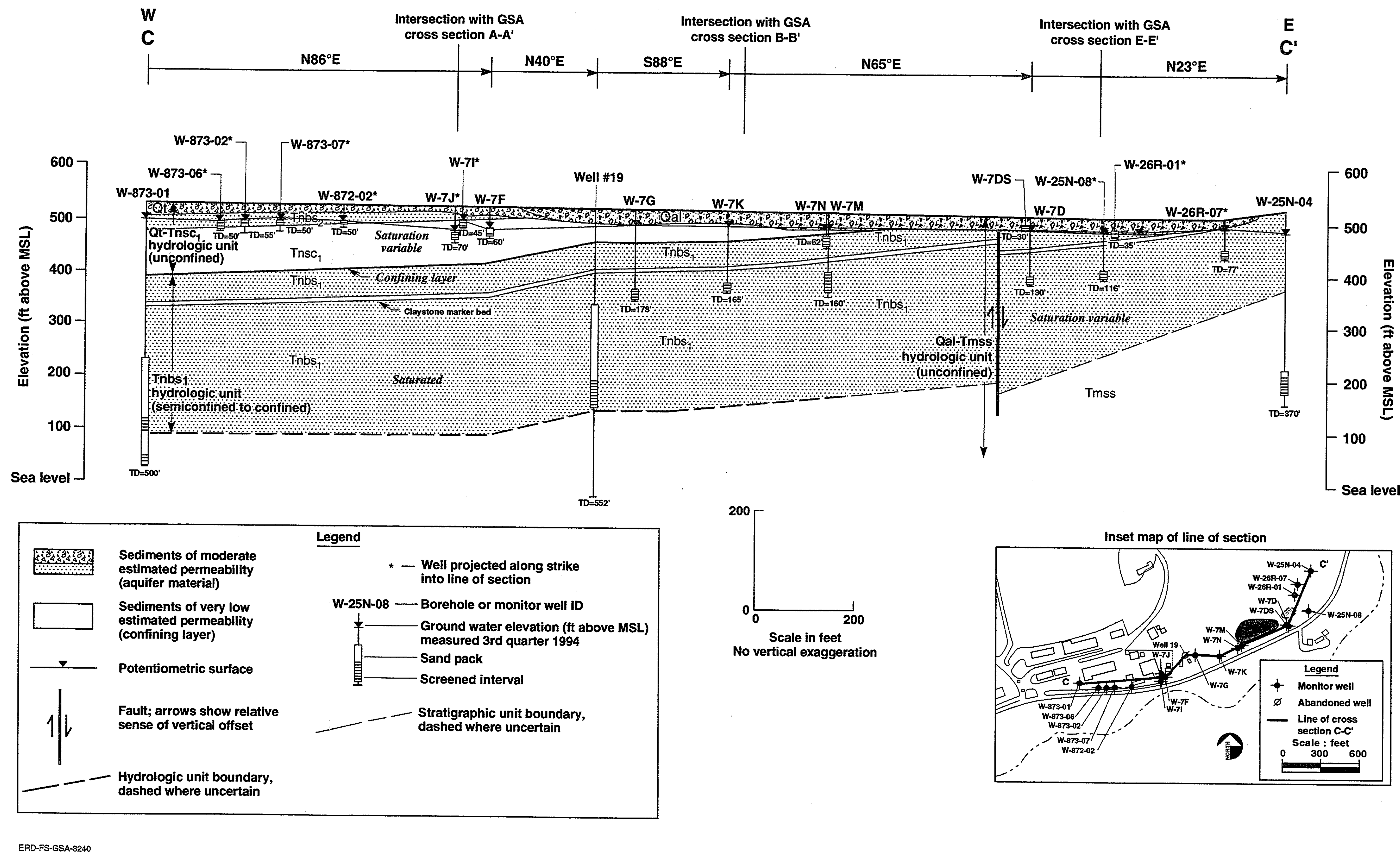
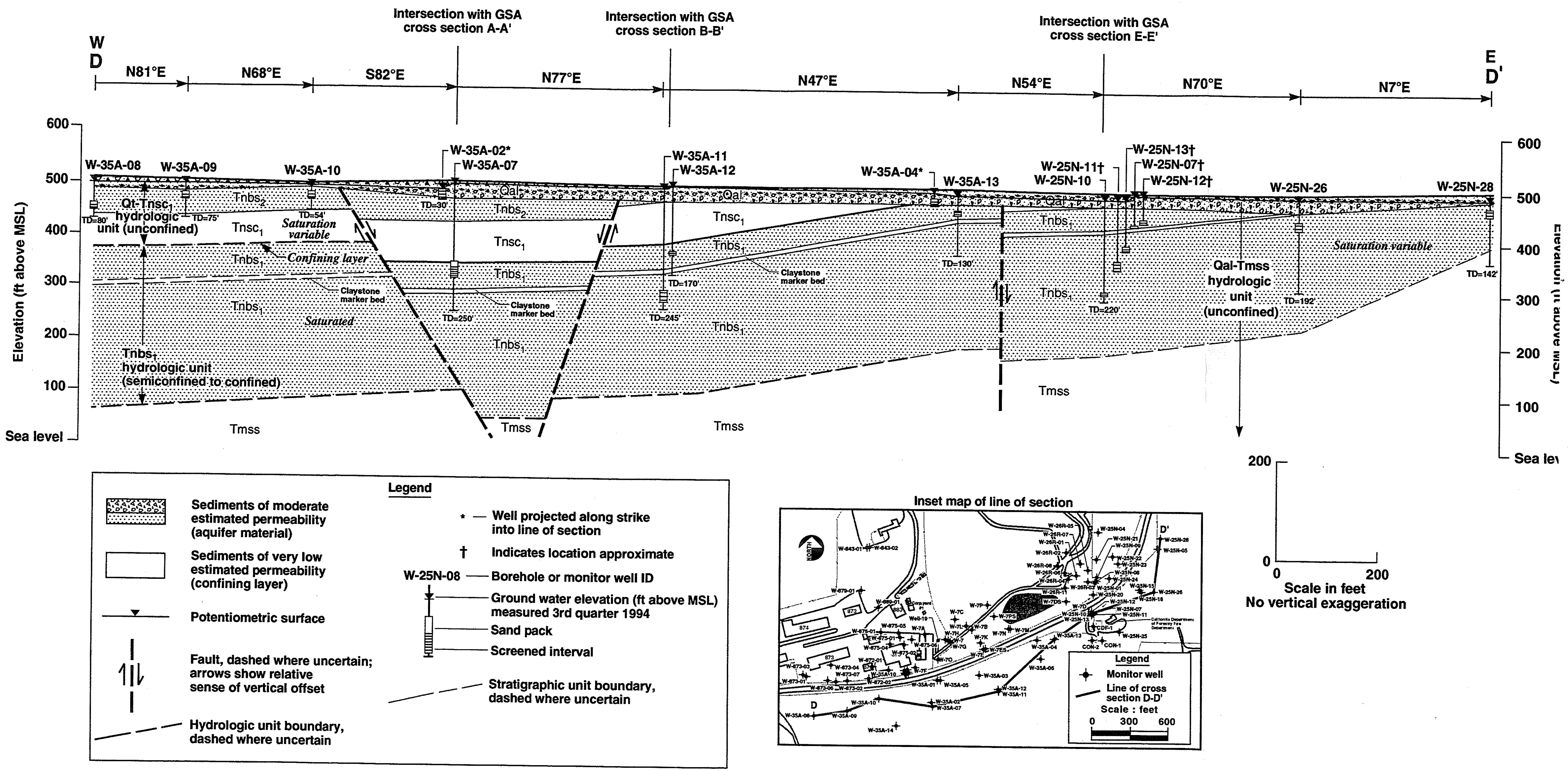
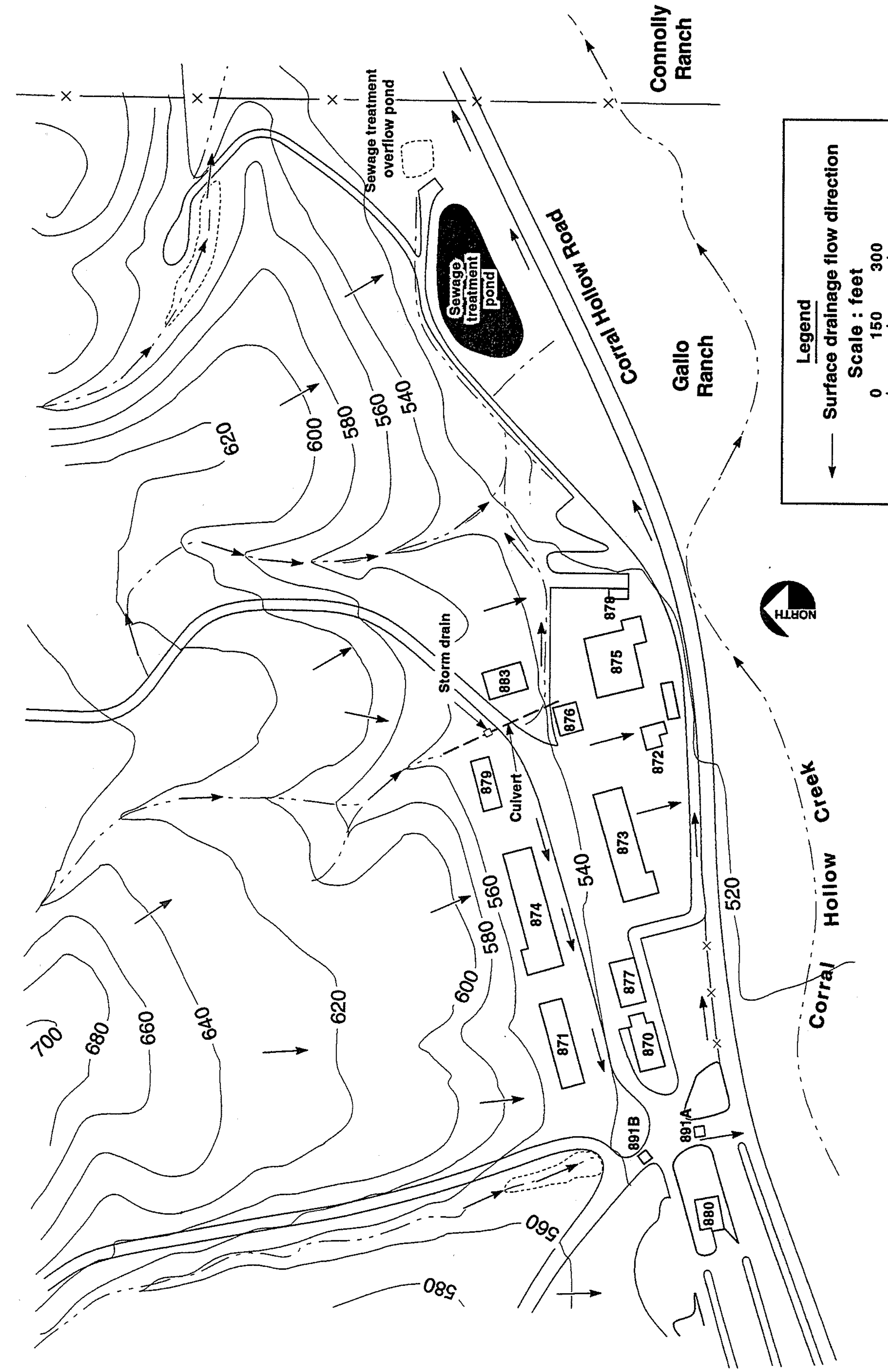


Figure 1-20. Hydrogeologic cross section C-C' in the GSA.



ERD-FS-GSA-3224

Figure 1-21. Hydrogeologic cross section D-D' in the GSA.



ERD-FS-GSA-3053

Figure 1-22. Surface drainage map of the GSA.

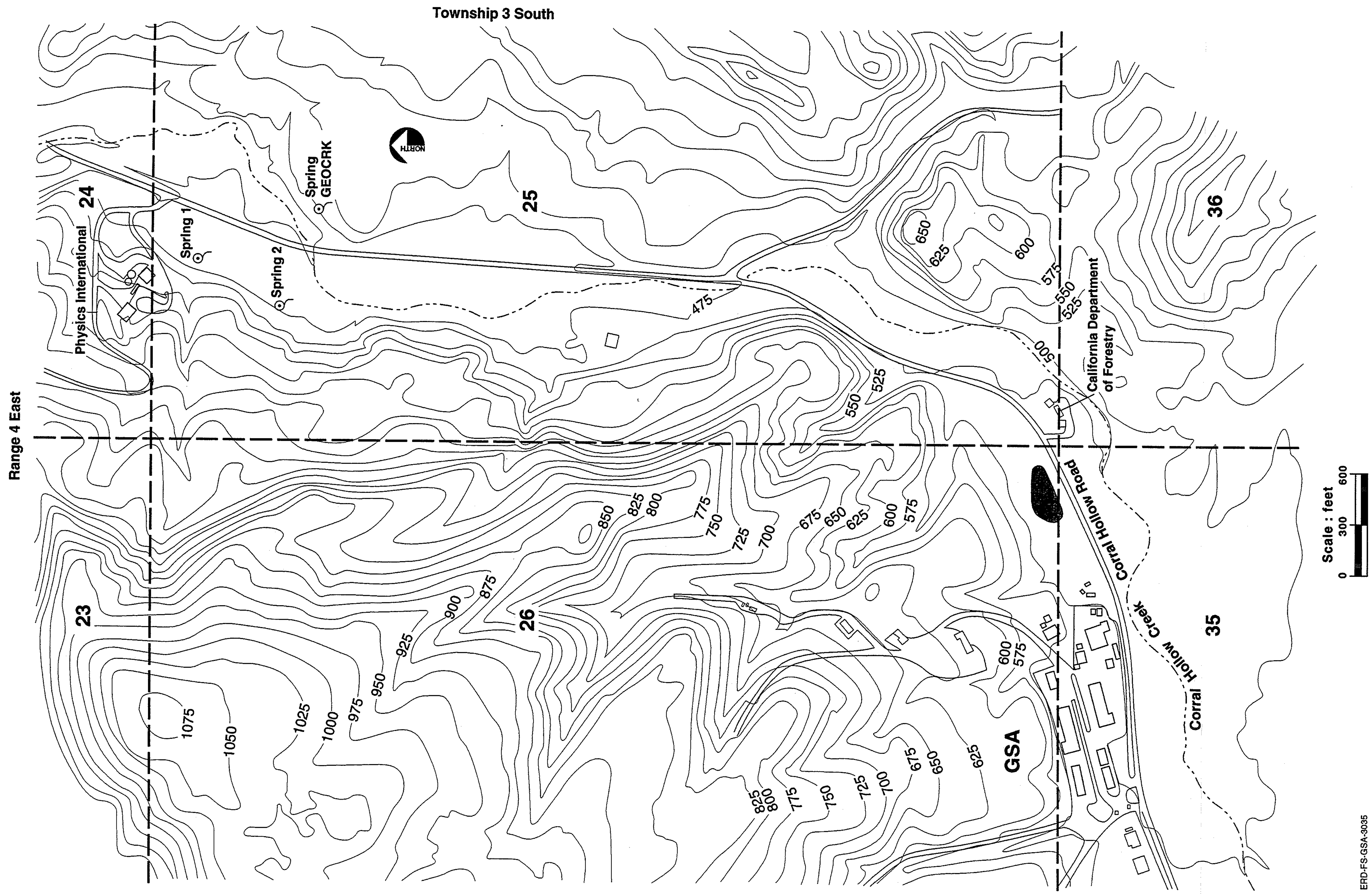
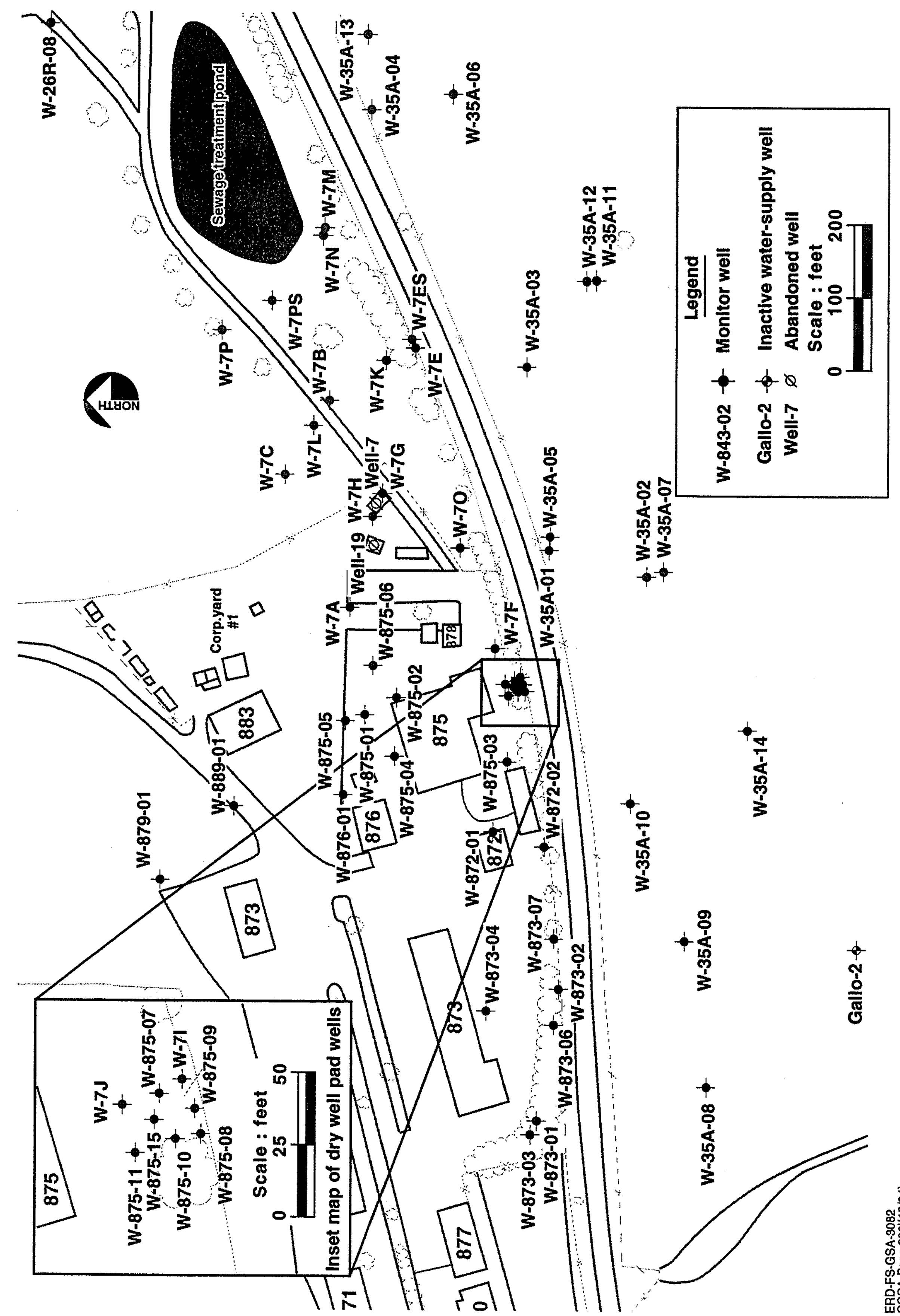
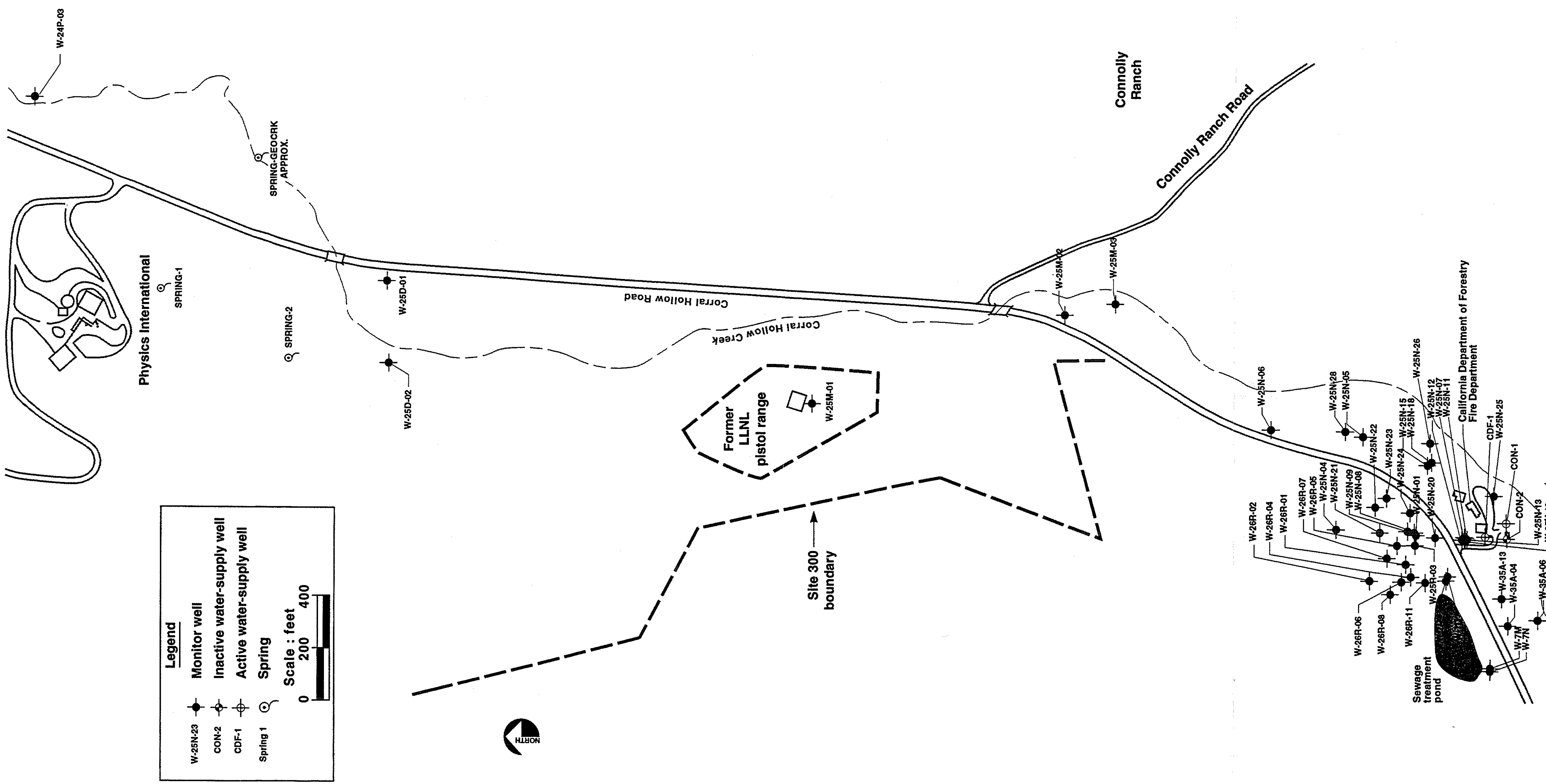


Figure 1-23. Topography and spring location map of the GSA and vicinity.



ERD-FS-GSA-3082
CGSA-Base 200 (12/94)

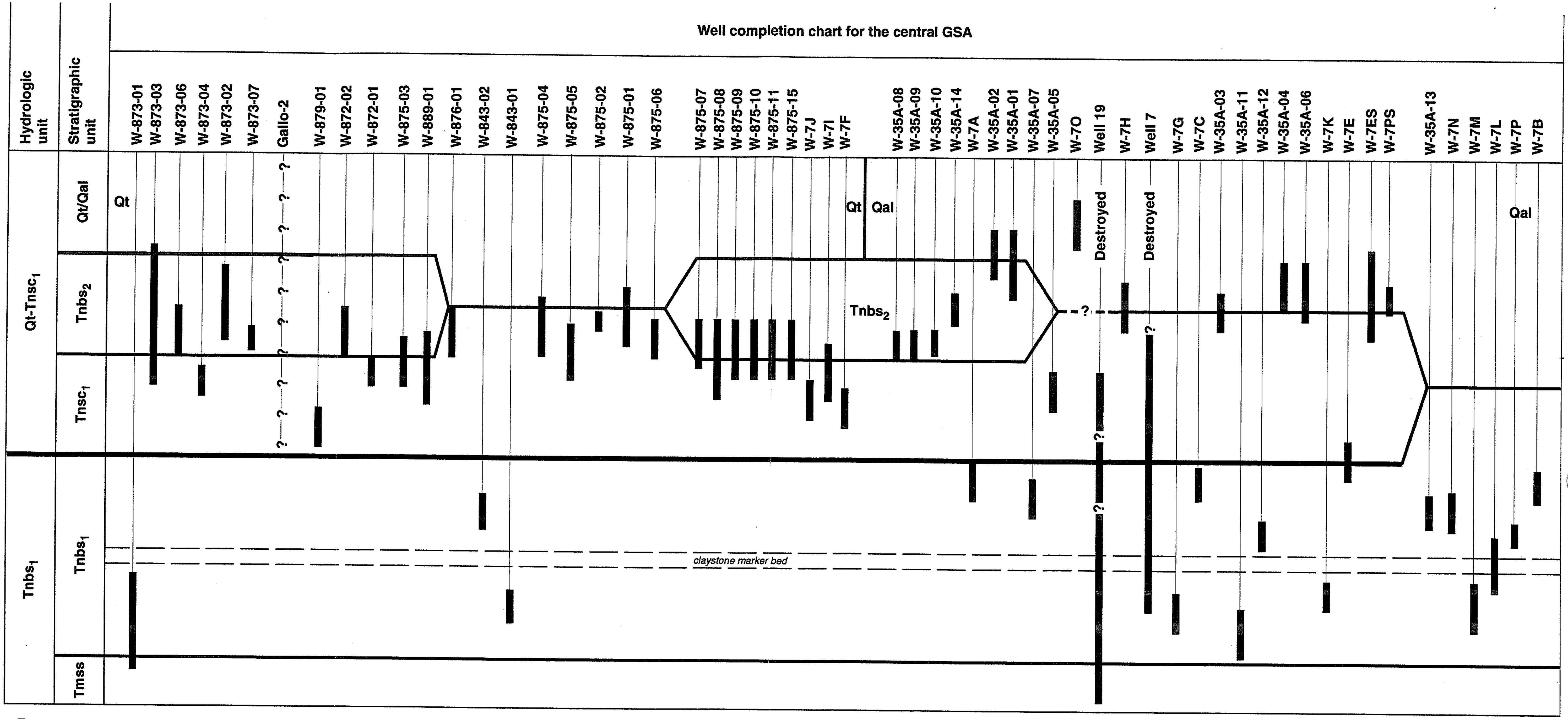
Figure 1-24. Central GSA monitor well locations.



ERD-FS-GSA-3055
EGSA-Base-400'(12/94)

Figure 1-25. Eastern GSA monitor well locations.

Figure 1-25

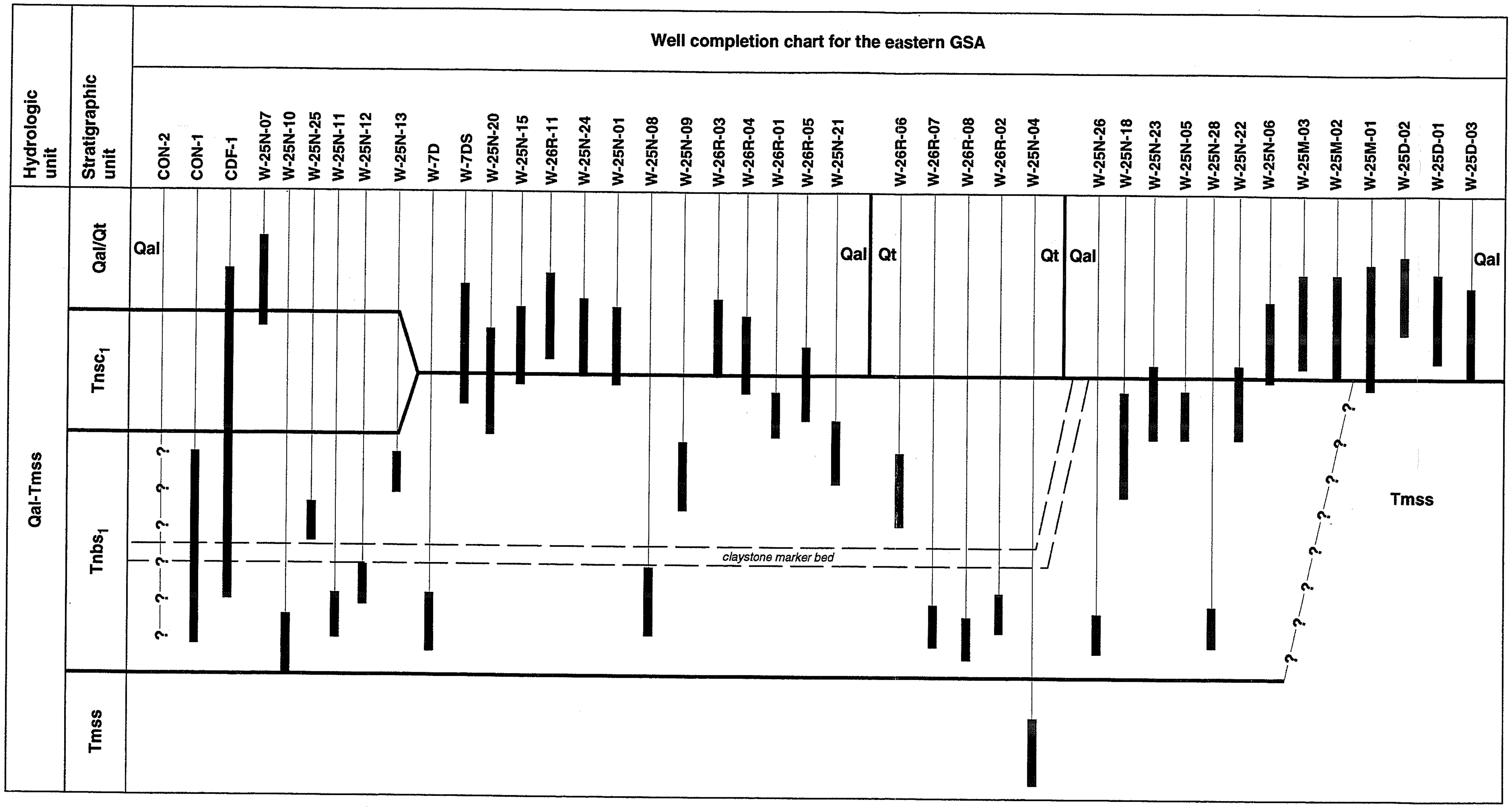


▮	Sand pack interval
Qal	Quaternary alluvium
Qt	Quaternary terrace alluvium (includes older alluvial deposits Qoa)
$Tnbs_2$	Tertiary Neroly Formation upper blue sandstone
$Tnsc_1$	Tertiary Neroly Formation middle siltstone/claystone
$Tnbs_1$	Tertiary Neroly Formation lower blue sandstone
Tmss	Miocene Cierbo Formation sandstones and claystones

ERD-FS-GSA-3036

Notes:
1) Wells are generally shown from west to east.
2) Distances and sand pack intervals are not to scale.

Figure 1-26. Well completion chart for the central GSA.



▮	Sand pack interval
Qal	Quaternary alluvium
Qt	Quaternary terrace alluvium (includes older alluvial deposits Qoa)
$Tnsc_1$	Tertiary Neroly Formation middle siltstone/claystone
$Tnbs_1$	Tertiary Neroly Formation lower blue sandstone
Tmss	Miocene Cierbo Formation sandstones and claystone

Notes:
1) Wells are generally shown from south to north.
2) Distances and sand pack intervals are not to scale.

ERD-FS-GSA-3037

Figure 1-27. Well completion chart for the eastern GSA.

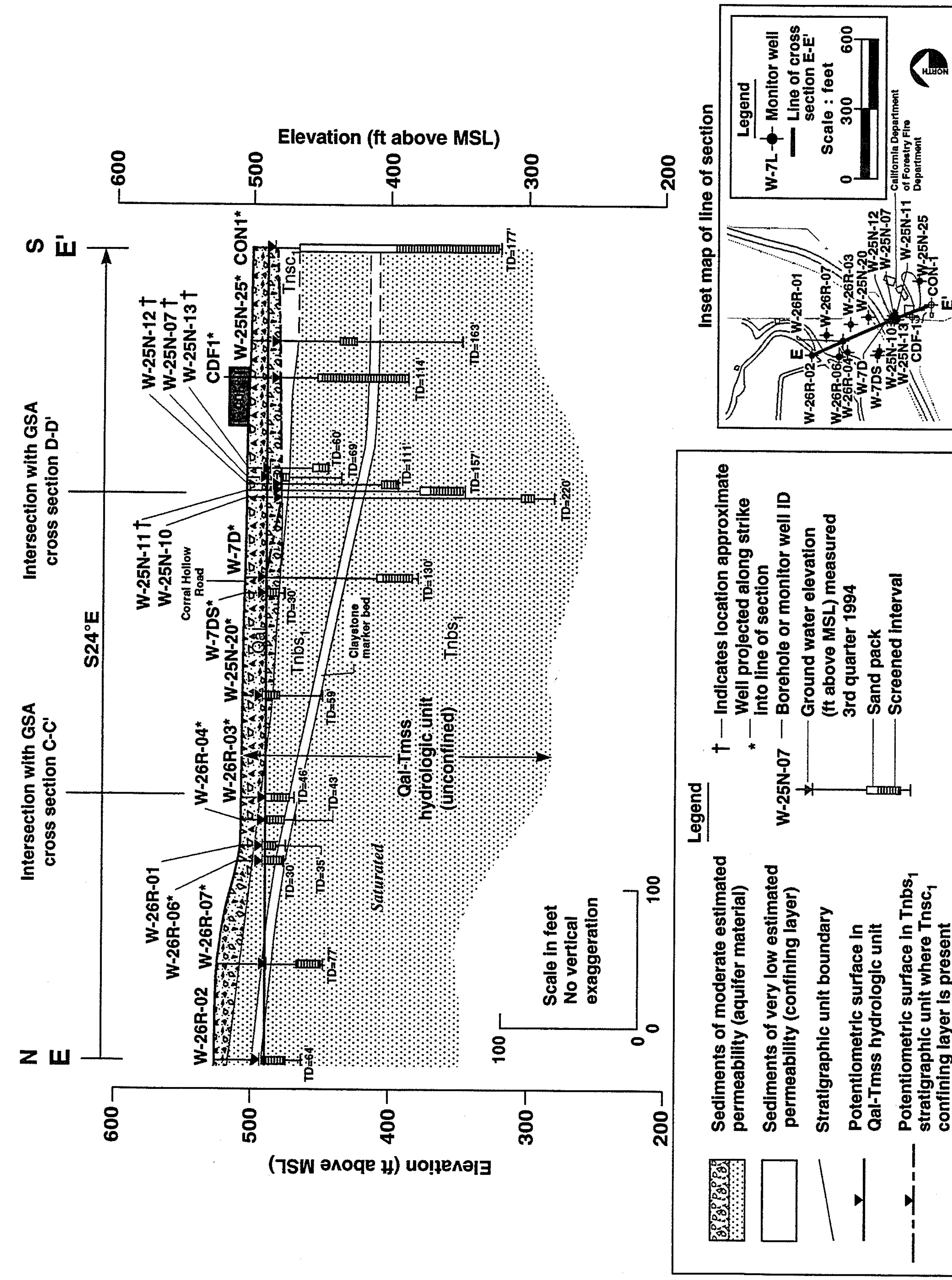
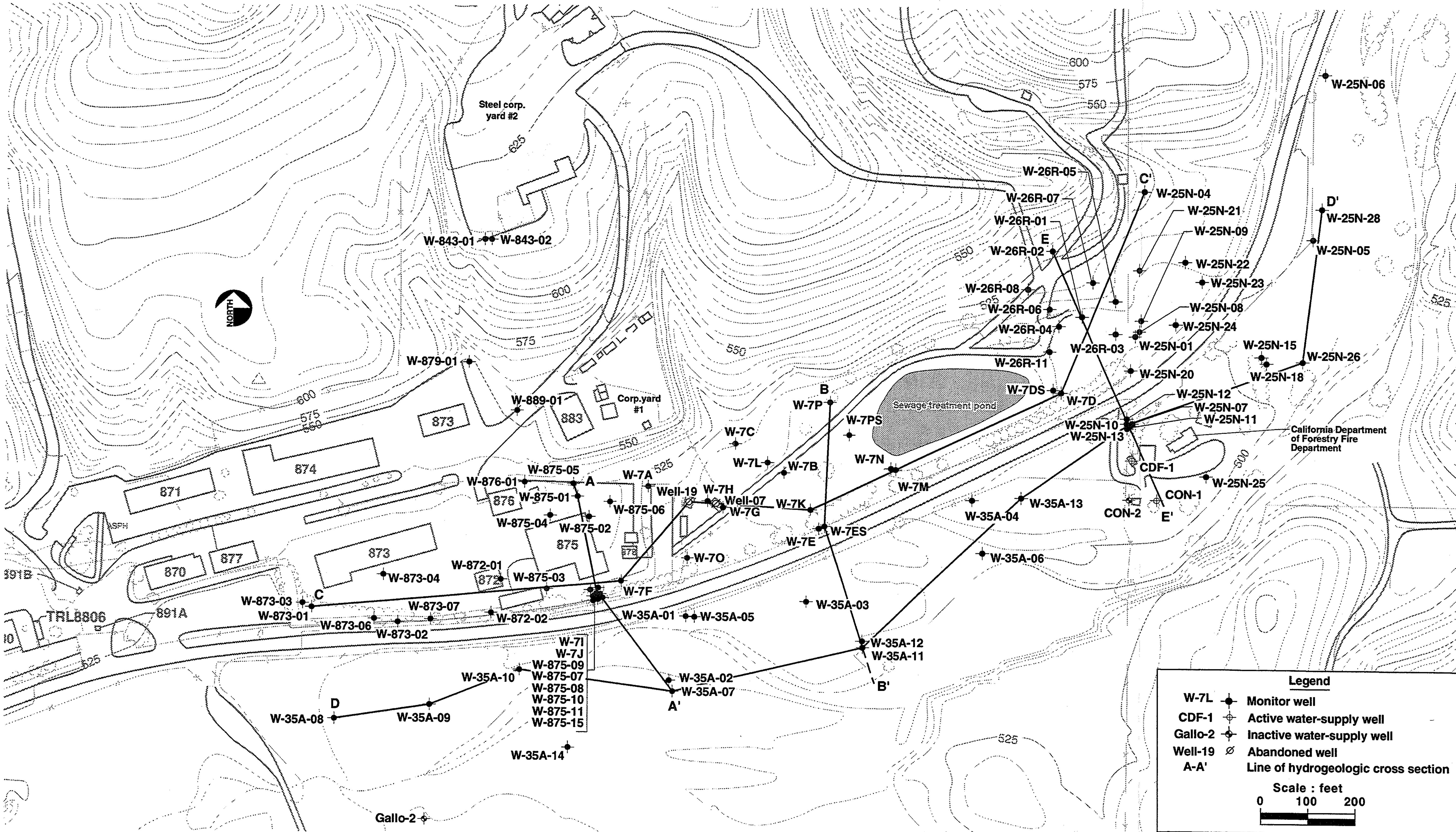


Figure 1-28. Hydrogeologic cross section E-E' in the eastern GSA.



ERD-FS-GSA-3245
GSA-Base 200'(12/94)

Figure 1-29. Lines of hydrogeologic cross sections in the central and eastern GSA.

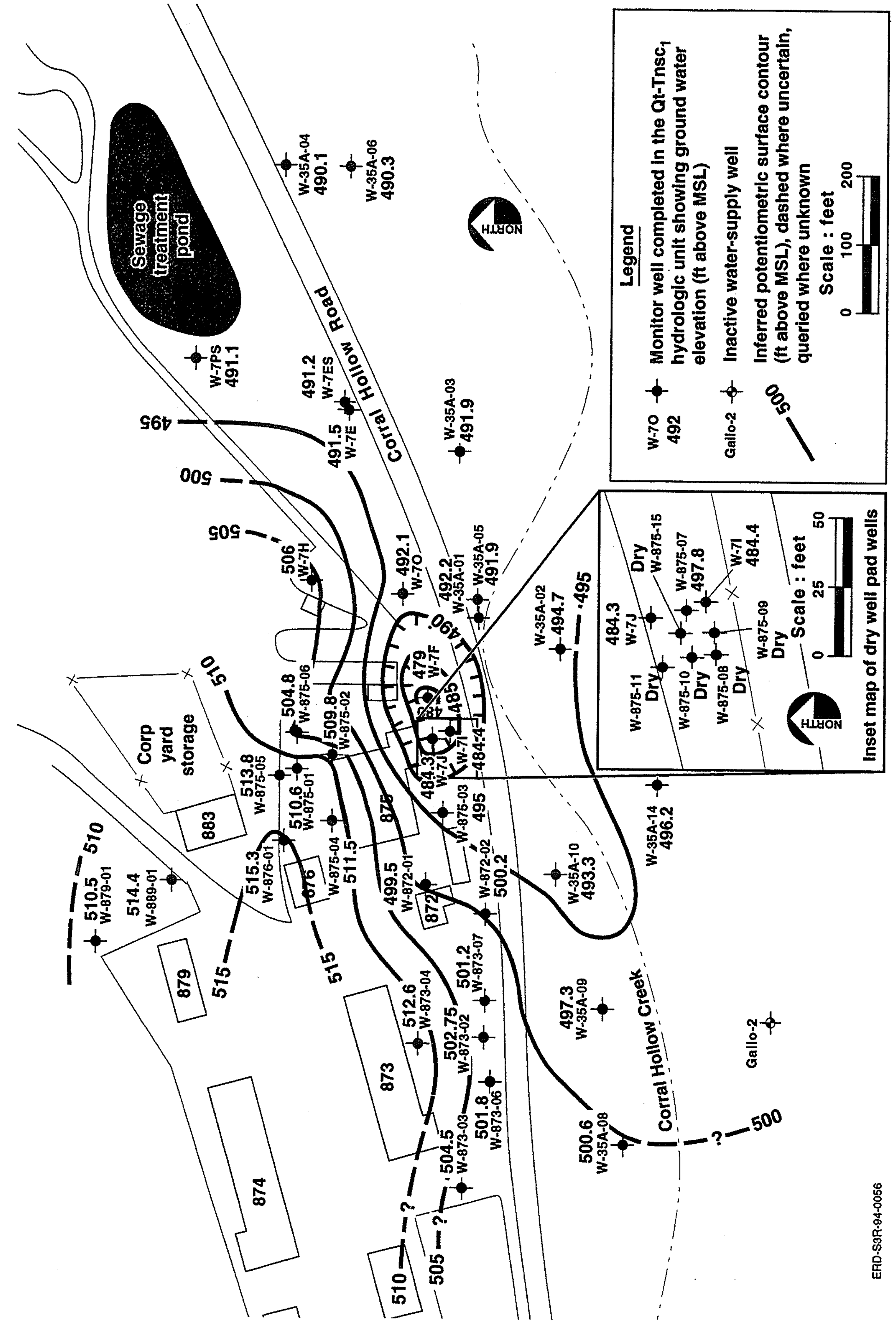


Figure 1-30. Potentiometric surface map of the Qt-Tnsc$_1$ hydrologic unit in the central GSA (3rd quarter 1994 data).

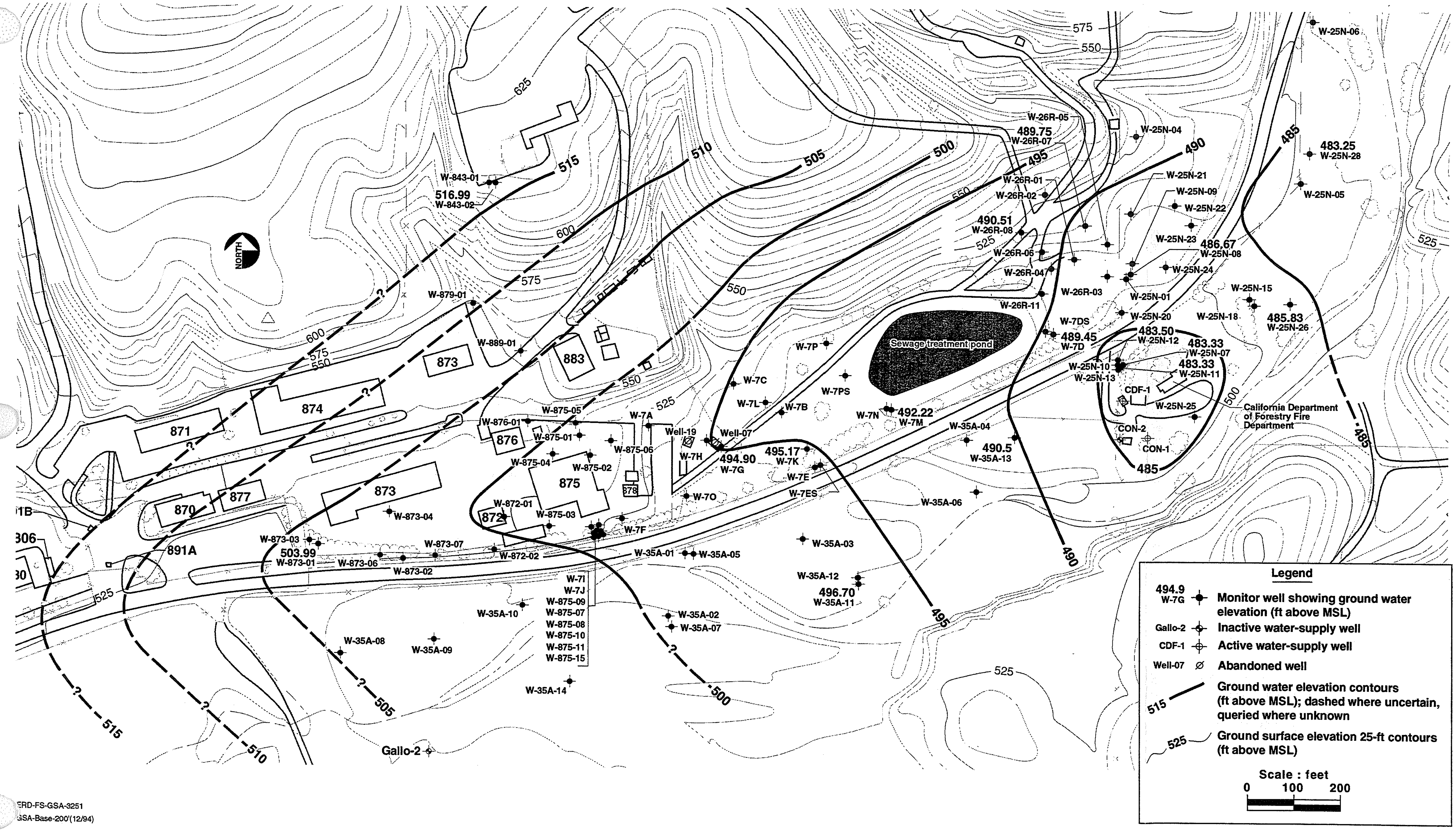


Figure 1-31. Potentiometric surface map of the Tnbs$_1$ hydrologic unit below the claystone marker bed, central and eastern GSA (3rd quarter 1994 data).

ERD-S3R-94-0058

Figure 1-32. Potentiometric surface map of the alluvium (Qal) and shallow bedrock ($Tnbs_1$) in the eastern GSA (3rd quarter 1994 data).

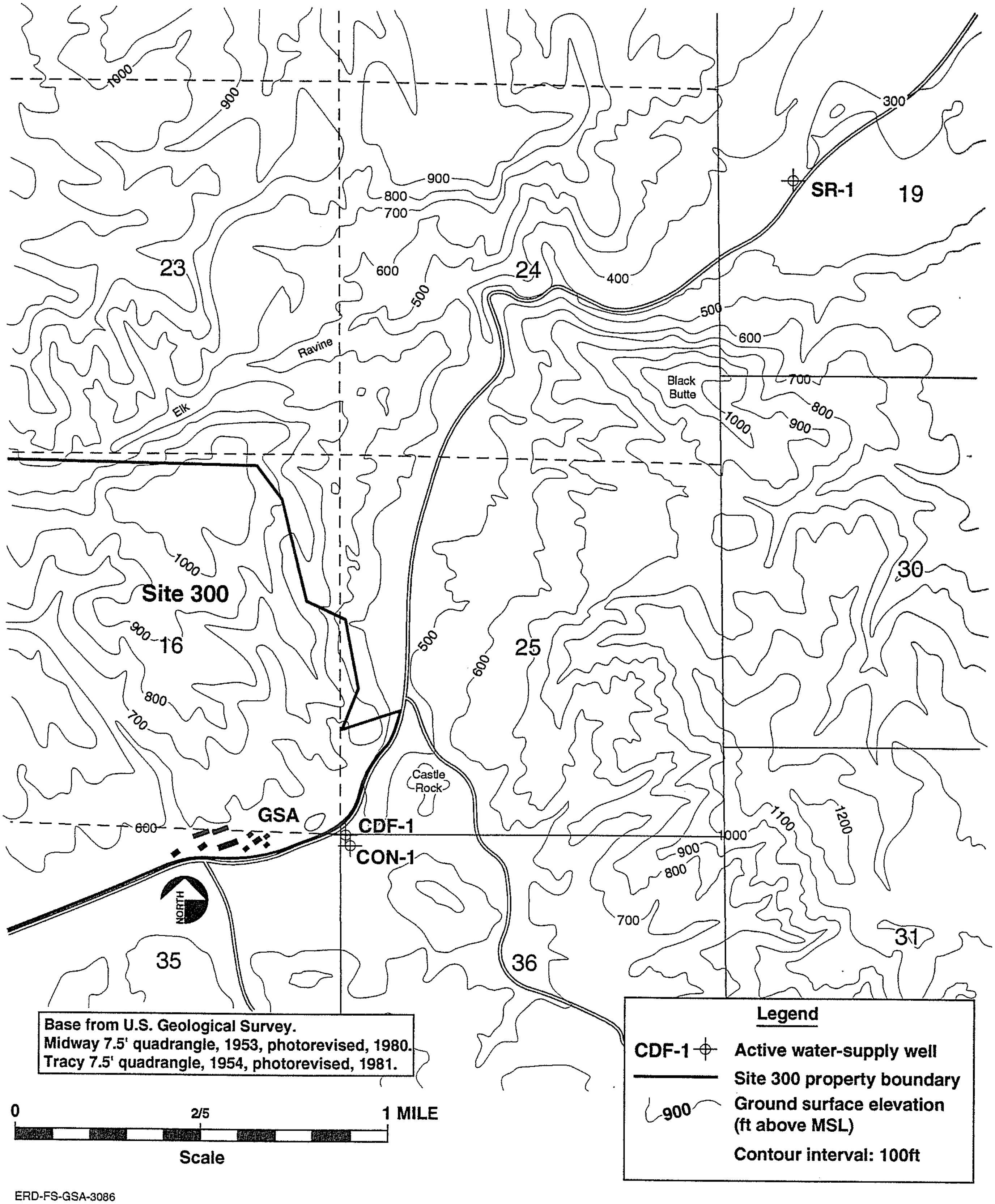


Figure 1-33. Locations of active water-supply wells.

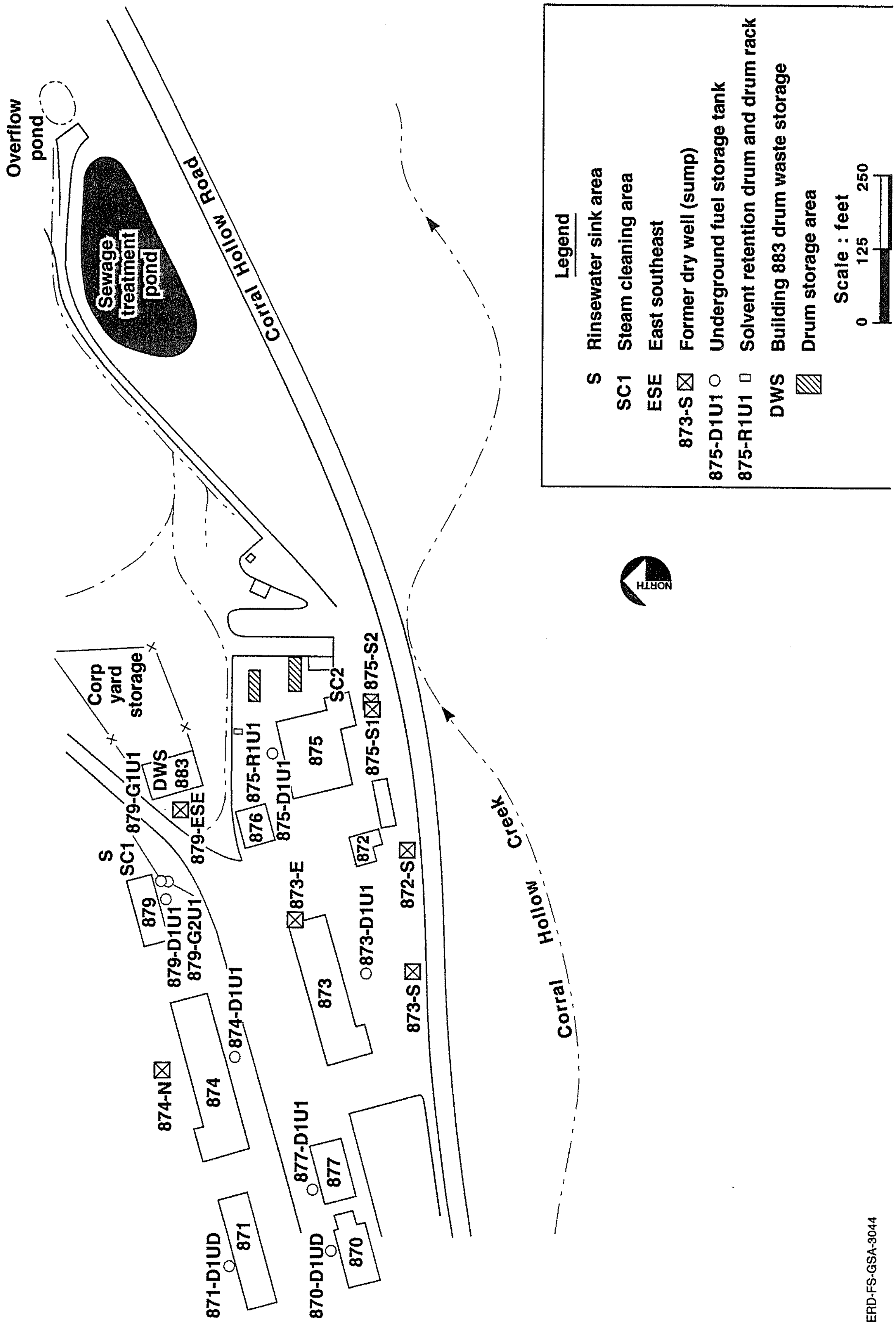


Figure 1-34. Possible chemical release sites in the central GSA.

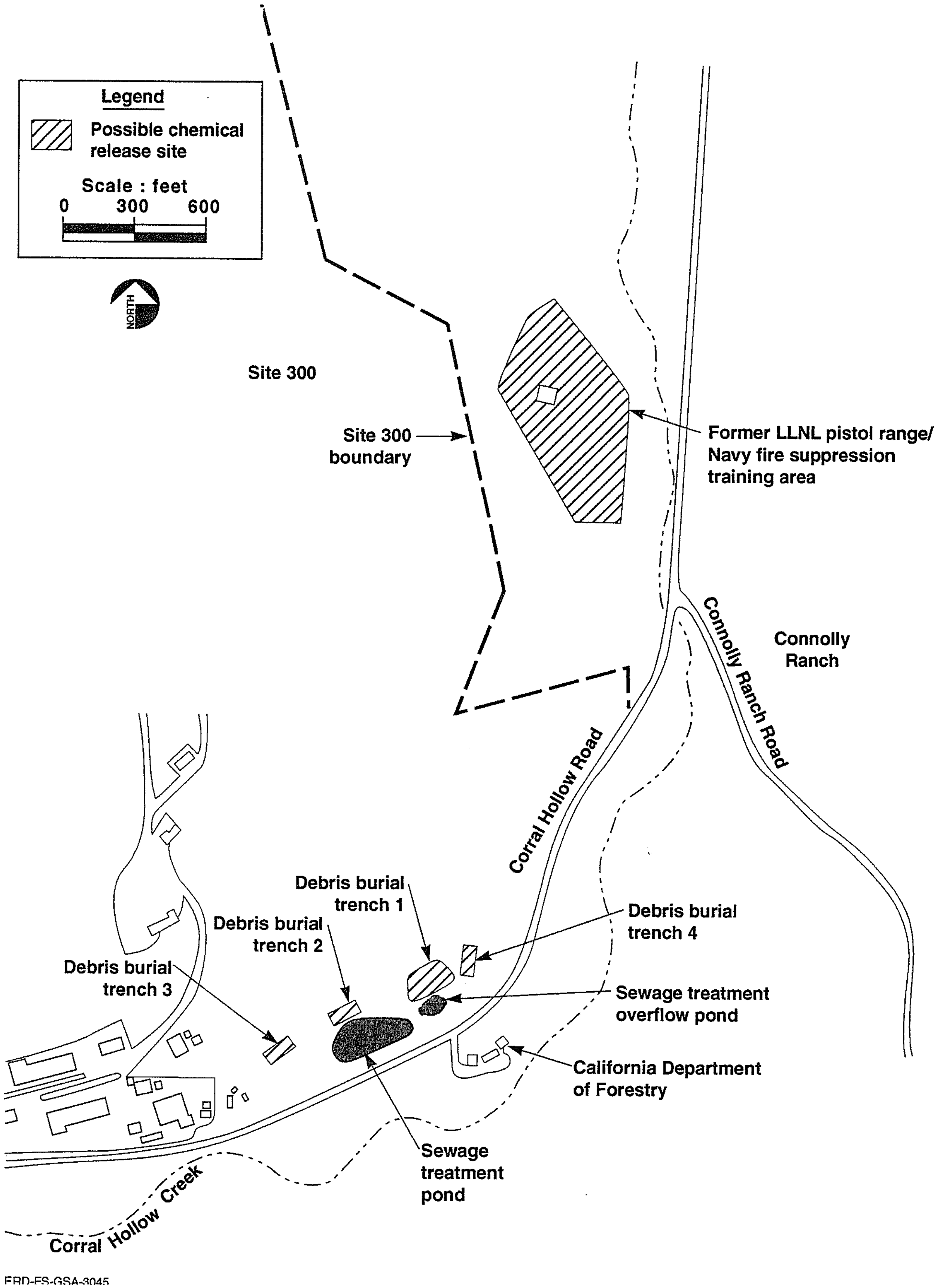


Figure 1-35. Possible chemical release sites in the eastern GSA.

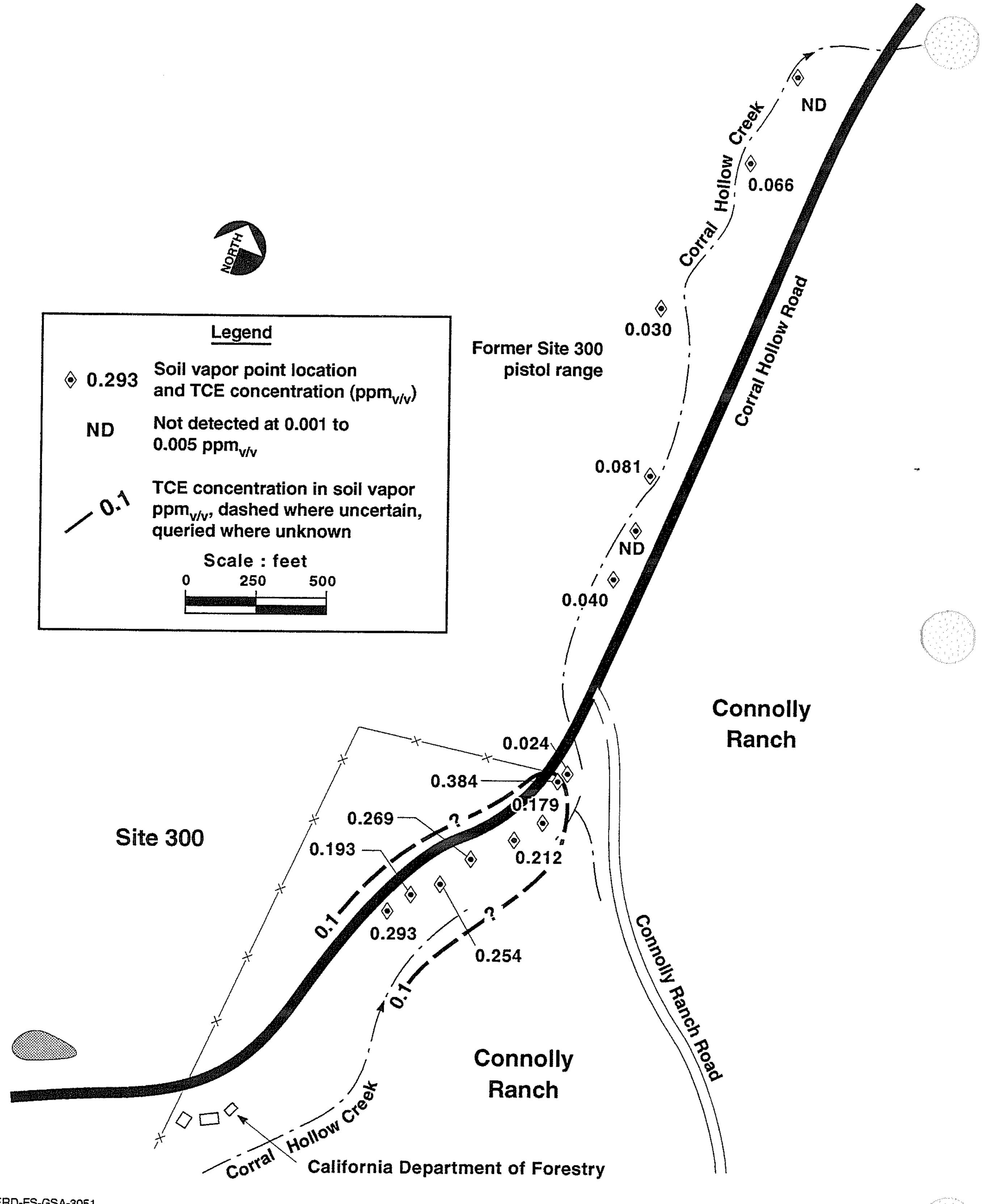


Figure 1-36. TCE concentrations in AVI soil vapor point locations north of well W-25N-06, downstream of Corral Hollow Creek, measured in either October 1988, June 1989, or July 1989.

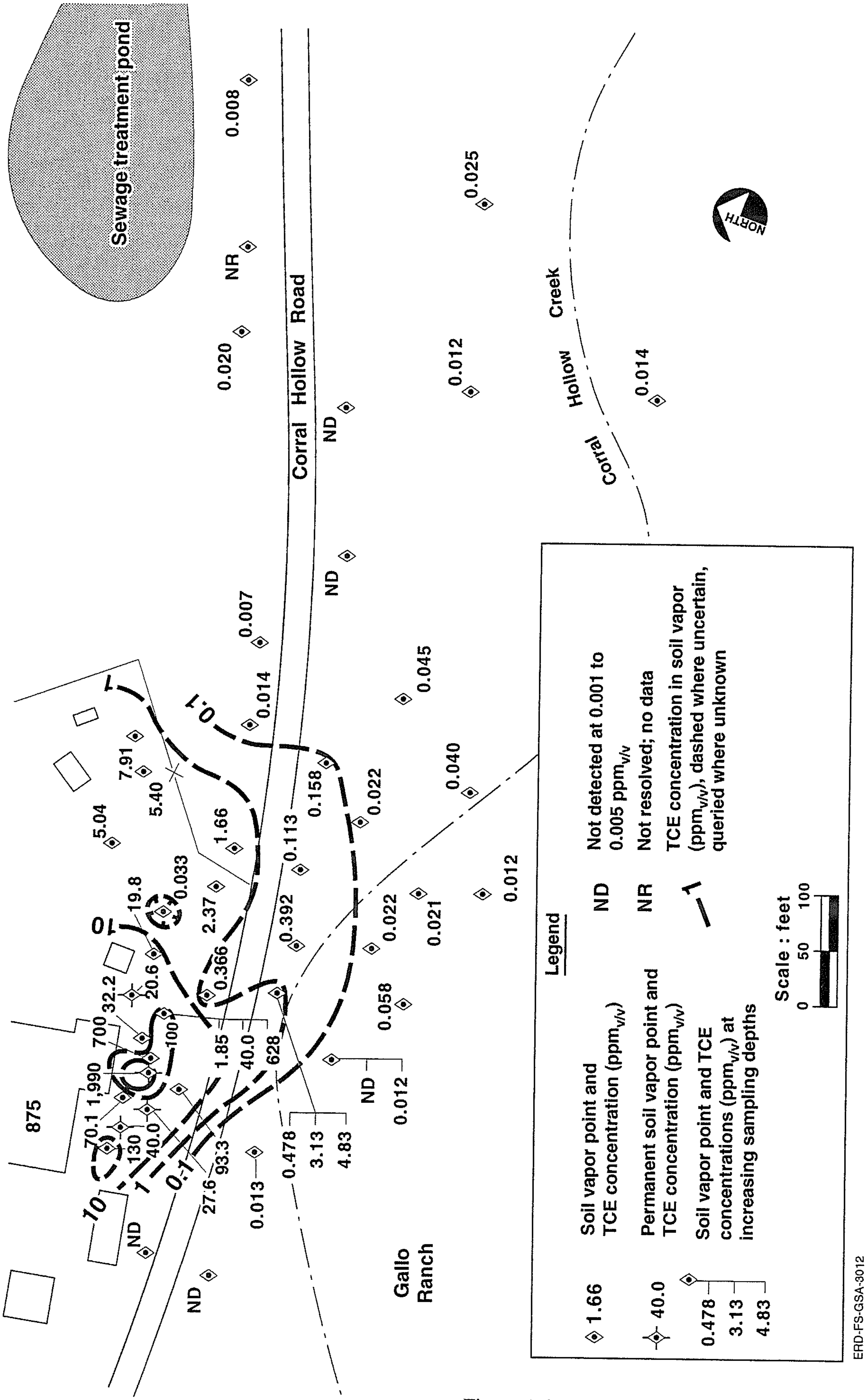


Figure 1-37. TCE concentrations in AVI soil vapor point locations in the central GSA, measured in either October 1988, June 1989, or July 1989.

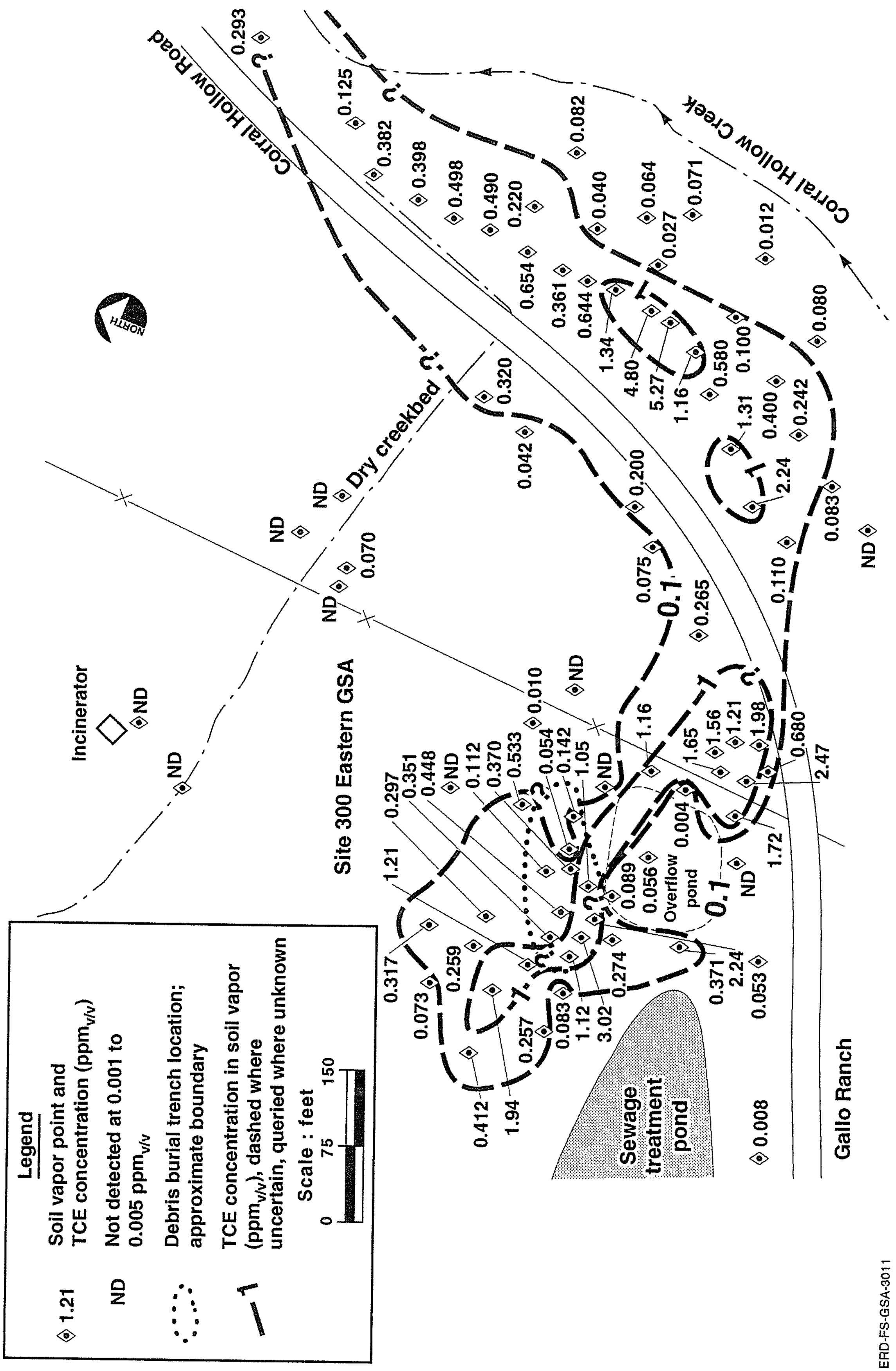


Figure 1-38. TCE concentrations in AVI soil vapor point locations in the eastern GSA, including portions of the Connolly Ranch, measured in either October 1988, June 1989, or July 1989.

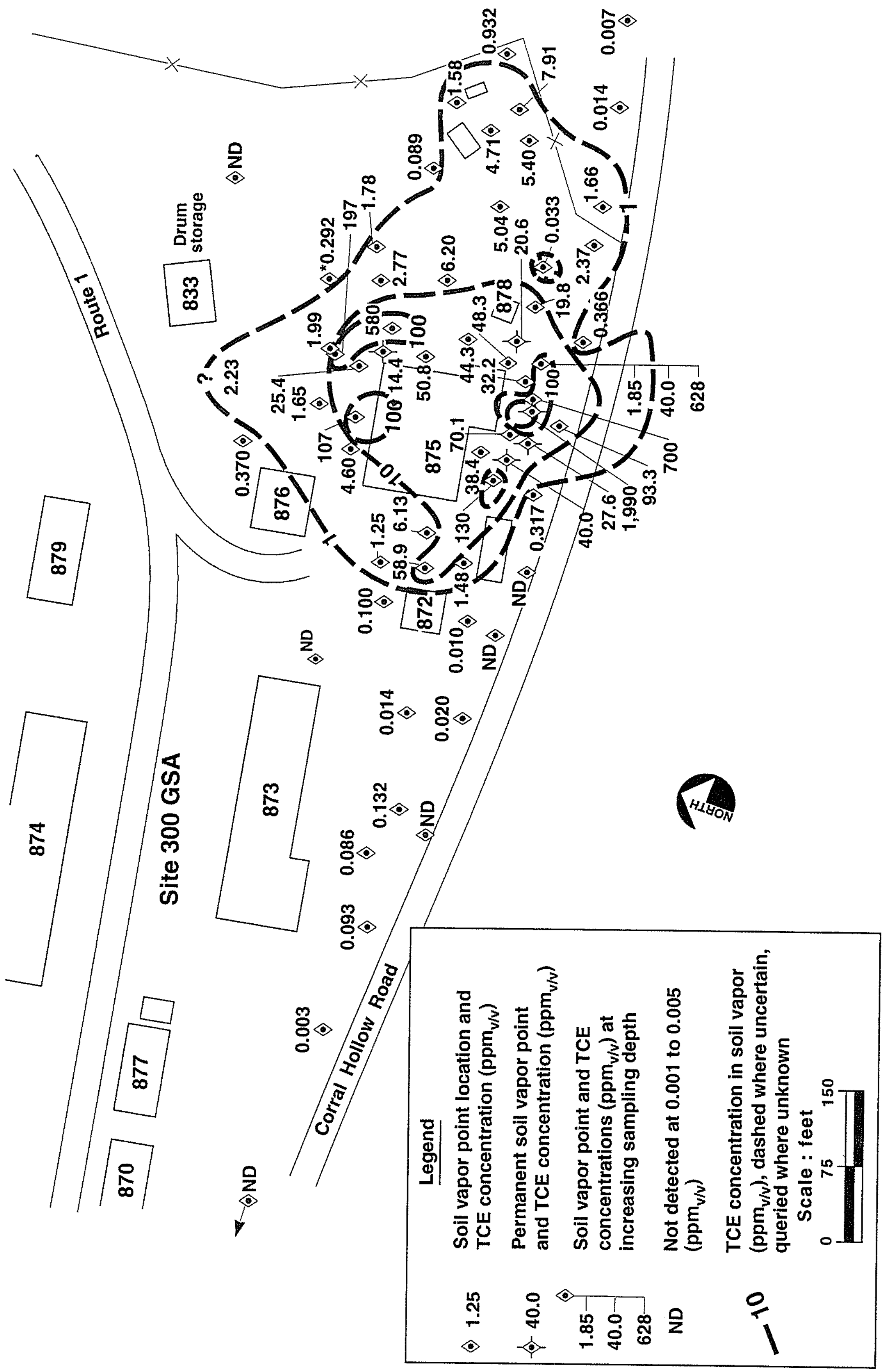


Figure 1-39. TCE concentrations in AVI soil vapor point locations near Building 875 of the central GSA, measured either in October 1988, June 1989, or July 1989.

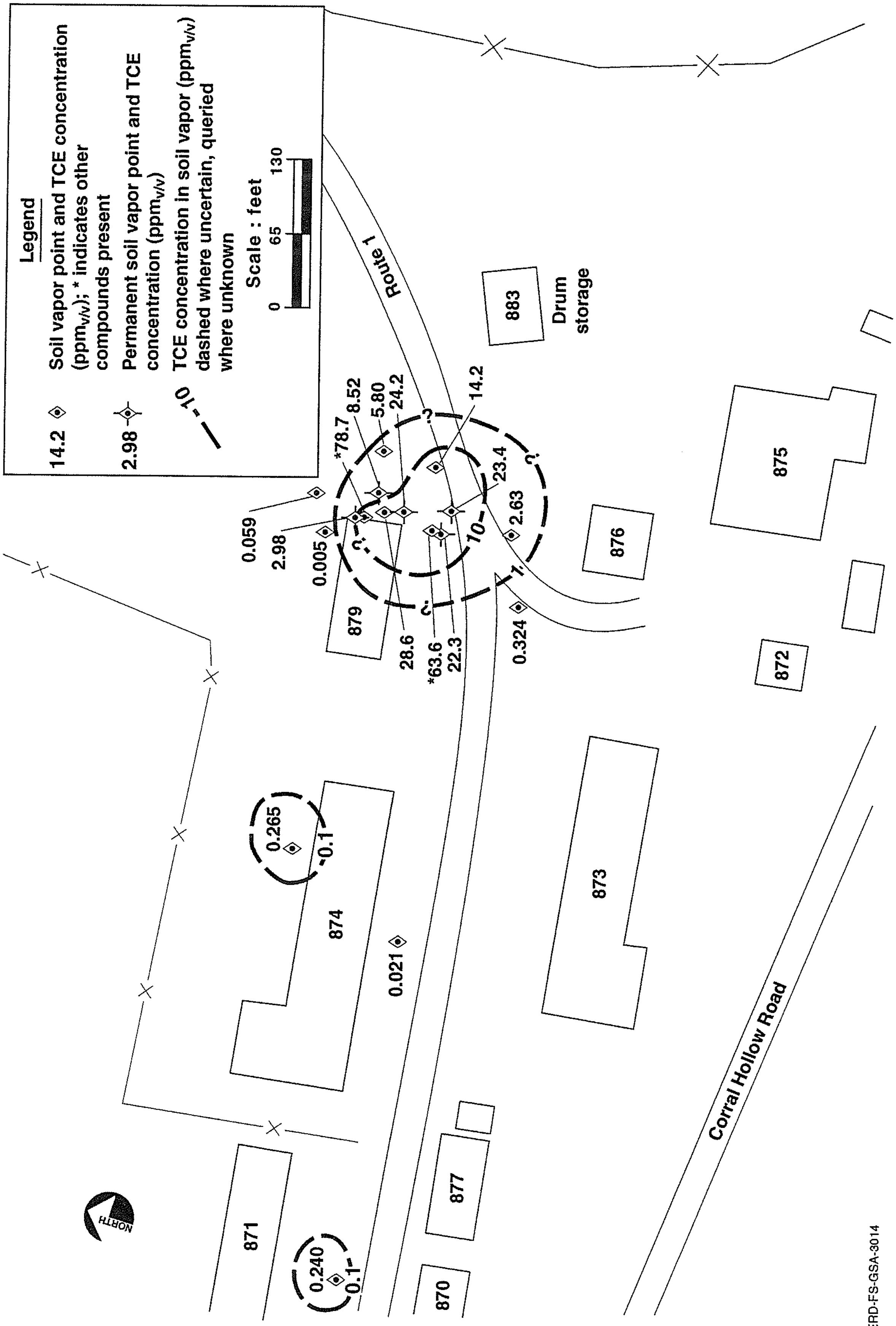


Figure 1-40. TCE concentrations in AVI soil vapor point locations near Building 879 in the central GSA, measured either in October 1988, June 1989, or July 1989.

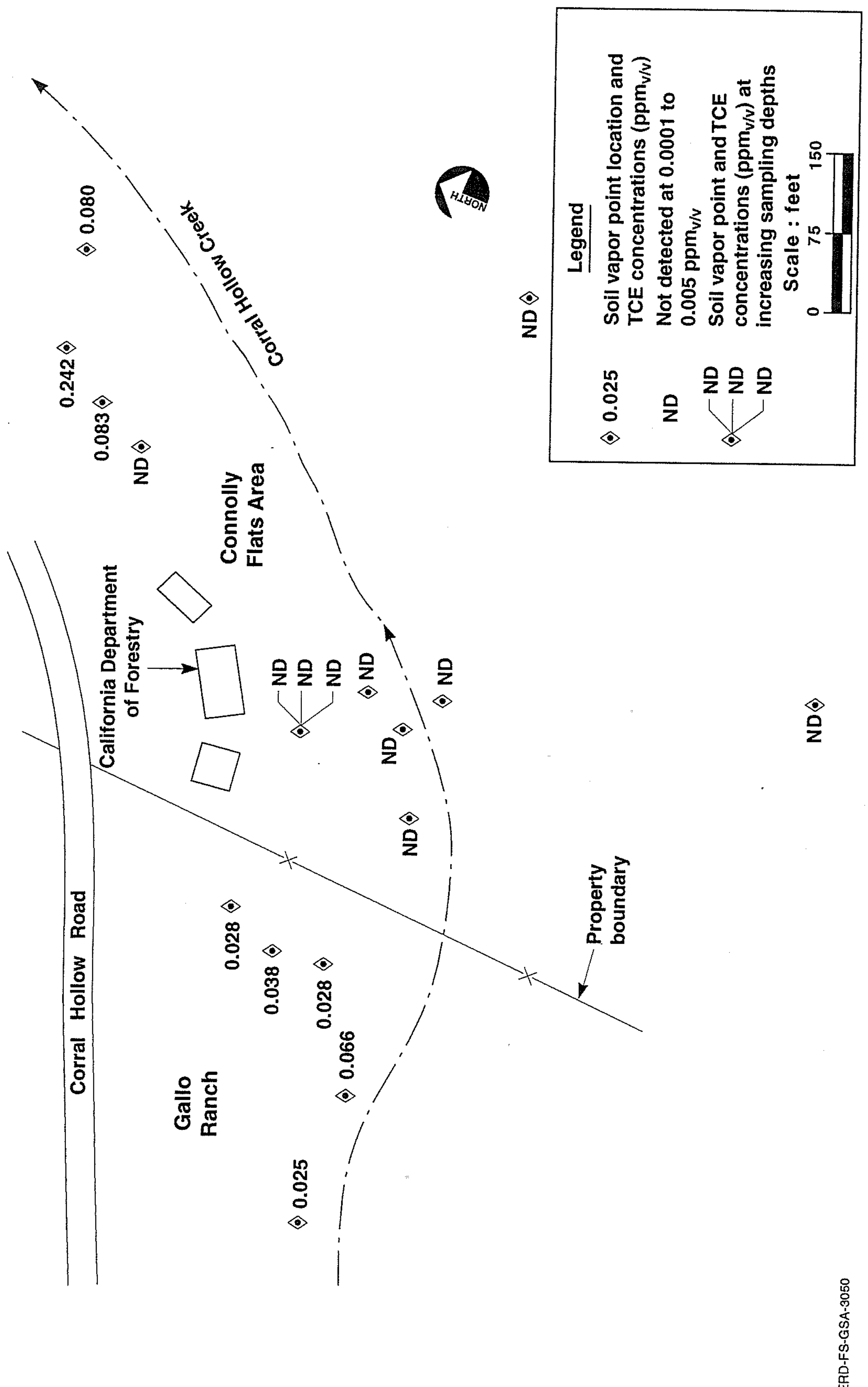


Figure 1-41. TCE concentrations in AVI soil vapor point locations at the eastern Gallo Ranch and the southwestern Connolly Ranch section adjacent to the GSA, measured either in October 1988, June 1989, or July 1989.

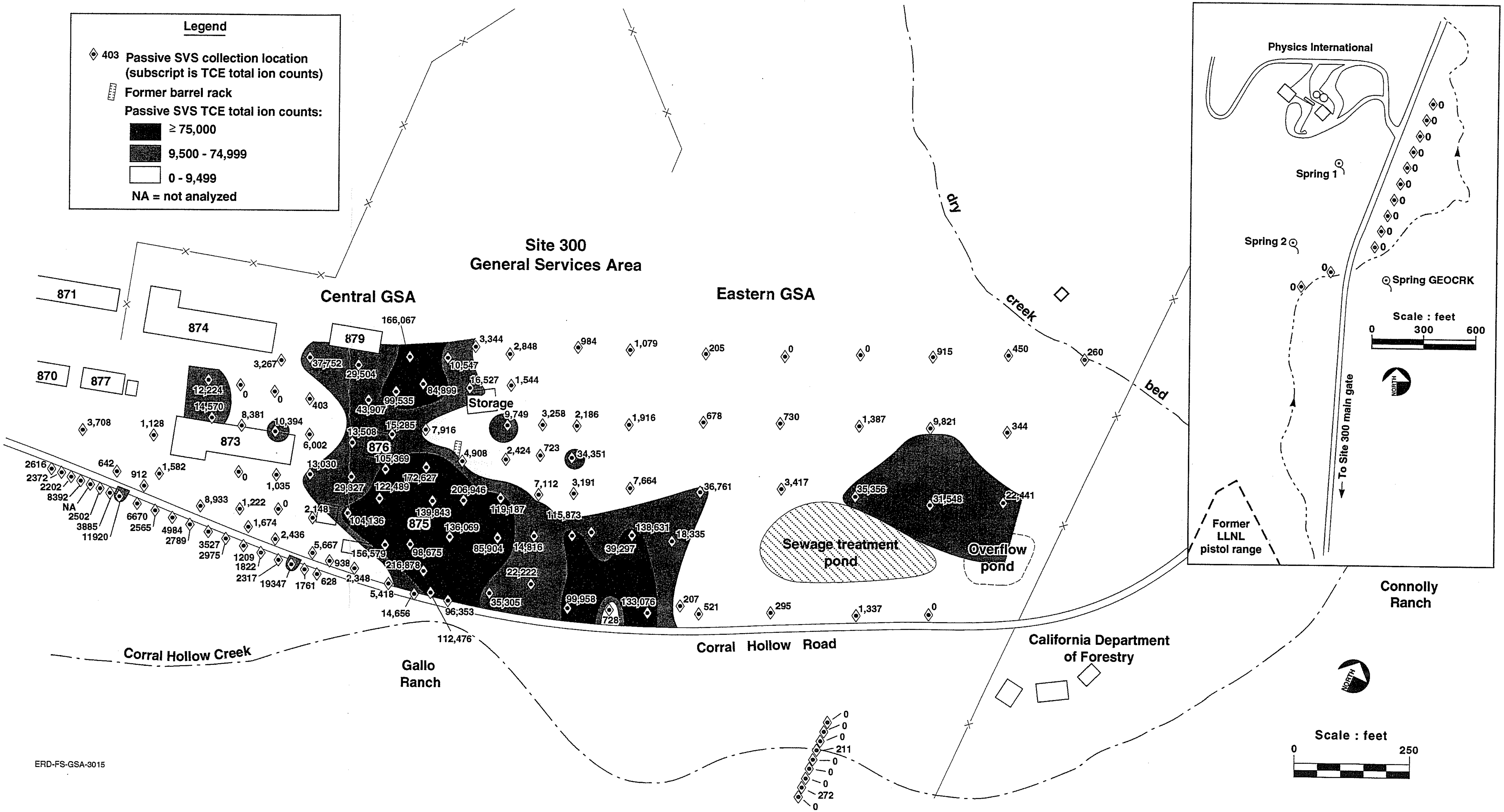
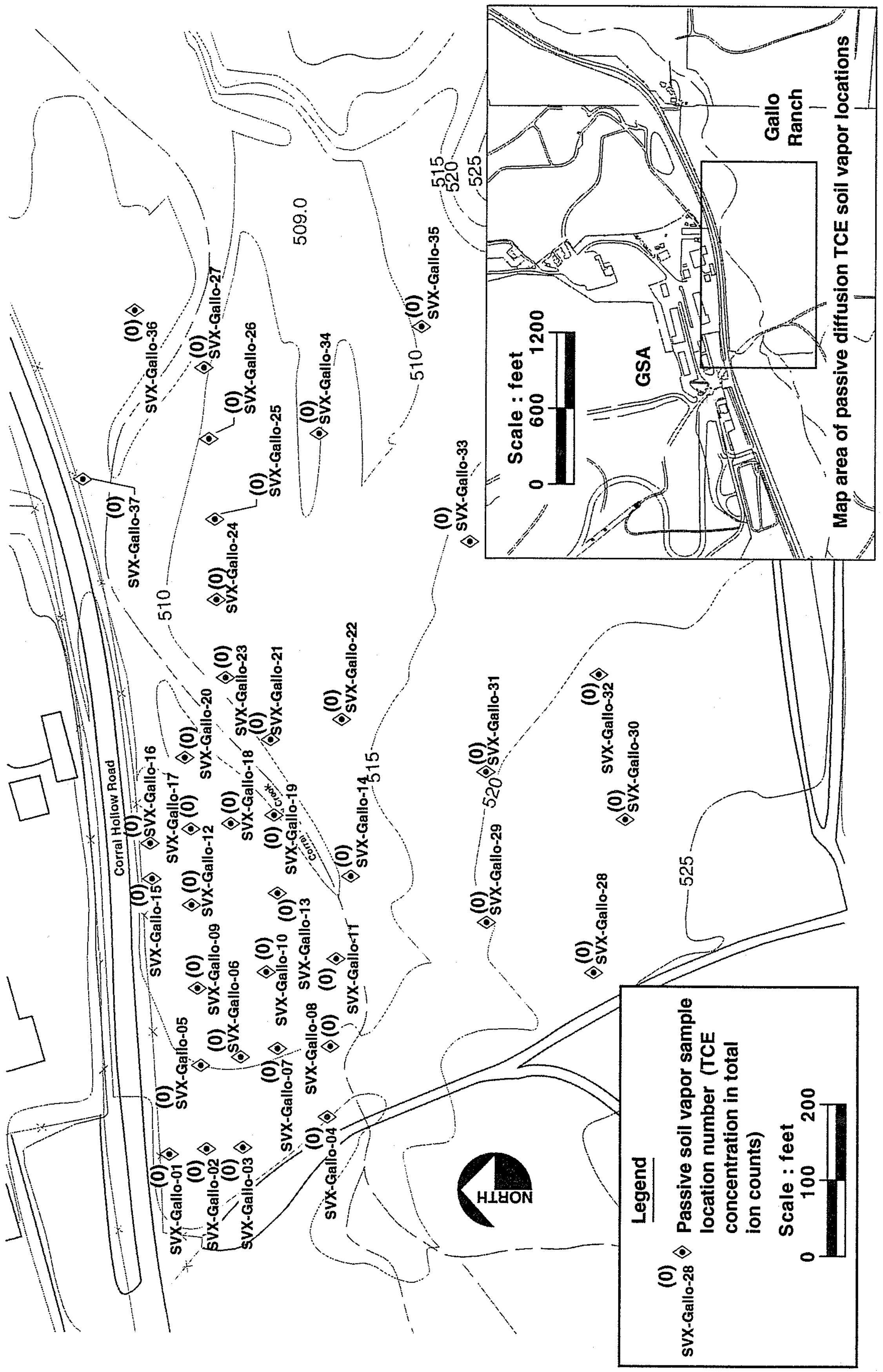


Figure 1-42. Passive diffusion TCE soil vapor point location map of the central and eastern GSA.



NOTE: SVX locations on map are approximate

ERD-FS-GSA-3241

Figure 1-43. TCE concentrations in passive soil vapor point locations at Gallo Ranch south of the central GSA.

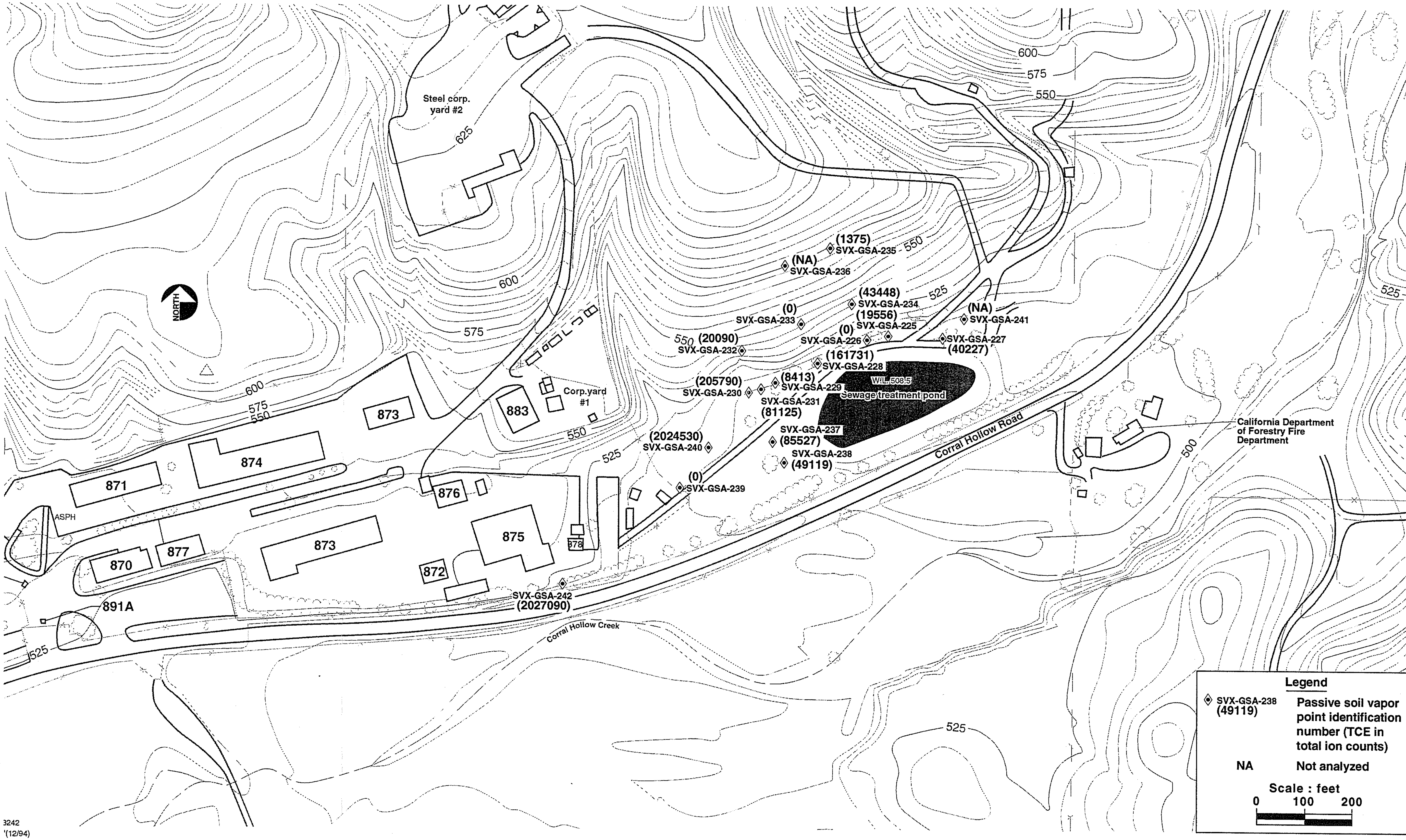
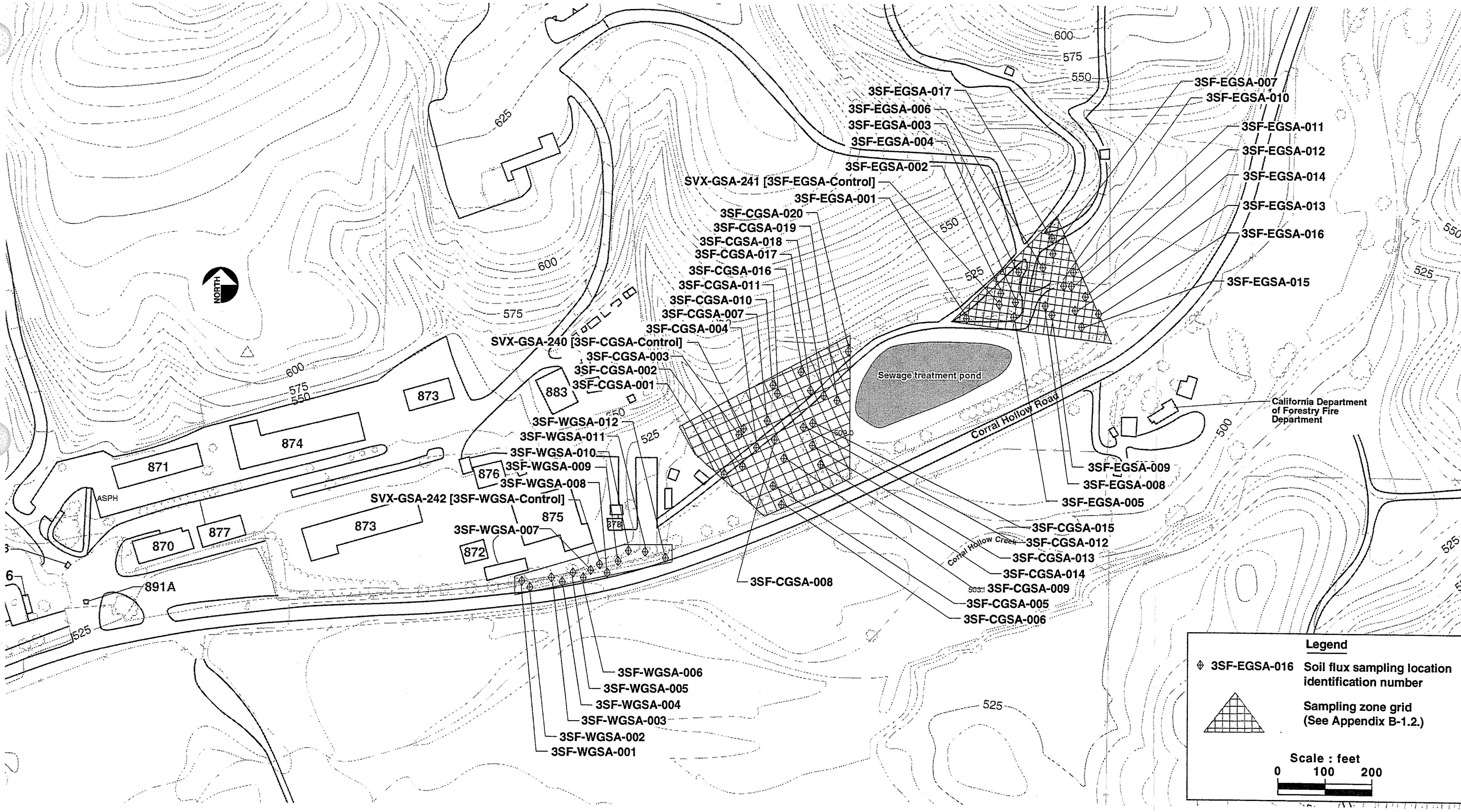


Figure 1-44. TCE concentrations in passive soil vapor point locations in the central GSA.



ERD-FS-GSA-3243

Figure 1-45. Soil flux sampling point locations in the eastern and central GSA and the Building 875 dry well area.

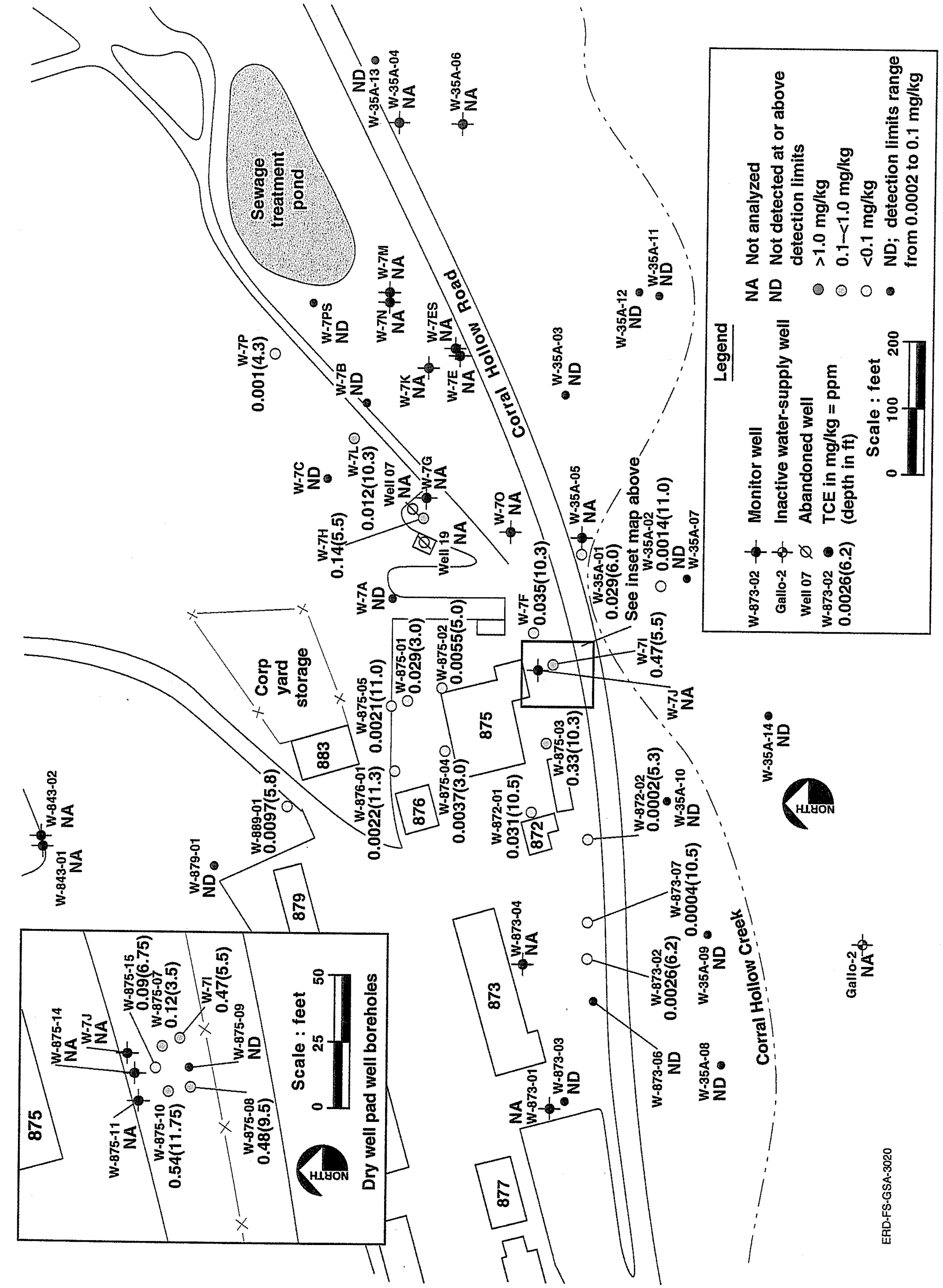


Figure 1-46. Maximum TCE concentrations in borehole soil samples collected from the upper 12 ft in the central GSA.

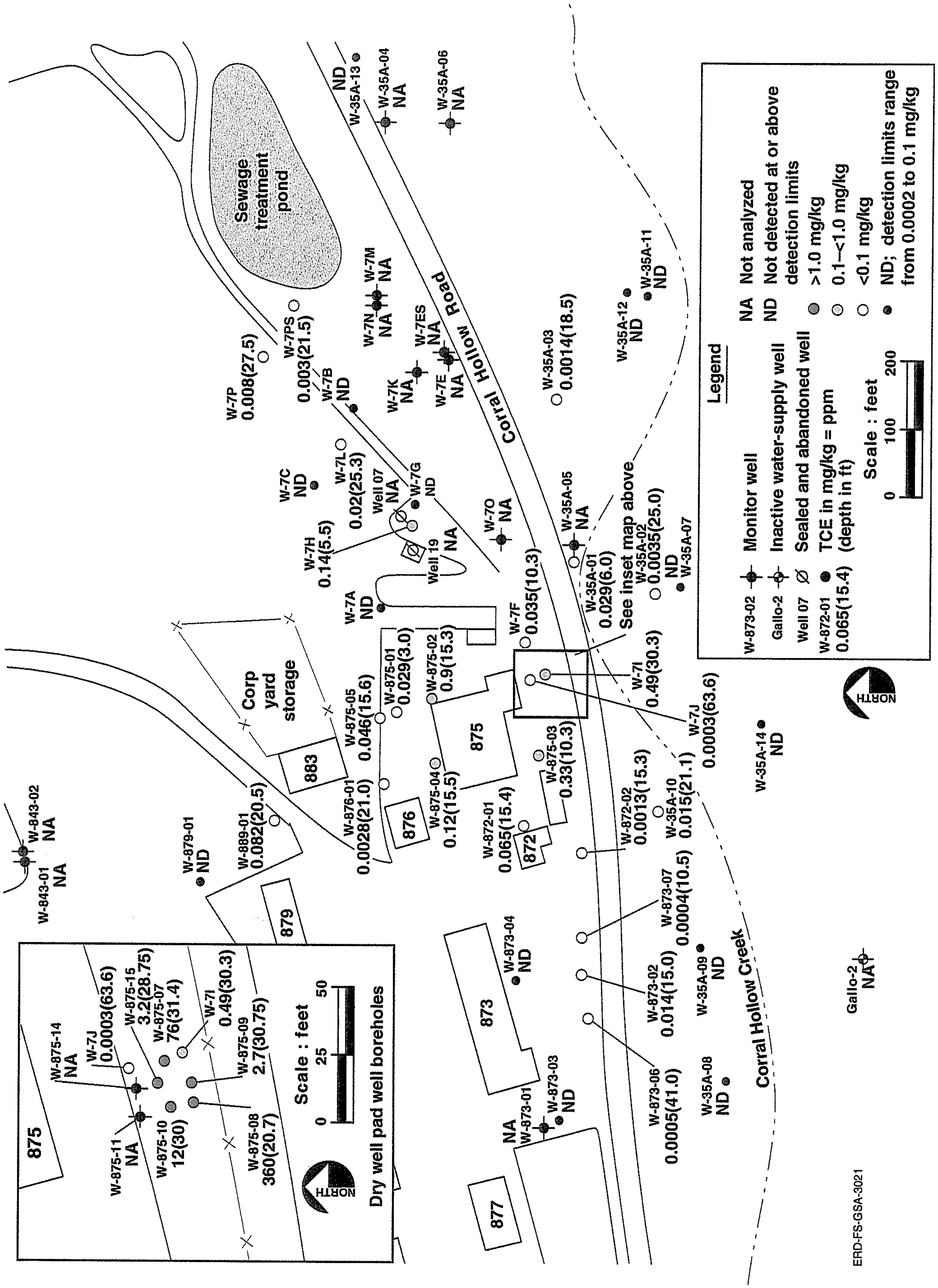


Figure 1-47. Maximum TCE concentrations in boreholesoil samples in the central GSA.

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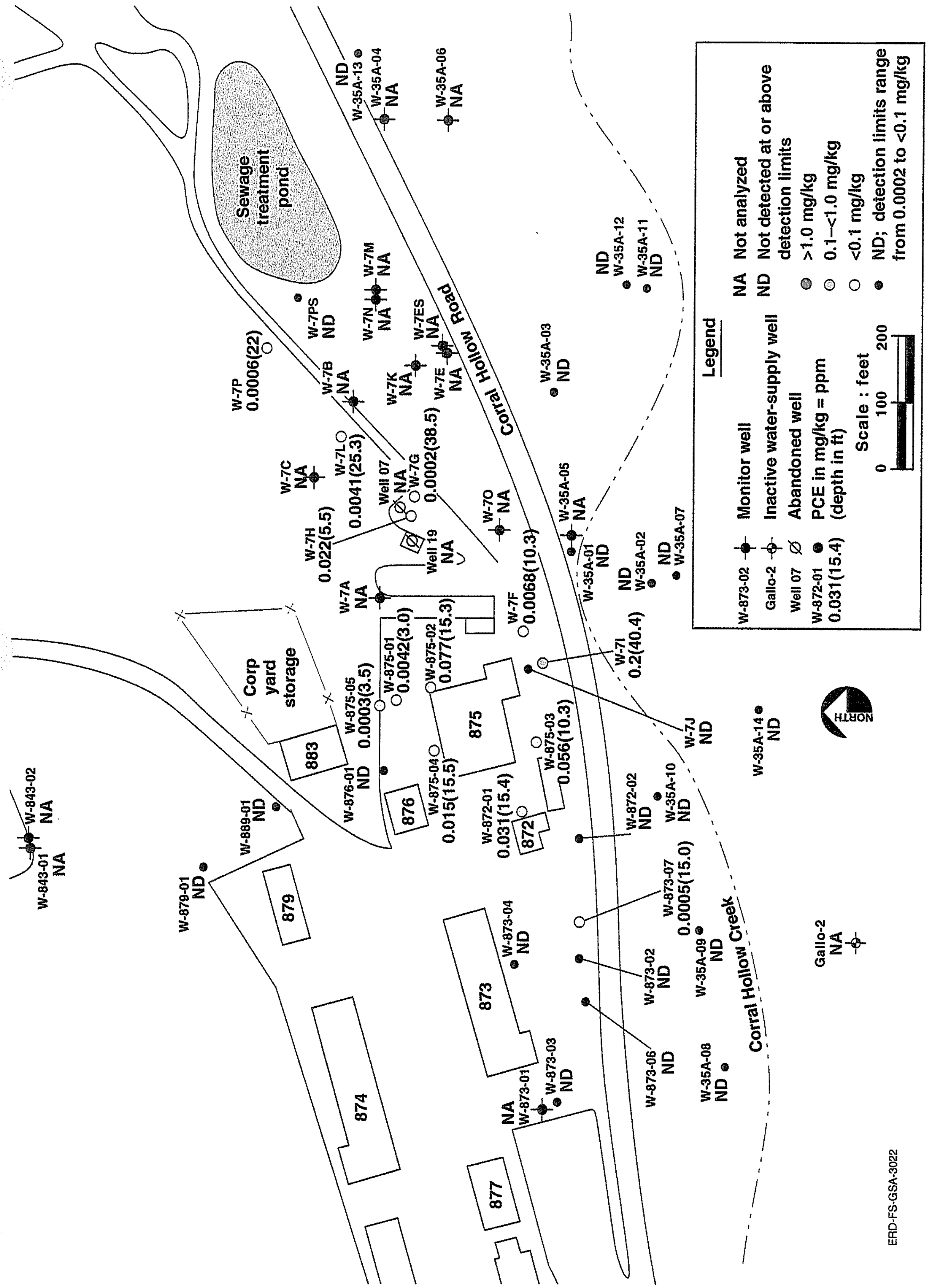

Figure 1-48. Maximum PCE concentrations in borehole soil samples in the central GSA.

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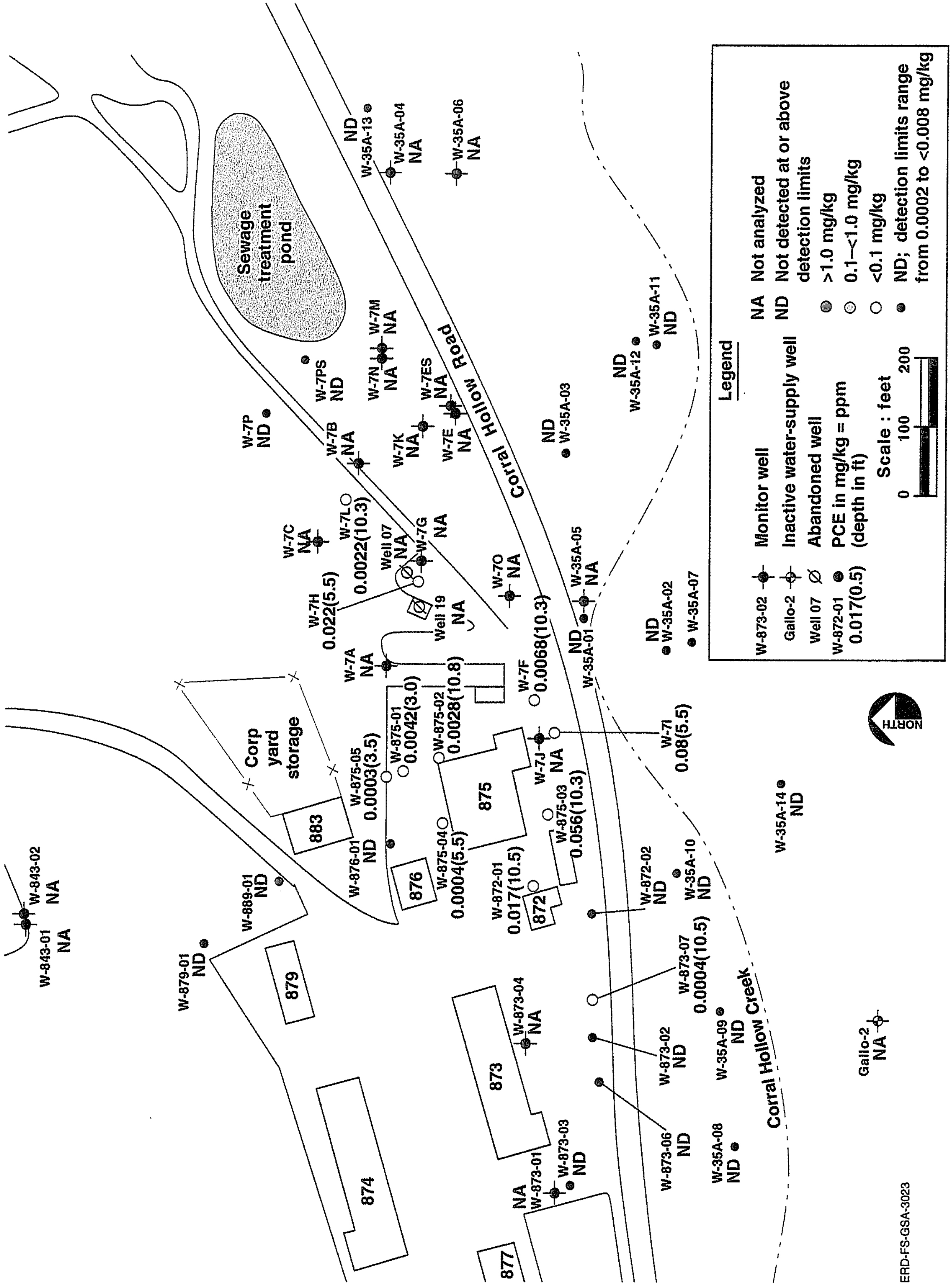

Figure 1-49. Maximum PCE concentrations in borehole soil samples collected from the upper 12 ft in the central GSA.

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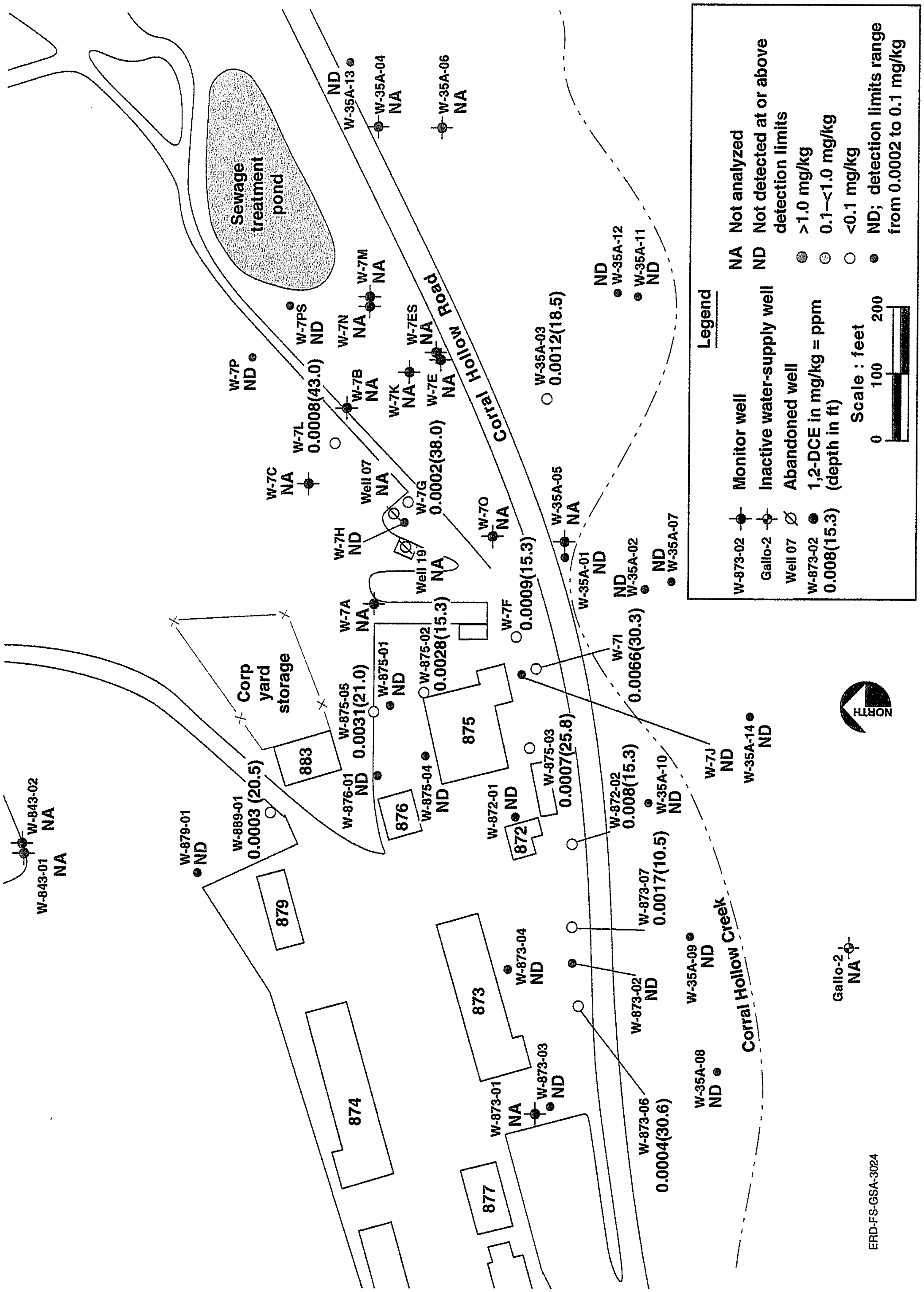

Figure 1-50. Maximum 1,2–DCE concentrations in borehole soil samples in the central GSA.

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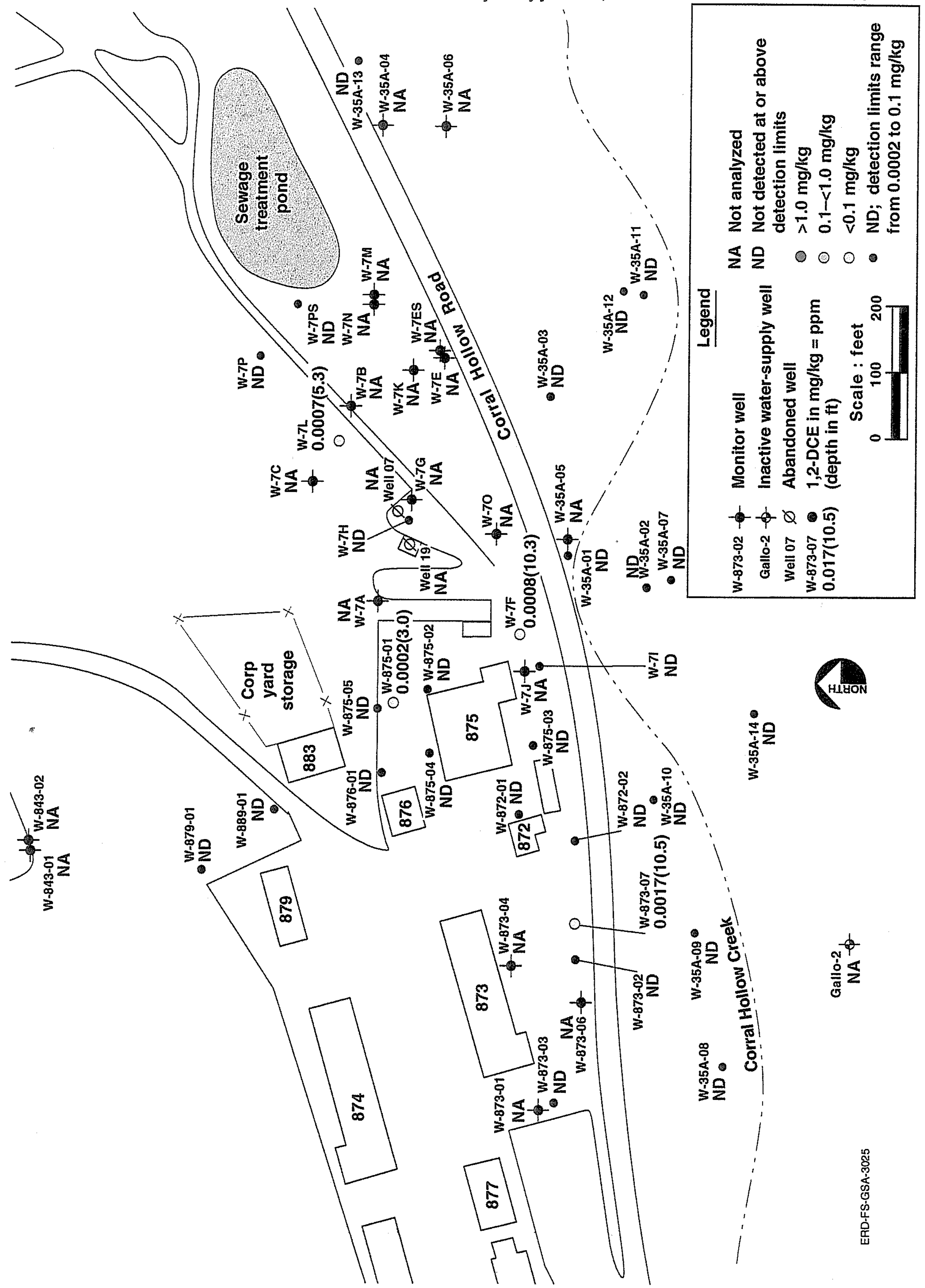

Figure 1-51. Maximum 1,2-DCE concentrations in borehole soil samples collected from the upper 12 ft in the central GSA.

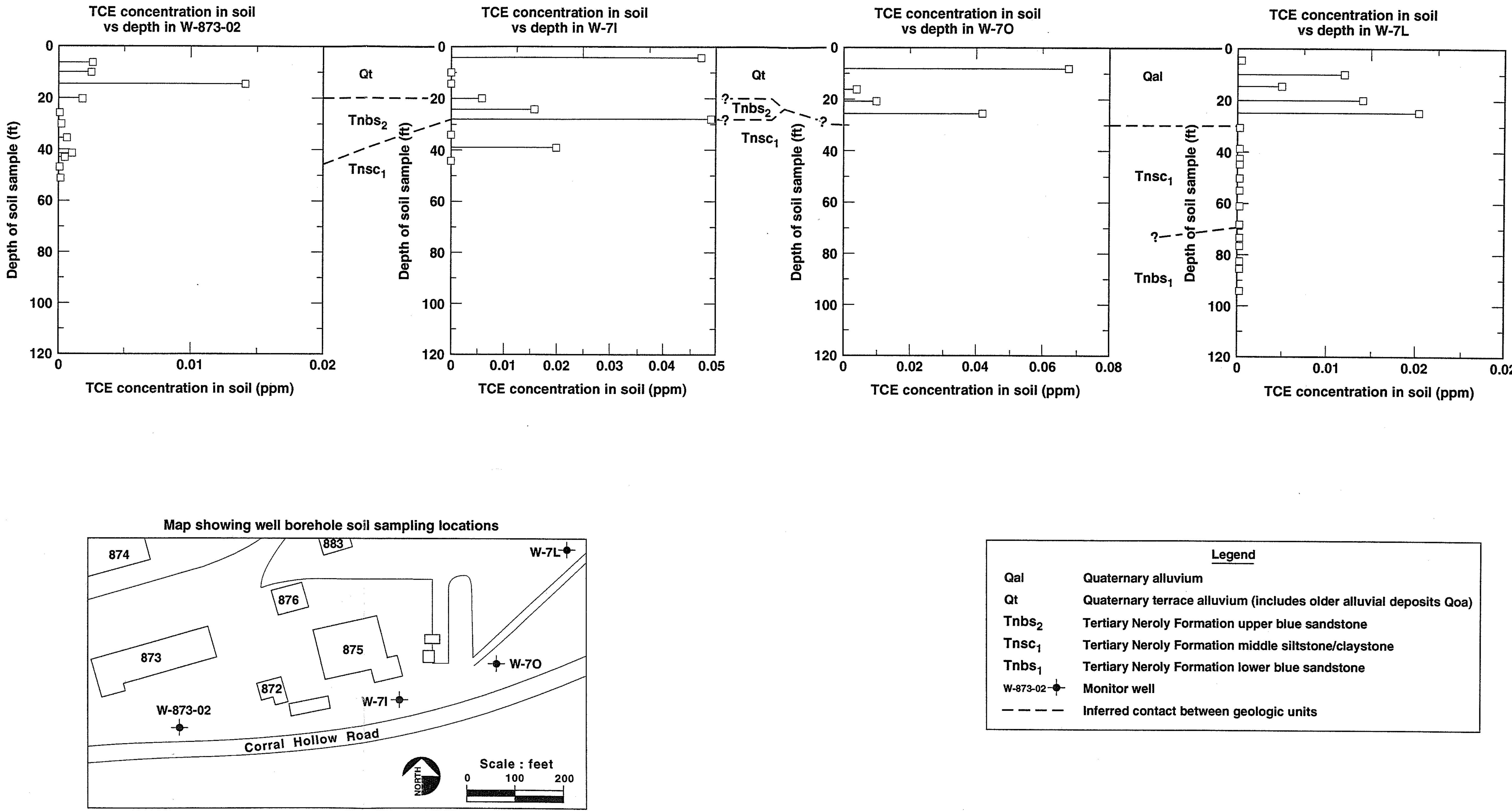

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Figure 1-52. TCE concentrations in borehole soil samples vs depth in the central GSA.

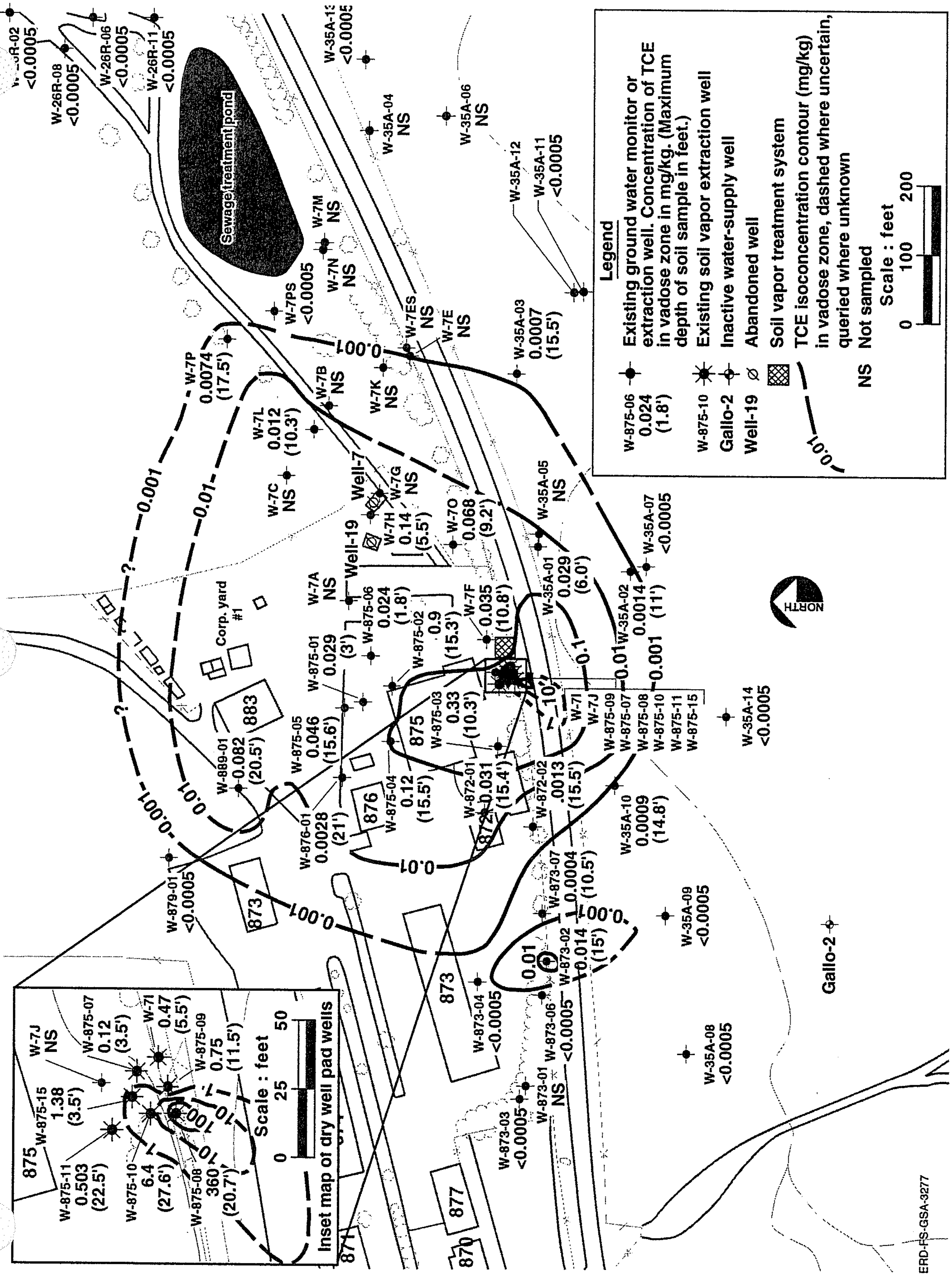

Figure 1-53. TCE isoconcentration contour map in the vadose zone with locations of soil vapor extraction wells and treatment system.

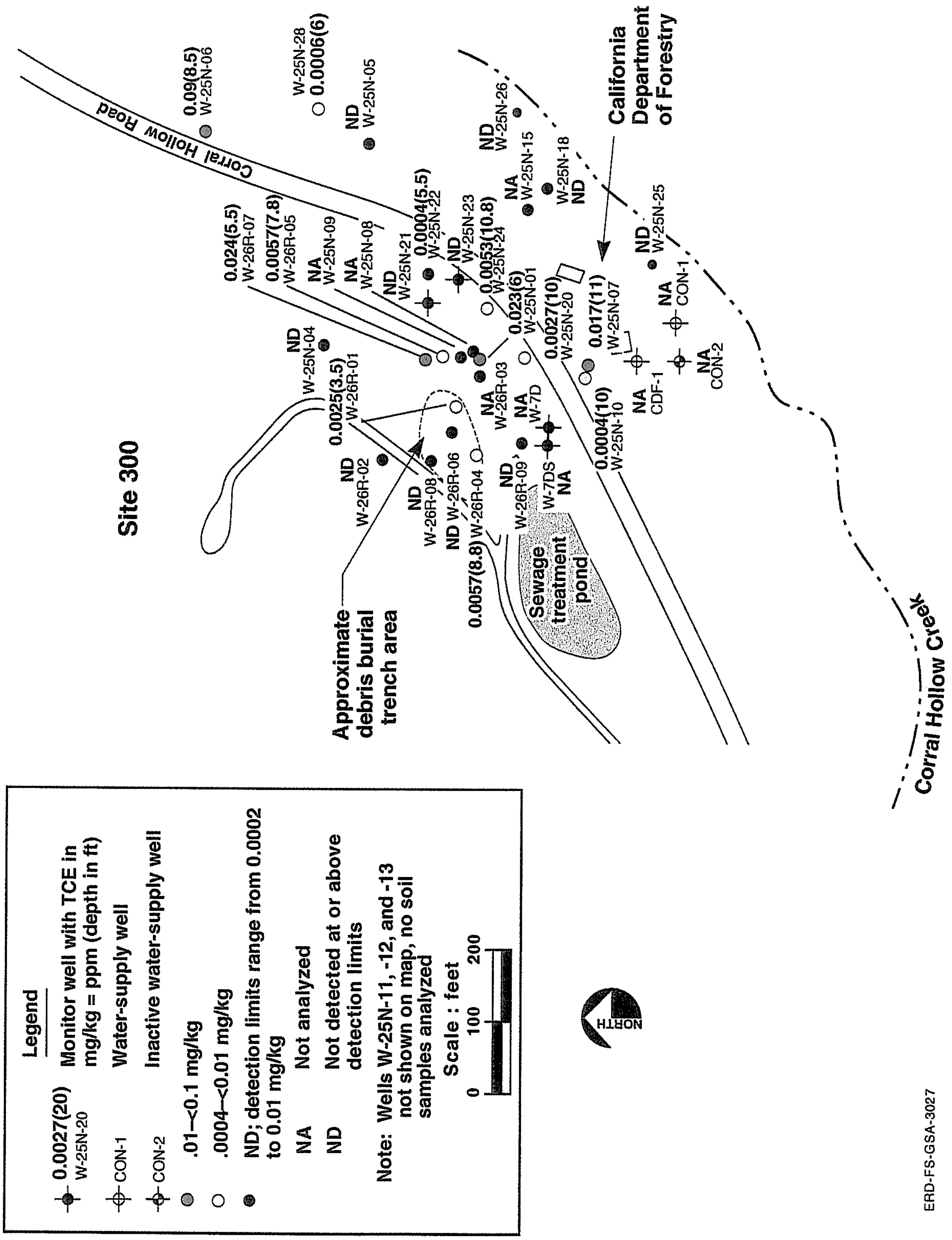

Figure 1-54. Maximum TCE concentrations in borehole soil samples collected from the upper 12 ft in the eastern GSA.

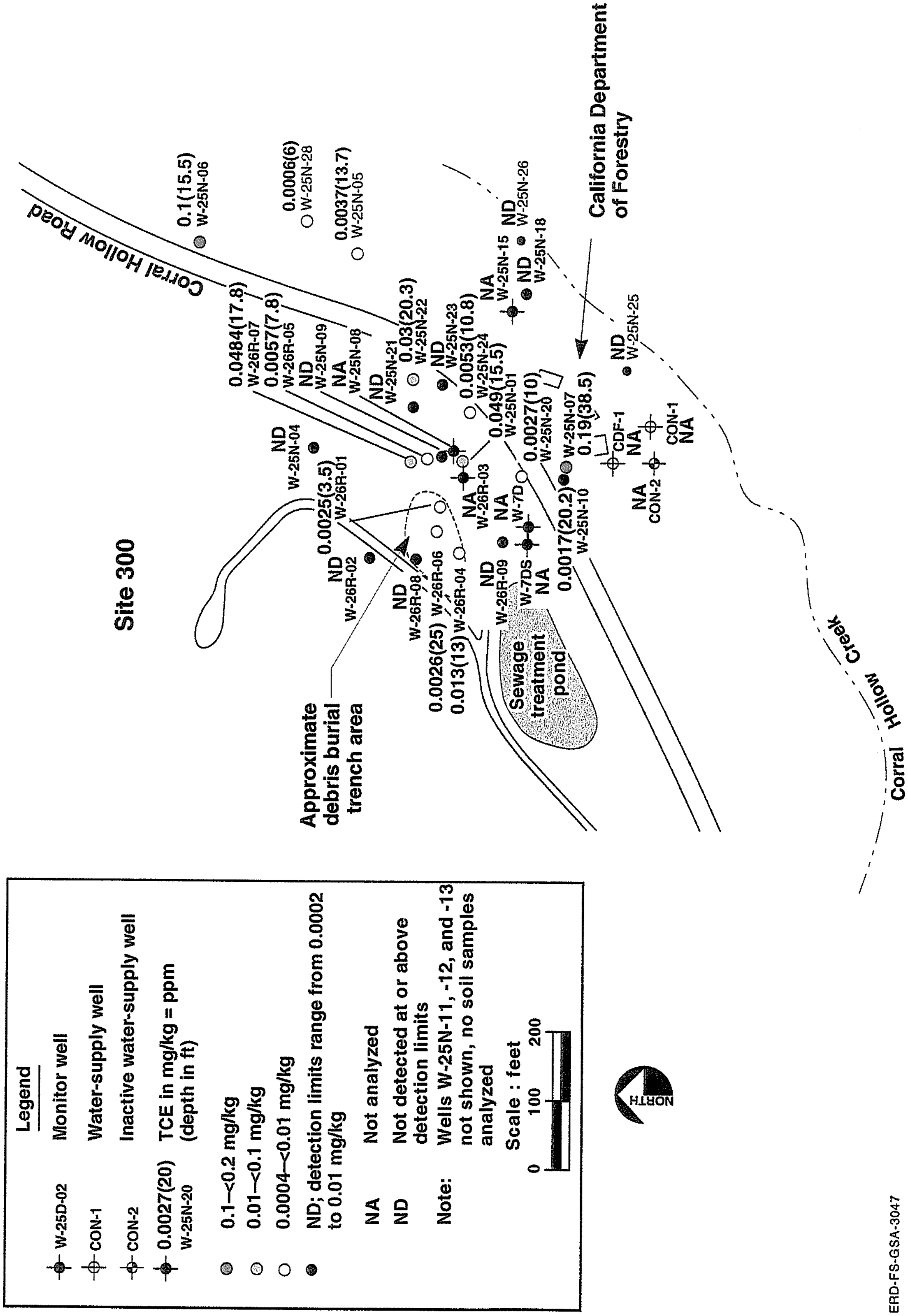

Figure 1-55. Maximum TCE concentrations in borehole soil samples in the eastern GSA.

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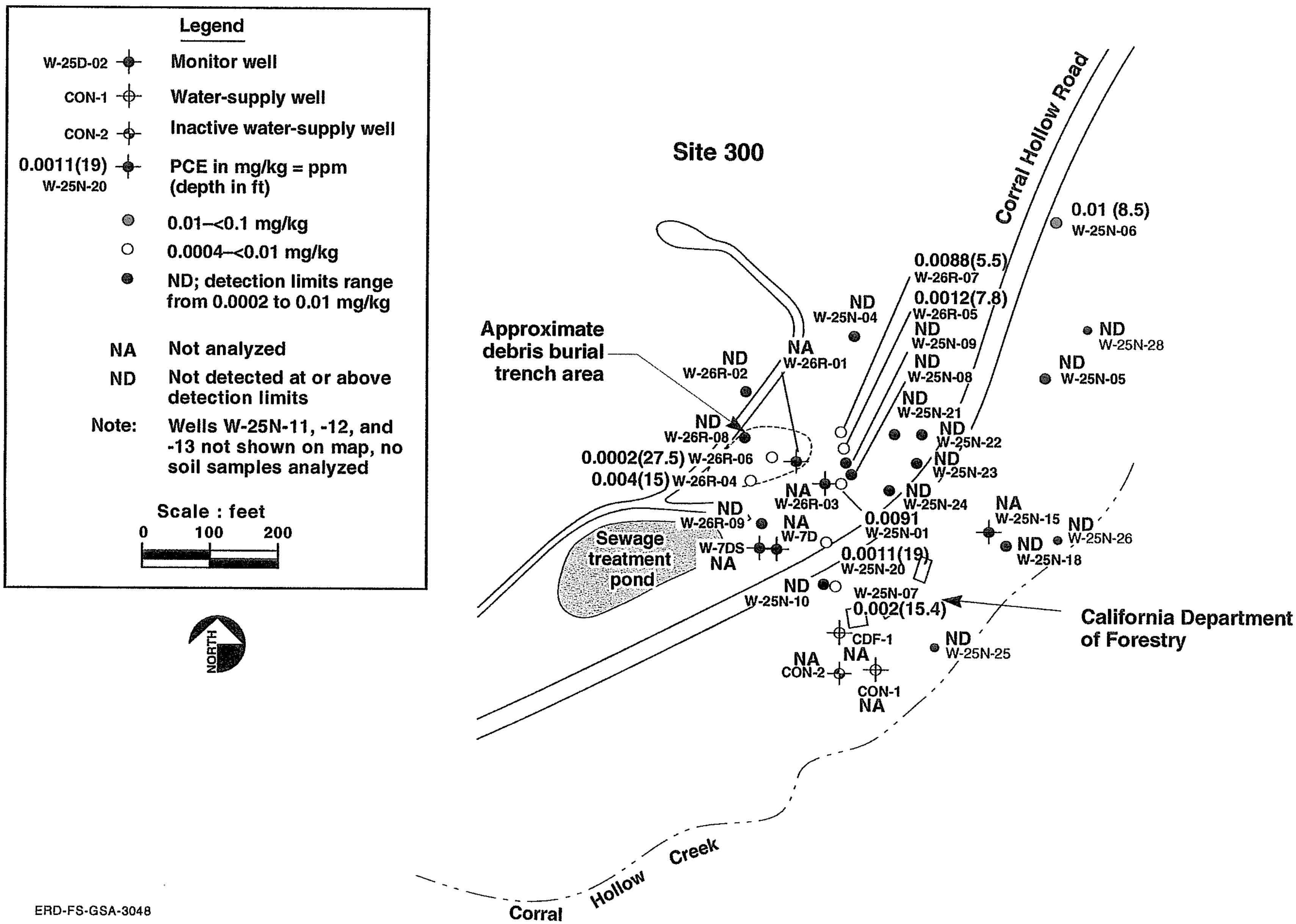

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Figure 1-56. Maximum PCE concentrations in borehole soil samples in the eastern GSA.

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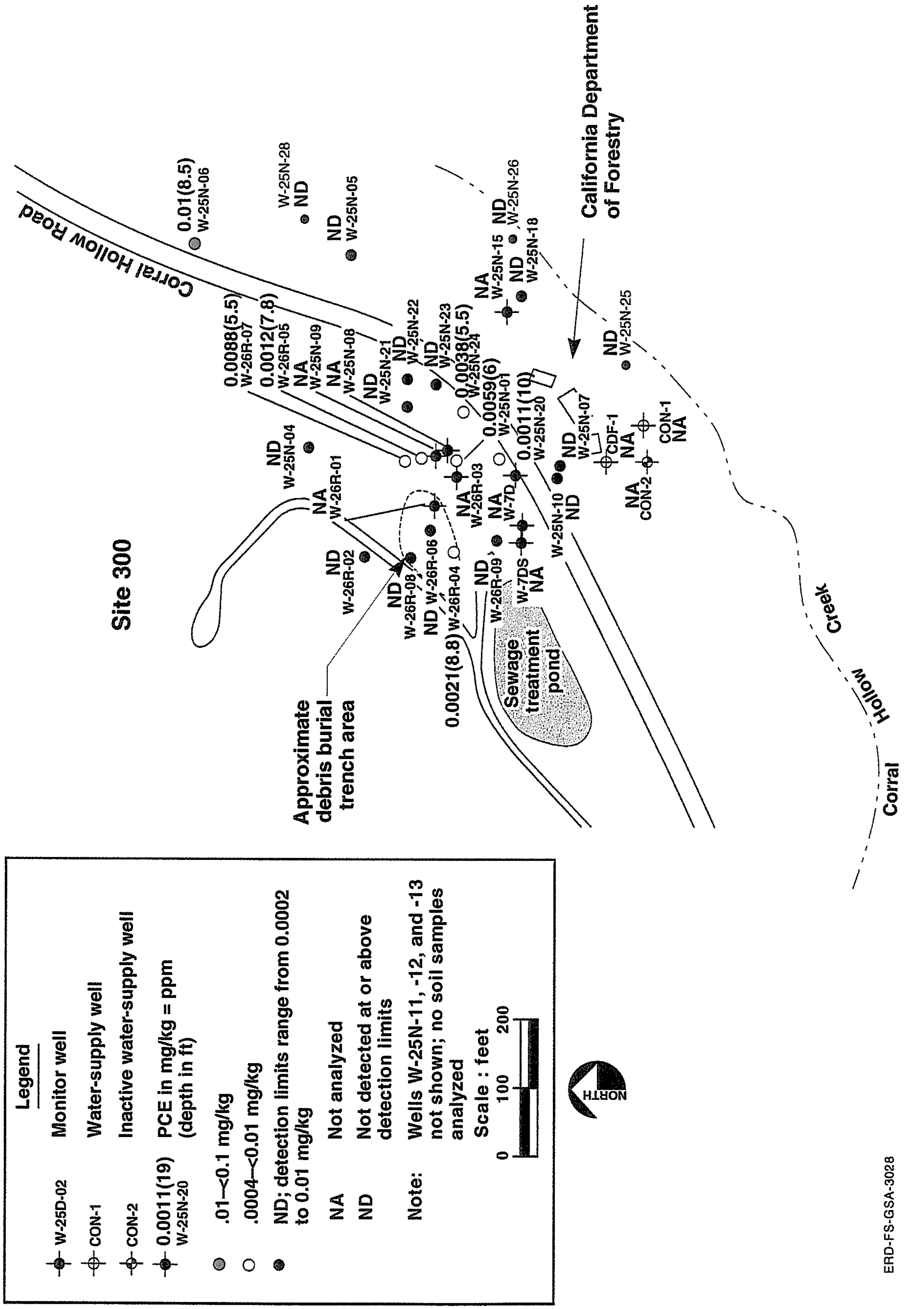

Figure 1-57. Maximum PCE concentrations in borehole soil samples collected from the upper 12 ft in the eastern GSA.

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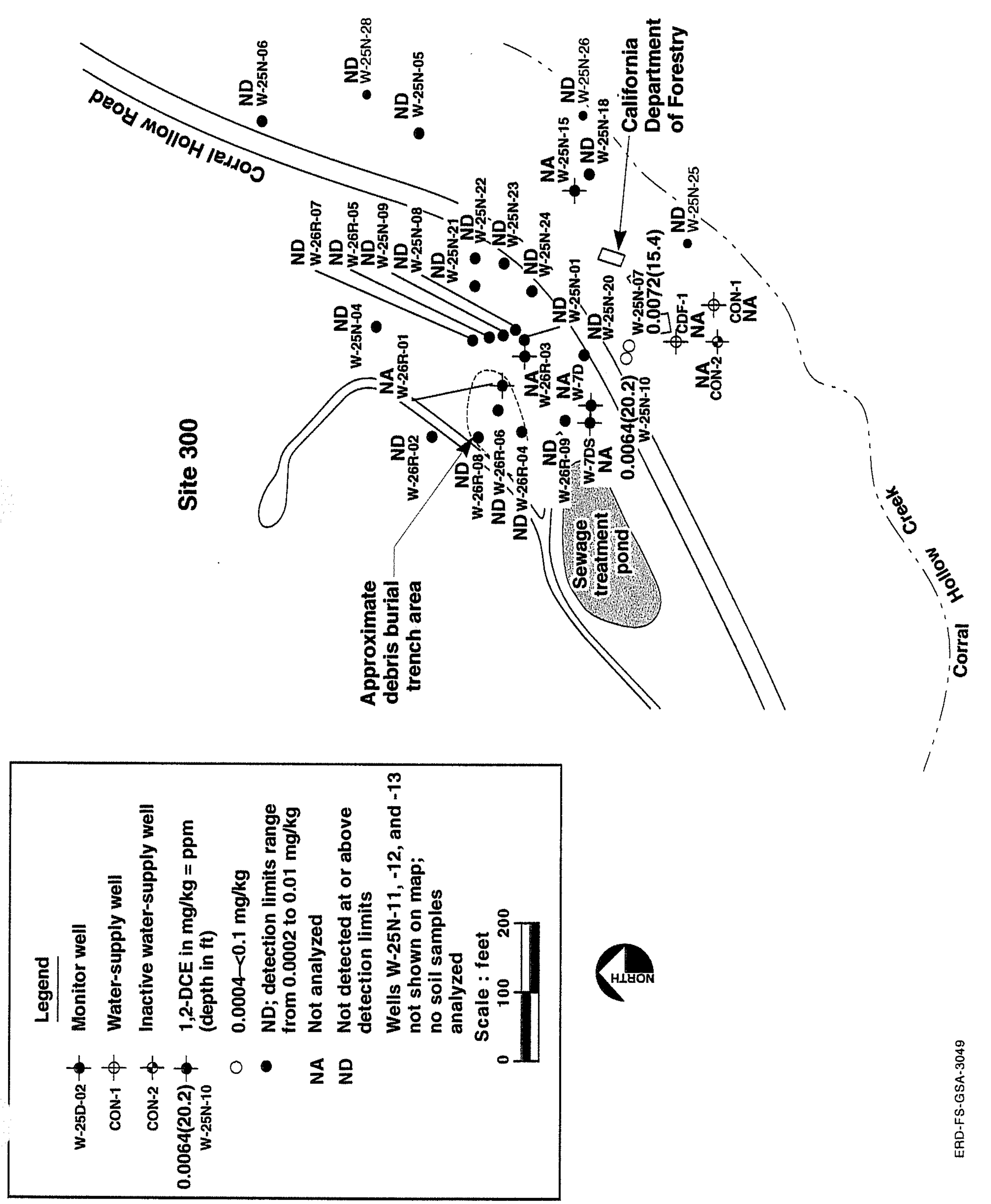

Figure 1-58. Maximum 1,2-DCE concentrations in borehole soil samples in the eastern GSA.

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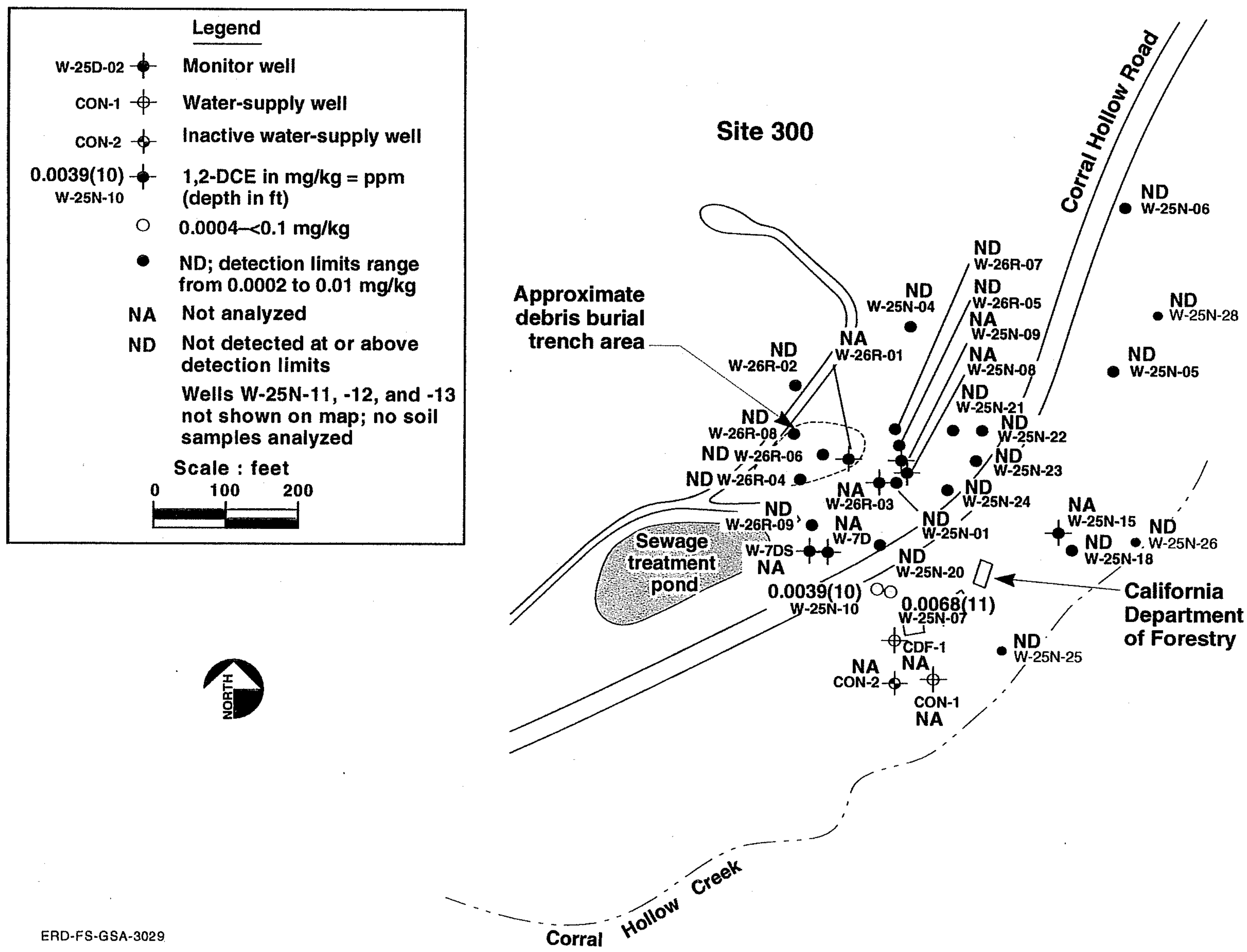

Figure 1-59. Maximum 1,2-DCE concentrations in borehole soil samples collected from the upper 12 ft in the eastern GSA.

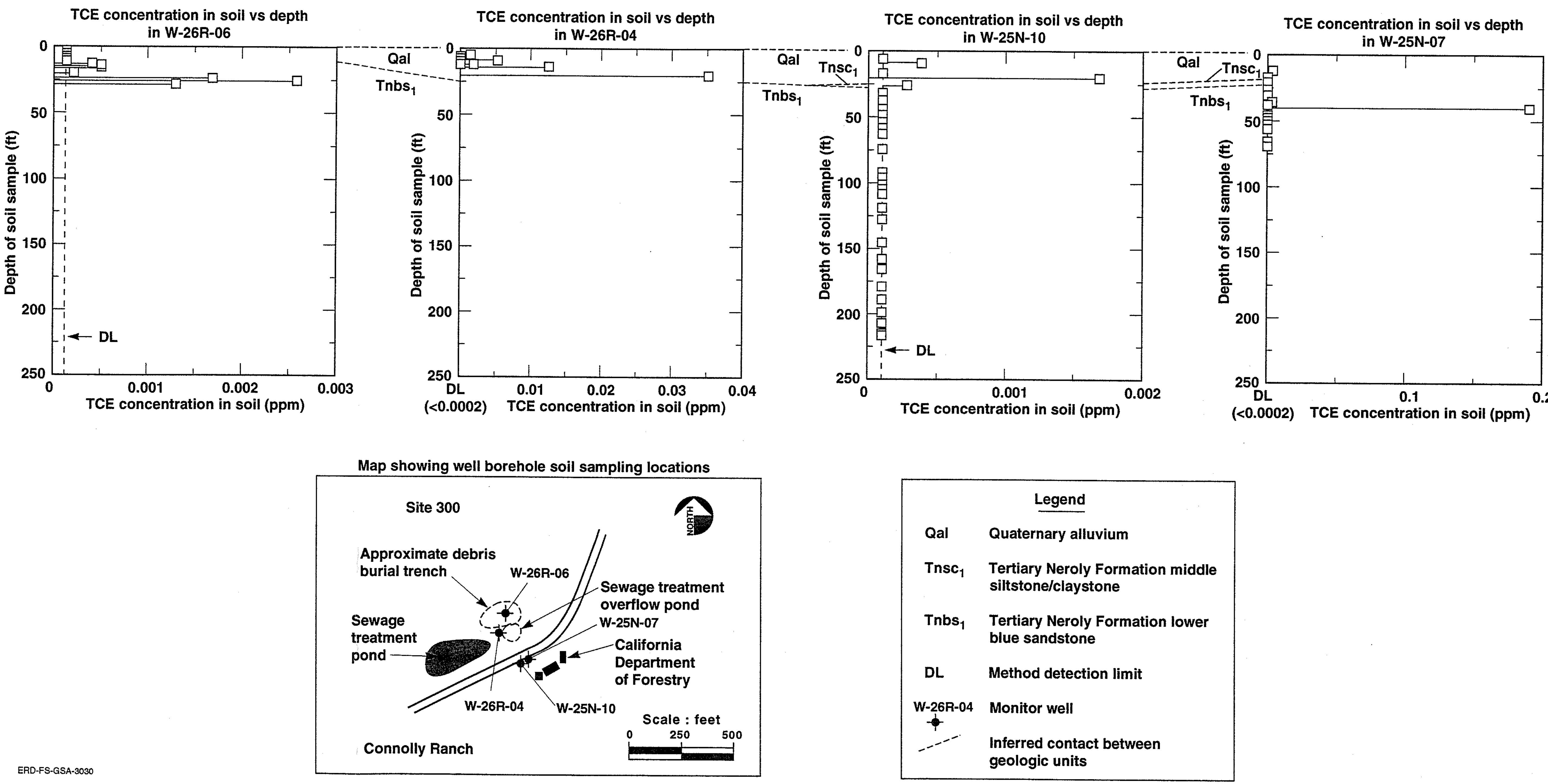

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Figure 1-60. TCE concentrations in borehole soil samples vs depth in the eastern GSA.

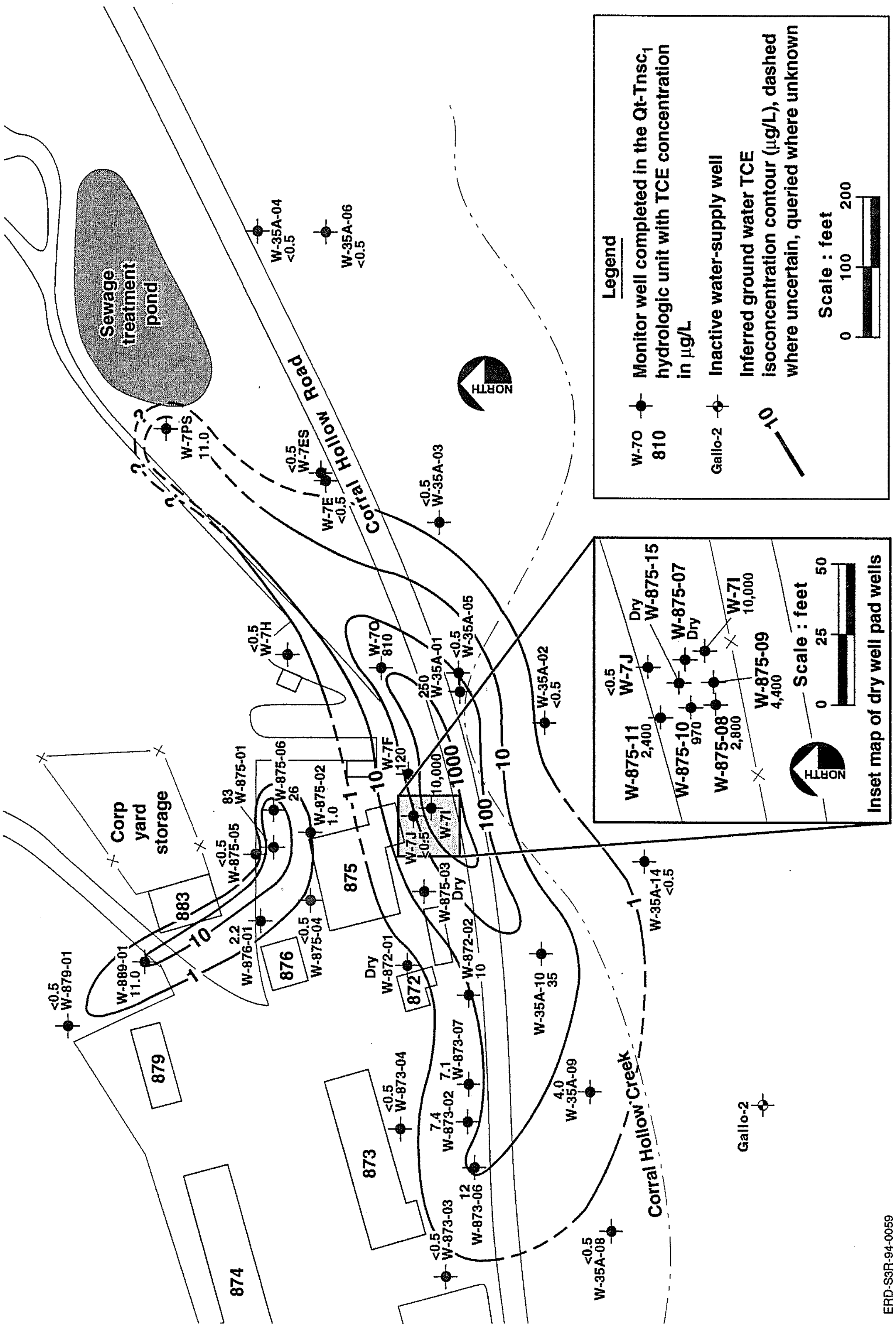

Figure 1-61. TCE concentrations in ground water from the Qt-Tnsc1 hydrologic unit in the central GSA (3rd quarter 1994 data).

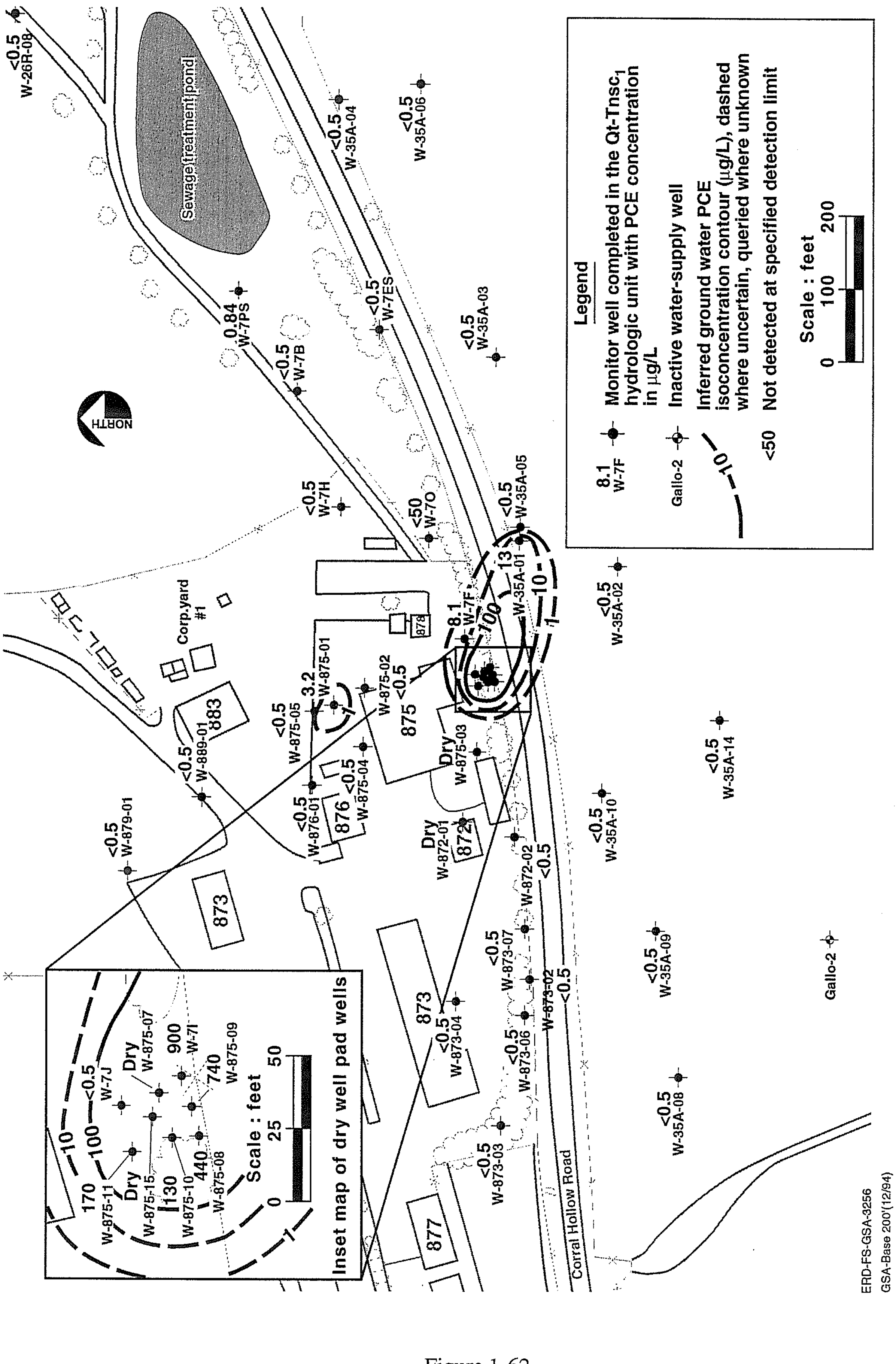

Figure 1-62. PCE concentrations in ground water from the Qt-Tnsc$_1$ hydrologic unit in the central GSA (3rd quarter 1994 data).

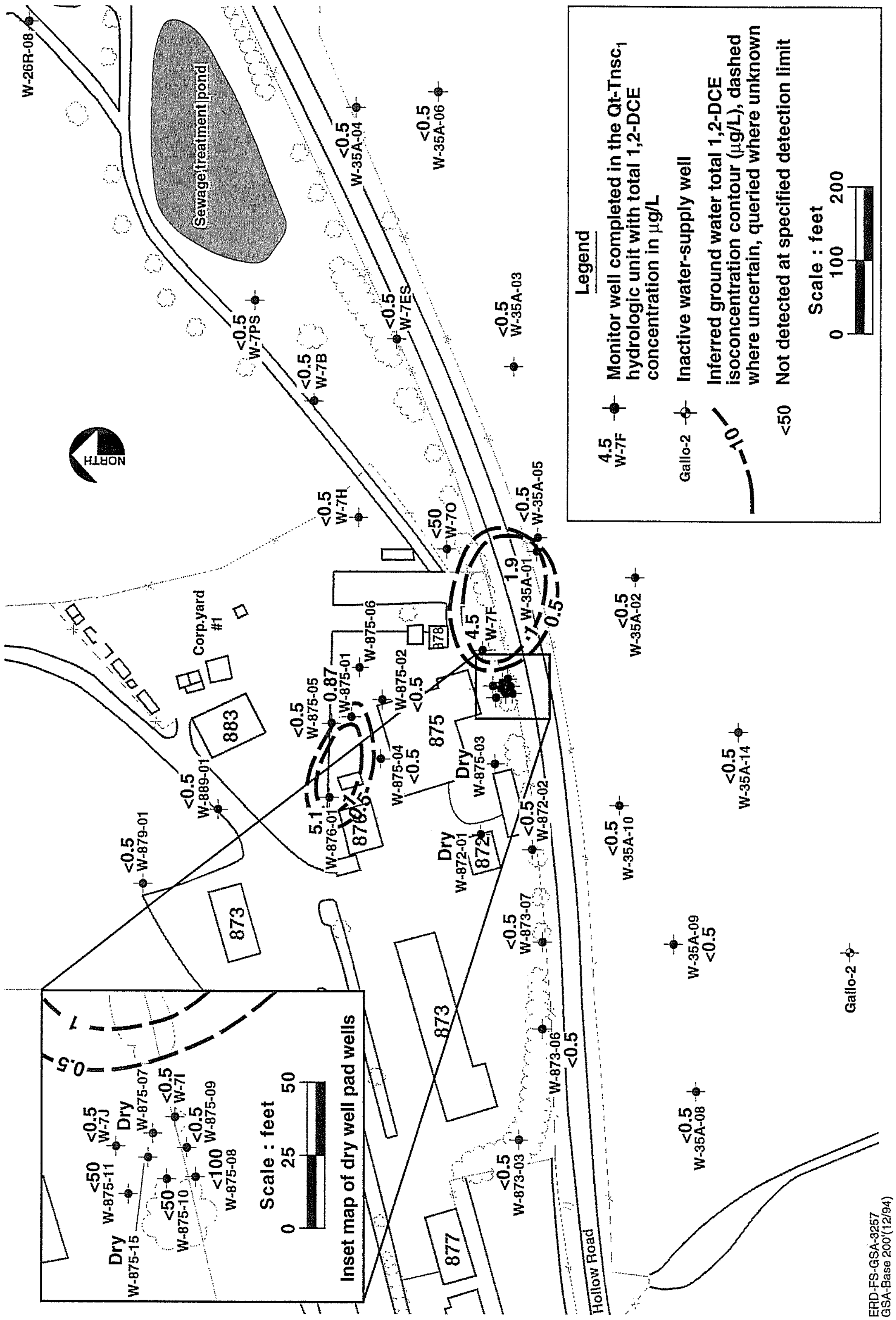

Figure 1-63. Total 1,2-DCE concentrations in ground water from the QT-Tnsc$_1$ hydrologic unit in the central GSA (3rd quarter 1994 data).

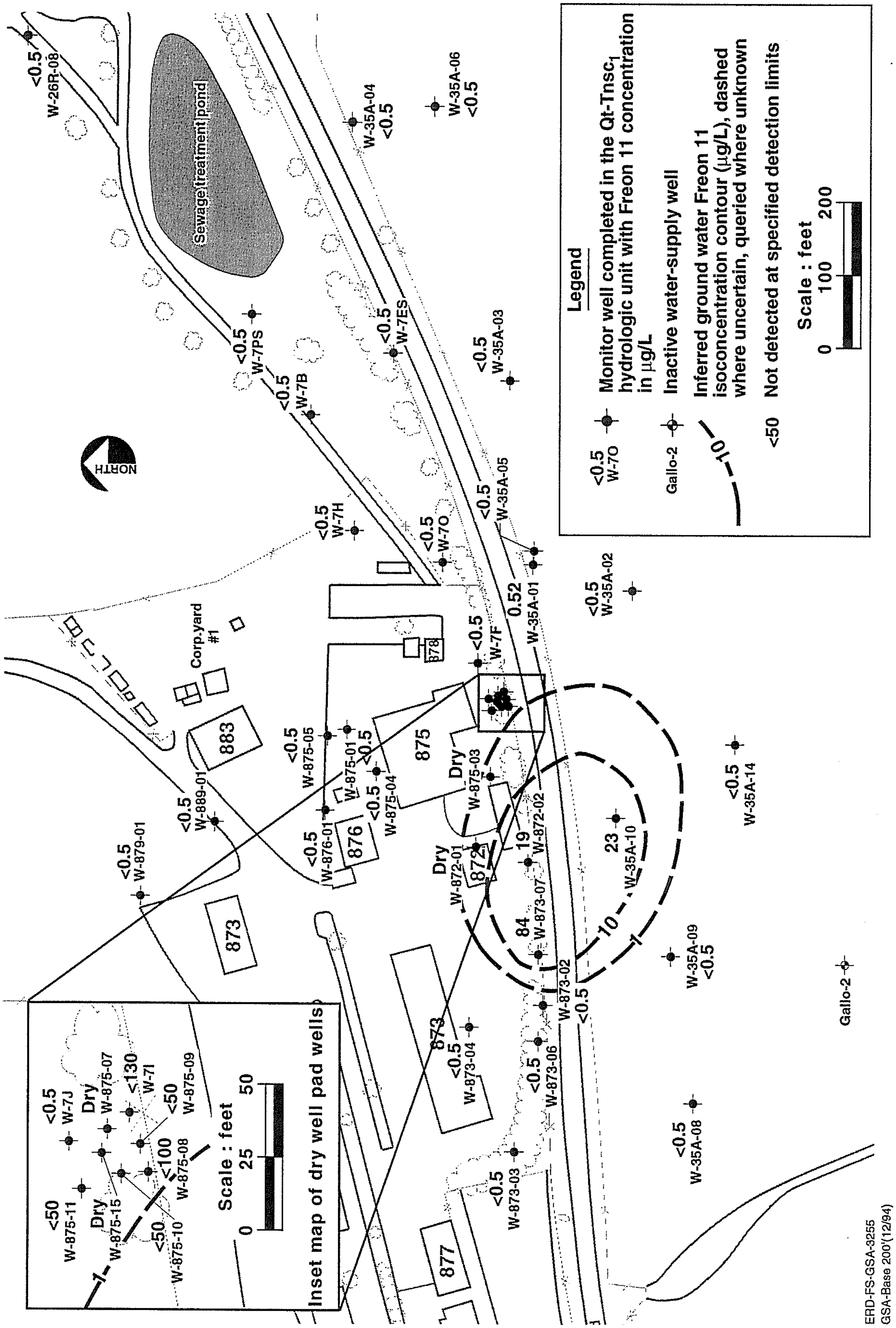

Figure 1-64. Freon 11 concentrations in ground water from the Qt-Tnsc$_1$ hydrologic unit in the central GSA (3rd quarter 1994 data).

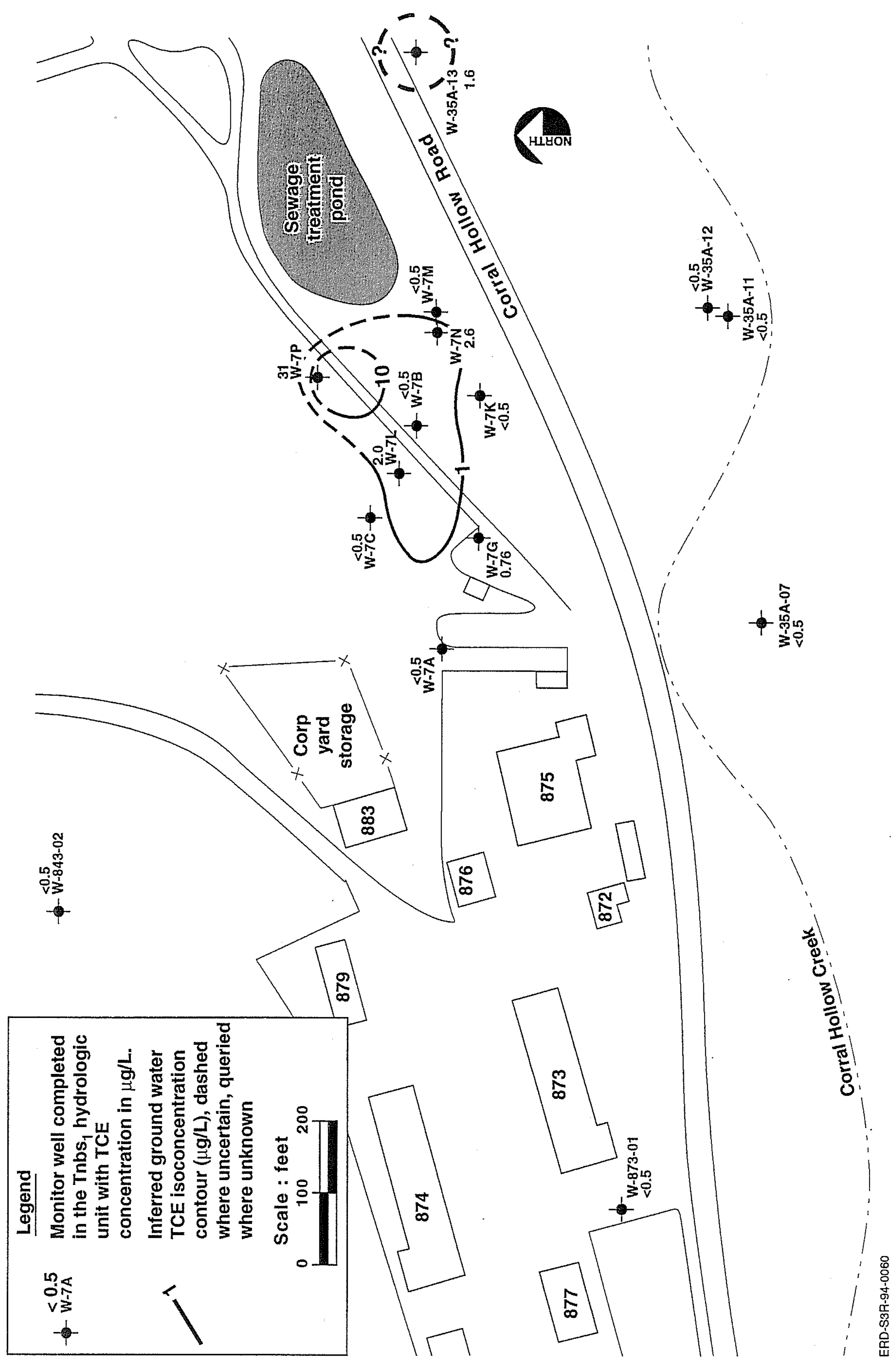

Figure 1-65. TCE concentrations in ground water from the $Tnbs_1$ hydrologic unit in the central GSA (3rd quarter 1994 data).

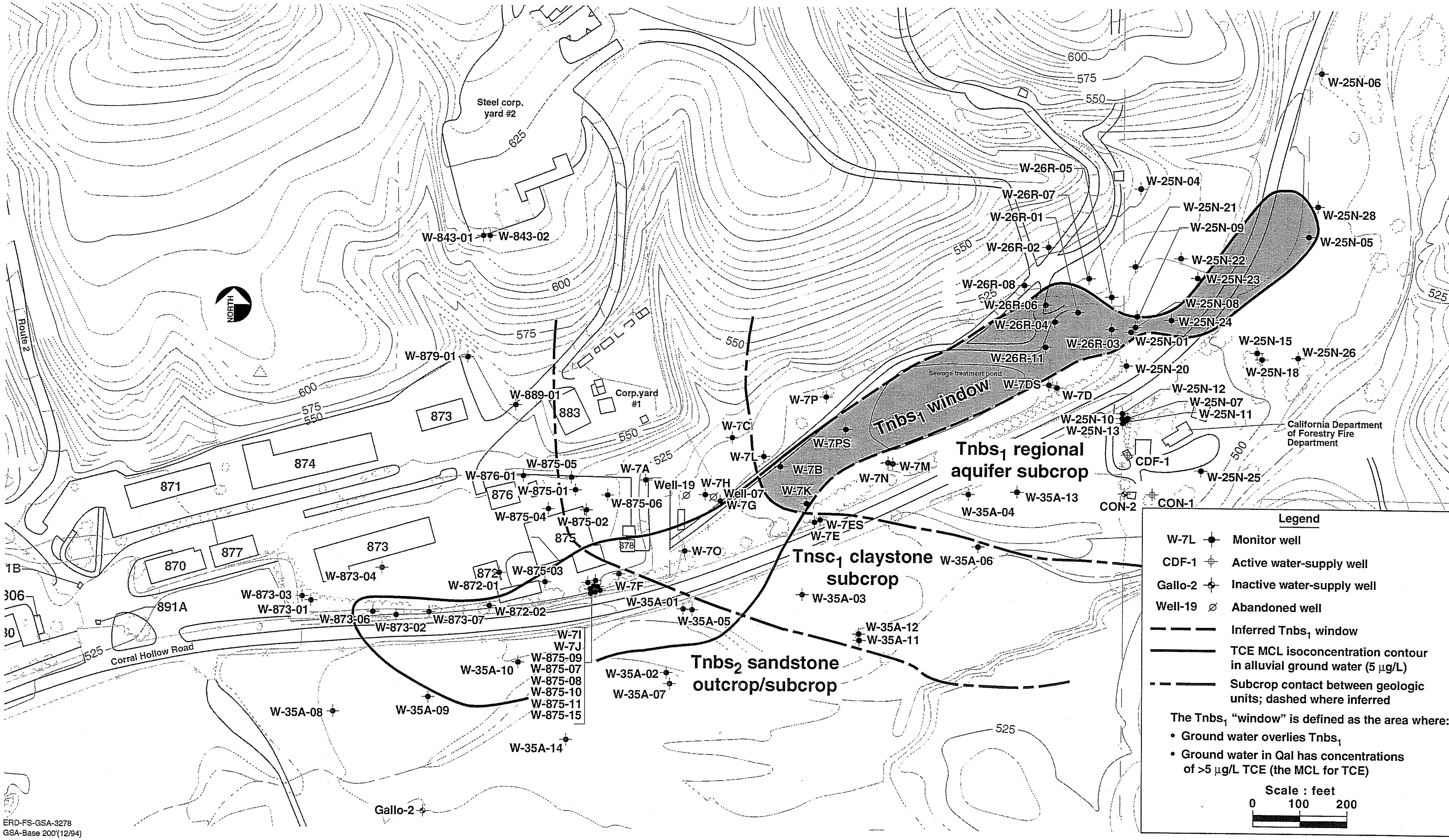

Figure 1-66. "Window" into the $Tnbs_1$ regional aquifer in the central and eastern GSA.

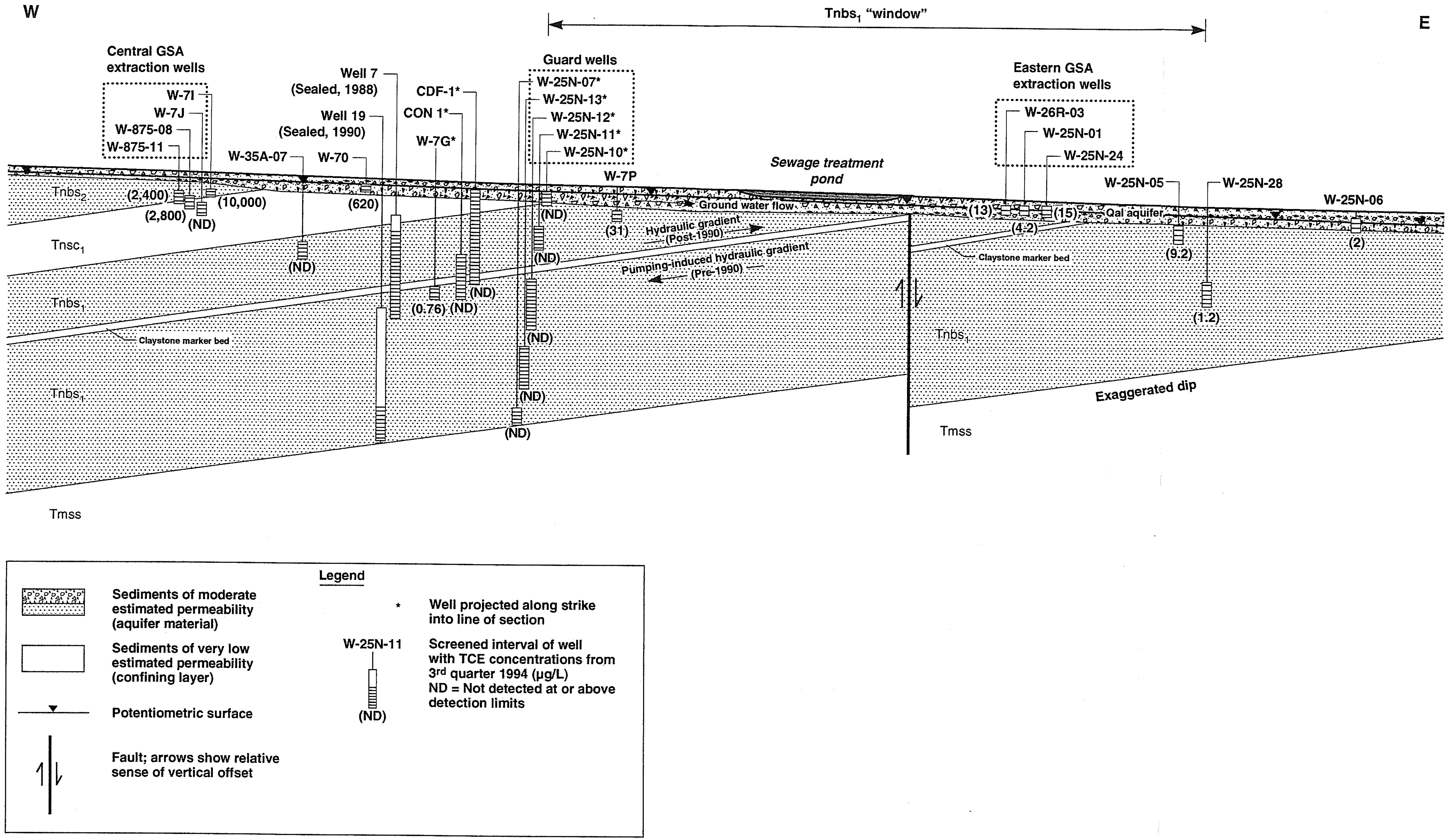

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Figure 1-67. Conceptual hydrogeologic cross section of the GSA showing the $Tnbs_1$ "window."

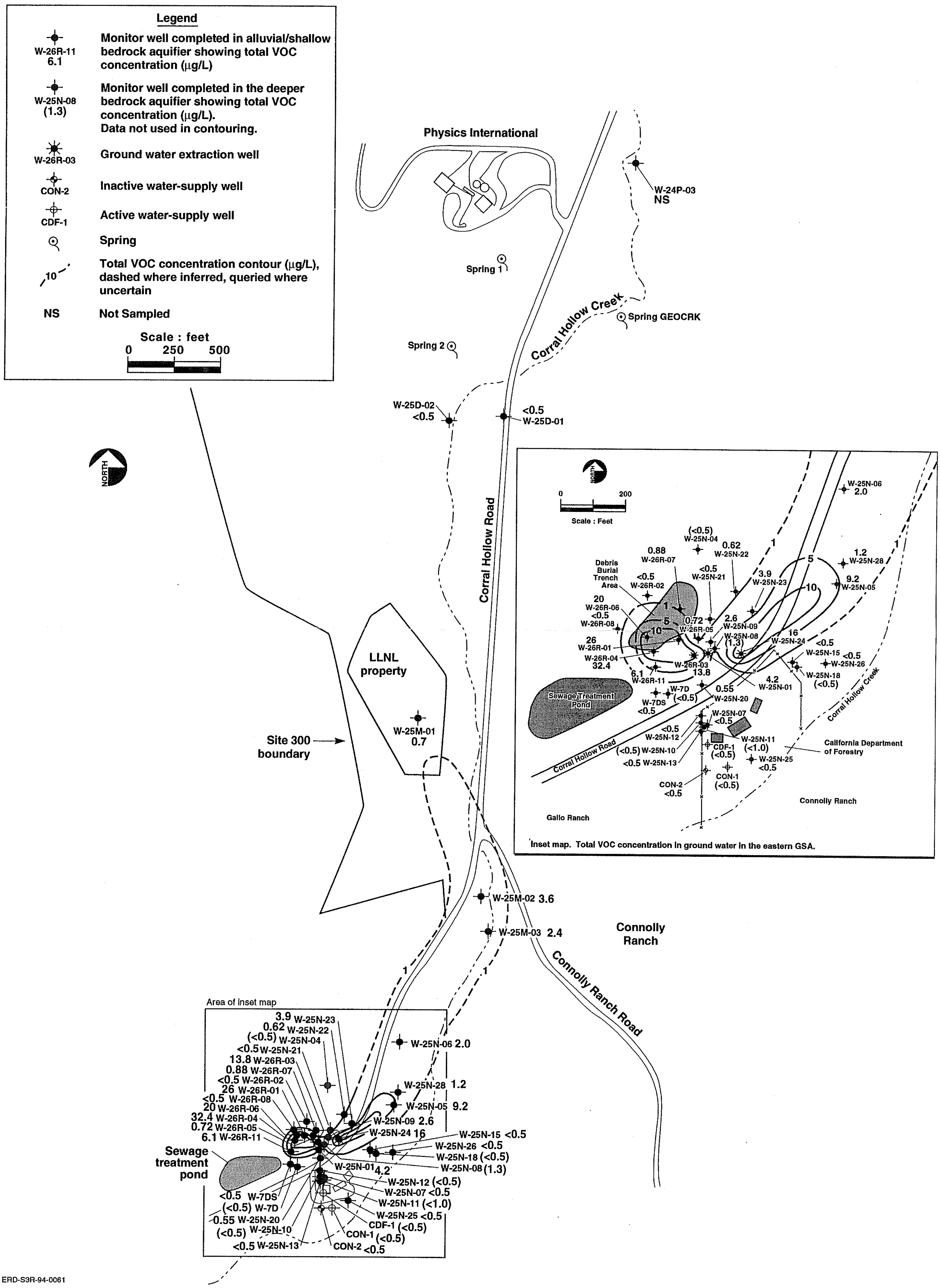

Figure 1-68. Total VOC concentration in ground water in the alluvium (Qal) and shallow bedrock ($Tnbs_1$) in the eastern GSA (3rd quarter 1994 data).

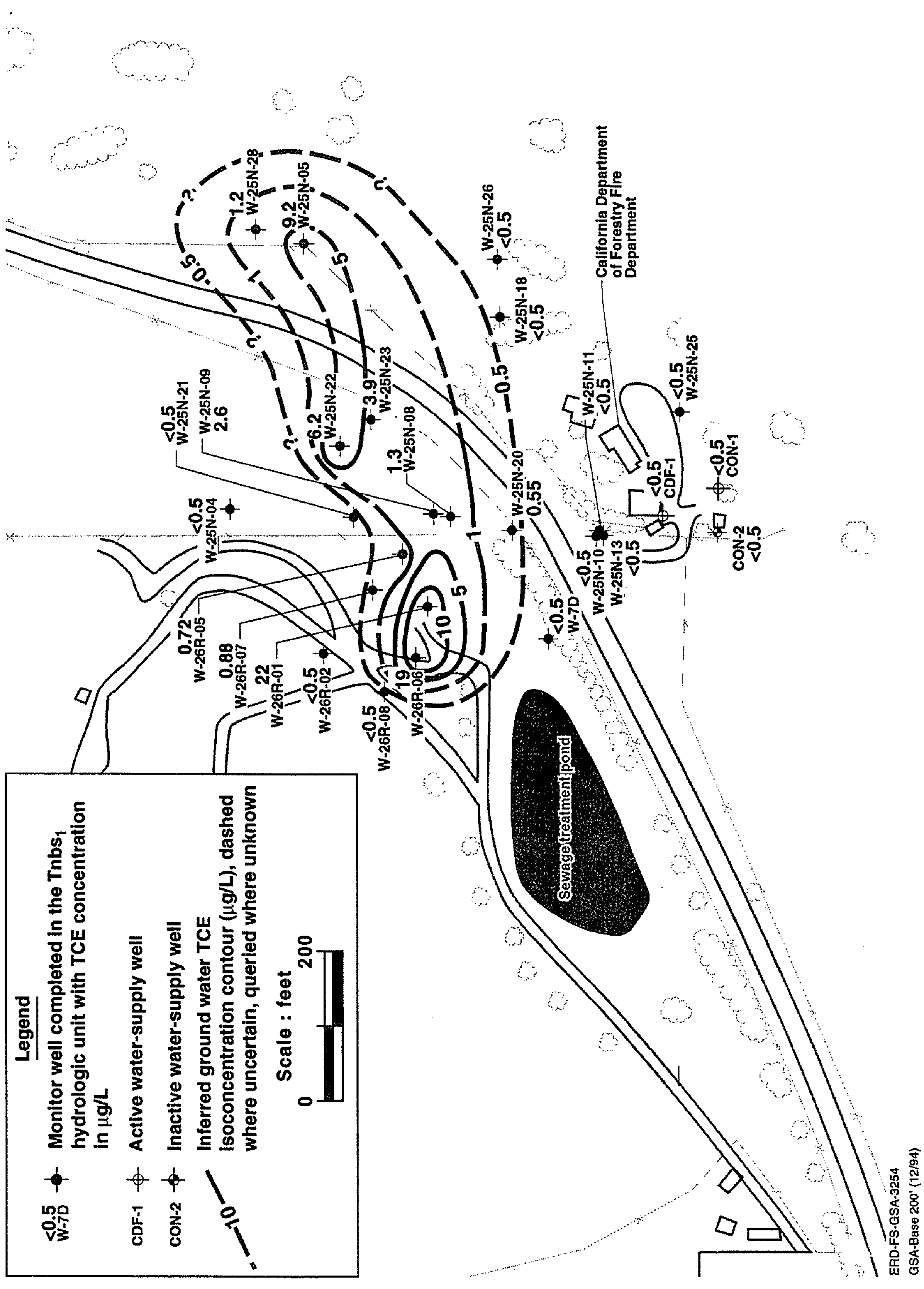

Figure 1-69. TCE concentrations in ground water from the deeper $Tnbs_1$ hydrologic unit in the eastern GSA (3rd quarter 1994 data).

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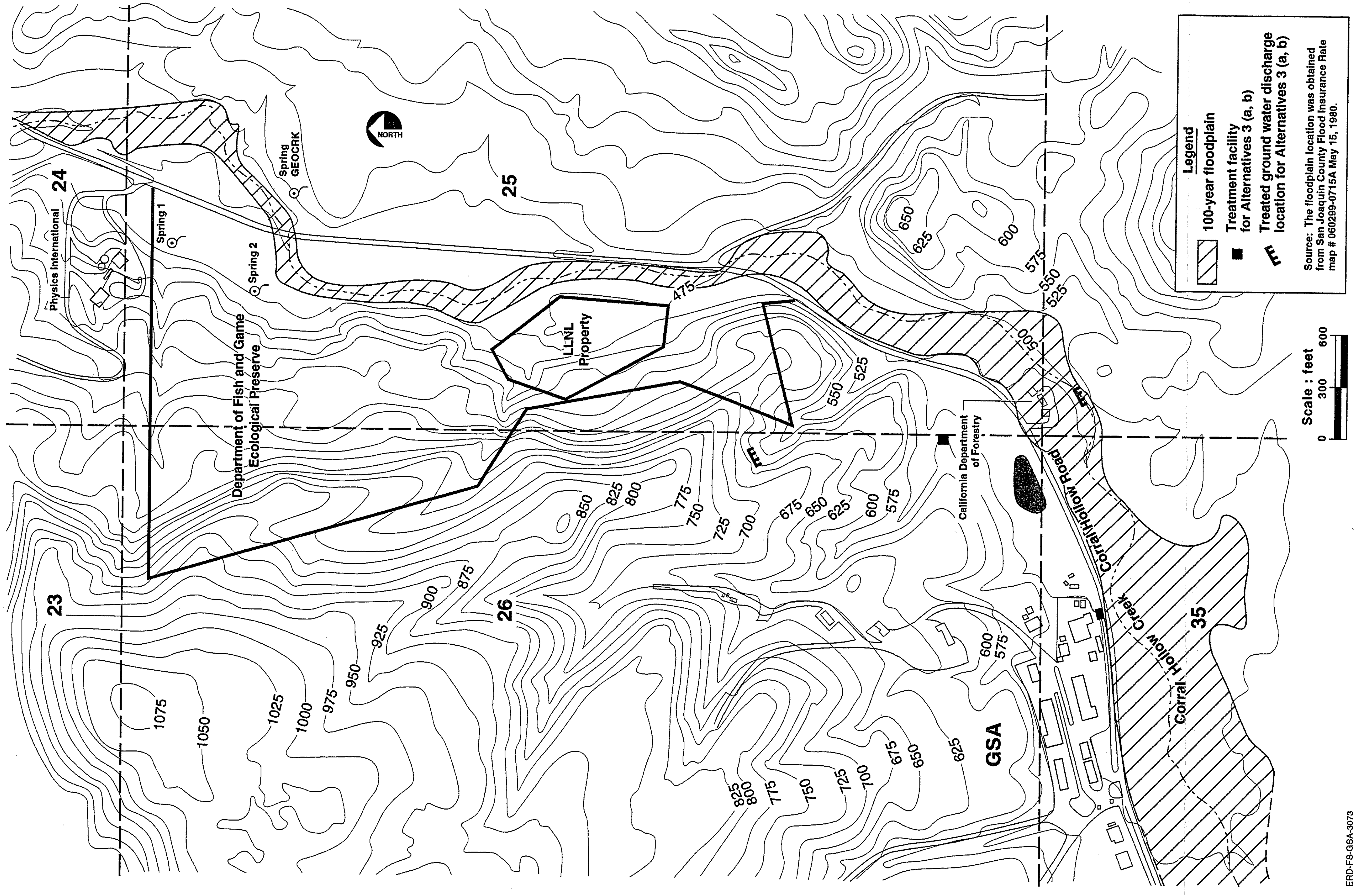

Figure 2-1. Approximate locations of treatment facilities and discharge points relative to the 100-year floodplain and the California Department of Fish and Game Ecological Preserve.

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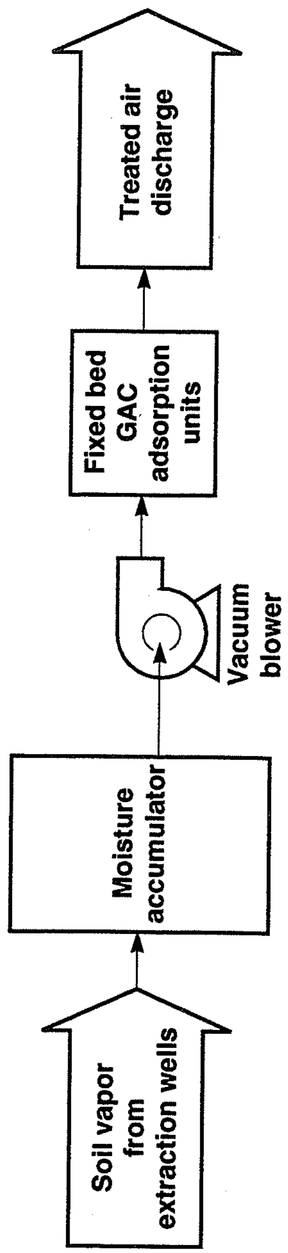


ERD-FS-GSA-3250

Figure 4-1. Proposed central GSA soil vapor extraction and treatment system—Alternatives 3a and 3b.

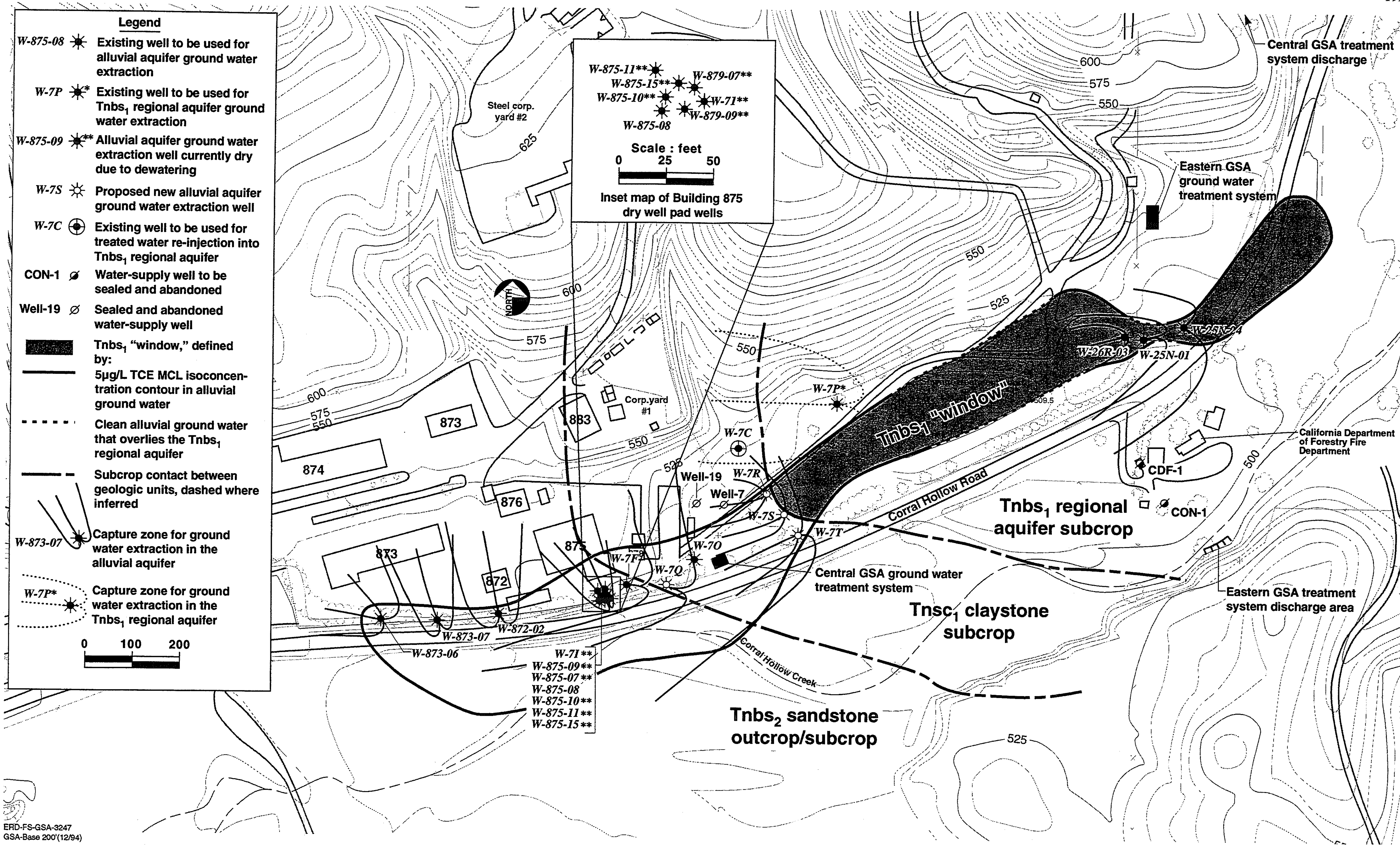
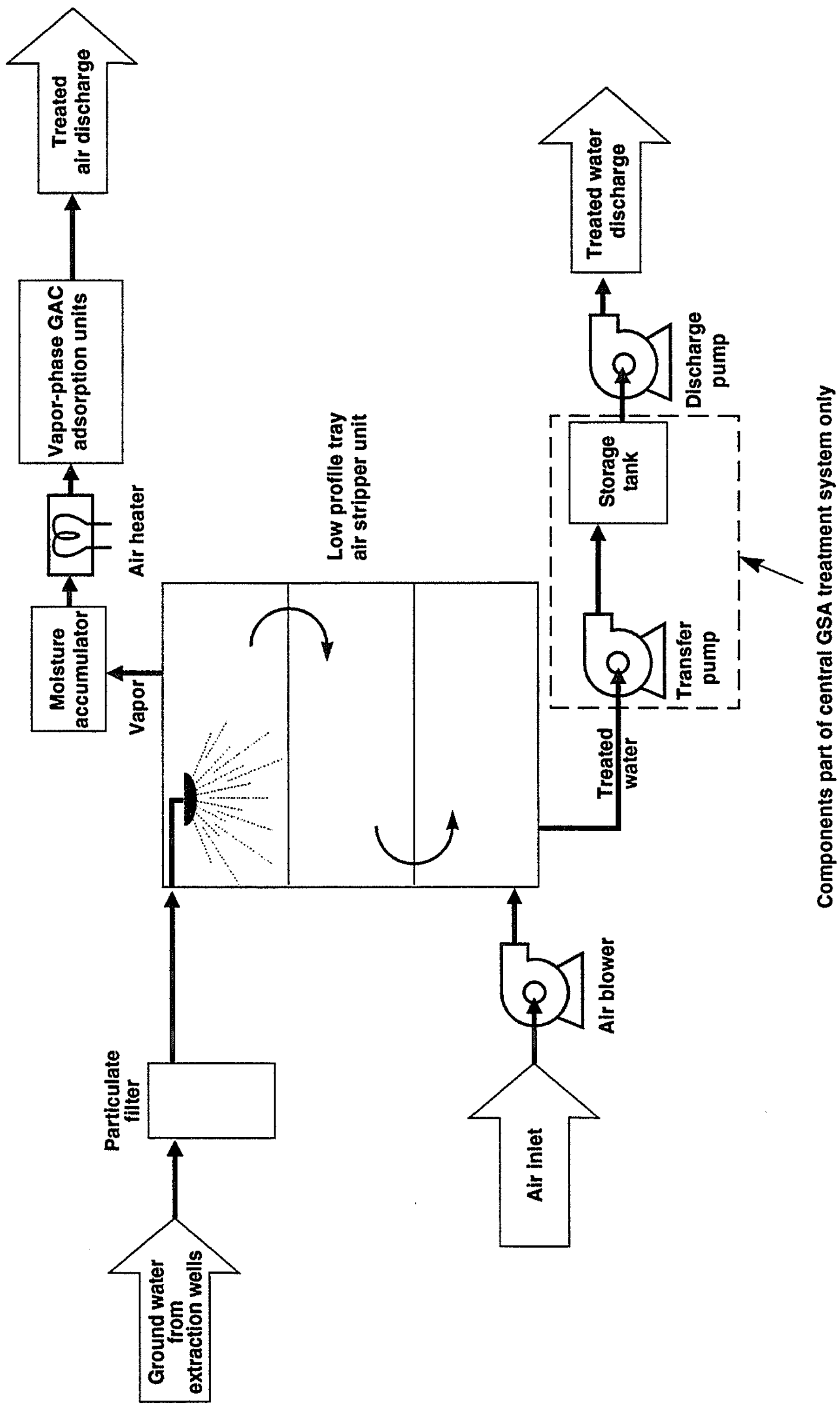
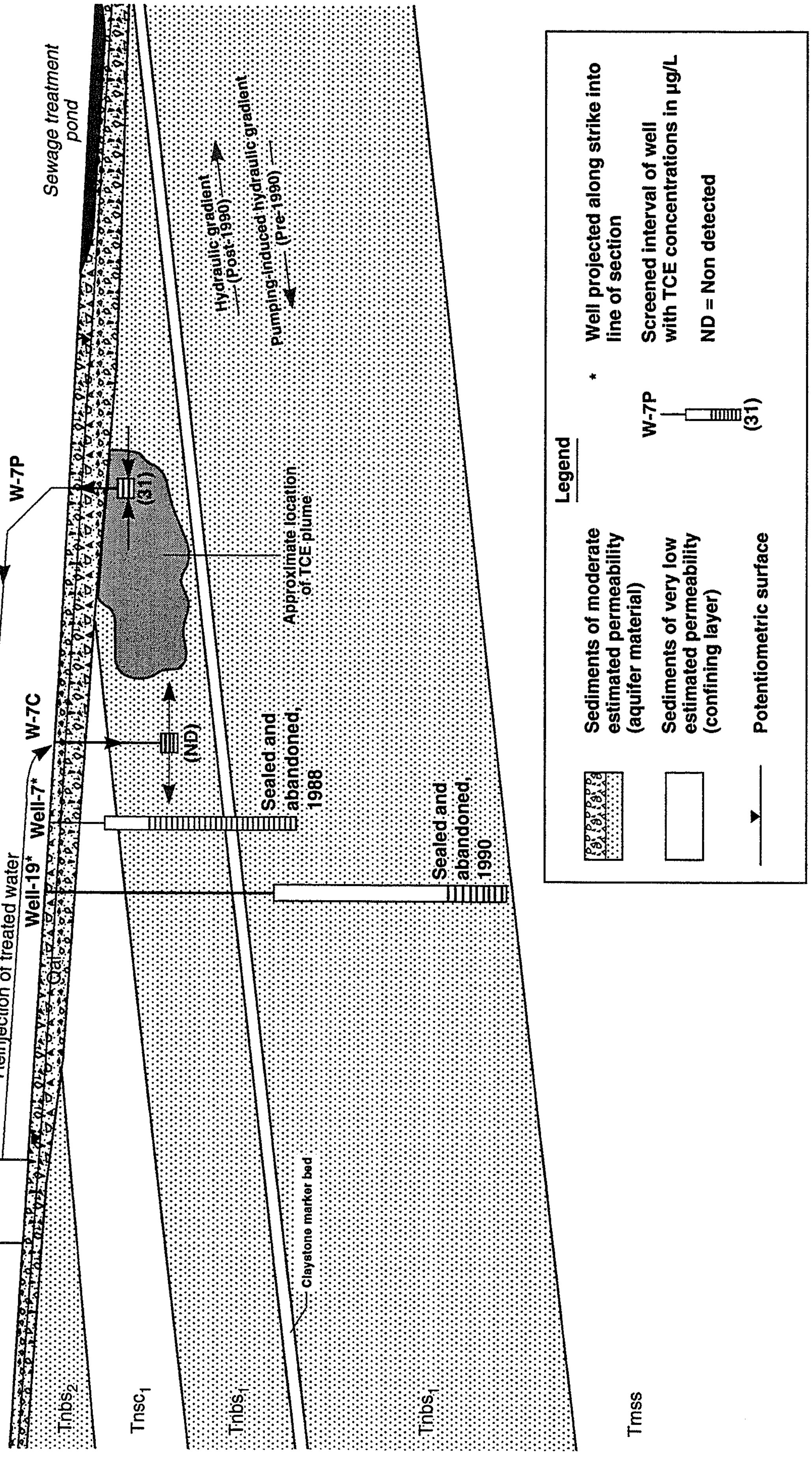


Figure 4-2. Proposed locations of ground water extraction and reinjection wells, treatment systems, and modeled capture zones.



ERD-FS-GSA-3249

Figure 4-3. Proposed central and eastern GSA ground water treatment systems—Alternatives 3a and 3b.



ERD-FS-GSA-3305

Figure 4-4. Conceptual cross section of proposed ground water extraction and reinjection wells in the $Tnbs_1$ regional aquifer.

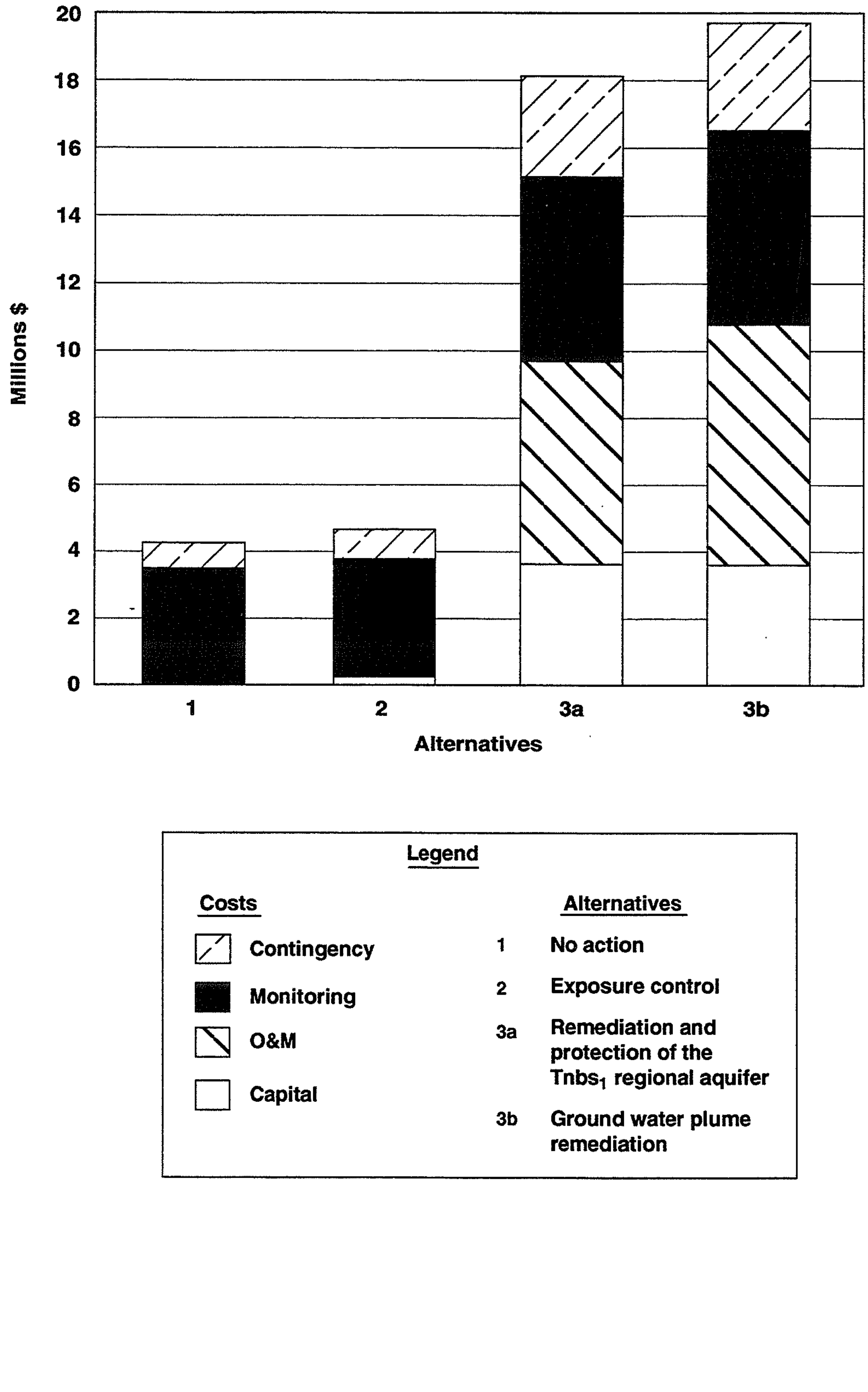


Figure 5-1. Cost summary for GSA operable unit remedial alternatives.

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Tables

Table 1-1. Stratigraphic characteristics of geologic units, LLNL Site 300.

Epoch	Geologic unit	Depositional environment	Lithologic characteristics
Holocene	Colluvium, alluvium and valley fills (Qal), landslides (Ls/Qls)	Continental, mass wasting, fluviatile	Silty clay, sand, gravel, landslides heterogeneous.
Pleistocene	Older alluvium (Qoa) and landslides (Qls), terrace deposits (Qt)	Continental, predominantly fluviatile	Silty clay, silt, sand, gravel, often partly cemented.
Pliocene	Pliocene nonmarine unit of Dibblee (1980) (Tps)	Continental, fluviatile, lacustrine	Pebble conglomerate, greenish gray, brown and red clay, silty sand and some marl interbeds.
Late Miocene	Neroly Formation	Continental, fluviatile, lacustrine	Volcanic source terrain; immature sandstone, conglomerate, tuffaceous shale and claystone, slightly to well-lithified. Within Site 300 subdivided into following informal lithologic members: $Tnbs_2$ upper blue sandstone (predominantly fine-coarse grained, blue-gray and brown silty sandstone, conglomerate lenses, tuffaceous claystone interbeds; beds of claystone, sandstone, heterogeneous conglomerate [$Tnsc_2$] discontinuously present at top of sequence and mappable locally but not present in GSA). $Tnsc_1$ middle claystone, siltstone (interbedded claystone, siltstone, fine sandstone). $Tnbs_1$ lower blue sandstone (predominantly fine to coarse-grained, blue-gray silty sandstone, tuffaceous claystone and siltstone interbeds, conglomerate lenses).
	Cierbo Formation (Tmss)	Littoral, varying from shallow marine to continental	Friable, yellow-gray quartz-rich sandstone, chert pebble conglomerate, gray claystone, locally tuffaceous.
Late Paleocene-Eocene	Tesla Formation (Tts)	Brackish water to marine	Quartz-mica sandstone and carbonaceous clay, subordinate chert pebble conglomerate and lignite coal. Not encountered in GSA.

Table 1-1. (Continued)

Epoch	Geologic unit	Depositional environment	Lithologic characteristics
Late Jurassic-Cretaceous	Great Valley Sequence (Kgv) (Panoche Formation)	Deep oceanic trough floor grading up to subsea fans, forearc basin setting	Arkosic sandstone with large concretions, micaceous clay interbeds. Not encountered in the GSA.

Table 1-2. Principal active and potentially active faults in the San Francisco Bay Region and in the Altamont Hills and Central Valley margin areas.

			Slip rate (mm/y)[b]		Maximum earthquake magnitude	
Fault	Distance in miles[a] (direction)	Maximum historic earthquake magnitude (y)	Geodetic	Geologic	Probable	Credible
Corral Hollow-Carnegie	1.5 (SW)	None known[c]	—	0.7[d]	6.3–6.7[d]	7.1[d]
Midway	2 (NE)	3.5 (no date)[e]	—	0.05[f]	—	6.0[f]
Tesla	2.5 (S)	4.6 (1977)[e]	—	0.2[f]	—	6.25[f]
Patterson Pass	3 (W)	4.6 (after 1900)[e]	—	NA	—	5.9[g]
Black Butte	4 (NE)	None known[c]	—	0.2[f]	—	6.5[f]
Greenville	6 (SW)	5.8 (1980)[c]	—	0.5–0.75[h]	—	6.6 ± 0.2[h]
Las Positas	10 (SW)	5.5 (1903)[c]	—	0.4[h]	—	6.0 ± 0.5[h]
Ortigalita	17 (SSE)[i]	5± (1926) 3.7 (1981)[k]	—	0.1[j]	—	6.8[j]
Calaveras	20 (SW)	6± (1861)[l] 6.2 (1984)[o]	7[m]	5.3[n]	—	7.0 ± 0.25[g]
Hayward	25 (SW)	7± (1868)[p]	7[m]	3.5–9[q]	7.0[p]	7.5[p]
San Andreas	42 (SW)	8.25 (1906)[l] 7.1 (1989)[r]	12.2 ± 3.9[m]	10–30[n]	—	8.3[l]
San Gregorio-Seal Cove-Hosgri	54 (SW)	6.1 (1926)[l]	—	6–13[n]	—	7.4[l]

[a] Distance from approximate center of Site 300.
[b] 25.4 mm = 1 in.
[c] Reported microseismicity with general spatial correlation.
[d] Carpenter et al. (1991).
[e] CDWR (1979).
[f] Tera Corporation (1984).
[g] Calculated using total fault length method in Slemmons and Chung (1982).
[h] Carpenter et al. (1984).
[i] To northern tip, activity mainly farther south.
[j] Shedlock et al. (1980).
[k] Laforge and Lee (1982). Location of M = 5 event is near southern end of mapped trace but location accuracy uncertain.
[l] Wesson et al. (1975), for San Andreas Fault, North Coast segment; other faults not segmented.
[m] Prescott et al. (1981).
[n] Page (1982).
[o] Oppenheimer et al. (1990).
[p] Steinbrugge et al. (1987).
[q] Lienkaemper et al. (1991).
[r] Plafker and Galloway (1989), Santa Cruz Mountains segment.
— = Not available.

Table 1-3. Buildings in the GSA within Site 300.[a]

Building[b]	Completion date	Function
870	September 1958	Offices for security and fire departments, including fire department vehicles; former location of the badge office.
871	September 1958	Administration offices.
872	September 1957	Paint shop for painting equipment and testing materials for programmatic activities and site support; base of operations for painting site buildings.
873	September 1958	Plant engineering: offices; plant engineering design group; shops for carpenters, laborers, electricians, pipe fitters, industrial electronics, and custodians.
874	September 1958	Mechanical technicians' workspace, drafting offices, machine and welding shops.
875	February 1960	Site supply stores, maintenance mechanics' workspace for site maintenance support.
876	February 1960	Warehouse and receiving for supply stores.
877	July 1961	Medical, first aid, and health and safety; exercise facility.
878	1957	Storage for maintenance mechanics.
879	August 1969	Motor pool: offices and site vehicle repair facilities.
883	1983	Hazardous waste storage; containerized wastes are identified and inventoried here prior to transport to Livermore Main Site for treatment or disposal.

[a] Data from Lindeken and Hieb (1988) and Pasley (1992).

[b] Chemical use in and near the buildings is discussed in Chapter 14 of Webster-Scholten (1994).

Table 1-4. CDF buildings in the GSA (off site).[a]

Building[b]	Completion date	Function
Kitchen	1952	Cooking, captain's quarters
Main barracks	1952	Office, firemen's quarters
Garage	1952	Vehicle storage
Gas house	1952	Fuel dispenser, vehicle maintenance equipment
Water house	1952	Water system pressure tank

[a] Data from Erwin and Balesteri (1991).

[b] Chemical use was not investigated at these buildings.

Table 1-5. Summary of hydraulic test results from wells in the GSA and vicinity.

Well	Date tested	Aquifer thickness	Maximum pumping rate (gpm)	Test type[a]	Test phase[b]	Analysis[c]	Transmissivity gpd/ft	Hydraulic conductivity gpd/ft²	Hydraulic conductivity cm/sec	Data quality[d]
Eastern GSA										
CDF-1	02/17/89	100	39	DD1R	DD	Cooper-Jacob	2,000	200	9.4×10^{-3}	G
					R	Cooper-Jacob	2,300	230	1.1×10^{-2}	E
					DD	Specific discharge approximation	870	87	4.1×10^{-3}	—
W-25N-01	07/12/89	13	46.5	DD1	DD	Cooper-Jacob	87,000	6,700	3.3×10^{-1}	F
					DD	Cooper-Jacob	120,000	19,100	4.3×10^{-1}	E
					DD	(observation well)	130,000	10,000	4.7×10^{-1}	E
					DD	Cooper-Jacob (observation well)	94,000	7,300	3.4×10^{-1}	—
						Distance drawdown				
W-25N-04	11/29/88	87	40	DD3R	DD	Theis	650	7.5	3.5×10^{-4}	G
					DD	Specific discharge approximation	300	3.4	1.6×10^{-4}	—
W-25N-06	06/13/89	12	41.6	DD1R	DD	Cooper-Jacob	125,000	10,400	4.9×10^{-1}	F
					R	Cooper-Jacob	150,000	13,000	6.0×10^{-1}	F
					DD	Specific discharge approximation	106,000	8,800	4.1×10^{-1}	—
	06/21/89	12	51	DD1R	DD	Cooper-Jacob	83,000	7,000	3.3×10^{-1}	F
					DD	Specific discharge approximation	85,000	7,100	3.3×10^{-1}	—

Table 1-5. (Continued)

Well	Date tested	Aquifer thickness	Maximum pumping rate (gpm)	Test type[a]	Test phase[b]	Analysis[c]	Transmissivity gpd/ft	Hydraulic conductivity gpd/ft^2	Hydraulic conductivity cm/sec	Data quality[d]
W-7D	04/07/87	12.5	6.5	DD1R	DD	Theis	57	0.6	2.2×10^{-4}	F
					DD	Specific discharge approximation	310	25	1.2×10^{-3}	—
	04/14/87	12.5	4.2	DD1R	DD	Theis	57	4.6	2.2×10^{-4}	F
					DD	Specific discharge approximation	300	24	1.1×10^{-3}	—
	04/28/89	20	12	DD1R	DD	Cooper-Jacob	630	31	1.5×10^{-3}	F
					R	Cooper-Jacob	1,300	65	3.1×10^{-3}	G
					DD	Specific discharge approximation	210	11	5.0×10^{-4}	—
W-25M-01	11/24/89	18	20.4	DD2		Specific discharge approximation	3,500	200	9.3×10^{-3}	F
			24.6			Specific discharge approximation	2,500	140	6.6×10^{-3}	F
Central GSA										
W-7A	10/13/86	15.5	8.0	DD1R	DD	Theis	34	2.2	1.0×10^{-4}	P
					R	Theis	34	2.2	1.0×10^{-4}	P
					DD	Theis (observation well)	1,600	94.0	4.4×10^{-3}	G
					DD	Specific discharge approximation	530	34.0	1.6×10^{-3}	—

Table 1-5. (Continued)

Well	Date tested	Aquifer thickness	Maximum pumping rate (gpm)	Test type[a]	Test phase[b]	Analysis[c]	Transmissivity gpd/ft	Hydraulic conductivity gpd/ft^2	Hydraulic conductivity cm/sec	Data quality[d]
	04/07/87	15.5	4.5	DD1R	DD	Theis	140	8.8	4.1×10^{-4}	E
					DD	Cooper-Jacob	130	8.4	4.0×10^{-4}	E
					DD	Specific discharge approximation	320	21.0	9.9×10^{-4}	—
W-7B	10/10/86	18	14.0	DD1R	DD	Theis	210	12.0	5.7×10^{-4}	F
					DD	Specific discharge approximation	1,400	77.0	3.6×10^{-3}	—
W-7F	05/18/88	12	1.6	DD3R	DD	Cooper-Jacob	66	5.5	2.6×10^{-4}	G
					DD	Specific discharge approximation	191	16.0	7.5×10^{-4}	—
	08/28/87	9	1.0	DD1R	R	Cooper-Jacob	86	9.5	4.5×10^{-4}	G
					DD	Specific discharge approximation	160	18.0	8.5×10^{-4}	—
Well 19	1984	Unknown	80.0	DD1	1	Cooper-Jacob	400	—	—	—
						Cooper-Jacob (observation well)	1,000	—	—	—

Note: footnotes appear on the following page.

Table 1-5. (Continued)

Well	Date tested	Aquifer thickness	Maximum pumping rate (gpm)	Test type[a]	Test phase[b]	Analysis[c]	Transmissivity gpd/ft	Hydraulic conductivity gpd/ft^2	Hydraulic conductivity cm/sec	Data quality[d]

[a] DD1 = single step drawdown; DD2 = two-step drawdown; DD3 = three-step drawdown; R = recovery monitored.

[b] DD = drawdown.

[c] Cooper-Jacob (1946); Theis (1935).

[d] E Excellent High confidence that solution is unique. Data are smooth and flow rate well controlled.

G Good Some confidence that solution is unique. Data have moderate signal noise. Well bore storage effects, if present, do not significantly interfere with test interpretation. Boundary effects can be separated from properties of the pumped zone.

F Fair Low confidence that solution is unique. Data have high level of noise. Multiple leakiness and other boundary effects obscure the curve match.

P Poor Unique solution cannot be obtained because of multiple boundaries, well bore storage, uneven flow rate, or equipment problems. Generally, the test is repeated.

— = Not available.

Table 1-6. Central GSA well completion table.[a]

Well	Stratigraphic unit	Hydrologic unit	Comments
W-35A-01	Qal/$Tnbs_2$	Qt-$Tnsc_1$	
W-35A-02	Qal/$Tnbs_2$	Qt-$Tnsc_1$	
W-35A-03	Qal/$Tnsc_1$	Qt-$Tnsc_1$	
W-35A-04	Qal	Qt-$Tnsc_1$	
W-35A-05	$Tnsc_1$	Qt-$Tnsc_1$	
W-35A-06	Qal/$Tnsc_1$	Qt-$Tnsc_1$	
W-35A-07	$Tnbs_1$	$Tnbs_1$	Above CMB
W-35A-08	$Tnbs_2$	Qt-$Tnsc_1$	
W-35A-09	$Tnbs_2$	Qt-$Tnsc_1$	
W-35A-10	$Tnbs_2$	Qt-$Tnsc_1$	
W-35A-11	$Tnbs_1$	$Tnbs_1$	Below CMB
W-35A-12	$Tnbs_1$	$Tnbs_1$	Above CMB
W-35A-13	$Tnbs_1$	$Tnbs_1$	Above CMB
W-35A-14	$Tnbs_2$	Qt-$Tnsc_1$	
W-843-01	$Tnbs_1$	$Tnbs_1$	Below CMB[b]
W-843-02	$Tnbs_1$	$Tnbs_1$	Above CMB
W-872-01	$Tnsc_1$	Qt-$Tnsc_1$	
W-872-02	$Tnbs_2$	Qt-$Tnsc_1$	
W-873-01	$Tnbs_1$	$Tnbs_1$	Completed in base of $Tnbs_1$ and upper Tmss
W-873-02	$Tnbs_2$	Qt-$Tnsc_1$	
W-873-03	Qt/$Tnbs_2$/$Tnsc_1$	Qt-$Tnsc_1$	
W-873-04	$Tnsc_1$	Qt-$Tnsc_1$	
W-873-06	$Tnbs_2$	Qt-$Tnsc_1$	
W-873-07	$Tnbs_2$	Qt-$Tnsc_1$	
W-875-01	Qt/$Tnsc_1$	Qt-$Tnsc_1$	
W-875-02	$Tnsc_1$	Qt-$Tnsc_1$	
W-875-03	$Tnbs_2$/$Tnsc_1$	Qt-$Tnsc_1$	
W-875-04	Qt/$Tnsc_1$	Qt-$Tnsc_1$	
W-875-05	$Tnsc_1$	Qt-$Tnsc_1$	
W-875-06	$Tnsc_1$	Qt-$Tnsc_1$	
W-875-07	$Tnbs_2$/$Tnsc_1$	Qt-$Tnsc_1$	
W-875-08	$Tnbs_2$/$Tnsc_1$	Qt-$Tnsc_1$	
W-875-09	$Tnbs_2$/$Tnsc_1$	Qt-$Tnsc_1$	
W-875-10	$Tnbs_2$/$Tnsc_1$	Qt-$Tnsc_1$	
W-875-11	$Tnbs_2$/$Tnsc_1$	Qt-$Tnsc_1$	
W-875-15	$Tnbs_2$/$Tnsc_1$	Qt-$Tnsc_1$	
W-876-01	$Tnsc_1$	Qt-$Tnsc_1$	

Table 1-6. (Continued)

Well	Statigraphic unit	Hydrologic unit	Comments
W-879-01	$Tnsc_1$	$Qt\text{-}Tnsc_1$	
W-889-01	$Tnsc_1$	$Qt\text{-}Tnsc_1$	Completed in base of $Tnbs_1$ and upper $Tnsc_1$
W-7A	$Tnbs_1$	$Tnbs_1$	Above CMB
W-7B	$Tnbs_1$	$Tnbs_1$	Above CMB
W-7C	$Tnbs_1$	$Tnbs_1$	Above CMB
W-7E	$Tnsc_1/Tnbs_1$	$Qt\text{-}Tnsc_1/Tnbs_1$	
W-7ES	$Qal/Tnsc_1$	$Qt\text{-}Tnsc_1$	
W-7F	$Tnsc_1$	$Qt\text{-}Tnsc_1$	
W-7G	$Tnbs_1$	$Tnbs_1$	Below CMB
W-7H	$Qal/Tnsc_1$	$Qt\text{-}Tnsc_1$	
W-7I	$Tnbs_2/Tnsc_1$	$Qt\text{-}Tnsc_1$	
W-7J	$Tnsc_1$	$Qt\text{-}Tnsc_1$	
W-7K	$Tnbs_1$	$Tnbs_1$	Below CMB
W-7L	$Tnbs_1$	$Tnbs_1$	Across CMB
W-7M	$Tnbs_1$	$Tnbs_1$	Below CMB
W-7N	$Tnbs_1$	$Tnbs_1$	Above CMB
W-7O	Qal	$Qt\text{-}Tnsc_1$	
Well 7	$Tnsc_1/Tnbs_1$	$Qt\text{-}Tnsc_1/Tnbs_1$	
Well 19	$Tnsc_1/Tnbs_1$	$Qt\text{-}Tnsc_1/Tnbs_1$	Completed in base of $Tnbs_1$ and upper Tmss
GALLO-2	—	$Qt\text{-}Tnsc_1$/ ?	Incomplete well construction information

[a] More detailed well completion data is contained in Appendix E of Webster-Scholten (1994).

[b] CMB = Claystone marker bed in the Neroly Formation member $Tnbs_1$.

— = Not available.

? = Unknown.

Table 1-7. Eastern GSA well completion table.[a]

Well	Stratigraphic unit	Hydrologic unit	Comments
CDF1	Qal/$Tnsc_1$/ $Tnbs_1$	Qal-Tmss	Completed in Qal, $Tnsc_1$, and $Tnbs_1$, but still within the Qal-Tmss hydrologic unit
CON1	$Tnbs_1$	Qal-Tmss	Crosses CMB
CON2	$Tnbs_1$?	Qal-Tmss	
W-25D-01	Qal	Qal-Tmss	
W-25D-02	Qal	Qal-Tmss	
W-25M-01	Qal/Tmss	Qal-Tmss	Mostly Qal
W-25M-02	Qal	Qal-Tmss	
W-25M-03	Qal	Qal-Tmss	
W-25N-01	Qal	Qal-Tmss	Completed in Qal
W-25N-04	Tmss	Qal-Tmss	
W-25N-05	$Tnbs_1$	Qal-Tmss	
W-25N-06	Qal/$Tnbs_1$	Qal-Tmss	Only 6 in. of $Tnbs_1$
W-25N-07	Qal/$Tnsc_1$	Qal-Tmss	Minor $Tnsc_1$
W-25N-08	$Tnbs_1$	Qal-Tmss	Below CMB
W-25N-09	$Tnbs_1$	Qal-Tmss	Above CMB
W-25N-10	$Tnbs_1$	Qal-Tmss	Below CMB
W-25N-11	$Tnbs_1$	Qal-Tmss	Below CMB[b]
W-25N-12	$Tnbs_1$	Qal-Tmss	Below CMB
W-25N-13	$Tnbs_1$	Qal-Tmss	Above CMB
W-25N-15	Qal/$Tnbs_1$	Qal-Tmss	Minor $Tnbs_1$
W-25N-18	$Tnbs_1$	Qal-Tmss	Above CMB
W-25N-20	Qal/$Tnbs_1$	Qal-Tmss	
W-25N-21	$Tnbs_1$	Qal-Tmss	Above CMB
W-25N-22	Qal/$Tnbs_1$	Qal-Tmss	Mostly $Tnbs_1$
W-25N-23	Qal/$Tnbs_1$	Qal-Tmss	Mostly $Tnbs_1$
W-25N-24	Qal	Qal-Tmss	To $Tnbs_1$
W-25N-25	$Tnbs_1$	Qal-Tmss	Above CMB
W-25N-26	$Tnbs_1$	Qal-Tmss	Below CMB
W-25N-28	$Tnbs_1$	Qal-Tmss	Below CMB
W-26R-01	$Tnbs_1$	Qal-Tmss	
W-26R-02	$Tnbs_1$	Qal-Tmss	Below CMB
W-26R-03	Qal	Qal-Tmss	
W-26R-04	Qal/$Tnbs_1$	Qal-Tmss	Minor $Tnbs_1$
W-26R-05	Qal/$Tnbs_1$	Qal-Tmss	
W-26R-06	$Tnbs_1$	Qal-Tmss	Above CMB
W-26R-07	$Tnbs_1$	Qal-Tmss	Below CMB
W-26R-08	$Tnbs_1$	Qal-Tmss	Below CMB
W-26R-11	Qal	Qal-Tmss	

Table 1-7. (Continued)

Well	Stratigraphic unit	Hydrologic unit	Comments
W-7D	$Tnbs_1$	Qal-Tmss	Below CMB
W-7DS	Qal/$Tnbs_1$	Qal-Tmss	Mostly Qal

[a] More detailed well completion data is contained in Appendix E of Webster-Scholten (1994).

[b] CMB = Claystone marker bed in the Neroly Formation member $Tnbs_1$.

Table 1-8. Description of the hydrologic units in the central GSA.

Hydrologic Unit: Quaternary Terrace (Q_t)-Neroly Formation (middle siltstone/claystone [$Tnsc_1$])—Qt-$Tnsc_1$	
Occurrence and extent of saturation	The Qt-$Tnsc_1$ hydrologic unit is comprised of stratigraphic units Qt and Qoa, Qal, and Neroly bedrock units $Tnbs_2$ and $Tnsc_1$ and is present throughout the central GSA. Although Qt deposits underlie most of the central GSA, Qal deposits are present to the south and east in the Corral Hollow floodplain. In contrast to the eastern GSA, most Qal adjacent to the central GSA is fine-grained and of fairly low hydraulic conductivity. Ground water is encountered 10 to 20 ft below ground surface, with localized saturated fractures and lenses. The saturated thickness of the Qt-$Tnsc_1$ hydrologic unit varies from 0 ft at well W-843-01, located approximately 350 ft north of Building 879, increasing in a southerly direction, to 80 ft at well W-7J, located 25 ft south of Building 875.
Hydraulic condition	In the central GSA, ground water in the Qt-$Tnsc_1$ hydrologic unit is semiconfined to unconfined.
Hydraulic conductivity	The hydraulic conductivity of hydrologic unit Qt-$Tnsc_1$ varies because of the heterogeneity of the sediments. Hydraulic testing in wells in the central GSA indicates a range of hydraulic conductivities from 5.5 gpd/ft^2 (10^{-4} cm/sec) in well W-7F to 77 gpd/ft^2 (10^{-3} cm/sec) in well W-7B in the $Tnsc_1$. The $Tnsc_1$ strata generally have low porosity and primary permeability, but hydraulic testing indicates moderate to high secondary (fracture) permeability in the uppermost beds (McIlvride et al., 1990).
Ground water flow direction, gradient, and velocity	Shallow ground water flows south-southeastward with a hydraulic gradient of 0.04. Upon discharging into the channel fill alluvium in the Corral Hollow streambed, the flow direction of the shallow ground water changes and follows the streambed eastward.
Relationship to adjacent hydrologic units	The Qt-$Tnsc_1$ hydrologic unit conformably overlies the lower sandstone $Tnbs_1$ hydrologic unit. Hydraulic head differences and water chemistry indicate that the Qt-$Tnsc_1$ hydrologic unit is hydraulically isolated from the deeper $Tnbs_1$ hydrologic unit by low-permeability aquitards of the $Tnsc_1$ stratigraphic unit.
Typical well yields	<0.5 to 5 gpm.
Beneficial uses	None. Two former water-supply wells, wells 7 and 19, located in the central GSA, have been sealed and abandoned due to VOCs detected in ground water samples from these wells. A third water-supply well in the vicinity, well GALLO-2, located on the adjacent Gallo property, has shown no evidence of VOC contamination. However, this well has not been used for several years.
Comments	None.

Table 1-8. (Continued).

	Hydrologic Unit: Neroly Formation (lower sandstone [$Tnbs_1$])—$Tnbs_1$
Occurrence and extent of saturation	The $Tnbs_1$ aquifer has been encountered in all deep wells drilled in the central GSA and is, therefore, thought to underlie the entire central GSA. It is believed to be saturated beneath the operable unit and off site to the south. Well W-873-01, south of Building 873, and well 19, east of Building 875, are thought to fully penetrate the $Tnbs_1$ hydrologic unit and upper portion of the Cierbo Formation, although geologic information was poorly recorded during the installation of these wells. Well data indicate the saturated thickness of the hydrologic unit to be 285 to 320 ft.
Hydraulic condition	Depth to ground water is approximately 160 ft below ground surface. Ground water in the $Tnbs_1$ hydrologic unit is confined throughout the central GSA. The deeper sandstone of the $Tnbs_1$ aquifer is separated lithologically from the upper $Tnbs_1$ interbedded siltstone, claystone, and sandstone by an extensive claystone marker bed (CMB). Although the thickness of this bed is only 10 to 12 ft, it has been encountered in most deeper wells drilled in the GSA. A potentiometric head difference (0.76 ft) between adjacent wells completed in the minor $Tnbs_1$ aquifer, one screened above the CMB (well W-7N) and the other below it (well W-7M), may indicate that the CMB partially inhibits communication between the upper and lower sandstone layers.
Hydraulic conductivity	A hydraulic test was performed on well W-7G in the central GSA in 1989. Test results indicated that W-7G, which is screened in the $Tnbs_1$ aquifer, communicated slightly with well W-7B, which is screened in the Qt-$Tnsc_1$ hydrologic unit (McIlvride et al., 1990). Well W-7A, which is located in the same area as W-7B but is screened in the same hydrologic unit as W-7G, did not respond to pumping in W-7G. It is possible that fracture flow, rather than porous flow, is the dominant mechanism for vertical ground water flow in the well W-7G area and that faults, fracture distribution, density, orientation, and permeability are more important than hydrostratigraphy in controlling local ground water flow. The results of the hydraulic testing of wells in the central GSA indicated transmissivity of the $Tnbs_1$ hydrologic unit ranged from 140 to 210 gpd/ft. The hydraulic conductivities ranged from 2.2 to 12 gpd/ft^2 (1.0×10^{-4} to 5.7×10^{-4} cm/sec).
Ground water flow direction, gradient, and velocity	The hydraulic gradient of the regional $Tnbs_1$ aquifer is 0.09 in a generally southerly direction (Fig. 1-29). In the vicinity of the sewage treatment pond, ground water in the $Tnbs_1$ becomes unconfined, and flow is in a more easterly direction. The change in flow direction within the $Tnbs_1$ hydrologic unit in this area may be attributable to the fact that the confining condition of the $Tnbs_1$ aquifer changes from confined to unconfined due to the loss of the $Tnsc_1$ confining layer. Based on this hydraulic gradient and assuming a porosity of 25%, the calculated average linear pore velocity is 0.3 ft/d.

Table 1-8. (Continued).

Relationship to adjacent hydrogeologic units	The $Tnbs_1$ hydrologic unit is conformably overlain by the low-permeability siltstone and claystone of the $Tnsc_1$. Based on differences in hydraulic heads and water chemistry in the two hydrologic units, it appears that $Tnsc_1$ acts as a confining layer between the Qt-$Tnsc_1$ hydrologic unit and the $Tnbs_1$. Stratigraphic unit Tmss has been identified in two wells in both the central and eastern GSA and is assumed to underlie $Tnbs_1$ in most of the operable unit. However, insufficient information is available to determine whether Tmss is in hydraulic communication with the $Tnbs_1$ hydrologic unit in the central GSA.
Typical well yields	<0.5 gpm to 11.0 gpm. Yields from well W-7G ranged from 30 to 40 gpm.
Beneficial uses	Wells 7 and 19 located in the central GSA were previously used as water-supply sources at Site 300. Both wells were sealed and abandoned after VOCs were detected in water samples from these wells. Well GALLO-2, located on CDF property, is completed in the $Tnbs_1$ hydrologic unit; however, this well has not been used for a number of years. Water from several wells located off site, which are completed in the $Tnbs_1$, is still used for stock-watering and domestic water use.
Comments	None.

Table 1-9. Description of hydrologic units in the eastern GSA.

Hydrologic Unit: Quaternary alluvium (Qal)-Miocene Cierbo Formation (Tmss)—Qal-Tmss	
Occurrence and extent of saturation	The Qal-Tmss hydrologic unit is present throughout the eastern GSA and is composed of stratigraphic units Qal, Qoa, $Tnsc_1$, $Tnbs_1$, and Tmss. $Tnsc_1$, however, is not continuous throughout the study area. Borehole lithologic logging indicates Quaternary deposits and the underlying Neroly Formation and Cierbo Formation units are saturated throughout most of the eastern GSA. Depth to ground water is approximately 18 ft, and the saturated thickness of the Qal sediments ranges from 0 to 21.8 ft.
Hydraulic condition	In the eastern GSA, Tps and $Tnbs_2$ upper Neroly units are eroded away and only lower Neroly bedrock units are present. Based on data from wells that penetrate the Qal, the lower Neroly bedrock units, and the upper Cierbo, little difference is observed in potentiometric head between the Qal, the lower Neroly bedrock, and upper Cierbo bedrock, as shown in Figure 1-28. This condition indicates that, for the most part, the Quaternary alluvium is in hydraulic communication with the underlying Neroly and Cierbo bedrock units ($Tnbs_1$ and Tmss). Well data also indicate that in areas of the eastern GSA where ground water is present, it is unconfined.
Hydraulic conductivity	The permeability of the alluvium is extremely variable due to the heterogeneous nature of the sediments; the hydraulic conductivity varies over several orders of magnitude. Hydraulic tests were conducted on wells W-25M-01, W-25N-01, and W-25N-06 in the saturated alluvial sediments in the eastern GSA. The hydraulic conductivity in the alluvium was determined to range between 140 to 13,000 gpd/ft^2 (10^{-3} to 10^{-1} cm/sec). The hydraulic conductivity of the underlying Neroly bedrock ranges between 4.6 to 230 gpd/ft^2 (10^{-4} to 10^{-2} cm/sec). The hydraulic conductivity in the upper Cierbo Formation is estimated to be on the order of 7.5 gpd/ft^2 (10^{-4} cm/sec).
Ground water flow direction, gradient, and velocity	Ground water flow in the alluvium and shallow permeable bedrock is eastward, then turning northward to follow the trend of the valley. Flow velocity (average linear pore velocity) is dependent on local hydraulic conductivity. The maximum flow velocity is estimated to be on the order of 200 to 1,200 ft/y. Hydraulic data from the central and eastern GSA and off site indicate that the horizontal hydraulic gradient ranges from about 0.003 across from the central GSA where the valley is wide, to about 0.009 downstream from the CDF station where the alluvium follows the Corral Hollow drainage (i.e., eastward and northward). Ground water in the deeper water-bearing zones of the $Tnbs_1$ generally follows regional $Tnbs_1$ ground water flow direction toward the south, oriented parallel to the bedding planes of the bedrock. The shallow $Tnbs_1$ functions as a transition zone between the alluvium and deeper $Tnbs_1$ sandstone. An easterly component of flow exists immediately west of wells CON-1 and CDF-1, possibly as a result of pumping from these wells.

Table 1-9. (Continued)

Relationship to adjacent hydrogeologic units	The Late Cretaceous Panoche Formation presumably underlies the Qal-Tmss hydrologic unit in the eastern GSA; however, no wells or boreholes have penetrated the Panoche Formation in the operable unit. Therefore, no information is available about the hydraulic relationship between the Qal-Tmss and underlying hydrologic units.
Typical well yields	1 to 50 gpm.
Beneficial uses	Currently, two active private, off-site water-supply wells (CDF-1 and CON-1) are operating in the vicinity of the eastern GSA. Both wells are located at the California Department of Forestry Castle Rock Fire Station. Water from these wells is used primarily for irrigation, watering stock, and fire-fighting purposes.
Comments	Ground water flow within the alluvial portions of the Qal-Tmss hydrologic unit occurs primarily within sand and gravel lenses and stringers of high hydraulic conductivity. These lenses and stringers appear to be oriented parallel to the axis of the Corral Hollow Creek valley. The presence, location, and extent of these highly-permeable channels are not reflected in the present-day configuration of the Corral Hollow streambed and appear to occur preferentially in the scoured channel of ancestral Corral Hollow Creek located northwest of the present day channel.

Table 1-10. Water level elevations for selected wells in the eastern and central GSA.

Well	Stratigraphic unit completion	Water level elevation, December 1991[a] (ft above MSL)	Hydrologic unit
Eastern GSA			
W-7D	$Tnbs_1$, BCMB	488.87	Qal-Tmss
W-7DS	Qal	488.93	Qal-Tmss
W-25N-07	Qal	488.58	Qal-Tmss
W-25N-10	$Tnbs_1$, BCMB	488.78	Qal-Tmss
W-25N-11	$Tnbs_1$, BCMB	488.97	Qal-Tmss
W-25N-12	$Tnbs_1$, BCMB	488.27	Qal-Tmss
W-25N-13	$Tnbs_1$, ACMB	487.92	Qal-Tmss
W-26R-03	Qal	488.08	Qal-Tmss
Central GSA			
W-873-02	$Tnbs_2$	499.87	Qt-$Tnsc_1$
W-873-06	$Tnbs_2$	498.51	Qt-$Tnsc_1$
W-873-07	$Tnbs_2$	498.75	Qt-$Tnsc_1$
W-7J	$Tnsc_1$	499.87	Qt-$Tnsc_1$
W-7I	$Tnsc_1$	499.21	Qt-$Tnsc_1$
W-7F	$Tnsc_1$	499.21	Qt-$Tnsc_1$
W-7N	$Tnbs_1$, ACMB	490.41	$Tnbs_1$
W-7E	$Tnbs_1$, ACMB	490.94	$Tnbs_1$
W-7M	$Tnbs_1$, BCMB	491.41	$Tnbs_1$
W-7K	$Tnbs_1$, BCMB	492.93	$Tnbs_1$

MSL = mean sea level.

BCMB = below claystone marker bed.

ACMB = above claystone marker bed.

[a] December 1991 data used to illustrate pre-pumping conditions.

Table 1-11. Inferred recharge and discharge mechanisms of the central and eastern GSA hydrologic units.

Hydrologic Units: Central GSA Quaternary terrace deposits-Neroly Formation middle siltstone/claystone (Qt-$Tnsc_1$) and eastern GSA Quaternary alluvium-Miocene Cierbo Formation (Qal-Tmss)

Recharge:

(a) Direct infiltration of precipitation into Qal, Qt, $Tnbs_2$, $Tnsc_1$, and $Tnbs_1$ stratigraphic units exposed in the GSA.

(b) Infiltration from Corral Hollow Creek during periods of streamflow.

(c) Lateral flow of ground water into Qal and Qt from adjacent bedrock along contact margins.

(d) Ground water flow from upland areas west of Site 300.

Discharge:

(a) Evapotranspiration from ground surface (approximately 4 ft/y of potential evapotranspiration).

(b) Flow of ground water through Corral Hollow alluvium, discharging to sediments of the Central Valley.

(c) Possible downward vertical flow of ground water into underlying formations.

(d) Withdrawal of ground water from water-supply wells CDF-1 and CON 1 and GWTS extraction well W-26R-03.

Comments:

(a) Because of the limited surface area of the alluvium and the low volume of precipitation per annum (average 10.3 in./y), the calculated potential evapotranspiration of the GSA is several times that of the available precipitation.

(b) Net vertical hydraulic gradient slightly downward, possibly as a result of pumping.

Note: Letters in parentheses ( ) link related information.

Table 1-12. Inferred recharge and discharge mechanisms of the central GSA hydrologic unit.

Hydrologic Unit: Neroly Formation (lower sandstone) ($Tnbs_1$)

Recharge:

(a) Direct infiltration of precipitation into $Tnbs_1$ stratigraphic unit exposed in eastern GSA.

(b) Direct recharge via intermittent lost streams in upland areas flanking Corral Hollow, particularly in northern Site 300.

(c) Downward vertical flow of ground water from overlying unconsolidated alluvial sediments in Corral Hollow Creek.

Discharge:

(a) Evapotranspiration.

(a) Possible surface discharge from springs.

(c) Withdrawal of ground water from Site 300 and off-site wells.

Comments:

- Springs 1, 2, and GEOCRK, located in the vicinity of the GSA, are possible discharge points for ground water from the $Tnbs_1$ unit.

Note: Letters in parentheses ( ) link related information.

Table 1-13. GSA off-site water-supply well data.

Well	Year drilled	Total depth (ft)	Status	Pumping rate (gpm)
CDF-1	1980	115	Active	40
CON-1	1980	178	Active	21
GALLO-2	1940s[a]	242	Inactive	Unknown
CON-2	1930s	59	Inactive	Unknown
PHYS-1	Unknown	Unknown	Unknown	Unknown
SR-1	1957	400	Active	80[a]

[a] Estimate.

Table 1-14. Potential release sites identified in the central and eastern GSA.

Central GSA	Eastern GSA
Seven former waste water and rinsewater dry wells.	Four mixed soil and debris burial trenches near the sewage treatment overflow pond.
Ten aboveground storage tanks containing rinsewater from GSA facility operations, and one 110-gal. underground rinsewater storage tank at Building 879.	The former LLNL pistol range/Navy fire suppression training area located approximately 2,400 ft north of the eastern boundary of Site 300.
A drum storage area east of Building 875, and a former drum storage area in the steel salvage yard upslope from Building 879.	
A decommissioned solvent and oil storage dispensing rack with a 55-gal. underground solvent retention tank.	
Two steam-cleaning areas, one with a rinsewater storage sink.	
Nine underground fuel storage tanks.	

Table 1-15. Contaminants of potential concern in surface soil (≤0.5 ft) in the GSA.

Contaminant	Maximum concentration[a]	Mean concentration[a,b]	95% UCL[a]
1,1,1-Trichloroethane	5.0×10^{-3}	6.85×10^{-4}	1.86×10^{-3}
Acetone	6.0×10^{-2}	3.39×10^{-2}	4.90×10^{-2}
Cadmium	1.6×10^{1}	6.43×10^{0}	9.31×10^{0}
Chloroform	3.0×10^{-4}	3.82×10^{-4}	8.75×10^{-4}
Copper	3.4×10^{2}	3.94×10^{1}	5.67×10^{1}
HMX	2.0×10^{-2}	NA[c]	2.0×10^{-2}[c]
Tetrachloroethylene	3.0×10^{-2}	1.61×10^{-3}	3.58×10^{-3}
Toluene	6.0×10^{-3}	1.30×10^{-3}	2.86×10^{-3}
Trichloroethylene	8.4×10^{-2}	3.75×10^{-3}	1.18×10^{-2}
Trichlorofluoromethane	1.3×10^{-2}	1.00×10^{-3}	2.19×10^{-3}
Trichlorotrifluoroethane	7.9×10^{-2}	1.23×10^{-2}	3.84×10^{-2}
Xylenes (total isomers)	7.0×10^{-3}	1.47×10^{-3}	3.40×10^{-3}
Zinc	8.3×10^{2}	2.06×10^{2}	3.62×10^{2}

a Units are mg/kg except for HMX (μg/g).

b Estimate of the arithmetic mean of the underlying log normal distribution.

c For certain data sets, calculation of an Upper Confidence Limit (UCL) yielded a value greater than the maximum measured concentration. In those instances, a mean concentration was not calculated, and the maximum concentration is given instead of a UCL.

Table 1-16. Contaminants of potential concern in VOC soil flux in the GSA.

Contaminant	Limit of detection ($mg/m^2 \cdot s$)	Maximum emission rate ($mg/m^2 \cdot s$)	Mean emmision rate[a] ($mg/m^2 \cdot s$)	95% UCL of emission rate ($mg/m^2 \cdot s$)
Central GSA				
1,2,4-Trimethylbenzene	1.05×10^{-6}	9.19×10^{-6}	1.25×10^{-6}	2.00×10^{-6}
1,3,5–Trimethylbenzene	1.10×10^{-6}	2.00×10^{-6}	NA[b]	2.10×10^{-6}
Benzene	6.79×10^{-7}	2.39×10^{-5}	1.73×10^{-6}	3.64×10^{-6}
Methylene chloride	9.50×10^{-7}	5.20×10^{-5}	4.36×10^{-6}	1.69×10^{-5}
Toluene	8.01×10^{-7}	3.59×10^{-6}	1.03×10^{-6}	1.37×10^{-6}
Trichloroethylene (TCE)	1.13×10^{-6}	3.73×10^{-6}	3.33×10^{-7}	1.11×10^{-6}
Trichlorotrifluoroethane (Freon 113)	1.70×10^{-6}	3.88×10^{-4}	7.49×10^{-5}	2.22×10^{-4}
m- and p-Xylenes	9.58×10^{-7}	5.27×10^{-6}	1.11×10^{-6}	1.97×10^{-6}
o-Xylenes	9.58×10^{-7}	2.43×10^{-6}	5.15×10^{-7}	9.35×10^{-7}
Eastern GSA				
1,1,1-Trichloroethane	1.18×10^{-6}	1.32×10^{-6}	1.11×10^{-6}	1.32×10^{-3}
1,2,4-Trichlorobenzene	1.09×10^{-6}	2.11×10^{-6}	1.11×10^{-6}	1.36×10^{-6}
Dichlorodifluoromethane (Freon 12)	1.09×10^{-6}	2.45×10^{-6}	6.48×10^{-7}	1.12×10^{-6}
Methylene chloride	8.67×10^{-7}	6.06×10^{-5}	7.63×10^{-6}	3.52×10^{-5}
Styrene	9.07×10^{-7}	1.42×10^{-6}	4.90×10^{-7}	1.01×10^{-6}
Toluene	8.34×10^{-7}	1.67×10^{-6}	1.10×10^{-6}	1.27×10^{-6}
Trichloroethylene (TCE)	1.18×10^{-6}	1.77×10^{-6}	6.89×10^{-7}	1.35×10^{-6}
Trichlorotrifluoroethane (Freon 113)	1.77×10^{-5}	5.67×10^{-5}	3.40×10^{-5}	4.06×10^{-5}
m- and p-Xylenes	9.98×10^{-7}	2.87×10^{-6}	1.32×10^{-6}	1.63×10^{-6}
o-Xylenes	9.98×10^{-7}	1.45×10^{-6}	6.13×10^{-7}	1.16×10^{-6}
Building 875 dry well area				
1,2,4-Trimethylbenzene	1.09×10^{-6}	3.89×10^{-6}	1.09×10^{-6}	1.98×10^{-6}
Chloromethane	4.63×10^{-7}	1.12×10^{-6}	1.87×10^{-7}	4.38×10^{-7}
Dichlorodifluoromethane (Freon 12)	1.09×10^{-6}	1.10×10^{-6}	NA[b]	1.10×10^{-6}
Ethylbenzene	9.98×10^{-7}	4.49×10^{-6}	8.77×10^{-7}	1.41×10^{-6}
Methylene chloride	7.71×10^{-7}	2.02×10^{-5}	6.37×10^{-6}	1.14×10^{-5}
Tetrachloroethylene (PCE)	1.54×10^{-6}	2.20×10^{-6}	1.02×10^{-6}	1.83×10^{-6}
Toluene	8.34×10^{-7}	1.05×10^{-5}	1.55×10^{-6}	2.97×10^{-6}
Trichloroethylene (TCE)	1.18×10^{-6}	1.68×10^{-5}	3.01×10^{-6}	1.13×10^{-5}

Table 1-16. (Continued)

Contaminant	Limit of detection ($mg/m^2 \cdot s$)	Maximum emission rate ($mg/m^2 \cdot s$)	Mean emmision rate[a] ($mg/m^2 \cdot s$)	95% UCL of emission rate ($mg/m^2 \cdot s$)
Building 875 dry well area (Continued)				
Trichlorotrifluoroethane (Freon 113)	1.82×10^{-6}	8.06×10^{-5}	2.86×10^{-5}	3.96×10^{-5}
m- and p-Xylenes	9.98×10^{-7}	1.83×10^{-5}	2.98×10^{-6}	1.30×10^{-5}
o-Xylenes	9.98×10^{-7}	3.37×10^{-6}	7.03×10^{-7}	1.39×10^{-6}

[a] Estimate of the arithmetic mean of the underlying log normal distribution.

[b] For certain data sets, calculation of a UCL yielded a value greater than the maximum measured concentration. In those instances, a mean concentration was not calculated, and the maximum concentration is given instead of a UCL.

Table 1-17. Contaminants of potential concern in ground water in the GSA.

Contaminant	Maximum concentration[a]	Mean concentration[a,b]	95% UCL[a]
Central GSA			
1,1,1-Trichloroethane	2.0×10^{3}	2.93×10^{-1}	1.62×10^{0}
1,1-Dichloroethylene	4.0×10^{3}	7.37×10^{-1}	1.18×10^{0}
cis-1,2-Dichloroethylene[c]	1.0×10^{3}	2.56×10^{0}	3.75×10^{0}
Acetone	8.2×10^{0}	4.08×10^{0}	5.78×10^{0}
Benzene	5.0×10^{1}[d]		
Bromodichloromethane	3.3×10^{0}	4.05×10^{-2}	6.62×10^{-2}
Chloroform	7.4×10^{0}	6.10×10^{-1}	8.98×10^{-1}
Ethylbenzene	6.0×10^{1}[d]		
Tetrachloroethylene	2.5×10^{4}	3.89×10^{1}	7.73×10^{1}
Toluene	2.2×10^{2}	5.64×10^{-1}	1.44×10^{0}
Trichloroethylene	2.4×10^{5}	8.30×10^{2}	3.09×10^{3}
Trichlorofluoromethane	1.6×10^{2}	1.07×10^{1}	1.89×10^{1}
Xylenes (total isomers)	2.7×10^{2}	1.98×10^{-1}	4.41×10^{-1}
Eastern GSA			
1,1,1-Trichloroethane	9.4×10^{1}	2.93×10^{-1}	1.62×10^{0}
1,1-Dichloroethylene	5.0×10^{-1}	4.30×10^{-1}	4.45×10^{-1}
1,2-Dichloroethylene[c]	6.0×10^{-1}	4.27×10^{-1}	4.41×10^{-1}
Bromodichloromethane	3.3×10^{0}	4.05×10^{-2}	6.62×10^{-2}
Chloroform	1.4×10^{1}	9.60×10^{-1}	4.25×10^{0}
Tetrachloroethylene	4.4×10^{0}	1.32×10^{0}	1.64×10^{0}
Toluene	6.0×10^{-1}	2.34×10^{-1}	3.65×10^{-1}
Trichloroethylene	6.1×10^{1}	2.66×10^{1}	3.39×10^{1}
Xylenes (total isomers)	1.4×10^{0}	2.00×10^{-1}	3.38×10^{-1}

[a] All units are in µg/L.

[b] Estimate of the arithmetic mean of the underlying log normal distribution.

[c] The chemical 1,2-dichloroethylene (1,2-DCE) exists as two isomers, cis-1,2-DCE and trans-1,2-DCE. At various times throughout the nine years of ground water analysis at Site 300, this chemical has been analyzed for as 1,2-DCE (total), as one or both of the specific isomers, or as all three. When concentration data were available for one or both isomers, we used those values and omitted the less specific analysis for 1,2-DCE (total) from further consideration. The exceptions to this were in cases where the concentration reported for 1,2-DCE (total) was greater than that reported for one or both isomers.

[d] The values given for benzene and ethylbenzene are the maximum measured concentrations for these chemicals in ground water in the central GSA. Both maxima were reported from the last quarter of sampling data included in the SWRI database (first quarter, 1992) (Webster-Scholton, 1994), and both came from the vicinity of the Building 875 former dry wells. A mean concentration and a 95% UCL were not calculated.

Table 1-18. Ecological contaminants of potential concern in subsurface soil (0.5–12.0 ft) in the eastern GSA.

Contaminant	Maximum concentration[a]	Mean concentration[a,b]	95% UCL[a,c]
Debris burial trenches			
Chloroform	4.3×10^{-2}	1.47×10^{-3}	3.35×10^{-3}
Methylene chloride	1.4×10^{-2}	4.26×10^{-4}	1.74×10^{-3}
Tetrachloroethylene	8.8×10^{-3}	1.95×10^{-3}	4.32×10^{-3}
Toluene	5.0×10^{-3}	2.73×10^{-3}	3.14×10^{-3}
Trichloroethylene	2.4×10^{-2}	2.43×10^{-3}	4.31×10^{-3}
Trichlorofluoromethane	3.3×10^{-3}	1.34×10^{-4}	3.95×10^{-4}
Trichlorotrifluoroethane	4.0×10^{-4}	1.20×10^{-4}	1.67×10^{-4}
Sewage treatment pond			
Cadmium	1.5×10^{1}	1.15×10^{1}	1.43×10^{1}
Copper	1.5×10^{2}	4.96×10^{1}	8.32×10^{1}
Zinc	2.2×10^{3}	3.10×10^{2}	7.50×10^{2}

[a] Units are mg/kg.

[b] Estimate of the arithmetic mean of the underlying log normal distribution.

[c] For certain data sets, calculation of a UCL yielded a value greater than the maximum measured concentration. In those instances, a mean concentration was not calculated, and the maximum concentration was given instead of a UCL.

Table 1-19. Ecological contaminants of potential concern in surface water in the GSA (spring GEOCRK).

Contaminant	Maximum concentration[a]	Mean concentration[a,b]	95% UCL[a,c]
Copper	12	NA[c]	12
Zinc	120	NA[c]	120

[a] All values are in µg/L.

[b] Estimate of the arithmetic mean of the underlying log normal distribution.

[c] There were an insufficient number of results to calculate a mean concentration or a 95% UCL, thus the maximum detected concentration was used in the ecological assessment.

Table 1-20. Compounds analyzed for using U.S. EPA Method T0-14 and number of locations with positive detections in SUMMA™ canister samples.

Compound	Limit of detection ($ppb_{v/v}$)	Number of detections in SUMMA™ cannister samples[a,b]
Benzene	0.7	1
Bromomethane	0.7	ND
Carbon tetrachloride	0.7	ND
Chlorobenzene	0.7	ND
Chloroethane	0.7	ND
Chloroform	0.7	ND
Chloromethane	0.7	1
Chlorotoluene	0.7	ND
cis-1,2-Dichloroethene	0.7	ND
cis-1,3-Dichloropropene	0.7	ND
1,2-Dichlorobenzene	0.7	ND
1,3-Dichlorobenzene	0.7	ND
1,4-Dichlorobenzene	0.7	ND
1,2-Dichloroethane	0.7	ND
1,1-Dichloroethane	0.7	ND
1,1-Dichloroethene	0.7	ND
Dichlorodifluoromethane (Freon 11)	0.7	3
1,2-Dichloropropane	0.7	ND
Ethylbenzene	0.7	1
Ethylene dibromide	0.7	ND
Freon 113	0.7	17
Freon 114	0.7	ND
Freon 12	0.7	ND
Hexachlorobutadiene	0.7	ND
Methylene chloride	0.7	10
Styrene	0.7	1
1,1,2,2-Tetrachloroethane	0.7	ND
Tetrachloroethene (PCE)	0.7	1
Toluene	0.7	20
trans-1,3-Dichloropropene	0.7	ND
1,2,4-Trichlorobenzene	0.7	ND
1,1,1-Trichloroethane	0.7	1
1,1,2-Trichloroethane	0.7	ND
Trichloroethene (TCE)	0.7	6
1,2,4-Trimethylbenzene	0.7	10

Table 1-20. (Continued)

Compound	Limit of detection ($ppb_{v/v}$)	Number of detections in SUMMA™ cannister samples[a,b]
1,3,5-Trimethylbenzene	0.7	1
Vinyl chloride	0.7	ND
m- and p-Xylenes	0.7	17
o-Xylene	0.7	5

a Samples were collected from a total of 52 locations.

b Number of detections after method blank data were considered following U.S. EPA, 1989.

Table 1-21. Summary of estimated exposure-point concentrations in the GSA as presented in the SWRI report.

Media/process release area(s)	Model and/or method	Potential exposure point(s)	Chemicals of concern	Maximum concentration at release area(s)	95% Upper Confidence Limit	Estimated exposure-point concentrations
Fugitive (airborne) dust; contaminants bound to resuspended soil particles						
Data evaluated are from surface soil samples collected throughout the OU.	Mass-loading (Anspaugh et al., 1975).	Throughout the OU.	1,1,1-TCA	0.005 mg/kg[a]	0.00186 mg/kg[a]	4.28×10^{-11} mg/m[3b]
			Acetone	0.06 mg/kg[a]	0.049 mg/kg[a]	1.13×10^{-9} mg/m[3b]
			Cadmium	16 mg/kg[a]	9.31 mg/kg[a]	2.14×10^{-7} mg/m[3b]
			Chloroform	0.0003 mg/kg[a]	0.000875 mg/kg[a]	2.01×10^{-11} mg/m[3b]
			Copper	340 mg/kg[a]	56.7 mg/kg[a]	1.30×10^{-6} mg/m[3b]
			HMX	0.02 mg/kg[a]	0.02 mg/kg[a]	4.60×10^{-10} mg/m[3b]
			PCE	0.03 mg/kg[a]	0.00358 mg/kg[a]	8.24×10^{-11} mg/m[3b]
			Toluene	0.006 mg/kg[a]	0.00286 mg/kg[a]	6.58×10^{-11} mg/m[3b]
			TCE	0.084 mg/kg[a]	0.0118 mg/kg[a]	2.72×10^{-10} mg/m[3b]
			Trichlorofluoromethane	0.013 mg/kg[a]	0.00219 mg/kg[a]	5.04×10^{-11} mg/m[3b]
			Trichlorotrifluoroethane	0.079 mg/kg[a]	0.0384 mg/kg[a]	8.83×10^{-10} mg/m[3b]
			Total xylenes	0.007 mg/kg[a]	0.0034 mg/kg[a]	7.82×10^{-11} mg/m[3b]
			Zinc	830 mg/kg[a]	362 mg/kg[a]	8.33×10^{-6} mg/m[3b]
Surface soil (≤0.5 ft)						
Data evaluated are from surface soil samples collected throughout the OU.	Measured concentration of contaminant in surface soil.	Throughout the OU. (Exposure routes: incidental ingestion and dermal contact.)	1,1,1-TCA	0.005 mg/kg[a]	0.00186 mg/kg[a]	1.86×10^{-3} mg/kg[a]
			Acetone	0.06 mg/kg[a]	0.049 mg/kg[a]	4.9×10^{-2} mg/kg[a]
			Cadmium	0.16 mg/kg[a]	9.31 mg/kg[a]	9.31×10^{-0} mg/kg[a]
			Chloroform	0.0003 mg/kg[a]	0.000875 mg/kg[a]	8.75×10^{-4} mg/kg[a]
			Copper	340 mg/kg[a]	56.7 mg/kg[a]	5.67×10^{1} mg/kg[a]
			HMX	0.02 mg/kg[a]	0.02 mg/kg[a]	2.00×10^{-2} mg/kg[a]
			PCE	0.03 mg/kg[a]	0.00358 mg/kg[a]	3.58×10^{-3} mg/kg[a]
			Toluene	0.006 mg/kg[a]	0.00286 mg/kg[a]	2.86×10^{-3} mg/kg[a]
			TCE	0.084 mg/kg[a]	0.0118 mg/kg[a]	1.18×10^{-2} mg/kg[a]
			Trichlorofluoromethane	0.013 mg/kg[a]	0.00219 mg/kg[a]	2.19×10^{-3} mg/kg[a]
			Trichlorofluoroethane	0.079 mg/kg[a]	0.0384 mg/kg[a]	3.84×10^{-2} mg/kg[a]
			Total xylenes	0.007 mg/kg[a]	0.0034 mg/kg[a]	3.40×10^{-3} mg/kg[a]
			Zinc	830 mg/kg[a]	362 mg/kg[a]	3.62×10^{-2} mg/kg[a]

Table 1-21. (Continued)

Media/process release area(s)	Model and/or method	Potential exposure point(s)	Chemicals of concern	Maximum concentration at release area(s)	95% Upper Confidence Limit	Estimated exposure-point concentrations
Volatilization of contaminants from subsurface soil into air within a building						
Immediate vicinity of Building 875.	Volatilization of contaminants from subsurface soil and diffusion of VOCs through concrete into a building. VOCs (McKone 1992).	Inside Building 875	1,1-DCE,	0.0005 mg/kg[c]	0.000112 mg/kg[c]	2.39×10^{-6} mg/m[3b]
			1,1,1-TCA	0.01 mg/kg[c]	0.00286 mg/kg[c]	1.23×10^{-6} mg/m[3b]
			Benzene	0.003 mg/kg[c]	0.000917 mg/kg[c]	1.69×10^{-5} mg/m[3b]
			Chloroform	0.0032 mg/kg[c]	0.00199 mg/kg[c]	5.71×10^{-5}mg/m[3b]
			cis-1,2-DCE	0.01 mg/kg[c]	0.00317 mg/kg[c]	3.42×10^{-5}mg/m[3b]
			Methylene chloride	0.0013 mg/kg[c]	0.000612 mg/kg[c]	1.55×10^{-5}mg/m[3b]
			PCE	0.1 mg/kg[c]	0.0697 mg/kg[c]	1.10×10^{-3}mg/m[3b]
			TCE	0.75 mg/kg[c]	0.596 mg/kg[c]	1.03×10^{-2}mg/m[3b]
			Trichlorofluoromethane	0.0016 mg/kg[c]	0.0016 mg/kg[c]	2.23×10^{-4}mg/m[3b]
			Trichlorotrifluoroethane	0.06 mg/kg[c]	0.0209 mg/kg[c]	5.63×10^{-3}mg/m[3b]
Volatilization of contaminants from subsurface soil to the atmosphere						
Potential releases in the vicinity of the debris burial trench.	Volatilization of contaminants from soil to air (Hwang et al., 1986); air dispersion (Turner, 1982).	In the vicinity of the debris burial trench.	Chloroform	0.043 mg/kg[c]	0.00335 mg/kg[c]	1.35×10^{-2}mg/m[3b]
			Methylene chloride	0.014 mg/kg[c]	0.00174 mg/kg[c]	6.23×10^{-3}mg/m[3b]
			PCE	0.0088 mg/kg[c]	0.00432 mg/kg[c]	1.18×10^{-2}mg/m[3b]
			Toluene	0.005 mg/kg[c]	0.00314 mg/kg[c]	6.68×10^{-3}mg/m[3b]
			TCE	0.0024 mg/kg[c]	0.000431 mg/kg[c]	1.24×10^{-2}mg/m[3b]
			Trichlorofluoromethane	0.0033 mg/kg[c]	0.000395 mg/kg[c]	7.01×10^{-3}mg/m[3b]
			Trichlorotrifluoroethane	0.0004 mg/kg[c]	0.000167 mg/kg[c]	5.53×10^{-3}mg/m[3b]
Soil/rock and ground water (Central GSA)						
Building 875 dry well area, solvent drum rack area, Building 879 steam cleaning/sink area, Building 872 dry well, Building 874 dry well, Building 873 dry well, considered as a single release.	Wilson and Miller (1978) mathematical ground water model.	Ground water from the Qt-$Tnsc_1$ hydrologic unit. Assumes undiluted transport of VOCs from Building 875 area to the Site 300 boundary. Model is used to simulate the transport of TCE through the alluvium to well CDF-1.	Primarily TCE; co-contaminants detected in ground water samples in the study area also considered.	240,000 µg/L[c,d]	35,840 µg/L[c] at site boundary Assumed modeling source term is 1,000 µg/L.	35,849 µg/L[c,e] 3.83 µg/L[c,f]
Soil/rock and ground water (Eastern GSA)						
Debris burial trenches.	PLUME analytical ground water model.	Alluvial ground water. Assumes transport of VOCs from release site to the Site 300 boundary and CDF area. Model is used to simulate the transport of TCE through the alluvium to sheep ranch well SR-1.	Primarily TCE; co-contaminants detected in ground water samples in the study are also considered.	61 µg/L TCE[c,d]	Assumed modeling source term is 100 µg/L[c].	33.9 µg/L[c,g] 10 µg/L[c,f] 10 µg/L[c,h]

Table 1-21. (Continued)

Media/process release area(s)	Model and/or method	Potential exposure point(s)	Chemicals of concern	Maximum concentration at release area(s)	95% Upper Confidence Limit	Estimated exposure-point concentrations
Ecological exposure						
Available data throughout the OU considered (Section 1.5.3).	Section 1.5.3.	General area of OU and vicinity of debris burial trenches. (Exposure pathways discussed in Section 1.5.3)	Primarily TCE, PCE.	Section 1.5.3.	Section 1.5.3.	Section 1.5.3.

[a] Surface soil.

[b] Air.

[c] Ground water.

[d] Predicted maximum 70-year average TCE concentration and exposure-point concentration at the Site 300 boundary.

[e] Predicted maximum 70-year average TCE concentration and the exposure-point concentration in ground water pumped from CDF-1.

[f] Predicted maximum 70-year average TCE concentration and the estimated exposure-point concentration in ground water at the eastern GSA (assuming no plume commingling).

[g] Predicted maximum 70-year average TCE concentration and estimated exposure-point concentration at well SR-1.

Table 1-22. The 95% UCL of contaminant soil vapor flux and the corresponding estimated potential exposure-point concentration of the contaminant in outdoor air.

Chemical	95% UCL of emission rate ($mg/m^2 \cdot s$)	$C_{outdoor}$[a] (mg/m^3)
Central GSA		
1,2,4-Trimethylbenzene	2.00×10^{-6}	4.89×10^{-5}
1,3,5-Trimethylbenzene	2.10×10^{-6}	5.13×10^{-5}
Benzene	3.64×10^{-6}	8.90×10^{-5}
Methylene chloride	1.69×10^{-5}	4.13×10^{-4}
Toluene	1.37×10^{-6}	3.35×10^{-5}
Trichloroethylene (TCE)	1.11×10^{-6}	2.71×10^{-5}
Trichlorotrifluoroethane (Freon 113)	2.22×10^{-4}	5.43×10^{-3}
m- and p-Xylenes	1.97×10^{-6}	4.82×10^{-5}
o-Xylenes	9.35×10^{-7}	2.29×10^{-5}
Eastern GSA		
1,1,1-Trichloroethane	1.32×10^{-3}	2.64×10^{-5}
1,2,4-Trichlorobenzene	1.36×10^{-6}	2.72×10^{-5}
Dichlorodifluoromethane (Freon 12)	1.12×10^{-6}	2.24×10^{-5}
Methylene chloride	3.52×10^{-5}	7.04×10^{-4}
Styrene	1.01×10^{-6}	2.02×10^{-5}
Toluene	1.27×10^{-6}	2.54×10^{-5}
Trichloroethylene (TCE)	1.35×10^{-6}	2.70×10^{-5}
Trichlorotrifluoroethane (Freon 113)	4.06×10^{-5}	8.12×10^{-4}
m- and p-Xylenes	1.63×10^{-6}	3.26×10^{-5}
o-Xylenes	1.16×10^{-6}	2.32×10^{-5}
Building 875 dry well area		
1,2,4-Trimethylbenzene	1.98×10^{-6}	2.86×10^{-5}
Chloromethane	4.38×10^{-7}	6.33×10^{-6}
Dichlorodifluoromethane (Freon 12)	1.10×10^{-6}	1.59×10^{-5}
Ethylbenzene	1.41×10^{-6}	2.04×10^{-5}
Methylene chloride	1.14×10^{-5}	1.65×10^{-4}
Tetrachloroethylene (PCE)	1.83×10^{-6}	2.64×10^{-5}
Toluene	2.97×10^{-6}	4.29×10^{-5}
Trichloroethylene (TCE)	1.13×10^{-5}	1.63×10^{-4}

Table 1-22. (Continued)

Chemical	95% UCL of emission rate (mg/m^2•s)	$C_{outdoor}$[a] (mg/m^3)
Building 875 dry well area (continued)		
Trichlorotrifluoroethane (Freon 113)	3.96×10^{-5}	5.72×10^{-4}
m- and p-Xylenes	1.30×10^{-5}	1.88×10^{-4}
o-Xylenes	1.39×10^{-6}	2.01×10^{-5}

[a] $C_{outdoor}$ refers to the exposure-point concentration (C) of volatile organic compound in outdoor air $_{(outdoor)}$, which results directly from the presence of the contaminant in soil.

Table 1-23. Estimated incremental lifetime cancer risk and hazard index attributable to inhalation of VOCs that volatilize from subsurface soil into the indoor air of Building 875 in the GSA (AOS exposure) as presented in the SWRI report.

Chemical	$C_{voc(sbs)}$ (mg/m^3)[a]	Individual lifetime cancer risk		Hazard quotient (Dose/RfD)
1,1,1-Trichloroethane	1.23×10^{-4}	Not carcinogenic		2.67×10^{-4}
1,1-Dichloroethylene	2.39×10^{-6}	2.00×10^{-7}		5.20×10^{-5}
cis-1,2-Dichloroethylene	3.42×10^{-5}	Not carcinogenic		6.71×10^{-4}
Benzene	1.69×10^{-5}	1.18×10^{-7}		Not available[b]
Chloroform	5.71×10^{-5}	3.23×10^{-7}		1.12×10^{-3}
Methylene chloride	1.55×10^{-5}	3.80×10^{-9}		5.07×10^{-5}
Tetrachloroethylene	1.10×10^{-3}	3.93×10^{-6}		2.16×10^{-2}
Trichloroethylene	1.03×10^{-2}	7.21×10^{-6}		2.75×10^{-1}
Trichlorofluoromethane	2.23×10^{-4}	Not carcinogenic		2.18×10^{-4}
Trichlorotrifluoroethane	5.63×10^{-3}	Not carcinogenic		3.68×10^{-5}
	Σ Risk =	1×10^{-5}	Hazard index =	3.0×10^{-1}

[a] $C_{voc(sbs)}$ refers to the concentration (C) of volatile organic compound in indoor air (voc) (the exposure medium), which results directly from the presence of contaminant in subsurface soil (sbs).

[b] A reference dose (RfD) is not available.

Table 1-24. Estimated incremental lifetime cancer risk and hazard index attributable to inhalation of VOCs that volatilize from subsurface soil in the vicinity of the debris trenches in the GSA (AOS exposure) as presented in the SWRI report.

Chemical	$C_{a(sbs)}$ (mg/m^3)[a]	Individual lifetime cancer risk		Hazard quotient (Dose/RfD)
Chloroform	1.35×10^{-2}	7.62×10^{-5}		2.64×10^{-1}
Methylene chloride	6.23×10^{-3}	1.52×10^{-6}		2.04×10^{-2}
Tetrachloroethylene	1.18×10^{-2}	4.22×10^{-5}		2.32×10^{-1}
Toluene	6.68×10^{-3}	Not carcinogenic		6.55×10^{-3}
Trichloroethylene	1.24×10^{-2}	8.65×10^{-6}		3.30×10^{-1}
Trichlorotrifluoroethane	5.53×10^{-3}	Not carcinogenic		6.87×10^{-3}
Trichlorofluoromethane	7.01×10^{-3}	Not carcinogenic		3.61×10^{-5}
	Σ Risk =	1×10^{-4}	Hazard index =	8.6×10^{-1}

[a] $C_{a(sbs)}$ refers to the concentration (C) of contaminant in air (a) (the exposure medium) which results directly from the presence of contaminant in subsurface soil (sbs).

Table 1-25. Estimated incremental lifetime cancer risk and noncancer hazard index associated with potential AOS exposure to contaminants in surface soil in the GSA as presented in the SWRI report.

Chemical	Contaminant concentration	Individual lifetime cancer risk		Hazard index (Dose/RfD)
Overall GSA operable unit: inhalation of particulates resuspended from surface soil [$C_{p(ss)}$ (mg/m^3)][a]				
1,1,1,-Trichloroethane	4.28×10^{-11}	Not carcinogenic		2.80×10^{-11}
Acetone	1.13×10^{-9}	Not carcinogenic		2.21×10^{-9}
Cadmium	2.14×10^{-7}	2.25×10^{-7}		4.20×10^{-5}
Chloroform	2.01×10^{-11}	1.14×10^{-13}		3.95×10^{-10}
Copper	1.30×10^{-6}	Not carcinogenic		8.52×10^{-6}
HMX	4.60×10^{-10}	Not carcinogenic		1.80×10^{-9}
Tetrachloroethylene	8.24×10^{-11}	2.94×10^{-13}		1.62×10^{-9}
Toluene	6.58×10^{-11}	Not carcinogenic		6.44×10^{-11}
Trichloroethylene	2.72×10^{-10}	1.90×10^{-13}		7.26×10^{-9}
Trichlorofluoromethane	5.04×10^{-11}	Not carcinogenic		4.94×10^{-11}
Trichlorotrifluoroethane	8.83×10^{-10}	Not carcinogenic		5.77×10^{-12}
Xylenes	7.82×10^{-11}	Not carcinogenic		7.67×10^{-12}
Zinc	8.33×10^{-6}	Not carcinogenic		5.44×10^{-6}
	Σ Risk =	2×10^{-7}	Σ Hazard index =	5.6×10^{-5}
Overall operable unit: ingestion and dermal absorption from surface soil [$C_{s(ss)}$ (mg/kg)][b]				
1,1,1,-Trichloroethane	1.86×10^{-3}	Not carcinogenic		2.24×10^{-8}
Acetone	4.90×10^{-2}	Not carcinogenic		5.30×10^{-7}
Cadmium	9.31×10^{0}	Not available[c]		6.40×10^{-3}
Chloroform	8.75×10^{-4}	1.05×10^{-11}		9.47×10^{-8}
Copper	5.67×10^{1}	Not carcinogenic		1.30×10^{-3}
HMX	2.00×10^{-2}	Not carcinogenic		8.12×10^{-6}
Tetrachloroethylene	3.58×10^{-3}	7.19×10^{-11}		3.88×10^{-7}
Toluene	2.86×10^{-3}	Not carcinogenic		1.55×10^{-8}
Trichloroethylene	1.18×10^{-2}	6.86×10^{-11}		1.74×10^{-6}
Trichlorofluoromethane	2.19×10^{-3}	Not carcinogenic		7.91×10^{-9}
Trichlorotrifluoroethane	3.84×10^{-2}	Not carcinogenic		1.39×10^{-9}
Xylenes	3.40×10^{-3}	Not carcinogenic		1.84×10^{-9}
Zinc	3.62×10^{2}	Not carcinogenic		8.29×10^{-4}
	Σ Risk =	2×10^{-10}	Σ Hazard index =	8.5×10^{-3}

Note: Footnotes appear on the following page.

Table 1-25. (Continued)

[a] $C_{p(ss)}$ refers to the concentration (C) of contaminant on resuspended particulates in air (p) (the exposure medium), resulting directly from the presence of contaminant in surface soil (ss).

[b] $C_{s(ss)}$ refers to the concentration (C) of contaminant in surface soil (s) (the exposure medium), resulting directly from the presence of contaminant in surface soil (ss).

[c] A slope factor for ingestion or dermal exposure to cadmium is not available.

Table 1-26. Estimated incremental lifetime cancer risk and noncancer hazard index associated with potential residential exposure to contaminated ground water that originates in the GSA as presented in the SWRI report.

Chemical	$C_{w(gw)}$ (mg/L)[a]	Individual lifetime cancer risk		Hazard index (Dose/RfD)
Central GSA site boundary				
1,1,1-Trichloroethane	1.22×10^{0}	Not carcinogenic		7.06×10^{-1}
1,1-Dichloroethylene	8.03×10^{-1}	3.71×10^{-2}		9.45×10^{0}
cis-1,2-Dichloroethylene	7.16×10^{-1}	Not carcinogenic		7.45×10^{0}
Benzene	5.0×10^{-2}	2.21×10^{-4}		Not available[b]
Ethylbenzene	6.0×10^{-2}	Not carcinogenic		6.47×10^{-2}
Tetrachloroethylene	8.11×10^{0}	1.88×10^{-2}		8.53×10^{1}
Toluene	1.41×10^{-1}	Not carcinogenic		7.16×10^{-2}
Trichloroethylene	3.58×10^{1}	1.69×10^{-2}		4.56×10^{2}
Xylenes (total isomers)	1.75×10^{-1}	Not carcinogenic		9.63×10^{-3}
	Σ Risk =	7×10^{-2}[c]	Σ Hazard index =	5.6×10^{2}
Eastern GSA site boundary				
1,1,1-Trichloroethane	2.24×10^{-4}	Not carcinogenic		1.30×10^{-4}
1,1-Dichloroethylene	4.45×10^{-4}	2.06×10^{-5}		5.24×10^{-3}
1,2-Dichloroethylene	4.41×10^{-4}	Not carcinogenic		5.10×10^{-3}
Bromodichloromethane	6.58×10^{-5}	3.68×10^{-7}		3.31×10^{-4}
Chloroform	4.25×10^{-3}	1.14×10^{-5}		4.09×10^{-2}
Tetrachloroethylene (PCE)	1.64×10^{-3}	3.80×10^{-6}		1.72×10^{-2}
Toluene	3.65×10^{-4}	Not carcinogenic		1.85×10^{-4}
Trichloroethylene (TCE)	3.39×10^{-2}	1.60×10^{-5}		4.31×10^{-1}
Xylenes (total isomers)	3.38×10^{-4}	Not carcinogenic		1.86×10^{-5}
	Σ Risk =	5×10^{-5}	Σ Hazard index =	5.0×10^{-1}

Table 1-26. (Continued)

Chemical	$C_{w(gw)}$ (mg/L)[a]	Individual lifetime cancer risk		Hazard index (Dose/RfD)
Well CDF-1				
1,1,1-Trichloroethane	1.52×10^{-4}	Not carcinogenic		8.79×10^{-5}
1,1-Dichloroethylene	1.30×10^{-4}	6.00×10^{-6}		1.53×10^{-3}
cis-1,2-Dichloroethylene	1.21×10^{-4}	Not carcinogenic		1.26×10^{-3}
Benzene	5.35×10^{-6}	2.36×10^{-8}		Not available[b]
Bromodichloromethane	6.58×10^{-6}	3.68×10^{-8}		3.31×10^{-5}
Chloroform	4.25×10^{-4}	1.14×10^{-6}		4.09×10^{-3}
Ethylbenzene	6.42×10^{-6}	Not carcinogenic		6.93×10^{-6}
Tetrachloroethylene (PCE)	1.03×10^{-3}	2.39×10^{-6}		1.08×10^{-2}
Toluene	5.16×10^{-5}	Not carcinogenic		2.61×10^{-5}
Trichloroethylene (TCE)	1.00×10^{-2}	4.73×10^{-6}		1.27×10^{-1}
Xylenes (total isomers)	5.25×10^{-5}	Not carcinogenic		2.89×10^{-6}
	Σ Risk =	1×10^{-5}	Σ Hazard index =	1.4×10^{-1}
Well SR-1				
1,1,1-Trichloroethane	2.19×10^{-4}	Not carcinogenic		1.27×10^{-4}
1,1-Dichloroethylene	1.87×10^{-4}	8.64×10^{-6}		2.20×10^{-3}
cis-1,2-Dichloroethylene	1.74×10^{-4}	Not carcinogenic		1.81×10^{-3}
Benzene	7.71×10^{-6}	3.40×10^{-8}		Not available[b]
Bromodichloromethane	9.48×10^{-6}	5.31×10^{-8}		4.76×10^{-5}
Chloroform	6.12×10^{-4}	1.64×10^{-6}		5.89×10^{-3}
Ethylbenzene	9.25×10^{-6}	Not carcinogenic		9.98×10^{-6}
Tetrachloroethylene (PCE)	1.48×10^{-3}	3.43×10^{-6}		1.56×10^{-2}
Toluene	7.43×10^{-5}	Not carcinogenic		3.76×10^{-5}
Trichloroethylene (TCE)	1.04×10^{-2}	4.92×10^{-6}		1.32×10^{-1}
Xylenes (total isomers)	7.56×10^{-5}	Not carcinogenic		4.16×10^{-6}
	Σ Risk =	2×10^{-5}	Σ Hazard index =	1.6×10^{-1}

[a] $C_{w(gw)}$ refers to the concentration (C) of contaminant in water (w). Water is the exposure medium for ingestion and dermal absorption of contaminants, and also is the transfer medium for exposures that result from ingestion of homegrown beef, milk, and fruits and vegetables that are raised with contaminated ground water (gw).

[b] A reference dose (RfD) is not available.

[c] Detailed in Chapter 6 of Webster-Scholten (1994).

Table 1-27. Cancer potency factors, related data, and reference doses for chemicals detected in isolation flux chamber measurements in the GSA.

Chemical	U.S. EPA classification[a]	Inhalation cancer potency factor[b] $(mg/kg \cdot d)^{-1}$	Species	Cancer type/ target organ	Inhalation reference dose (RfD)[c] $(mg/kg \cdot d)$[f]
Benzene	A	1.0×10^{-1}[d]	Humans	Nonlymphocytic leukemia	NA[e]
Chloromethane	C	6.3×10^{-3}[f]	Mouse/mouse	NA/kidney	NA
Dichlorodifluoromethane (Freon 12)	D	NA	NA	NA	5.7×10^{-2}[c]
Ethylbenzene	D	NA	NA	NA	2.9×10^{-1}[c]
Methylene chloride	B2	3.5×10^{-3}[d]	Rat/mouse	Hepatic neoplasms/liver	8.6×10^{-1}[c]
Styrene	Under review	NA	NA	NA	2.0×10^{-1}[c]
Tetrachloroethylene	Under review	2.1×10^{-2}[d]	NA	NA	1.0×10^{-2}[c]
Toluene	D	NA	NA	NA	1.1×10^{-1}[c]
1,1,1-Trichloroethane	D	NA	NA	NA	2.9×10^{-1}[c]
Trichloroethylene	Under review	1.0×10^{-2}[d]	NA	NA	6.0×10^{-3}[c]
1,2,4-Trimethylbenzene	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	NA	NA	NA	NA	NA
Trichlorotrifluoroethane (Freon 113)	NA	NA	NA	NA	8.6×10^{0}[c]
Xylenes	D	NA	NA	NA	2.0×10^{-1}[c]

Note: Footnotes appear on the following page.

Table 1-27. (Continued).

[a] In evaluating the carcinogenicity of a chemical, the U.S. EPA groups substances according to the weight-of-evidence from epidemiologic and animal studies. The groups are Group A, Human Carcinogen (sufficient evidence of carcinogenicity in humans); Group B, Probable Human Carcinogen (B1 - limited evidence of carcinogenicity in humans; B2 - sufficient evidence of carcinogenicity in animals with inadequate or lack of evidence in humans); Group C, Possible Human Carcinogen (limited evidence of carcinogenicity in animals and inadequate or lack of human data); Group D, Not Classifiable as to Human Carcinogenicity (inadequate or no evidence); and Group E (Evidence of Noncarcinogenicity for Humans (no evidence of carcinogenicity in adequate studies) (U.S. EPA, 1994 HEAST).

[b] Value given represents the highest cancer potency factor from among the range of values developed by the U.S. EPA (IRIS, HEAST, or Region IX) or the Cal-EPA (1994a).

[c] Values given are reference doses (RfDs) provided in the Region IX Preliminary Remediation Goals (PRGs) published by the U.S. EPA (Second Half, 1994).

[d] Cal-EPA (1994a).

[e] NA = Either not available or not applicable.

[f] U.S. EPA (1994 HEAST).

Table 1-28. Calculation of excess individual lifetime cancer risk attributable to inhalation of VOCs that flux from soil to outdoor air in the vicinity of the Building 875 dry well area in the GSA (AOS exposure).

Chemical	$C_{outdoor}$[a] (mg/m^3)	PEF(inh)[b] [m^3/(kg•d)]	Dose(inh)[b] [mg/(kg•d)]	Slope factor for risk (R) (R/[mg/(kg•d)])	Source of information for slope factor[c]	Excess individual 70-year lifetime cancer risk
1,2,4-Trimethylbenzene	2.86×10^{-5}	1.96×10^{-1}	5.61×10^{-6}	Not carcinogenic	NA[d]	NA
Chloromethane	6.33×10^{-6}	6.99×10^{-2}	4.42×10^{-7}	6.30×10^{-3}	HEAST	2.79×10^{-9}
Dichlorodifluoromethane	1.59×10^{-5}	1.96×10^{-1}	3.12×10^{-6}	Not carcinogenic	NA	NA
Ethylbenzene	2.04×10^{-5}	1.96×10^{-1}	4.00×10^{-6}	Not carcinogenic	NA	NA
Methylene chloride	1.65×10^{-4}	6.99×10^{-2}	1.15×10^{-5}	3.50×10^{-3}	State of Calif.	4.04×10^{-8}
Tetrachloroethylene	2.64×10^{-5}	6.99×10^{-2}	1.85×10^{-6}	2.10×10^{-2}	State of Calif.	3.88×10^{-8}
Toluene	4.29×10^{-5}	1.96×10^{-1}	8.41×10^{-6}	Not carcinogenic	NA	NA
Trichloroethylene	1.63×10^{-4}	6.99×10^{-2}	1.14×10^{-5}	1.00×10^{-2}	State of Calif.	1.14×10^{-7}
Trichlorotrifluoroethane	5.72×10^{-4}	1.96×10^{-1}	1.12×10^{-4}	Not carcinogenic	NA	NA
m- and p-Xylenes	1.88×10^{-4}	1.96×10^{-1}	3.68×10^{-5}	Not carcinogenic	NA	NA
o-Xylene	2.01×10^{-5}	1.96×10^{-1}	3.94×10^{-6}	Not carcinogenic	NA	NA
					ΣRisk =	2×10^{-7}

a $C_{outdoor}$ refers to the concentration (C) of volatile organic compound in outdoor air ($_{outdoor}$) (the exposure medium), which results directly from the presence of contaminant in soil.

b Abbreviations are pathway exposure factors (PEF) and "inh" to indicate exposure and/or dose from inhalation. The methods and parameters used to derive the PEF and dose in our calculations are presented in the SWRI (Webster-Scholten, 1994).

c HEAST refers to the Health Effects Assessment Summary Tables published by the U.S. EPA (1994); and State of California refers to Cal-EPA (1994a).

d NA = Not applicable.

Table 1-29. Calculation of excess individual lifetime cancer risk attributable to inhalation of VOCs that flux from soil to outdoor air in the vicinity of the central GSA (AOS exposure).

Chemical	$C_{outdoor}$[a] (mg/m^3)	PEF(inh)[b] [m^3/(kg•d)]	Dose(inh)[b] [mg/(kg•d)]	Slope factor for risk (R) (R/[mg/(kg•d)])	Source of information for slope factor[c]	Excess individual 70-year lifetime cancer risk
1,2,4-Trimethylbenzene	4.89×10^{-5}	1.96×10^{-1}	9.58×10^{-6}	Not carcinogenic	NA[d]	NA
1,3,5-Trimethylbenzene	5.13×10^{-5}	1.96×10^{-1}	1.01×10^{-5}	Not carcinogenic	NA	NA
Benzene	8.90×10^{-5}	6.99×10^{-2}	6.22×10^{-6}	1.00×10^{-1}	State of Calif.	6.22×10^{-7}
Methylene chloride	4.13×10^{-4}	6.99×10^{-2}	2.89×10^{-5}	3.50×10^{-3}	State of Calif.	1.01×10^{-7}
Toluene	3.35×10^{-5}	1.96×10^{-1}	6.57×10^{-6}	Not carcinogenic	NA	NA
Trichloroethylene	2.71×10^{-5}	6.99×10^{-2}	1.89×10^{-6}	1.00×10^{-2}	State of Calif.	1.89×10^{-8}
Trichlorotrifluoroethane	5.43×10^{-3}	1.96×10^{-1}	1.06×10^{-3}	Not carcinogenic	NA	NA
m- and p-Xylenes	4.82×10^{-5}	1.96×10^{-1}	9.45×10^{-6}	Not carcinogenic	NA	NA
o-Xylene	2.29×10^{-5}	1.96×10^{-1}	4.49×10^{-6}	Not carcinogenic	NA	NA
					ΣRisk =	7×10^{-7}

a $C_{outdoor}$ refers to the concentration (C) of volatile organic compound in outdoor air ($_{outdoor}$) (the exposure medium), which results directly from the presence of contaminant in soil.

b Abbreviations are pathway exposure factors (PEF) and "inh" to indicate exposure and/or dose from inhalation. The methods and parameters used to derive the PEF and dose in our calculations are presented in the SWRI (Webster-Scholten, 1994).

c State of California refers to Cal-EPA (1994a).

d NA = Not applicable.

Table 1-30. Calculation of excess individual lifetime cancer risk attributable to inhalation of VOCs that flux from soil to outdoor air in the vicinity of the eastern GSA (AOS exposure).

Chemical	$C_{outdoor}$[a] (mg/m^3)	PEF(inh)[b] [m^3/(kg•d)]	Dose(inh)[b] [mg/(kg•d)]	Slope factor for risk (R) (R/[mg/(kg•d)])	Source of information for slope factor[c]	Excess individual 70-year lifetime cancer risk
1,1,1-Trichloroethane	2.64×10^{-5}	1.96×10^{-1}	5.17×10^{-6}	Not carcinogenic	NA[d]	NA
1,2,4-Trimethylbenzene	2.72×10^{-5}	1.96×10^{-1}	5.33×10^{-6}	Not carcinogenic	NA	NA
Dichlorodifluoromethane	2.24×10^{-5}	1.96×10^{-1}	4.39×10^{-6}	Not carcinogenic	NA	NA
Methylene chloride	7.04×10^{-4}	6.99×10^{-2}	4.92×10^{-5}	3.50×10^{-3}	State of Calif.	1.72×10^{-7}
Styrene	2.02×10^{-5}	1.96×10^{-1}	3.96×10^{-6}	Under review	NA	NA
Toluene	2.54×10^{-5}	1.96×10^{-1}	4.98×10^{-6}	Not carcinogenic	NA	NA
Trichloroethylene	2.70×10^{-5}	6.99×10^{-2}	1.89×10^{-6}	1.00×10^{-2}	State of Calif.	1.89×10^{-8}
Trichlorotrifluoroethane	8.12×10^{-4}	1.96×10^{-1}	1.59×10^{-6}	Not carcinogenic	NA	NA
m- and p-Xylenes	3.26×10^{-5}	1.96×10^{-1}	6.39×10^{-6}	Not carcinogenic	NA	NA
o-Xylene	2.32×10^{-5}	1.96×10^{-1}	4.55×10^{-6}	Not carcinogenic	NA	NA
					$\sum$Risk =	2×10^{-7}

a $C_{outdoor}$ refers to the concentration (C) of volatile organic compound in outdoor air ($_{outdoor}$) (the exposure medium), which results directly from the presence of contaminant in soil.

b Abbreviations are pathway exposure factors (PEF) and "inh" to indicate exposure and/or dose from inhalation. The methods and parameters used to derive the PEF and dose in our calculations are presented in the SWRI (Webster-Scholten, 1994).

c State of California refers to Cal-EPA (1994a).

d NA = Not applicable.

Table 1-31. Calculation of noncancer hazard index attributable to inhalation of VOCs that flux from soil to outdoor air in the vicinity of the Building 875 dry well area in the GSA (AOS exposure).

Chemical	$C_{outdoor}$[a] (mg/m^3)	PEF(inh)[b] [(m^3/(kg•d)]	Dose(inh)[b] [mg/(kg•d)]	Chronic reference dose (RfD) [mg/(kg•d)]	Hazard index (Dose/RfD)	Source of information for RfD[c]
1,2,4-Trimethylbenzene	2.86×10^{-5}	1.96×10^{-1}	5.61×10^{-6}	Not available[d]	Not available[d]	Not available[d]
Chloromethane	6.33×10^{-6}	1.96×10^{-1}	1.24×10^{-6}	Not available[d]	Not available[d]	Not available[d]
Dichlorodifluoromethane	1.59×10^{-5}	1.96×10^{-1}	3.12×10^{-6}	5.70×10^{-2}	5.47×10^{-5}	1994 PRGs
Ethylbenzene	2.04×10^{-5}	1.96×10^{-1}	4.00×10^{-6}	2.90×10^{-1}	1.38×10^{-5}	1994 PRGs
Methylene chloride	1.65×10^{-4}	1.96×10^{-1}	3.23×10^{-5}	8.60×10^{-1}	3.76×10^{-5}	1994 PRGs
Tetrachloroethylene	2.64×10^{-5}	1.96×10^{-1}	5.17×10^{-6}	1.00×10^{-2}	5.17×10^{-4}	1994 PRGs
Toluene	4.29×10^{-5}	1.96×10^{-1}	8.41×10^{-6}	1.10×10^{-1}	7.64×10^{-5}	1994 PRGs
Trichloroethylene	1.63×10^{-4}	1.96×10^{-1}	3.19×10^{-5}	6.00×10^{-3}	5.32×10^{-3}	1994 PRGs
Trichlorotrifluoroethane	5.72×10^{-4}	1.96×10^{-1}	1.12×10^{-4}	8.60×10^{0}	1.30×10^{-5}	1994 PRGs
m- and p-Xylenes	1.88×10^{-4}	1.96×10^{-1}	3.68×10^{-5}	2.00×10^{-1}	1.84×10^{-4}	1994 PRGs
o-Xylene	2.01×10^{-5}	1.96×10^{-1}	3.94×10^{-6}	2.00×10^{-1}	1.97×10^{-5}	1994 PRGs
				ΣHazard index =	6.2×10^{-3}	

[a] $C_{outdoor}$ refers to the concentration (C) of volatile organic compound in outdoor air ($_{outdoor}$) (the exposure medium), which results directly from the presence of contaminant in soil.

[b] Abbreviations are pathway exposure factors (PEF) and "inh" to indicate exposure and/or dose from inhalation. The methods and parameters used to derive the PEF and dose in our calculations are presented in the SWRI (Webster-Scholten, 1994).

[c] PRGs refers to the Region IX Preliminary Remediation Goals published by U.S. EPA (Second Half, 1994).

[d] A reference dose (RfD) is not available.

Table 1-32. Calculation of noncancer hazard index attributable to inhalation of VOCs that flux from soil to outdoor air in the vicinity of the central GSA (AOS exposure).

Chemical	$C_{outdoor}$[a] (mg/m^3)	PEF(inh)[b] [(m^3/(kg•d)]	Dose(inh)[b] [mg/(kg•d)]	Chronic reference dose (RfD) [mg/(kg•d)]	Hazard index (Dose/RfD)	Source of information for RfD[c]
1,2,4-Trimethylbenzene	4.89×10^{-5}	1.96×10^{-1}	9.58×10^{-6}	Not available[d]	Not available[d]	Not available[d]
1,3,5-Trimethylbenzene	5.13×10^{-5}	1.96×10^{-1}	1.01×10^{-5}	Not available[d]	Not available[d]	Not available[d]
Benzene	8.90×10^{-5}	1.96×10^{-1}	1.74×10^{-5}	Not available[d]	Not available[d]	Not available[d]
Methylene chloride	4.13×10^{-4}	1.96×10^{-1}	8.09×10^{-5}	8.60×10^{-1}	9.41×10^{-5}	1994 PRGs
Toluene	3.35×10^{-5}	1.96×10^{-1}	6.57×10^{-6}	1.10×10^{-1}	5.97×10^{-5}	1994 PRGs
Trichloroethylene	2.71×10^{-5}	1.96×10^{-1}	5.31×10^{-6}	6.00×10^{-3}	8.85×10^{-4}	1994 PRGs
Trichlorotrifluoroethane	5.43×10^{-3}	1.96×10^{-1}	1.06×10^{-3}	8.60×10^{0}	1.24×10^{-4}	1994 PRGs
m- and p-Xylenes	4.82×10^{-5}	1.96×10^{-1}	9.45×10^{-6}	2.00×10^{-1}	4.72×10^{-5}	1994 PRGs
o-Xylene	2.29×10^{-5}	1.96×10^{-1}	4.49×10^{-6}	2.00×10^{-1}	2.24×10^{-5}	1994 PRGs
				$\sum$Hazard index =	1.2×10^{-3}	

a $C_{outdoor}$ refers to the concentration (C) of volatile organic compound in outdoor air ($_{outdoor}$) (the exposure medium), which results directly from the presence of contaminant in soil.

b Abbreviations are pathway exposure factors (PEF) and "inh" to indicate exposure and/or dose from inhalation. The methods and parameters used to derive the PEF and dose in our calculations are presented in the SWRI (Webster-Scholten, 1994).

c PRGs refers to the Region IX Preliminary Remediation Goals published by U.S. EPA (Second Half, 1994).

d A reference dose (RfD) is not available.

Table 1-33. Calculation of noncancer hazard index attributable to inhalation of VOCs that flux from soil to outdoor air in the vicinity of the eastern GSA (AOS exposure).

Chemical	$C_{outdoor}$[a] (mg/m^3)	PEF(inh)[b] [(m^3/(kg • d)]	Dose (inh)[b] [mg/(kg • d)]	Chronic reference dose (RfD) [mg/(kg • d)]	Hazard index (Dose/RfD)	Source of information for RfD[c]
1,1,1-Trichloroethane	2.64×10^{-5}	1.96×10^{-1}	5.17×10^{-6}	2.90×10^{-1}	1.78×10^{-5}	1994 PRGs
1,2,4-Trimethylbenzene	2.72×10^{-5}	1.96×10^{-1}	5.33×10^{-6}	Not available[d]	Not available[d]	Not available[d]
Dichlorodifluoromethane	2.24×10^{-5}	1.96×10^{-1}	4.39×10^{-6}	5.70×10^{-2}	7.70×10^{-5}	1994 PRGs
Methylene chloride	7.04×10^{-4}	1.96×10^{-1}	1.38×10^{-4}	8.60×10^{-1}	1.60×10^{-4}	1994 PRGs
Styrene	2.02×10^{-5}	1.96×10^{-1}	3.96×10^{-6}	2.00×10^{-1}	1.98×10^{-5}	1994 PRGs
Toluene	2.54×10^{-5}	1.96×10^{-1}	4.98×10^{-6}	1.10×10^{-1}	4.53×10^{-5}	1994 PRGs
Trichloroethylene	2.70×10^{-5}	1.96×10^{-1}	5.29×10^{-6}	6.00×10^{-3}	8.82×10^{-4}	1994 PRGs
Trichlorotrifluoroethane	8.12×10^{-4}	1.96×10^{-1}	1.59×10^{-4}	8.60×10^{0}	1.85×10^{-5}	1994 PRGs
m- and p-Xylenes	3.26×10^{-5}	1.96×10^{-1}	6.39×10^{-6}	2.00×10^{-1}	3.19×10^{-5}	1994 PRGs
o-Xylene	2.32×10^{-5}	1.96×10^{-1}	4.55×10^{-6}	2.00×10^{-1}	2.27×10^{-5}	1994 PRGs
				$\sum$Hazard index =	1.3×10^{-3}	

a $C_{outdoor}$ refers to the concentration (C) of volatile organic compound in outdoor air ($_{outdoor}$) (the exposure medium), which results directly from the presence of contaminant in soil.

b Abbreviations are pathway exposure factors (PEF) and "inh" to indicate exposure and/or dose from inhalation. The methods and parameters used to derive the PEF and dose in our calculations are presented in the SWRI (Webster-Scholten, 1994).

c PRGs refers to the Region IX Preliminary Remediation Goals published by U.S. EPA (Second Half, 1994).

d A reference dose (RfD) is not available.

Table 1-34 Predicted incremental lifetime cancer risk and hazard index attributable to inhalation of VOCs that flux from soil to outdoor air in the vicinity of the Building 875 dry well area in the GSA (AOS exposure).

Chemical	$C_{outdoor}$[a] (mg/m^3)	Individual lifetime cancer risk	Hazard Quotient
1,2,4-Trimethylbenzene	2.86×10^{-5}	Not carcinogenic	Not available[b]
Chloromethane	6.33×10^{-6}	2.79×10^{-9}	Not available[b]
Dichlorodifluoromethane	1.59×10^{-5}	Not carcinogenic	5.47×10^{-5}
Ethylbenzene	2.04×10^{-5}	Not carcinogenic	1.38×10^{-5}
Methylene chloride	1.65×10^{-4}	4.04×10^{-8}	3.76×10^{-5}
Tetrachloroethylene	2.64×10^{-5}	3.88×10^{-8}	5.17×10^{-4}
Toluene	4.29×10^{-5}	Not carcinogenic	7.64×10^{-5}
Trichloroethylene	1.63×10^{-4}	1.14×10^{-7}	5.32×10^{-3}
Trichlorotrifluoroethane	5.72×10^{-4}	Not carcinogenic	1.30×10^{-5}
m- and p-Xylenes	1.88×10^{-4}	Not carcinogenic	1.84×10^{-4}
o-Xylene	2.01×10^{-5}	Not carcinogenic	1.97×10^{-5}
		ΣRisk = 2×10^{-7}	HI = 6.2×10^{-3}

[a] $C_{outdoor}$ refers to the concentration (C) of volatile organic compound in outdoor air ($_{outdoor}$) (the exposure medium), which results directly from the presence of contaminant in soil.

[b] A reference dose (RfD) is not available.

Table 1-35. Predicted incremental lifetime cancer risk and hazard index attributable to inhalation of VOCs that flux from soil to outdoor air in the vicinity of the central GSA (AOS exposure).

Chemical	$C_{outdoor}$[a] (mg/m^3)	Individual lifetime cancer risk	Hazard Quotient
1,2,4-Trimethylbenzene	4.89×10^{-5}	Not carcinogenic	Not available[b]
1,3,5-Trimethylbenzene	5.13×10^{-5}	Not carcinogenic	Not available[b]
Benzene	8.90×10^{-5}	6.22×10^{-7}	Not available[b]
Methylene chloride	4.13×10^{-4}	1.01×10^{-7}	9.41×10^{-5}
Toluene	3.35×10^{-5}	Not carcinogenic	5.97×10^{-5}
Trichloroethylene	2.71×10^{-5}	1.89×10^{-8}	8.85×10^{-4}
Trichlorotrifluoroethane	5.43×10^{-3}	Not carcinogenic	1.24×10^{-4}
m- and p-Xylenes	4.82×10^{-5}	Not carcinogenic	4.72×10^{-5}
o-Xylene	2.29×10^{-5}	Not carcinogenic	2.24×10^{-5}
		ΣRisk = 7×10^{-7}	HI = 1.2×10^{-3}

[a] $C_{outdoor}$ refers to the concentration (C) of volatile organic compound in outdoor air ($_{outdoor}$) (the exposure medium), which results directly from the presence of contaminant in soil.

[b] A reference dose (RfD) is not available.

Table 1-36. Predicted incremental lifetime cancer risk and hazard index attributable to inhalation of VOCs that flux from soil to outdoor air in the vicinity of the eastern GSA (AOS exposure).

Chemical	$C_{outdoor}$[a] (mg/m^3)	Individual lifetime cancer risk	Hazard Quotient
1,1,1-Trichloroethane	2.64×10^{-5}	Not carcinogenic	1.78×10^{-5}
1,2,4-Trimethylbenzene	2.72×10^{-5}	Not carcinogenic	Not available[b]
Dichlorodifluoromethane	2.24×10^{-5}	Not carcinogenic	7.70×10^{-5}
Methylene chloride	7.04×10^{-4}	1.72×10^{-7}	1.60×10^{-4}
Styrene	2.02×10^{-5}	Not carcinogenic	1.98×10^{-5}
Toluene	2.54×10^{-5}	Not carcinogenic	4.53×10^{-5}
Trichloroethylene	2.70×10^{-5}	1.89×10^{-8}	8.82×10^{-4}
Trichlorotrifluoroethane	8.12×10^{-4}	Not carcinogenic	1.85×10^{-5}
m- and p-Xylenes	3.26×10^{-5}	Not carcinogenic	3.19×10^{-5}
o-Xylene	2.32×10^{-5}	Not carcinogenic	2.27×10^{-5}
		ΣRisk = 2×10^{-7}	HI = 1.3×10^{-3}

[a] $C_{outdoor}$ refers to the concentration (C) of volatile organic compound in outdoor air ($_{outdoor}$) (the exposure medium), which results directly from the presence of contaminant in soil.

[b] A reference dose (RfD) is not available.

Table 1-37. Additive risk and hazard index for AOS in the GSA operable unit.

Region or source of exposure	Calculated risk associated with the region or source of exposure		Calculated hazard index associated with the region or source of exposure
Central GSA	7×10^{-7}		1.2×10^{-3}
Operable unit (inhalation of resuspended particulates)	2×10^{-7}		5.6×10^{-5}
Operable unit (ingestion and dermal contact, surface soil)	2×10^{-10}		8.5×10^{-3}
Σ Risk =	9×10^{-7}	Σ Hazard index =	9.8×10^{-3}

Table 1-38. Summary of hazard indices (HI) for kit fox potentially residing in the GSA operable unit.

Analyte	RfD[a] [mg/(kg•d)]	Inhalation only		Combined oral and inhalation	
		HI Adult	HI Juvenile	HI Adult	HI Juvenile
VOCs					
Chloroform	1.29×10^{1}	7.37×10^{-2}	1.31×10^{-1}	7.37×10^{-2}	1.31×10^{-1}
Trichlorofluoromethane	3.49×10^{2}	2.75×10^{-3}	4.95×10^{-3}	2.75×10^{-3}	4.95×10^{-3}
Trichlorotrifluoroethane	5.70×10^{3}	1.37×10^{-4}	2.47×10^{-4}	1.37×10^{-4}	2.47×10^{-4}
Toluene	4.46×10^{2}	7.75×10^{-4}	1.37×10^{-3}	7.75×10^{-4}	1.37×10^{-3}
Xylene	2.50×10^{2}	2.18×10^{-14}	NA[b]	6.20×10^{-9}	2.19×10^{-14}
Methylene chloride	5.85×10^{0}	6.38×10^{-2}	1.13×10^{-1}	6.38×10^{-2}	1.13×10^{-1}
Acetone	1.00×10^{2}	7.86×10^{-13}	NA	2.23×10^{-7}	2.86×10^{-16}
Tetrachloroethene	1.40×10^{1}	5.38×10^{-2}	9.58×10^{-2}	5.38×10^{-2}	9.58×10^{-2}
Trichloroethene	2.40×10^{1}	3.12×10^{-2}	5.55×10^{-2}	3.13×10^{-2}	5.55×10^{-2}
1,1,1-Trichloroethane	5.00×10^{2}	5.98×10^{-15}	NA	1.70×10^{-9}	1.17×10^{-15}
VOC Total	NA	2.26×10^{-1}	4.03×10^{-1}	2.26×10^{-1}	4.03×10^{-1}
Metals					
Cadmium	5.50×10^{-3}	7.53×10^{-5}	1.32×10^{-4}	5.57×10^{0}	9.49×10^{0}
Copper	2.50×10^{0}	9.65×10^{-7}	1.69×10^{-6}	7.14×10^{-2}	1.22×10^{-1}
Zinc	7.65×10^{1}	2.81×10^{-7}	4.96×10^{-7}	2.09×10^{-2}	3.58×10^{-2}
Metal Total	NA	7.65×10^{-5}	1.34×10^{-4}	5.66×10^{0}	9.65×10^{0}
HE					
HMX	5.00×10^{1}	6.42×10^{-13}	NA	1.82×10^{-7}	5.47×10^{-16}
HE Total	NA	6.42×10^{-13}	NA	1.82×10^{-7}	5.47×10^{-16}

a Reference dose (RfD) as estimated from the literature.

b NA = Not applicable.

Table 1-39. Summary of hazard indices (HI) for ground squirrel residing in the GSA operable unit.

Analyte	RfD[a] [mg/(kg•d)]	Inhalation only HI Adult	Inhalation only HI Juvenile	Combined oral and inhalation HI Adult	Combined oral and inhalation HI Juvenile
VOCs					
Chloroform	6.00×10^{1}	1.10×10^{-2}	2.62×10^{-2}	1.10×10^{-2}	2.62×10^{-2}
Trichlorofluoromethane	3.49×10^{2}	1.90×10^{-3}	4.58×10^{-3}	1.90×10^{-3}	4.58×10^{-3}
Trichlorotrifluoroethane	5.70×10^{3}	9.48×10^{-5}	2.28×10^{-4}	9.48×10^{-5}	2.28×10^{-4}
Toluene	4.46×10^{2}	5.36×10^{-4}	1.27×10^{-3}	5.36×10^{-4}	1.27×10^{-3}
Xylene	2.50×10^{2}	1.51×10^{-14}	NA[b]	5.75×10^{-7}	1.33×10^{-12}
Methylene chloride	5.85×10^{0}	4.41×10^{-2}	1.05×10^{-1}	4.42×10^{-2}	1.05×10^{-1}
Acetone	1.00×10^{2}	5.43×10^{-13}	NA	1.96×10^{-3}	1.65×10^{-12}
Tetrachloroethene	1.40×10^{1}	3.72×10^{-2}	8.87×10^{-2}	3.72×10^{-2}	8.87×10^{-2}
Trichloroethene	2.40×10^{1}	2.16×10^{-2}	5.14×10^{-2}	2.16×10^{-2}	5.14×10^{-2}
1,1,1-Trichloroethane	5.00×10^{2}	4.13×10^{-15}	NA	3.98×10^{-7}	1.79×10^{-13}
VOC Total	NA	1.16×10^{-1}	2.77×10^{-1}	1.18×10^{-1}	2.77×10^{-1}
Metals					
Cadmium	5.50×10^{-3}	5.20×10^{-5}	1.22×10^{-4}	7.25×10^{1}	6.57×10^{1}
Copper	2.50×10^{0}	6.67×10^{-7}	1.56×10^{-6}	5.04×10^{-1}	8.41×10^{-1}
Zinc	1.25×10^{2}	1.19×10^{-7}	2.81×10^{-7}	2.11×10^{-1}	1.52×10^{-1}
Metal Total	NA	5.28×10^{-5}	1.24×10^{-4}	7.32×10^{1}	6.67×10^{1}
HE					
HMX	5.00×10^{1}	4.44×10^{-13}	NA	9.78×10^{-4}	1.92×10^{-12}
HE Total	NA	4.44×10^{-13}	NA	9.78×10^{-4}	1.92×10^{-12}

a Reference dose (RfD) as estimated from the literature.

b NA = Not applicable.

Table 1-40. Summary of hazard indices (HI) for deer potentially residing in the GSA operable unit.

	RfD [mg/(kg•d)]	Inhalation		Combined oral and inhalation	
		HI Adult	HI Juvenile	HI Adult	HI Juvenile
VOCs					
Chloroform	6.00×10^{1}	6.87×10^{-4}	1.24×10^{-3}	6.89×10^{-4}	1.24×10^{-3}
Trichlorofluoromethane	3.49×10^{2}	6.14×10^{-5}	1.11×10^{-4}	6.14×10^{-5}	1.11×10^{-4}
Trichlorotrifluoroethane	5.70×10^{3}	2.97×10^{-6}	5.36×10^{-6}	2.97×10^{-6}	5.37×10^{-6}
Toluene	4.46×10^{2}	4.60×10^{-5}	8.31×10^{-5}	4.61×10^{-5}	8.31×10^{-5}
Xylene	2.50×10^{2}	5.63×10^{-14}	1.02×10^{-13}	1.07×10^{-7}	3.68×10^{-8}
Methylene chloride	5.85×10^{0}	3.26×10^{-3}	5.89×10^{-3}	3.29×10^{-3}	5.89×10^{-3}
Acetone	1.00×10^{2}	2.03×10^{-12}	3.66×10^{-12}	3.51×10^{-4}	1.32×10^{-6}
Tetrachloroethene	1.40×10^{1}	2.58×10^{-3}	4.67×10^{-3}	2.59×10^{-3}	4.67×10^{-3}
Trichloroethene	2.40×10^{1}	1.58×10^{-3}	2.84×10^{-3}	1.68×10^{-3}	2.85×10^{-3}
1,1,1-Trichloroethane	5.00×10^{2}	1.54×10^{-14}	2.79×10^{-14}	7.24×10^{-8}	1.01×10^{-8}
VOC Total	NA	8.22×10^{-3}	1.48×10^{-2}	8.71×10^{-3}	1.48×10^{-2}
Metals					
Cadmium	5.50×10^{-3}	7.01×10^{-6}	1.27×10^{-5}	1.14×10^{1}	4.58×10^{0}
Copper	2.50×10^{0}	9.38×10^{-8}	1.69×10^{-7}	9.99×10^{-2}	7.25×10^{-2}
Zinc	1.25×10^{2}	1.20×10^{-8}	2.17×10^{-8}	5.41×10^{-2}	1.31×10^{-2}
Metal Total	NA	7.12×10^{-6}	1.28×10^{-5}	1.15×10^{1}	4.67×10^{0}
HE					
HMX	5.00×10^{1}	1.66×10^{-12}	2.99×10^{-12}	1.75×10^{-4}	1.08×10^{-6}
HE Total	NA	1.66×10^{-12}	2.99×10^{-12}	1.75×10^{-4}	1.08×10^{-6}

[a] Reference dose ((RfD) as estimated from the literature.

[b] NA = Not applicable.

Table 1-41. Toxicity quotients (TQ) for metals in GSA operable unit, spring GEOCRK.

					TQ using Federal AWQC		TQ using State AAL	
Analyte	Max. conc.[a] µg/L	95% UCL[b] µg/L	Federal AWQC[c] µg/L	State AAL[d] µg/L	Conc. max.	95% UCL	Conc. max.	95% UCL
Copper	12	11.5	41	4	0.29	0.28	3.00	2.88
Zinc	120	120	365	30	0.33	0.33	4.00	4.00
Sum					0.62	0.61	7.00	6.88

[a] Maximum concentration detected in surface water.

[b] 95% UCL for analyte in surface water; this equals the maximum concentration in some cases due to limited data.

[c] AWQC refers to Federal Ambient Water Quality Criteria (U.S. EPA, 1986).

[d] AAL refers to State of California Applied Action Levels (CDTSC, 1991).

Table 2-1. Potential federal, state, and local ARARs for the GSA operable unit.

Regulation	Comments	Alternative[a]	ARAR category[b]
Federal chemical-specific requirements			
Safe Drinking Water Act [42 USCA 300 and 40 CFR 141.11–141.16, 141.50–141.51]	This law establishes chemical-specific standards for public drinking water systems by setting MCLs and nonzero MCL goals. MCLs are applicable at off-site water-supply wells for all alternatives.	1–3 (a, b)	A
Clean Air Act [42 USCA 7401–7642, 40 CFR 50–69]	National primary and secondary ambient air quality standards (NAAQS) are defined under Section 109 of the Clean Air Act and are listed in 40 CFR 50. Treatment Alternatives 3 (a, b) include operation of soil vapor extraction systems and possible aeration of drilling wastes.	3 (a, b)	A
Federal action-specific requirements			
Action: Closure			
Health and Safety Code Section 25159 [22 CCR 66264.178]	Requires removal of all hazardous waste and waste residues from containment systems at closure. Containment systems would only be used in Treatment Alternative 3 (a, b).	3 (a, b)	A
Action: Pump and treat			
Health and Safety Code Sections 25150–59 [22 CCR 66264.190–192]	Design and operating standards for tank systems. Tank systems may be used for Alternatives 3a and 3b.	3 (a, b)	A

Table 2-1. (Continued)

Regulation	Comments	Alternative[a]	ARAR category[b]
Action: Discharge of treatment system effluent			
Clean Water Act [33 USCA 1251–1376], NPDES [40 CFR 122–125]	Both on- and off-site discharges from CERCLA sites to surface waters are required to meet the substantive Clean Water Act limitations, monitoring requirements [40 CFR 122.41(i); 40 CFR 136.1; 40 CFR 136.4], and best management practices [40 CFR 125.100]. WDR and NPDES permits are required to discharge treated water to the ground surface.	3 (a, b)	A
Action: Reinjection of treated ground water			
Safe Drinking Water Act Underground Injection Control Program [40 CFR 144.26-27]	Inventory and monitoring requirements for reinjection of treated ground water.	3 (a, b)	A
General action-specific ARARs			
DOE Order 5400.4	Prescribes conduct of operations on DOE facilities for compliance with CERCLA, and provides for the integration of procedural and documentation requirements of NEPA and CERCLA. This is an unpromulgated order.	1–3 (a, b)	TBC
Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978 [40 CFR 204, 205, 211]	Construction and transportation equipment noise levels (e.g., portable air compressors, and medium and heavy trucks), process equipment noise levels, and noise levels at the property boundaries of the project are regulated under this act. State or local agencies typically enforce these levels.	3 (a, b)	A
Federal location-specific requirements			
Executive Orders 11988 (floodplain management) and 11990 (protection of wetlands) [40 CFR 6, 44 Federal Register 12594]	Requires actions to avoid adverse effects, minimize potential harm, and restore and preserve natural and beneficial values. Any DOE action in a floodplain and new construction not located in a floodplain would receive careful evaluation of potential effects. 44 Federal Register 12594 states that DOE can meet requirements of these Executive Orders through applicable DOE and NEPA procedures.	3 (a, b)	TBC

Table 2-1. (Continued)

Regulation	Comments	Alternative[a]	ARAR category[b]
Endangered Species Act of 1973 [16 USC Section 1531 et seq., 50 CFR Part 200, 50 CFR Part 402, 40 CFR 257.3-2]	Facilities or practices shall not cause or contribute to the taking of any endangered or threatened species of plants, fish, or wildlife. Even though no federal endangered species have been found within the GSA operable unit, habitat for several endangered species may exist. Specific mitigation measures for these species will be met prior to any construction. All of these requirements will be additionally met through NEPA and DOE implementing requirements.	3 (a, b)	A
National Historic Preservation Act of 1966 (16 USC 470 et seq.), Public Law 89-665 and amendments of 1980, Public Law 96-515	Requires federal agencies to take into account the effects of their projects on historic properties listed, or eligible for listing, on the National Register of Historic Properties and to afford the Advisory Council a reasonable opportunity to comment on them. Several known historic sites are present within the GSA operable unit.	1–3 (a, b)	A
Archaeological Resource Protection Act of 1979 [16 USC 470], Public Law 96-96	Requires federal land managers to provide protection for archaeological resources located on public lands and Indian lands. Construction personnel will be advised of the laws and penalties for disturbing or collecting cultural resources located on Site 300 property.	3 (a, b)	A
State and local chemical-specific requirements			
Hazardous Waste Control Act [Health and Safety Code, Sections 25100–25395], 22 CCR ch. 30: Minimum Standards for Management of Hazardous and Extremely Hazardous Wastes	Controls hazardous wastes from their point of generation through accumulation, transportation, treatment, storage, and ultimate disposal. All potentially hazardous materials are handled in accordance with standard chain-of-custody procedures.	1–3 (a, b)	A
Criteria for Identifying Hazardous Wastes [22 CCR 66261. 21–33]	Tests for identifying hazardous characteristics are set forth in these regulations. If a chemical is either listed or tested and found hazardous, then remedial actions must comply with 22 CCR requirements.	2, 3 (a, b)	A

Table 2-1. (Continued)

Regulation	Comments	Alternative[a]	ARAR category[b]
Persistent and Bioaccumulative Toxic Substances [22 CCR 66261.113]	Total Threshold Limit Concentrations and Soluble Threshold Limit Concentrations have been established for selected toxics to be used in establishing whether waste is hazardous. If a chemical is either listed or tested and found hazardous, then remedial actions must comply with the hazardous waste requirements under 22 CCR. All treatment alternatives use these criteria.	2, 3 (a, b)	A
Porter-Cologne Water Quality Control Act [13000 et seq.], as administered by the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCB) under 23 CCR subch. 15, 2510–2559, 2580–2601	Establishes authority for state and regional water boards to determine site-specific waste discharge requirements and to regulate disposal of waste to land. Contains monitoring and corrective action requirements stating that a constituent of concern shall have a concentration limit not to exceed background unless it can be shown that it is technologically and economically infeasible to achieve a background value and that the constituent will not pose a substantial present or potential hazard to human health or the environment.	1–3 (a, b)	A
Water Quality Control Plan (Basin Plan) for the Central Valley Regional Water Quality Control Board	Describes water basins in the Central Valley Region, establishes beneficial uses of ground and surface waters, establishes water quality objectives, establishes implementation plans to meet water quality objectives and protect beneficial uses, and incorporates state-wide water quality control plans and policies.	1–3 (a, b)	A
State Water Resources Control Board Resolution 68-16	Requires that high quality surface and ground waters be maintained to the maximum extent possible. Degradation of waters will be allowed (or allowed to remain) only if it is consistent with the maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial uses, and will not result in water quality less than that prescribed in RWQCB and SWRCB policies and plans. If degradation is allowed, the discharge must meet best practicable treatment or control, which must prevent pollution or nuisance and result in the highest water quality consistent with maximum benefit to the people of the State.	1–3 (a, b)	A

Table 2-1. (Continued)

Regulation	Comments	Alternative[a]	ARAR category[b]
State Water Resources Control Board Resolution 92–49	The state board's policies and procedures for the oversight of investigations and cleanup and abatement activities resulting from discharges of waste that affect or threaten water quality.	1–3 (a, b)	A
Safe Drinking Water and Toxic Enforcement Act of 1986, Proposition 65 (California Health & Safety Code Section 25249.5 et seq.)	Prohibits the discharge or release of a significant amount of any chemical known to the State of California to cause cancer or reproductive toxicity to water or to land where the chemical will probably enter a source of drinking water.	1–3 (a, b)	RAR
California Safe Drinking Water Act (California Health & Safety Code Section 4010 et seq.)	Requirements for public water systems include MCLs and Secondary MCLs, which are used to protect beneficial uses of water bodies per water quality objectives in the Basin Plan.	1–3 (a, b)	RAR
State Board Resolution No. 88-63 (Sources of Drinking Water Policy)	Designates that all ground and surface waters of the State as drinking water except where the TDS is greater than 3000 ppm, the water source does not provide sufficient water to supply a single well more that 200 gallons per day, the water is a geothermal resource or in a waste water conveyance facility, or the water cannot reasonably be treated for domestic use using either Best Management Practices or best economically achievable treatment practices.	1–3 (a, b)	A
State and local action-specific requirements			
Action: General treatment of hazardous waste			
Hazardous Waste Control Act, Health and Safety Code, Sections 25100–25395 [22 CCR 66264.1–77]	Requirements for general operations of interim status and permitted facilities, including preparedness and prevention [66264.30–37], contingency plans and emergency procedures [66264.50–55], and manifesting and monitoring requirements [66264.70–77].	3 (a, b)	A

Table 2-1. (Continued)

Regulation	Comments	Alternative[a]	ARAR category[b]
Hazardous Waste Control Act Land Disposal Restrictions [22 CCR 66268.1–124]	This law requires that certain hazardous wastes meet minimum treatment standards prior to disposal at a landfill. Generated waste for Alternatives 2 and 3 (a, b) includes regeneration of granular activated carbon.	2, 3 (a, b)	A
Hazardous Materials Release Response Plans and Inventory (Health and Safety Code, Div. 20, ch. 6.95) [19 CCR ch. 3, subch. 3]	This law requires businesses handling hazardous materials to plan for emergency response actions.	2, 3 (a, b)	A
<u>Action: Transportation</u>			
Hazardous Waste Control Act Hauler Registration Requirements and Requirements for Transporters of Hazardous Waste [22 CCR 66263.10–31]	Standards applicable to transporters of hazardous waste. Establishes transporter operating standards [66263.23], registration requirements [66263.11-12], recordkeeping procedures [66263.15], and immediate action and discharge cleanup requirements for an accidental discharge of hazardous waste [66263.30–31]. Generated waste being transported to an off-site disposal facility would be subject to these requirements. Generated waste for Alternatives 2 and 3 (a, b) includes regeneration of granular activated carbon.	2, 3 (a, b)	A
Requirements for Generators of Hazardous Waste [22 CCR 66262.10]	Owners or operators who ship hazardous waste from a TSD facility shall comply with the generator standards in these regulations. These standards include keeping of manifests [66261.21], submission of manifest to the Department of Toxic Substances Control within 30 days of shipment [66262.23], preparation of a biennial report [66262.41], and a maximum 90-day accumulation time [66262.34]. These regulations are applicable to transportation and off-site disposal of hazardous waste. Generated waste for Alternatives 2 and 3 (a, b) includes regeneration of granular activated carbon.	2, 3 (a, b)	A
<u>Action: Discharge of treatment system effluent</u>			
California Fish and Game Regulations on Pollution	Prohibits water pollution with any substance or material deleterious to fish, plant, or bird life.	3 (a, b)	A

Table 2-1. (Continued)

Regulation	Comments	Alternative[a]	ARAR category[b]
Porter-Cologne Water Quality Control Act [13000 et seq.], as administered by the SWRCB and the nine RWQCBs under 23 CCR subch. 15, 2510–2559, 2580–2601	Establishes authority for State and regional water boards to determine site-specific discharge requirements and to regulate disposal of waste to land.	3 (a, b)	A
Water Quality Control Plan (Basin Plan) for the Central Valley Regional Water Quality Control Board	Describes water basins in the Central Valley Region, establishes beneficial uses of ground and surface waters, establishes water quality objectives, establishes implementation plans to meet water quality objectives and protect beneficial uses, and incorporates state-wide water quality control plans and policies.	3 (a, b)	A
State Water Resources Control Board Resolution 68-16	The state board's policy for discharged water to maintain the high quality of California's waters implies that ground water cleanup should continue to achieve background conditions if it can be shown that doing so is technically feasible, cost effective, and more protective of human health and the environment. The resolution also allows alternative discharge levels if Site 300 can demonstrate that nondegradation cannot be practically achieved and that the alternative is protective of human health and the environment.	3 (a, b)	RAR
State location-specific requirements			
California Fish and Game Code Section 1601	Requires a government agency project that will alter the natural flow, bed, or channel of a body of water in which there are fish or wildlife to submit their plans to the Department of Fish and Game. If the fish or wildlife resource may be substantially adversely affected by the project, the Department will have the opportunity to propose modifications to mitigate damage to the fish or wildlife resources.	3 (a, b)	A

Table 2-1. (Continued)

Regulation	Comments	Alternative[a]	ARAR category[b]
California Endangered Species Act, California Fish and Game Code Sections 2050–2068	Requires action to preserve endangered species or threatened species. Prior to conducting any ground-disturbing activities, surveys will be conducted for the species of concern.	3 (a, b)	A

[a] 1—Monitoring/no remedial action.

2—Long-term monitoring, relocating nearby water-supply wells, and contingency point-of-use treatment.

3a—Alternative 2 plus the use of ground water extraction and treatment to achieve full restoration of beneficial use of ground water in the regional $Tnbs_1$ aquifer.

3b—Alternative 3a plus restoration of full beneficial use of all ground water.

[b] A = Applicable.

ARAR = Applicable or relevant and appropriate requirement.

RAR = Relevant and appropriate requirement.

TBC = To be considered.

Table 2-2. Summary comparison of alternatives and corresponding ARARs and other factors to be considered for the GSA operable unit.

	Alternative[a]			
ARAR/TBC	1	2	3a	3b
Federal chemical-specific requirements				
Safe Drinking Water Act [42 USCA 300, 40 CFR 141.11–141.16; 141.50–141.51]	A	A	A	A
Clean Air Act [42 USCA 7401–7642, 40 CFR 50–69]	—	—	A	A
Federal action-specific requirements				
Action: Closure				
Health and Safety Code, Section 25159 [22 CCR 66264.178]	—	—	A	A
Action: Pump and treat				
Health and Safety Code, Sections 25150–59 [22 CCR 66264.190–92]	—	—	A	A
Action: Reinjection of treated ground water				
Safe Drinking Water Act Underground Injection Control Program [40 CFR 144.26-27]	—	—	A	A
Action: Discharge of treatment system effluent				
Clean Water Act [33 USCA 1251–1376], NPDES [40 CFR 122–125]	—	—	A	A
General action-specific ARARs				
DOE Order 5400.4	TBC	TBC	TBC	TBC
29 CFR 1910 et seq. Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978 [40 CFR 204, 205, 211]	—	—	A	A
Federal location-specific requirements				
Executive Order 11988 (floodplain management) and 11990 (protection of wetlands) [40 CFR 6, FR 12594]	—	—	TBC	TBC
Endangered Species Act of 1973 [16 USC Section 1531 et seq., 50 CFR Part 200, 50 CFR Part 402, 40 CFR 257.3–2]	—	—	A	A
National Historic Preservation Act of 1966 (16 USC 470 et seq.), Public Law 89-665 and amendments of 1980, Public Law 96-515	A	A	A	A
Archaeological Resource Protection Act of 1979 [16 USC 470], Public Law 96-96	—	—	A	A

Table 2-2. (Continued)

ARAR/TBC	Alternative[a] 1	2	3a	3b
State and local chemical-specific requirements				
Hazardous Waste Control Act [Health and Safety Code, Sections 25100–25395], 22 CCR ch. 30: Minimum Standards for Management of Hazardous and Extremely Hazardous Wastes	A	A	A	A
Criteria for Identifying Hazardous Wastes [22 CCR 66261.21–33]	—	A	A	A
Persistent and Bioaccumulative Toxic Substances [22 CCR 66261.113]	—	A	A	A
Porter-Cologne Water Quality Control Act [13000 et seq.], as administered by the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCB) under 23 CCR subch. 15, 2510–2559, 2580–2601	A	A	A	A
Water Quality Control Plan (Basin Plan) for the Central Valley Region Water Quality Control Board	A	A	A	A
State Water Resources Control Board Resolution 68-16	A	A	A	A
State Water Resources Control Board Resolution 92-49	A	A	A	A
Safe Drinking Water and Toxic Enforcement Act of 1986, Proposition 65 (California Health and Safety Code, Section 25249.5 et seq.)	RAR	RAR	RAR	RAR
California Safe Drinking Water Act (California Health and Safety Code, Section 4010 et seq.)	RAR	RAR	RAR	RAR
State Board Resolution 88-63 (Sources of Drinking Water Policy)	A	A	A	A
State and local action-specific requirements				
<u>Action: General treatment of hazardous waste</u>				
Hazardous Waste Control Act, Health and Safety Code, Sections 25100–25395 [22 CCR 66264.1–77]	—	—	A	A
Hazardous Waste Control Act Land Disposal Restrictions [22 CCR 66268.1–124]	—	A	A	A
Hazardous Materials Release Response Plans and Inventory (Health and Safety Code, Div. 20, ch. 6.95) [19 CCR ch. 3, subch. 3]	—	A	A	A
<u>Action: Transportation</u>				
Hazardous Waste Control Act Hauler Registration Requirements and Requirements for Transporters of Hazardous Waste [22 CCR 66263.10–31]	—	A	A	A
Requirements for Generators of Hazardous Waste [22 CCR 66262.10]	—	A	A	A

Table 2-2. (Continued)

ARAR/TBC	Alternative[a] 1	2	3a	3b
Action: Discharge of treatment system effluent				
California Fish and Game Regulations on Pollution	—	—	A	A
Porter-Cologne Water Quality Control Act [13000 et seq.], as administered by the SWRCB and the nine RWQCBs under 23 CCR subch. 15, 2510–2559, 2580–2601	—	—	A	A
Water Quality Control Plan (Basin Plan) for the Central Valley Regional Water Quality Control Board	—	—	A	A
State Water Resources Control Board Resolution 68-16	—	—	RAR	RAR
State location-specific requirements				
California Fish and Game Code Section 1601	—	—	A	A
California regulation for faults [22 CCR 66264.18]	—	—	A	A
California Endangered Species Act California Fish and Game Code Sections 2050–2068	—	—	A	A

[a] 1—Monitoring/no remedial action.

2—Long-term monitoring, relocating nearby water-supply wells, and contingency point-of-use treatment.

3a—Alternative 2 plus the use of ground water extraction and treatment to achieve full restoration of beneficial use of ground water in the regional $Tnbs_1$ aquifer.

3b—Alternative 3a plus restoration of full beneficial use of all ground water.

A = Applicable.

ARAR = Applicable or relative and appropriate requirement.

RAR = Relevant and appropriate requirement.

TBC = To be considered.

— = Not ARAR or TBC.

Table 2-3. Remedial action objectives and risk by media.

Media/ exposure point	Chemicals of concern	Risk assessment	Remedial action objectives
Ground water			
Central GSA site boundary Eastern GSA site boundary Well CDF-1 Well SR-1	VOCs, primarily TCE, 1,1-DCE, and PCE	Cancer risks range from 2×10^{-5} to 7×10^{-2}. HIs range from 0.14 to 560.[a]	Prevent ingestion of water having chemical concentrations in excess of drinking water MCLs Prevent ingestion of water having chemical (noncarcinogenic) concentrations in excess of drinking water MCLs
Subsurface soil (0.5 to 12 ft below ground surface)			
Throughout study area	VOCs	Acceptable[b]	None
Surface soil (<0.5 ft below ground surface)			
Throughout study area	VOCs	Acceptable[b]	None
Air			
Inside Building 875	VOCs	Cancer risk 1×10^{-5}; HI 3×10^{-1}[a]	Prevent human inhalation of VOCs in vapor in concentrations above those that pose a total excess cancer risk greater than 10^{-6}[a]
The vicinity of Building 875	VOCs	Acceptable[b]	None
Central GSA	VOCs	Acceptable[b]	None
Eastern GSA	VOCs	Acceptable[b]	None

[a] 40 CFR Section 300.430(e)(i)(A)(2) states that, for known or suspected carcinogens, acceptable exposure levels are generally concentration levels that represent an excess upper bound lifetime cancer risk to an individual of between 10^{-4} and 10^{-6} using information between dose and response. The 10^{-6} risk level shall be used as the point of departure for determining remediation goals for alternatives when ARARs are not available or are not sufficiently protective because of the presence of multiple contaminants at the site or multiple pathways of exposure. The 10^{-4} to 10^{-6} risk range is generally acceptable when used for risk-management decisions. The U.S. EPA (1989) indicates that a noncancer hazard index (HI) greater than 1.0 may be associated with noncarcinogenic adverse health effects.

[b] The cancer risk is less than 10^{-6} and HI does not exceed 1.0.

Table 2-4. Chemical-specific ARARs for potential chemicals of concern in ground water at the GSA operable unit.

Chemical of concern	Cancer group[a]	Federal MCL (µg/L)	State MCL (µg/L)
1,1,1-Trichloroethane	D	200	200
1,1-Dichloroethylene	C	7	6
cis-1,2-Dichloroethylene	D	70	6
Benzene	A	5	1
Bromodichloromethane	B2	100[b]	100[b]
Chloroform	B2	100[b]	100[b]
Ethylbenzene	D	700	680
Tetrachloroethylene	B2-C	5	5
Toluene	D	1,000	NA
Trichloroethylene	B2-C	5	5
Xylenes (total isomers)	D	10,000	1,750

[a] Integrated Risk Information System (IRIS) database maintained by the U.S. EPA.

U.S. EPA cancer group:

A = Known carcinogen

B2 = Probable carcinogen.

C = Possible carcinogen.

D = Noncarcinogen.

[b] Total trihalomethanes.

NA = Not available.

Table 3-1. Description of general response actions.

General response action	Description
No action	Termination of present remedial action programs. Only natural degradation, dispersion, adsorption, and volatilization would take place.
Administrative controls	Restricted access to and use of areas with contaminated soil and/or ground water.
Containment	Restriction of contaminant movement by physical and/or hydraulic barriers.
Extraction/excavation	Removal of contaminated ground water, soil vapor, and/or soil/rock.
Treatment	Degradation, detoxification, destruction, or removal of contaminants present in extracted ground water, extracted vapor, and/or excavated soil/rock on site or at an off-site permitted facility.
Disposal	Disposal of treated ground water and/or air emissions on- or off-site.

Table 3-2. Preliminary ground water response action screening and evaluation.

General response action	Remediation technology type	Technology (process options)	Screening comments	Effectiveness	Implementability	Cost	Retained
No action	None	Natural degradation, dispersion, and adsorption dilution. San Joaquin County ordinance specifying a minimum annular seal of 100 ft below ground surface still in place.	Applicable	Limited effectiveness	Implementable	No additional cost above continued monitoring.	Yes
Administrative controls	Restrict access and use	Fencing and signs	Applicable to deter access to source areas.	Effective	Currently implementable for on-site portion of plume.	Low	Yes
		Security guards/patrols	Applicable	Effective	Implementable	High	Yes
		Land use restrictions	Applicable	Effective	Implementable	Low–medium	Yes
Containment	Ground water containment/ control	Slurry walls	Applicable in conjunction with ground water extraction and treatment at eastern GSA only, because of shallow plume depths.	Only effective for horizontal source migration control in unconsolidated material due to construction constraints.	Difficult to implement. Would require temporary closure or rerouting of Corral Hollow Road onto private property. Would require excavation of mostly bedrock up to 30-ft depth in eastern GSA and 50 ft in central GSA.	High	No

Table 3-2. (Continued)

General response action	Remediation technology type	Technology (process options)	Screening comments	Effectiveness	Implementability	Cost	Retained
		Grout curtain	Applicable in conjunction with ground water extraction and treatment.	Effective for horizontal source migration control.	Difficult to implement. Would require temporary closure or rerouting of Corral Hollow Road onto private property.	High	No
		Hydraulic barrier-injection	Application uncertain without additional comprehensive modeling. Regulatory permits required. Possible use for treated ground water.	Low in eastern GSA due to large volume of water required to influence hydraulic gradient. Not effective in central GSA due to low-permeability sediments.	NCF	NCF	No
		Interceptor trenches	Low permeability	Only effective for unconsolidated materials when combined with extraction.	Implementable	High	No

Table 3-2. (Continued)

General response action	Remediation technology type	Technology (process options)	Screening comments	Effectiveness	Implementability	Cost	Retained
Extraction	Ground water extraction	Extraction from wells	Applicable	Effective when combined with treatment. Provides hydraulic control of contaminant plume. Enhances effectiveness of source removal by lowering the water table, thus exposing a greater soil column for vadose zone remedial action.	Already being implemented at both the central and eastern GSA source areas.	Low	Yes
		Extraction from trenches	Applicable. Long cleanup times.	Potentially effective in eastern GSA. Only partially effective in central GSA due to plume capturability. Treatment required. Provides hydraulic control of contaminant plume.	Implementable with other technologies. Not practical due to large volume of water recovered. Plume control can be achieved with ground water extraction wells.	NCF	No

Table 3-2. (Continued)

General response action	Remediation technology type	Technology (process options)	Screening comments	Effectiveness	Implementability	Cost	Retained
	Contaminant surface tension reduction/ mobilization	Surfactants	Applicable when combined with ground water extraction. Innovative technology.	Can increase mobility of DNAPLs.	Implementable. Difficult to ensure capture of surfactants and mobilized DNAPLs. Can increase risk of further vertical migration of contaminants.	NCF	No[a]
Treatment	*In situ* ground water treatment	Air sparging	Applicable. Innovative technology.	Effectiveness uncertain due to localized subsurface permeability heterogeneities. May increase VOC mass removal rates and reduce cleanup times.	Difficult to control movement and capture of sparged VOCs in fractured bedrock.	NCF	No[a]
		Biological enhancement—microbial filter	Innovative technology	Effectiveness unknown	May require stream alteration permit. Trenching and shoring may be problematic due to shallower unconsolidated sediments and deeper bedrock.	High	No[a]

Table 3-2. (Continued)

General response action	Remediation technology type	Technology (process options)	Screening comments	Effectiveness	Implementability	Cost	Retained
	Ex situ ground water treatment	GAC sorption—aqueous phase	Applicable for both remediation and point-of-use (POU) treatment.	Effective for most VOCs. Most appropriate for low flow rates and low VOC concentrations.	Implementable. Potentially high O&M due to carbonate precipitation and vessel clogging. Used carbon requires regeneration or disposal.	Medium	Yes
		Air stripping	Applicable. Air permit required.	Effective when combined with vapor-phase GAC. Possible reduced efficiency due to carbonate precipitation.	Implementable. Potentially high O&M due to carbonate precipitation and reduced efficiency. Design to prevent scaling.	Medium	Yes
		Air sparging	Applicable. Air permit required.	Effective when combined with vapor-phase GAC. Possible reduced efficiency due to carbonate precipitation.	Implementable. Potentially high O&M due to carbonate precipitation and reduced efficiency. Design to prevent scaling.	Medium	Yes
		Electron accelerator—aqueous phase	Applicable. Innovative technology.	Effective	Potentially implementable. Possible high energy consumption.	High	No[a]

Table 3-2. (Continued)

General response action	Remediation technology type	Technology (process options)	Screening comments	Effectiveness	Implementability	Cost	Retained
		UV/oxidation—aqueous phase	Applicable	Effective, destroys VOCs. Possible reduced efficiency due to carbonate precipitation, turbidity.	Implementable. High energy consumption. May require GAC polishing unit to achieve discharge requirements. High O&M costs.	High	Yes
		GAC sorption—vapor phase	Applicable in conjunction with air stripping or sparging.	Effective	Implementable. Used carbon requires regeneration or disposal.	Medium	Yes
		Biological treatment	Technology not proven.	Not proven effective for chlorinated VOCs.	NCF	NCF	No[a]
Disposal	Treated ground water disposal	Permitted discharge to surface water	Applicable. Summer limits on discharge to prevent resurfacing in Corral Hollow Creek.	Effective	Eastern GSA presently operating under NPDES permit.	Low–medium	Yes
		Permitted discharge to sanitary sewer or storm drain	Not applicable. No public sewer system or storm drains available near Site 300.	NCF	NCF	NCF	No
		Permitted discharge to sewage pond	Applicable. Permit modification may be necessary.	Effective	Implementable. May be limited by pond capacity.	Low	Yes

Table 3-2. (Continued)

General response action	Remediation technology type	Technology (process options)	Screening comments	Effectiveness	Implementability	Cost	Retained
		On-site surface discharge	Applicable. Infiltration areas or irrigation spray.	Effective	Central GSA effluent presently discharged to ground water recharge area. Area may be able to accommodate higher flows. Additional investigation required to identify recharge areas.	Low	Yes
		Reinjection	Applicable. May also act to contain the plume.	Effective. May be used to hydraulically push contaminants toward extraction wells/trenches.	Must ensure that recharge does not adversely affect subsurface (e.g., migration of VOCs). Permitting required.	Medium–high	Yes
		On-site recycling/reuse	Not applicable. Inadequate demand.	NCF	NCF	NCF	No

Table 3-2. (Continued)

General response action	Remediation technology type	Technology (process options)	Screening comments	Effectiveness	Implementability	Cost	Retained
		Off-site uses	Applicable. Demand unknown.	Effective	Dependent upon negotiations and legal issues with off-site recipients.	Unknown	No
		Air misting	Applicable	Only effective for low flows.	Implementable	Low	Yes

[a] May consider innovative technologies in the future.

NCF = Not considered further.

O&M = Operations and maintenance.

DNAPL = Dense nonaqueous-phase liquid.

Table 3-3. Preliminary vadose zone response action screening and evaluation.

General response action	Remediation technology type	Technology (process options)	Screening comments	Effectiveness	Implementability	Cost	Retained
No action	None	Natural degradation, dispersion, adsorption, and volatilization.	Applicable	Limited. Could impact ground water. May not be protective of human health and the environment.	Implementable	No additional cost above continued monitoring	Yes
Administrative controls	Restrict access and use	Fencing and signs	Applicable	Effective	Currently implemented on site.	Low	Yes
		Security guards/patrols	Applicable	Effective	Implementable	High	Yes
		Land use restrictions	Applicable	Effective	Currently implemented on site.	Low-medium	Yes
Containment	Surface cover	Asphalt surfacing	Applicable	Retards leaching from soil, minimizes short circuiting of airflow from surface for SVE.	Implementable. Asphalt cover (i.e., parking lot) exists in central GSA.	Low–medium	Yes
Extraction/ excavation	Venting	Induced soil vapor extraction	Applicable when combined with vapor-phase GAC treatment. Source control and removal for central GSA.	Effective for central GSA mass removal and reduction of soil vapor concentrations.	Implementable. Soil vapor extraction system already exists at central GSA.	Low[a]	Yes
	Thermal enhancement	Steam flooding	Applicable. Innovative technology	Effectiveness uncertain	NCF	NCF	No[b]

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Table 3-3. (Continued)

General response action	Remediation technology type	Technology (process options)	Screening comments	Effectiveness	Implementability	Cost	Retained
		Joule-heating	Applicable. Innovative technology	Effectiveness considered to be extremely localized.	NCF	NCF	No[b]
		Hot air injection	Applicable. Innovative application of a proven technology.	Not very effective due to low heat capacity of air.	Only implementable with special engineering efforts to allow large flow rates in compensation for low heating capacity of air.	Very high	No[b]
	Excavation	Soil/rock removal	Applicable	Effective	Impractical because excavation would include bedrock to 50-ft depth in central GSA and 30-ft depth (175×100 ft^2 area) in eastern GSA.	High	No
Treatment	*In situ* soil treatment	Biological enhancement	Applicable. Innovative technology.	Effectiveness unknown	Control may be difficult due to subsurface heterogeneities.	High	No[b]
	Ex situ soil vapor treatment/air emissions control	GAC—vapor phase	Applicable	Effective	Implementable. Used carbon requires regeneration or disposal.	Medium	Yes

Table 3-3. (Continued)

General response action	Remediation technology type	Technology (process options)	Screening comments	Effectiveness	Implementability	Cost	Retained
		Thermal oxidation	Applicable	Effective. Destroys VOCs.	Implementable. Fire permit required. Fire safety concerns. Produces HCL as by-product. Requires auxiliary fuel for VOC combustion.	NCF	No
		Catalytic oxidation	Not applicable	Not effective for chlorinated VOCs due to production of potentially toxic by-products.	NCF	NCF	No
		Electron accelerator—vapor phase	Applicable. Innovative technology.	Effective	Potentially implementable. Possible high energy consumption.	High	No[b]
		Resin sorption	Applicable. Innovative technology.	Effective	Potentially implementable	High	NCF
		UV/Oxidation—vapor phase	Applicable. Innovative technology.	Effective at destroying VOCs. Produces off-gas products.	Potentially implementable	High	NCF

Table 3-3. (Continued)

General response action	Remediation technology type	Technology (process options)	Screening comments	Effectiveness	Implementability	Cost	Retained
Disposal	Treated air disposal	Permitted discharge to ambient air	Applicable	Effective	Central GSA and eastern GSA presently operating under San Joaquin County Air Board permits.	Low	Yes

[a] System already installed.

b May consider innovative technologies in the future.

NCF = Not considered further.

Table 3-4. Retained general response actions and remedial technologies.

General response action/ technology	Effectiveness	Cost	Selected for use in Chapter 4 Alternatives
Ground water			
No action			
No action	Not effective. Not protective of human health and the environment.	No additional cost above continued monitoring	Yes
Administrative controls			
Fencing and signs	Effective	Low	Yes
Security guards/patrols	Effective	High	Yes
Land use restrictions	Effective	Low–medium	Yes
Extraction			
Extraction from wells	Effective when combined with treatment. Provides hydraulic control of contaminant plume. Enhances effectiveness of source removal by lowering the water table, thus exposing a greater soil column for vadose zone remedial action.	Low	Yes
Treatment			
GAC sorption—aqueous phase	Effective for most VOCs. Most appropriate for low flow rates and low VOC concentrations.	Medium	No
Air stripping	Effective when combined with vapor-phase GAC. Possible reduced efficiency due to carbonate precipitation.	Medium	Yes
Air sparging	Effective when combined with vapor-phase GAC. Possible reduced efficiency due to carbonate precipitation.	Medium	Yes
UV/oxidation—aqueous phase	Effective, destroys VOCs. Possible reduced efficiency due to carbonate precipitation, turbidity.	High	No
GAC sorption—vapor phase	Effective	Medium	Yes
Disposal			
Permitted discharge to surface water	Effective	Low–medium	Yes
Permitted discharge to sewage pond	Effective	Low	No
On-site surface discharge	Effective	Low	Yes

Table 3-4. (Continued)

General response action/ technology	Effectiveness	Cost	Selected for use in Chapter 4 Alternatives
Reinjection	Effective. May be used to hydraulically push contaminants toward extraction wells/trenches.	Medium–high	Yes
Air misting	Only effective for low flows.	Low	No
Vadose zone			
No action			
No action	Could impact ground water. May not be protective of human health and the environment.	No additional cost above continued monitoring	Yes
Administrative controls			
Fencing and signs	Effective	Low	Yes
Security guards/patrols	Effective	High	Yes
Land use restrictions	Effective	Low–medium	Yes
Containment			
Asphalt surfacing	Retards leaching from soil, minimizes short circuiting of airflow from surface for SVE.	Low–medium	Yes
Extraction/excavation			
Induced soil vapor extraction	Effective for central GSA mass removal and reducing soil vapor concentrations.	Low[a]	Yes
Treatment			
GAC sorption—vapor phase	Effective	Medium	Yes
Disposal			
Permitted discharge to ambient air	Effective	Low	Yes

[a] System already installed.

Table 4-1. Summary of GSA operable unit remedial alternatives.

Alternative 1: No action	• Monitoring — Quarterly water level measurements of monitor wells and supply wells. — Periodic ground water sampling and analysis of monitor wells and supply wells. — QA/QC samples. • Administrative controls — Fencing and warning signs around site. — Full-time security guards on site. — Third party (San Joaquin County) enforcement of San Joaquin County Ordinance No. 3675/Development Code-Section 9-1115 prohibiting installation of water-supply wells with annular seals less than 100 feet deep. • Continued ecological surveys. • Other — Well and pump maintenance. — Reporting. — Project management. — Database management. — QA/QC review. Modeled project life: 80 years of ground water monitoring to reach MCLs.
Alternative 2: Exposure control	All elements of Alternative 1 plus: • Seal and abandon off-site water-supply wells CDF-1 and CON-1. • Install new off-site water-supply well at a location away from contaminant pathway. • Contingency POU treatment — Installation and operation of POU GAC treatment system for off-site water-supply well SR-1 if VOC concentrations exceed MCLs. Modeled project life: 80 years of ground water monitoring to reach MCLs.
Alternative 3a: Remediation and protection of the $Tnbs_1$ regional aquifer	All elements of Alternative 2 plus: • Ground water extraction well installation — Install four new ground water extraction wells. — Convert six existing monitor wells to ground water extraction wells and one to an injection well.

Table 4-1. (Continued)

Alternative 3a: Remediation and protection of the Tnbs$_1$ regional aquifer	• Ground water extraction and treatment — Extract ground water from 20 extraction wells (19 shallow, 1 Tnbs$_1$) and reinject into 1 well (Tnbs$_1$). — Install new air stripping ground water treatment systems with GAC vapor-phase VOC adsorption. Design capacity would be 15+ gpm at the central GSA and 46+ gpm at the eastern GSA. — Extract ground water from Tnbs$_1$ regional aquifer until VOC concentrations are below MCLs. — Extract ground water from the alluvial aquifer until ground water VOC concentrations are reduced to levels protective of the Tnbs$_1$ regional aquifer. • Soil vapor extraction (SVE) and treatment — SVE from seven existing wells. — SVE using existing system until vapor concentrations reach levels that prevent recontamination of ground water above MCLs and to reduce inhalation risk in Building 875. • Other — Permitting. — Ground water treatment system and SVE system maintenance. Project life: 10 years of SVE, 10 years of ground water extraction and treatment at the eastern GSA and 30 years at the central GSA, and 70 years of ground water monitoring to reach MCLs.
Alternative 3b: Ground water plume remediation	All elements of Alternative 3a plus: • Continued ground water extraction and treatment at the central GSA until ground water VOC concentrations are reduced to MCLs. Project life: 10 years of SVE, 10 years of ground water extraction and treatment at the eastern GSA and 55 years at the central GSA, and 60 years of ground water monitoring to reach MCLs.

Table 5-1. Detailed evaluation of remedial alternatives for the GSA operable unit.

Remedial alternative	Evaluation criteria: Overall protection of human health and the environment	Compliance with ARARs	Long-term effectiveness and permanence	Reduction in toxicity, mobility, or volume (TMV)	Short-term effectiveness	Implementability
Alternative 1—No action	May not be protective of human health or the environment.	Relies solely on natural attenuation to meet remediation goals and therefore, may not comply with the Safe Drinking Water Act, Basin Plan, and State Resolutions 68-16 and 92-49.	Does not use active measures to reduce VOCs in ground water or to prevent migration of plume to off-site water-supply wells. Relies on San Joaquin County enforcement of well construction ordinance to prevent water-supply well installation into areas of contaminated ground water. Does not address potential risk from existing water-supply wells.	TMV of VOCs in soil and ground water not actively reduced. VOC mass removal dependent on natural attenuation.	Implementation does not immediately impact general public. Plume migration may impact off-site water-supply wells. Possible exposure of workers during ground water sampling. Use of protective procedures, clothing, and equipment mitigates risk.	Readily implementable. Continued monitoring provides means for measuring effectiveness of natural attenuation and possible need to undertake additional remedial actions.
Alternative 2—Exposure control	May not be protective of human health, except at existing water-supply wells. May not be protective of the environment.	Relies solely on natural attenuation to meet remediation goals and therefore, may not comply with the Safe Drinking Water Act, Basin Plan, and State Resolutions 68-16 and 92-49.	Permanently eliminates exposure risk from Connolly water-supply wells. Relies on San Joaquin County enforcement of well construction ordinance to prevent water-supply well installation into areas of contaminated ground water. Provides for immediate and long-term response if VOCs greater then MCLs reach off-site water-supply well SR-1. Does not use active measures to reduce VOCs in ground water unless VOCs greater than MCLs reach well SR-1. Does not remediate vadose zone which may be a potential source of further ground water contamination.	TMV of VOCs in soil and ground water not actively reduced. VOC mass removal dependent on natural attenuation.	Immediately protects general public. Possible exposure of workers during ground water sampling and well destruction/installation. Use of protective procedures, clothing, and equipment mitigates risk.	Readily implementable. Services, materials, and permitting are available for well destruction and installation. Services, materials, and permitting are available for POU treatment system construction and operation, if necessary. Continued monitoring provides means for measuring effectiveness of natural attenuation and possible need to implement additional remedial actions.

Table 5-1. (Continued)

Remedial alternative	Evaluation criteria: Overall protection of human health and the environment	Compliance with ARARs	Long-term effectiveness and permanence	Reduction in toxicity, mobility, or volume (TMV)	Short-term effectiveness	Implementability
Alternative 3a—Remediation and protection of the $Tnbs_1$ regional aquifer	Protective of human health, except at a hypothetical water-supply well at the site boundary. Protective of the environment.	Active remediation goal to meet Safe Drinking Water Act in the $Tnbs_1$ regional aquifer. May comply with the Basin Plan and State Resolutions 68-16 and 92-49 in the $Tnbs_1$ regional aquifer if MCLs are determined to be the lowest levels technically and economically feasible. May not comply with the Safe Drinking Water Act, Basin Plan, and State Resolutions 68-16 and 92-49 in the alluvial aquifer.	Permanently eliminates exposure risk from Connolly water-supply wells. Provides for immediate and long-term response if VOCs greater then MCLs reach off-site water-supply well SR-1. Removes potential VOC source of further ground water contamination by using soil vapor extraction to remediate vadose zone. Uses active measures to permanently reduce VOCs to MCLs in $Tnbs_1$ regional aquifer and to about 100 µg/L in alluvial aquifer. Relies on natural attenuation to reduce VOCs from 100 µg/L to MCLs or background in alluvial aquifer and from MCLs to background in $Tnbs_1$ regional aquifer. Reliability of natural attenuation to reach preliminary remediation goals is uncertain. Based on industry experience, long-term effectiveness and technical feasibility of ground water extraction to reach preliminary remediation goals is uncertain.	Soil vapor and ground water extraction significantly reduces mobility and volume of VOCs. Mobility of potential VOC soil vapor flux restricted by soil vapor extraction system. Both soil vapor and ground water treatments utilize GAC to capture VOCs, resulting in no discharge of contaminants. Off-site thermal regeneration of GAC destroys recovered VOCs.	Immediately protects general public. Possible exposure of workers during monitoring and well destruction/installation. Use of protective procedures, clothing, and equipment mitigates risk.	Services, materials, and permitting are available for well destruction and installation, and upgrades to existing ground water extraction and treatment systems. Soil vapor extraction system currently in place, permitted, and operating. Additional permitting required for injection well installation and operation. Treated water discharge permit would require revision for central GSA due to increased discharge flow rate. Services, materials, and permitting are available for POU treatment system construction and operation, if necessary. Technical feasibility of soil vapor and ground water extraction to reach preliminary remediation goals is uncertain. Continued monitoring provides means for measuring effectiveness of natural attenuation and possible need to implement additional remedial actions. Provides for contingency restart of ground water extraction if concentrations rebound.

Table 5-1. (Continued)

Remedial alternative	Evaluation criteria: Overall protection of human health and the environment	Compliance with ARARs	Long-term effectiveness and permanence	Reduction in toxicity, mobility, or volume (TMV)	Short-term effectiveness	Implementability
Alternative 3b—Ground water plume remediation	Protects human health and environment.	Active remediation goal (i.e. MCLs) meets Safe Drinking Water Act for both the alluvial aquifer and the $Tnbs_1$ regional aquifer. Meets Basin Plan and State Resolutions 68-16 and 92-49 if MCLs are determined to be the lowest levels technically and economically feasible.	Permanently eliminates exposure risk from Connolly water-supply wells. Provides for immediate and long-term response if VOCs greater then MCLs reach off-site water-supply well SR-1. Removes potential VOC source of further ground water contamination by using soil vapor extraction to remediate vadose zone. Uses active measures to permanently reduce VOCs to MCLs in both the $Tnbs_1$ regional aquifer and the alluvial aquifer. Relies on natural attenuation to reduce VOCs from MCLs to background in alluvial aquifer. Reliability of natural attenuation to reach preliminary remediation goals is uncertain. Based on industry experience, long-term effectiveness and technical feasibility of ground water extraction to reach preliminary remediation goals is uncertain.	Soil vapor and ground water extraction significantly reduces mobility and volume of VOCs. Mobility of potential VOC soil vapor flux restricted by soil vapor extraction system. Both soil vapor and ground water treatments utilize GAC to capture VOCs, resulting in no discharge of contaminants. Off-site thermal regeneration of GAC destroys recovered VOCs.	Immediately protects general public. Possible exposure of workers during monitoring and well destruction/installation. Use of protective procedures, clothing, and equipment mitigates risk.	Services, materials, and permitting are available for well destruction and installation, and upgrades to existing ground water extraction and treatment systems. Soil vapor extraction system currently in place, permitted, and operating. Additional permitting required for injection well installation and operation. Treated water discharge permit would require revision for central GSA due to increased discharge flow rate. Services, materials, and permitting are available for POU treatment system construction and operation, if necessary. Technical feasibility of soil vapor and ground water extraction to reach preliminary remediation goals is uncertain. Continued monitoring provides means for measuring effectiveness of natural attenuation and possible need to implement additional remedial actions. Provides for contingency restart of ground water extraction if concentrations rebound.

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Table 5-2. Summary of present-worth costs for the GSA operable unit remedial alternatives (in millions of 1995 dollars).

Remedial alternative	Capital costs[a]	Operation and maintenance costs	Monitoring costs[b]	Subtotal[c]	Contingency (20%)	Total present worth[c]
Alternative 1 No action	0	0	3.56	3.56	0.71	4.27
Alternative 2 Exposure control	0.27	0	3.54	3.81	0.76	4.57
Alternative 3a • CGSA soil vapor remediation • Ground water remediation and protection of the $Tnbs_1$ regional aquifer	3.64	6.13	5.27	15.05	3.01	18.05
Alternative 3b • CGSA soil vapor remediation • Ground water plume remediation	3.64	7.21	5.61	16.46	3.29	19.75

[a] Capital costs include engineering design, construction, and management of remediation systems.

[b] Monitoring costs include ground water and treatment system monitoring.

[c] Rounding may cause subtotal or total to appear incorrect by ±0.01 million dollars. Subtotals and totals are taken directly from Tables F1–F4.

Table 5-3. Comparative evaluation of remedial alternatives for the GSA operable unit.

Alternative	Overall protection of: Human health	Overall protection of: Environment	Compliance with ARARs[a]	Long-term effectiveness and permanence	Reduction in toxicity, mobility, or volume (TMV)	Short-term effectiveness	Implement-ability	Cost[b]
Alternative 1	○	●	○	○	○	◑	●	4.27M (11.16M)[c]
Alternative 2	◑	●	○	○	○	●	●	4.57M (11.42M)[c]
Alternative 3a	◑	●	◑	◑	●	●	●	18.05M (28.84 M)[c]
Alternative 3b	●	●	●	●	●	●	●	19.75M (35.29M)[c]

● = Meets criterion.

◑ = May meet or partially meet criterion.

○ = Does not meet criterion.

a = Alternatives may not meet all requirements of SWRCB Resolutions 68-16 and 92-49.

b = Costs are in 1995 present-worth dollars.

c = Costs in parentheses are nondiscounted 1995 dollars.

M = Million.

Appendix A

Supporting Characterization Data

Appendix A
Section A-1

Summary Figures of Stratigraphic Units, Borehole Geophysics, Well Completions, and Lithology for New GSA Monitor Wells

Appendix A
Section A-2

Ground and Surface Water Analyses for the GSA Operable Unit

Appendix A
Section A-2.1

Ground and Surface Water Analyses for Volatile Organic Compounds Sampled Before September 31, 1994, and Recorded by November 17, 1994

VOCs in Ground Water, GSA, Site 300
18-nov-1994

Min Sample Date
01-jan-1970
Max Sample Date
30-sep-1994

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite										
CDF1										
21-may-1987	BC	bh	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
21-may-1987	BC	beh	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
26-jul-1988	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
09-nov-1988	BC	b	N	<0.5 P	–	–	0.6 P	<0.5 P	<0.5 P	<0.5 P
23-jan-1989	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-mar-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-apr-1989	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-may-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-jul-1989	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
14-aug-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-sep-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-oct-1989	BC	b	N	<0.5 P	<0.5 P	<0.5 P	–	<0.5 P	<0.5 P	<0.5 P
16-nov-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-dec-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-feb-1990	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-mar-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-apr-1990	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-jun-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-sep-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-oct-1990	BC	be	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-dec-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-jan-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-mar-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-jun-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-jun-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-aug-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-nov-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-jan-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	<0.2 P	<0.2 P
18-feb-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-mar-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-apr-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–	0.3 P	<0.2 P	<0.2 P
15-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-jul-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	<0.2 P	<0.2 P
14-aug-1992	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-aug-1992	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-sep-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-oct-1992	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-oct-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	<0.2 P	<0.2 P
19-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-jan-1993	BC	b	N	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
19-feb-1993	BC	a	V	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	<0.2 P	<0.2 P
19-feb-1993	CL	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-mar-1993	BC	a	V	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
12-mar-1993	CL	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
05-may-1993	BC	b	N	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
14-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
28-jul-1993	CS	b	N	<1 U	<1 U	<1 U	–	<1 U	<1 U	<1 U
13-aug-1993	CS	a	V	<1 U	<1 U	<1 U	–	<0.5 U	<1 U	<1 U
27-sep-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
13-oct-1993	CS	b	N	<1 U	<1 U	<1 U	–	<0.5 U	<1 U	<1 U
18-nov-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
16-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
07-jan-1994	GT	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
20-jan-1994	CS	b	N	<1 U	<1 U	<1 U	–	<0.5 U	<1 U	<1 U

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						GSA Study Area and Offsite
						CDF1
<1 P	<1 P	<1 P	<1 P	–	<1 P	21-may-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	21-may-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	26-jul-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-nov-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jan-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-mar-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-may-1989
<1 P	<1 P	<1 P	<1 P	–	<1 P	06-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-sep-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-nov-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-dec-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-mar-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-jun-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-sep-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-oct-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-dec-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-jan-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-mar-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-jun-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-jun-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-dec-1991
<0.2 P	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	08-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-feb-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-mar-1992
<0.2 P	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	29-apr-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-jun-1992
<0.2 P	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	22-jul-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-sep-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-oct-1992
<0.2 P	<0.3 P	<0.2 P	<1 P	–	<0.3 P	26-oct-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-nov-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<1 P	<0.5 P	16-dec-1992
<0.2 U	<0.3 U	<0.2 U	<1 U	–	<0.3 U	27-jan-1993
<0.2 P	<0.3 P	<0.2 P	<1 P	–	<0.3 P	19-feb-1993
<0.5 P	<0.5 P	<0.5 P	<0.5 P	–	<0.5 P	19-feb-1993
<0.2 U	<0.3 U	<0.2 U	<1 U	–	<0.3 U	12-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	12-mar-1993
<0.2 U	<0.3 U	<0.2 U	<1 U	–	<0.3 U	05-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	14-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	15-jun-1993
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	28-jul-1993
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	13-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-sep-1993
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	13-oct-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-nov-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5	<0.5 U	16-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	07-jan-1994
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	20-jan-1994

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
CDF1 (continued)										
15-feb-1994	CS	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-feb-1994	GT	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
11-mar-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
07-apr-1994	CS	b	N	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
10-may-1994	CS	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
10-may-1994	GT	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-jun-1994	CS	a	V	<0.5 HU	–	–	<0.5 HU	<0.5 HU	<0.5 HU	<0.5 HU
14-jun-1994	GT	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
11-aug-1994	CS	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
11-aug-1994	GT	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
17-aug-1994	CS	b	N	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
CON1										
16-dec-1982	BC	a	U	–	–	–	–	<0.5 P	–	–
26-jul-1988	BC	bh	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
26-jul-1988	BC	beh	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
09-nov-1988	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jan-1989	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-mar-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-apr-1989	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-may-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-jul-1989	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
14-aug-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-sep-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-oct-1989	BC	b	N	<0.5 P	<0.5 P	<0.5 P	–	<0.5 P	<0.5 P	<0.5 P
16-nov-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-dec-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-feb-1990	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-mar-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-apr-1990	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-jun-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-sep-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-oct-1990	BC	be	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-dec-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-jan-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-mar-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-jun-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-jun-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-aug-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-aug-1991	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-aug-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-nov-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-jan-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	<0.2 P	<0.2 P
18-feb-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-mar-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-apr-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	<0.2 P	<0.2 P
15-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-jul-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	<0.2 P	<0.2 P
14-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-sep-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-oct-1992	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-oct-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	<0.2 P	<0.2 P
19-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-jan-1993	BC	b	N	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
19-feb-1993	BC	a	V	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	<0.2 P	<0.2 P
19-feb-1993	CL	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-mar-1993	BC	a	V	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) CDF1
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	15-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-mar-1994
<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	07-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-may-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	10-may-1994
<0.5 HU	<0.5 HU	<0.5 HU	<0.5 HU	<0.5 HU	<0.5 HU	14-jun-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	14-jun-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-aug-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	11-aug-1994
<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	17-aug-1994
						CON1
–	–	–	–	–	–	16-dec-1982
<1 P	<1 P	<1 P	<1 P	–	<1 P	26-jul-1988
<1 P	<1 P	<1 P	<1 P	–	<1 P	26-jul-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-nov-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jan-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-mar-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-may-1989
<1 P	<1 P	<1 P	<1 P	–	<1 P	06-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-sep-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-nov-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-dec-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-mar-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-jun-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-sep-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-oct-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-dec-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-jan-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-mar-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-jun-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-jun-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-dec-1991
<0.2 P	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	08-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-feb-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-mar-1992
<0.2 P	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	29-apr-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-jun-1992
<0.2 P	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	22-jul-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-sep-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-oct-1992
<0.2 P	<0.3 P	<0.2 P	<1 P	–	<0.3 P	26-oct-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-nov-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<1 P	<0.5 P	16-dec-1992
<0.2 U	<0.3 U	<0.2 U	<1 U	–	<0.3 U	27-jan-1993
<0.2 P	<0.3 P	<0.2 P	<1 P	–	<0.3 P	19-feb-1993
<0.5 P	<0.5 P	<0.5 P	<0.5 P	–	<0.5 P	19-feb-1993
<0.2 U	<0.3 U	<0.2 U	<1 U	–	<0.3 U	12-mar-1993

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
CON1 (continued)										
12-mar-1993	CL	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
05-may-1993	BC	b	N	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
14-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
28-jul-1993	CS	b	N	<1 U	<1 U	<1 U	–	<0.5 U	<1 U	<1 U
13-aug-1993	CS	a	V	<1 U	<1 U	<1 U	–	<0.5 U	<1 U	<1 U
27-sep-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
13-oct-1993	CS	bh	N	<1 U	<1 U	<1 U	–	<0.5 U	<1 U	<1 U
13-oct-1993	CS	beh	N	<1 U	<1 U	<1 U	–	<0.5 U	<1 U	<1 U
18-nov-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-dec-1993	CS	a	V	<0.5 U	–	–	0.7	2.8 s	<0.5 U	<0.5 U
07-jan-1994	CS	agh	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
07-jan-1994	CS	agh	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
07-jan-1994	GT	agh	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
12-jan-1994	CS	bh	N	<1 U	<1 U	<1 U	–	<0.5 U	<1 U	<1 U
12-jan-1994	CS	beh	N	<1 U	<1 U	<1 U	–	<0.5 U	<1 U	<1 U
15-feb-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-feb-1994	GT	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
11-mar-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
07-apr-1994	CS	b	N	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
10-may-1994	CS	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
10-may-1994	GT	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-jun-1994	CS	ag	V	<0.5 HU	–	–	<0.5 HU	<0.5 HU	<0.5 HU	<0.5 HU
14-jun-1994	GT	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
11-aug-1994	CS	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
11-aug-1994	GT	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
17-aug-1994	CS	b	N	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
CON2										
02-may-1989	BC	a	U	<1 P	–	–	<1 P	1 P	<1 P	<1 P
05-may-1989	BC	a	U	<0.5 P	–	–	<0.5 P	1.2 P	<0.5 P	<0.5 P
26-jul-1989	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-aug-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-sep-1989	BC	a	U	<0.5 P	–	–	<0.5 P	0.5 P	<0.5 P	<0.5 P
17-oct-1989	BC	b	N	<0.5 P	<0.5 P	<0.5 P	–	<0.5 P	<0.5 P	<0.5 P
16-nov-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-dec-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-feb-1990	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-mar-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1 P	<0.5 P	<0.5 P
24-apr-1990	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.5 P	<0.5 P	<0.5 P
18-jun-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-jul-1990	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.7 P	<0.5 P	<0.5 P
19-sep-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-oct-1990	BC	be	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-dec-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-jan-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-mar-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1991	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-jun-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-jun-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-aug-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-nov-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1 P	<0.5 P	<0.5 P
25-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.2 P	<0.5 P	<0.5 P
16-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-jan-1992	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.7 P	<0.5 P	<0.5 P
18-feb-1992	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-feb-1992	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-mar-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-apr-1992	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) CON1
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	12-mar-1993
<0.2 U	<0.3 U	<0.2 U	<1 U	–	<0.3 U	05-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	14-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	15-jun-1993
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	28-jul-1993
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	13-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-sep-1993
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	13-oct-1993
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	13-oct-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-nov-1993
<0.5 Us	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	07-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	07-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	07-jan-1994
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	12-jan-1994
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	12-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	15-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-mar-1994
<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	07-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-may-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	10-may-1994
<0.5 HU	<0.5 HU	<0.5 HU	<0.5 HU	<0.5 HU	<0.5 HU	14-jun-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	14-jun-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-aug-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	11-aug-1994
<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	17-aug-1994
						CON2
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	02-may-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-may-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-sep-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-nov-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-dec-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-mar-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-jun-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-jul-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-sep-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-oct-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-dec-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-jan-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-mar-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-jun-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-jun-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-dec-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-feb-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-feb-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-mar-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-apr-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1992

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
CON2 (continued)										
23-jun-1992	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jun-1992	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jul-1992	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-sep-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-oct-1992	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-feb-1993	BC	bh	N	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-feb-1993	BC	beh	N	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
19-feb-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
05-may-1993	BC	b	N	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
27-jul-1993	CS	bh	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
27-jul-1993	CS	beh	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
13-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
27-sep-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
13-oct-1993	CS	b	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
19-nov-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
16-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
19-jan-1994	CS	b	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
26-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
07-apr-1994	CS	b	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
13-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
02-sep-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
GALLO2										
09-jun-1987	BC	bh	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
09-jun-1987	BC	bh	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
09-nov-1988	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
16-oct-1989	BC	b	N	<0.5 P	<0.5 P	<0.5 P	–	<0.5 P	<0.5 P	<0.5 P
08-aug-1990	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-sep-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-nov-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-aug-1993	CS	a	V	<1 U	<1 U	<1 U	–	<0.5 U	<1 U	<1 U
GALLO3										
15-jun-1993	CL	b	N	<0.2 U	<0.4 U	<0.4 U	<0.4 U	<0.3 U	<0.5 U	<0.4 U
W-24P-03										
09-aug-1991	CH	a	U	–	–	–	–	<0.5 P	–	–
16-sep-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-jun-1993	BC	a	U	<0.5 UH	<0.5 UH	<0.5 UH	<0.5 UH	<0.5 UH	<0.5 UH	<0.5 UH
W-25D-01										
20-dec-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1990	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1990	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	<0.3 P	<0.5 P	<0.4 P
07-aug-1990	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-aug-1990	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-dec-1992	BC	ah	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-dec-1992	BC	aeh	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
22-dec-1993	CS	ah	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
22-dec-1993	CS	aeh	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
19-apr-1994	CS	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
19-apr-1994	GT	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-jul-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) CON2
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jul-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-sep-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-oct-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-nov-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	18-feb-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	18-feb-1993
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<1 P	<0.5 P	19-feb-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	12-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	05-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	14-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	15-jun-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-sep-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-oct-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	19-nov-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5	<0.5 U	16-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	19-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	26-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	07-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-sep-1994
						GALLO2
<1 P	<1 P	<1 P	<1 P	–	<1 P	09-jun-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	09-jun-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	09-nov-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-aug-1990
<0.5 P	0.6 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-nov-1991
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	16-aug-1993
						GALLO3
<0.3 U	<0.5 U	<0.5 U	<0.4 U	<0.6 U	<0.6 U	15-jun-1993
						W-24P-03
–	–	–	–	–	–	09-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-sep-1992
<0.5 UH	<0.5 UH	<0.5 UH	<0.5 UH	<1 UH	<0.5 UH	24-jun-1993
						W-25D-01
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-dec-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1990
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	15-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-dec-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	20-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	19-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	19-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-jul-1994

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-25D-02										
20-dec-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	7.6 P	<0.5 P	<0.5 P
15-may-1990	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1990	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	8.5 P	<0.5 P	<0.4 P
07-aug-1990	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	6.4 P	<0.5 P	<0.5 P
07-aug-1990	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12 P	<0.5 P	<0.5 P
01-nov-1990	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	9.6 P	<0.5 P	<0.5 P
01-nov-1990	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.7 P	<0.5 P	<0.5 P
13-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.9 P	<0.5 P	<0.5 P
26-apr-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.2 P	<0.5 P	<0.5 P
26-apr-1991	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	5.4 P	<0.5 P	<0.4 P
26-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.9 P	<0.5 P	<0.5 P
04-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	8.1 P	<0.5 P	<0.5 P
08-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.63 P	<0.5 P	<0.5 P
09-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.84	<0.5 U	<0.5 U
20-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	1.8	<0.5 U	<0.5 U
23-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	1	<0.5 U	<0.5 U
30-nov-1993	CS	a	V	<0.5 U	–	–	<0.5 U	0.7	<0.5 U	<0.5 U
27-jan-1994	CS	ah	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
27-jan-1994	CS	aeh	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
19-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
11-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25M-01										
31-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.5 P	<0.5 P	<0.5 P
20-dec-1989	BC	a	U	<0.2 P	–	–	<0.2 P	0.5 P	<0.2 P	<0.2 P
15-may-1990	BC	ag	U	<0.5 P	2.9 P	<0.5 P	2.9 P	1 P	0.8 P	<0.5 P
15-may-1990	CL	afg	U	<3 P	<3 P	<3 P	<3 P	<4 P	<4 P	<3 P
07-aug-1990	BC	aegh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.7 P	<0.5 P	<0.5 P
07-aug-1990	BC	agh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.9 P	<0.5 P	<0.5 P
07-aug-1990	CL	ag	U	<3 P	<3 P	<3 P	<3 P	<4 P	<4 P	<3 P
01-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.6 P	<0.5 P	<0.5 P
25-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.1 P	<0.5 P	<0.5 P
09-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1 P	<0.5 P	<0.5 P
03-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.86 P	<0.5 P	<0.5 P
09-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	1.3	<0.5 U	<0.5 U
20-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	1.1	<0.5 U	<0.5 U
17-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	0.8	<0.5 U	<0.5 U
30-nov-1993	CS	a	V	<0.5 U	–	–	<0.5 U	1	<0.5 U	<0.5 U
27-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	1	<0.5 U	<0.5 U
19-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	0.7	<0.5 U	<0.5 U
10-aug-1994	CS	ag	V	<0.5 U	–	–	<0.5 U	0.7	<0.5 U	<0.5 U
10-aug-1994	GT	ag	V	<0.5 U	–	–	<0.5 U	0.7	<0.5 U	<0.5 U
W-25M-02										
21-dec-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	6 P	<0.5 P	<0.5 P
01-mar-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	6.5 P	<0.5 P	<0.5 P
03-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.9 P	<0.5 P	<0.5 P
13-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.9 P	<0.5 P	<0.5 P
06-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	6.2 P	<0.5 P	<0.5 P
25-feb-1991	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	2.9 P	<0.5 P	<0.4 P
25-feb-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5 P	<0.5 P	<0.5 P
25-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	6.8 P	<0.5 P	<0.5 P
26-jul-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	6.3 P	<0.5 P	<0.5 P
26-jul-1991	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.8 P	<0.5 P	<0.5 P
04-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	8 P	<0.5 P	<0.5 P
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.7 P	<0.5 P	<0.5 P
23-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	3.7	<0.5 U	<0.5 U
06-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	2.8	<0.5 U	<0.5 U
14-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	2.6	<0.5 U	<0.5 U
22-jul-1994	CS	a	N	<0.5 U	–	–	<0.5 U	3.6	<0.5 U	<0.5 U
W-25M-03										
21-dec-1989	BC	a	U	<0.2 P	–	–	<0.2 P	4.3 P	0.4 P	<0.2 P
01-mar-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.2 P	<0.5 P	<0.5 P

(continued) GSA Study Area and Offsite

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						W-25D-02
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-dec-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1990
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	15-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-apr-1991
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	26-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	09-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	20-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	23-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-nov-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	19-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-aug-1994
						W-25M-01
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-oct-1989
<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P	20-dec-1989
<0.5 P	94 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1990
<3 P	<3 P	<3 P	<3 P	<3 P	<3 P	15-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-aug-1990
<3 P	<3 P	<3 P	<3 P	<3 P	<3 P	07-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	09-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	20-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	17-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-nov-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	19-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-aug-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	-	<0.5 U	10-aug-1994
						W-25M-02
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-dec-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-mar-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-nov-1990
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	25-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	23-jun-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	06-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-jul-1994
						W-25M-03
<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P	21-dec-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-mar-1990

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-25M-03 (continued)										
03-may-1990	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.4 P	<0.5 P	<0.5 P
03-may-1990	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.7 P	<0.5 P	<0.5 P
14-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4 P	<0.5 P	<0.5 P
06-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.6 P	<0.5 P	<0.5 P
25-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4 P	<0.5 P	<0.5 P
25-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	6.2 P	<0.5 P	<0.5 P
26-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.4 P	<0.5 P	<0.5 P
04-nov-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.8 P	<0.5 P	<0.5 P
04-nov-1991	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	4.2 P	<0.5 P	<0.4 P
10-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.9 P	<0.5 P	<0.5 P
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.4 P	<0.5 P	<0.5 P
24-feb-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	1.6	<0.5 U	<0.5 U
23-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	1.3	<0.5 U	<0.5 U
30-jul-1993	CS	a	V	<0.5 U	-	-	<0.5 U	1.6	<0.5 U	<0.5 U
09-dec-1993	CS	a	V	<0.5 U	-	-	<0.5 U	2.9	<0.5 U	<0.5 U
12-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	3.3	<0.5 U	<0.5 U
14-apr-1994	CS	ah	V	<0.5 U	-	-	<0.5 U	2.4	<0.5 U	<0.5 U
14-apr-1994	CS	aeh	V	<0.5 U	-	-	<0.5 U	2.4	<0.5 U	<0.5 U
10-aug-1994	CS	ag	V	<0.5 U	-	-	<0.5 U	2.4	<0.5 U	<0.5 U
10-aug-1994	GT	ag	V	<0.5 U	-	-	<0.5 U	2.3	<0.5 U	<0.5 U
W-25N-01										
26-jul-1988	BC	a	U	<1 P	-	-	<1 P	31 P	2 P	<1 P
04-nov-1988	BC	a	U	<0.5 P	-	-	0.6 P	33 P	1.8 P	<0.5 P
17-jan-1989	BC	a	U	<0.5 P	-	-	<0.5 P	26 P	1.3 P	<0.5 P
03-apr-1989	BC	a	U	<0.5 P	-	-	<0.5 P	34 P	1.9 P	<0.5 P
05-jul-1989	BC	a	U	<0.5 P	-	-	<0.5 P	32 P	1.2 P	<0.5 P
24-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	35 P	1.1 P	<0.5 P
22-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	34 P	1.4 P	<0.5 P
02-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	36 P	1.3 P	<0.5 P
13-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	39 P	1.5 P	<0.5 P
07-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	45 P	2.1 P	<0.5 P
27-feb-1991	BC	ah	U	0.5 P	<0.5 P	<0.5 P	<0.5 P	39 P	2.3 P	<0.5 P
27-feb-1991	BC	aeh	U	0.6 P	<0.5 P	<0.5 P	<0.5 P	39 P	2.1 P	<0.5 P
26-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	45 P	1 P	<0.5 P
25-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21 P	0.5 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18 P	<0.5 P	<0.5 P
17-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21 P	<0.5 P	<0.5 P
05-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27 P	1.1 P	<0.5 P
10-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12 P	1 P	<0.5 P
21-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	8.2 P	<0.5 P	<0.5 P
04-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	8.5	<0.5 U	<0.5 U
07-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	8.8	<0.5 U	<0.5 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10	0.67	<0.5 U
17-aug-1993	CS	a	V	<0.5 U	-	-	<0.5 U	7.2	<0.5 U	<0.5 U
02-dec-1993	CS	a	V	<0.5 U	-	-	<0.5 U	4.7	<0.5 U	<0.5 U
12-jan-1994	CS	ah	V	<0.5 U	-	-	<0.5 U	4.3	<0.5 U	<0.5 U
12-jan-1994	CS	aeh	V	<0.5 U	-	-	<0.5 U	4.3	<0.5 U	<0.5 U
14-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	3.7	<0.5 U	<0.5 U
28-jul-1994	CS	a	N	<0.5 U	-	-	<0.5 U	4.2	<0.5 U	<0.5 U
W-25N-04										
04-oct-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-nov-1988	BC	a	U	<1 P	-	-	<1 P	<1 P	<1 P	<1 P
19-jan-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-apr-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-jul-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-mar-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.7 P	<0.5 P
02-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.3 P	<0.5 P	<0.5 P
25-jul-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-jul-1991	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	-	<0.3 P	<0.5 P	<0.4 P
12-nov-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-nov-1991	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	<0.3 P	<0.5 P	<0.4 P

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-25M-03
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-nov-1991
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	04-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	24-feb-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	23-jun-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	12-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-aug-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	10-aug-1994
						W-25N-01
<1 P	<1 P	<1 P	<1 P	–	<1 P	26-jul-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-nov-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-jan-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	04-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	07-apr-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	12-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	17-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	12-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	12-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	28-jul-1994
						W-25N-04
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-oct-1988
<1 P	<1 P	<1 P	<1 P	–	<1 P	04-nov-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-jan-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-mar-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-jul-1991
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	25-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-nov-1991
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	12-nov-1991

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-25N-04 (continued)										
29-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-jun-1992	BC	a	N	<0.5 HU	<0.5 HU	<0.5 HU	<0.5 HU	<0.5 HU	<0.5 HU	<0.5 HU
21-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
12-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
28-jul-1994	CS	a	N	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25N-05										
17-jan-1989	BC	a	U	<1 P	-	-	<1 P	23 P	2 P	<1 P
07-feb-1989	BC	a	U	<1 P	-	-	<1 P	24 P	1 P	<1 P
03-apr-1989	BC	a	U	<0.5 P	-	-	<0.5 P	40 P	1.9 P	<0.5 P
06-jul-1989	BC	a	U	<0.5 P	-	-	<0.5 P	30 P	1.7 P	<0.5 P
10-oct-1989	BC	a	U	<0.5 P	-	-	<0.5 P	32 P	1.7 P	<0.5 P
23-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18 P	0.7 P	<0.5 P
02-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19 P	0.8 P	<0.5 P
14-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19 P	<0.5 P	<0.5 P
06-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20 P	1 P	<0.5 P
25-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18 P	1 P	<0.5 P
25-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23 P	0.9 P	<0.5 P
26-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18 P	0.9 P	<0.5 P
08-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24 P	0.8 P	<0.5 P
21-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30 P	0.9 P	<0.5 P
10-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23 P	<0.5 P	<0.5 P
11-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22 P	1.4 P	<0.5 P
05-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	24	1.4	<0.5 U
23-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	20	0.58 O	<0.5 U
30-jul-1993	CS	ah	V	<0.5 U	-	-	<0.5 U	18	1.1	<0.5 U
30-jul-1993	CS	aeh	V	<0.5 U	-	-	<0.5 U	19	1.1	<0.5 U
03-dec-1993	CS	a	V	<0.5 U	-	-	<0.5 U	11	0.7	<0.5 U
12-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	13	0.6	<0.5 U
14-apr-1994	CS	ag	V	<0.5 U	-	-	<0.5 U	9.8	0.6	<0.5 U
14-apr-1994	GT	ag	V	<0.5 U	-	-	<0.5 U	13	0.7	<0.5 U
28-jul-1994	CS	a	N	<0.5 U	-	-	<0.5 U	9.2	<0.5 U	<0.5 U
W-25N-06										
17-jan-1989	BC	a	U	<1 P	-	-	<1 P	5 P	<1 P	<1 P
07-feb-1989	BC	a	U	<1 P	-	-	<1 P	5 P	<1 P	<1 P
03-apr-1989	BC	a	U	<0.5 P	-	-	<0.5 P	5.8 P	0.7 P	<0.5 P
06-jul-1989	BC	a	U	<0.5 P	-	-	<0.5 P	5.4 P	<0.5 P	<0.5 P
09-oct-1989	BC	a	U	<0.5 P	-	-	<0.5 P	5.9 P	<0.5 P	<0.5 P
23-feb-1990	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.4 P	<0.5 P	<0.5 P
23-feb-1990	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.5 P	<0.5 P	<0.5 P
02-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.3 P	<0.5 P	<0.5 P
14-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.6 P	<0.5 P	<0.5 P
06-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	7.4 P	<0.5 P	<0.5 P
27-feb-1991	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	3.4 P	<0.5 P	<0.4 P
27-feb-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.8 P	<0.5 P	<0.5 P
25-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10 P	<0.5 P	<0.5 P
26-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	7.9 P	<0.5 P	<0.5 P
04-nov-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	9.4 P	<0.5 P	<0.5 P
04-nov-1991	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	5.8 P	<0.5 P	<0.4 P
24-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11 P	<0.5 P	<0.5 P
10-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	7.9 P	<0.5 P	<0.5 P
11-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	8.8 P	<0.5 P	<0.5 P
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	6.5 P	<0.5 P	<0.5 P
24-feb-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	6.5	<0.5 U	<0.5 U
30-sep-1993	CS	a	V	<0.5 U	-	-	<0.5 U	3.8	<0.5 U	<0.5 U
03-dec-1993	CS	a	V	<0.5 U	-	-	<0.5 U	2.9	<0.5 U	<0.5 U
12-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	2.8	<0.5 U	<0.5 U
14-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	2	<0.5 U	<0.5 U
04-aug-1994	CS	a	N	<0.5 U	-	-	<0.5 U	2	<0.5 U	<0.5 U
W-25N-07										
03-may-1989	BC	a	U	<1 P	-	-	<1 P	<1 P	<1 P	<1 P
06-jul-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-oct-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-25N-04
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-may-1992
<0.5 HU	<0.5 HU	8.4 H	<0.5 HU	<0.5 HU	<0.5 HU	15-jun-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	21-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	12-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	28-jul-1994
						W-25N-05
<1 P	<1 P	<1 P	<1 P	-	<1 P	17-jan-1989
<1 P	<1 P	<1 P	<1 P	-	<1 P	07-feb-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-nov-1990
<0.5 P	0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-nov-1991
<0.5 P	<0.5 P	1.4 P	<0.5 P	<0.5 P	<0.5 P	21-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-aug-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	05-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	23-jun-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	03-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	12-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	-	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	28-jul-1994
						W-25N-06
<1 P	<1 P	<1 P	<1 P	-	<1 P	17-jan-1989
<1 P	<1 P	<1 P	<1 P	-	<1 P	07-feb-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-nov-1990
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	27-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-nov-1991
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	04-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.5 P	<0.5 P	16-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	24-feb-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-sep-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	03-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	12-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	04-aug-1994
						W-25N-07
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	03-may-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-aug-1990

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-25N-07 (continued)										
06-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-jul-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
24-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
16-aug-1993	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
03-dec-1993	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
11-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
13-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-aug-1994	CS	a	N	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25N-08										
15-dec-1989	BC	a	U	<1 P	-	-	<1 P	1 P	<1 P	<1 P
22-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.6 P	<0.5 P	<0.5 P
02-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1 P	<0.5 P	<0.5 P
13-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.2 P	<0.5 P	<0.5 P
07-nov-1990	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.6 P	<0.5 P	<0.5 P
07-nov-1990	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.6 P	<0.5 P	<0.5 P
30-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.8 P	<0.5 P	<0.5 P
05-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.7 P	<0.5 P	<0.5 P
12-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.3 P	<0.5 P	<0.5 P
21-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	1.2	<0.5 U	<0.5 U
18-aug-1993	CS	a	V	<0.5 U	-	-	<0.5 U	1.7	<0.5 U	<0.5 U
18-aug-1993	GT	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
30-nov-1993	CS	a	V	<0.5 U	-	-	<0.5 U	1.3	<0.5 U	<0.5 U
12-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	1.4	<0.5 U	<0.5 U
14-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	1	<0.5 U	<0.5 U
04-aug-1994	CS	a	N	<0.5 U	-	-	<0.5 U	1.3	<0.5 U	<0.5 U
W-25N-09										
14-dec-1989	BC	a	U	<1 P	-	-	<1 P	3 P	<1 P	<1 P
22-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.3 P	<0.5 P	<0.5 P
02-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.3 P	<0.5 P	<0.5 P
13-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-nov-1990	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.7 P	<0.5 P	<0.5 P
01-nov-1990	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	2.2 P	<0.5 P	<0.4 P
27-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.7 P	<0.5 P	<0.5 P
25-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.5 P	<0.5 P	<0.5 P
24-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.8 P	<0.5 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.8 P	<0.5 P	<0.5 P
23-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.2 P	<0.5 P	<0.5 P
05-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	7.1 P	<0.5 P	<0.5 P
12-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	8.9 P	<0.5 P	<0.5 P
21-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	6.7 P	<0.5 P	<0.5 P
10-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	7.6	<0.5 U	<0.5 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	8.6	<0.5 U	<0.5 U
17-aug-1993	CS	a	V	<0.5 U	-	-	<0.5 U	5	<0.5 U	<0.5 U
30-nov-1993	CS	a	V	<0.5 U	-	-	<0.5 U	4.3	<0.5 U	<0.5 U
13-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	3.8	<0.5 U	<0.5 U
14-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	3.3	<0.5 U	<0.5 U
04-aug-1994	CS	a	N	<0.5 U	-	-	<0.5 U	2.6	<0.5 U	<0.5 U
W-25N-10										
08-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-jul-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-25N-07
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-jul-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	12-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	24-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	16-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	03-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-aug-1994
						W-25N-08
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	15-dec-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	10-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	18-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-nov-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	12-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	04-aug-1994
						W-25N-09
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	14-dec-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-nov-1990
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	01-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	10-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	12-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	17-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-nov-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	04-aug-1994
						W-25N-10
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-jul-1992

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-25N-10 (continued)										
24-nov-1992	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-nov-1992	BC	ah	U	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
24-feb-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
24-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
05-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
03-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
11-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
13-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
27-jul-1994	CS	ah	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
27-jul-1994	CS	aeh	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25N-11										
12-jun-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-aug-1992	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-aug-1992	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	<0.3 P	<0.5 P	<0.4 P
24-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
24-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
05-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
03-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
11-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
13-apr-1994	CS	a	V	<1 U	–	–	<1 U	<0.5 U	<1 U	<1 U
27-jul-1994	CS	a	N	<1 U	–	–	<1 U	<0.5 U	<1 U	<1 U
W-25N-12										
07-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-mar-1993	BC	a	V	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
08-mar-1993	CL	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
24-may-1993	BC	ah	V	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
24-may-1993	BC	ah	V	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
05-aug-1993	CS	a	V	<1 HU	<1 HU	<1 HU	–	0.8 H	<1 HU	<1 HU
03-dec-1993	CS	a	V	<1 U	–	–	<1 U	<0.5 U	<1 U	<1 U
11-jan-1994	CS	a	V	<1 U	–	–	<1 U	<0.5 U	<1 U	<1 U
13-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
27-jul-1994	CS	a	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25N-13										
06-may-1991	CL	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1 P	<0.5 P	<0.5 P
06-may-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.9 P	<0.5 P	<0.5 P
25-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.7 P	<0.5 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jan-1992	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.7 P	<0.5 P	<0.5 P
23-jan-1992	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	<0.5 P	<0.7 P	<0.4 P
09-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.53 P	<0.5 P	<0.5 P
17-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.78 P	<0.5 P	<0.5 P
05-mar-1993	BC	a	V	<0.2 U	<0.2 U	<0.2 U	–	0.4	<0.2 U	<0.2 U
08-mar-1993	CL	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
24-may-1993	BC	ah	V	<0.2 U	<0.2 U	<0.2 U	–	0.5	<0.2 U	<0.2 U
24-may-1993	BC	ah	V	<0.2 U	<0.2 U	<0.2 U	–	0.5	<0.2 U	<0.2 U
10-aug-1993	CS	a	V	<1 U	<1 U	<1 U	–	1	<1 U	<1 U
07-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
11-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	0.5	<0.5 U	<0.5 U
13-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
05-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2- DCA	1,1,1- TCA	Chloro- form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-25N-10
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-nov-1992
<0.5	<0.5	<0.5	<0.5	0.68 B	<0.5	24-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	24-feb-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	24-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	05-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	03-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jul-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jul-1994
						W-25N-11
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-jun-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-aug-1992
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	04-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	12-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	24-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	05-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	03-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-jan-1994
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	13-apr-1994
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	27-jul-1994
						W-25N-12
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-dec-1992
<0.2 U	<0.3 U	<0.2 U	<1 U	–	<0.3 U	08-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	08-mar-1993
<0.2 U	<0.3 U	<0.2 U	<1 U	–	<0.3 U	24-may-1993
<0.2 U	<0.3 U	<0.2 U	<1 U	–	<0.3 U	24-may-1993
<1 HU	<1 HU	<1 HU	<1 HU	<1 HU	<1 HU	05-aug-1993
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	03-dec-1993
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	11-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jul-1994
						W-25N-13
<0.5 P	<0.5 P	<0.5 P	<0.5 P	–	<0.5 P	06-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jan-1992
<0.5 P	<0.3 P	<0.4 P	<1 P	<0.4 P	<0.5 P	23-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-dec-1992
<0.2 U	<0.3 U	<0.2 U	<1 U	–	<0.3 U	05-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	08-mar-1993
<0.2 U	<0.3 U	<0.2 U	<1 U	–	<0.3 U	24-may-1993
<0.2 U	<0.3 U	<0.2 U	<1 U	–	<0.3 U	24-may-1993
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	10-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	07-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	05-aug-1994

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-25N-15										
25-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.7 P	<0.5 P	<0.5 P
25-jul-1991	CL	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4 P	<0.5 P	<0.5 P
25-jul-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.8 P	<0.5 P	<0.5 P
01-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3 P	<0.5 P	<0.5 P
30-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.8 P	<0.5 P	<0.5 P
09-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.9 P	<0.5 P	<0.5 P
13-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.8 P	<0.5 P	<0.5 P
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.55 P	<0.5 P	<0.5 P
05-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.76	<0.5 U	<0.5 U
26-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.86	<0.5 U	<0.5 U
30-jul-1993	CS	a	V	<0.5 U	–	–	<0.5 U	0.7	<0.5 U	<0.5 U
22-dec-1993	CS	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
22-dec-1993	GT	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
11-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
05-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25N-18										
11-mar-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.7 P	<0.5 P	<0.5 P
11-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.8 P	<0.5 P	<0.5 P
03-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.8 P	<0.5 P	<0.5 P
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.8 P	<0.5 P	<0.5 P
05-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	1.9	<0.5 U	<0.5 U
26-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	1.3	<0.5 U	<0.5 U
30-jul-1993	CS	a	V	<0.5 U	–	–	<0.5 U	1.3	<0.5 U	<0.5 U
30-jul-1993	GT	a	V	<0.5 U	–	–	<0.5 U	1	<0.5 U	<0.5 U
30-nov-1993	CS	a	V	<0.5 U	–	–	<0.5 U	0.8	<0.5 U	<0.5 U
12-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	0.8	<0.5 U	<0.5 U
14-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	0.7	<0.5 U	<0.5 U
04-aug-1994	CS	a	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25N-20										
08-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-dec-1992	BC	ag	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-dec-1992	CL	ag	V	<0.2 P	<0.4 P	<0.4 P	<0.4 P	<0.3 P	<0.5 P	<0.4 P
04-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
21-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
25-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
02-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
13-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-apr-1994	CS	ah	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-apr-1994	CS	aeh	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
27-jul-1994	CS	a	N	<0.5 U	–	–	<0.5 U	0.55	<0.5 U	<0.5 U
W-25N-21										
08-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11 P	0.7 P	<0.5 P
22-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.5 P	<0.5 P	<0.5 P
19-may-1993	BC	a	U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10	<0.5 U	<0.5 U
01-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	1.3	<0.5 U	<0.5 U
14-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	0.7	<0.5 U	<0.5 U
04-aug-1994	CS	a	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25N-22										
08-jun-1992	CL	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13 P	<0.5 P	<0.5 P
08-jun-1992	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12 P	0.9 P	<0.5 P
29-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.1 P	<0.5 P	<0.5 P
19-may-1993	BC	a	U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	4.9	<0.5 U	<0.5 U
30-nov-1993	CS	a	V	<0.5 U	–	–	<0.5 U	2.4	<0.5 U	<0.5 U
14-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	0.9	<0.5 U	<0.5 U
27-jul-1994	CS	a	N	<0.5 U	–	–	<0.5 U	0.62	<0.5 U	<0.5 U
28-jul-1994	GT	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25N-23										
11-mar-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24 P	1.6 P	<0.5 P
08-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	37 P	0.8 P	<0.5 P
22-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22 P	<0.5 P	<0.5 P
19-may-1993	BC	a	U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	21	1.2	<0.5 U
01-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	9.5	<0.5 U	<0.5 U

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						W-25N-15
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	–	<0.5 P	25-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	05-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	26-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	22-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	05-aug-1994
						W-25N-18
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-mar-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	05-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	26-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	30-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-nov-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	12-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	04-aug-1994
						W-25N-20
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-dec-1992
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	29-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	04-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	21-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	25-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jul-1994
						W-25N-21
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	19-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	01-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	04-aug-1994
						W-25N-22
<0.5 P	<0.5 P	<0.5 P	<0.5 P	–	<0.5 P	08-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	19-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-nov-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jul-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	28-jul-1994
						W-25N-23
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-mar-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.5 P	22-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	19-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	01-dec-1993

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-25N-23 (continued)										
14-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	6.5	<0.5 U	<0.5 U
04-aug-1994	CS	a	N	<0.5 U	–	–	<0.5 U	3.9	<0.5 U	<0.5 U
W-25N-24										
11-mar-1992	BC	a	U	0.6 P	<0.5 P	<0.5 P	<0.5 P	38 P	2.1 P	<0.5 P
08-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	38 P	0.7 P	<0.5 P
22-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	39 P	2.8 P	<0.5 P
25-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	29	1.9	<0.5 U
25-mar-1993	CH	a	U	<0.2 U	5 P	–	–	19 P	<0.2 U	–
25-mar-1993	CH	a	U	<0.2 U	<0.2 U	–	–	16 P	<0.2 U	–
25-mar-1993	CH	a	U	<0.2 U	<0.2 U	–	–	16 P	<0.2 U	–
02-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	32	2	<0.5 U
25-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	25	0.77	<0.5 U
18-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	30	1.5	<0.5 U
01-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	13	0.9	<0.5 U
13-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	11	0.8	<0.5 U
14-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	8.8	0.6	<0.5 U
27-jul-1994	CS	a	N	<0.5 U	–	–	<0.5 U	15	1	<0.5 U
W-25N-25										
04-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25N-26										
05-aug-1994	CS	a	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25N-28										
05-aug-1994	CS	a	N	<0.5 U	–	–	<0.5 U	1.2	<0.5 U	<0.5 U
W-26R-01										
07-mar-1989	BC	a	U	<1 P	–	–	<1 P	19 P	2 P	<1 P
03-apr-1989	BC	a	U	<0.5 P	–	–	<0.5 P	50 P	2.1 P	<0.5 P
21-jul-1989	BC	a	U	<0.5 P	–	–	<0.5 P	45 P	2.7 P	<0.5 P
24-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	58 P	3.3 P	<0.5 P
05-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	42 P	2.6 P	<0.5 P
03-may-1990	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	43 P	2.7 P	<0.5 P
03-may-1990	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	42 P	2.8 P	<0.5 P
09-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	36 P	2.4 P	<0.5 P
02-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	39 P	2.6 P	<0.5 P
06-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	52 P	4.4 P	<0.5 P
30-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	45 P	2.3 P	<0.5 P
23-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	56 P	3.6 P	<0.5 P
30-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	61 P	3.2 P	<0.5 P
17-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	56 P	3.1 P	<0.5 P
04-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	71 P	3 P	<0.5 P
10-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	54 P	2.7 P	<0.5 P
20-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	54 P	2.7 P	<0.5 P
04-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	43	2.9	<0.5 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	34	2.5	<0.5 U
12-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	26	1.7	<0.5 U
01-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	28	1.7	<0.5 U
01-feb-1994	CS	a	V	<0.5 U	–	–	<0.5 U	22	1.7	<0.5 U
29-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	20	1.5	<0.5 U
10-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	22	1.8	<0.5 U
W-26R-02										
31-may-1989	BC	a	U	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
21-jul-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-25N-23
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	04-aug-1994
						W-25N-24
<0.5 P	<0.5 P	<0.5 P	0.7 P	<0.5 P	<0.5 P	11-mar-1992
<0.5 P	1.4 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	25-mar-1993
-	<0.2 U	<0.2 U	-	-	-	25-mar-1993
-	<0.2 U	<0.2 U	-	-	-	25-mar-1993
-	<0.2 U	<0.2 U	-	-	-	25-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	02-apr-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	25-jun-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	01-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jul-1994
						W-25N-25
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	04-aug-1994
						W-25N-26
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	05-aug-1994
						W-25N-28
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	05-aug-1994
						W-26R-01
<1 P	<1 P	<1 P	<1 P	-	<1 P	07-mar-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-apr-1989
<0.5 P	<0.5 P	14 P	<0.5 P	<0.5 P	<0.5 P	21-jul-1989
<0.5 P	<0.5 P	8.2 P	<0.5 P	<0.5 P	<0.5 P	24-oct-1989
<0.5 P	<0.5 P	2.4 P	<0.5 P	<0.5 P	<0.5 P	05-feb-1990
<0.5 P	<0.5 P	0.8 P	<0.5 P	<0.5 P	<0.5 P	03-may-1990
<0.5 P	<0.5 P	0.8 P	<0.5 P	<0.5 P	<0.5 P	03-may-1990
<0.5 P	<0.5 P	2.1 P	<0.5 P	<0.5 P	<0.5 P	09-aug-1990
<0.5 P	<0.5 P	1.8 P	<0.5 P	<0.5 P	<0.5 P	02-nov-1990
<0.5 P	<0.5 P	0.6 P	<0.5 P	<0.5 P	<0.5 P	06-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1991
<0.5 P	<0.5 P	42 P	<0.5 P	<0.5 P	<0.5 P	17-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	04-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	12-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	15	<0.5 U	12-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	01-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	01-feb-1994
<0.5 U	<0.5 U	2.8	<0.5 U	<0.5 U	<0.5 U	29-apr-1994
<0.5 U	<0.5 U	2.2	<0.5 U	<0.5 U	<0.5 U	10-aug-1994
						W-26R-02
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	31-may-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-may-1992

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-26R-02 (continued)										
07-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.81	<0.5 U	<0.5 U
18-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
17-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
02-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
13-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
28-jul-1994	CS	a	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-26R-03										
23-aug-1989	BC	a	U	<0.5 P	–	–	<0.5 P	25 P	1.4 P	<0.5 P
11-oct-1989	BC	a	U	<1 P	–	–	<1 P	20 P	<1 P	<1 P
05-feb-1990	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	38 P	1.4 P	<0.5 P
05-feb-1990	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	28 P	1.3 P	<0.4 P
03-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	40 P	1.7 P	<0.5 P
09-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	44 P	1.8 P	<0.5 P
02-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	52 P	2.4 P	<0.5 P
06-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	48 P	2.4 P	<0.5 P
14-jun-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	56 P	2.3 P	<0.5 P
14-jun-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	50 P	2 P	<0.5 P
26-jun-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	46 P	2.6 P	<0.5 P
28-jun-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	50 P	2.2 P	<0.5 P
08-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	54 P	2.4 P	<0.5 P
19-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	47 P	2.2 P	<0.5 P
23-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	43 P	2.1 P	<0.5 P
01-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	43 P	2.4 P	<0.5 P
05-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	39 P	1.6 P	<0.5 P
06-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	46 P	2.7 P	<0.5 P
07-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	41 P	1.7 P	<0.5 P
08-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	48 P	2 P	<0.5 P
09-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	45 P	1.8 P	<0.5 P
12-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	36 P	2 P	<0.5 P
13-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	42 P	2 P	<0.5 P
20-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	38 P	1.5 P	<0.5 P
30-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	36 P	1.6 P	<0.5 P
16-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	49 P	2.5 P	<0.5 P
17-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	63 P	3.6 P	<0.5 P
18-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	51 P	2.4 P	<0.5 P
19-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	53 P	2.5 P	<0.5 P
20-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	42 P	1.8 P	<0.5 P
23-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	53 P	2 P	<0.5 P
24-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	56 P	2.3 P	<0.5 P
16-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	55 P	1.8 P	<0.5 P
17-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	53 P	1.6 P	<0.5 P
18-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	45 P	2 P	<0.5 P
21-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	40 P	2 P	<0.5 P
22-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	47 P	2.2 P	<0.5 P
23-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	56 P	2.7 P	<0.5 P
24-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	57 P	2.1 P	<0.5 P
25-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	50 P	2.3 P	<0.5 P
28-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	47 P	2.3 P	<0.5 P
29-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	50 P	2.3 P	<0.5 P
30-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	57 P	2.1 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	49 P	1.8 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	40 P	1.6 P	<0.5 P
04-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	56 P	2.1 P	<0.5 P
05-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	50 P	2.1 P	<0.5 P
06-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	59 P	2.1 P	<0.5 P
07-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	57 P	2 P	<0.5 P
08-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	53 P	2 P	<0.5 P
11-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	54 P	2.8 P	<0.5 P
19-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	49 P	2 P	<0.5 P
21-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	41 P	1.4 P	<0.5 P
02-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	47 P	1.9 P	<0.5 P
12-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	61 P	3.1 P	<0.5 P
13-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	52 P	2.2 P	<0.5 P
17-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	49 P	2.6 P	<0.5 P

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-26R-02
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	04-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	18-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	17-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	28-jul-1994
						W-26R-03
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-aug-1989
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	11-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-feb-1990
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	05-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-jun-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-jun-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-jun-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-jun-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-aug-1991
<0.5 P	<0.5 P	<0.5 P	0.6 P	<0.5 P	<0.5 P	16-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-dec-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-dec-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-dec-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-dec-1991

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-26R-03 (continued)										
19-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	45 P	2.2 P	<0.5 P
03-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	67 P	5.3 P	<0.5 P
06-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	55 P	2.6 P	<0.5 P
07-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	62 P	2.7 P	<0.5 P
08-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	57 P	2.8 P	<0.5 P
09-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	65 P	2.7 P	<0.5 P
10-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	59 P	2.5 P	<0.5 P
13-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	74 P	3.4 P	<0.5 P
22-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	58 P	2.3 P	<0.5 P
22-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	69 P	2.1 P	<0.5 P
28-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	68 P	3 P	<0.5 P
30-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	54 P	4 P	<0.5 P
20-feb-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	48 P	2.9 P	<0.5 P
21-feb-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	65 P	3 P	<0.5 P
27-feb-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	63 P	4.5 P	<0.5 P
10-apr-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	37 P	1.8 P	<0.5 P
10-apr-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	36 P	1.8 P	<0.5 P
10-apr-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	36 P	1.9 P	<0.5 P
10-apr-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	34 P	1.7 P	<0.5 P
17-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	38 P	1.4 P	<0.5 P
17-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	34 P	1.3 P	<0.5 P
17-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31 P	1.4 P	<0.5 P
23-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21 P	<0.5 P	<0.5 P
24-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30 P	<0.5 P	<0.5 P
24-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24 P	<0.5 P	<0.5 P
25-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	33 P	<0.5 P	<0.5 P
26-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	38 P	<0.5 P	<0.5 P
29-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28 P	<0.5 P	<0.5 P
30-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	37 P	<0.5 P	<0.5 P
06-jul-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	38 P	<0.5 P	<0.5 P
09-jul-1992	BC	a	N	<0.5 U	<0.5 U	<0.5 U	<0.5 U	42	<0.5 U	<0.5 U
14-jul-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	34 P	<0.5 P	<0.5 P
20-jul-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30 P	<0.5 P	<0.5 P
21-jul-1992	CH	a	U	–	–	–	–	14	1	–
21-jul-1992	CH	a	U	–	–	–	–	13	1	–
21-jul-1992	CH	a	U	–	–	–	–	14	1	–
29-jul-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	35 P	0.6 P	<0.5 P
10-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18 P	1.1 P	<0.5 P
11-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14 P	1.1 P	<0.5 P
01-sep-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25 P	1.3 P	<0.5 P
16-sep-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26 P	1.2 P	<0.5 P
25-sep-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25 P	1.3 P	<0.5 P
14-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23 P	1 P	<0.5 P
20-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24 P	0.6 P	<0.5 P
02-nov-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18 P	0.92 P	<0.5 P
13-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26 P	1.6 P	<0.5 P
18-nov-1992	BC	a	U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	17 L	1.2	<0.5 U
25-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20 P	1.4 P	<0.5 P
02-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19 P	1.2 P	<0.5 P
09-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20 P	0.98 P	<0.5 P
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18 P	1.1 P	<0.5 P
30-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25 P	1.2 P	<0.5 P
06-jan-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25 P	1.5 P	<0.5 P
13-jan-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23 P	2.1 P	<0.5 P
20-jan-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22 P	1.5 P	<0.5 P
27-jan-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21 P	1.4 P	<0.5 P
03-feb-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16 P	1.2 P	<0.5 P
10-feb-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24 P	1.6 P	<0.5 P
17-feb-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22 P	1.3 P	<0.5 P
25-feb-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18 P	1.2 P	<0.5 P
03-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	16	0.91	<0.5 U
04-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15	0.87	<0.5 U
10-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13	0.81	<0.5 U
17-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	16	0.95	<0.5 U
25-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15	1	<0.5 U
31-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	17	0.94	<0.5 U
07-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13	<0.5 U	<0.5 U
14-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13	0.6	<0.5 U

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-26R-03
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-dec-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-feb-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-feb-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-feb-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-apr-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-apr-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-apr-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-apr-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-jun-1992
<0.5 P	0.8 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-jul-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-jul-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-jul-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-jul-1992
-	-	-	-	-	-	21-jul-1992
-	-	-	-	-	-	21-jul-1992
-	-	-	-	-	-	21-jul-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-jul-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-sep-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-sep-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-sep-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-oct-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-oct-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-nov-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.5 P	13-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-nov-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-nov-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-dec-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-dec-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-dec-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-dec-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-jan-1993
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-jan-1993
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-jan-1993
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-jan-1993
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-feb-1993
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-feb-1993
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-feb-1993
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<1 P	<0.5 P	25-feb-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	03-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	04-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	10-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	17-mar-1993
<0.5 U	0.54	<0.5 U	<0.5 U	<1 U	<0.5 U	25-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	31-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	07-apr-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	14-apr-1993

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-26R-03 (continued)										
04-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11	0.81	<0.5 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13	0.88	<0.5 U
17-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	12	0.91	<0.5 U
01-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11	0.68	<0.5 U
15-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11	0.79	<0.5 U
16-jul-1993	CS	a	V	<0.5 U	-	-	<0.5 U	10	0.6	<0.5 U
26-jul-1993	CS	a	V	<0.5 U	-	-	<0.5 U	11	0.6	<0.5 U
02-aug-1993	CS	a	V	<0.5 U	-	-	<0.5 U	12	0.8	<0.5 U
12-aug-1993	CS	a	V	<0.5 U	-	-	<0.5 U	9.4	0.6	<0.5 U
19-aug-1993	CS	a	V	<0.5 U	-	-	<0.5 U	7.6	0.7	<0.5 U
24-sep-1993	CS	a	V	<0.5 U	-	-	<0.5 U	10	0.8	<0.5 U
07-oct-1993	CS	a	V	<0.5 U	-	-	<0.5 U	11	0.8	<0.5 U
22-oct-1993	CS	a	V	<0.5 U	-	-	<0.5 U	11	0.7	<0.5 U
02-nov-1993	CS	a	V	<0.5 U	-	-	<0.5 U	9	1	<0.5 U
02-dec-1993	CS	a	V	<0.5 U	-	-	<0.5 U	7.4	0.6	<0.5 U
13-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	9.1	0.8	<0.5 U
15-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	9.3	0.6	<0.5 U
28-jul-1994	CS	a	N	<0.5 U	-	-	<0.5 U	13	0.76	<0.5 U
W-26R-04										
04-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	39 P	2.8 P	<0.5 P
20-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	50 P	3.6 P	<0.5 P
20-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	31	1.9	<0.5 U
02-dec-1993	CS	a	V	<0.5 U	-	-	<0.5 U	16	1.4	<0.5 U
29-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	25	1.8	<0.5 U
10-aug-1994	CS	ah	V	<0.5 U	-	-	<0.5 U	30	2.4	<0.5 U
10-aug-1994	CS	aeh	V	<0.5 U	-	-	<0.5 U	30	2	<0.5 U
W-26R-05										
05-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	9.3 P	0.5 P	<0.5 P
20-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.2 P	<0.5 P	<0.5 P
19-may-1993	BC	a	U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	1.8	<0.5 U	<0.5 U
02-dec-1993	CS	a	V	<0.5 U	-	-	<0.5 U	0.6	<0.5 U	<0.5 U
29-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	0.7	<0.5 U	<0.5 U
05-aug-1994	CS	a	V	<0.5 U	-	-	<0.5 U	0.72	<0.5 U	<0.5 U
W-26R-06										
17-mar-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	33 P	2 P	<0.5 P
09-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	50 P	2.9 P	<0.5 P
20-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	40 P	1.9 P	<0.5 P
18-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	29	1.8	<0.5 U
18-may-1993	CL	a	V	<0.2 U	<0.4 U	<0.4 U	<0.4 U	24 P	1.7 P	<0.4 U
17-aug-1993	CS	a	V	<0.5 U	-	-	<0.5 U	26	1.8	<0.5 U
03-dec-1993	CS	ag	V	<0.5 U	-	-	<0.5 U	24	1.6	<0.5 U
03-dec-1993	GT	ag	V	<0.5 U	-	-	<0.5 U	26	2	<0.5 U
18-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	24	1.4	<0.5 U
15-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	20	1.6	<0.5 U
11-aug-1994	CS	a	V	<0.5 U	-	-	<0.5 U	19	1	<0.5 U
W-26R-07										
12-jun-1992	BC	a	U	<0.5	<0.5	<0.5	<0.5	15	0.8	<0.5
21-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	6.1 P	<0.5 P	<0.5 P
18-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13	<0.5 U	<0.5 U
01-dec-1993	CS	a	V	<0.5 U	-	-	<0.5 U	9.7	<0.5 U	<0.5 U
15-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	1.9	<0.5 U	<0.5 U
09-aug-1994	CS	a	V	<0.5 U	-	-	<0.5 U	0.88	<0.5 U	<0.5 U
W-26R-08										
09-jun-1992	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.6 P	<0.5 P
09-jun-1992	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
13-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-jul-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-aug-1994	CS	a	N	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-26R-03
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	04-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	12-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	17-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	01-jun-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	15-jun-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	16-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	26-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	12-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	19-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	24-sep-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	07-oct-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-oct-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-nov-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	28-jul-1994
						W-26R-04
<0.5 P	0.6 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	20-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	29-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-aug-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-aug-1994
						W-26R-05
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	19-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	29-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	05-aug-1994
						W-26R-06
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-mar-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	18-may-1993
<0.3 U	<0.5 U	<0.5 U	<0.4 U	<0.6 U	<0.6 U	18-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	17-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	03-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	03-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-aug-1994
						W-26R-07
<0.5	<0.5	<0.5	<0.5	0.9 B	<0.5	12-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	18-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	01-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-aug-1994
						W-26R-08
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	18-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-jul-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-aug-1994

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-26R-11										
17-mar-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18 P	1 P	<0.5 P
09-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19 P	0.7 P	<0.5 P
21-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16 P	<0.5 P	<0.5 P
03-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	4.9	<0.5 U	<0.5 U
15-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	5.4	<0.5 U	<0.5 U
09-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	6.3	<0.5 U	<0.5 U
24-aug-1994	CS	a	N	<0.5 U	–	–	<0.5 U	6.1	<0.5 U	<0.5 U
W-35A-01										
02-may-1989	BC	a	U	8 P	–	–	4 P	380 P	22 P	<1 P
13-jul-1989	BC	af	U	7 P	–	–	4 P	160 P	21 P	<1 P
17-oct-1989	BC	af	U	2 P	<1 P	<1 P	<1 P	180 P	16 P	<1 P
01-mar-1990	BC	afg	U	4 P	2 P	<1 P	2 P	220 P	27 P	<1 P
01-mar-1990	CL	ag	U	5 P	3.3 P	<0.4 P	3.3 P	320 P	23 P	<0.4 P
07-may-1990	BC	af	U	5 P	3 P	<2 P	3 P	360 P	26 P	<2 P
13-aug-1990	BC	aefh	U	3 P	<2 P	<2 P	<2 P	330 P	19 P	<2 P
13-aug-1990	BC	afh	U	3 P	<2 P	<2 P	<2 P	380 P	21 P	<2 P
12-nov-1990	BC	af	U	<2 P	<2 P	<2 P	<2 P	350 P	16 P	<2 P
25-feb-1991	BC	af	U	3 P	<2 P	<2 P	<2 P	240 P	12 P	<2 P
02-may-1991	BC	af	U	<5 P	<5 P	<5 P	<5 P	510 P	30 P	<5 P
06-aug-1991	BC	af	U	2 P	<2 P	<2 P	<2 P	390 P	27 P	<2 P
07-nov-1991	BC	af	U	3 P	<2 P	<2 P	<2 P	510 P	32 P	<2 P
10-jun-1992	BC	af	U	3 P	<2 P	<2 P	<2 P	460 P	20 P	<2 P
17-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26 P	0.64 P	<0.5 P
30-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	20	1.3	<0.5 U
28-may-1993	BC	a	V	4.4	3	<0.5 U	3 U	370	19	<0.5 U
16-aug-1993	CS	a	V	0.9	–	–	<0.5 U	54	2.7	<0.5 U
09-dec-1993	CS	af	V	<12 UD	–	–	<12 UD	250 D	14 D	<12 UD
28-jan-1994	CS	af	V	<25 DU	–	–	<25 DU	390 D	<25 DU	<25 DU
19-apr-1994	CS	af	V	<10 DU	–	–	<10 DU	120 D	<10 DU	<10 DU
02-sep-1994	CS	af	V	3.3	–	–	1.9	250 D	13	<0.5 U
W-35A-02										
02-may-1989	BC	a	U	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
13-jul-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-mar-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.5 P	<0.5 P	<0.5 P
03-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.61 P	<0.5 P	<0.5 P
16-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
23-jun-1993	BC	ah	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
23-jun-1993	BC	aefh	V	<5 DU	<5 DU	<5 DU	<5 DU	<5 DU	<5 DU	<5 DU
04-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
06-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
28-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
10-may-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
23-aug-1994	CS	a	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-35A-03										
02-may-1989	BC	a	U	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
13-jul-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-mar-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17 P	<0.5 P	<0.5 P
06-aug-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-aug-1991	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	<0.3 P	<0.5 P	<0.4 P

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						W-26R-11
<0.5 P	0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-mar-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	03-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-aug-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	24-aug-1994
						W-35A-01
<1 P	<1 P	<1 P	2 P	<1 P	<1 P	02-may-1989
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	13-jul-1989
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	17-oct-1989
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	01-mar-1990
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	01-mar-1990
<2 P	<2 P	<2 P	<2 P	<2 P	<2 P	07-may-1990
<2 P	<2 P	<2 P	<2 P	<2 P	<2 P	13-aug-1990
<2 P	<2 P	<2 P	<2 P	<2 P	<2 P	13-aug-1990
<2 P	<2 P	<2 P	<2 P	<2 P	<2 P	12-nov-1990
<2 P	<2 P	<2 P	<2 P	<2 P	<2 P	25-feb-1991
<5 P	<5 P	<5 P	<5 P	<5 P	<5 P	02-may-1991
<2 P	<2 P	<2 P	<2 P	<2 P	<2 P	06-aug-1991
<2 P	<2 P	<2 P	<2 P	<2 P	<2 P	07-nov-1991
<2 P	6 P	<2 P	<2 P	<2 P	<2 P	10-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-dec-1992
<0.5 U	<0.5 U	<0.5 U	0.71	<1 U	<0.5 U	30-mar-1993
<0.5 U	<0.5 U	<0.5 U	0.65	<1 U	<0.5 U	28-may-1993
<0.5 U	<0.5 U	<0.5 U	0.6	<0.5 U	<0.5 U	16-aug-1993
<12 UD	<12 UD	<12 UD	<12 UD	<12 UD	<12 UD	09-dec-1993
<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	28-jan-1994
<10 DU	<10 DU	<10 DU	<10 DU	<10 DU	<10 DU	19-apr-1994
<0.5 U	<0.5 U	<0.5 U	0.52	<0.5 U	<0.5 U	02-sep-1994
						W-35A-02
<1 P	3 P	<1 P	<1 P	<1 P	<1 P	02-may-1989
<0.5 P	1.9 P	<0.5 P	1.3 P	<0.5 P	<0.5 P	13-jul-1989
<0.5 P	0.8 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-mar-1990
<0.5 P	<0.5 P	<0.5 P	1.1 P	<0.5 P	<0.5 P	07-may-1990
<0.5 P	<0.5 P	<0.5 P	0.5 P	<0.5 P	<0.5 P	13-aug-1990
<0.5 P	<0.5 P	<0.5 P	1.2 P	<0.5 P	<0.5 P	07-nov-1990
<0.5 P	1 P	<0.5 P	2 P	<0.5 P	<0.5 P	25-feb-1991
<0.5 P	<0.5 P	<0.5 P	2 P	<0.5 P	<0.5 P	03-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-nov-1991
<0.5 P	1.1 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-aug-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	16-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	23-jun-1993
<5 DU	<5 DU	<5 DU	<5 DU	<10 DU	<5 DU	23-jun-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	04-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	06-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	28-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-may-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	23-aug-1994
						W-35A-03
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	02-may-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-mar-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-aug-1991
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	06-aug-1991

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

GSA Study Area and Offsite (continued)

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
W-35A-03 (continued)										
01-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
26-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
26-may-1993	CL	a	V	<0.2 U	<0.4 U	<0.4 U	<0.4 U	<0.3 U	<0.5 U	<0.4 U
30-sep-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
06-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
28-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
20-jul-1994	CS	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
20-jul-1994	GT	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-35A-04										
15-dec-1989	BC	an	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-mar-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.8 P	<0.5 P	<0.5 P
06-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-nov-1991	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-nov-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-aug-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P
04-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
26-may-1993	BC	ah	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
04-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
09-sep-1993	CS	b	N	<1 U	<1 U	<1 U	–	<0.5 U	<1 U	<1 U
06-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
27-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
20-jul-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
31-aug-1994	CS	beh	N	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
31-aug-1994	CS	bh	N	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
W-35A-05										
15-dec-1989	BC	an	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
28-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
06-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
28-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
19-apr-1994	CS	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
19-apr-1994	GT	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
02-sep-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-35A-06										
06-mar-1990	BC	a	U	<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	<1 P
07-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-nov-1990	BC	a	U	3.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.5 P
25-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-35A-03
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	30-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	26-may-1993
<0.3 U	<0.5 U	<0.5 U	<0.4 U	<0.6 U	<0.6 U	26-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-sep-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	06-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	28-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	20-jul-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	20-jul-1994
						W-35A-04
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-dec-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-mar-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-aug-1992
<0.2 P	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	26-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	05-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	26-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	04-aug-1993
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	09-sep-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	06-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	20-jul-1994
<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	31-aug-1994
<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	31-aug-1994
						W-35A-05
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-dec-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	02-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	28-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	06-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	28-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	19-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	19-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-sep-1994
						W-35A-06
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	06-mar-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-nov-1991

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-35A-06 (continued)										
24-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
04-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
06-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
27-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
28-jul-1994	CS	ah	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
28-jul-1994	CS	aeh	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-35A-07										
09-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-35A-08										
08-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-35A-09										
10-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	4	<0.5 U	<0.5 U
W-35A-10										
22-jul-1994	CS	a	V	0.66	–	–	<0.5 U	29	<0.5 U	<0.5 U
10-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	35	<0.5 U	<0.5 U
W-35A-11										
09-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-35A-12										
08-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-35A-13										
10-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	1.6	<0.5 U	<0.5 U
W-7A										
30-aug-1983	BC	a	U	<1 P	–	–	<1 P	44 P	<1 P	<1 P
23-sep-1983	BC	a	U	–	–	–	–	<0.5 P	–	–
26-jun-1986	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-aug-1986	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	0.6 P	<0.5 P
20-nov-1986	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-mar-1987	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-jul-1987	BC	a	U	<0.5	–	–	<0.5	<0.5	<0.5	<0.5
28-sep-1987	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-dec-1987	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-mar-1988	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-jun-1988	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-oct-1988	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-jan-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-apr-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-jul-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.8 P	<0.5 P	<0.5 P
16-nov-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.6 P	<0.5 P	<0.5 P
20-apr-1990	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-apr-1990	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.5 P	<0.5 P	<0.5 P
09-aug-1990	CL	a	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	0.6 P	<0.5 P	<0.4 P
29-oct-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.5 P	<0.5 P	<0.5 P
30-jan-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1 P	<0.5 P	<0.5 P
05-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.9 P	<0.5 P	<0.5 P
30-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.4 P	<0.5 P	<0.5 P
15-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.6 P	<0.5 P	<0.5 P
27-jul-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.8 P	<0.5 P	<0.5 P
07-dec-1992	BC	a	U	<0.5 P	2.4 P	<0.5 P	2.4 P	1.1 P	<0.5 P	<0.5 P
01-mar-1993	BC	a	V	<0.5 U	1.3	<0.5 U	1.3	0.65	<0.5 U	<0.5 U
19-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.61	<0.5 U	<0.5 U

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-35A-06
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	16-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	14-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	04-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	06-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	28-jul-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	28-jul-1994
						W-35A-07
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-aug-1994
						W-35A-08
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	08-aug-1994
						W-35A-09
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-aug-1994
						W-35A-10
<0.5 U	<0.5 U	<0.5 U	28	<0.5 U	<0.5 U	22-jul-1994
<0.5 U	<0.5 U	<0.5 U	23	<0.5 U	<0.5 U	10-aug-1994
						W-35A-11
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-aug-1994
						W-35A-12
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	08-aug-1994
						W-35A-13
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-aug-1994
						W-7A
<1 P	<1 P	<1 P	<1 P	-	<1 P	30-aug-1983
-	-	-	-	-	-	23-sep-1983
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-jun-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-aug-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-nov-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-mar-1987
<0.5	<0.5	<0.5	<0.5	0.6 B	<0.5	01-jul-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-sep-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-dec-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-mar-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-jun-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-oct-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-jan-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-nov-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-apr-1990
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	09-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-oct-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-jan-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-jul-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	01-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	19-may-1993

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-7A (continued)										
10-aug-1993	CS	a	V	<0.5 U	-	-	2	1.3	<0.5 U	<0.5 U
09-dec-1993	CS	ah	V	<0.5 U	-	-	<0.5 U	0.5	0.8	<0.5 U
09-dec-1993	CS	aeh	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
21-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
02-sep-1994	CS	a	V	<0.5 U	-	-	0.69	<0.5 U	<0.5 U	<0.5 U
W-7B										
30-aug-1983	BC	a	U	<1 P	-	-	<1 P	12 P	<1 P	<1 P
23-sep-1983	BC	a	U	-	-	-	-	0.9 P	-	-
27-jun-1986	BC	a	U	<0.5 P	-	-	<0.5 P	17 P	<0.5 P	<0.5 P
19-aug-1986	BC	a	U	<0.5 P	-	-	<0.5 P	17 P	1.7 P	<0.5 P
19-nov-1986	BC	a	U	<0.5 P	-	-	0.6 P	5.4 P	<0.5 P	<0.5 P
17-mar-1987	BC	ah	U	<0.5 P	-	-	<0.5 P	0.8 P	<0.5 P	<0.5 P
17-mar-1987	BC	ah	U	<0.5 P	-	-	<0.5 P	0.8 P	<0.5 P	<0.5 P
23-jun-1987	BC	ah	U	<0.5 P	-	-	<0.5 P	3.6 P	<0.5 P	<0.5 P
23-jun-1987	BC	ah	U	<0.5 P	-	-	<0.5 P	3.5 P	<0.5 P	<0.5 P
28-sep-1987	BC	a	U	<0.5 P	-	-	<0.5 P	3.2 P	<0.5 P	<0.5 P
11-dec-1987	BC	ah	U	<0.5 P	-	-	<0.5 P	12 P	<0.5 P	<0.5 P
11-dec-1987	BC	ah	U	<1 P	-	-	<1 P	4.9 P	<1 P	<1 P
08-mar-1988	BC	a	U	<0.5 P	-	-	<0.5 P	2.8 P	<0.5 P	<0.5 P
21-jun-1988	BC	a	U	<0.5	-	-	<0.5	2.1	<0.5	<0.5
26-oct-1988	BC	a	U	<0.5 P	-	-	<0.5 P	2.6 P	<0.5 P	<0.5 P
01-feb-1989	BC	a	U	<0.5 P	-	-	<0.5 P	1.8 P	<0.5 P	<0.5 P
12-apr-1989	BC	a	U	<0.5 P	-	-	<0.5 P	1.1 P	<0.5 P	<0.5 P
12-jul-1989	BC	a	U	<0.5 P	-	-	<0.5 P	0.7 P	<0.5 P	<0.5 P
12-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-oct-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.9 P	<0.5 P	<0.5 P
02-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.2 P	<0.5 P	<0.5 P
04-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	6.8	<0.5 U	<0.5 U
14-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	5.2	<0.5 U	<0.5 U
06-aug-1993	CS	ag	V	<0.5 U	-	-	<0.5 U	0.5	<0.5 U	<0.5 U
06-aug-1993	GT	ag	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
07-dec-1993	CS	a	V	<0.5 U	-	-	<0.5 U	1.1	<0.5 U	<0.5 U
14-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	0.9	<0.5 U	<0.5 U
19-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	0.6	<0.5 U	<0.5 U
05-aug-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-7C										
30-aug-1983	BC	a	U	<1 P	-	-	<1 P	44 P	<1 P	<1 P
23-sep-1983	BC	a	U	-	-	-	-	<0.5 P	-	-
27-jun-1986	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-aug-1986	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	0.9 P	<0.5 P
16-mar-1987	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jun-1987	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-sep-1987	BC	a	U	<0.5 P	-	-	0.8 P	0.6 P	<0.5 P	<0.5 P
08-dec-1987	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-mar-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-jun-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-oct-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-feb-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-apr-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-jul-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-oct-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
				(continued)	GSA Study Area and Offsite	
						(continued) W-7A
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	21-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-sep-1994
						W-7B
<1 P	<1 P	<1 P	<1 P	–	<1 P	30-aug-1983
–	–	–	–	–	–	23-sep-1983
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-jun-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-aug-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-nov-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-mar-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-mar-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.3 P	<0.5 P	23-jun-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.2 P	<0.5 P	23-jun-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-sep-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-dec-1987
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	11-dec-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-mar-1988
<0.5	<0.5	<0.5	<0.5	0.5 B	<0.5	21-jun-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-oct-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-feb-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	04-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	14-apr-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	06-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	06-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	07-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	19-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	05-aug-1994
						W-7C
<1 P	<1 P	<1 P	<1 P	–	<1 P	30-aug-1983
–	–	–	–	–	–	23-sep-1983
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-jun-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-aug-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-mar-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jun-1987
<0.5 P	0.6 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-sep-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-dec-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-mar-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-jun-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-oct-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-feb-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-apr-1991

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-7C (continued)										
24-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.8 P	<0.5 P
02-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	3.7	<0.5 U	<0.5 U
07-dec-1993	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
10-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
20-jul-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-7D										
08-oct-1986	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-mar-1987	BC	a	U	<0.5 P	-	-	<0.5 P	1.4 P	<0.5 P	<0.5 P
22-jun-1987	BC	a	U	<1 P	-	-	<1 P	<1 P	<1 P	<1 P
25-sep-1987	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-dec-1987	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-mar-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-jun-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-oct-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-feb-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-apr-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-jul-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-oct-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.7 P	<0.5 P	<0.5 P
21-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.2 P	<0.5 P	<0.5 P
09-mar-1993	BC	aeh	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.54	<0.5 U	<0.5 U
09-mar-1993	BC	ah	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.51	<0.5 U	<0.5 U
12-aug-1993	CS	a	V	<0.5 U	-	-	<0.5 U	0.6	<0.5 U	<0.5 U
10-dec-1993	CS	a	V	<0.5 U	-	-	<0.5 U	0.6	<0.5 U	<0.5 U
13-jan-1994	CS	ah	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
13-jan-1994	CS	aeh	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
19-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
09-aug-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
24-aug-1994	CS	a	N	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-7DS										
23-jan-1987	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-mar-1987	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-jun-1987	BC	a	U	<1 P	-	-	<1 P	<1 P	<1 P	<1 P
25-sep-1987	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-dec-1987	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-mar-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-jun-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-oct-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-feb-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-apr-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-jul-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-oct-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.6 P	<0.5 P	<0.5 P
30-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-oct-1991	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-7C
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	03-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	14-apr-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	07-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	20-jul-1994
						W-7D
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-oct-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-mar-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	22-jun-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-sep-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.8 P	<0.5 P	09-dec-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-mar-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-jun-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-oct-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-feb-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-oct-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	09-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	09-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	12-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	12-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	19-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-aug-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	24-aug-1994
						W-7DS
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jan-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-mar-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	22-jun-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-sep-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	1 P	<0.5 P	09-dec-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-mar-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-jun-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-oct-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-feb-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-oct-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1991

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-7DS (continued)										
30-oct-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
12-aug-1993	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
10-dec-1993	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
13-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
30-mar-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
28-jul-1994	CS	a	N	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-7E										
06-feb-1987	BC	a	U	<0.5 P	-	-	<0.5 P	0.7 P	<0.5 P	<0.5 P
17-mar-1987	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-jun-1987	BC	a	U	<1 P	-	-	<1 P	<1 P	<1 P	<1 P
25-sep-1987	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-dec-1987	BC	a	U	<0.5	-	-	<0.5	<0.5	<0.5	<0.5
07-mar-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-jun-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-oct-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-feb-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-apr-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-jul-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	9.2 P	<0.5 P	<0.5 P
16-nov-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2 P	<0.5 P	<0.5 P
30-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-oct-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.6 P	<0.5 P	<0.5 P
01-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-dec-1992	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-dec-1992	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	<0.3 P	<0.5 P	<0.4 P
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
06-aug-1993	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
07-dec-1993	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
20-jul-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-7ES										
06-feb-1987	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-mar-1987	BC	a	U	<0.5 P	-	-	<0.5 P	4 P	<0.5 P	<0.5 P
22-jun-1987	BC	a	U	<1 P	-	-	<1 P	<1 P	<1 P	<1 P
25-sep-1987	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-dec-1987	BC	af	U	<10 P	-	-	<10 P	<10 P	<10 P	<10 P
07-mar-1988	BC	ah	U	<0.5	-	-	<0.5	<0.5	<0.5	<0.5
07-mar-1988	BC	aeh	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-jun-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-oct-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-feb-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-apr-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-jul-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-oct-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-7DS
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	04-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	12-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	12-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-mar-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	28-jul-1994
						W-7E
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-feb-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-mar-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	22-jun-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-sep-1987
<0.5	<0.5	<0.5	<0.5	0.5 B	<0.5	09-dec-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-mar-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-jun-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-oct-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-feb-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-nov-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-oct-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-dec-1992
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	07-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	12-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	06-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	07-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	20-jul-1994
						W-7ES
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-feb-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-mar-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	22-jun-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-sep-1987
<10 P	<10 P	<10 P	<10 P	<10 P	<10 P	09-dec-1987
<0.5	<0.5	<0.5	<0.5	0.9 B	<0.5	07-mar-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-mar-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-jun-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-oct-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-feb-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-oct-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1991

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA

GSA Study Area and Offsite (continued)

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
W-7ES (continued)										
03-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-mar-1993	BC	ag	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
09-mar-1993	CL	ag	V	<0.2 U	<0.4 U	<0.4 U	<0.4 U	<0.3 U	<0.5 U	<0.4 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
06-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
09-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	1.6	<0.5 U	<0.5 U
14-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
21-jul-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-7F										
29-apr-1988	BC	a	U	0.7 P	–	–	7.9 P	61 P	5.6 P	<0.5 P
12-may-1988	BC	a	U	0.8	–	–	10	64	4.6	<0.5
18-may-1988	BC	ad	U	1.1 P	–	–	12 P	120 P	9.8 P	0.5 P
18-may-1988	BC	ad	U	1.1 P	–	–	15 P	140 P	11 P	0.8 P
28-jun-1988	BC	a	U	1.5	–	–	15	110	8	<0.5
24-oct-1988	BC	a	U	1 P	–	–	10 P	63 P	4.6 P	<0.5 P
01-feb-1989	BC	af	U	<1 P	–	–	9.3 P	69 P	5 P	<1 P
13-apr-1989	BC	af	U	<1 P	–	–	12 P	87 P	6.4 P	<1 P
11-jul-1989	BC	a	U	1.2 P	–	–	9.2 P	64 P	7 P	<0.5 P
09-oct-1989	BC	a	U	<0.5 P	–	–	8 P	74 P	6.5 P	<0.5 P
06-feb-1990	BC	ah	U	<0.5 P	9.8 P	<0.5 P	9.8 P	53 P	4.1 P	<0.5 P
06-feb-1990	BC	aeh	U	<0.5 P	9.6 P	<0.5 P	9.6 P	53 P	3.9 P	<0.5 P
24-apr-1990	BC	a	U	<0.5 P	12 P	<0.5 P	12 P	54 P	4.8 P	<0.5 P
15-aug-1990	BC	a	U	<0.5 P	5.2 P	<0.5 P	5.2 P	26 P	0.9 P	<0.5 P
30-oct-1990	BC	aeh	U	<0.5 P	14 P	<0.5 P	14 P	46 P	3 P	<0.5 P
30-oct-1990	BC	ah	U	<0.5 P	15 P	<0.5 P	15 P	46 P	2.6 P	<0.5 P
08-feb-1991	BC	a	U	<0.5 P	17 P	<0.5 P	17 P	50 P	2.1 P	<0.5 P
13-may-1991	BC	a	U	0.8 P	27 P	<0.5 P	27 P	65 P	4.9 P	<0.5 P
20-aug-1991	BC	aeh	U	<0.5 P	7.2 P	<0.5 P	7.2 P	36 P	2 P	<0.5 P
20-aug-1991	BC	ah	U	<0.5 P	7.9 P	<0.5 P	7.9 P	44 P	2.6 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	23 P	<0.5 P	23 P	60 P	2.5 P	<0.5 P
10-jun-1992	BC	a	U	<0.5 P	7.5 P	<0.5 P	7.5 P	68 P	6 P	<0.5 P
25-nov-1992	BC	a	U	1 P	7.6 P	<0.5 P	7.6 P	81 P	14 P	<0.5 P
25-feb-1993	BC	a	V	2.2	12	<0.5 U	12	130	39	0.64
18-may-1993	BC	a	V	3.1	21	<0.5 U	21	380	64	1.2
18-jun-1993	BC	a	V	8.3 L	20 J	<0.5 U	20	530	69	<0.5 U
29-jul-1993	CS	afh	V	<25 DU	–	–	<25 U	580 D	79 D	<25 DU
29-jul-1993	CS	aefh	V	<25 DU	–	–	<25 U	530 D	78 D	<25 DU
04-nov-1993	CS	a	V	<25 U	–	–	<25 U	620	65	<25 U
08-dec-1993	CS	af	V	<50 UD	–	–	<50 UD	400 D	63 D	<50 UD
18-jan-1994	CS	af	V	<12 DU	–	–	18 D	330 D	44 D	<12 DU
22-apr-1994	CS	af	V	1.3	–	–	6.7	82 D	12	<0.5 U
09-aug-1994	CS	af	V	<0.5 U	–	–	4.5	120 D	8.1	<0.5 U
W-7G										
05-jul-1989	BC	a	U	<1 P	–	–	1 P	27 P	2 P	<1 P
07-aug-1989	BC	ad	U	<0.5 P	–	–	0.8 P	44 P	2.4 P	<0.5 P
07-aug-1989	BC	ad	U	<0.5 P	–	–	1.4 P	43 P	2.3 P	<0.5 P
07-aug-1989	BC	ad	U	<0.5 P	–	–	0.9 P	32 P	1.3 P	<0.5 P
14-aug-1989	BC	a	U	<0.5 P	–	–	<0.5 P	28 P	1.4 P	<0.5 P
01-sep-1989	BC	ad	U	<0.5 P	–	–	1 P	41 P	2.1 P	<0.5 P
01-sep-1989	BC	ad	U	<0.5 P	–	–	0.7 P	28 P	1.2 P	<0.5 P
11-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	8.3 P	<0.5 P	<0.5 P
14-nov-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24 P	<0.5 P	<0.5 P
14-feb-1990	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10 P	<0.5 P	<0.5 P
14-feb-1990	CL	ag	U	<0.2 P	0.5 P	<0.4 P	0.5 P	7.3 P	<0.5 P	<0.4 P
30-apr-1990	BC	a	U	<0.5 P	0.8 P	<0.5 P	0.8 P	13 P	<0.5 P	<0.5 P
17-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	8.1 P	<0.5 P	<0.5 P
07-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	7.2 P	<0.5 P	<0.5 P
26-feb-1991	BC	a	U	<0.5 P	1 P	<0.5 P	1 P	6 P	<0.5 P	<0.5 P
13-may-1991	BC	a	U	<0.5 P	1.9 P	<0.5 P	1.9 P	9 P	<0.5 P	<0.5 P
17-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	8.2 P	<0.5 P	<0.5 P
05-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.4 P	<0.5 P	<0.5 P
11-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.8 P	<0.5 P	<0.5 P
25-nov-1992	BC	ah	U	<0.5 P	0.71 P	<0.5 P	0.71 P	4.6 P	<0.5 P	<0.5 P
25-nov-1992	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.4 P	<0.5 P	<0.5 P

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-7ES
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	09-mar-1993
<0.3 U	<0.5 U	<0.5 U	<0.4 U	<0.6 U	<0.6 U	09-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	12-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	06-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	21-jul-1994
						W-7F
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-apr-1988
<0.5	<0.5	<0.5	<0.5	0.7 B	<0.5	12-may-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.2 P	<0.5 P	18-may-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-may-1988
<0.5	<0.5	<0.5	<0.5	0.6 B	<0.5	28-jun-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-oct-1988
<1 P	<1 P	<1 P	<1 P	1.8 P	<1 P	01-feb-1989
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	13-apr-1989
<0.5 P	<0.5 P	2 P	<0.5 P	<0.5 P	<0.5 P	11-jul-1989
<0.5 P	<0.5 P	1.2 P	<0.5 P	<0.5 P	<0.5 P	09-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-apr-1990
<0.5 P	<0.5 P	2.1 P	<0.5 P	<0.5 P	<0.5 P	15-aug-1990
<0.5 P	<0.5 P	0.6 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1990
<0.5 P	<0.5 P	0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-may-1991
<0.5 P	<0.5 P	0.5 P	<0.5 P	<0.5 P	<0.5 P	20-aug-1991
<0.5 P	<0.5 P	0.7 P	<0.5 P	<0.5 P	<0.5 P	20-aug-1991
<0.5 P	<0.5 P	1.3 P	<0.5 P	<0.5 P	<0.5 P	31-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	25-feb-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	18-may-1993
<0.5 U	4.3	<0.5 U	<0.5 U	<1 U	<0.5 U	18-jun-1993
<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	29-jul-1993
<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	29-jul-1993
<25 U	<25 U	<25 U	<25 U	<25 U	<25 U	04-nov-1993
<50 UD	<50 UD	<50 UD	<50 UD	<50 UD	<50 UD	08-dec-1993
<12 DU	<12 DU	<12 DU	<12 DU	<12 DU	<12 DU	18-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-aug-1994
						W-7G
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	05-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-aug-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-aug-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-aug-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.6 P	<0.5 P	14-aug-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-sep-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-sep-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-nov-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1990
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	14-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-nov-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-nov-1992

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-7G (continued)										
20-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	1.6	<0.5 U	<0.5 U
07-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	1.3	<0.5 U	<0.5 U
19-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	1.2	<0.5 U	<0.5 U
21-jul-1994	CS	a	V	<0.5 U	–	–	<0.5 U	0.76	<0.5 U	<0.5 U
W-7H										
23-aug-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-dec-1989	BC	a	U	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
12-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-mar-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.1 P	<0.5 P	<0.5 P
14-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-nov-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-nov-1991	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	<0.3 P	<0.5 P	<0.4 P
03-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
09-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
11-may-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
02-aug-1994	CS	a	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-7I										
16-nov-1989	BC	af	U	<50 P	–	–	<50 P	6100 P	1300 P	<50 P
06-feb-1990	BC	af	U	<20 P	<20 P	<20 P	<20 P	5000 P	2400 P	<20 P
24-apr-1990	BC	af	U	<20 P	<20 P	<20 P	<20 P	2600 P	730 P	<20 P
17-aug-1990	BC	afgh	U	<20 P	<20 P	<20 P	<20 P	4000 P	1100 P	<20 P
17-aug-1990	BC	afgh	U	<20 P	<20 P	<20 P	<20 P	3500 P	980 P	<20 P
17-aug-1990	CL	afg	U	<20 P	<40 P	<40 P	<40 P	3100 P	870 P	<40 P
08-nov-1990	BC	af	U	<50 P	<50 P	<50 P	<50 P	3200 P	810 P	<50 P
27-feb-1991	BC	af	U	10 P	14 P	<10 P	14 P	2000 P	420 P	<10 P
06-jun-1991	BC	af	U	<20 P	<20 P	<20 P	<20 P	3500 P	780 P	<20 P
20-aug-1991	BC	af	U	<20 P	<20 P	<20 P	<20 P	2300 P	500 P	<20 P
20-dec-1991	BC	af	U	<20 P	<20 P	<20 P	<20 P	2100 P	330 P	<20 P
06-feb-1992	BC	af	U	<5 P	<5 P	<5 P	<5 P	580 P	83 P	<5 P
29-jun-1992	BC	af	U	<100 P	<100 P	<100 P	<100 P	17000 P	3300 P	<100 P
11-aug-1992	BC	af	U	<50 P	58 P	<50 P	58 P	7800 P	1600 P	<50 P
26-mar-1993	BC	af	V	860 D	1600 D	<5 DU	1600 D	19000 D	1600 D	<5 DU
17-may-1993	BC	af	V	400 D	420 D	8.1 D	430 D	39000 D	2800 D	38 D
18-jun-1993	BC	af	V	520 DL	490 DJ	<5 DU	490 D	62000 D	2500 D	38 D
16-jul-1993	CS	af	V	<2500 DU	–	–	<2500 U	69000 D	4700 D	<2500 DU
04-nov-1993	CS	af	V	<500 DU	–	–	<500 DU	29000 D	2500 D	<500 DU
17-feb-1994	CS	af	V	210 D	–	–	520 D	27000 D	2200 D	<100 DU
12-aug-1994	CS	af	N	<130 DU	–	–	<130 DU	7200 D	500 D	<130 DU
W-7J										
15-nov-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31 P	1.6 P	<0.5 P
15-nov-1989	BC	a	U	<1 P	–	–	<1 P	27 P	2 P	<1 P
07-mar-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13	1.5	<0.5 U
18-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	6.3	1.6	<0.5 U
29-jul-1993	CS	a	V	<0.5 U	–	–	<0.5 U	5.3	1.4	<0.5 U
02-nov-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
23-feb-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	0.8	<0.5 U
11-may-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

(continued) GSA Study Area and Offsite

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) W-7G
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	20-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	07-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	19-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	21-jul-1994
						W-7H
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-aug-1989
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	14-dec-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-mar-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-nov-1991
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	07-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	25-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-may-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-aug-1994
						W-7I
<50 P	<50 P	<50 P	<50 P	<50 P	<50 P	16-nov-1989
<20 P	<20 P	<20 P	<20 P	<20 P	<20 P	06-feb-1990
<20 P	<20 P	<20 P	<20 P	<20 P	<20 P	24-apr-1990
<20 P	<20 P	<20 P	<20 P	<20 P	<20 P	17-aug-1990
<20 P	<20 P	<20 P	<20 P	<20 P	<20 P	17-aug-1990
<30 P	<50 P	<50 P	<40 P	<60 P	<60 P	17-aug-1990
<50 P	<50 P	<50 P	<50 P	<50 P	<50 P	08-nov-1990
<10 P	<10 P	<10 P	<10 P	<10 P	<10 P	27-feb-1991
<20 P	<20 P	<20 P	<20 P	<20 P	<20 P	06-jun-1991
<20 P	<20 P	<20 P	<20 P	<20 P	<20 P	20-aug-1991
<20 P	<20 P	<20 P	<20 P	<20 P	<20 P	20-dec-1991
<5 P	<5 P	<5 P	<5 P	<5 P	<5 P	06-feb-1992
<100 P	<100 P	<100 P	<100 P	<100 P	<100 P	29-jun-1992
<50 P	<50 P	<50 P	<50 P	<50 P	<50 P	11-aug-1992
<5 DU	<5 DU	<5 DU	<5 DU	<10 DU	<5 DU	26-mar-1993
18 D	150 D	20 D	<5 DU	<10 DU	<5 DU	17-may-1993
23 D	190 D	24 D	<5 DU	<10 DU	<5 DU	18-jun-1993
<2500 DU	<2500 DU	<2500 DU	<2500 DU	<2500 DU	<2500 DU	16-jul-1993
<500 DU	<500 DU	<500 DU	<500 DU	<500 DU	<500 DU	04-nov-1993
<100 DU	<100 DU	<100 DU	<100 DU	<100 DU	<100 DU	17-feb-1994
<130 DU	<130 DU	<130 DU	<130 DU	<130 DU	<130 DU	12-aug-1994
						W-7J
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-nov-1989
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	15-nov-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-mar-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	02-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	18-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	18-jun-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	29-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-nov-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	23-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-may-1994

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-7J (continued)										
02-sep-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-7K										
16-mar-1990	BC	a	U	<0.2 P	0.7 P	<0.2 P	0.7 P	1.6 P	<0.2 P	<0.2 P
30-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.2 P	<0.5 P	<0.5 P
09-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.7 P	<0.5 P	<0.5 P
07-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-jan-1992	BC	a	U	<0.5 P	1.3 P	<0.5 P	1.3 P	1 P	<0.5 P	<0.5 P
29-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.5 P	<0.5 P	<0.5 P
07-aug-1992	BC	ag	U	<0.5 P	0.76 P	<0.5 P	0.76 P	<0.5 P	<0.5 P	<0.5 P
07-aug-1992	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	<0.3 P	<0.5 P	<0.4 P
02-dec-1992	BC	a	U	<0.5 P	0.8 P	<0.5 P	0.8 P	<0.5 P	<0.5 P	<0.5 P
03-dec-1992	CL	a	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	<0.3 P	<0.5 P	<0.4 P
03-mar-1993	BC	a	V	<0.5 U	1	<0.5 U	1	0.64	<0.5 U	<0.5 U
12-may-1993	BC	a	V	<0.5 U	1.3	<0.5 U	1.3	1.1	<0.5 U	<0.5 U
06-aug-1993	CS	a	V	<0.5 U	–	–	0.7	<0.5 U	<0.5 U	<0.5 U
07-dec-1993	CS	a	V	<0.5 U	–	–	0.7	<0.5 U	<0.5 U	<0.5 U
14-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
19-apr-1994	CS	a	V	<0.5 U	–	–	1	<0.5 U	<0.5 U	<0.5 U
09-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-7L										
19-nov-1990	BC	a	U	<0.5 P	1 P	<0.5 P	1 P	9 P	<0.5 P	<0.5 P
07-feb-1991	BC	a	U	<0.5 P	0.9 P	<0.5 P	0.9 P	8.2 P	<0.5 P	<0.5 P
29-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	9.5 P	<0.5 P	<0.5 P
24-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	9.4 P	<0.5 P	<0.5 P
30-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	9.6 P	<0.5 P	<0.5 P
22-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11 P	<0.5 P	<0.5 P
04-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	8.4 P	0.6 P	<0.5 P
07-aug-1992	BC	a	U	<0.5 P	0.74 P	<0.5 P	0.74 P	9.3 P	<0.5 P	<0.5 P
22-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	8.2 P	<0.5 P	<0.5 P
03-mar-1993	BC	a	V	<0.5 U	0.78	<0.5 U	0.78	5.3	<0.5 U	<0.5 U
14-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	4.7	<0.5 U	<0.5 U
03-dec-1993	CS	a	V	<0.5 U	–	–	0.5	2.9	<0.5 U	<0.5 U
18-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	2.9	<0.5 U	<0.5 U
19-apr-1994	CS	a	V	<0.5 U	–	–	0.6	4.4	<0.5 U	<0.5 U
08-aug-1994	CS	ag	V	<0.5 U	–	–	<0.5 U	2	<0.5 U	<0.5 U
08-aug-1994	GT	ag	V	<0.5 U	–	–	<0.5 U	1.9	<0.5 U	<0.5 U
W-7M										
20-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
30-sep-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
02-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
10-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
20-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
26-jul-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-7N										
19-nov-1990	BC	a	U	<0.5 P	1 P	<0.5 P	1 P	14 P	0.5 P	<0.5 P
07-feb-1991	BC	a	U	<0.5 P	0.9 P	<0.5 P	0.9 P	11 P	<0.5 P	<0.5 P
01-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20 P	<0.5 P	<0.5 P
23-jul-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16 P	<0.5 P	<0.5 P
23-jul-1991	CL	ag	U	<0.2 P	1.2 P	<0.4 P	–	8.7 P	0.7 P	<0.4 P
30-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27 P	<0.5 P	<0.5 P

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-7J
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-sep-1994
						W-7K
<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P	16-mar-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-aug-1992
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	07-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-dec-1992
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	03-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	03-mar-1993
<0.5 U	0.5	<0.5 U	<0.5 U	<1 U	<0.5 U	12-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	06-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	07-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	19-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-aug-1994
						W-7L
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	03-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	14-apr-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	03-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	19-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	08-aug-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	-	<0.5 U	08-aug-1994
						W-7M
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	03-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	14-apr-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-sep-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	20-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	26-jul-1994
						W-7N
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jul-1991
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	23-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1991

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-7N (continued)										
22-jan-1992	BC	a	U	<0.5 P	1.9 P	<0.5 P	1.9 P	27 P	<0.5 P	<0.5 P
08-jun-1992	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27 P	<0.5 P	<0.5 P
08-jun-1992	CL	ag	U	<0.2 P	1.4 P	<0.4 P	1.4 P	25 P	1.2 P	<0.4 P
10-aug-1992	BC	a	U	<0.5 P	1.4 P	<0.5 P	1.4 P	16 P	0.81 P	<0.5 P
07-dec-1992	BC	a	U	<0.5 P	1.2 P	<0.5 P	1.2 P	13 P	<0.5 P	<0.5 P
10-mar-1993	BC	a	V	<0.5 U	0.53	<0.5 U	0.53	19	1.1	<0.5 U
14-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13	0.67	<0.5 U
06-aug-1993	CS	a	V	<0.5 U	-	-	1.3	14	0.5	<0.5 U
03-dec-1993	CS	a	V	<0.5 U	-	-	0.9	7.4	<0.5 U	<0.5 U
10-jan-1994	CS	a	V	<0.5 U	-	-	0.6	4.7	<0.5 U	<0.5 U
20-apr-1994	CS	a	V	<0.5 U	-	-	0.6	4.3	<0.5 U	<0.5 U
08-aug-1994	CS	ag	V	<0.5 U	-	-	<0.5 U	2.6	<0.5 U	<0.5 U
08-aug-1994	GT	ag	V	<0.5 U	-	-	<0.5 U	2.8	<0.5 U	<0.5 U
W-7O										
17-mar-1992	BC	af	U	11 P	5 P	<5 P	5 P	690 P	39 P	<5 P
11-jun-1992	BC	af	U	5 P	<2 P	<2 P	<2 P	520 P	39 P	<2 P
08-dec-1992	BC	a	U	6.6 P	4.2 P	<0.5 P	4.2 P	630 P	36 P	<0.5 P
01-mar-1993	BC	af	V	<5 UD	<5 UD	<5 UD	<5 UD	790 D	56 D	<5 UD
18-may-1993	BC	a	V	2.3	2.1	<0.5 U	2.1	210	16	<0.5 U
18-jun-1993	BC	a	V	3.9 L	2.5 J	<0.5 U	2.5	390	20	<0.5 U
16-jul-1993	CS	af	V	<25 DU	-	-	<25 U	630 D	45 D	<25 DU
01-nov-1993	CS	af	V	<25 UD	-	-	<25 UD	560 D	36 D	<25 UD
18-jan-1994	CS	af	V	<25 DU	-	-	<25 DU	620 D	41 D	<25 DU
03-may-1994	CS	afh	V	<25 DU	-	-	<25 DU	870 D	52 D	<25 DU
03-may-1994	CS	aefh	V	<25 DU	-	-	<25 DU	830 D	53 D	<25 DU
22-jul-1994	CS	af	N	<50 DU	-	-	<50 DU	810 D	<50 DU	<50 DU
W-7P										
11-aug-1994	CS	a	V	<0.5 U	-	-	<0.5 U	31	0.71	<0.5 U
W-7PS										
11-aug-1994	CS	a	V	<0.5 U	-	-	<0.5 U	17	<0.5 U	<0.5 U
W-843-01										
07-mar-1990	BC	a	U	<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P
30-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-jan-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-may-1992	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-may-1992	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
07-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
01-feb-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
21-jul-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-843-02										
02-may-1990	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-mar-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
22-feb-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
02-aug-1994	CS	a	N	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-872-01										
06-mar-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-7N
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-jun-1992
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	08-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	10-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	14-apr-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	06-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	03-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	20-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	08-aug-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	08-aug-1994
						W-7O
<5 P	<5 P	<5 P	<5 P	7 P	<5 P	17-mar-1992
<2 P	<2 P	<2 P	<2 P	<2 P	<2 P	11-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-dec-1992
<5 UD	<5 UD	<5 UD	<5 UD	<10 UD	<5 UD	01-mar-1993
<0.5 U	0.86	<0.5 U	<0.5 U	<1 U	<0.5 U	18-may-1993
<0.5 U	0.67	<0.5 U	0.87	<1 U	<0.5 U	18-jun-1993
<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	16-jul-1993
<25 UD	<25 UD	<25 UD	<25 UD	<25 UD	<25 UD	01-nov-1993
<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	18-jan-1994
<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	03-may-1994
<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	03-may-1994
<50 DU	<50 DU	<50 DU	<50 DU	<50 DU	<50 DU	22-jul-1994
						W-7P
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-aug-1994
						W-7PS
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-aug-1994
						W-843-01
<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P	07-mar-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-jan-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	01-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	07-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	01-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	21-jul-1994
						W-843-02
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-mar-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-dec-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-may-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	07-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-aug-1994
						W-872-01
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-mar-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-aug-1990

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-872-01 (continued)										
08-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-nov-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
09-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	7.9	1.9	<0.5 U
22-dec-1993	CS	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
22-dec-1993	GT	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
22-feb-1994	CS	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
22-feb-1994	GT	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
03-may-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-872-02										
08-nov-1990	BC	a	U	0.5 P	<0.5 P	<0.5 P	<0.5 P	3 P	<0.5 P	<0.5 P
26-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.6 P	<0.5 P	<0.5 P
16-may-1991	BC	ag	U	0.8 P	<0.5 P	<0.5 P	<0.5 P	6.1 P	<0.5 P	<0.5 P
16-may-1991	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	2.9 P	<0.5 P	<0.4 P
12-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.2 P	<0.5 P	<0.5 P
28-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.4 P	<0.5 P	<0.5 P
30-jun-1992	BC	a	U	4.7 P	<0.5 P	<0.5 P	<0.5 P	24 P	<0.5 P	<0.5 P
12-oct-1992	BC	a	U	5.9 P	<0.5 P	<0.5 P	<0.5 P	27 P	1.3 P	<0.5 P
21-may-1993	BC	ah	V	1.1	<0.5 U	<0.5 U	<0.5 U	13	<0.5 U	<0.5 U
21-may-1993	BC	aeh	V	1.4	<0.5 U	<0.5 U	<0.5 U	15	<0.5 U	<0.5 U
22-nov-1993	CS	a	V	2.5	–	–	<0.5 U	16	0.6	<0.5 U
21-apr-1994	CS	a	V	1.8	–	–	<0.5 U	13	0.5	<0.5 U
03-aug-1994	CS	a	N	1.3	–	–	<0.5 U	10	<0.5 U	<0.5 U
W-873-01										
25-may-1988	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-jul-1988	BC	a	U	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
25-oct-1988	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-feb-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-jul-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-nov-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
21-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
26-jul-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-873-02										
08-jun-1988	BC	a	U	<0.5 P	–	–	<0.5 P	17 P	<0.5 P	<0.5 P
28-oct-1988	BC	a	U	1.2 P	–	–	<0.5 P	15 P	<0.5 P	<0.5 P
07-feb-1989	BC	a	U	2.2 P	–	–	<0.5 P	22 P	<0.5 P	<0.5 P
13-apr-1989	BC	a	U	<0.5 P	–	–	<0.5 P	17 P	<0.5 P	<0.5 P
18-jul-1989	BC	a	U	0.9 P	–	–	<0.5 P	20 P	<0.5 P	<0.5 P
20-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18 P	<0.5 P	<0.5 P
15-feb-1990	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16 P	<0.5 P	<0.5 P
15-feb-1990	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17 P	<0.5 P	<0.5 P
27-apr-1990	BC	a	U	0.6 P	<0.5 P	<0.5 P	<0.5 P	16 P	<0.5 P	<0.5 P
16-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14 P	<0.5 P	<0.5 P
06-nov-1990	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18 P	<0.5 P	<0.5 P
06-nov-1990	BC	ah	U	0.8 P	<0.5 P	<0.5 P	<0.5 P	17 P	<0.5 P	<0.5 P
12-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12 P	<0.5 P	<0.5 P
17-may-1991	BC	a	U	1.3 P	<0.5 P	<0.5 P	<0.5 P	28 P	<0.5 P	<0.5 P
13-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12 P	<0.5 P	<0.5 P
05-nov-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24 P	<0.5 P	<0.5 P
05-nov-1991	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22 P	<0.5 P	<0.5 P
11-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22 P	<0.5 P	<0.5 P
12-oct-1992	BC	a	U	1.8 P	<0.5 P	<0.5 P	<0.5 P	19 P	<0.5 P	<0.5 P
25-feb-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	20	<0.5 U	<0.5 U

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-872-01
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	23-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	09-jun-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	22-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	22-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	03-may-1994
						W-872-02
<0.5 P	<0.5 P	<0.5 P	6.5 P	<0.5 P	<0.5 P	08-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-feb-1991
<0.5 P	<0.5 P	<0.5 P	19 P	<0.5 P	<0.5 P	16-may-1991
<0.3 P	<0.5 P	<0.5 P	17 P	<0.6 P	<0.6 P	16-may-1991
<0.5 P	<0.5 P	<0.5 P	3 P	<0.5 P	<0.5 P	12-aug-1991
<0.5 P	<0.5 P	<0.5 P	13 P	<0.5 P	<0.5 P	28-oct-1991
<0.5 P	<0.5 P	<0.5 P	60 P	<0.5 P	<0.5 P	30-jun-1992
<0.5 P	<0.5 P	0.5 P	83 P	5.1 P	<0.5 P	12-oct-1992
<0.5 U	<0.5 U	<0.5 U	45	<1 U	<0.5 U	21-may-1993
<0.5 U	<0.5 U	<0.5 U	56	<1 U	<0.5 U	21-may-1993
<0.5 U	<0.5 U	<0.5 U	31	2.5	<0.5 U	22-nov-1993
<0.5 U	<0.5 U	<0.5 U	19	1	<0.5 U	21-apr-1994
<0.5 U	<0.5 U	<0.5 U	19	0.87	<0.5 U	03-aug-1994
						W-873-01
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-may-1988
<1 P	<1 P	<1 P	<1 P	–	<1 P	28-jul-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-oct-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-feb-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	18-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	21-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	26-jul-1994
						W-873-02
<0.5 P	<0.5 P	<0.5 P	9.8 P	<0.5 P	<0.5 P	08-jun-1988
<0.5 P	<0.5 P	<0.5 P	28 P	<0.5 P	<0.5 P	28-oct-1988
<0.5 P	<0.5 P	<0.5 P	67 P	<0.5 P	<0.5 P	07-feb-1989
<0.5 P	<0.5 P	<0.5 P	37 P	<0.5 P	<0.5 P	13-apr-1989
<0.5 P	<0.5 P	7.4 P	33 P	<0.5 P	<0.5 P	18-jul-1989
<0.5 P	<0.5 P	2.3 P	30 P	<0.5 P	<0.5 P	20-oct-1989
<0.5 P	<0.5 P	0.9 P	34 P	<0.5 P	<0.5 P	15-feb-1990
<0.5 P	<0.5 P	0.8 P	29 P	<0.5 P	<0.5 P	15-feb-1990
<0.5 P	<0.5 P	0.9 P	38 P	<0.5 P	<0.5 P	27-apr-1990
<0.5 P	<0.5 P	<0.5 P	34 P	<0.5 P	<0.5 P	16-aug-1990
<0.5 P	<0.5 P	0.6 P	40 P	<0.5 P	<0.5 P	06-nov-1990
<0.5 P	<0.5 P	1.2 P	44 P	<0.5 P	<0.5 P	06-nov-1990
<0.5 P	<0.5 P	0.6 P	28 P	<0.5 P	<0.5 P	12-feb-1991
<0.5 P	<0.5 P	0.9 P	66 P	<0.5 P	<0.5 P	17-may-1991
<0.5 P	<0.5 P	1.9 P	28 P	<0.5 P	<0.5 P	13-aug-1991
<0.5 P	<0.5 P	<0.5 P	28 P	<0.5 P	<0.5 P	05-nov-1991
<0.5 P	<0.5 P	<0.5 P	28 P	<0.5 P	<0.5 P	05-nov-1991
<0.5 P	<0.5 P	<0.5 P	37 P	<0.5 P	<0.5 P	11-jun-1992
<0.5 P	<0.5 P	0.94 P	34 P	<0.5 P	<0.5 P	12-oct-1992
<0.5 U	<0.5 U	0.93	45	<1 U	<0.5 U	25-feb-1993

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-873-02 (continued)										
20-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	12	<0.5 U	<0.5 U
20-may-1993	CL	a	V	<0.2 U	<0.4 U	<0.4 U	<0.4 U	12 P	<0.5 U	<0.4 U
22-feb-1994	CS	a	V	<0.5 U	–	–	<0.5 U	10	<0.5 U	<0.5 U
26-jul-1994	CS	a	V	<0.5 U	–	–	<0.5 U	7.4	<0.5 U	<0.5 U
W-873-03										
13-jun-1988	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-jun-1988	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-oct-1988	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-feb-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-apr-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-jul-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-feb-1991	CL	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-feb-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-oct-1992	BC	ac	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	37 P	<0.5 P	<0.5 P
20-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
22-feb-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
21-jul-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-873-04										
16-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.6 P	<0.5 P
28-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-nov-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
25-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
01-sep-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-873-06										
21-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	41 P	<0.5 P	<0.5 P
27-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	47 P	<0.5 P	<0.5 P
21-may-1991	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	61 P	<0.5 P	<0.5 P
21-may-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	55 P	<0.5 P	<0.5 P
12-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	39 P	<0.5 P	<0.5 P
12-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	63 P	<0.5 P	<0.5 P
11-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	37 P	<0.5 P	<0.5 P
12-oct-1992	BC	ac	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-feb-1993	BC	ah	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	43	<0.5 U	<0.5 U
25-feb-1993	BC	aeh	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	33	<0.5 U	<0.5 U
20-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	20	<0.5 U	<0.5 U
24-nov-1993	CS	a	V	<0.5 U	–	–	<0.5 U	23	<0.5 U	<0.5 U
15-jul-1994	CS	a	V	<0.5 U	–	–	<0.5 U	12	<0.5 U	<0.5 U
W-873-07										
20-nov-1990	BC	a	U	1.2 P	<0.5 P	<0.5 P	<0.5 P	8.5 P	<0.5 P	<0.5 P
27-feb-1991	BC	a	U	1 P	<0.5 P	<0.5 P	<0.5 P	8.5 P	<0.5 P	<0.5 P
17-may-1991	BC	a	U	<1 P	<1 P	<1 P	<1 P	10 P	<1 P	<1 P
13-aug-1991	BC	a	U	1 P	<0.5 P	<0.5 P	<0.5 P	10 P	<0.5 P	<0.5 P
06-nov-1991	BC	a	U	3 P	<0.5 P	<0.5 P	<0.5 P	15 P	<0.5 P	<0.5 P
10-jun-1992	BC	a	U	1.3 P	<0.5 P	<0.5 P	<0.5 P	11 P	<0.5 P	<0.5 P
12-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13 P	<0.5 P	<0.5 P
20-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	4.4	<0.5 U	<0.5 U
24-nov-1993	CS	a	V	<0.5 U	–	–	<0.5 U	5.4	<0.5 U	<0.5 U
25-jan-1994	CS	af	V	<0.5 U	–	–	<0.5 U	5.9	<0.5 U	<0.5 U
15-jul-1994	CS	af	V	<0.5 U	–	–	<0.5 U	7.1	<0.5 U	<0.5 U

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-873-02
<0.5 U	<0.5 U	<0.5 U	42	<1 U	<0.5 U	20-may-1993
<0.3 U	<0.5 U	<0.5 U	25 P	<0.6 U	<0.6 U	20-may-1993
<0.5 U	<0.5 U	<0.5 U	23	<0.5 U	<0.5 U	22-feb-1994
<0.5 U	<0.5 U	<0.5 U	18	<0.5 U	<0.5 U	26-jul-1994
						W-873-03
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-jun-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-jun-1988
<0.5 P	0.7 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-oct-1988
<0.5 P	1.2 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-feb-1989
<0.5 P	0.8 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-apr-1989
<0.5 P	0.5 P	4.8 P	<0.5 P	<0.5 P	<0.5 P	18-jul-1989
<0.5 P	<0.5 P	4 P	<0.5 P	<0.5 P	<0.5 P	20-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-feb-1990
<0.5 P	0.6 P	2.6 P	<0.5 P	<0.5 P	<0.5 P	27-apr-1990
<0.5 P	<0.5 P	1.8 P	<0.5 P	<0.5 P	<0.5 P	16-aug-1990
<0.5 P	0.5 P	5.9 P	<0.5 P	<0.5 P	<0.5 P	06-nov-1990
<0.5 P	0.6 P	4.4 P	<0.5 P	–	<0.5 P	12-feb-1991
<0.5 P	<0.5 P	5 P	<0.5 P	<0.5 P	<0.5 P	12-feb-1991
<0.5 P	<0.5 P	2.5 P	<0.5 P	<0.5 P	<0.5 P	14-may-1991
<0.5 P	0.9 P	0.6 P	<0.5 P	<0.5 P	<0.5 P	12-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-may-1992
<0.5 P	<0.5 P	<0.5 P	1.2 P	<0.5 P	<0.5 P	12-oct-1992
<0.5 U	1.4	<0.5 U	<0.5 U	<1 U	<0.5 U	20-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	21-jul-1994
						W-873-04
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	09-jun-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	25-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	01-sep-1994
						W-873-06
<0.5 P	<0.5 P	<0.5 P	2.5 P	<0.5 P	<0.5 P	21-nov-1990
<0.5 P	<0.5 P	<0.5 P	2 P	<0.5 P	<0.5 P	27-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-aug-1991
<0.5 P	<0.5 P	<0.5 P	0.7 P	<0.5 P	<0.5 P	12-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-jun-1992
<0.5 P	0.81 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-oct-1992
<0.5 U	<0.5 U	<0.5 U	1.5	<1 U	<0.5 U	25-feb-1993
<0.5 U	<0.5 U	<0.5 U	0.9	<1 U	<0.5 U	25-feb-1993
<0.5 U	<0.5 U	<0.5 U	1.5	<1 U	<0.5 U	20-may-1993
<0.5 U	<0.5 U	<0.5 U	0.6	<0.5 U	<0.5 U	24-nov-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-jul-1994
						W-873-07
<0.5 P	<0.5 P	<0.5 P	160 P	<0.5 P	<0.5 P	20-nov-1990
<0.5 P	<0.5 P	<0.5 P	84 P	<0.5 P	<0.5 P	27-feb-1991
<1 P	<1 P	<1 P	120 P	<1 P	<1 P	17-may-1991
<0.5 P	<0.5 P	<0.5 P	96 P	<0.5 P	<0.5 P	13-aug-1991
<0.5 P	<0.5 P	<0.5 P	140 P	<0.5 P	<0.5 P	06-nov-1991
<0.5 P	<0.5 P	<0.5 P	92 P	4 P	<0.5 P	10-jun-1992
<0.5 P	<0.5 P	<0.5 P	140 P	<0.5 P	<0.5 P	12-oct-1992
<0.5 U	<0.5 U	<0.5 U	57	<1 U	<0.5 U	20-may-1993
<0.5 U	<0.5 U	<0.5 U	29	<0.5 U	<0.5 U	24-nov-1993
<0.5 U	<0.5 U	<0.5 U	67 D	<0.5 U	<0.5 U	25-jan-1994
<0.5 U	<0.5 U	<0.5 U	84 D	<0.5 U	<0.5 U	15-jul-1994

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-875-01										
25-oct-1988	BC	a	U	<1 P	–	–	1.1 P	110 P	3 P	<1 P
10-feb-1989	BC	a	U	<0.5 P	–	–	<0.5 P	88 P	2.9 P	<0.5 P
20-apr-1989	BC	af	U	<1 P	–	–	88 P	120 P	3.4 P	<1 P
18-jul-1989	BC	af	U	<1 P	–	–	<1 P	180 P	6.5 P	<1 P
18-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	110 P	6.2 P	<0.5 P
13-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	69 P	3.1 P	<0.5 P
16-may-1990	BC	a	U	<0.5 P	0.8 P	<0.5 P	0.8 P	75 P	3.7 P	<0.5 P
16-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	110 P	5 P	<0.5 P
06-nov-1990	BC	afg	U	<1 P	<1 P	<1 P	<1 P	110 P	4 P	<1 P
06-nov-1990	CL	ag	U	<1 P	<2 P	<2 P	<2 P	120 P	4 P	<2 P
07-mar-1991	BC	af	U	<1 P	<1 P	<1 P	<1 P	96 P	4 P	<1 P
21-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	90 P	3.4 P	<0.5 P
14-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	93 P	4.4 P	<0.5 P
12-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	91 P	4.4 P	<0.5 P
30-jun-1992	BC	afg	U	<1 P	<1 P	<1 P	<1 P	190 P	<1 P	<1 P
30-jun-1992	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	87 P	3 P	<0.4 P
08-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	110 P	5.5 P	<0.5 P
21-may-1993	BC	a	V	<0.5 U	0.7	<0.5 U	0.7	120	3.5	<0.5 U
22-feb-1994	CS	a	V	<0.5 U	–	–	22	29	1.3	<0.5 U
03-aug-1994	CS	af	N	<0.5 U	–	–	0.87	83 D	3.2	<0.5 U
W-875-02										
13-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.3 P	<0.5 P	<0.5 P
13-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.5 P	<0.5 P	<0.5 P
14-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.2 P	<0.5 P	<0.5 P
20-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1 P	<0.5 P	<0.5 P
01-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
21-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
05-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	1	<0.5 U	<0.5 U
24-nov-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
26-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
04-may-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
24-aug-1994	CS	a	N	<0.5 U	–	–	<0.5 U	1	<0.5 U	<0.5 U
W-875-03										
13-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.9 P	<0.5 P	<0.5 P
27-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2 P	<0.5 P	<0.5 P
17-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.8 P	<0.5 P	<0.5 P
13-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.4 P	<0.5 P	<0.5 P
14-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.1 P	<0.5 P	<0.5 P
17-may-1991	BC	a	U	<0.5 P	0.7 P	<0.5 P	0.7 P	2.6 P	<0.5 P	<0.5 P
20-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.1 P	<0.5 P	<0.5 P
06-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.6 P	<0.5 P	<0.5 P
12-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.9 P	<0.5 P	<0.5 P
08-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	46 P	2.4 P	<0.5 P
21-may-1993	BC	aeh	V	0.52	1	<0.5 U	1	81	4.3	<0.5 U
21-may-1993	BC	ah	V	0.6	0.89	<0.5 U	0.89	86	3.8	<0.5 U
28-jul-1993	CS	af	V	<2.5 DU	–	–	<2.5 U	170 D	8.5 D	<2.5 DU
08-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	17	1.3	<0.5 U
22-feb-1994	CS	af	V	1	–	–	2	85 D	3.6	<0.5 U
04-may-1994	CS	af	V	<0.5 U	–	–	0.8	60 D	2.4	<0.5 U
W-875-04										
13-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.4 P	<0.5 P	<0.5 P
08-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.9 P	<0.5 P	<0.5 P

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						W-875-01
<1 P	<1 P	1.4 P	<1 P	<1 P	<1 P	25-oct-1988
<0.5 P	<0.5 P	0.7 P	<0.5 P	<0.5 P	<0.5 P	10-feb-1989
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	20-apr-1989
<1 P	<1 P	1 P	<1 P	<1 P	<1 P	18-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-feb-1990
<0.5 P	<0.5 P	0.7 P	<0.5 P	<0.5 P	<0.5 P	16-may-1990
<0.5 P	<0.5 P	0.7 P	<0.5 P	<0.5 P	<0.5 P	16-aug-1990
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	06-nov-1990
<2 P	<3 P	<3 P	<2 P	<3 P	<3 P	06-nov-1990
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	07-mar-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-nov-1991
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	30-jun-1992
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	30-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	21-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	03-aug-1994
						W-875-02
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	23-mar-1993
<0.5 U	<0.5 U	20	<0.5 U	<1 U	<0.5 U	21-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	05-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	24-nov-1993
2.6	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	26-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	04-may-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	24-aug-1994
						W-875-03
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	21-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	21-may-1993
<2.5 DU	<2.5 DU	<2.5 DU	<2.5 DU	<2.5 DU	<2.5 DU	28-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	08-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	04-may-1994
						W-875-04
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-dec-1992

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-875-04 (continued)										
20-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	1.7	<0.5 U	<0.5 U
18-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
28-jul-1993	CS	a	V	<0.5 U	-	-	<0.5 U	2.1	<0.5 U	<0.5 U
08-dec-1993	CS	a	V	<0.5 U	-	-	<0.5 U	1.1	<0.5 U	<0.5 U
22-feb-1994	CS	a	V	<0.5 U	-	-	<0.5 U	0.9	<0.5 U	<0.5 U
04-may-1994	CS	a	V	<0.5 U	-	-	<0.5 U	1.4	<0.5 U	<0.5 U
02-sep-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-875-05										
13-feb-1990	BC	a	U	<1 P	-	-	<1 P	<1 P	<1 P	<1 P
27-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-nov-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
24-nov-1993	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
25-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
01-sep-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-875-06										
16-jun-1992	BC	a	U	1.5 P	6.4 P	<0.5 P	6.4 P	39 P	<0.5 P	<0.5 P
08-dec-1992	BC	a	U	0.56 P	4.3 P	<0.5 P	<4.3 P	37 P	<0.5 P	<0.5 P
23-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	16	<0.5 U	<0.5 U
28-jul-1993	CS	a	V	<0.5 U	-	-	2.2	18	<0.5 U	<0.5 U
09-dec-1993	CS	a	V	<0.5 U	-	-	3.2	31	<0.5 U	<0.5 U
22-feb-1994	CS	a	V	<0.5 U	-	-	1.7	13	<0.5 U	<0.5 U
02-sep-1994	CS	aj	V	<0.5 U	-	-	1.5	26	<0.5 U	<0.5 U
W-875-07										
12-jun-1992	BC	af	U	800 P	<500 P	<500 P	<500 P	64000 P	6400 P	<500 P
26-mar-1993	BC	af	V	520 D	910 D	<500 DU	910 D	57000 D	3200 D	<500 DU
17-may-1993	BC	af	V	<500 DU	<500 DU	<500 DU	<500 DU	59000 D	4200 D	<500 DU
18-jun-1993	BC	a	V	420 L	480 J	29	510	78000	3600	38
16-jul-1993	CS	af	V	<5000 DU	-	-	<5000 U	120000 D	13000 D	<5000 DU
03-nov-1993	CS	af	V	<1000 DU	-	-	<1000 DU	13000 D	1100 D	<1000 DU
W-875-08										
08-dec-1992	BC	af	U	<20 P	43 P	<20 P	43 P	3900 P	620 P	<20 P
26-mar-1993	BC	af	V	<10 DU	<10 DU	<10 DU	<10 DU	800 D	69 D	<10 DU
17-may-1993	BC	af	V	120 D	<100 DU	<100 DU	<100 DU	15000 D	1600 D	<100 DU
18-jun-1993	BC	a	V	160 L	280 J	8.7	290	26000	2000	6.7
16-jul-1993	CS	af	V	<1200 DU	-	-	<1200 U	26000 D	3600 D	<1200 DU
01-nov-1993	CS	af	V	<100 UD	-	-	<100 UD	4600 D	580 D	<100 UD
23-feb-1994	CS	af	V	8.5 D	-	-	30 D	910 D	120 D	<5 DU
12-aug-1994	CS	af	N	<100 DU	-	-	<100 DU	2800 D	440 D	<100 DU
W-875-09										
08-dec-1992	BC	af	U	110 P	180 P	<100 P	180 P	12000 P	1700 P	<100 P
26-mar-1993	BC	af	V	<30 DU	57 D	<30 DU	57 D	4000 D	670 D	<30 DU
17-may-1993	BC	af	V	<100 DU	<100 DU	<100 DU	<100 DU	14000 D	1700 D	<100 DU
18-jun-1993	BC	a	V	350 L	400 J	32	430	55000	3300	26
16-jul-1993	CS	af	V	<1200 DU	-	-	<1200 U	29000 D	4100 D	<1200 DU
01-nov-1993	CS	af	V	<130 UD	-	-	<130 UD	5500 D	770 D	<130 UD
W-875-10										
26-mar-1993	BC	af	V	<100 DU	<100 DU	<100 DU	<100 DU	11000 D	1400 D	<100 DU
17-may-1993	BC	af	V	<500 DU	<500 DU	<500 DU	<500 DU	66000 D	6500 D	<500 DU
18-jun-1993	BC	a	V	180 L	200 J	11	210	46000	3800	9.4
16-jul-1993	CS	af	V	<1200 DU	-	-	<1200 U	14000 D	1400 D	<1200 DU
02-nov-1993	CS	a	V	<130 U	-	-	<130 U	9100	830	<130 U
12-aug-1994	CS	af	N	<50 DU	-	-	<50 DU	970 D	130 D	<50 DU

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-875-04
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	20-apr-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	18-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	28-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	08-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	04-may-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-sep-1994
						W-875-05
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	13-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	21-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	24-nov-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	25-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	01-sep-1994
						W-875-06
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	23-jun-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	28-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-sep-1994
						W-875-07
<500 P	500 P	<500 P	<500 P	<500 P	<500 P	12-jun-1992
<500 DU	<500 DU	<500 DU	<500 DU	<1000 DU	<500 DU	26-mar-1993
<500 DU	740 D	<500 DU	<500 DU	<1000 DU	<500 DU	17-may-1993
39	970	38	<0.5 U	<1 U	<0.5 U	18-jun-1993
<5000 DU	<5000 DU	<5000 DU	<5000 DU	<5000 DU	<5000 DU	16-jul-1993
<1000 DU	<1000 DU	<1000 DU	<1000 DU	<1000 DU	<1000 DU	03-nov-1993
						W-875-08
<20 P	<20 P	<20 P	<20 P	<40 P	<20 P	08-dec-1992
<10 DU	<10 DU	<10 DU	<10 DU	<20 DU	<10 DU	26-mar-1993
<100 DU	160 D	<100 DU	<100 DU	<200 DU	<100 DU	17-may-1993
8	190	13	<0.5 U	<1 U	<0.5 U	18-jun-1993
<1200 DU	<1200 DU	<1200 DU	<1200 DU	<1200 DU	<1200 DU	16-jul-1993
<100 UD	<100 UD	<100 UD	<100 UD	<100 UD	<100 UD	01-nov-1993
<5 DU	<5 DU	<5 DU	<5 DU	<5 DU	<5 DU	23-feb-1994
<100 DU	<100 DU	<100 DU	<100 DU	<100 DU	<100 DU	12-aug-1994
						W-875-09
<100 P	<100 P	<100 P	<100 P	<200 P	<100 P	08-dec-1992
<30 DU	<30 DU	<30 DU	<30 DU	<50 DU	<30 DU	26-mar-1993
<100 DU	140 D	<100 DU	<100 DU	<200 DU	<100 DU	17-may-1993
21	250	26	<0.5 U	<1 U	<0.5 U	18-jun-1993
<1200 DU	<1200 DU	<1200 DU	<1200 DU	<1200 DU	<1200 DU	16-jul-1993
<130 UD	<130 UD	<130 UD	<130 UD	<130 UD	<130 UD	01-nov-1993
						W-875-10
<100 DU	220 D	<100 DU	<100 DU	<200 DU	<100 DU	26-mar-1993
<500 DU	1000 D	<500 DU	<500 DU	<1000 DU	<500 DU	17-may-1993
21	540	21	<0.5 U	<1 U	<0.5 U	18-jun-1993
<1200 DU	<1200 DU	<1200 DU	<1200 DU	<1200 DU	<1200 DU	16-jul-1993
<130 U	<130 U	<130 U	<130 U	<130 U	<130 U	02-nov-1993
<50 DU	<50 DU	<50 DU	<50 DU	<50 DU	<50 DU	12-aug-1994

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-875-11										
08-dec-1992	BC	af	U	69 P	<50 P	<50 P	<50 P	8100 P	620 P	<50 P
26-mar-1993	BC	af	V	<50 DU	<50 DU	<50 DU	<50 DU	3300 D	160 D	<50 DU
17-may-1993	BC	af	V	110 D	120 D	<100 DU	120 D	14000 D	1200 D	<100 DU
18-jun-1993	BC	af	V	<100 DU	<100 DU	<100 DU	<100 DU	9200 D	530 DO	<100 DU
16-jul-1993	CS	af	V	<1200 DU	–	–	<1200 U	15000 D	1500 D	<1200 DU
03-nov-1993	CS	a	V	<250 U	–	–	<250 U	7400	510	<250 U
12-aug-1994	CS	af	N	<50 DU	–	–	<50 DU	2400 D	170 D	<50 DU
W-875-15										
26-mar-1993	BC	af	V	<50 DU	<50 DU	<50 DU	<50 DU	5200 D	460 D	<50 DU
17-may-1993	BC	af	V	<50 DU	130 D	<50 DU	130 D	7300 D	1000 D	<50 DU
18-jun-1993	BC	af	V	<300 DU	<300 DU	<300 DU	<300 DU	31000 D	1200 D	<300 DU
16-jul-1993	CS	af	V	<1200 DU	–	–	<1200 U	27000 D	2200 D	<1200 DU
03-nov-1993	CS	a	V	<250 U	–	–	<250 U	6700	590	<250 U
W-876-01										
13-feb-1990	BC	a	U	<0.5 P	3.4 P	<0.5 P	3.4 P	1.4 P	<0.5 P	<0.5 P
27-apr-1990	BC	a	U	<0.5 P	1.8 P	<0.5 P	1.8 P	71 P	<0.5 P	<0.5 P
12-jun-1990	BC	agh	U	<0.5 P	4.2 P	<0.5 P	4.2 P	51 P	<0.5 P	<0.5 P
12-jun-1990	BC	aegh	U	<0.5 P	4.3 P	<0.5 P	4.3 P	46 P	<0.5 P	<0.5 P
12-jun-1990	CL	ag	U	<0.2 P	2.5 P	<0.4 P	2.5 P	39 P	<0.5 P	<0.4 P
22-aug-1990	BC	agh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	58 P	<0.5 P	<0.5 P
22-aug-1990	BC	agh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	56 P	<0.5 P	<0.5 P
22-aug-1990	CL	afg	U	<1 P	<2 P	<2 P	<2 P	43 P	<3 P	<2 P
08-nov-1990	BC	a	U	<0.5 P	12 P	<0.5 P	12 P	5.9 P	<0.5 P	<0.5 P
14-feb-1991	BC	aeh	U	<0.5 P	11 P	<0.5 P	11 P	3.4 P	<0.5 P	<0.5 P
14-feb-1991	BC	ah	U	<0.5 P	9.7 P	<0.5 P	9.7 P	3.2 P	<0.5 P	<0.5 P
16-may-1991	BC	a	U	<0.5 P	5.2 P	<0.5 P	5.2 P	70 P	<0.5 P	<0.5 P
14-aug-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	44 P	<0.5 P	<0.5 P
14-aug-1991	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	45 P	<0.5 P	<0.5 P
06-nov-1991	BC	a	U	<0.5 P	7 P	<0.5 P	7 P	18 P	<0.5 P	<0.5 P
30-jun-1992	BC	ag	U	<0.5 P	1.1 P	<0.5 P	1.1 P	46 P	<0.5 P	<0.5 P
30-jun-1992	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	26 P	<0.5 P	<0.4 P
12-oct-1992	BC	a	U	<0.5 P	1.3 P	<0.5 P	1.3 P	23 P	<0.5 P	<0.5 P
21-may-1993	BC	a	V	<0.5 U	0.85	<0.5 U	0.85	33	<0.5 U	<0.5 U
23-feb-1994	CS	a	V	<0.5 U	–	–	0.7	9.5	<0.5 U	<0.5 U
03-aug-1994	CS	a	N	<0.5 U	–	–	5.1	2.2	<0.5 U	<0.5 U
W-879-01										
20-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
25-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
26-jul-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-889-01										
17-jun-1988	BC	a	U	<0.5	–	–	<0.5	1.5	<0.5	<0.5
24-oct-1988	BC	a	U	<0.5 P	–	–	<0.5 P	2.3 P	<0.5 P	<0.5 P
07-feb-1989	BC	a	U	<0.5 P	–	–	<0.5 P	3.3 P	<0.5 P	<0.5 P
13-apr-1989	BC	a	U	<0.5 P	–	–	<0.5 P	2.2 P	<0.5 P	<0.5 P
06-jul-1989	BC	a	U	<0.5 P	–	–	<0.5 P	2.9 P	<0.5 P	<0.5 P
10-oct-1989	BC	a	U	<0.5 P	–	–	<0.5 P	2.1 P	<0.5 P	<0.5 P
14-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.8 P	<0.5 P	<0.5 P
27-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.1 P	<0.5 P	<0.5 P
17-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.1 P	<0.5 P	<0.5 P
02-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.7 P	<0.5 P	<0.5 P
12-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.1 P	<0.5 P	<0.5 P
15-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.9 P	<0.5 P	<0.5 P
11-sep-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2 P	<0.5 P	<0.5 P
11-sep-1991	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	1.9 P	<0.5 P	<0.4 P
06-nov-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.6 P	<0.5 P	<0.5 P

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						W-875-11
<50 P	63 P	<50 P	<50 P	<100 P	<50 P	08-dec-1992
<50 DU	<50 DU	<50 DU	<50 DU	<100 DU	<50 DU	26-mar-1993
<100 DU	200 D	<100 DU	<100 DU	<200 DU	<100 DU	17-may-1993
<100 DU	<100 DU	<100 DU	<100 DU	<200 DU	<100 DU	18-jun-1993
<1200 DU	<1200 DU	<1200 DU	<1200 DU	<1200 DU	<1200 DU	16-jul-1993
<250 U	<250 U	<250 U	<250 U	<250 U	<250 U	03-nov-1993
<50 DU	<50 DU	<50 DU	<50 DU	<50 DU	<50 DU	12-aug-1994
						W-875-15
<50 DU	<50 DU	<50 DU	<50 DU	<100 DU	<50 DU	26-mar-1993
<50 DU	120 D	<50 DU	<50 DU	<100 DU	<50 DU	17-may-1993
<300 DU	<300 DU	<300 DU	<300 DU	<500 DU	<300 DU	18-jun-1993
<1200 DU	<1200 DU	<1200 DU	<1200 DU	<1200 DU	<1200 DU	16-jul-1993
<250 U	<250 U	<250 U	<250 U	<250 U	<250 U	03-nov-1993
						W-876-01
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-jun-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-jun-1990
<0.3 P	<0.5 P	<0.5 P	<0.4 P	7.9 P	<0.6 P	12-jun-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-aug-1990
<2 P	<3 P	<3 P	<2 P	<3 P	<3 P	22-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-jun-1992
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	30-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	21-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	23-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	03-aug-1994
						W-879-01
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	23-jun-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	25-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	26-jul-1994
						W-889-01
<0.5	<0.5	<0.5	<0.5	0.7 B	<0.5	17-jun-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-oct-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-feb-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-sep-1991
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	11-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-nov-1991

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1- DCE	cis- 1,2- DCE	trans- 1,2- DCE	Total 1,2- DCE	TCE	PCE	1,1- DCA
GSA Study Area and Offsite (continued)										
W-889-01 (continued)										
06-nov-1991	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	2 P	<0.5 P	<0.4 P
30-jun-1992	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.8 P	<0.5 P	<0.5 P
30-jun-1992	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10 P	<0.5 P	<0.5 P
18-nov-1992	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15 P	<0.5 P	<0.5 P
18-nov-1992	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	5.6 P	<0.5 P	<0.4 P
07-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	23	<0.5 U	<0.5 U
07-may-1993	CL	a	V	<0.2 U	<0.4 U	<0.4 U	<0.4 U	20 P	<0.5 U	<0.4 U
08-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	16	<0.5 U	<0.5 U
22-feb-1994	CS	ag	V	<0.5 U	–	–	<0.5 U	9.5	<0.5 U	<0.5 U
22-feb-1994	GT	ag	V	<0.5 U	–	–	<0.5 U	9	<0.5 U	<0.5 U
08-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	11	<0.5 U	<0.5 U
WELL07										
25-aug-1982	BC	a	U	–	–	–	–	52 P	–	–
10-sep-1982	BC	ah	U	–	–	–	–	7 P	–	–
10-sep-1982	BC	ah	U	<1 P	–	–	<1 P	5 P	<1 P	<1 P
22-sep-1982	BC	a	U	–	–	–	–	<0.5 P	–	–
19-oct-1982	BC	a	U	–	–	–	–	5.3 P	–	–
16-dec-1982	BC	a	U	–	–	–	–	3.1 P	–	–
24-feb-1983	BC	a	U	–	–	–	–	1.7 P	–	–
24-mar-1983	BC	a	U	–	–	–	–	0.9 P	–	–
02-may-1983	BC	a	U	–	–	–	–	2.1 P	–	–
02-jun-1983	BC	a	U	–	–	–	–	4 P	–	–
30-jun-1983	BC	a	U	–	–	–	–	2.8 P	–	–
03-aug-1983	BC	a	U	–	–	–	–	3.3 P	–	–
06-mar-1985	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-may-1985	BC	b	N	–	–	–	–	2 P	–	–
08-may-1985	BC	b	N	<1 P	–	–	<1 P	–	<1 P	<1 P
24-jun-1986	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-jul-1986	BC	a	U	<0.5 P	–	–	<0.5 P	20 P	<0.5 P	<0.5 P
14-aug-1986	BC	b	N	<1 P	–	–	<1 P	15 P	<1 P	<1 P
19-nov-1986	BC	a	U	<0.5 P	–	–	1 P	16 P	0.8 P	<0.5 P
17-mar-1987	BC	a	U	<0.5 P	–	–	<0.5 P	17 P	<0.5 P	<0.5 P
21-may-1987	BC	b	N	<0.5 P	–	–	0.7 P	13 P	0.5 P	<0.5 P
24-jun-1987	BC	a	U	<1 P	–	–	<1 P	10 P	<1 P	<1 P
16-jul-1987	BC	b	N	<1 P	–	–	<1 P	14 P	<1 P	<1 P
08-oct-1987	BC	b	N	<1 P	–	–	<1 P	28 P	2 P	<1 P
04-feb-1988	BC	b	N	<1 P	–	–	<1 P	21 P	1 P	<1 P
12-may-1988	BC	bh	N	<1 P	–	–	<1 P	26 P	1 P	<1 P
12-may-1988	BC	bh	N	<1 P	–	–	<1 P	21 P	1 P	<1 P
18-aug-1988	BC	b	N	<1 P	–	–	<1 P	26 P	1 P	<1 P
12-oct-1988	BC	b	N	<0.5 P	–	–	<0.5 P	29 P	0.8 P	<0.5 P
WELL19										
24-jun-1986	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-jul-1986	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-jul-1986	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-aug-1986	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
19-nov-1986	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-mar-1987	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-may-1987	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-jun-1987	BC	a	U	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
17-jul-1987	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
08-oct-1987	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
04-feb-1988	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
28-apr-1988	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
10-may-1988	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
26-jul-1988	BC	b	N	<1 P	–	–	<1 P	<1 P	1 P	<1 P
17-aug-1988	BC	bh	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
17-aug-1988	BC	bh	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
11-oct-1988	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-nov-1988	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
29-dec-1988	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-jan-1989	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-mar-1989	BC	b	N	<0.5 P	–	–	<0.5 P	0.6 P	<0.5 P	<0.5 P
12-apr-1989	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-may-1989	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-jun-1989	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-889-01
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	06-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-nov-1992
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	18-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	07-may-1993
<0.3 U	<0.5 U	<0.5 U	<0.4 U	<0.6 U	<0.6 U	07-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	08-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-feb-1994
1	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	22-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	08-aug-1994
						WELL07
–	–	–	–	–	–	25-aug-1982
–	–	–	–	–	–	10-sep-1982
<1 P	<1 P	<1 P	<1 P	–	<1 P	10-sep-1982
–	–	–	–	–	–	22-sep-1982
–	–	–	–	–	–	19-oct-1982
–	–	–	–	–	–	16-dec-1982
–	–	–	–	–	–	24-feb-1983
–	–	–	–	–	–	24-mar-1983
–	–	–	–	–	–	02-may-1983
–	–	–	–	–	–	02-jun-1983
–	–	–	–	–	–	30-jun-1983
–	–	–	–	–	–	03-aug-1983
<0.5 P	<0.5 P	3.7 P	<0.5 P	–	<0.5 P	06-mar-1985
–	–	–	–	–	–	08-may-1985
<1 P	<1 P	<1 P	<1 P	–	<1 P	08-may-1985
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-jun-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-jul-1986
<1 P	<1 P	<1 P	<1 P	–	<1 P	14-aug-1986
<0.5 P	<0.5 P	0.7 P	<0.5 P	<0.5 P	<0.5 P	19-nov-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-mar-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-may-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	24-jun-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	16-jul-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	08-oct-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	04-feb-1988
<1 P	<1 P	<1 P	<1 P	–	<1 P	12-may-1988
<1 P	<1 P	<1 P	<1 P	–	<1 P	12-may-1988
<1 P	<1 P	<1 P	<1 P	–	<1 P	18-aug-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-oct-1988
						WELL19
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-jun-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-jul-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-jul-1986
<1 P	<1 P	<1 P	<1 P	–	<1 P	14-aug-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-nov-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-mar-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-may-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	24-jun-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	17-jul-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	08-oct-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	04-feb-1988
<1 P	<1 P	<1 P	<1 P	–	<1 P	28-apr-1988
<1 P	<1 P	<1 P	<1 P	–	<1 P	10-may-1988
<1 P	<1 P	<1 P	<1 P	–	<1 P	26-jul-1988
<1 P	<1 P	<1 P	<1 P	–	<1 P	17-aug-1988
<1 P	<1 P	<1 P	<1 P	–	<1 P	17-aug-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-oct-1988
<1 P	<1 P	<1 P	<1 P	–	<1 P	28-nov-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-dec-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-jan-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-mar-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-may-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-jun-1989

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
WELL19 (continued)										
06-jul-1989	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-aug-1989	BC	b	N	<0.5 P	–	–	<0.5 P	1.1 P	<0.5 P	<0.5 P
18-aug-1989	BC	bg	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-aug-1989	CL	bg	N	<0.2 P	–	<0.4 P	<0.4 P	<0.3 P	<0.5 P	<0.4 P
30-nov-1989	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.6 P	<0.5 P	<0.5 P
30-nov-1989	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	<0.3 P	<0.5 P	<0.4 P
19-dec-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-jan-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
SPRING1										
19-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-sep-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
27-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
SPRING2										
16-dec-1982	BC	a	U	–	–	–	–	<0.5 P	–	–
04-may-1983	BC	a	U	–	–	–	–	<0.5 P	–	–
19-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-sep-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
27-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
GEOCRK										
22-may-1987	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
17-jul-1987	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
10-may-1988	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
09-oct-1989	BC	a	U	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
02-oct-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-jan-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	<0.2 P	<0.2 P
02-sep-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) WELL19
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-aug-1989
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	18-aug-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-nov-1989
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	30-nov-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-dec-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-jan-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-feb-1990
						SPRING1
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-nov-1991
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-sep-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jan-1994
						SPRING2
–	–	–	–	–	–	16-dec-1982
–	–	–	–	–	–	04-may-1983
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-nov-1991
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-sep-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jan-1994
						GEOCRK
<1 P	<1 P	<1 P	<1 P	–	<1 P	22-may-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	17-jul-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	10-may-1988
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	09-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-oct-1990
<0.2 P	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	15-jan-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-sep-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-apr-1994

See following page for notes

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services Area (GSA) of Site 300. Results recorded by 17-nov-1994.

Notes:

- Indicates no analysis performed for this compound.

Footnotes

a ERD data
b EMAD data
c Analytical results for this sample are suspect
d Sample taken during hydraulic testing
e Blind sample, sent to lab without well identity
f Sample dilution necessary for analysis; detection limits increased
g Interlaboratory collocated sample
h Intralaboratory collocated sample
i Sample collected as part of pilot study
j Note may contain important information regarding this sample
k Pre-development sample
l Norm_month, norm_qtr or norm_year inconsistent with sample date
n Sample analyzed after standard holding time

Lab Codes

BC Brown and Caldwell, Emeryville, CA
CH Characterization Labs-Chemistry, LLNL, Livermore, CA.
CL Clayton Environmental Consultants, Pleasanton, CA.
CS California Laboratory Services, Rancho Cordova, CA.
GT Groundwater Technology Environmental Labs, Concord, CA.

Validation Codes

V Validated
N Not validated(default value)
U Undeclared
H Historical comparison only

CLP flags (follows result)

B Analyte detected in method blank
C The analytical results for this sample are not in agreement with the intra or interlaboratory collocated sample results and the historical data
D Analysis performed at a secondary dilution or concentration (i.e. vapor samples
E Concentration exceeds calibration range
F Analyte detected in field blank
H Sample analyzed outside of the holding time; sample results should be rejected
J The analyte was postively identified; the associated numerical value is the approximate concentration of the analyte
L Spike accuracy not within control limits
O Duplicate spike precision not within control limits
P The absence of a data qualifier flag does not mean that the data does not need qualification, but that the implementation of electronic data qualifier flags was not yet established
R Sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria; the presence or absence of the analyte cannot be verified
S The analytical results for this sample are suspect
T Analyte is tentatively identified compound; result is approximate
U Compound was analyzed for, but not detected above detection limit

Appendix A
Section A-2.2

Ground and Surface Water Analyses for Volatile Organic Compounds (BTEX) Sampled Before September 31, 1994, and Recorded by November 17, 1994

Ground and surface water analyses for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-nov-1994.

Site 300 BTEX compounds in Ground Water
18-nov-1994

Ground and surface water analyses for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-nov-1994.

GSA Study Area and Offsite

Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl-benzene	Total Xylenes
CDF1							
21-may-1987	BC	bh	N	<1 P	<1 P	<1 P	–
21-may-1987	BC	beh	N	<1 P	<1 P	<1 P	–
26-jul-1988	BC	b	N	<1 P	<1 P	<1 P	–
06-jul-1989	BC	b	N	<1 P	<1 P	<1 P	–
26-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-aug-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-jan-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–
29-apr-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–
22-jul-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–
26-oct-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-jan-1993	BC	b	N	<0.2 U	<0.2 U	<0.2 U	–
19-feb-1993	BC	a	V	<0.2 P	<0.2 P	<0.2 P	–
19-feb-1993	CL	a	V	<0.5 P	<0.5 P	<0.5 P	–
12-mar-1993	BC	a	V	<0.2 U	<0.2 U	<0.2 U	–
12-mar-1993	CL	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
05-may-1993	BC	b	N	<0.2 U	<0.2 U	<0.2 U	–
28-jul-1993	CS	b	N	<1 U	<1 U	<1 U	–
13-aug-1993	CS	a	V	<1 U	<1 U	<1 U	–
13-oct-1993	CS	b	N	<1 U	<1 U	<1 U	–
20-jan-1994	CS	b	N	<1 U	<1 U	<1 U	–
07-apr-1994	CS	b	N	<0.2 U	<0.2 U	<0.2 U	–
17-aug-1994	CS	b	N	<0.2 U	<0.2 U	<0.2 U	–
CON1							
26-jul-1988	BC	bh	N	<1 P	<1 P	<1 P	–
26-jul-1988	BC	beh	N	<1 P	<1 P	<1 P	–
06-jul-1989	BC	b	N	<1 P	<1 P	<1 P	–
26-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-aug-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-jan-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–
29-apr-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–
22-jul-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–
26-oct-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-jan-1993	BC	b	N	<0.2 U	<0.2 U	<0.2 U	–
19-feb-1993	BC	a	V	<0.2 P	<0.2 P	<0.2 P	–
19-feb-1993	CL	a	V	<0.5 P	<0.5 P	<0.5 P	–
12-mar-1993	BC	a	V	<0.2 U	<0.2 U	<0.2 U	–
12-mar-1993	CL	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
05-may-1993	BC	b	N	<0.2 U	<0.2 U	<0.2 U	–
28-jul-1993	CS	b	N	<1 U	<1 U	<1 U	–
13-aug-1993	CS	a	V	<1 U	<1 U	<1 U	–
13-oct-1993	CS	bh	N	<1 U	<1 U	<1 U	–
13-oct-1993	CS	beh	N	<1 U	<1 U	<1 U	–
12-jan-1994	CS	bh	N	<1 U	<1 U	<1 U	–
12-jan-1994	CS	beh	N	<1 U	<1 U	<1 U	–
07-apr-1994	CS	b	N	<0.2 U	<0.2 U	<0.2 U	–
17-aug-1994	CS	b	N	<0.2 U	<0.2 U	<0.2 U	–
CON2							
02-may-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
26-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jun-1992	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jun-1992	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-feb-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
19-nov-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
16-dec-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U

Ground and surface water analyses for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-nov-1994.

Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
CON2 (continued)							
13-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
GALLO2							
09-jun-1987	BC	bh	N	<1 P	<1 P	<1 P	–
09-nov-1988	BC	b	N	<1 P	<1 P	<1 P	1 P
16-aug-1993	CS	a	V	<1 U	<1 U	<1 U	–
W-24P-03							
16-sep-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
W-25M-01							
20-dec-1989	BC	a	U	<0.2 P	<0.2 P	<0.2 P	<0.2 P
15-may-1990	BC	ag	U	<0.5 P	1 P	<0.5 P	3.3 P
15-may-1990	CL	afg	U	<2 P	<2 P	<3 P	<3 P
07-aug-1990	BC	aegh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-aug-1990	BC	agh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-aug-1990	CL	ag	U	<2 P	<2 P	<3 P	<3 P
30-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
20-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25M-02							
25-feb-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-jul-1994	CS	a	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-25M-03							
21-dec-1989	BC	a	U	<0.2 P	<0.2 P	<0.2 P	<0.2 P
25-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	1 P
24-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-feb-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
23-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25N-01							
26-jul-1988	BC	a	U	<1 P	<1 P	<1 P	–
27-feb-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-feb-1991	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
07-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
02-dec-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
14-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-25N-04							
04-nov-1988	BC	a	U	<1 P	<1 P	<1 P	<1 P
27-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-nov-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-nov-1991	CL	ag	U	<0.4 P	<0.3 P	<0.3 P	<0.4 P
15-jun-1992	BC	a	N	<0.5 HU	<0.5 HU	<0.5 HU	<0.5 HU
W-25N-05							
17-jan-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
07-feb-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
25-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P

Ground and surface water analyses for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-nov-1994.

Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
W-25N-05 (continued)							
10-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
23-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
03-dec-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
14-apr-1994	GT	ag	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-apr-1994	CS	ag	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-25N-06							
17-jan-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
07-feb-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
27-feb-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
W-25N-07							
03-may-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
03-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
24-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25N-08							
15-dec-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
27-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-oct-1992	BC	a	U	<0.5 P	0.89 P	<0.5 P	1.7 P
10-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
30-nov-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
14-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-25N-09							
14-dec-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
27-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
30-nov-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
14-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-25N-10							
08-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
W-25N-11							
12-jun-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-apr-1994	CS	a	V	<1 U	<1 U	<1 U	<2 U
27-jul-1994	CS	a	N	<1 U	<1 U	<1 U	<2 U
W-25N-12							
07-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-mar-1993	BC	a	V	<0.2 U	<0.2 U	<0.2 U	–
08-mar-1993	CL	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
24-may-1993	BC	ah	V	<0.2 U	<0.2 U	<0.2 U	–
24-may-1993	BC	ah	V	<0.2 U	<0.2 U	<0.2 U	–
05-aug-1993	CS	a	V	<1 HU	<1 HU	<1 HU	–
03-dec-1993	CS	a	V	<1 U	<1 U	<1 U	<2 U
11-jan-1994	CS	a	V	<1 U	<1 U	<1 U	<2 U

Ground and surface water analyses for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-nov-1994.

Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
W-25N-13							
06-may-1991	CL	ag	U	<0.5 P	<0.5 P	<0.5 P	–
06-may-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-mar-1993	BC	a	V	<0.2 U	<0.2 U	<0.2 U	–
08-mar-1993	CL	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
24-may-1993	BC	ah	V	<0.2 U	<0.2 U	<0.2 U	–
24-may-1993	BC	ah	V	<0.2 U	<0.2 U	<0.2 U	–
10-aug-1993	CS	a	V	<1 U	<1 U	<1 U	–
W-25N-15							
25-apr-1991	BC	a	U	<0.5 P	0.6 P	<0.5 P	1.4 P
25-jul-1991	CL	ag	U	<0.5 P	<0.5 P	<0.5 P	–
25-jul-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
26-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25N-18							
11-mar-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
W-25N-20							
08-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
W-25N-21							
08-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
W-25N-22							
08-jun-1992	CL	ag	U	<0.5 P	0.8 P	<0.5 P	–
08-jun-1992	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
W-25N-23							
11-mar-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
W-25N-24							
11-mar-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-dec-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
14-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-25N-25							
04-aug-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-25N-26							
05-aug-1994	CS	a	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-25N-28							
05-aug-1994	CS	a	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-26R-01							
07-mar-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
30-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	0.6
01-dec-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
29-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-26R-02							
31-may-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
30-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P

Ground and surface water analyses for BTEX compounds at the General Services Area (GSA), Site 300.
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Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
W-26R-02 (continued)							
07-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
17-aug-1993	CS	a	V	<0.5 U	<0.5 U	<0.5 U	<1 U
02-dec-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
15-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-26R-03							
11-oct-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
14-jun-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-jun-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-jun-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-jun-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-sep-1991	BC	a	U	<0.5 P	0.5 P	<0.5 P	0.8 P
17-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-jan-1992	BC	a	U	<0.5 P	1.4 P	<0.5 P	1 P
06-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P

Ground and surface water analyses for BTEX compounds at the General Services Area (GSA), Site 300.
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Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
W-26R-03 (continued)							
22-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-feb-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-feb-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-feb-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	4.2 P
10-apr-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-apr-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-apr-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-apr-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-jul-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-jul-1992	BC	a	N	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-jul-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-jul-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-jul-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-sep-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-sep-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-sep-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-nov-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-nov-1992	BC	a	U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
25-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-jan-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-jan-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-jan-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-feb-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-feb-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-feb-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-feb-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
04-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
10-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
17-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
25-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
01-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
02-dec-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
15-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-26R-04							
04-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
W-26R-05							
05-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
W-26R-06							
17-mar-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P

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Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
W-26R-07							
12-jun-1992	BC	a	U	<0.5	<0.5	<0.5	<0.5
W-26R-08							
09-jun-1992	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-jun-1992	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
W-26R-11							
17-mar-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
W-35A-01							
02-may-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
25-feb-1991	BC	af	U	<2 P	<2 P	<2 P	<2 P
28-jan-1994	CS	af	V	<15 DU	<15 DU	<15 DU	<30 DU
19-apr-1994	CS	af	V	<6 DU	<6 DU	<6 DU	<12 DU
02-sep-1994	CS	af	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-35A-02							
02-may-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
25-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
10-may-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
23-aug-1994	CS	a	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-35A-03							
02-may-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
25-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
18-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
20-jul-1994	CS	ag	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
20-jul-1994	GT	ag	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-35A-04							
25-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-aug-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–
05-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
09-sep-1993	CS	b	N	<1 U	<1 U	<1 U	–
18-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
20-jul-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
31-aug-1994	CS	beh	N	<0.2 U	<0.2 U	<0.2 U	–
31-aug-1994	CS	bh	N	<0.2 U	<0.2 U	<0.2 U	–
20-oct-1994	CS	a	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-35A-05							
26-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
19-apr-1994	CS	ag	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
19-apr-1994	GT	ag	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
02-sep-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-35A-06							
06-mar-1990	BC	a	U	<1 P	<1 P	<1 P	<1 P
25-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
18-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
28-jul-1994	CS	ah	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U
28-jul-1994	CS	aeh	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U
20-oct-1994	CS	a	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-35A-07							
09-aug-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-35A-08							
08-aug-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-35A-09							
10-aug-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U

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Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
W-35A-10							
10-aug-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-35A-11							
09-aug-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-35A-12							
08-aug-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-35A-13							
10-aug-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7A							
30-aug-1983	BC	a	U	<1 P	1 P	<1 P	-
28-jun-1988	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-jul-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
19-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
10-aug-1993	CS	a	V	<0.5 U	<0.5 U	<0.5 U	<1 U
09-dec-1993	CS	ah	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
09-dec-1993	CS	aeh	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
18-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
21-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
02-sep-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7B							
30-aug-1983	BC	a	U	<1 P	1 P	<1 P	-
21-jun-1988	BC	a	U	<0.5	<0.5	<0.5	<0.5
24-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7C							
30-aug-1983	BC	a	U	<1 P	3 P	<1 P	-
21-jun-1988	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
07-dec-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
10-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
18-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
20-jul-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7D							
22-jun-1987	BC	a	U	<1 P	<1 P	<1 P	-
21-jun-1988	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-mar-1993	BC	aeh	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U

Ground and surface water analyses for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-nov-1994.

Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
W-7D (continued)							
09-mar-1993	BC	ah	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
10-dec-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
19-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7DS							
22-jun-1987	BC	a	U	<1 P	<1 P	<1 P	-
28-jun-1988	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-oct-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
10-dec-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
15-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7E							
22-jun-1987	BC	a	U	<1 P	<1 P	<1 P	-
21-jun-1988	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
18-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
20-jul-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7ES							
22-jun-1987	BC	a	U	<1 P	<1 P	<1 P	-
21-jun-1988	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
18-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
21-jul-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7F							
29-apr-1988	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-may-1988	BC	a	U	<0.5	1.8	<0.5	<0.5
28-jun-1988	BC	a	U	<0.5	6.5	<0.5	<0.5
20-aug-1991	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-aug-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-jul-1992	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-jul-1992	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-feb-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
29-jul-1993	CS	afh	V	<25 DU	<25 DU	<25 DU	<50 DU
29-jul-1993	CS	aefh	V	<25 DU	<25 DU	<25 DU	<50 DU
04-nov-1993	CS	a	V	<15 U	<15 U	<15 U	<30 U
08-dec-1993	CS	af	V	<30 UD	<30 UD	<30 UD	<60 UD
18-jan-1994	CS	af	V	<7 DU	<7 DU	<7 DU	<15 DU
22-apr-1994	CS	af	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
09-aug-1994	CS	af	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7G							
05-jul-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
14-aug-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-jul-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7H							
14-dec-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
02-aug-1994	CS	a	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U

Ground and surface water analyses for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-nov-1994.

Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
W-7I							
16-nov-1989	BC	af	U	<50 P	<50 P	<50 P	<50 P
27-feb-1991	BC	af	U	<10 P	<10 P	<10 P	<10 P
17-may-1993	BC	af	V	10 D	<5 DU	<5 DU	<5 DU
18-jun-1993	BC	af	V	14 D	7.3 D	<5 DU	<5 DU
16-jul-1993	CS	af	V	<2500 DU	<2500 DU	<2500 DU	<5000 DU
04-nov-1993	CS	af	V	<300 DU	<300 DU	<300 DU	<600 DU
17-feb-1994	CS	af	V	<60 DU	<60 DU	<60 DU	<120 DU
12-aug-1994	CS	af	N	<75 DU	<75 DU	<75 DU	<150 DU
W-7J							
15-nov-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
27-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
29-jul-1993	CS	af	V	<0.5 DU	<0.5 DU	<0.5 DU	<1 DU
02-nov-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
23-feb-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
11-may-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
02-sep-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7K							
16-mar-1990	BC	a	U	<0.2 P	0.2 P	<0.2 P	0.5 P
23-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-aug-1992	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-aug-1992	CL	ag	U	<0.4 P	<0.3 P	<0.3 P	<0.4 P
07-aug-1992	CL	ah	U	<0.4 P	<0.3 P	<0.3 P	<0.4 P
02-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-dec-1992	CL	a	U	<0.4 P	<0.3 P	<0.3 P	<0.4 P
03-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
06-aug-1993	CS	a	V	<0.5 U	<0.5 U	<0.5 U	<1 U
16-dec-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
14-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
19-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
09-aug-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7L							
19-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
19-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
08-aug-1994	GT	ag	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
08-aug-1994	CS	ag	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7M							
20-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
20-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
26-jul-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7N							
19-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
20-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
08-aug-1994	GT	ag	V	<0.5 U	<0.5 U	<0.5 U	0.96
08-aug-1994	CS	ag	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7O							
17-mar-1992	BC	af	U	<5 P	<5 P	<5 P	<5 P
18-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
16-jul-1993	CS	af	V	<25 DU	<25 DU	<25 DU	<50 DU

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Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
W-70 (continued)							
01-nov-1993	CS	af	V	<15 UD	<15 UD	<15 UD	<30 UD
18-jan-1994	CS	af	V	<15 DU	<15 DU	<15 DU	<30 DU
03-may-1994	CS	afh	V	<15 DU	<15 DU	<15 DU	<30 DU
03-may-1994	CS	aefh	V	<15 DU	<15 DU	<15 DU	<30 DU
22-jul-1994	CS	af	N	<30 DU	<30 DU	<30 DU	<60 DU
W-7P							
11-aug-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7PS							
11-aug-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-843-01							
07-mar-1990	BC	a	U	<0.2 P	0.4 P	<0.2 P	<0.2 P
21-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-may-1992	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-may-1992	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-jul-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
07-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
01-feb-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
21-jul-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-843-02							
02-may-1990	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-aug-1994	CS	a	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-872-01							
22-feb-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
22-feb-1994	GT	ag	V	<0.5 U	<0.5 U	<0.5 U	<0.5 UL
03-may-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-872-02							
08-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-aug-1994	CS	a	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-873-01							
25-may-1988	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-jul-1988	BC	a	U	<1 P	<1 P	<1 P	<1 P
26-jul-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-873-02							
08-jun-1988	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-nov-1989	BC	a	U	<0.3 P	0.6 P	<0.3 P	0.7 P
12-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-nov-1991	BC	a	U	<0.5 P	1 P	<0.5 P	<0.5 P
30-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	1 P
11-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-oct-1992	BC	a	U	<0.5 P	0.69 P	<0.5 P	<0.5 P
25-feb-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
20-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
20-may-1993	CL	a	V	<0.4 U	<0.3 U	<0.3 U	<0.4 U
22-feb-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
26-jul-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-873-03							
13-jun-1988	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-jun-1988	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-feb-1991	CL	ag	U	<0.5 P	<0.5 P	<0.5 P	-
12-feb-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P

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Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
W-873-03 (continued)							
20-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
22-feb-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
21-jul-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-873-04							
16-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-sep-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-873-06							
21-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-oct-1992	BC	ac	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-feb-1993	BC	ah	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
25-feb-1993	BC	aeh	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
20-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
24-nov-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
25-jan-1994	CS	ag	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
25-jan-1994	GT	ag	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-jul-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-873-07							
20-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-jan-1994	CS	af	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
15-jul-1994	CS	af	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-875-01							
10-feb-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-aug-1994	CS	af	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-875-02							
26-jan-1994	CS	a	V	<0.3 U	0.5	<0.3 U	<0.6 U
04-may-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
24-aug-1994	CS	a	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-875-03							
22-feb-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
04-may-1994	CS	af	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-875-04							
22-feb-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
04-may-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
02-sep-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-875-05							
13-feb-1990	BC	a	U	<1 P	<1 P	<1 P	<1 P
25-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
01-sep-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-875-06							
16-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
W-875-07							
12-jun-1992	BC	af	U	<500 P	<500 P	<500 P	<500 P
17-may-1993	BC	af	V	<500 DU	<500 DU	<500 DU	<500 DU
18-jun-1993	BC	a	V	20	16	2.8	3.7 L
16-jul-1993	CS	af	V	<5000 DU	<5000 DU	<5000 DU	<10000 DU
03-nov-1993	CS	af	V	<600 DU	<600 DU	<600 DU	<1200 DU
W-875-08							
08-dec-1992	BC	af	U	<20 P	<20 P	<20 P	<20 P
17-may-1993	BC	af	V	<100 DU	<100 DU	<100 DU	<100 DU
18-jun-1993	BC	a	V	6.7	2.4	<0.5 U	<0.5 U
16-jul-1993	CS	af	V	<1200 DU	<1200 DU	<1200 DU	<2500 DU
01-nov-1993	CS	af	V	<60 UD	<60 UD	<60 UD	<120 UD
23-feb-1994	CS	af	V	<3 DU	<3 DU	<3 DU	<6 DU

Ground and surface water analyses for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-nov-1994.

Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
W-875-08 (continued)							
12-aug-1994	CS	af	N	<60 DU	<60 DU	<60 DU	<120 DU
W-875-09							
08-dec-1992	BC	af	U	<100 P	<100 P	<100 P	<100 P
17-may-1993	BC	af	V	<100 DU	<100 DU	<100 DU	<100 DU
18-jun-1993	BC	a	V	14	5.7	<0.5 U	<0.5 U
16-jul-1993	CS	af	V	<1200 DU	<1200 DU	<1200 DU	<2500 DU
01-nov-1993	CS	af	V	<75 UD	<75 UD	<75 UD	<150 UD
W-875-10							
18-jun-1993	BC	a	V	12	9.1	1.2	0.84 L
16-jul-1993	CS	af	V	<1200 DU	<1200 DU	<1200 DU	<2500 DU
02-nov-1993	CS	a	V	<75 U	<75 U	<75 U	<150 U
12-aug-1994	CS	af	N	<30 DU	<30 DU	<30 DU	<60 DU
W-875-11							
08-dec-1992	BC	af	U	<50 P	<50 P	<50 P	<50 P
26-aug-1993	CS	a	V	1	<0.3 U	<0.3 U	<0.6 U
03-nov-1993	CS	a	V	<150 U	<150 U	<150 U	<300 U
12-aug-1994	CS	af	N	<150 DU	<150 DU	<150 DU	<300 DU
W-875-15							
26-aug-1993	CS	a	V	2.3	0.5	<0.3 U	<0.6 U
03-nov-1993	CS	a	V	<150 U	<150 U	<150 U	<300 U
W-876-01							
03-aug-1994	CS	a	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-879-01							
20-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-jul-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-889-01							
17-jun-1988	BC	a	U	<0.5	<0.5	<0.5	<0.5
22-feb-1994	CS	ag	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
22-feb-1994	GT	ag	V	<0.5 U	<0.5 U	<0.5 U	<0.5 UL
08-aug-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
WELL07							
10-sep-1982	BC	ah	U	<1 P	<1 P	<1 P	–
08-may-1985	BC	b	N	<1 P	<1 P	<1 P	–
14-aug-1986	BC	b	N	<1 P	<1 P	<1 P	–
21-may-1987	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-jun-1987	BC	a	U	<1 P	<1 P	<1 P	–
16-jul-1987	BC	b	N	<1 P	<1 P	<1 P	–
08-oct-1987	BC	b	N	<1 P	<1 P	<1 P	–
04-feb-1988	BC	b	N	<1 P	<1 P	<1 P	–
12-may-1988	BC	bh	N	<1 P	<1 P	<1 P	–
12-may-1988	BC	bh	N	<1 P	<1 P	<1 P	–
18-aug-1988	BC	b	N	<1 P	<1 P	<1 P	–
WELL19							
14-aug-1986	BC	b	N	<1 P	<1 P	<1 P	–
21-may-1987	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-jun-1987	BC	a	U	<1 P	<1 P	<1 P	–
17-jul-1987	BC	b	N	<1 P	<1 P	<1 P	–
08-oct-1987	BC	b	N	<1 P	<1 P	<1 P	–
04-feb-1988	BC	b	N	<1 P	<1 P	<1 P	–
28-apr-1988	BC	b	N	<1 P	<1 P	<1 P	–
10-may-1988	BC	b	N	<1 P	<1 P	<1 P	–
26-jul-1988	BC	b	N	<1 P	<1 P	<1 P	–
17-aug-1988	BC	bh	N	<1 P	<1 P	<1 P	–
17-aug-1988	BC	bh	N	<1 P	<1 P	<1 P	–
28-nov-1988	BC	b	N	<1 P	<1 P	<1 P	–
18-jan-1989	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-apr-1989	BC	b	N	<0.5 P	<0.5 P	<0.5 P	2.9 P
08-may-1989	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P

Ground and surface water analyses for BTEX compounds at the General Services Area (GSA), Site 300. Results recorded by 17-nov-1994.

Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl- benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
WELL19 (continued)							
01-jun-1989	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-jul-1989	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-aug-1989	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P
SPRING1							
19-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
SPRING2							
19-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
GEOCRK							
22-may-1987	BC	b	N	<1 P	<1 P	<1 P	–
17-jul-1987	BC	b	N	<1 P	<1 P	<1 P	–
10-may-1988	BC	b	N	<1 P	<1 P	<1 P	–
09-oct-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
15-jan-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	

See following page for notes

Ground and surface water analyses for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-nov-1994.

Notes:

- Indicates no analysis performed for this compound.

Footnotes

a ERD data
b EMAD data
c Analytical results for this sample are suspect
d Sample taken during hydraulic testing
e Blind sample, sent to lab without well identity
f Sample dilution necessary for analysis; detection limits increased
g Interlaboratory collocated sample
h Intralaboratory collocated sample
i Sample collected as part of pilot study
j Note may contain important information regarding this sample
k Pre-development sample
l Norm_month, norm_qtr or norm_year inconsistent with sample date
n Sample analyzed after standard holding time

Lab Codes

BC Brown and Caldwell, Emeryville, CA
CL Clayton Environmental Consultants, Pleasanton, CA.
CS California Laboratory Services, Rancho Cordova, CA.
GT Groundwater Technology Environmental Labs, Concord, CA.

Validation Codes

V Validated
N Not validated(default value)
U Undeclared
H Historical comparison only

CLP flags (follows result)

B Analyte detected in method blank
C The analytical results for this sample are not in agreement with the intra or interlaboratory collocated sample results and the historical data
D Analysis performed at a secondary dilution or concentration (i.e. vapor samples
E Concentration exceeds calibration range
F Analyte detected in field blank
H Sample analyzed outside of the holding time; sample results should be rejected
J The analyte was postively identified; the associated numerical value is the approximate concentration of the analyte
L Spike accuracy not within control limits
O Duplicate spike precision not within control limits
P The absence of a data qualifier flag does not mean that the data does not need qualification, but that the implementation of electronic data qualifier flags was not yet established
R Sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria; the presence or absence of the analyte cannot be verified
S The analytical results for this sample are suspect
T Analyte is tentatively identified compound; result is approximate
U Compound was analyzed for, but not detected above detection limit

Appendix A
Section A-2.3

Ground and Surface Water Analyses for Metals Sampled Before September 31, 1994, and Recorded by November 17, 1994

Site 300 Metals Report
18-nov-1994

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.

Location Date	Lab	Notes	Val.	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite										
CDF1										
21-may-1987	BC	bh	N	0.002 P	<0.1 P	<0.01 P	<0.01 P	<0.02 P	–	<0.02 P
21-may-1987	BC	b	N	0.001 P	<0.1 P	<0.01 P	<0.01 P	<0.02 P	–	<0.02 P
26-jul-1988	BC	b	N	0.005 P	<0.1 P	<0.001 P	<0.0001 P	0.0003 P	–	<0.02 P
20-sep-1988	BC	bh	N	–	–	–	–	–	–	–
20-sep-1988	BC	beh	N	–	–	–	–	–	–	–
09-nov-1988	BC	b	N	–	–	0.0002 P	–	–	–	–
23-jan-1989	BC	b	N	–	–	0.0001 P	–	–	–	–
12-apr-1989	BC	b	N	–	–	<0.0001 P	–	<0.02 P	–	<0.02 P
06-jul-1989	BC	b	N	0.005 P	<0.1 P	<0.0001 P	0.0006 P	<0.02 P	–	<0.08 P
06-jul-1989	BC	b	N	–	–	–	–	–	–	–
17-oct-1989	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	<0.02 P
14-feb-1990	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	<0.08 P
24-apr-1990	BC	b	N	–	–	<0.0005 P	–	0.008 P	–	<0.08 P
10-jul-1990	BC	b	N	–	–	–	<0.05 P	–	–	–
05-oct-1990	BC	be	N	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P
05-nov-1990	BC	be	N	–	<0.05 P	<0.0005 P	–	–	–	–
11-jan-1991	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P
21-jun-1991	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	<0.005 P
12-aug-1991	BC	b	N	–	–	–	–	–	–	–
12-aug-1991	BC	beh	N	–	–	–	–	–	–	–
12-aug-1991	BC	b	N	0.005 P	<0.05 P	<0.0005 P	<0.0005 P	<0.005 P	–	<0.05 P
12-aug-1991	BC	beh	N	0.005 P	<0.05 P	<0.0005 P	<0.0005 P	<0.005 P	–	<0.05 P
22-nov-1991	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P
08-jan-1992	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	0.006 P
29-apr-1992	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P
22-jul-1992	BC	b	N	–	–	–	–	–	–	–
22-jul-1992	BC	b	N	0.003 P	<0.05 P	<0.0005 P	<0.0005 P	<0.005 P	–	<0.05 P
07-oct-1992	BC	b	N	–	–	<0.0002 P	–	<0.005 P	–	<0.05 P
27-jan-1993	BC	b	N	–	–	<0.0002 U	–	<0.005 U	–	<0.05 U
05-may-1993	BC	b	N	–	–	<0.0002 U	–	<0.005 U	–	<0.05 U
14-may-1993	BC	a	V	0.0032	0.034	–	<0.0005 U	<0.005 U	–	–
28-jul-1993	CS	b	N	<0.005 U	<0.05 U	–	<0.001 U	<0.001 U	–	–
28-jul-1993	CS	b	N	–	–	<0.001 U	–	–	–	–
28-jul-1993	CS	b	N	–	–	–	–	–	–	<0.05 U
13-aug-1993	CS	a	V	<0.005 U	<0.05 U	–	<0.001 U	<0.01 U	–	–
13-oct-1993	CS	b	N	–	–	<0.0005 U	–	<0.01 U	–	<0.01 U
18-nov-1993	CS	a	V	<0.005 U	<0.05 U	–	<0.001 U	<0.01 U	–	–
16-dec-1993	CS	a	V	0.0049	<0.05 U	–	<0.001 U	<0.01 U	–	–
20-jan-1994	CS	b	N	–	–	<0.0005 U	–	<0.01 U	–	<0.01 U
15-feb-1994	CS	a	V	0.0093	<0.05 U	–	<0.001 U	<0.01 U	–	–
11-mar-1994	CS	a	V	0.0055	<0.05 U	–	<0.001 U	<0.01 U	–	–
07-apr-1994	CS	b	N	–	–	<0.0005 U	–	<0.01 U	–	<0.01 U
10-may-1994	CS	a	V	0.0055	0.032	–	<0.0005 U	<0.01 U	–	–
14-jun-1994	CS	a	V	0.0064	0.078	–	<0.0005 U	<0.01 U	–	–
17-aug-1994	CS	b	N	0.0027	0.051	<0.0005 U	<0.0005 U	<0.01 U	–	<0.01 U
17-aug-1994	CS	b	N	–	–	–	–	–	–	<0.05 U
CON1										
10-jan-1985	HC	b	N	–	–	0.0013 P	–	–	–	–
10-jan-1985	HC	bh	N	–	–	0.0011 P	–	–	–	–
06-jun-1985	HC	b	N	–	–	<0.001 P	–	–	–	–
26-jul-1985	HC	b	N	–	–	<0.0005 P	–	–	–	–
14-oct-1985	HC	b	N	–	–	<0.0003 P	–	–	–	–
26-jul-1988	BC	bh	N	0.002 P	<0.1 P	<0.001 P	<0.0001 P	<0.0001 P	–	<0.02 P
26-jul-1988	BC	beh	N	<0.002 P	<0.1 P	<0.001 P	<0.0001 P	<0.0001 P	–	<0.02 P
20-sep-1988	BC	bh	N	–	–	–	–	–	–	–
20-sep-1988	BC	beh	N	–	–	–	–	–	–	–
09-nov-1988	BC	b	N	–	–	0.0017 P	–	–	–	–
23-jan-1989	BC	b	N	–	–	0.0001 P	–	–	–	–
12-apr-1989	BC	b	N	–	–	0.0002 P	–	<0.02 P	–	<0.02 P
06-jul-1989	BC	b	N	0.002 P	<0.1 P	<0.0001 P	0.0008 P	<0.02 P	–	<0.08 P
06-jul-1989	BC	b	N	–	–	–	–	–	–	–
17-oct-1989	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	<0.02 P
14-feb-1990	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	<0.08 P
24-apr-1990	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	<0.08 P
10-jul-1990	BC	b	N	–	–	–	<0.05 P	–	–	–
05-oct-1990	BC	be	N	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P

Results recorded by 17-nov-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								GSA Study Area and Offsite
								CDF1
<0.03 P	0.012 P	<0.01 P	<0.0001 P	–	<0.001 P	<0.01 P	0.09 P	21-may-1987
<0.03 P	0.011 P	<0.01 P	<0.0001 P	–	<0.001 P	<0.01 P	0.08 P	21-may-1987
<0.03 P	0.006 P	<0.01 P	0.0017 P	–	<0.001 P	<0.01 P	<0.01 P	26-jul-1988
–	–	–	0.0001 P	–	–	–	–	20-sep-1988
–	–	–	<0.0001 P	–	–	–	–	20-sep-1988
–	0.01 P	–	<0.00001 P	–	–	–	–	09-nov-1988
–	0.002 P	–	<0.0001 P	–	–	–	–	23-jan-1989
–	0.003 P	–	–	–	–	–	–	12-apr-1989
<0.04 P	0.002 P	<0.04 P	–	–	<0.002 P	<0.01 P	0.05 P	06-jul-1989
–	–	–	<0.0001 P	–	–	–	–	06-jul-1989
–	0.015 P	–	–	–	–	–	–	17-oct-1989
–	<0.002 P	–	–	–	–	–	–	14-feb-1990
–	<0.002 P	–	–	–	–	–	–	24-apr-1990
–	–	–	–	–	–	–	–	10-jul-1990
–	<0.002 P	–	–	–	–	–	–	05-oct-1990
–	<0.002 P	–	–	–	–	–	–	05-nov-1990
–	<0.002 P	–	–	–	–	–	–	11-jan-1991
–	<0.002 P	–	–	–	–	–	–	21-jun-1991
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	12-aug-1991
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	12-aug-1991
–	<0.002 P	–	<0.0005 P	–	<0.002 P	<0.0005 P	–	12-aug-1991
–	<0.002 P	–	<0.0005 P	–	<0.002 P	<0.0005 P	–	12-aug-1991
–	<0.002 P	–	–	–	–	–	–	22-nov-1991
–	<0.002 P	–	–	–	–	–	–	08-jan-1992
–	<0.002 P	–	–	–	–	–	–	29-apr-1992
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	22-jul-1992
–	<0.002 P	–	<0.0002 P	–	0.004 P	<0.0005 P	–	22-jul-1992
–	<0.002 P	–	–	–	–	–	–	07-oct-1992
–	<0.002 U	–	–	–	–	–	–	27-jan-1993
–	<0.002 U	–	–	–	–	–	–	05-may-1993
–	0.0052	–	<0.0002 U	–	0.0021	<0.01 U	–	14-may-1993
–	<0.005 U	–	<0.0005 U	–	<0.005 U	<0.001 U	–	28-jul-1993
–	–	–	–	–	–	–	–	28-jul-1993
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	28-jul-1993
–	<0.005 U	–	<0.0005 U	–	<0.005 U	<0.001 U	–	13-aug-1993
–	<0.002 U	–	–	–	–	–	–	13-oct-1993
–	<0.005 U	–	<0.0005 U	–	<0.005 U	<0.001 U	–	18-nov-1993
–	<0.002 U	–	<0.0005 U	–	<0.002 U	<0.001 U	–	16-dec-1993
–	<0.002 U	–	–	–	–	–	–	20-jan-1994
–	<0.002 U	–	<0.0002 U	–	<0.002 U	<0.001 U	–	15-feb-1994
–	<0.002 U	–	<0.0002 U	–	<0.002 U	<0.001 U	–	11-mar-1994
–	<0.002 U	–	–	–	–	–	–	07-apr-1994
–	0.0063	–	0.00021	–	0.0021	<0.001 U	–	10-may-1994
–	<0.002 U	–	<0.0002 U	–	0.0037	<0.001 U	–	14-jun-1994
–	<0.002 U	–	<0.0002 U	–	0.0031	<0.0005 U	–	17-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	17-aug-1994
								CON1
–	–	–	–	–	–	–	–	10-jan-1985
–	–	–	–	–	–	–	–	10-jan-1985
–	–	–	–	–	–	–	–	06-jun-1985
–	–	–	–	–	–	–	–	26-jul-1985
–	–	–	–	–	–	–	–	14-oct-1985
0.03 P	0.008 P	0.15 P	0.0004 P	–	<0.001 P	<0.01 P	<0.01 P	26-jul-1988
<0.03 P	0.002 P	0.15 P	0.0041 P	–	<0.001 P	<0.01 P	<0.01 P	26-jul-1988
–	–	–	<0.0001 P	–	–	–	–	20-sep-1988
–	–	–	0.0001 P	–	–	–	–	20-sep-1988
–	<0.001 P	–	<0.00001 P	–	–	–	–	09-nov-1988
–	<0.001 P	–	<0.0001 P	–	–	–	–	23-jan-1989
–	0.005 P	–	–	–	–	–	–	12-apr-1989
<0.04 P	<0.001 P	0.2 P	–	–	<0.002 P	<0.01 P	<0.01 P	06-jul-1989
–	–	–	<0.0001 P	–	–	–	–	06-jul-1989
–	<0.002 P	–	–	–	–	–	–	17-oct-1989
–	<0.002 P	–	–	–	–	–	–	14-feb-1990
–	<0.002 P	–	–	–	–	–	–	24-apr-1990
–	–	–	–	–	–	–	–	10-jul-1990
–	<0.002 P	–	–	–	–	–	–	05-oct-1990

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.

Location Date	Lab	Notes	Val.	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
CON1 (continued)										
11-jan-1991	BC	b	N	–	–	<0.0005 P	–	0.005 P	–	<0.05 P
21-jun-1991	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	<0.005 P
12-aug-1991	BC	b	N	–	–	–	–	–	–	–
12-aug-1991	BC	b	N	<0.002 P	<0.05 P	<0.0005 P	<0.0005 P	<0.005 P	–	<0.05 P
22-nov-1991	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P
08-jan-1992	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	–
08-jan-1992	BC	b	N	–	–	–	–	–	–	<0.005 P
29-apr-1992	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P
22-jul-1992	BC	b	N	–	–	–	–	–	–	–
22-jul-1992	BC	b	N	<0.002 P	<0.05 P	<0.0005 P	<0.0005 P	0.005 P	–	<0.05 P
07-oct-1992	BC	b	N	–	–	<0.0002 P	–	<0.005 P	–	<0.05 P
27-jan-1993	BC	b	N	–	–	<0.0002 U	–	<0.005 U	–	<0.05 U
05-may-1993	BC	b	N	–	–	<0.0002 U	–	<0.005 U	–	<0.05 U
28-jul-1993	CS	b	N	<0.005 U	<0.05 U	–	<0.001 U	0.0017	–	–
28-jul-1993	CS	b	N	–	–	<0.001 U	–	–	–	–
28-jul-1993	CS	b	N	–	–	–	–	–	–	<0.05 U
13-oct-1993	CS	bh	N	–	–	<0.0005 U	–	<0.01 U	–	<0.01 U
13-oct-1993	CS	beh	N	–	–	<0.0005 U	–	<0.01 U	–	<0.01 U
12-jan-1994	CS	bh	N	–	–	<0.0005 U	–	<0.01 U	–	<0.01 U
12-jan-1994	CS	beh	N	–	–	<0.0005 U	–	<0.01 U	–	<0.01 U
07-apr-1994	CS	b	N	–	–	<0.0005 U	–	<0.01 U	–	<0.01 U
11-aug-1994	CS	ag	V	0.0048	0.038	–	<0.0005 U	<0.01 U	–	–
17-aug-1994	CS	b	N	<0.002 U	<0.05 U	<0.0005 U	<0.0005 U	<0.01 U	–	<0.01 U
17-aug-1994	CS	b	N	–	–	–	–	–	–	<0.05 U
CON2										
02-may-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
GALLO2										
09-jun-1987	BC	bh	N	<0.001 P	<0.1 P	<0.01 P	<0.01 P	<0.02 P	–	0.04 P
09-jun-1987	BC	bh	N	0.002 P	<0.1 P	<0.01 P	<0.01 P	<0.02 P	–	0.03 P
09-nov-1988	BC	b	N	<0.002 P	<0.1 P	0.0003 P	0.0004 P	<0.02 P	–	<0.08 P
16-oct-1989	BC	b	N	<0.002 P	<0.05 P	<0.0005 P	<0.04 P	<0.05 P	–	–
08-aug-1990	BC	b	N	–	–	–	–	–	–	0.06 P
08-aug-1990	BC	b	N	0.002 P	0.05 P	<0.0005 P	<0.0005 P	<0.005 P	–	–
13-sep-1991	BC	b	N	–	–	–	–	–	–	–
13-sep-1991	BC	b	N	<0.002 P	<0.05 P	<0.0005 P	<0.0005 P	<0.005 P	–	<0.05 P
W-24P-03										
16-sep-1992	BC	a	U	–	–	–	–	–	–	<0.05 P
16-sep-1992	BC	a	U	<0.002 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
W-25D-01										
20-dec-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
W-25D-02										
20-dec-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
W-25M-01										
20-dec-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
W-25M-02										
21-dec-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
22-jul-1994	CS	a	N	–	0.052	–	<0.0005 U	–	–	<0.01 U
22-jul-1994	CS	a	N	–	–	–	–	–	–	<0.05 U
W-25M-03										
21-dec-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
W-25N-01										
04-nov-1988	BC	a	U	–	–	–	–	–	–	<0.08 P
17-jan-1989	BC	a	U	–	–	–	–	–	–	<0.02 P
17-jan-1992	BC	a	U	<0.002 P	0.05 P	–	<0.0005 P	<0.005 P	–	–
17-aug-1993	CS	a	V	–	–	–	–	–	–	–
02-dec-1993	CS	a	V	–	–	–	–	–	–	–
12-jan-1994	CS	ah	V	–	–	–	–	–	–	–
12-jan-1994	CS	aeh	V	–	–	–	–	–	–	–

Results recorded by 17-nov-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								(continued) GSA Study Area and Offsite
								(continued) CON1
–	<0.002 P	–	–	–	–	–	–	11-jan-1991
–	<0.002 P	–	–	–	–	–	–	21-jun-1991
<0.1 P	–	0.2 P	–	–	–	–	<0.05 P	12-aug-1991
–	<0.002 P	–	<0.0005 P	–	<0.002 P	<0.0005 P	–	12-aug-1991
–	<0.002 P	–	–	–	–	–	–	22-nov-1991
–	<0.002 P	–	–	–	–	–	–	08-jan-1992
–	–	–	–	–	–	–	–	08-jan-1992
–	<0.002 P	–	–	–	–	–	–	29-apr-1992
<0.1 P	–	0.16 P	–	–	–	–	<0.05 P	22-jul-1992
–	<0.002 P	–	<0.0002 P	–	<0.002 P	<0.0005 P	–	22-jul-1992
–	<0.002 P	–	–	–	–	–	–	07-oct-1992
–	<0.002 U	–	–	–	–	–	–	27-jan-1993
–	<0.002 U	–	–	–	–	–	–	05-may-1993
–	<0.005 U	–	<0.0005 U	–	<0.005 U	<0.001 U	–	28-jul-1993
–	–	–	–	–	–	–	–	28-jul-1993
<0.1 U	–	0.13	–	<0.1 U	–	–	<0.05 U	28-jul-1993
–	<0.002 U	–	–	–	–	–	–	13-oct-1993
–	<0.002 U	–	–	–	–	–	–	13-oct-1993
–	<0.002 U	–	–	–	–	–	–	12-jan-1994
–	<0.002 U	–	–	–	–	–	–	12-jan-1994
–	<0.002 U	–	–	–	–	–	–	07-apr-1994
–	<0.002 U	–	<0.0002 U	–	<0.002 U	<0.001 U	–	11-aug-1994
–	<0.002 U	–	<0.0002 U	–	<0.002 U	<0.0005 U	–	17-aug-1994
<0.1 U	–	0.13	–	<0.1 U	–	–	<0.05 U	17-aug-1994
								CON2
0.81 P	–	0.1 P	–	–	–	–	0.02 P	02-may-1989
								GALLO2
0.06 P	0.004 P	0.01 P	<0.0001 P	–	0.001 P	<0.01 P	0.01 P	09-jun-1987
<0.03 P	0.009 P	0.01 P	<0.0001 P	–	0.001 P	<0.01 P	0.01 P	09-jun-1987
<0.04 P	<0.001 P	0.08 P	<0.0001 P	–	0.003 P	0.04 P	0.06 P	09-nov-1988
<0.04 P	<0.002 P	0.05 P	<0.0001 P	<0.03 P	0.004 P	<0.02 P	–	16-oct-1989
<0.1 P	–	0.06 P	–	–	–	–	0.22 P	08-aug-1990
–	0.002 P	–	<0.0005 P	<0.1 P	0.008 P	<0.05 P	–	08-aug-1990
<0.1 P	–	0.09 P	–	–	–	–	<0.05 P	13-sep-1991
–	<0.002 P	–	<0.0005 P	–	<0.002 P	<0.0005 P	–	13-sep-1991
								W-24P-03
<0.1 P	–	0.42 P	–	–	–	–	<0.05 P	16-sep-1992
–	0.0083 P	–	<0.0002 P	–	<0.002 P	<0.05 P	–	16-sep-1992
								W-25D-01
<0.04 P	–	<0.04 P	–	–	–	–	<0.01 P	20-dec-1989
								W-25D-02
<0.04 P	–	<0.04 P	–	–	–	–	<0.01 P	20-dec-1989
								W-25M-01
<0.04 P	–	<0.04 P	–	–	–	–	<0.01 P	20-dec-1989
								W-25M-02
<0.04 P	–	<0.04 P	–	–	–	–	<0.01 P	21-dec-1989
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	22-jul-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	22-jul-1994
								W-25M-03
<0.04 P	–	<0.04 P	–	–	–	–	<0.01 P	21-dec-1989
								W-25N-01
<0.04 P	–	0.06 P	–	–	–	–	0.04 P	04-nov-1988
<0.04 P	–	<0.04 P	–	–	–	–	<0.01 P	17-jan-1989
–	<0.002 P	–	<0.0002 P	–	0.009 P	<0.05 P	–	17-jan-1992
–	–	–	–	–	<0.005 U	–	–	17-aug-1993
–	–	–	–	–	<0.002 U	–	–	02-dec-1993
–	–	–	–	–	0.0047	–	–	12-jan-1994
–	–	–	–	–	0.0041	–	–	12-jan-1994

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.

Location Date	Lab	Notes	Val.	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
W-25N-04										
04-nov-1988	BC	a	U	–	–	–	–	–	–	<0.08 P
19-jan-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
W-25N-05										
17-jan-1989	BC	a	U	–	–	–	–	–	–	<0.02 P
21-jan-1992	BC	a	U	0.005 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
W-25N-06										
17-jan-1989	BC	a	U	–	–	–	–	–	–	<0.02 P
03-dec-1993	CS	a	V	0.0037	0.53	–	<0.001 U	0.013	–	–
12-jan-1994	CS	a	V	0.0035	<0.05 U	–	<0.001 U	<0.01 U	–	–
14-apr-1994	CS	a	V	0.0023	<0.05 U	–	<0.001 U	<0.01 U	–	–
04-aug-1994	CS	a	N	0.0033	0.044	–	<0.0005 U	<0.01 U	–	–
W-25N-07										
03-may-1989	BC	a	U	–	–	–	–	–	–	<0.02 P
W-25N-08										
15-dec-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
W-25N-09										
14-dec-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
W-25N-10										
08-aug-1991	BC	a	U	0.002 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
08-aug-1991	BC	a	U	–	–	–	–	–	–	<0.05 P
W-25N-11										
12-jun-1991	BC	a	U	0.008 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
12-jun-1991	BC	a	U	–	–	–	–	–	–	<0.05 P
W-25N-12										
07-may-1991	BC	a	U	<0.002 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
07-may-1991	BC	a	U	–	–	–	–	–	–	<0.05 P
W-25N-13										
06-may-1991	BC	ag	U	<0.002 P	<0.05 P	–	<0.0005 P	0.007 P	–	–
06-may-1991	BC	ag	U	–	–	–	–	–	–	<0.05 P
W-25N-15										
25-apr-1991	BC	a	U	0.003 P	0.06 P	–	<0.0005 P	<0.005 P	–	–
25-apr-1991	BC	a	U	–	–	–	–	–	–	<0.05 P
25-jul-1991	BC	ag	U	<0.002 P	0.06 P	–	<0.0005 P	<0.005 P	–	–
26-may-1993	BC	a	V	0.002	0.038	–	<0.0005 U	0.0056	–	–
30-jul-1993	CS	a	V	<0.005 U	<0.05 U	–	<0.001 U	<0.001 U	–	–
11-jan-1994	CS	a	V	0.0093	<0.05 U	–	<0.001 U	<0.01 U	–	–
14-apr-1994	CS	a	V	<0.002 U	0.053	–	<0.001 U	<0.01 U	–	–
05-aug-1994	CS	a	V	0.0031	0.042	–	<0.0005 U	<0.01 U	–	–
W-25N-18										
11-mar-1992	BC	a	U	–	–	–	–	–	–	<0.05 P
11-mar-1992	BC	a	U	0.004 P	0.05 P	–	0.0006 P	<0.005 P	–	–
W-25N-20										
08-jun-1992	BC	a	U	<0.002 P	0.05 P	–	<0.0005 P	<0.005 P	–	–
08-jun-1992	BC	a	U	–	–	–	–	–	–	<0.05 P
21-may-1993	BC	a	V	0.0025	0.044	–	<0.0005 U	<0.005 U	–	–
25-aug-1993	CS	a	V	<0.005 U	0.052	–	<0.001 U	<0.01 DU	–	–
02-dec-1993	CS	a	V	0.0061	0.052	–	<0.001 U	<0.01 U	–	–
13-jan-1994	CS	a	V	0.0053	0.051	–	<0.001 U	<0.01 U	–	–
14-apr-1994	CS	ah	V	<0.002 U	<0.05 U	–	<0.001 U	0.012	–	–
14-apr-1994	CS	aeh	V	<0.002 U	<0.05 U	–	<0.001 U	0.011	–	–
27-jul-1994	CS	a	N	–	0.052	–	<0.0005 U	–	–	0.021
W-25N-21										
08-jun-1992	BC	a	U	0.007 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
08-jun-1992	BC	a	U	–	–	–	–	–	–	<0.05 P

Results recorded by 17-nov-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								(continued) GSA Study Area and Offsite
								W-25N-04
0.16 P	–	<0.04 P	–	–	–	–	0.06 P	04-nov-1988
<0.04 P	–	0.04 P	–	–	–	–	<0.01 P	19-jan-1989
								W-25N-05
<0.04 P	–	<0.04 P	–	–	–	–	0.02 P	17-jan-1989
–	0.009 P	–	<0.0002 P	–	0.005 P	<0.0005 P	–	21-jan-1992
								W-25N-06
<0.04 P	–	<0.04 P	–	–	–	–	<0.01 P	17-jan-1989
–	<0.002 U	–	<0.0005 U	–	<0.002 U	<0.001 U	–	03-dec-1993
–	<0.002 U	–	<0.0005 U	–	<0.002 U	<0.001 U	–	12-jan-1994
–	<0.002 U	–	<0.0002 U	–	0.0036	<0.001 U	–	14-apr-1994
–	0.0022	–	<0.0002 U	–	0.0051	<0.001 U	–	04-aug-1994
								W-25N-07
3.8 P	–	0.2 P	–	–	–	–	0.01 P	03-may-1989
								W-25N-08
0.63 P	–	0.06 P	–	–	–	–	<0.01 P	15-dec-1989
								W-25N-09
0.27 P	–	0.29 P	–	–	–	–	0.06 P	14-dec-1989
								W-25N-10
–	<0.002 P	–	<0.0005 P	–	<0.002 P	<0.05 P	–	08-aug-1991
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	08-aug-1991
								W-25N-11
–	<0.002 P	–	<0.0005 P	–	<0.002 P	<0.05 P	–	12-jun-1991
<0.1 P	–	0.18 P	–	–	–	–	<0.05 P	12-jun-1991
								W-25N-12
–	0.002 P	–	<0.0005 P	–	<0.002 P	<0.05 P	–	07-may-1991
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	07-may-1991
								W-25N-13
–	<0.002 P	–	<0.0005 P	–	<0.002 P	<0.05 P	–	06-may-1991
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	06-may-1991
								W-25N-15
–	<0.002 P	–	<0.0005 P	–	0.011 P	0.28 P	–	25-apr-1991
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	25-apr-1991
–	<0.002 P	–	<0.0005 P	–	0.009 P	<0.05 P	–	25-jul-1991
–	0.003	–	<0.0002 U	–	0.0024	<0.01 U	–	26-may-1993
–	<0.005 U	–	<0.0005 U	–	<0.005 U	<0.001 U	–	30-jul-1993
–	<0.002 U	–	<0.0005 U	–	0.0089	<0.001 U	–	11-jan-1994
–	<0.002 U	–	<0.0002 U	–	0.0029	<0.001 U	–	14-apr-1994
–	<0.002 U	–	<0.0002 U	–	0.0049	<0.001 U	–	05-aug-1994
								W-25N-18
0.4 P	–	0.08 P	–	–	–	–	<0.05 P	11-mar-1992
–	<0.002 P	–	<0.0002 P	–	0.009 P	<0.0005 P	–	11-mar-1992
								W-25N-20
–	<0.002 P	–	<0.0002 P	–	0.004 P	<0.05 P	–	08-jun-1992
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	08-jun-1992
–	0.0041	–	<0.0002 U	–	0.0036	<0.01 U	–	21-may-1993
–	<0.005 U	–	<0.0005 U	–	<0.005 U	<0.001 U	–	25-aug-1993
–	<0.002 U	–	<0.0005 U	–	<0.002 U	<0.001 U	–	02-dec-1993
–	<0.002 U	–	<0.0005 U	–	<0.002 U	<0.001 U	–	13-jan-1994
–	<0.002 U	–	<0.0002 U	–	0.0033	<0.001 U	–	14-apr-1994
–	<0.002 U	–	<0.0002 U	–	0.0035	<0.001 U	–	14-apr-1994
–	<0.002 U	–	0.00028	–	–	<0.001 U	0.039	27-jul-1994
								W-25N-21
–	<0.002 P	–	<0.0002 P	–	<0.002 P	<0.05 P	–	08-jun-1992
<0.1 P	–	0.37 P	–	–	–	–	<0.05 P	08-jun-1992

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.

Location Date	Lab	Notes	Val.	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
W-25N-22										
08-jun-1992	BC	ag	U	0.005 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
08-jun-1992	BC	ag	U	–	–	–	–	–	–	<0.05 P
W-25N-23										
11-mar-1992	BC	a	U	–	–	–	–	–	–	<0.05 P
11-mar-1992	BC	a	U	0.007 P	<0.05 P	–	0.005 P	<0.005 P	–	–
19-may-1993	BC	a	U	0.0045	0.043	–	<0.0005 U	<0.005 U	–	–
01-dec-1993	CS	a	V	0.0087	<0.05 U	–	<0.001 U	<0.01 U	–	–
14-apr-1994	CS	a	V	0.0065	<0.05 U	–	<0.001 U	<0.01 U	–	–
W-25N-24										
11-mar-1992	BC	a	U	–	–	–	–	–	–	<0.05 P
11-mar-1992	BC	a	U	0.005 P	0.06 P	–	<0.0005 P	0.007 P	–	–
25-jun-1993	BC	a	V	0.0024	0.051	–	<0.0005 U	<0.005 U	–	–
18-aug-1993	CS	a	V	<0.005 U	0.058	–	<0.001 U	<0.01 DU	–	–
01-dec-1993	CS	a	V	0.0045	0.058	–	<0.001 U	<0.01 U	–	–
13-jan-1994	CS	a	V	0.0062	0.058	–	<0.001 U	<0.01 U	–	–
27-jul-1994	CS	a	N	–	0.056	–	<0.0005 U	–	–	0.011
W-25N-25										
04-aug-1994	CS	a	V	–	0.036	–	<0.0005 U	–	–	<0.01 U
04-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-25N-26										
05-aug-1994	CS	a	N	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
05-aug-1994	CS	a	N	–	–	–	–	–	–	<0.05 U
W-25N-28										
05-aug-1994	CS	a	N	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
05-aug-1994	CS	a	N	–	–	–	–	–	–	<0.05 U
W-26R-01										
03-apr-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
11-sep-1989	BC	a	U	0.005 P	–	–	–	–	–	–
11-sep-1989	BC	a	U	–	<0.05 P	<0.01 P	<0.04 P	<0.05 P	–	<0.08 P
10-feb-1992	CL	a	U	<0.005 P	0.06 P	<0.005 P	<0.005 P	<0.01 P	–	<0.01 P
20-feb-1992	CL	a	U	–	–	–	–	–	–	<0.005 P
12-may-1993	BC	a	V	0.0063	0.035	–	<0.0005 U	<0.005 U	–	–
12-aug-1993	CS	a	V	<0.005 U	<0.05 U	–	<0.001 U	<0.01 U	–	–
01-dec-1993	CS	a	V	0.0093	<0.05 U	–	<0.001 U	<0.01 U	–	–
01-feb-1994	CS	a	V	0.0071	<0.05 U	–	<0.001 U	<0.01 U	–	–
29-apr-1994	CS	a	V	0.0075	0.033	–	<0.0005 U	<0.01 U	–	–
10-aug-1994	CS	a	V	0.0059	0.036	–	<0.0005 U	0.011	–	–
W-26R-02										
21-jul-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
24-oct-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
W-26R-03										
11-oct-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
12-may-1993	BC	a	V	0.0026	0.049	–	<0.0005 U	<0.005 U	–	–
17-may-1993	BC	a	V	–	–	–	–	–	–	<0.02 DU
12-aug-1993	CS	a	V	<0.005 U	0.051	–	<0.001 U	<0.01 U	–	–
09-sep-1993	CS	a	V	–	–	–	–	–	–	–
13-sep-1993	CS	a	V	–	–	–	–	–	–	–
13-sep-1993	CS	a	V	–	–	–	–	–	–	–
02-dec-1993	CS	a	V	0.0057	0.057	–	<0.001 U	<0.01 U	–	–
13-jan-1994	CS	a	V	0.0067	0.056	–	<0.001 U	<0.01 U	–	–
15-apr-1994	CS	a	V	0.0042	<0.05 U	–	<0.001 U	<0.01 U	–	–
28-jul-1994	CS	a	N	–	0.055	–	<0.0005 U	–	–	<0.01 U
W-26R-04										
04-jun-1992	BC	a	U	<0.002 P	0.06 P	–	<0.0005 P	<0.005 P	–	–
04-jun-1992	BC	a	U	–	–	–	–	–	–	<0.05 P
20-may-1993	BC	a	V	0.0035	0.06	–	<0.0005 U	<0.005 U	–	–
02-dec-1993	CS	a	V	0.0068	0.063	–	<0.001 U	<0.01 U	–	–
29-apr-1994	CS	a	V	0.0041	0.067	–	<0.0005 U	<0.01 U	–	–

Results recorded by 17-nov-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								(continued) GSA Study Area and Offsite
								W-25N-22
–	<0.002 P	–	<0.0002 P	–	<0.002 P	<0.05 P	–	08-jun-1992
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	08-jun-1992
								W-25N-23
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	11-mar-1992
–	0.048 P	–	<0.0002 P	–	0.015 P	<0.0005 P	–	11-mar-1992
–	<0.002 U	–	<0.0002 U	–	0.0063	<0.01 U	–	19-may-1993
–	<0.002 U	–	<0.0005 U	–	<0.002 U	<0.001 U	–	01-dec-1993
–	<0.002 U	–	<0.0002 U	–	0.006	<0.001 U	–	14-apr-1994
								W-25N-24
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	11-mar-1992
–	<0.002 P	–	<0.0002 P	–	0.02 P	<0.0005 P	–	11-mar-1992
–	0.0031	–	<0.0005 U	–	0.01	<0.01 U	–	25-jun-1993
–	<0.005 U	–	<0.0005 U	–	0.0069	<0.001 U	–	18-aug-1993
–	<0.002 U	–	<0.0005 U	–	0.0031	<0.001 U	–	01-dec-1993
–	<0.002 U	–	<0.0005 U	–	0.0076	<0.001 U	–	13-jan-1994
–	<0.002 U	–	0.00038	–	–	<0.001 U	<0.02 U	27-jul-1994
								W-25N-25
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	04-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	04-aug-1994
								W-25N-26
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	05-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	05-aug-1994
								W-25N-28
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	05-aug-1994
<0.1 U	–	0.083	–	<0.1 U	–	–	<0.05 U	05-aug-1994
								W-26R-01
0.22 P	–	<0.04 P	–	–	–	–	0.1 P	03-apr-1989
–	–	–	0.0003 P	–	0.008 P	–	–	11-sep-1989
–	<0.3 P	–	–	<0.03 P	–	<0.02 P	0.04 P	11-sep-1989
–	<0.05 P	–	<0.0005 P	<0.02 P	<0.005 P	<0.01 P	<0.01 P	10-feb-1992
0.04 P	–	<0.005 P	–	–	–	–	<0.01 P	20-feb-1992
–	<0.002 U	–	<0.0002 U	–	0.0081	<0.01 U	–	12-may-1993
–	<0.005 U	–	<0.0005 U	–	0.0072	<0.001 U	–	12-aug-1993
–	<0.002 U	–	<0.0005 U	–	0.0038	<0.001 U	–	01-dec-1993
–	<0.002 U	–	<0.0002 U	–	0.0082	<0.001 U	–	01-feb-1994
–	<0.002 U	–	<0.0002 U	–	0.0072	<0.001 U	–	29-apr-1994
–	<0.002 U	–	<0.0002 U	–	0.0079	<0.001 U	–	10-aug-1994
								W-26R-02
0.29 P	–	0.24 P	–	–	–	–	0.03 P	21-jul-1989
0.9 P	–	0.25 P	–	–	–	–	<0.01 P	24-oct-1989
								W-26R-03
0.45 P	–	0.04 P	–	–	–	–	0.06 P	11-oct-1989
–	<0.002 U	–	<0.0002 U	–	0.0062	<0.01 U	–	12-may-1993
<0.1 DU	–	<0.01 DU	–	–	–	–	<0.05 DU	17-may-1993
–	<0.005 U	–	<0.0005 U	–	<0.005 U	<0.001 U	–	12-aug-1993
–	–	–	–	–	<0.005 U	–	–	09-sep-1993
–	–	–	–	–	<0.005 U	–	–	13-sep-1993
–	–	–	–	–	<0.005 U	–	–	13-sep-1993
–	<0.002 U	–	<0.0005 U	–	0.0023	<0.001 U	–	02-dec-1993
–	<0.002 U	–	<0.0005 U	–	0.0072	<0.001 U	–	13-jan-1994
–	<0.002 U	–	<0.0002 U	–	0.016	<0.001 U	–	15-apr-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	28-jul-1994
								W-26R-04
–	<0.002 P	–	<0.0002 P	–	0.013 P	<0.05 P	–	04-jun-1992
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	04-jun-1992
–	0.0037	–	<0.0002 U	–	0.0097	<0.01 U	–	20-may-1993
–	<0.002 U	–	<0.0005 U	–	0.0035	<0.001 U	–	02-dec-1993
–	<0.002 U	–	<0.0002 U	–	0.012	<0.001 U	–	29-apr-1994

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.

Location Date	Lab	Notes	Val.	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
W-26R-05										
05-jun-1992	BC	a	U	0.007 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
05-jun-1992	BC	a	U	–	–	–	–	–	–	<0.05 P
W-26R-06										
17-mar-1992	BC	a	U	–	–	–	–	–	–	<0.05 P
17-mar-1992	BC	a	U	0.008 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
18-may-1993	BC	a	V	0.007 D	0.04 D	–	<0.0005 DU	0.031 D	–	–
17-aug-1993	CS	a	V	0.0072	<0.05 U	–	<0.001 U	<0.01 DU	–	–
03-dec-1993	CS	ag	V	0.0079	<0.05 U	–	<0.001 U	<0.01 U	–	–
18-jan-1994	CS	a	V	0.0088	<0.05 U	–	<0.001 U	<0.01 U	–	–
15-apr-1994	CS	a	V	0.011	<0.05 U	–	<0.001 U	<0.01 U	–	–
11-aug-1994	CS	a	V	0.013	0.036	–	<0.0005 U	<0.01 U	–	–
W-26R-07										
12-jun-1992	BC	a	U	0.003	<0.05	–	<0.0005	<0.005	–	–
12-jun-1992	BC	a	U	–	–	–	–	–	–	<0.05
W-26R-08										
09-jun-1992	BC	ah	U	0.008 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
09-jun-1992	BC	ah	U	–	–	–	–	–	–	<0.05 P
W-26R-11										
17-mar-1992	BC	a	U	–	–	–	–	–	–	<0.05 P
17-mar-1992	BC	a	U	0.003 P	0.06 P	–	<0.0005 P	<0.005 P	–	–
W-35A-01										
02-may-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
28-jan-1994	CS	a	V	–	<0.05 U	–	<0.0005 U	–	–	<0.01 U
28-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
19-apr-1994	CS	a	V	–	<0.05 U	–	<0.005 U	–	–	<0.01 U
19-apr-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
02-sep-1994	CS	a	V	–	0.036	<0.005 U	0.00062	<0.01 U	–	0.039
02-sep-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-35A-02										
02-may-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
28-jan-1994	CS	a	V	–	0.056	–	<0.0005 U	–	–	<0.01 U
28-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
10-may-1994	CS	a	V	–	0.051	–	<0.005 U	–	–	<0.01 U
10-may-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
23-aug-1994	CS	a	N	–	0.05	–	<0.0005 U	–	–	<0.05 U
23-aug-1994	CS	a	N	–	–	–	–	–	–	<0.05 U
W-35A-03										
02-may-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
28-jan-1994	CS	a	V	–	<0.05 U	–	<0.0005 U	–	–	<0.01 U
28-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
18-apr-1994	CS	a	V	–	0.057	–	<0.0005 U	–	–	<0.01 U
18-apr-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
20-jul-1994	CS	ag	V	–	0.047	–	<0.0005 U	–	–	<0.01 U
20-jul-1994	CS	ag	V	–	–	–	–	–	–	<0.05 U
W-35A-04										
15-dec-1989	BC	an	U	–	–	–	–	–	–	<0.08 P
17-jan-1992	BC	a	U	<0.002 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
03-aug-1992	BC	a	U	<0.002 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
26-aug-1992	BC	b	N	–	–	–	–	–	–	<0.05 P
26-aug-1992	BC	b	N	<0.002 P	0.053 P	<0.0002 P	<0.0005 P	<0.005 P	–	–
09-sep-1993	CS	b	N	<0.005 U	<0.05 U	<0.001 U	<0.001 U	<0.01 U	–	–
09-sep-1993	CS	b	N	–	–	–	–	–	–	<0.05 U
27-jan-1994	CS	a	V	–	<0.05 U	–	<0.0005 U	–	–	<0.01 U
27-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
18-apr-1994	CS	a	V	–	0.047	–	<0.0005 U	–	–	<0.01 U
18-apr-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
20-jul-1994	CS	a	V	–	0.041	–	<0.0005 U	–	–	<0.01 U
20-jul-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
31-aug-1994	CS	beh	N	0.0034	0.042	<0.0005 U	<0.0005 U	<0.01 U	–	<0.01 U
31-aug-1994	CS	bh	N	0.0028	0.041	<0.0005 U	<0.0005 U	<0.01 U	–	<0.01 U

Results recorded by 17-nov-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								(continued) GSA Study Area and Offsite
								W-26R-05
-	<0.002 P	-	<0.0002 P	-	0.005 P	<0.05 P	-	05-jun-1992
<0.1 P	-	<0.05 P	-	-	-	-	<0.05 P	05-jun-1992
								W-26R-06
<0.1 P	-	<0.05 P	-	-	-	-	<0.05 P	17-mar-1992
-	<0.002 P	-	<0.0002 P	-	<0.002 P	<0.0005 P	-	17-mar-1992
-	0.0045 D	-	0.0002 D	-	0.0089 D	<0.01 DU	-	18-may-1993
-	<0.005 U	-	<0.0005 U	-	0.0051	<0.001 U	-	17-aug-1993
-	<0.002 U	-	<0.0005 U	-	0.003	<0.001 U	-	03-dec-1993
-	<0.002 U	-	<0.0005 U	-	0.0043	<0.001 U	-	18-jan-1994
-	<0.002 U	-	<0.0002 U	-	0.011	<0.001 U	-	15-apr-1994
-	<0.002 U	-	<0.0002 U	-	0.006	<0.001 U	-	11-aug-1994
								W-26R-07
-	<0.002	-	<0.0002	-	<0.002	<0.05	-	12-jun-1992
<0.1	-	0.43	-	-	-	-	<0.05	12-jun-1992
								W-26R-08
-	<0.002 P	-	<0.0002 P	-	<0.002 P	<0.05 P	-	09-jun-1992
<0.1 P	-	0.12 P	-	-	-	-	<0.05 P	09-jun-1992
								W-26R-11
<0.1 P	-	<0.05 P	-	-	-	-	<0.05 P	17-mar-1992
-	<0.002 P	-	<0.0002 P	-	0.016 P	<0.0005 P	-	17-mar-1992
								W-35A-01
2 P	-	0.14 P	-	-	-	-	0.16 P	02-may-1989
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	<0.02 U	28-jan-1994
0.1	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	28-jan-1994
-	0.0057	-	<0.0002 U	-	-	<0.01 U	0.039	19-apr-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	19-apr-1994
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	0.088	02-sep-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	02-sep-1994
								W-35A-02
2.3 P	-	0.25 P	-	-	-	-	0.14 P	02-may-1989
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	<0.02 U	28-jan-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	28-jan-1994
-	<0.002 U	-	<0.0002 U	-	-	<0.01 U	0.022	10-may-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	10-may-1994
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	0.03	23-aug-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	23-aug-1994
								W-35A-03
6.3 P	-	0.25 P	-	-	-	-	0.06 P	02-may-1989
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	<0.02 U	28-jan-1994
0.36	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	28-jan-1994
-	<0.002 U	-	<0.0002 U	-	-	<0.01 U	0.026	18-apr-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	18-apr-1994
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	0.023	20-jul-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	20-jul-1994
								W-35A-04
0.13 P	-	<0.04 P	-	-	-	-	<0.01 P	15-dec-1989
-	<0.002 P	-	0.0004 P	-	<0.002 P	<0.05 P	-	17-jan-1992
-	<0.002 P	-	<0.0002 P	-	<0.002 P	<0.05 P	-	03-aug-1992
<0.1 P	-	<0.05 P	-	-	-	-	<0.05 P	26-aug-1992
-	<0.002 P	-	<0.0002 P	-	0.0031 P	<0.0005 P	-	26-aug-1992
-	<0.005 U	-	<0.0005 U	-	<0.005 U	<0.001 U	-	09-sep-1993
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	09-sep-1993
-	<0.002 U	-	<0.0002 U	-	-	<0.0005 U	<0.02 U	27-jan-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	27-jan-1994
-	<0.002 U	-	<0.0002 U	-	-	<0.01 U	<0.02 U	18-apr-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	18-apr-1994
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	<0.02 U	20-jul-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	20-jul-1994
-	<0.002 U	-	<0.0002 U	-	0.0024	<0.05 U	-	31-aug-1994
-	<0.002 U	-	<0.0002 U	-	0.0027	<0.05 U	-	31-aug-1994

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.

Location Date	Lab	Notes	Val.	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
W-35A-04 (continued)										
31-aug-1994	CS	beh	N	–	–	–	–	–	–	<0.05 U
31-aug-1994	CS	bh	N	–	–	–	–	–	–	0.056
W-35A-05										
15-dec-1989	BC	an	U	–	–	–	–	–	–	<0.08 P
28-jan-1994	CS	a	V	–	<0.05 U	–	<0.0005 U	–	–	<0.01 U
28-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
19-apr-1994	CS	ag	V	–	<0.05 U	–	<0.005 U	–	–	<0.01 U
19-apr-1994	CS	ag	V	–	–	–	–	–	–	<0.05 U
02-sep-1994	CS	a	V	–	<0.025 U	<0.005 U	<0.0005 U	<0.01 U	–	<0.01 U
02-sep-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-35A-06										
06-mar-1990	BC	a	U	–	–	–	–	–	–	0.1 P
27-jan-1994	CS	a	V	–	<0.05 U	–	<0.0005 U	–	–	<0.01 U
27-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
18-apr-1994	CS	a	V	–	0.037	–	<0.0005 U	–	–	<0.01 U
18-apr-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
28-jul-1994	CS	ah	N	–	0.037	–	<0.0005 U	–	–	<0.01 U
28-jul-1994	CS	aeh	N	–	0.032	–	<0.0005 U	–	–	<0.01 U
28-jul-1994	CS	ah	N	–	–	–	–	–	–	<0.05 U
28-jul-1994	CS	aeh	N	–	–	–	–	–	–	<0.05 U
W-35A-07										
09-aug-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
09-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-35A-08										
08-aug-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
08-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-35A-09										
10-aug-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
10-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-35A-10										
10-aug-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
10-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-35A-11										
09-aug-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
09-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-35A-12										
08-aug-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
08-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-35A-13										
10-aug-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
10-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-7A										
27-oct-1988	BC	a	U	–	–	–	–	–	–	<0.02 P
17-jan-1989	BC	a	U	–	–	<0.001 P	–	<0.02 P	–	<0.02 P
04-apr-1989	BC	a	U	–	–	<0.01 P	–	<0.001 P	–	<0.02 P
05-jul-1989	BC	a	U	–	–	<0.01 P	–	<0.02 P	–	<0.02 P
11-oct-1989	BC	a	U	–	–	<0.001 P	–	<0.005 P	–	<0.02 P
14-feb-1990	BC	a	U	–	–	<0.0005 P	–	<0.005 P	–	<0.08 P
20-apr-1990	BC	ah	U	–	–	<0.0005 P	–	<0.005 P	–	<0.08 P
29-oct-1990	BC	a	U	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P
30-jan-1991	BC	a	U	–	–	<0.0005 P	–	<0.005 P	–	<0.005 P
02-may-1991	BC	a	U	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P
24-jul-1991	BC	a	U	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P
05-nov-1991	BC	a	U	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P
30-jan-1992	BC	a	U	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P
15-may-1992	BC	a	U	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P
27-jul-1992	BC	a	U	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P
07-dec-1992	BC	a	U	–	–	<0.0002 P	–	<0.005 P	–	<0.05 P

Results recorded by 17-nov-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								(continued) GSA Study Area and Offsite
								(continued) W-35A-04
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	31-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	31-aug-1994
								W-35A-05
0.49 P	–	<0.04 P	–	–	–	–	<0.01 P	15-dec-1989
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	28-jan-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	28-jan-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.01 U	<0.02 U	19-apr-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	19-apr-1994
–	0.0038	–	<0.0002 U	–	–	<0.001 U	<0.02 U	02-sep-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	02-sep-1994
								W-35A-06
0.06 P	–	0.08 P	–	–	–	–	0.06 P	06-mar-1990
–	<0.002 U	–	<0.0002 U	–	–	<0.0005 U	<0.02 U	27-jan-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	27-jan-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.01 U	<0.02 U	18-apr-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	18-apr-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	28-jul-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	28-jul-1994
<0.1 U	–	0.034	–	<0.1 U	–	–	<0.05 U	28-jul-1994
<0.1 U	–	0.039	–	<0.1 U	–	–	<0.05 U	28-jul-1994
								W-35A-07
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	09-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	09-aug-1994
								W-35A-08
–	<0.002 U	–	<0.0002 U	–	–	<0.02 U	<0.001 U	08-aug-1994
0.17	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	08-aug-1994
								W-35A-09
–	<0.002 U	–	–	–	<0.002 U	<0.001 UL	<0.02 U	10-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	10-aug-1994
								W-35A-10
–	<0.002 U	–	–	–	<0.002 U	<0.001 UL	<0.02 U	10-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	10-aug-1994
								W-35A-11
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	09-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	09-aug-1994
								W-35A-12
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	08-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	08-aug-1994
								W-35A-13
–	<0.002 U	–	–	–	<0.002 U	<0.001 UL	<0.02 U	10-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	10-aug-1994
								W-7A
<0.04 P	–	<0.04 P	–	–	–	–	<0.01 P	27-oct-1988
–	0.002 P	–	–	–	–	–	–	17-jan-1989
–	0.003 P	–	–	–	–	–	–	04-apr-1989
–	<0.001 P	–	–	–	–	–	–	05-jul-1989
–	0.002 P	–	–	–	–	–	–	11-oct-1989
–	<0.002 P	–	–	–	–	–	–	14-feb-1990
–	<0.002 P	–	–	–	–	–	–	20-apr-1990
–	<0.002 P	–	–	–	–	–	–	29-oct-1990
–	<0.002 P	–	–	–	–	–	–	30-jan-1991
–	<0.002 P	–	–	–	–	–	–	02-may-1991
–	<0.002 P	–	–	–	–	–	–	24-jul-1991
–	<0.002 P	–	–	–	–	–	–	05-nov-1991
–	<0.002 P	–	–	–	–	–	–	30-jan-1992
–	<0.002 P	–	–	–	–	–	–	15-may-1992
–	<0.002 P	–	–	–	–	–	–	27-jul-1992
–	<0.002 P	–	–	–	–	–	–	07-dec-1992

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.

Location Date	Lab	Notes	Val.	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
W-7A (continued)										
01-mar-1993	BC	a	V	–	–	<0.0002 U	–	<0.005 U	–	<0.05 U
19-may-1993	BC	a	V	–	–	<0.0002 U	–	<0.005 U	–	<0.02 U
10-aug-1993	CS	a	V	–	–	<0.0005 U	–	<0.01 U	–	<0.01 U
09-dec-1993	CS	ah	V	–	–	<0.0005 U	–	<0.01 U	–	<0.01 U
09-dec-1993	CS	aeh	V	–	–	<0.0005 U	–	<0.01 U	–	<0.01 U
18-jan-1994	CS	a	V	–	<0.05 U	<0.005 U	<0.0005 U	<0.01 U	–	<0.01 U
18-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
21-apr-1994	CS	a	V	–	<0.025 U	–	<0.005 U	–	–	<0.01 U
21-apr-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
02-sep-1994	CS	a	V	–	<0.025 U	<0.005 U	<0.0005 U	<0.01 U	–	<0.01 U
02-sep-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-7B										
26-oct-1988	BC	a	U	–	–	–	–	–	–	<0.02 P
W-7C										
26-oct-1988	BC	a	U	–	–	–	–	–	–	<0.02 P
10-jan-1994	CS	a	V	–	–	–	<0.001 U	<0.01 U	–	<0.01 U
10-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
18-apr-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
18-apr-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
20-jul-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
20-jul-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-7D										
26-oct-1988	BC	a	U	–	–	–	–	–	–	<0.02 P
30-apr-1991	BC	a	U	–	–	–	–	–	–	<0.05 P
18-jul-1991	BC	a	U	–	–	–	–	–	–	<0.05 P
09-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-7DS										
26-oct-1988	BC	a	U	–	–	–	–	–	–	<0.02 P
30-apr-1991	BC	a	U	–	–	–	–	–	–	<0.05 P
18-jul-1991	BC	a	U	–	–	–	–	–	–	<0.05 P
16-jan-1992	BC	a	U	<0.002 P	0.06 P	–	<0.0005 P	<0.005 P	–	–
W-7E										
27-oct-1988	BC	a	U	–	–	–	–	–	–	<0.02 P
16-jan-1992	BC	a	U	<0.002 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
14-jan-1994	CS	a	V	–	<0.05 U	–	<0.0005 U	<0.01 U	–	<0.01 U
14-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
18-apr-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
18-apr-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
20-jul-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
20-jul-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-7ES										
27-oct-1988	BC	a	U	–	–	–	–	–	–	<0.02 P
16-jan-1992	BC	a	U	<0.002 P	0.06 P	–	<0.0005 P	<0.005 P	–	–
14-jan-1994	CS	a	V	–	0.057	–	<0.0005 U	<0.01 U	–	<0.01 U
14-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
18-apr-1994	CS	a	V	–	0.055	–	<0.0005 U	–	–	<0.01 U
18-apr-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
21-jul-1994	CS	a	V	–	0.059	–	<0.0005 U	–	–	<0.01 U
21-jul-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-7F										
24-oct-1988	BC	a	U	–	–	–	–	–	–	<0.02 P
30-mar-1993	BC	a	V	<0.004 U	<0.1 U	–	<0.0005 U	<0.005 U	–	–
18-may-1993	BC	a	V	–	–	–	–	–	–	<0.02 DU
29-jul-1993	CS	ah	V	<0.005 U	<0.05 U	–	<0.001 U	<0.001 U	–	–
29-jul-1993	CS	aeh	V	<0.005 U	<0.05 U	–	<0.001 U	<0.001 U	–	–
29-jul-1993	CS	ah	V	–	–	–	–	–	–	<0.05 U
29-jul-1993	CS	aeh	V	–	–	–	–	–	–	<0.05 U
04-nov-1993	CS	a	V	<0.005 U	<0.05 U	–	<0.001 U	<0.01 U	–	–
04-nov-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
08-dec-1993	CS	a	V	0.0032	<0.05 U	–	<0.001 U	<0.01 U	–	–
08-dec-1993	CS	a	V	–	–	–	–	–	–	<0.05 U

Results recorded by 17-nov-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								(continued) GSA Study Area and Offsite
								(continued) W-7A
-	<0.002 U	-	-	-	-	-	-	01-mar-1993
-	<0.002 U	-	-	-	-	-	-	19-may-1993
-	<0.002 U	-	-	-	-	-	-	10-aug-1993
-	<0.002 U	-	-	-	-	-	-	09-dec-1993
-	<0.002 U	-	-	-	-	-	-	09-dec-1993
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	<0.05 U	18-jan-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	18-jan-1994
-	<0.002 U	-	<0.0002 U	-	-	<0.01 U	<0.02 U	21-apr-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	21-apr-1994
-	<0.002 U	-	0.00037	-	-	<0.001 U	<0.02 U	02-sep-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	02-sep-1994
								W-7B
<0.03 P	-	<0.01 P	-	-	-	-	<0.01 P	26-oct-1988
								W-7C
<0.03 P	-	0.02 P	-	-	-	-	<0.01 P	26-oct-1988
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	<0.02 U	10-jan-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	10-jan-1994
-	<0.002 U	-	<0.0002 U	-	-	<0.01 U	<0.02 U	18-apr-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	18-apr-1994
-	<0.002 U	-	0.00021	-	-	<0.001 U	<0.02 U	20-jul-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	20-jul-1994
								W-7D
<0.03 P	-	0.14 P	-	-	-	-	<0.01 P	26-oct-1988
<0.1 P	-	0.18 P	-	-	-	-	<0.05 P	30-apr-1991
0.1 P	-	0.25 P	-	-	-	-	<0.05 P	18-jul-1991
<0.1 U	-	0.17	-	<0.1 U	-	-	<0.05 U	09-aug-1994
								W-7DS
<0.03 P	-	<0.01 P	-	-	-	-	0.01 P	26-oct-1988
<0.1 P	-	<0.05 P	-	-	-	-	<0.05 P	30-apr-1991
<0.1 P	-	<0.05 P	-	-	-	-	<0.05 P	18-jul-1991
-	<0.002 P	-	<0.0002 P	-	0.004 P	<0.05 P	-	16-jan-1992
								W-7E
<0.04 P	-	<0.04 P	-	-	-	-	0.06 P	27-oct-1988
-	<0.002 P	-	0.0004 P	-	<0.002 P	<0.05 P	-	16-jan-1992
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	<0.05 U	14-jan-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	14-jan-1994
-	<0.002 U	-	<0.0002 U	-	-	<0.01 U	<0.02 U	18-apr-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	18-apr-1994
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	<0.02 U	20-jul-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	20-jul-1994
								W-7ES
0.06 P	-	<0.04 P	-	-	-	-	<0.01 P	27-oct-1988
-	<0.002 P	-	0.0004 P	-	0.004 P	<0.05 P	-	16-jan-1992
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	<0.05 U	14-jan-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	14-jan-1994
-	<0.002 U	-	<0.0002 U	-	-	<0.01 U	<0.02 U	18-apr-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	18-apr-1994
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	<0.02 U	21-jul-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	21-jul-1994
								W-7F
0.05 P	-	0.04 P	-	-	-	-	<0.01 P	24-oct-1988
-	<0.002 U	-	<0.0002 U	-	<0.002 U	<0.05 U	-	30-mar-1993
<0.1 DU	-	0.066 D	-	-	-	-	<0.05 DU	18-may-1993
-	<0.005 U	-	<0.0005 U	-	<0.005 U	<0.001 U	-	29-jul-1993
-	<0.005 U	-	<0.0005 U	-	<0.005 U	<0.001 U	-	29-jul-1993
<0.1 U	-	0.036	-	<0.1 U	-	-	<0.05 U	29-jul-1993
<0.1 U	-	0.035	-	<0.1 U	-	-	<0.05 U	29-jul-1993
-	<0.005 U	-	<0.0005 U	-	<0.005 U	<0.001 U	-	04-nov-1993
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	04-nov-1993
-	<0.002 U	-	<0.0005 U	-	<0.002 U	<0.001 U	-	08-dec-1993
<0.1 U	-	0.041	-	<0.1 U	-	-	<0.05 U	08-dec-1993

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.

GSA Study Area and Offsite (continued)

Location Date	Lab	Notes	Val.	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
W-7F (continued)										
18-jan-1994	CS	a	V	–	<0.05 U	<0.005 U	<0.0005 U	<0.01 U	–	<0.01 U
18-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
22-apr-1994	CS	a	V	–	<0.025 U	–	<0.005 U	–	–	<0.01 U
22-apr-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
09-aug-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
09-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-7G										
05-jul-1989	BC	a	U	–	–	–	–	–	–	<0.02 P
21-jul-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
21-jul-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-7H										
14-dec-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
25-mar-1993	BC	a	V	<0.002 U	<0.1 U	–	<0.0005 U	<0.005 U	–	–
02-aug-1994	CS	a	N	<0.002 U	<0.025 U	–	<0.0005 U	<0.01 U	–	–
02-aug-1994	CS	a	N	–	–	–	–	–	–	<0.05 U
W-7I										
16-nov-1989	BC	af	U	–	–	–	–	–	–	<0.08 P
26-mar-1993	BC	af	V	<0.002 U	<0.1 U	–	<0.0005 U	<0.005 U	–	–
17-may-1993	BC	af	V	–	–	–	–	–	–	<0.02 DU
17-may-1993	BC	a	V	0.0057	0.025	–	<0.001 DU	<0.005 DU	–	–
16-jul-1993	CS	a	V	0.0059	<0.05 U	–	<0.001 U	0.0013	–	<0.05 U
16-jul-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
04-nov-1993	CS	a	V	0.0095	<0.05 U	–	<0.001 U	<0.01 U	–	–
04-nov-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
17-feb-1994	CS	a	V	–	<0.05 U	–	<0.001 U	–	–	<0.05 U
22-feb-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
12-aug-1994	CS	a	N	0.0056	<0.025 U	–	<0.0005 U	<0.01 U	–	–
12-aug-1994	CS	a	N	–	–	–	–	–	–	<0.05 U
W-7J										
17-nov-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
18-may-1993	BC	a	V	–	–	–	–	–	–	<0.02 DU
29-jul-1993	CS	a	V	<0.005 U	<0.05 U	–	<0.001 U	<0.001 U	–	–
29-jul-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
02-nov-1993	CS	a	V	<0.005 U	<0.05 U	–	<0.001 U	<0.01 U	–	–
02-nov-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
23-feb-1994	CS	a	V	–	<0.05 U	–	<0.01 U	–	–	<0.05 U
23-feb-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
11-may-1994	CS	a	V	–	<0.025 U	–	<0.005 U	–	–	<0.01 U
11-may-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
02-sep-1994	CS	a	V	–	<0.025 U	<0.005 U	<0.0005 U	<0.01 U	–	<0.01 U
02-sep-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-7K										
16-mar-1990	BC	a	U	–	–	–	–	–	–	<0.08 P
06-may-1991	BC	a	U	–	–	–	–	–	–	<0.05 P
14-jan-1994	CS	a	V	–	<0.05 U	–	<0.0005 U	<0.01 U	–	<0.01 U
14-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
19-apr-1994	CS	a	V	–	<0.05 U	–	<0.005 U	–	–	<0.01 U
19-apr-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
09-aug-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
09-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-7L										
19-nov-1990	BC	a	U	0.003 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
19-nov-1990	BC	a	U	–	–	–	–	–	–	0.05 P
18-jan-1994	CS	a	V	–	<0.05 U	<0.005 U	<0.0005 U	<0.01 U	–	<0.01 U
18-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
19-apr-1994	CS	a	V	–	<0.05 U	–	<0.005 U	–	–	<0.01 U
19-apr-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
08-aug-1994	CS	ag	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
08-aug-1994	CS	ag	V	–	–	–	–	–	–	<0.05 U

Results recorded by 17-nov-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								(continued) GSA Study Area and Offsite
								(continued) W-7F
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.05 U	18-jan-1994
<0.1 U	–	0.033	–	<0.1 U	–	–	<0.05 U	18-jan-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.01 U	<0.02 U	22-apr-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	22-apr-1994
–	<0.002 U	–	–	–	<0.002 U	<0.001 UL	<0.02 U	09-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	09-aug-1994
								W-7G
0.07 P	–	0.06 P	–	–	–	–	0.05 P	05-jul-1989
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	21-jul-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	21-jul-1994
								W-7H
0.07 P	–	0.07 P	–	–	–	–	0.04 P	14-dec-1989
–	<0.002 U	–	<0.0002 U	–	<0.002 U	<0.05 U	–	25-mar-1993
–	0.0063	–	<0.0002 U	–	<0.002 U	<0.001 U	–	02-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	02-aug-1994
								W-7I
1.9 P	–	0.08 P	–	–	–	–	0.08 P	16-nov-1989
–	0.0022	–	<0.0002 U	–	<0.002 U	<0.05 U	–	26-mar-1993
<0.1 DU	–	<0.01 DU	–	–	–	–	<0.05 DU	17-may-1993
–	<0.002 U	–	<0.0002 HU	–	<0.002 U	<0.01 U	–	17-may-1993
0.048	<0.005 U	0.056	<0.0005 U	–	<0.005 U	<0.001 U	<0.05 U	16-jul-1993
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	16-jul-1993
–	<0.005 U	–	<0.0005 U	–	<0.005 U	<0.001 U	–	04-nov-1993
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	04-nov-1993
–	0.0023	–	0.0021	–	–	<0.001 U	<0.02 U	17-feb-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	22-feb-1994
–	<0.002 U	–	<0.0002 U	–	<0.002 U	<0.001 U	–	12-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	12-aug-1994
								W-7J
0.11 P	–	<0.04 P	–	–	–	–	0.07 P	17-nov-1989
<0.1 DU	–	0.012 D	–	–	–	–	<0.05 DU	18-may-1993
–	<0.005 U	–	<0.0005 U	–	<0.005 U	<0.001 U	–	29-jul-1993
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	29-jul-1993
–	<0.005 U	–	<0.0005 U	–	<0.005 U	<0.001 U	–	02-nov-1993
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	02-nov-1993
–	<0.002 U	–	<0.0002 U	–	–	<0.05 U	<0.05 U	23-feb-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	23-feb-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.01 U	<0.02 U	11-may-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	11-may-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	02-sep-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	02-sep-1994
								W-7K
<0.04 P	–	<0.04 P	–	–	–	–	<0.05 P	16-mar-1990
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	06-may-1991
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.05 U	14-jan-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	14-jan-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.01 U	<0.02 U	19-apr-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	19-apr-1994
–	<0.002 U	–	–	–	<0.002 U	<0.001 UL	<0.02 U	09-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	09-aug-1994
								W-7L
–	<0.002 P	–	<0.001 P	–	<0.002 P	<0.05 P	–	19-nov-1990
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	19-nov-1990
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.05 U	18-jan-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	18-jan-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.01 U	<0.02 U	19-apr-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	19-apr-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	08-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	08-aug-1994

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.

Location Date	Lab	Notes	Val.	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
W-7M										
20-nov-1990	BC	a	U	0.002 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
20-nov-1990	BC	a	U	–	–	–	–	–	–	<0.05 P
10-jan-1994	CS	a	V	–	–	–	<0.001 U	<0.01 U	–	<0.01 U
10-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
20-apr-1994	CS	a	V	–	<0.025 U	–	<0.005 U	–	–	<0.01 U
20-apr-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
26-jul-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
26-jul-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-7N										
19-nov-1990	BC	a	U	0.009 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
19-nov-1990	BC	a	U	–	–	–	–	–	–	<0.05 P
07-feb-1991	BC	a	U	0.007 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
10-jan-1994	CS	a	V	–	–	–	<0.001 U	<0.01 U	–	<0.01 U
10-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
20-apr-1994	CS	a	V	–	0.053	–	<0.005 U	–	–	<0.01 U
20-apr-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
08-aug-1994	CS	ag	V	–	0.045	–	<0.0005 U	–	–	<0.01 U
08-aug-1994	CS	ag	V	–	–	–	–	–	–	<0.05 U
W-7O										
17-mar-1992	BC	af	U	–	–	–	–	–	–	<0.05 P
17-mar-1992	BC	af	U	0.005 P	<0.05 P	–	<0.0005 P	0.006 P	–	–
17-may-1993	BC	a	V	0.0032	0.053	–	<0.001 DU	<0.005 DU	–	–
18-may-1993	BC	a	V	–	–	–	–	–	–	<0.02 DU
16-jul-1993	CS	a	V	<0.005 U	0.054	–	<0.001 U	0.0041	–	<0.05 U
16-jul-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
01-nov-1993	CS	a	V	0.0063	<0.05 U	–	<0.001 U	<0.01 U	–	–
01-nov-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
18-jan-1994	CS	a	V	–	<0.05 U	<0.005 U	<0.0005 U	<0.01 U	–	<0.01 U
18-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
03-may-1994	CS	ah	V	–	0.046	–	<0.0005 U	–	–	<0.01 U
03-may-1994	CS	aeh	V	–	0.047	–	<0.0005 U	–	–	<0.01 U
03-may-1994	CS	ah	V	–	–	–	–	–	–	<0.05 U
03-may-1994	CS	aeh	V	–	–	–	–	–	–	<0.05 U
02-sep-1994	CS	a	V	–	0.038	<0.005 U	<0.0005 U	<0.01 U	–	0.78
02-sep-1994	CS	a	V	–	–	–	–	–	–	1.1
W-7P										
11-aug-1994	CS	a	V	–	0.047	–	<0.0005 U	–	–	<0.01 U
11-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-7PS										
11-aug-1994	CS	a	V	–	0.058	–	<0.0005 U	–	–	<0.01 U
11-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-843-01										
07-mar-1990	BC	a	U	–	–	–	–	–	–	<0.08 P
21-jul-1994	CS	a	V	–	0.029	–	<0.0005 U	–	–	<0.01 U
21-jul-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-843-02										
02-may-1990	BC	ag	U	–	–	–	–	–	–	<0.08 P
02-aug-1994	CS	a	N	0.02	<0.025 U	–	<0.0005 U	<0.01 U	–	–
02-aug-1994	CS	a	N	–	–	–	–	–	–	<0.05 U
W-872-01										
06-mar-1990	BC	a	U	–	–	–	–	–	–	0.1 P
23-mar-1993	BC	a	V	0.0051	<0.1 U	–	<0.0005 U	<0.005 U	–	–
22-feb-1994	CS	a	V	–	0.13	–	<0.01 U	–	–	<0.05 U
22-feb-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
03-may-1994	CS	a	V	–	<0.05 U	–	<0.0005 U	–	–	<0.01 U
03-may-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-872-02										
08-nov-1990	BC	a	U	0.006 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
08-nov-1990	BC	a	U	–	–	–	–	–	–	<0.05 P
03-aug-1994	CS	a	N	–	0.041	–	<0.0005 U	–	–	<0.01 U

Results recorded by 17-nov-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								(continued) GSA Study Area and Offsite
								W-7M
–	<0.002 P	–	<0.001 P	–	<0.002 P	<0.05 P	–	20-nov-1990
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	20-nov-1990
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	10-jan-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	10-jan-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.01 U	<0.02 U	20-apr-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	20-apr-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	26-jul-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	26-jul-1994
								W-7N
–	<0.002 P	–	0.002 P	–	<0.002 P	<0.05 P	–	19-nov-1990
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	19-nov-1990
–	<0.002 P	–	<0.001 P	–	<0.002 P	<0.05 P	–	07-feb-1991
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	10-jan-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	10-jan-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.01 U	<0.02 U	20-apr-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	20-apr-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	0.045	08-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	08-aug-1994
								W-7O
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	17-mar-1992
–	<0.002 P	–	<0.0002 P	–	0.018 P	<0.0005 P	–	17-mar-1992
–	<0.002 U	–	<0.0002 HU	–	0.012	<0.01 U	–	17-may-1993
<0.1 DU	–	<0.01 DU	–	–	–	–	<0.05 DU	18-may-1993
0.086	<0.005 U	<0.03 U	<0.0005 U	–	0.014	<0.001 U	<0.05 U	16-jul-1993
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	16-jul-1993
–	<0.005 U	–	<0.0005 U	–	0.014	<0.001 U	–	01-nov-1993
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	01-nov-1993
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.05 U	18-jan-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	18-jan-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	03-may-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	03-may-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	03-may-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	03-may-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	0.53	02-sep-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	0.82	02-sep-1994
								W-7P
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	11-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	11-aug-1994
								W-7PS
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	11-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	11-aug-1994
								W-843-01
0.1 P	–	0.14 P	–	–	–	–	0.06 P	07-mar-1990
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	21-jul-1994
0.4	–	0.059	–	<0.1 U	–	–	<0.05 U	21-jul-1994
								W-843-02
<0.04 P	–	0.07 P	–	–	–	–	<0.05 P	02-may-1990
–	0.0029	–	<0.0002 U	–	0.0034	<0.001 U	–	02-aug-1994
<0.1 U	–	0.055	–	<0.1 U	–	–	<0.05 U	02-aug-1994
								W-872-01
0.07 P	–	0.05 P	–	–	–	–	0.06 P	06-mar-1990
–	<0.002 U	–	<0.0002 U	–	<0.002 U	<0.05 U	–	23-mar-1993
–	0.012	–	<0.0002 U	–	–	<0.05 U	0.055	22-feb-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	22-feb-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	03-may-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	03-may-1994
								W-872-02
–	<0.002 P	–	<0.001 P	–	0.002 P	<0.05 P	–	08-nov-1990
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	08-nov-1990
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	03-aug-1994

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.

Location Date	Lab	Notes	Val.	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
W-872-02 (continued)										
03-aug-1994	CS	a	N	–	–	–	–	–	–	<0.05 U
W-873-01										
25-oct-1988	BC	a	U	–	–	–	–	–	–	<0.02 P
26-jul-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
26-jul-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-873-02										
28-oct-1988	BC	a	U	–	–	–	–	–	–	<0.02 P
26-jul-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
26-jul-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-873-03										
26-oct-1988	BC	a	U	–	–	–	–	–	–	<0.02 P
21-jul-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
21-jul-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-873-04										
16-aug-1990	BC	a	U	–	–	–	–	–	–	<0.05 P
01-apr-1994	CS	a	V	–	<0.05 U	–	<0.0005 U	–	–	<0.01 U
01-sep-1994	CS	a	V	–	0.026	<0.005 U	<0.0005 U	<0.01 U	–	<0.01 U
01-sep-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-873-06										
21-nov-1990	BC	a	U	0.018 P	<0.05 P	–	<0.0005 P	0.008 P	–	–
21-nov-1990	BC	a	U	–	–	–	–	–	–	<0.05 P
25-jan-1994	CS	ag	V	–	<0.05 U	–	<0.001 U	–	–	<0.05 U
25-jan-1994	CS	ag	V	–	–	–	–	–	–	<0.05 U
15-jul-1994	CS	a	V	–	<0.025 U	–	100	–	–	<0.01 U
15-jul-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-873-07										
20-nov-1990	BC	a	U	0.02 P	<0.05 P	–	<0.0005 P	0.028 P	–	–
20-nov-1990	BC	a	U	–	–	–	–	–	–	<0.05 P
25-jan-1994	CS	a	V	–	<0.05 U	–	<0.001 U	–	–	<0.05 U
25-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
15-jul-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
15-jul-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-875-01										
25-oct-1988	BC	a	U	–	–	–	–	–	–	<0.02 P
16-aug-1990	BC	a	U	0.003 P	<0.05 P	–	<0.0005 P	0.005 P	–	–
16-aug-1990	BC	a	U	0.003 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
16-aug-1990	BC	a	U	–	–	–	–	–	–	0.018 P
03-aug-1994	CS	a	N	–	0.073	–	0.0007	–	–	0.1
03-aug-1994	CS	a	N	–	–	–	–	–	–	<0.05 U
W-875-02										
13-feb-1990	BC	a	U	–	–	–	–	–	–	<0.08 P
23-mar-1993	BC	a	V	0.0029	<0.1 U	–	<0.0005 U	<0.005 U	–	–
26-jan-1994	CS	a	V	–	<0.05 U	–	<0.0005 U	–	–	<0.01 U
26-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
04-may-1994	CS	a	V	–	<0.025 U	–	<0.005 U	–	–	<0.01 U
04-may-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
24-aug-1994	CS	a	N	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
24-aug-1994	CS	a	N	–	–	–	–	–	–	<0.05 U
W-875-03										
13-feb-1990	BC	a	U	–	–	–	–	–	–	<0.08 P
04-may-1994	CS	a	V	–	0.026	–	<0.005 U	–	–	<0.01 U
04-may-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-875-04										
13-feb-1990	BC	a	U	–	–	–	–	–	–	<0.08 P
20-apr-1993	BC	a	V	<0.002 U	<0.1 U	–	<0.0005 U	<0.005 U	–	–
18-may-1993	BC	a	V	0.0035	0.022	–	<0.0005 U	<0.005 U	–	–
22-feb-1994	CS	a	V	–	0.05	–	<0.01 U	–	–	<0.05 U
22-feb-1994	CS	a	V	–	–	–	–	–	–	<0.05 U

Results recorded by 17-nov-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								(continued) GSA Study Area and Offsite
								(continued) W-872-02
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	03-aug-1994
								W-873-01
0.03 P	–	<0.01 P	–	–	–	–	<0.01 P	25-oct-1988
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	26-jul-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	26-jul-1994
								W-873-02
0.36 P	–	0.06 P	–	–	–	–	0.05 P	28-oct-1988
–	<0.002 U	–	<0.0002 U	–	–	<0.0005 U	0.028	26-jul-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	26-jul-1994
								W-873-03
<0.03 P	–	0.07 P	–	–	–	–	0.11 P	26-oct-1988
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	21-jul-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	21-jul-1994
								W-873-04
<0.1 P	–	<0.04 P	–	–	–	–	<0.05 P	16-aug-1990
–	<0.002 U	–	<0.0002 U	–	–	<0.01 U	0.027	01-apr-1994
–	0.0037	–	<0.0002 U	–	–	<0.001 U	<0.02 U	01-sep-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	01-sep-1994
								W-873-06
–	<0.002 P	–	<0.001 P	–	0.005 P	<0.05 P	–	21-nov-1990
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	21-nov-1990
–	<0.002 U	–	<0.0005 U	–	–	<0.001 U	<0.05 U	25-jan-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	25-jan-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 UR	<0.02 U	15-jul-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	15-jul-1994
								W-873-07
–	<0.002 P	–	<0.001 P	–	0.005 P	<0.05 P	–	20-nov-1990
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	20-nov-1990
–	<0.002 U	–	<0.0005 U	–	–	<0.001 U	<0.05 U	25-jan-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	25-jan-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 UR	<0.02 U	15-jul-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	15-jul-1994
								W-875-01
0.09 P	–	0.02 P	–	–	–	–	<0.01 P	25-oct-1988
–	<0.002 P	–	<0.001 P	–	<0.002 P	<0.05 P	–	16-aug-1990
–	<0.002 P	–	<0.0005 P	–	<0.002 P	<0.05 P	–	16-aug-1990
–	–	–	–	–	–	–	–	16-aug-1990
–	0.0096	–	<0.0002 U	–	–	<0.001 U	0.16	03-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	03-aug-1994
								W-875-02
<0.04 P	–	<0.04 P	–	–	–	–	<0.01 P	13-feb-1990
–	<0.002 U	–	<0.0002 U	–	<0.002 U	<0.05 U	–	23-mar-1993
–	<0.002 U	–	<0.0002 U	–	–	<0.0005 U	<0.02 U	26-jan-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	26-jan-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.01 U	<0.02 U	04-may-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	04-may-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.02 U	<0.001 U	24-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	24-aug-1994
								W-875-03
<0.04 P	–	<0.04 P	–	–	–	–	<0.01 P	13-feb-1990
–	<0.002 U	–	<0.0002 U	–	–	<0.01 U	<0.02 U	04-may-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	04-may-1994
								W-875-04
0.11 P	–	<0.04 P	–	–	–	–	<0.01 P	13-feb-1990
–	<0.002 U	–	<0.0002 U	–	<0.002 U	<0.05 U	–	20-apr-1993
–	<0.002 U	–	<0.0002 U	–	<0.002 U	<0.01 U	–	18-may-1993
–	0.0033	–	<0.0002 U	–	–	<0.05 U	<0.05 U	22-feb-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	22-feb-1994

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.

Location Date	Lab	Notes	Val.	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
W-875-04 (continued)										
04-may-1994	CS	a	V	–	<0.025 U	–	<0.005 U	–	–	<0.01 U
04-may-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
02-sep-1994	CS	a	V	–	0.038	<0.005 U	<0.0005 U	<0.01 U	–	<0.01 U
02-sep-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-875-05										
13-feb-1990	BC	a	U	–	–	–	–	–	–	<0.08 P
25-jan-1994	CS	a	V	–	<0.05 U	–	<0.001 U	–	–	<0.05 U
25-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
01-sep-1994	CS	a	V	–	<0.025 U	<0.005 U	<0.0005 U	<0.01 U	–	<0.01 U
01-sep-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-875-06										
16-jun-1992	BC	a	U	0.009 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
16-jun-1992	BC	a	U	–	–	–	–	–	–	<0.05 P
W-875-07										
12-jun-1992	BC	af	U	0.006 P	0.06 P	–	<0.0005 P	<0.005 P	–	–
12-jun-1992	BC	af	U	–	–	–	–	–	–	<0.05 P
26-mar-1993	BC	af	V	<0.002 U	<0.1 U	–	<0.0005 U	<0.005 U	–	–
17-may-1993	BC	af	V	–	–	–	–	–	–	0.02 D
17-may-1993	BC	a	V	0.0066	0.065	–	<0.001 DU	<0.005 DU	–	–
16-jul-1993	CS	a	V	0.0066	0.062	–	<0.001 U	0.0091	–	<0.05 U
16-jul-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
03-nov-1993	CS	a	V	0.013	0.054	–	<0.001 U	<0.01 U	–	–
03-nov-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
W-875-08										
08-dec-1992	BC	af	U	–	–	–	–	–	–	<0.05 P
08-dec-1992	BC	af	U	0.0039 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
26-mar-1993	BC	af	V	<0.002 U	<0.1 U	–	<0.0005 U	<0.005 U	–	–
17-may-1993	BC	af	V	–	–	–	–	–	–	<0.02 DU
17-may-1993	BC	a	V	0.0044	0.026	–	<0.001 DU	<0.005 DU	–	–
16-jul-1993	CS	a	V	<0.005 U	<0.05 U	–	<0.001 U	0.0018	–	<0.05 U
16-jul-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
01-nov-1993	CS	a	V	0.0056	<0.05 U	–	<0.001 U	<0.01 U	–	–
01-nov-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
23-feb-1994	CS	a	V	–	<0.05 U	–	<0.01 U	–	–	<0.05 U
23-feb-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
12-aug-1994	CS	a	N	<0.002 U	<0.025 U	–	<0.0005 U	<0.01 U	–	–
12-aug-1994	CS	a	N	–	–	–	–	–	–	<0.05 U
W-875-09										
26-mar-1993	BC	af	V	<0.002 U	<0.1 U	–	<0.0005 U	<0.005 U	–	–
17-may-1993	BC	af	V	–	–	–	–	–	–	<0.02 DU
17-may-1993	BC	a	V	0.0041	0.033	–	<0.001 DU	<0.005 DU	–	–
16-jul-1993	CS	a	V	0.0055	0.1	–	<0.001 U	0.0021	–	<0.05 U
16-jul-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
19-jul-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
01-nov-1993	CS	a	V	0.0086	<0.05 U	–	<0.001 U	<0.01 U	–	–
01-nov-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
W-875-10										
26-mar-1993	BC	af	V	0.0033	<0.1 U	–	<0.0005 U	<0.005 U	–	–
17-may-1993	BC	af	V	–	–	–	–	–	–	<0.02 DU
17-may-1993	BC	a	V	0.01	0.042	–	<0.001 DU	<0.005 DU	–	–
16-jul-1993	CS	a	V	0.0053	0.45	–	<0.001 U	0.022	–	<0.05 U
16-jul-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
02-nov-1993	CS	a	V	0.027	2	–	<0.001 U	0.057	–	–
02-nov-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
W-875-11										
26-mar-1993	BC	af	V	<0.002 U	<0.1 U	–	<0.0005 U	<0.005 U	–	–
17-may-1993	BC	af	V	–	–	–	–	–	–	<0.02 DU
17-may-1993	BC	a	V	0.042	0.039	–	<0.001 DU	0.032 D	–	–
16-jul-1993	CS	a	V	0.013	0.8	–	<0.001 U	0.041	–	<0.05 U
16-jul-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
03-nov-1993	CS	a	V	0.011	0.48	–	<0.001 U	<0.01 U	–	–

Results recorded by 17-nov-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								(continued) GSA Study Area and Offsite
								(continued) W-875-04
-	<0.002 U	-	<0.0002 U	-	-	<0.01 U	<0.02 U	04-may-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	04-may-1994
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	0.034	02-sep-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	02-sep-1994
								W-875-05
<0.04 P	-	<0.04 P	-	-	-	-	<0.01 P	13-feb-1990
-	<0.002 U	-	<0.0005 U	-	-	<0.001 U	<0.05 U	25-jan-1994
0.19	-	0.058	-	<0.1 U	-	-	<0.05 U	25-jan-1994
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	<0.02 U	01-sep-1994
<0.1 U	-	0.055	-	<0.1 U	-	-	<0.05 U	01-sep-1994
								W-875-06
-	<0.002 P	-	<0.0002 P	-	0.002 P	<0.05 P	-	16-jun-1992
<0.1 P	-	<0.05 P	-	-	-	-	<0.05 P	16-jun-1992
								W-875-07
-	0.003 P	-	<0.0002 P	-	0.003 P	<0.05 P	-	12-jun-1992
0.2 P	-	0.82 P	-	-	-	-	<0.05 P	12-jun-1992
-	<0.002 U	-	<0.0002 U	-	<0.002 U	<0.05 U	-	26-mar-1993
0.19 D	-	0.38 D	-	-	-	-	0.043 D	17-may-1993
-	<0.002 U	-	<0.0002 HU	-	0.0028	<0.01 U	-	17-may-1993
0.18	<0.005 U	0.55	<0.0005 U	-	0.0053	<0.001 U	<0.05 U	16-jul-1993
<0.1 U	-	0.6	-	<0.1 U	-	-	<0.05 U	16-jul-1993
-	<0.005 U	-	<0.0005 U	-	<0.005 U	<0.001 U	-	03-nov-1993
<0.1 U	-	0.57	-	<0.1 U	-	-	<0.05 U	03-nov-1993
								W-875-08
<0.1 P	-	0.073 P	-	-	-	-	<0.05 P	08-dec-1992
-	<0.002 P	-	<0.0002 P	-	<0.002 P	<0.05 P	-	08-dec-1992
-	<0.002 U	-	<0.0002 U	-	<0.002 U	<0.05 U	-	26-mar-1993
<0.1 DU	-	0.11 D	-	-	-	-	<0.04 DU	17-may-1993
-	<0.002 U	-	<0.0002 HU	-	<0.002 U	<0.01 U	-	17-may-1993
0.042	<0.005 U	0.075	<0.0005 U	-	<0.005 U	<0.001 U	<0.05 U	16-jul-1993
<0.1 U	-	0.048	-	<0.1 U	-	-	<0.05 U	16-jul-1993
-	<0.005 U	-	<0.0005 U	-	<0.005 U	<0.001 U	-	01-nov-1993
<0.1 U	-	0.085	-	<0.1 U	-	-	<0.05 U	01-nov-1993
-	<0.002 U	-	<0.0002 U	-	-	<0.05 U	<0.05 U	23-feb-1994
<0.1 U	-	0.036	-	<0.1 U	-	-	<0.05 U	23-feb-1994
-	<0.002 U	-	<0.0002 U	-	<0.002 U	<0.001 U	-	12-aug-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	12-aug-1994
								W-875-09
-	<0.002 U	-	<0.0002 U	-	<0.002 U	<0.05 U	-	26-mar-1993
0.3 D	-	0.11 D	-	-	-	-	<0.04 DU	17-may-1993
-	<0.002 U	-	<0.0002 HU	-	<0.002 U	<0.01 U	-	17-may-1993
0.22	<0.005 U	0.081	<0.0005 U	-	<0.005 U	<0.001 U	<0.05 U	16-jul-1993
<0.1 U	-	0.049	-	<0.1 U	-	-	<0.05 U	16-jul-1993
<0.1 U	-	0.089	-	<0.1 U	-	-	<0.05 U	19-jul-1993
-	<0.005 U	-	<0.0005 U	-	<0.005 U	<0.001 U	-	01-nov-1993
<0.1 U	-	0.09	-	<0.1 U	-	-	<0.05 U	01-nov-1993
								W-875-10
-	<0.002 U	-	<0.0002 U	-	<0.002 U	<0.05 U	-	26-mar-1993
<0.1 DU	-	0.066 D	-	-	-	-	<0.05 DU	17-may-1993
-	<0.002 U	-	<0.0002 HU	-	0.0039	<0.01 U	-	17-may-1993
11	<0.005 U	1.2	<0.0005 U	-	<0.005 U	<0.001 U	0.073	16-jul-1993
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	16-jul-1993
-	0.021	-	<0.0005 U	-	<0.005 U	<0.001 U	-	02-nov-1993
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	02-nov-1993
								W-875-11
-	<0.002 U	-	<0.0002 U	-	<0.002 U	<0.05 U	-	26-mar-1993
0.22 D	-	0.01 D	-	-	-	-	<0.04 DU	17-may-1993
-	0.0028	-	<0.0002 HU	-	0.011	<0.01 U	-	17-may-1993
0.27	<0.005 U	<0.03 U	<0.0005 U	-	0.0094	<0.001 U	<0.05 U	16-jul-1993
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	16-jul-1993
-	<0.005 U	-	<0.0005 U	-	<0.005 U	<0.001 U	-	03-nov-1993

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.

Location Date	Lab	Notes	Val.	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
W-875-11 (continued)										
03-nov-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
W-875-15										
26-mar-1993	BC	af	V	0.0057	<0.1 U	–	<0.0005 U	<0.005 U	–	–
17-may-1993	BC	af	V	–	–	–	–	–	–	<0.02 DU
17-may-1993	BC	a	V	0.0041	0.025	–	<0.001 DU	<0.005 DU	–	–
16-jul-1993	CS	a	V	<0.005 U	<0.05 U	–	<0.001 U	0.01	–	<0.05 U
16-jul-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
03-nov-1993	CS	a	V	0.0098	<0.05 U	–	<0.001 U	0.016	–	–
03-nov-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
W-876-01										
13-feb-1990	BC	a	U	–	–	–	–	–	–	<0.08 P
03-aug-1994	CS	a	N	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
03-aug-1994	CS	a	N	–	–	–	–	–	–	<0.05 U
W-879-01										
20-apr-1990	BC	a	U	0.013 P	<0.05 P	<0.01 P	<0.04 P	<0.05 P	–	<0.08 P
20-apr-1990	BC	a	U	–	–	–	–	–	–	<0.08 P
26-jul-1994	CS	a	V	–	0.049	–	<0.0005 U	–	–	<0.01 U
26-jul-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-889-01										
24-oct-1988	BC	a	U	–	–	–	–	–	–	<0.02 P
22-feb-1994	CS	ag	V	–	<0.05 U	–	<0.01 U	–	–	<0.05 U
22-feb-1994	CS	ag	V	–	–	–	–	–	–	<0.05 U
08-aug-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
08-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
WELL07										
07-jan-1985	HC	b	N	–	–	<0.0005 P	–	–	–	–
29-jan-1985	HC	b	N	–	–	0.0007 P	–	–	–	–
11-mar-1985	HC	b	N	–	–	<0.001 P	–	–	–	–
10-apr-1985	HC	b	N	–	–	<0.001 P	–	–	–	–
08-may-1985	BC	b	N	–	–	–	–	<0.02 P	–	<0.01 P
26-jul-1985	HC	b	N	–	–	<0.0005 P	–	–	–	–
14-oct-1985	HC	beh	N	–	–	<0.0003 P	–	–	–	–
14-oct-1985	HC	b	N	–	–	<0.0003 P	–	–	–	–
21-feb-1986	HC	b	N	–	–	0.0003 P	–	–	–	–
07-apr-1986	HC	b	N	–	–	<0.0005 P	–	–	–	–
14-aug-1986	BC	b	N	–	–	–	–	<0.02 P	–	<0.02 P
13-oct-1986	HC	b	N	–	–	<0.03 P	–	–	–	–
12-feb-1987	HC	b	N	–	–	0.0006 P	–	–	–	–
21-may-1987	BC	b	N	–	–	<0.01 P	–	<0.02 P	–	<0.02 P
16-jul-1987	BC	b	N	–	–	<0.01 P	–	0.0005 P	–	<0.02 P
21-jul-1987	HC	b	N	–	–	<0.0002 P	–	–	–	–
08-oct-1987	BC	b	N	0.003 P	–	<0.0001 P	–	0.0003 P	–	0.0031 P
13-jan-1988	BC	b	N	–	–	<0.0001 P	–	<0.02 P	–	<0.02 P
12-may-1988	BC	bh	N	–	–	<0.0001 P	–	0.0003 P	–	<0.02 P
12-may-1988	BC	bh	N	–	–	<0.0001 P	–	0.0008 P	–	<0.02 P
18-aug-1988	BC	b	N	–	–	0.0001 P	–	–	–	–
12-oct-1988	BC	b	N	–	–	<0.0001 P	–	<0.02 P	–	<0.08 P
07-may-1989	HC	b l	N	–	–	<0.001 P	–	–	–	–
WELL19										
07-apr-1986	HC	b	N	–	–	<0.0005 P	–	–	–	–
14-aug-1986	BC	b	N	–	–	–	–	<0.02 P	–	<0.02 P
13-oct-1986	HC	b	N	–	–	<0.03 P	–	–	–	–
12-feb-1987	HC	b	N	–	–	<0.0003 P	–	–	–	–
21-may-1987	BC	b	N	–	–	<0.01 P	–	<0.02 P	–	<0.02 P
17-jul-1987	BC	b	N	–	–	<0.01 P	–	0.0001 P	–	<0.02 P
21-jul-1987	HC	b	N	–	–	<0.0002 P	–	–	–	–
08-oct-1987	BC	b	N	<0.002 P	–	<0.0001 P	–	0.0003 P	–	0.0067 P
13-jan-1988	BC	b	N	–	–	<0.0001 P	–	<0.02 P	–	<0.02 P
10-may-1988	BC	b	N	–	–	<0.0001 P	–	0.0003 P	–	<0.02 P
17-aug-1988	BC	bh	N	–	–	0.0001 P	–	–	–	–
17-aug-1988	BC	bh	N	–	–	0.0001 P	–	–	–	–
11-oct-1988	BC	b	N	–	–	<0.0001 P	–	<0.02 P	–	<0.02 P

Results recorded by 17-nov-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								(continued) GSA Study Area and Offsite
								(continued) W-875-11
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	03-nov-1993
								W-875-15
-	<0.002 U	-	<0.0002 U	-	<0.002 U	<0.05 U	-	26-mar-1993
<0.1 DU	-	<0.01 DU	-	-	-	-	<0.04 DU	17-may-1993
-	<0.002 U	-	<0.0002 HU	-	<0.002 U	<0.01 U	-	17-may-1993
0.89	<0.005 U	0.042	<0.0005 U	-	<0.005 U	<0.001 U	<0.05 U	16-jul-1993
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	16-jul-1993
-	<0.005 U	-	<0.0005 U	-	<0.005 U	<0.001 U	-	03-nov-1993
<0.1 U	-	0.049	-	<0.1 U	-	-	<0.05 U	03-nov-1993
								W-876-01
<0.04 P	-	<0.04 P	-	-	-	-	<0.01 P	13-feb-1990
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	<0.02 U	03-aug-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	03-aug-1994
								W-879-01
-	<0.3 P	-	<0.0001 P	<0.03 P	<0.002 P	<0.02 P	0.09 P	20-apr-1990
<0.04 P	-	0.05 P	-	-	-	-	<0.05 P	20-apr-1990
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	<0.02 U	26-jul-1994
<0.1 U	-	0.055	-	<0.1 U	-	-	<0.05 U	26-jul-1994
								W-889-01
0.81 P	-	0.04 P	-	-	-	-	<0.01 P	24-oct-1988
-	<0.002 U	-	<0.0002 U	-	-	<0.05 U	<0.05 U	22-feb-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	22-feb-1994
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	<0.02 U	08-aug-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	08-aug-1994
								WELL07
-	-	-	-	-	-	-	-	07-jan-1985
-	-	-	-	-	-	-	-	29-jan-1985
-	-	-	-	-	-	-	-	11-mar-1985
-	-	-	-	-	-	-	-	10-apr-1985
-	<0.1 P	-	-	-	-	-	-	08-may-1985
-	-	-	-	-	-	-	-	26-jul-1985
-	-	-	-	-	-	-	-	14-oct-1985
-	-	-	-	-	-	-	-	14-oct-1985
-	-	-	-	-	-	-	-	21-feb-1986
-	-	-	-	-	-	-	-	07-apr-1986
-	0.001 P	-	-	-	-	-	-	14-aug-1986
-	-	-	-	-	-	-	-	13-oct-1986
-	-	-	-	-	-	-	-	12-feb-1987
-	<0.001 P	-	-	-	-	-	-	21-may-1987
-	<0.001 P	-	-	-	-	-	-	16-jul-1987
-	-	-	-	-	-	-	-	21-jul-1987
0.11 P	<0.001 P	0.11 P	-	-	-	-	<0.01 P	08-oct-1987
-	0.007 P	-	-	-	-	-	-	13-jan-1988
-	0.006 P	-	-	-	-	-	-	12-may-1988
-	0.006 P	-	-	-	-	-	-	12-may-1988
-	0.001 P	-	-	-	-	-	-	18-aug-1988
-	0.003 P	-	-	-	-	-	-	12-oct-1988
-	-	-	-	-	-	-	-	07-may-1989
								WELL19
-	-	-	-	-	-	-	-	07-apr-1986
-	0.002 P	-	-	-	-	-	-	14-aug-1986
-	-	-	-	-	-	-	-	13-oct-1986
-	-	-	-	-	-	-	-	12-feb-1987
-	<0.001 P	-	-	-	-	-	-	21-may-1987
-	<0.001 P	-	-	-	-	-	-	17-jul-1987
-	-	-	-	-	-	-	-	21-jul-1987
<0.03 P	<0.001 P	<0.01 P	-	-	-	-	<0.01 P	08-oct-1987
-	0.011 P	-	-	-	-	-	-	13-jan-1988
-	0.004 P	-	-	-	-	-	-	10-may-1988
-	0.002 P	-	-	-	-	-	-	17-aug-1988
-	0.003 P	-	-	-	-	-	-	17-aug-1988
-	0.004 P	-	-	-	-	-	-	11-oct-1988

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.

Location Date	Lab	Notes	Val.	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
WELL19 (continued)										
18-jan-1989	BC	b	N	-	-	<0.0001 P	-	<0.02 P	-	<0.02 P
12-apr-1989	BC	b	N	-	-	<0.0001 P	-	<0.02 P	-	<0.02 P
06-jul-1989	BC	b	N	<0.002 P	<0.1 P	<0.0001 P	0.0007 P	<0.02 P	-	<0.08 P
01-dec-1989	BC	a	U	-	-	-	-	-	-	<0.08 P

Results recorded by 17-nov-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								(continued) GSA Study Area and Offsite
								(continued) WELL19
-	<0.001 P	-	-	-	-	-	-	18-jan-1989
-	0.002 P	-	-	-	-	-	-	12-apr-1989
<0.04 P	<0.001 P	<0.04 P	-	-	<0.002 P	<0.01 P	<0.01 P	06-jul-1989
<0.04 P	-	<0.04 P	-	-	-	-	0.01 P	01-dec-1989

See following page for notes

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.
Results recorded by 17-nov-1994.

Notes:

* Maximum Contaminant Levels (MCL) for selected metals
- Indicates no analysis performed for this compound.

Footnotes

a ERD data
b EMAD data
c Analytical results for this sample are suspect
d Sample taken during hydraulic testing
e Blind sample, sent to lab without well identity
f Sample dilution necessary for analysis; detection limits increased
g Interlaboratory collocated sample
h Intralaboratory collocated sample
i Sample collected as part of pilot study
j Note may contain important information regarding this sample
k Pre-development sample
l Norm_month, norm_qtr or norm_year inconsistent with sample date
n Sample analyzed after standard holding time

Lab Codes

BC Brown and Caldwell, Emeryville, CA
CL Clayton Environmental Consultants, Pleasanton, CA.
CS California Laboratory Services, Rancho Cordova, CA.
HC Hazards Control LLNL Lab

Validation Codes

V Validated
N Not validated(default value)
U Undeclared
H Historical comparison only

CLP flags (follows result)

B Analyte detected in method blank
C The analytical results for this sample are not in agreement with the intra or interlaboratory collocated sample results and the historical data
D Analysis performed at a secondary dilution or concentration (i.e. vapor samples
E Concentration exceeds calibration range
F Analyte detected in field blank
H Sample analyzed outside of the holding time; sample results should be rejected
J The analyte was postively identified; the associated numerical value is the approximate concentration of the analyte
L Spike accuracy not within control limits
O Duplicate spike precision not within control limits
P The absence of a data qualifier flag does not mean that the data does not need qualification, but that the implementation of electronic data qualifier flags was not yet established
R Sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria; the presence or absence of the analyte cannot be verified
S The analytical results for this sample are suspect
T Analyte is tentatively identified compound; result is approximate
U Compound was analyzed for, but not detected above detection limit

Appendix A
Section A-3

Soil Analysis for the GSA Operable Unit

Appendix A
Section A-3.1

Soil Analysis for Volatile Organic Compounds Sampled Before September 31, 1994, and Recorded by November 17, 1994

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.
Results recorded by 17-oct-1994.

VOCs in Soil from Boreholes, GSA, Site 300
14-dec-1994
water::epddata

s3vocGsaSOL.13dec94
s3vocGsaSOR.13dec94

Min Sample Date
01-jan-1972
Max Sample Date
30-sep-1994

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Note	Val.	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite											
W-25N-01											
07-jul-88	BC	a	U	6.0	<0.0002	-	-	<0.0002	0.023	0.0059	<0.0002
07-jul-88	BC	a	U	11.0	<0.0002	-	-	<0.0002	0.016	0.0029	<0.0002
07-jul-88	BC	a	U	15.5	<0.0002	-	-	<0.0002	0.049	0.0091	<0.0002
W-25N-04											
02-sep-88	BC	a	U	10.5	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
02-sep-88	BC	a	U	20.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
02-sep-88	BC	a	U	30.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
02-sep-88	BC	a	U	45.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
06-sep-88	BC	a	U	70.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
06-sep-88	BC	a	U	90.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
06-sep-88	BC	a	U	110.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
07-sep-88	BC	a	U	130.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
07-sep-88	BC	a	U	150.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
07-sep-88	BC	a	U	170.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
07-sep-88	BC	a	U	190.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
30-sep-88	BC	a	U	215.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
30-sep-88	BC	a	U	235.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
30-sep-88	BC	a	U	255.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
03-oct-88	BC	a	U	275.5	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
03-oct-88	BC	a	U	296.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
03-oct-88	BC	a	U	309.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
03-oct-88	BC	a	U	328.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
03-oct-88	BC	a	U	348.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
W-25N-05											
09-dec-88	BC	a	U	8.6	<0.0002	-	-	<0.0002	0.0003	<0.0002	<0.0002
09-dec-88	BC	a	U	13.7	<0.0002	-	-	<0.0002	0.0037	0.0004	<0.0002
09-dec-88	BC	a	U	15.4	<0.0002	-	-	<0.0002	0.001	<0.0002	<0.0002
09-dec-88	BC	a	U	18.4	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
12-dec-88	BC	a	U	22.4	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
12-dec-88	BC	a	U	23.4	<0.0002	-	-	<0.0002	0.0002	<0.0002	<0.0002
12-dec-88	BC	a	U	27.5	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
12-dec-88	BC	a	U	30.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
12-dec-88	BC	a	U	32.6	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
12-dec-88	BC	a	U	35.3	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
12-dec-88	BC	a	U	38.5	0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
W-25N-06											
13-dec-88	BC	a	U	8.5	<0.0002	-	-	<0.0002	0.09	0.01	<0.0002
13-dec-88	BC	a	U	13.6	<0.0002	-	-	<0.0002	0.07	0.007	<0.0002
13-dec-88	BC	a	U	15.5	<0.0002	-	-	<0.0002	0.1	0.01	<0.0002
13-dec-88	BC	a	U	18.5	<0.0002	-	-	<0.0002	0.067	0.0082	<0.0002
14-dec-88	BC	a	U	23.5	<0.0002	-	-	<0.0002	0.084	0.014	<0.0002
14-dec-88	BC	a	U	28.5	<0.0002	-	-	<0.0002	0.056	0.014	<0.0002
14-dec-88	BC	a	U	31.5	<0.0002	-	-	<0.0002	0.066	0.014	<0.0002
W-25N-07											
05-apr-89	BC	a	U	11.0	<0.0002	-	-	0.0068	0.0017	<0.0002	<0.0002
05-apr-89	BC	a	U	15.4	<0.0002	-	-	0.0072	<0.0002	0.002	<0.0002
06-apr-89	BC	a	U	21.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
06-apr-89	BC	a	U	26.0	<0.0002	-	-	0.0008	0.0003	<0.0002	<0.0002
06-apr-89	BC	a	U	31.0	<0.0002	-	-	0.0009	0.0008	<0.0002	<0.0002
06-apr-89	BC	a	U	35.3	<0.0002	-	-	0.0003	<0.0002	<0.0002	<0.0002
07-apr-89	BC	a	U	38.5	0.016	-	-	<0.008	0.19	<0.008	<0.008
07-apr-89	BC	a	U	43.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
07-apr-89	BC	a	U	46.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
07-apr-89	BC	a	U	50.5	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
07-apr-89	BC	a	U	53.8	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
07-apr-89	BC	a	U	56.5	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
07-apr-89	BC	a	U	63.3	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
07-apr-89	BC	a	U	65.8	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
W-25N-08											
02-oct-89	BC	a	U	58.7	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
10-oct-89	BC	a	U	64.2	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
10-oct-89	BC	a	U	69.7	<0.0002	-	-	<0.0002	0.0002	<0.0002	<0.0002

Results recorded by 17-oct-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						GSA Study Area and Offsite
						W-25N-01
<0.0002	<0.0002	0.043	<0.0002	<0.0002	<0.0002	07-jul-88
<0.0002	<0.0002	0.026	<0.0002	<0.0002	<0.0002	07-jul-88
<0.0002	<0.0002	0.052	<0.0002	<0.0002	<0.0002	07-jul-88
						W-25N-04
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	02-sep-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	02-sep-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	02-sep-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	02-sep-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	06-sep-88
<0.0002	<0.0002	0.0044	0.0003	<0.0002	<0.0002	06-sep-88
<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	06-sep-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-sep-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-sep-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-sep-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-sep-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	30-sep-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	30-sep-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	30-sep-88
<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	03-oct-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	03-oct-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	03-oct-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	03-oct-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	03-oct-88
						W-25N-05
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	09-dec-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	09-dec-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	09-dec-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	09-dec-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12-dec-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12-dec-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12-dec-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12-dec-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12-dec-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12-dec-88
<0.0002	0.005	<0.0002	0.0002	<0.0002	<0.0002	12-dec-88
						W-25N-06
<0.0002	0.0002	<0.0002	0.0006	<0.0002	<0.0002	13-dec-88
<0.0002	<0.0002	<0.0002	0.0009	<0.0002	<0.0002	13-dec-88
<0.0002	0.0002	<0.0002	0.0009	<0.0002	<0.0002	13-dec-88
<0.0002	0.0004	<0.0002	0.0003	<0.0002	<0.0002	13-dec-88
<0.0002	0.0002	<0.0002	0.0003	<0.0002	<0.0002	14-dec-88
<0.0002	0.0003	<0.0002	0.0003	<0.0002	<0.0002	14-dec-88
<0.0002	0.0002	<0.0002	0.0003	<0.0002	<0.0002	14-dec-88
						W-25N-07
<0.0002	<0.0002	0.0007	0.0002	0.0004	<0.0002	05-apr-89
<0.0002	<0.0002	0.0011	0.0004	0.0031	<0.0002	05-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	06-apr-89
<0.0002	<0.0002	0.0002	0.0003	0.0011	<0.0002	06-apr-89
<0.0002	<0.0002	0.0003	0.0002	0.0003	<0.0002	06-apr-89
<0.0002	<0.0002	0.0003	0.0003	<0.0002	<0.0002	06-apr-89
<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	07-apr-89
<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	07-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-apr-89
<0.0002	<0.0002	0.0005	0.0004	<0.0002	<0.0002	07-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-apr-89
<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	07-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-apr-89
						W-25N-08
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	02-oct-89
<0.0002	<0.0002	<0.0001	0.0003	<0.0002	<0.0002	10-oct-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-oct-89

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Val. Note	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-25N-08 (continued)										
10-oct-89	BC a	U	76.5	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
10-oct-89	BC a	U	81.2	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
10-oct-89	BC a	U	102.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
10-oct-89	BC a	U	107.6	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
10-oct-89	BC a	U	114.8	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
W-25N-09										
27-oct-89	BC a	U	43.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
27-oct-89	BC a	U	49.1	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
30-oct-89	BC a	U	54.4	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
30-oct-89	BC a	U	57.3	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
W-25N-10										
27-aug-90	BC a	U	5.2	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
27-aug-90	BC a	U	10.0	<0.0002	0.0039	<0.0002	0.0039	0.0004	<0.0002	<0.0002
27-aug-90	BC a	U	15.2	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
27-aug-90	BC a	U	20.2	<0.0002	0.0064	<0.0002	0.0064	0.0017	<0.0002	<0.0002
27-aug-90	BC a	U	25.2	<0.0002	0.0005	<0.0002	0.0005	0.0003	<0.0002	<0.0002
28-aug-90	BC a	U	30.7	<0.0002	0.0003	<0.0002	0.0003	<0.0002	<0.0002	<0.0002
28-aug-90	BC a	U	35.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
29-aug-90	BC a	U	42.1	<0.0002	0.0006	<0.0002	0.0006	<0.0002	<0.0002	<0.0002
29-aug-90	BC a	U	46.0	<0.0002	0.0003	<0.0002	0.0003	<0.0002	<0.0002	<0.0002
29-aug-90	BC a	U	51.5	<0.0002	0.0005	<0.0002	0.0005	<0.0002	<0.0002	<0.0002
29-aug-90	BC a	U	55.5	<0.0002	0.0006	<0.0002	0.0006	<0.0002	<0.0002	<0.0002
29-aug-90	BC a	U	60.2	<0.0002	0.0003	<0.0002	0.0003	<0.0002	<0.0002	<0.0002
29-aug-90	BC a	U	65.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
29-aug-90	BC a	U	75.7	<0.0002	0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002
29-aug-90	BC a	U	91.3	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
29-aug-90	BC a	U	96.8	<0.0002	0.0003	<0.0002	0.0003	<0.0002	<0.0002	<0.0002
30-aug-90	BC a	U	101.9	<0.0002	0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002
30-aug-90	BC a	U	105.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
30-aug-90	BC a	U	110.6	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
30-aug-90	BC a	U	119.1	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
30-aug-90	BC a	U	127.1	<0.0002	0.0004	<0.0002	0.0004	<0.0002	<0.0002	<0.0002
30-aug-90	BC a	U	146.4	<0.0002	0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002
30-aug-90	BC a	U	158.3	<0.0002	0.0021	<0.0002	0.0021	<0.0002	<0.0002	<0.0002
04-jan-91	BC a	U	164.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
04-jan-91	BC a	U	180.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
04-jan-91	BC a	U	189.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
04-jan-91	BC a	U	191.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
04-jan-91	BC a	U	199.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
04-jan-91	BC a	U	206.3	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
04-jan-91	BC a	U	214.3	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
04-jan-91	BC a	U	216.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
W-25N-18										
14-may-91	BC a	U	5.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
14-may-91	BC a	U	10.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
14-may-91	BC a	U	15.3	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
14-may-91	BC a	U	21.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
14-may-91	BC a	U	25.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002
09-aug-91	BC a	U	35.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
09-aug-91	BC a	U	62.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
09-aug-91	BC a	U	68.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
09-aug-91	BC a	U	75.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
09-aug-91	BC a	U	79.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
12-aug-91	BC a	U	81.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
12-aug-91	BC a	U	86.9	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
12-aug-91	BC a	U	96.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
W-25N-20										
16-oct-91	BC a	U	5.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0012	0.0004	<0.0002
16-oct-91	BC a	U	5.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
16-oct-91	BC a	U	10.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0027	0.0011	<0.0002
16-oct-91	BC a	U	10.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
17-oct-91	BC a	U	15.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
17-oct-91	BC a	U	21.5	<0.0002	<0.0002	<0.0002	<0.0002	0.001	<0.0002	<0.0002
17-oct-91	BC a	U	26.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002

Results recorded by 17-oct-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
				(continued)	GSA Study Area and Offsite	
					(continued)	W-25N-08
<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	10-oct-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-oct-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-oct-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-oct-89
<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	10-oct-89
						W-25N-09
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	27-oct-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	27-oct-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	30-oct-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	30-oct-89
						W-25N-10
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	27-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.001	<0.0002	27-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	27-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0022	<0.0002	27-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	27-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	28-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	28-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0007	<0.0002	29-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	29-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	29-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	29-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	29-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	29-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	29-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	29-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	29-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	30-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	30-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	30-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	30-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	30-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	30-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	30-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	04-jan-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	04-jan-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	04-jan-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	04-jan-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	04-jan-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	04-jan-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	04-jan-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	04-jan-91
						W-25N-18
<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	14-may-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0043	<0.0002	14-may-91
<0.0002	<0.0002	<0.0002	0.0002	0.003	<0.0002	14-may-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0007	<0.0002	14-may-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	14-may-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	09-aug-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	09-aug-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	09-aug-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	09-aug-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	09-aug-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12-aug-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12-aug-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12-aug-91
						W-25N-20
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	16-oct-91
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	16-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	16-oct-91
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	16-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	17-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	17-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	17-oct-91

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Val. Note	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-25N-20 (continued)										
17-oct-91	BC a	U	30.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
17-oct-91	BC a	U	35.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
W-25N-21										
18-oct-91	BC a	U	0.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
17-oct-91	BC a	U	5.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
17-oct-91	BC a	U	6.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
17-oct-91	BC a	U	10.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
17-oct-91	BC a	U	10.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
18-oct-91	BC a	U	15.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
18-oct-91	BC a	U	19.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
21-oct-91	BC a	U	25.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
21-oct-91	BC a	U	29.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
W-25N-22										
21-oct-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
21-oct-91	BC a	U	5.5	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002
21-oct-91	BC a	U	10.3	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002
21-oct-91	BC a	U	15.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
22-oct-91	BC a	U	20.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002
22-oct-91	CL a	U	20.3	<0.02	<0.04	<0.04	<0.04	<0.03	<0.05	<0.04
22-oct-91	BC a	U	25.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	<0.0002
W-25N-23										
23-oct-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
23-oct-91	BC a	U	5.3	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
23-oct-91	BC a	U	10.6	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
23-oct-91	BC a	U	15.6	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
23-oct-91	BC a	U	19.6	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
23-oct-91	BC a	U	24.6	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
W-25N-24										
19-nov-91	BC a	U	0.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0009	<0.0002
19-nov-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
19-nov-91	BC a	U	5.5	<0.0002	<0.0002	<0.0002	<0.0002	0.0039	0.0038	<0.0002
20-nov-91	CL a	U	10.5	<0.02	<0.04	<0.04	<0.04	<0.03	<0.05	<0.04
20-nov-91	BC a	U	10.8	<0.0002	<0.0002	<0.0002	<0.0002	0.0053	0.0029	<0.0002
20-nov-91	BC a	U	15.0	<0.0002	<0.0002	<0.0002	<0.0002	0.02	0.0076	<0.0002
20-nov-91	BC a	U	16.7	<0.008	<0.008	<0.008	<0.008	0.058	0.009	<0.008
W-25N-25										
17-may-94	CS a	V	0.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
17-may-94	CS a	V	1.4	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
17-may-94	CS a	V	4.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
17-may-94	CS a	V	8.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-may-94	CS a	V	31.4	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-may-94	GT a	V	36.0	<0.005	–	–	<0.005	<0.005	<0.005	<0.005
19-may-94	CS a	V	36.3	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-may-94	CS a	V	43.4	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-may-94	CS a	V	48.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-may-94	CS a	V	53.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-may-94	CS a	V	57.1	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-may-94	CS ah	V	68.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-may-94	CS ah	V	68.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-may-94	CS a	V	77.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-may-94	CS a	V	83.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-may-94	CS a	V	93.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-may-94	CS a	V	103.4	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
24-may-94	CS a	V	118.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
24-may-94	CS a	V	128.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
24-may-94	CS a	V	137.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
24-may-94	CS a	V	148.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
W-25N-26										
01-jun-94	CS ag	V	0.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
01-jun-94	GT ag	V	0.0	<0.005	–	–	<0.005	<0.005	<0.005	<0.005
01-jun-94	CS a	V	9.4	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	CS a	V	65.6	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005

Results recorded by 17-oct-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-25N-20
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	17-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	17-oct-91
						W-25N-21
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	18-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	17-oct-91
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	17-oct-91
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	17-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	17-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	18-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	18-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-oct-91
						W-25N-22
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	21-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	22-oct-91
<0.03	<0.05	<0.05	<0.04	<0.06	<0.06	22-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	22-oct-91
						W-25N-23
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	23-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-oct-91
						W-25N-24
<0.0002	<0.0002	0.0003	<0.0002	0.0002	<0.0002	19-nov-91
<0.005	0.005	<0.005	<0.005	<0.005	<0.005	19-nov-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	19-nov-91
<0.03	<0.05	<0.05	<0.04	<0.06	<0.06	20-nov-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	20-nov-91
<0.0002	0.0002	<0.0002	0.0002	<0.0002	<0.0002	20-nov-91
<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	20-nov-91
						W-25N-25
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	17-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	17-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	17-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	17-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-may-94
<0.005	<0.005	<0.005	<0.005	–	<0.005	19-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	24-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	24-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	24-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	24-may-94
						W-25N-26
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	01-jun-94
<0.005	<0.005	<0.005	<0.005	–	<0.005	01-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	01-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Val. Note	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-25N-26 (continued)										
06-jun-94	CS a	V	70.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	CS ah	V	75.3	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	CS a	V	75.3	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	CS a	V	81.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	CS a	V	86.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	CS a	V	91.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
07-jun-94	CS ag	V	103.6	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
07-jun-94	GT ag	V	103.6	<0.005	–	–	<0.005	<0.005	<0.005	<0.005
07-jun-94	CS a	V	111.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
07-jun-94	CS a	V	121.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
07-jun-94	CS a	V	132.4	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
07-jun-94	CS a	V	141.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	CS a	V	147.1	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	CS a	V	152.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	CS a	V	163.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	CS a	V	172.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	CS a	V	177.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	CS a	V	184.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
W-25N-28										
15-jun-94	CS ah	V	0.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
15-jun-94	CS ah	V	0.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
16-jun-94	CS a	V	6.0	<0.0005	–	–	<0.0005	0.0006	<0.0005	<0.0005
16-jun-94	CS a	V	11.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-jun-94	CS a	V	27.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-jun-94	CS a	V	32.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-jun-94	CS a	V	37.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-jun-94	CS a	V	42.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-jun-94	CS a	V	45.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-jun-94	CS a	V	51.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
22-jun-94	CS a	V	54.6	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
22-jun-94	CS ah	V	60.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
22-jun-94	CS ah	V	60.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
22-jun-94	CS a	V	64.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
22-jun-94	CS a	V	75.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
22-jun-94	CS a	V	82.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
22-jun-94	CS a	V	93.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-jun-94	CS a	V	105.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-jun-94	CS a	V	114.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-jun-94	CS a	V	121.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-jun-94	CS ah	V	121.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-jun-94	CS a	V	127.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-jun-94	CS a	V	135.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-jun-94	CS a	V	141.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
W-26R-01										
14-nov-88	BC a	U	3.5	<0.0002	–	–	<0.0002	0.0025	0.0012	<0.0002
14-nov-88	BC a	U	8.0	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
15-nov-88	BC a	U	13.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
15-nov-88	BC a	U	15.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
15-nov-88	BC a	U	22.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
15-nov-88	BC a	U	25.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
15-nov-88	BC a	U	33.4	<0.0002	–	–	<0.0002	0.0007	0.0003	<0.0002
W-26R-02										
12-apr-89	BC a	U	6.0	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
12-apr-89	BC a	U	12.3	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
12-apr-89	BC a	U	16.3	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
12-apr-89	BC a	U	23.7	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
13-apr-89	BC a	U	26.7	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
13-apr-89	BC a	U	35.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
13-apr-89	BC a	U	43.8	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
13-apr-89	BC a	U	47.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
13-apr-89	BC a	U	51.1	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
14-apr-89	BC a	U	58.7	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
14-apr-89	BC a	U	60.9	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
14-apr-89	BC a	U	62.8	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002

Results recorded by 17-oct-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-25N-26
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	07-jun-94
<0.005	<0.005	<0.005	<0.005	-	<0.005	07-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	07-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	07-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	07-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	07-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
						W-25N-28
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	15-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	15-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	16-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	16-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	22-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	22-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	22-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	22-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	22-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	22-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	22-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-jun-94
						W-26R-01
<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	14-nov-88
<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	14-nov-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-nov-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-nov-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-nov-88
<0.0002	<0.0002	0.0019	<0.0002	<0.0002	<0.0002	15-nov-88
<0.0002	<0.0002	<0.0002	0.001	<0.0002	<0.0002	15-nov-88
						W-26R-02
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12-apr-89
<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	12-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	13-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	13-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	13-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	13-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	13-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-apr-89

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Note	Val.	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)											
W-26R-04											
07-oct-91	BC	a	U	3.8	<0.0002	<0.0002	<0.0002	<0.0002	0.0018	0.0007	<0.0002
07-oct-91	BC	a	U	6.3	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
07-oct-91	BC	a	U	6.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
07-oct-91	BC	a	U	8.8	<0.0002	<0.0002	<0.0002	<0.0002	0.0057	0.0021	<0.0002
07-oct-91	BC	a	U	10.3	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
07-oct-91	BC	a	U	10.5	<0.0002	<0.0002	<0.0002	<0.0002	0.0024	0.0009	<0.0002
07-oct-91	BC	a	U	13.0	<0.0002	<0.0002	<0.0002	<0.0002	0.013	0.004	<0.0002
07-oct-91	CL	a	U	13.3	<0.02	<0.04	<0.04	<0.04	<0.03	<0.05	<0.04
07-oct-91	BC	a	U	18.8	<0.0002	<0.0002	<0.0002	<0.0002	0.036	0.0023	<0.0002
W-26R-05											
24-oct-91	BC	a	U	0.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
24-oct-91	BC	a	U	3.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0016	0.001	<0.0002
24-oct-91	BC	a	U	5.3	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
24-oct-91	BC	a	U	5.5	<0.0002	<0.0002	<0.0002	<0.0002	0.0017	0.0011	<0.0002
24-oct-91	BC	a	U	7.8	<0.0002	<0.0002	<0.0002	<0.0002	0.0057	0.0012	<0.0002
24-oct-91	BC	a	U	10.5	<0.0002	<0.0002	<0.0002	<0.0002	0.0024	0.0007	<0.0002
24-oct-91	BC	a	U	12.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
24-oct-91	BC	a	U	15.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
24-oct-91	BC	a	U	17.6	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
24-oct-91	BC	a	U	20.3	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002
24-oct-91	BC	a	U	23.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002
24-oct-91	BC	a	U	25.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
24-oct-91	BC	a	U	27.3	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
24-oct-91	BC	a	U	30.3	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
W-26R-06											
28-oct-91	BC	a	U	0.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
28-oct-91	BC	a	U	3.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
28-oct-91	BC	a	U	6.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
28-oct-91	BC	a	U	6.3	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
28-oct-91	BC	a	U	7.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
28-oct-91	BC	a	U	10.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
28-oct-91	BC	a	U	12.8	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002
28-oct-91	BC	a	U	15.3	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.0002
28-oct-91	BC	a	U	17.3	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.0002
28-oct-91	BC	a	U	20.3	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002
28-oct-91	BC	a	U	22.8	<0.0002	<0.0002	<0.0002	<0.0002	0.0017	<0.0002	<0.0002
28-oct-91	BC	a	U	25.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0026	0.0002	<0.0002
28-oct-91	BC	a	U	27.5	<0.0002	<0.0002	<0.0002	<0.0002	0.0013	<0.0002	<0.0002
W-26R-07											
25-oct-91	BC	a	U	0.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
25-oct-91	BC	a	U	3.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
25-oct-91	BC	a	U	5.3	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
25-oct-91	BC	a	U	5.5	<0.0002	<0.0002	<0.0002	<0.0002	0.024	0.0088	<0.0002
25-oct-91	BC	a	U	8.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
25-oct-91	BC	a	U	10.3	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
25-oct-91	BC	a	U	12.5	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002
25-oct-91	BC	a	U	15.3	<0.0002	<0.0002	<0.0002	<0.0002	0.008	0.0011	<0.0002
25-oct-91	BC	a	U	17.8	<0.0002	<0.0002	<0.0002	<0.0002	0.048	0.0052	<0.0002
25-oct-91	BC	a	U	20.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002
25-oct-91	BC	a	U	22.8	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002
25-oct-91	BC	a	U	25.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
05-dec-91	BC	a	U	26.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
05-dec-91	BC	a	U	32.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
05-dec-91	BC	a	U	39.2	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
09-dec-91	BC	a	U	43.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
09-dec-91	BC	a	U	46.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
09-dec-91	BC	a	U	50.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
09-dec-91	BC	a	U	52.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
W-26R-08											
29-oct-91	BC	a	U	0.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
29-oct-91	BC	a	U	5.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
29-oct-91	BC	a	U	10.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
29-oct-91	BC	a	U	15.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
29-oct-91	BC	a	U	20.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Results recorded by 17-oct-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						W-26R-04
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-oct-91
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	07-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-oct-91
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	07-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-oct-91
<0.03	<0.05	<0.05	<0.04	<0.06	<0.06	07-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-oct-91
						W-26R-05
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	24-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-oct-91
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	24-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-oct-91
						W-26R-06
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	28-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	28-oct-91
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	28-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	28-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	28-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	28-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	28-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	28-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	28-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	28-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	28-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	28-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	28-oct-91
						W-26R-07
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	25-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	25-oct-91
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	25-oct-91
<0.0002	<0.0002	<0.0002	0.0033	<0.0002	<0.0002	25-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	25-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	25-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	25-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	25-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	25-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	25-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	25-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	25-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	05-dec-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	05-dec-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	05-dec-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	09-dec-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	09-dec-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	09-dec-91
<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	09-dec-91
						W-26R-08
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	29-oct-91
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	29-oct-91
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	29-oct-91
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	29-oct-91
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	29-oct-91

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Note	Val.	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)											
W-26R-08 (continued)											
29-oct-91	BC	a	U	25.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
29-oct-91	BC	a	U	30.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
06-jan-92	BC	a	U	36.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
06-jan-92	BC	a	U	41.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
07-jan-92	BC	a	U	45.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
26R-09											
30-oct-91	BC	a	U	0.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
30-oct-91	BC	a	U	5.0	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
26R-10											
30-oct-91	BC	a	U	0.1	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
31-oct-91	BC	a	U	5.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0043	0.0027	<0.0002
31-oct-91	BC	a	U	10.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0066	0.0019	<0.0002
W-35A-01											
24-mar-89	BC	a	U	6.0	<0.008	–	–	<0.008	0.029	<0.008	<0.008
24-mar-89	BC	a	U	10.5	<0.0002	–	–	<0.0002	0.0006	<0.0002	<0.0002
24-mar-89	BC	a	U	15.1	<0.0002	–	–	<0.0002	0.0009	<0.0002	<0.0002
24-mar-89	BC	a	U	20.2	<0.0002	–	–	<0.0002	0.0005	<0.0002	<0.0002
24-mar-89	BC	a	U	25.5	<0.0002	–	–	<0.0002	0.0003	<0.0002	<0.0002
24-mar-89	BC	a	U	28.0	<0.0002	–	–	<0.0002	0.005	<0.0002	<0.0002
W-35A-02											
29-mar-89	BC	a	U	6.0	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
29-mar-89	BC	a	U	11.0	<0.0002	–	–	<0.0002	0.0014	<0.0002	<0.0002
29-mar-89	BC	a	U	16.0	<0.0002	–	–	<0.0002	0.0011	<0.0002	<0.0002
29-mar-89	BC	a	U	21.0	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
29-mar-89	BC	a	U	25.0	<0.0002	–	–	<0.0002	0.0035	<0.0002	<0.0002
W-35A-03											
31-mar-89	BC	a	U	5.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
31-mar-89	BC	a	U	10.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
31-mar-89	BC	a	U	15.5	<0.0002	–	–	<0.0002	0.0007	<0.0002	<0.0002
31-mar-89	BC	a	U	18.5	<0.0002	–	–	0.0012	0.0014	<0.0002	<0.0002
03-apr-89	BC	a	U	26.0	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
W-35A-07											
25-mar-94	CS	a	V	0.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
24-mar-94	CS	a	V	5.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
25-mar-94	CS	a	V	15.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
13-apr-94	CS	a	V	40.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
13-apr-94	CS	a	V	45.3	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
13-apr-94	CS	a	V	46.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
13-apr-94	CS	a	V	49.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
14-apr-94	CS	a	V	54.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
14-apr-94	CS	a	V	64.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
14-apr-94	CS	a	V	67.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
14-apr-94	CS	a	V	67.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
14-apr-94	CS	a	V	69.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
14-apr-94	CS	a	V	72.9	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
14-apr-94	CS	a	V	75.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
14-apr-94	CS	a	V	78.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
15-apr-94	CS	a	V	87.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
15-apr-94	CS	a	V	96.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
15-apr-94	CS	a	V	107.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
15-apr-94	CS	a	V	118.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
15-apr-94	CS	a	V	128.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
18-apr-94	CS	a	V	139.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
18-apr-94	CS	a	V	142.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
18-apr-94	CS	a	V	151.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-apr-94	CS	a	V	162.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-apr-94	GT	a	V	163.3	<0.005	–	–	<0.005	<0.005	<0.005	<0.005
19-apr-94	CS	a	V	170.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-apr-94	CS	a	V	170.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
20-apr-94	CS	a	V	177.6	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
20-apr-94	CS	a	V	184.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
20-apr-94	CS	a	V	189.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005

Results recorded by 17-oct-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
				(continued) GSA Study Area and Offsite		
						(continued) W-26R-08
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	29-oct-91
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	29-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	06-jan-92
<0.0002	<0.0002	<0.0002	<0.0002	0.0007	<0.0002	06-jan-92
<0.0002	<0.0002	<0.0002	<0.0002	0.0007	<0.0002	07-jan-92
						26R-09
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	30-oct-91
<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	30-oct-91
						26R-10
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	30-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	31-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	31-oct-91
						W-35A-01
<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	24-mar-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-mar-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-mar-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-mar-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-mar-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-mar-89
						W-35A-02
<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	29-mar-89
<0.0002	0.0003	<0.0002	0.0003	<0.0002	<0.0002	29-mar-89
<0.0002	0.0005	<0.0002	0.0005	<0.0002	<0.0002	29-mar-89
<0.0002	0.0004	<0.0002	0.0004	<0.0002	<0.0002	29-mar-89
<0.0002	0.0002	<0.0002	0.0014	<0.0002	<0.0002	29-mar-89
						W-35A-03
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	31-mar-89
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	31-mar-89
0.0004	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	31-mar-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	31-mar-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	03-apr-89
						W-35A-07
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	25-mar-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	24-mar-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	25-mar-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	13-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	13-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	13-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	13-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	14-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	14-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	14-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	14-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	14-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	14-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	14-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	14-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	15-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	15-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	15-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	15-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	15-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	18-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	18-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	18-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-apr-94
<0.005	<0.005	<0.005	<0.005	–	<0.005	19-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	20-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	20-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	20-apr-94

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Val.	Note	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)											
W-35A-07 (continued)											
20-apr-94	CS	a	V	199.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-apr-94	CS	a	V	207.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-apr-94	CS	a	V	213.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-apr-94	CS	a	V	213.6	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-apr-94	CS	a	V	216.3	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-apr-94	CS	a	V	225.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-apr-94	CS	a	V	229.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
22-apr-94	CS	a	V	241.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
22-apr-94	CS	a	V	249.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
W-35A-08											
04-may-94	CS	ah	V	0.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
05-may-94	CS	a	V	4.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
05-may-94	CS	a	V	13.8	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
05-may-94	CS	a	V	19.8	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
09-may-94	CS	a	V	26.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
09-may-94	CS	a	V	30.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
09-may-94	CS	a	V	35.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
09-may-94	CS	a	V	38.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
10-may-94	CS	a	V	45.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
10-may-94	CS	a	V	50.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
10-may-94	CS	a	V	50.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
10-may-94	CS	a	V	55.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
10-may-94	GT	a	V	55.5	<0.005	–	–	<0.005	<0.005	<0.005	<0.005
10-may-94	CS	a	V	60.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
10-may-94	CS	a	V	65.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
10-may-94	CS	a	V	70.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
10-may-94	CS	a	V	73.8	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
10-may-94	CS	a	V	75.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
10-may-94	CS	a	V	75.4	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
W-35A-09											
16-may-94	CS	ah	V	0.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
17-may-94	CS	a	V	4.6	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
17-may-94	CS	a	V	9.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
17-may-94	CS	a	V	14.8	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
17-may-94	CS	a	V	19.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
18-may-94	CS	a	V	24.3	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
18-may-94	CS	a	V	30.2	<0.0005	–	–	<0.0005	0.0006	<0.0005	<0.0005
18-may-94	CS	a	V	32.9	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-may-94	CS	a	V	47.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-may-94	CS	ah	V	49.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-may-94	CS	ah	V	49.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-may-94	CS	a	V	56.4	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-may-94	GT	a	V	56.7	<0.005	–	–	<0.005	<0.005	<0.005	<0.005
19-may-94	CS	a	V	61.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-may-94	GT	a	V	61.3	<0.005	–	–	<0.005	<0.005	<0.005	<0.005
19-may-94	CS	a	V	66.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-may-94	CS	a	V	69.8	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
W-35A-10											
24-may-94	CS	a	V	0.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
24-may-94	CS	a	V	5.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
24-may-94	CS	a	V	9.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
25-may-94	CS	a	V	14.8	<0.0005	–	–	<0.0005	0.0009	<0.0005	<0.0005
25-may-94	CS	a	V	21.1	<0.0005	–	–	<0.0005	0.015	<0.0005	<0.0005
25-may-94	CS	a	V	27.1	<0.0005	–	–	<0.0005	0.0011	<0.0005	<0.0005
25-may-94	CS	a	V	32.1	<0.0005	–	–	<0.0005	0.001	<0.0005	<0.0005
25-may-94	CS	a	V	35.0	<0.0005	–	–	<0.0005	0.0016	<0.0005	<0.0005
24-may-94	CS	a	V	42.1	<0.0005	–	–	<0.0005	0.0011	<0.0005	<0.0005
24-may-94	CS	a	V	46.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
25-may-94	CS	a	V	53.3	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
W-35A-11											
01-jun-94	CS	ah	V	0.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
01-jun-94	CS	a	V	3.6	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
01-jun-94	CS	a	V	8.8	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
01-jun-94	CS	a	V	14.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005

Results recorded by 17-oct-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-35A-07
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	20-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	22-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	22-apr-94
						W-35A-08
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	04-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	05-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	05-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	05-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	09-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	09-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	09-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	09-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	10-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	10-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	10-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	10-may-94
<0.005	<0.005	<0.005	<0.005	–	<0.005	10-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	10-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	10-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	10-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	10-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	10-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	10-may-94
						W-35A-09
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	16-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	17-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	17-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	17-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	17-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	18-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	18-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	18-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-may-94
<0.005	<0.005	<0.005	<0.005	–	<0.005	19-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-may-94
<0.005	<0.005	<0.005	<0.005	–	<0.005	19-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-may-94
						W-35A-10
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	24-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	24-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	24-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	25-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	25-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	25-may-94
<0.0005	<0.0005	<0.0005	0.0013	<0.0005	<0.0005	25-may-94
<0.0005	<0.0005	<0.0005	0.0021	<0.0005	<0.0005	25-may-94
<0.0005	<0.0005	<0.0005	0.001	<0.0005	<0.0005	24-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	24-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	25-may-94
						W-35A-11
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	01-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	01-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	01-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	01-jun-94

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Val. Note	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-35A-11 (continued)										
02-jun-94	CS	a	V	24.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
02-jun-94	CS	a	V	27.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
03-jun-94	CS	a	V	32.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	CS	ah	V	39.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	CS	ah	V	39.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	CS	a	V	47.4	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	CS	a	V	50.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	CS	a	V	53.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	CS	ag	V	60.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	GT	ag	V	60.0	<0.005	–	–	<0.005	<0.005	<0.005	<0.005
06-jun-94	CS	a	V	66.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	CS	a	V	69.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
07-jun-94	CS	a	V	73.6	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
07-jun-94	CS	a	V	80.3	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
07-jun-94	CS	a	V	85.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
07-jun-94	CS	a	V	92.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
07-jun-94	CS	ah	V	95.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
07-jun-94	CS	ah	V	95.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
07-jun-94	CS	a	V	100.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
07-jun-94	CS	a	V	104.4	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	CS	ag	V	117.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	GT	ag	V	117.2	<0.005	–	–	<0.005	<0.005	<0.005	<0.005
08-jun-94	CS	a	V	122.4	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	CS	a	V	130.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	CS	a	V	140.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	CS	a	V	145.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	CS	a	V	151.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	CS	ah	V	157.9	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	CS	ah	V	157.9	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
09-jun-94	CS	a	V	166.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
09-jun-94	CS	a	V	176.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
09-jun-94	CS	a	V	184.3	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
09-jun-94	CS	ah	V	190.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
09-jun-94	CS	ah	V	190.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
09-jun-94	CS	a	V	195.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
09-jun-94	CS	a	V	205.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
09-jun-94	CS	a	V	215.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
13-jun-94	CS	a	V	232.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
W-35A-12										
22-jun-94	CS	a	V	0.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-jun-94	CS	a	V	5.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-jun-94	CS	a	V	8.8	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-jun-94	CS	a	V	19.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-jun-94	CS	a	V	26.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
W-35A-13										
14-jul-94	CS	ah	V	0.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
18-jul-94	CS	a	V	4.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
18-jul-94	CS	a	V	9.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
18-jul-94	CS	a	V	15.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
18-jul-94	CS	a	V	20.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-jul-94	CS	a	V	25.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-jul-94	CS	a	V	30.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-jul-94	CS	ah	V	35.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-jul-94	CS	ah	V	35.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-jul-94	CS	ag	V	40.3	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-jul-94	GT	ag	V	40.3	<0.005	–	–	<0.005	<0.005	<0.005	<0.005
19-jul-94	CS	a	V	42.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
20-jul-94	CS	a	V	45.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
20-jul-94	CS	ag	V	50.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
20-jul-94	GT	ag	V	50.0	<0.005	–	–	<0.005	<0.005	<0.005	<0.005
20-jul-94	CS	a	V	53.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
20-jul-94	CS	a	V	56.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
20-jul-94	CS	a	V	62.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
20-jul-94	CS	ah	V	70.6	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
20-jul-94	CS	ah	V	70.6	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
20-jul-94	CS	a	V	81.3	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005

Results recorded by 17-oct-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-35A-11
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	02-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	02-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	03-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.005	<0.005	<0.005	<0.005	-	<0.005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	07-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	07-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	07-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	07-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	07-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	07-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	07-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	07-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
<0.005	<0.005	<0.005	<0.005	-	<0.005	08-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	09-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	09-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	09-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	09-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	09-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	09-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	09-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	09-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	13-jun-94
						W-35A-12
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	22-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-jun-94
						W-35A-13
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	14-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	18-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	18-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	18-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	18-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-jul-94
<0.005	<0.005	<0.005	<0.005	-	<0.005	19-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	20-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	20-jul-94
<0.005	<0.005	<0.005	<0.005	-	<0.005	20-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	20-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	20-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	20-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	20-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	20-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	20-jul-94

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Val. Note	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-35A-13 (continued)										
21-jul-94	CS	a V	85.7	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
21-jul-94	CS	ag V	96.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
21-jul-94	GT	ag V	96.0	<0.005	-	-	<0.005	<0.005	<0.005	<0.005
21-jul-94	CS	ah V	105.1	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
21-jul-94	CS	ah V	105.1	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
21-jul-94	CS	a V	111.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
21-jul-94	CS	a V	115.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
21-jul-94	CS	a V	123.5	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
21-jul-94	CS	a V	128.5	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
W-35A-14										
02-aug-94	CS	ah N	0.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
02-aug-94	CS	a N	5.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
02-aug-94	CS	a N	11.5	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
02-aug-94	CS	a N	15.3	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
02-aug-94	CS	a N	20.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
02-aug-94	CS	a N	26.6	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
04-aug-94	CS	a V	32.6	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
04-aug-94	CS	a V	36.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
04-aug-94	CS	ag V	43.3	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
04-aug-94	GT	ag V	43.3	<0.005	-	-	<0.005	<0.005	<0.005	<0.005
04-aug-94	CS	a V	46.7	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
04-aug-94	CS	ah V	52.7	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
04-aug-94	CS	ah V	52.7	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
04-aug-94	CS	a V	57.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
08-aug-94	CS	a N	64.7	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
08-aug-94	CS	a N	69.4	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
08-aug-94	CS	ah N	73.5	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
08-aug-94	CS	ah N	73.5	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
08-aug-94	CS	a N	78.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
08-aug-94	GT	ag V	78.0	<0.005	-	-	<0.005	<0.005	<0.005	<0.005
08-aug-94	CS	a N	82.3	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
08-aug-94	CS	a N	89.5	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
08-aug-94	CS	ah N	92.3	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
08-aug-94	CS	ah N	92.3	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
08-aug-94	CS	a N	94.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
W-7F										
25-apr-88	BC	a U	5.5	<0.0002	-	-	0.0003	0.0052	0.0017	<0.0002
25-apr-88	BC	a U	10.3	<0.0002	-	-	0.0008	0.035	0.0068	<0.0002
25-apr-88	BC	a U	15.3	<0.0002	-	-	0.0009	0.016	0.0027	<0.0002
25-apr-88	BC	a U	20.3	<0.0002	-	-	0.0004	0.0089	0.0017	<0.0002
25-apr-88	BC	a U	32.5	<0.0002	-	-	0.0008	0.0056	0.0045	<0.0002
25-apr-88	BC	a U	39.5	0.0002	-	-	<0.0002	0.0008	0.0006	<0.0002
26-apr-88	BC	a U	42.5	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
26-apr-88	BC	a U	56.2	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
27-apr-88	BC	a U	57.1	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
W-7G										
25-apr-89	BC	a U	38.5	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
25-apr-89	BC	a U	43.5	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
25-apr-89	BC	a U	53.5	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
25-apr-89	BC	a U	62.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
25-apr-89	BC	a U	67.5	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
26-apr-89	BC	a U	69.9	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
26-apr-89	BC	a U	76.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
26-apr-89	BC	a U	83.2	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
26-apr-89	BC	a U	86.4	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
26-apr-89	BC	a U	93.2	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
26-apr-89	BC	a U	101.2	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
22-may-89	BC	a U	112.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
22-may-89	BC	a U	122.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
22-may-89	BC	a U	126.9	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
22-may-89	BC	a U	133.8	<0.0002	-	-	<0.0002	0.0005	<0.0002	<0.0002
22-may-89	BC	a U	142.3	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
22-may-89	BC	a U	146.3	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
22-may-89	BC	a U	156.5	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
22-may-89	BC	a U	168.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002

Results recorded by 17-oct-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-35A-13
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jul-94
<0.005	<0.005	<0.005	<0.005	-	<0.005	21-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jul-94
						W-35A-14
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	02-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	02-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	02-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	02-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	02-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	02-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	04-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	04-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	04-aug-94
<0.005	<0.005	<0.005	<0.005	-	<0.005	04-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	04-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	04-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	04-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	04-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-aug-94
<0.005	<0.005	<0.005	<0.005	-	<0.005	08-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-aug-94
						W-7F
<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	25-apr-88
<0.0002	0.0011	<0.0002	<0.0002	0.0009	<0.0002	25-apr-88
<0.0002	<0.0002	<0.0002	0.0031	0.0011	<0.0002	25-apr-88
<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	25-apr-88
<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	25-apr-88
<0.0002	0.0012	<0.0002	<0.0002	0.0079	0.0006	25-apr-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	26-apr-88
<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	26-apr-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	27-apr-88
						W-7G
<0.0002	<0.0002	<0.0002	0.0006	<0.0002	<0.0002	25-apr-89
<0.0002	<0.0002	0.0002	0.0003	<0.0002	<0.0002	25-apr-89
<0.0002	<0.0002	<0.0002	0.001	<0.0002	<0.0002	25-apr-89
<0.0002	<0.0002	<0.0002	0.001	<0.0002	<0.0002	25-apr-89
<0.0002	<0.0002	<0.0002	0.0007	<0.0002	<0.0002	25-apr-89
<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	26-apr-89
<0.0002	<0.0002	<0.0002	0.0007	<0.0002	<0.0002	26-apr-89
<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	26-apr-89
<0.0002	<0.0002	0.0002	0.0004	<0.0002	<0.0002	26-apr-89
<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	26-apr-89
<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	26-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-may-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-may-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-may-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-may-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-may-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-may-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-may-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-may-89

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Note	Val.	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)											
W-7G (continued)											
22-may-89	BC	a	U	174.1	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
W-7H											
07-aug-89	BC	a	U	5.5	<0.0002	–	–	<0.0002	0.14	0.022	<0.0002
07-aug-89	BC	a	U	11.3	<0.0002	–	–	<0.0002	0.0014	0.0003	<0.0002
07-aug-89	BC	a	U	16.3	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
07-aug-89	BC	a	U	20.8	<0.0002	–	–	<0.0002	0.0005	<0.0002	<0.0002
07-aug-89	BC	a	U	25.3	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
07-aug-89	BC	a	U	30.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
W-7I											
09-aug-89	BC	a	U	5.5	<0.0002	–	–	<0.0002	0.47	0.08	<0.0002
09-aug-89	BC	a	U	10.0	<0.0002	–	–	<0.0002	0.0026	0.0007	<0.0002
10-aug-89	BC	a	U	15.5	<0.0002	–	–	<0.0002	0.0028	0.0004	<0.0002
10-aug-89	BC	a	U	20.7	<0.0002	–	–	<0.0002	0.06	0.0092	<0.0002
10-aug-89	BC	a	U	25.4	0.0016	–	–	0.0025	0.16	0.0051	<0.0002
10-aug-89	BC	a	U	30.3	0.0087	–	–	0.0066	0.49	0.023	0.0017
10-aug-89	BC	a	U	35.4	<0.0002	–	–	0.0007	<0.0002	<0.0002	<0.0002
10-aug-89	BC	a	U	40.4	0.001	–	–	0.0059	0.47	0.2	0.0026
10-aug-89	BC	a	U	45.5	<0.0002	–	–	<0.0002	0.0089	0.0021	<0.0002
W-7J											
21-aug-89	BC	a	U	48.7	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
21-aug-89	BC	a	U	53.2	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
21-aug-89	BC	a	U	58.7	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
21-aug-89	BC	a	U	63.6	<0.0002	–	–	<0.0002	0.0003	<0.0002	<0.0002
21-aug-89	BC	a	U	68.4	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
W-7L											
18-sep-90	BC	a	U	5.3	<0.0002	0.0007	<0.0002	0.0007	0.0002	<0.0002	<0.0002
18-sep-90	BC	a	U	10.3	<0.0002	<0.0002	<0.0002	<0.0002	0.012	0.0022	<0.0002
18-sep-90	BC	a	U	15.1	<0.0002	<0.0002	<0.0002	<0.0002	0.0049	0.0003	<0.0002
18-sep-90	BC	a	U	20.1	<0.0002	<0.0002	<0.0002	<0.0002	0.014	0.001	<0.0002
18-sep-90	BC	a	U	25.3	<0.0002	<0.0002	<0.0002	<0.0002	0.02	0.0041	<0.0002
19-sep-90	BC	a	U	31.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
19-sep-90	BC	a	U	39.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
19-sep-90	BC	a	U	43.0	<0.0002	0.0008	<0.0002	0.0008	<0.0002	<0.0002	<0.0002
20-sep-90	BC	a	U	45.3	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
20-sep-90	BC	a	U	50.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
20-sep-90	BC	a	U	55.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
20-sep-90	BC	a	U	61.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
20-sep-90	BC	a	U	68.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
20-sep-90	BC	a	U	74.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
20-sep-90	BC	a	U	77.0	<0.0002	0.0003	<0.0002	0.0003	<0.0002	<0.0002	<0.0002
24-sep-90	BC	a	U	83.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
24-sep-90	BC	a	U	86.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
24-sep-90	BC	a	U	94.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
24-sep-90	BC	a	U	98.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
24-sep-90	BC	a	U	104.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
24-sep-90	BC	a	U	105.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
W-7O											
18-feb-92	BC	a	U	4.6	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0002	<0.0002
18-feb-92	BC	a	U	9.2	<0.008	<0.008	<0.008	<0.008	0.068	0.021	<0.008
18-feb-92	BC	a	U	16.8	<0.0002	<0.0002	<0.0002	<0.0002	0.0039	0.0006	<0.0002
18-feb-92	BC	a	U	21.2	<0.0002	<0.0002	<0.0002	<0.0002	0.01	0.002	<0.0002
18-feb-92	BC	a	U	25.8	0.0003	0.0006	<0.0002	0.0006	0.042	0.0041	<0.0002
W-7P											
31-mar-94	CS	a	V	0.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
31-mar-94	CS	a	V	4.3	<0.0005	–	–	<0.0005	0.0011	<0.0005	<0.0005
31-mar-94	GT	a	V	4.3	<0.005	–	–	<0.005	<0.005	<0.005	<0.005
01-apr-94	CS	a	V	10.0	<0.0005	–	–	<0.0005	0.0014	<0.0005	<0.0005
01-apr-94	CS	a	V	14.5	<0.0005	–	–	<0.0005	0.0025	<0.0005	<0.0005
05-apr-94	CS	a	V	17.5	<0.0005	–	–	<0.0005	0.0074	0.0005	<0.0005
05-apr-94	CS	a	V	22.0	<0.0005	–	–	<0.0005	0.0066	0.0006	<0.0005
05-apr-94	CS	a	V	27.5	<0.0005	–	–	<0.0005	0.0076	<0.0005	<0.0005
05-apr-94	GT	a	N	34.0	<0.005	–	–	<0.005	<0.005	<0.005	<0.005

Results recorded by 17-oct-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-7G
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-may-89
						W-7H
<0.0002	<0.0002	0.0012	<0.0002	<0.0002	<0.0002	07-aug-89
<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	07-aug-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-aug-89
<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	07-aug-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-aug-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-aug-89
						W-7I
<0.0002	0.0024	<0.0002	<0.0002	<0.0002	<0.0002	09-aug-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	09-aug-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-aug-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-aug-89
0.0007	<0.0002	0.0007	<0.0002	<0.0002	<0.0002	10-aug-89
0.0019	<0.0002	0.0009	<0.0002	<0.0002	<0.0002	10-aug-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-aug-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-aug-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-aug-89
						W-7J
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-aug-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-aug-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-aug-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-aug-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-aug-89
						W-7L
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	18-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	18-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	18-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	18-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	18-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	19-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	19-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	19-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	20-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	20-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	20-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	20-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	20-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	20-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	20-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-sep-90
						W-7O
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	18-feb-92
<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	18-feb-92
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	18-feb-92
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	18-feb-92
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	18-feb-92
						W-7P
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	31-mar-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	31-mar-94
<0.005	<0.005	<0.005	<0.005	-	<0.005	31-mar-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	01-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	01-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	05-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	05-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	05-apr-94
<0.005	<0.005	<0.005	<0.005	-	<0.005	05-apr-94

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Note	Val.	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)											
W-7P (continued)											
05-apr-94	CS	a	V	35.9	<0.0005	–	–	<0.0005	0.0019	<0.0005	<0.0005
05-apr-94	CS	a	V	42.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
05-apr-94	CS	a	V	46.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
05-apr-94	CS	a	V	46.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
05-apr-94	CS	a	V	48.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-apr-94	CS	a	V	51.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-apr-94	CS	a	V	55.5	<0.0005	–	–	<0.0005	0.0008	<0.0005	<0.0005
06-apr-94	CS	a	V	58.7	<0.0005	–	–	<0.0005	0.0008	<0.0005	<0.0005
W-7PS											
11-apr-94	CS	a	V	0.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
11-apr-94	CS	a	V	6.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
11-apr-94	CS	a	V	11.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
11-apr-94	CS	a	V	12.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
11-apr-94	GT	a	V	15.7	<0.005	–	–	<0.005	<0.005	<0.005	<0.005
11-apr-94	CS	a	V	16.0	<0.0005	–	–	<0.0005	0.002	<0.0005	<0.0005
11-apr-94	CS	a	V	21.5	<0.0005	–	–	<0.0005	0.0031	<0.0005	<0.0005
W-872-02											
23-aug-90	BC	a	U	5.3	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002
23-aug-90	BC	a	U	10.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
23-aug-90	BC	a	U	15.3	<0.0002	0.008	<0.0002	0.008	0.0013	<0.0002	<0.0002
23-aug-90	BC	a	U	19.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
23-aug-90	BC	a	U	24.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
23-aug-90	BC	a	U	29.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
23-aug-90	BC	a	U	34.5	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002
23-aug-90	BC	a	U	39.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
23-aug-90	BC	a	U	44.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
23-aug-90	BC	a	U	49.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
W-873-02											
03-jun-88	BC	a	U	6.2	0.0003	–	–	<0.0002	0.0026	<0.0002	<0.0002
03-jun-88	BC	a	U	10.2	<0.0002	–	–	<0.0002	0.0025	<0.0002	<0.0002
03-jun-88	BC	a	U	15.0	0.0007	–	–	<0.0002	0.014	<0.0002	<0.0002
03-jun-88	BC	a	U	20.4	0.0005	–	–	<0.0002	0.0018	<0.0002	<0.0002
03-jun-88	BC	a	U	25.8	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
03-jun-88	BC	a	U	30.3	0.001	–	–	<0.0002	0.0002	<0.0002	<0.0002
06-jun-88	BC	a	U	35.7	<0.0002	–	–	<0.0002	0.0006	<0.0002	<0.0002
06-jun-88	BC	a	U	41.3	<0.0002	–	–	<0.0002	0.001	<0.0002	<0.0002
08-jun-88	BC	a	U	43.0	<0.0002	–	–	<0.0002	0.0005	<0.0002	<0.0002
08-jun-88	BC	a	U	47.0	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
08-jun-88	BC	a	U	51.0	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
W-873-03											
10-jun-88	BC	a	U	6.0	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
10-jun-88	BC	a	U	15.3	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
10-jun-88	BC	a	U	20.3	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
10-jun-88	BC	a	U	25.3	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
10-jun-88	BC	a	U	30.3	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
10-jun-88	BC	a	U	35.1	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
10-jun-88	BC	a	U	40.3	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
10-jun-88	BC	a	U	45.3	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
13-jun-88	BC	a	U	46.0	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
13-jun-88	BC	a	U	51.3	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
W-873-04											
30-may-90	BC	a	U	13.9	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
873-05											
30-may-90	BC	a	U	14.4	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002
W-873-06											
14-aug-90	BC	a	U	5.2	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
14-aug-90	BC	a	U	10.2	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
14-aug-90	BC	a	U	15.3	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
15-aug-90	BC	a	U	19.6	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
15-aug-90	BC	a	U	24.7	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
15-aug-90	BC	a	U	30.6	<0.0002	0.0004	<0.0002	0.0004	<0.0002	<0.0002	<0.0002

Results recorded by 17-oct-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-7P
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	05-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	05-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	05-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	05-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	05-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-apr-94
						W-7PS
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	11-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	11-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	11-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	11-apr-94
<0.005	<0.005	<0.005	<0.005	–	<0.005	11-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	11-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	11-apr-94
						W-872-02
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0039	<0.0002	23-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-aug-90
						W-873-02
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	03-jun-88
<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	03-jun-88
<0.0002	<0.0002	<0.0002	0.0011	<0.0002	<0.0002	03-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	03-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	03-jun-88
<0.0002	<0.0002	<0.0002	0.0007	<0.0002	<0.0002	03-jun-88
<0.0002	<0.0002	<0.0002	0.002	<0.0002	<0.0002	06-jun-88
<0.0002	<0.0002	0.035	0.0035	<0.0002	<0.0002	06-jun-88
<0.0002	<0.0002	<0.0002	0.004	<0.0002	<0.0002	08-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	08-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	08-jun-88
						W-873-03
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	10-jun-88
<0.0002	<0.0002	0.0008	<0.0002	0.0004	<0.0002	13-jun-88
<0.0002	<0.0002	0.0003	<0.0002	0.0004	<0.0002	13-jun-88
						W-873-04
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	30-may-90
						873-05
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	30-may-90
						W-873-06
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-aug-90

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Val. Note	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-873-06 (continued)										
15-aug-90	BC a	U	35.6	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
15-aug-90	BC a	U	41.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.0002
W-873-07										
21-aug-90	BC a	U	5.3	<0.0002	0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002
21-aug-90	BC a	U	10.5	<0.0002	0.0017	<0.0002	0.0017	0.0004	0.0004	<0.0002
21-aug-90	BC a	U	15.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002
21-aug-90	BC a	U	19.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
21-aug-90	BC a	U	24.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
22-aug-90	BC a	U	29.8	<0.0002	0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002
22-aug-90	BC a	U	34.8	<0.0002	0.0004	<0.0002	0.0004	<0.0002	<0.0002	<0.0002
22-aug-90	BC a	U	39.8	<0.0002	0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002
22-aug-90	BC a	U	44.8	<0.0002	0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002
22-aug-90	BC a	U	48.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
875-A										
20-nov-89	BC a	U	6.7	<0.0002	-	-	<0.0002	<0.0002	0.0002	<0.0002
20-nov-89	BC a	U	10.5	<0.0002	-	-	<0.0002	0.0005	<0.0002	<0.0002
20-nov-89	BC a	U	15.5	<0.0002	-	-	<0.0002	0.0019	<0.0002	<0.0002
20-nov-89	BC a	U	20.6	<0.0002	-	-	<0.0002	0.0024	<0.0002	<0.0002
20-nov-89	BC a	U	25.5	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
875-B (completed as W-875-05)										
21-nov-89	BC a	U	3.5	<0.0002	-	-	<0.0002	0.0004	0.0003	<0.0002
21-nov-89	BC a	U	5.3	<0.0002	-	-	<0.0002	0.0002	<0.0002	<0.0002
21-nov-89	BC a	U	11.0	<0.0002	-	-	<0.0002	0.0021	0.0002	<0.0002
21-nov-89	BC a	U	15.6	<0.0002	-	-	<0.0002	0.046	<0.0002	<0.0002
21-nov-89	BC a	U	21.0	<0.0002	-	-	0.0031	0.0002	<0.0002	<0.0002
13-dec-89	BC a	U	25.4	<0.0002	-	-	0.0007	0.016	<0.0002	<0.0002
13-dec-89	BC a	U	30.5	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
875-C										
21-nov-89	BC a	U	2.5	<0.0002	-	-	<0.0002	0.0002	<0.0002	<0.0002
21-nov-89	BC a	U	5.3	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
21-nov-89	BC a	U	10.5	<0.0002	-	-	<0.0002	0.0018	<0.0002	<0.0002
21-nov-89	BC a	U	15.5	<0.0002	-	-	<0.0002	0.0044	<0.0002	<0.0002
875-D (completed as W-875-02)										
27-nov-89	BC a	U	5.0	<0.0002	-	-	<0.0002	0.0055	0.0021	<0.0002
27-nov-89	BC a	U	10.8	<0.0002	-	-	<0.0002	0.0052	0.0028	<0.0002
27-nov-89	BC a	U	15.3	0.0013	-	-	0.0028	0.9	0.077	<0.0002
27-nov-89	BC a	U	20.3	<0.0002	-	-	<0.0002	0.0089	0.0026	<0.0002
27-nov-89	BC a	U	23.3	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
30-nov-89	BC a	U	25.3	<0.0002	-	-	0.0003	0.05	0.0095	<0.0002
30-nov-89	BC a	U	30.5	<0.0002	-	-	<0.0002	0.0016	0.0003	<0.0002
30-nov-89	BC a	U	35.3	<0.0002	-	-	<0.0002	0.0022	0.0006	<0.0002
30-nov-89	BC a	U	40.8	<0.0002	-	-	<0.0002	0.0066	0.0011	<0.0002
875-E (completed as W-875-03)										
27-nov-89	BC a	U	7.3	<0.0002	-	-	<0.0002	0.023	0.008	<0.0002
27-nov-89	BC a	U	10.3	<0.0002	-	-	<0.0002	0.33	0.056	<0.0002
27-nov-89	BC a	U	15.3	<0.0002	-	-	<0.0002	0.0003	0.0011	<0.0002
27-nov-89	BC a	U	20.5	<0.0002	-	-	<0.0002	0.0003	0.0005	<0.0002
04-dec-89	BC a	U	25.8	0.0016	-	-	0.0007	0.26	0.013	<0.0002
04-dec-89	BC a	U	35.3	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
04-dec-89	BC a	U	39.9	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
875-F (completed as W-872-01)										
29-nov-89	BC a	U	3.3	<0.0002	-	-	<0.0002	0.0031	0.0031	<0.0002
29-nov-89	BC a	U	5.6	<0.0002	-	-	<0.0002	0.0014	0.001	<0.0002
29-nov-89	BC a	U	10.5	<0.0002	-	-	<0.0002	0.031	0.017	<0.0002
29-nov-89	BC a	U	15.4	<0.0002	-	-	<0.0002	0.065	0.031	<0.0002
29-nov-89	BC a	U	20.3	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
06-dec-89	BC a	U	25.0	<0.0002	-	-	<0.0002	0.0004	<0.0002	<0.0002
06-dec-89	BC a	U	30.5	<0.0002	-	-	<0.0002	0.001	0.0004	<0.0002
06-dec-89	BC a	U	36.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002

Results recorded by 17-oct-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-873-06
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-aug-90
						W-873-07
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-aug-90
<0.0002	0.0005	<0.0002	0.0013	<0.0002	<0.0002	21-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-aug-90
						875-A
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	20-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	20-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	20-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	20-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	20-nov-89
						875-B
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-nov-89
<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	13-dec-89
<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	13-dec-89
						875-C
<0.0002	<0.0002	<0.0002	0.0016	<0.0002	<0.0002	21-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-nov-89
<0.0002	<0.0002	<0.0002	0.0012	<0.0002	<0.0002	21-nov-89
						875-D
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	27-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	27-nov-89
<0.0002	0.0028	0.0005	<0.0002	<0.0002	<0.0002	27-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	27-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	27-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	30-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	30-nov-89
<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	30-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	30-nov-89
						875-E
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	27-nov-89
<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	27-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	27-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	27-nov-89
<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	04-dec-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	04-dec-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	04-dec-89
						875-F
<0.0002	<0.0002	<0.0002	<0.0002	0.005	<0.0002	29-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	29-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	29-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	29-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	29-nov-89
<0.0002	<0.0002	<0.0002	0.0002	0.0002	<0.0002	06-dec-89
<0.0002	0.0011	<0.0002	0.0048	<0.0002	<0.0002	06-dec-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	06-dec-89

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Note	Val.	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)											
875-G	(completed as W-875-04)										
29-nov-89	BC	a	U	3.0	<0.0002	–	–	<0.0002	0.0037	0.0003	<0.0002
29-nov-89	BC	a	U	5.5	<0.0002	–	–	<0.0002	0.0035	0.0004	<0.0002
29-nov-89	BC	a	U	10.7	<0.0002	–	–	<0.0002	0.0033	0.0003	<0.0002
29-nov-89	BC	a	U	15.5	<0.0002	–	–	<0.0002	0.12	0.015	<0.0002
29-nov-89	BC	a	U	20.8	<0.0002	–	–	<0.0002	0.0059	<0.0002	<0.0002
30-nov-89	BC	a	U	25.3	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
12-dec-89	BC	a	U	29.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
875-H	(completed as W-876-01)										
14-dec-89	BC	a	U	6.3	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
14-dec-89	BC	a	U	11.3	<0.0002	–	–	<0.0002	0.0022	<0.0002	<0.0002
14-dec-89	BC	a	U	15.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
14-dec-89	BC	a	U	21.0	<0.0002	–	–	<0.0002	0.0028	<0.0002	<0.0002
14-dec-89	BC	a	U	26.3	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
14-dec-89	BC	a	U	30.8	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
14-dec-89	BC	a	U	35.8	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
14-dec-89	BC	a	U	41.8	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
875-N1											
29-jul-83	BC	a	U	10.8	–	–	–	–	<0.05	–	–
W-875-01											
22-jun-88	BC	a	U	3.0	<0.0002	–	–	<0.0002	0.029	0.0042	<0.0002
22-jun-88	BC	a	U	5.3	<0.0002	–	–	<0.0002	0.019	0.0035	<0.0002
22-jun-88	BC	a	U	10.3	<0.0002	–	–	<0.0002	0.006	0.0007	<0.0002
22-jun-88	BC	a	U	15.3	<0.0002	–	–	<0.0002	0.0052	0.0004	<0.0002
22-jun-88	BC	a	U	20.8	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
22-jun-88	BC	a	U	25.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
22-jun-88	BC	a	U	30.3	<0.0002	–	–	<0.0002	0.002	<0.0002	<0.0002
W-875-06											
11-feb-92	BC	a	U	1.8	<0.0002	<0.0002	<0.0002	<0.0002	0.024	0.0062	<0.0002
11-feb-92	BC	a	U	6.5	<0.0002	<0.0002	<0.0002	<0.0002	0.001	0.0007	<0.0002
11-feb-92	BC	a	U	12.5	<0.0002	<0.0002	<0.0002	<0.0002	0.0027	0.0007	<0.0002
12-feb-92	BC	a	U	17.2	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
12-feb-92	BC	a	U	22.2	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	<0.0002
12-feb-92	BC	a	U	29.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
W-875-07											
02-mar-92	BC	a	U	1.0	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005
02-mar-92	BC	a	U	3.5	<0.005	<0.005	<0.005	<0.005	0.12	0.032	<0.005
02-mar-92	BC	a	U	5.5	<0.005	<0.005	<0.005	<0.005	0.007	<0.005	<0.005
02-mar-92	BC	a	U	7.9	<0.005	<0.005	<0.005	<0.005	0.015	<0.005	<0.005
02-mar-92	BC	a	U	14.0	<0.005	<0.005	<0.005	<0.005	0.012	<0.005	<0.005
03-mar-92	BC	a	U	14.5	<0.005	<0.005	<0.005	<0.005	0.021	0.008	<0.005
03-mar-92	BC	a	U	18.2	<0.005	<0.005	<0.005	<0.005	0.026	<0.005	<0.005
03-mar-92	BC	a	U	20.7	<0.005	<0.005	<0.005	<0.005	0.014	<0.005	<0.005
03-mar-92	BC	a	U	24.0	<0.005	<0.005	<0.005	<0.005	0.099	0.041	<0.005
03-mar-92	BC	a	U	26.5	<0.005	<0.005	<0.005	<0.005	1.6	0.096	<0.005
03-mar-92	BC	a	U	28.9	0.024	<0.005	<0.005	<0.005	1.3	0.35	<0.005
05-mar-92	BC	a	U	31.4	<0.05	<0.05	<0.05	<0.05	76	3.3	<0.05
05-mar-92	BC	a	U	34.0	<0.05	<0.05	<0.05	<0.05	20	<0.05	<0.05
W-875-08											
09-mar-92	CH	a	U	3.5	–	–	–	–	0.041	–	–
09-mar-92	CH	a	U	6.2	–	–	–	–	0.059	–	–
09-mar-92	BC	a	U	7.4	<0.0002	<0.0002	<0.0002	<0.0002	0.019	0.004	<0.0002
09-mar-92	BC	a	U	9.5	<0.01	<0.01	<0.01	<0.01	0.48	0.08	<0.01
09-mar-92	CH	a	U	9.8	–	–	–	–	0.093	–	–
09-mar-92	CH	a	U	10.6	–	–	–	–	0.136	–	–
10-mar-92	CH	a	U	13.6	–	–	–	–	5.89	1.78	–
10-mar-92	CH	a	U	14.5	–	–	–	–	0.838	0.573	–
10-mar-92	BC	a	U	14.8	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01
10-mar-92	CH	a	U	17.2	–	–	–	–	0.715	0.719	–
10-mar-92	CH	a	U	17.7	–	–	–	–	0.738	0.684	–
10-mar-92	CH	a	U	20.1	–	–	–	–	2.41	4.74	–
10-mar-92	CH	a	U	20.4	–	–	–	–	11.2	26.6	–
10-mar-92	BC	a	U	20.7	<2	<2	<2	<2	360	390	<2

(continued) GSA Study Area and Offsite

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						875-G
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	29-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	29-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	29-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	29-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	29-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	30-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12-dec-89
						875-H
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-dec-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-dec-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-dec-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-dec-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-dec-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-dec-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-dec-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-dec-89
						875-N1
-	-	-	-	-	-	29-jul-83
						W-875-01
<0.0002	<0.0002	0.0005	<0.0002	<0.0002	<0.0002	22-jun-88
<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	22-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	0.0013	<0.0002	22-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-jun-88
<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	22-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	22-jun-88
						W-875-06
<0.0002	<0.0002	<0.0002	<0.0002	0.0093	<0.0002	11-feb-92
<0.0002	<0.0002	<0.0002	<0.0002	0.0067	<0.0002	11-feb-92
<0.0002	<0.0002	<0.0002	<0.0002	0.0056	<0.0002	11-feb-92
<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	12-feb-92
<0.0002	<0.0002	<0.0002	<0.0002	0.0007	<0.0002	12-feb-92
<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	12-feb-92
						W-875-07
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	02-mar-92
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	02-mar-92
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	02-mar-92
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	02-mar-92
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	02-mar-92
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	03-mar-92
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	03-mar-92
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	03-mar-92
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	03-mar-92
<0.005	0.005	<0.005	<0.005	<0.005	<0.005	03-mar-92
0.005	0.034	<0.005	<0.005	<0.005	<0.005	03-mar-92
<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	05-mar-92
<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	05-mar-92
						W-875-08
-	-	-	-	-	-	09-mar-92
-	-	-	-	-	-	09-mar-92
<0.0002	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	09-mar-92
<0.01	0.01	<0.01	<0.01	0.06	<0.01	09-mar-92
-	-	-	-	-	-	09-mar-92
-	-	-	-	-	-	09-mar-92
-	-	-	-	-	-	10-mar-92
-	-	-	-	-	-	10-mar-92
<0.01	0.04	<0.01	<0.01	<0.01	<0.01	10-mar-92
-	-	-	-	-	-	10-mar-92
-	-	-	-	-	-	10-mar-92
-	-	-	-	-	-	10-mar-92
-	-	-	-	-	-	10-mar-92
<2	<2	<2	<2	<2	<2	10-mar-92

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Note	Val.	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)											
W-875-08 (continued)											
10-mar-92	CH	a	U	22.0	–	–	–	–	21	25.5	–
10-mar-92	BC	a	U	22.4	<0.01	<0.01	<0.01	<0.01	1.3	1.1	<0.01
10-mar-92	BC	a	U	24.7	<0.01	<0.01	<0.01	<0.01	0.31	<0.01	<0.01
10-mar-92	CH	a	U	25.6	–	–	–	–	1.59	1.92	–
10-mar-92	BC	a	U	25.8	<0.01	<0.01	<0.01	<0.01	0.05	0.03	<0.01
10-mar-92	CH	a	U	27.6	–	–	–	–	22.6	1.34	–
10-mar-92	BC	a	U	28.0	<0.01	<0.01	<0.01	<0.01	2.2	0.13	<0.01
11-mar-92	CH	a	U	29.7	–	–	–	–	7.24	1.46	–
11-mar-92	BC	a	U	30.3	<0.1	<0.1	<0.1	<0.1	13	0.5	<0.1
11-mar-92	CH	a	U	33.3	–	–	–	–	52	2.63	–
11-mar-92	BC	a	U	35.0	<0.01	<0.01	<0.01	<0.01	1.8	0.2	<0.01
12-mar-92	CH	a	U	35.2	–	–	–	–	0.149	<0.025	–
12-mar-92	CH	a	U	37.8	–	–	–	–	<0.025	<0.025	–
12-mar-92	BC	a	U	39.8	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	<0.01
12-mar-92	CH	a	U	40.1	–	–	–	–	<0.025	<0.025	–
12-mar-92	CH	a	U	42.2	–	–	–	–	<0.025	<0.025	–
12-mar-92	BC	a	U	42.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
12-mar-92	CH	a	U	44.3	–	–	–	–	<0.025	<0.025	–
12-mar-92	CH	a	U	46.3	–	–	–	–	<0.025	<0.025	–
12-mar-92	BC	a	U	47.2	<0.01	<0.01	<0.01	<0.01	0.04	0.05	<0.01
12-mar-92	CH	a	U	48.2	–	–	–	–	<0.025	<0.025	–
12-mar-92	BC	a	U	49.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
W-875-09											
18-mar-92	CH	a	U	2.8	–	–	–	–	<0.018	<0.018	–
18-mar-92	CH	a	U	3.8	–	–	–	–	0.023	<0.011	–
18-mar-92	CH	a	U	5.2	–	–	–	–	0.025	<0.015	–
18-mar-92	BC	a	U	7.0	<0.0002	<0.0002	<0.0002	<0.0002	>0.013	0.0064	<0.0002
18-mar-92	BC	a	U	7.0	–	–	–	–	0.023	–	–
18-mar-92	CH	a	U	7.2	–	–	–	–	<0.017	<0.017	–
18-mar-92	CH	a	U	11.0	–	–	–	–	0.087	<0.019	–
18-mar-92	BC	a	U	11.5	0.0005	0.0003	<0.0002	0.0003	>0.013	>0.013	<0.0002
18-mar-92	BC	a	U	11.5	–	–	–	–	0.75	0.091	–
18-mar-92	CH	a	U	14.0	–	–	–	–	0.135	0.07	–
18-mar-92	BC	a	U	16.2	<0.0002	<0.0002	<0.0002	<0.0002	0.0039	0.0028	<0.0002
18-mar-92	CH	a	U	16.8	–	–	–	–	0.105	0.017	–
18-mar-92	CH	a	U	18.8	–	–	–	–	0.046	0.018	–
19-mar-92	BC	a	U	20.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
19-mar-92	CH	a	U	21.0	–	–	–	–	<0.191	<0.191	–
19-mar-92	BC	a	U	23.2	<0.0002	<0.0002	<0.0002	<0.0002	0.0068	0.0051	<0.0002
19-mar-92	CH	a	U	24.2	–	–	–	–	<0.207	<0.207	–
19-mar-92	BC	a	U	27.8	<0.01	<0.01	<0.01	<0.01	0.27	<0.01	<0.01
19-mar-92	CH	a	U	29.2	–	–	–	–	22.2	1.05	–
19-mar-92	BC	a	U	30.8	0.02	<0.01	<0.01	<0.01	2.7	0.12	<0.01
19-mar-92	CH	a	U	31.8	–	–	–	–	7.28	0.336	–
19-mar-92	BC	a	U	33.4	<0.01	<0.01	<0.01	<0.01	0.85	0.01	<0.01
19-mar-92	CH	a	U	34.0	–	–	–	–	0.093	<0.037	–
19-mar-92	CH	a	U	36.8	–	–	–	–	0.381	0.156	–
19-mar-92	BC	a	U	37.0	<0.01	<0.01	<0.01	<0.01	0.38	0.01	<0.01
19-mar-92	CH	a	U	39.2	–	–	–	–	1.51	<0.088	–
W-875-10											
24-mar-92	CH	a	U	6.8	–	–	–	–	0.098	0.019	–
24-mar-92	BC	a	U	7.0	<0.01	<0.01	<0.01	<0.01	0.25	0.041	<0.01
24-mar-92	CH	a	U	8.0	–	–	–	–	0.026	<0.017	–
24-mar-92	CH	a	U	11.5	–	–	–	–	0.098	0.02	–
24-mar-92	BC	a	U	11.8	<0.01	<0.01	<0.01	<0.01	0.54	0.1	<0.01
24-mar-92	BC	a	U	13.0	<0.01	<0.01	<0.01	<0.01	0.8	0.16	<0.01
24-mar-92	CH	a	U	19.3	–	–	–	–	0.898	3.17	–
24-mar-92	BC	a	U	19.6	<0.1	<0.1	<0.1	<0.1	2.6	22	<0.1
24-mar-92	BC	a	U	20.0	<0.1	<0.1	<0.1	<0.1	1.8	25	<0.1
24-mar-92	CH	a	U	22.2	–	–	–	–	0.832	1.89	–
24-mar-92	BC	a	U	23.0	<0.02	<0.02	<0.02	<0.02	0.91	0.55	<0.02
24-mar-92	CH	a	U	24.5	–	–	–	–	1.12	<0.177	–
24-mar-92	BC	a	U	25.5	<0.01	<0.01	<0.01	<0.01	0.48	0.27	<0.01
24-mar-92	CH	a	U	26.6	–	–	–	–	3.18	0.384	–
24-mar-92	BC	a	U	27.6	<0.02	<0.02	<0.02	<0.02	6.4	0.44	<0.02
24-mar-92	CH	a	U	29.6	–	–	–	–	3.95	0.412	–

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-875-08
–	–	–	–	–	–	10-mar-92
<0.01	0.02	<0.01	<0.01	<0.01	<0.01	10-mar-92
<0.01	0.02	<0.01	<0.01	<0.01	<0.01	10-mar-92
–	–	–	–	–	–	10-mar-92
<0.01	0.03	<0.01	<0.01	<0.01	<0.01	10-mar-92
–	–	–	–	–	–	10-mar-92
<0.01	0.05	<0.01	<0.01	<0.01	<0.01	10-mar-92
–	–	–	–	–	–	11-mar-92
<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	11-mar-92
–	–	–	–	–	–	11-mar-92
<0.01	0.02	<0.01	<0.01	<0.01	<0.01	11-mar-92
–	–	–	–	–	–	12-mar-92
–	–	–	–	–	–	12-mar-92
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	12-mar-92
–	–	–	–	–	–	12-mar-92
–	–	–	–	–	–	12-mar-92
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	12-mar-92
–	–	–	–	–	–	12-mar-92
–	–	–	–	–	–	12-mar-92
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	12-mar-92
–	–	–	–	–	–	12-mar-92
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	12-mar-92
						W-875-09
–	–	–	–	–	–	18-mar-92
–	–	–	–	–	–	18-mar-92
–	–	–	–	–	–	18-mar-92
<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	18-mar-92
–	–	–	–	–	–	18-mar-92
–	–	–	–	–	–	18-mar-92
–	–	–	–	–	–	18-mar-92
<0.0002	0.0028	0.0003	<0.0002	<0.0002	<0.0002	18-mar-92
–	–	–	–	–	–	18-mar-92
–	–	–	–	–	–	18-mar-92
<0.0002	<0.0002	0.0008	<0.0002	0.0002	<0.0002	18-mar-92
–	–	–	–	–	–	18-mar-92
–	–	–	–	–	–	18-mar-92
<0.0002	<0.0002	0.047	<0.0002	<0.0002	<0.0002	19-mar-92
–	–	–	–	–	–	19-mar-92
<0.0002	<0.0002	0.0057	<0.0002	<0.0002	<0.0002	19-mar-92
–	–	–	–	–	–	19-mar-92
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	19-mar-92
–	–	–	–	–	–	19-mar-92
<0.01	0.02	<0.01	<0.01	<0.01	<0.01	19-mar-92
–	–	–	–	–	–	19-mar-92
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	19-mar-92
–	–	–	–	–	–	19-mar-92
–	–	–	–	–	–	19-mar-92
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	19-mar-92
–	–	–	–	–	–	19-mar-92
						W-875-10
–	–	–	–	–	–	24-mar-92
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	24-mar-92
–	–	–	–	–	–	24-mar-92
–	–	–	–	–	–	24-mar-92
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	24-mar-92
<0.01	0.01	<0.01	0.01	0.04	<0.01	24-mar-92
–	–	–	–	–	–	24-mar-92
<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	24-mar-92
<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	24-mar-92
–	–	–	–	–	–	24-mar-92
<0.02	0.04	<0.02	<0.02	<0.02	<0.02	24-mar-92
–	–	–	–	–	–	24-mar-92
<0.01	0.02	<0.01	<0.01	<0.01	<0.01	24-mar-92
–	–	–	–	–	–	24-mar-92
<0.02	0.13	<0.02	<0.02	<0.02	<0.02	24-mar-92
–	–	–	–	–	–	24-mar-92

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Val. Note	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-875-10 (continued)										
24-mar-92	BC a	U	30.0	<0.1	<0.1	<0.1	<0.1	12	0.72	<0.1
24-mar-92	CH a	U	32.6	–	–	–	–	0.765	<0.152	–
24-mar-92	BC a	U	33.0	<0.01	<0.01	<0.01	<0.01	0.12	<0.01	<0.01
24-mar-92	CH a	U	35.0	–	–	–	–	0.02	<0.016	–
25-mar-92	CH a	U	37.2	–	–	–	–	0.387	<0.125	–
25-mar-92	BC a	U	37.5	<0.0002	0.0002	<0.0002	0.0002	0.0034	0.0004	<0.0002
25-mar-92	CH a	U	40.0	–	–	–	–	<0.031	<0.031	–
25-mar-92	BC a	U	41.2	<0.0002	<0.0002	<0.0002	<0.0002	0.003	0.001	<0.0002
W-875-11										
26-mar-92	CH a	U	3.0	–	–	–	–	0.054	0.014	–
26-mar-92	CH a	U	6.0	–	–	–	–	0.101	0.022	–
26-mar-92	CH a	U	7.0	–	–	–	–	0.049	<0.008	–
26-mar-92	CH a	U	11.0	–	–	–	–	0.087	0.011	–
26-mar-92	CH a	U	15.0	–	–	–	–	<0.025	<0.025	–
26-mar-92	CH a	U	17.0	–	–	–	–	0.026	<0.025	–
26-mar-92	CH a	U	19.5	–	–	–	–	<0.025	<0.025	–
27-mar-92	CH a	U	22.5	–	–	–	–	0.503	0.029	–
27-mar-92	CH a	U	24.9	–	–	–	–	1.23	0.102	–
27-mar-92	CH a	U	27.0	–	–	–	–	2.24	0.239	–
27-mar-92	CH a	U	30.0	–	–	–	–	0.953	0.04	–
27-mar-92	CH a	U	32.8	–	–	–	–	0.011	<0.011	–
27-mar-92	CH a	U	34.5	–	–	–	–	<0.008	<0.008	–
27-mar-92	CH a	U	39.0	–	–	–	–	<0.009	<0.009	–
W-875-15										
09-apr-92	CH a	U	3.5	<0.006	–	–	–	1.38	<0.006	–
15-apr-92	BC a	U	5.0	<0.01	<0.01	<0.01	<0.01	0.07	0.02	<0.01
15-apr-92	CH a	U	5.8	–	–	–	–	–	0.032	–
15-apr-92	CH a	U	5.8	–	–	–	–	0.193	–	–
15-apr-92	BC a	U	6.8	<0.0002	0.0002	<0.0002	0.0002	0.09	0.02	<0.0002
15-apr-92	CH a	U	7.2	–	–	–	–	0.766	0.076	–
15-apr-92	BC a	U	10.2	<0.01	0.01	<0.01	0.01	0.34	0.05	<0.01
15-apr-92	CH a	U	16.5	–	–	–	–	0.266	0.022	–
15-apr-92	BC a	U	16.8	<0.0002	<0.0002	<0.0002	<0.0002	0.017	0.0034	<0.0002
15-apr-92	CH a	U	17.5	–	–	–	–	0.044	0.013	–
15-apr-92	BC a	U	21.0	<0.008	<0.008	<0.008	<0.008	0.023	<0.008	<0.008
15-apr-92	CH a	U	21.5	–	–	–	–	0.04	0.013	–
15-apr-92	BC a	U	24.5	<0.01	<0.01	<0.01	<0.01	0.93	0.08	<0.01
15-apr-92	CH a	U	24.8	–	–	–	–	8.96	1.41	–
15-apr-92	BC a	U	28.8	<0.01	0.07	<0.01	0.07	3.2	0.28	<0.01
15-apr-92	CH a	U	29.0	–	–	–	–	11.1	5.02	–
15-apr-92	BC a	U	33.0	<0.01	<0.01	<0.01	<0.01	0.6	0.02	<0.01
15-apr-92	CH a	U	33.2	–	–	–	–	1.45	0.054	–
15-apr-92	BC a	U	37.0	<0.0002	0.0002	<0.0002	0.0002	0.0046	0.0009	<0.0002
15-apr-92	CH a	U	37.2	–	–	–	–	0.097	0.017	–
W-879-01										
12-feb-90	BC a	U	1.5	<0.1	–	–	<0.1	<0.1	<0.1	<0.1
12-feb-90	BC a	U	6.0	<0.1	–	–	<0.1	<0.1	<0.1	<0.1
12-feb-90	BC a	U	10.6	<0.1	–	–	<0.1	<0.1	<0.1	<0.1
12-feb-90	BC a	U	15.5	<0.1	–	–	<0.1	<0.1	<0.1	<0.1
13-feb-90	BC a	U	45.5	<0.1	–	–	<0.1	<0.1	<0.1	<0.1
13-feb-90	BC a	U	50.3	<0.1	–	–	<0.1	<0.1	<0.1	<0.1
W-889-01										
15-jun-88	BC a	U	5.8	<0.0002	–	–	<0.0002	0.0097	<0.0002	<0.0002
15-jun-88	BC a	U	10.8	<0.0002	–	–	<0.0002	0.0054	<0.0002	<0.0002
15-jun-88	BC a	U	15.5	<0.0002	–	–	<0.0002	0.0045	<0.0002	<0.0002
15-jun-88	BC a	U	20.5	<0.0002	–	–	0.0003	0.082	<0.0002	<0.0002
15-jun-88	BC a	U	25.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
15-jun-88	BC a	U	30.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
15-jun-88	BC a	U	35.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
16-jun-88	BC a	U	38.0	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
16-jun-88	BC a	U	42.3	0.0003	–	–	<0.0002	<0.0002	<0.0002	<0.0002
16-jun-88	BC a	U	45.5	0.0003	–	–	<0.0002	<0.0002	<0.0002	<0.0002
16-jun-88	BC a	U	51.6	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002

Results recorded by 17-oct-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-875-10
<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	24-mar-92
–	–	–	–	–	–	24-mar-92
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	24-mar-92
–	–	–	–	–	–	24-mar-92
–	–	–	–	–	–	25-mar-92
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	25-mar-92
–	–	–	–	–	–	25-mar-92
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	25-mar-92
						W-875-11
–	–	–	–	–	–	26-mar-92
–	–	–	–	–	–	26-mar-92
–	–	–	–	–	–	26-mar-92
–	–	–	–	–	–	26-mar-92
–	–	–	–	–	–	26-mar-92
–	–	–	–	–	–	26-mar-92
–	–	–	–	–	–	26-mar-92
–	–	–	–	–	–	27-mar-92
–	–	–	–	–	–	27-mar-92
–	–	–	–	–	–	27-mar-92
–	–	–	–	–	–	27-mar-92
–	–	–	–	–	–	27-mar-92
–	–	–	–	–	–	27-mar-92
–	–	–	–	–	–	27-mar-92
						W-875-15
<0.006	<0.006	<0.006	–	–	<0.006	09-apr-92
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	15-apr-92
–	–	–	–	–	–	15-apr-92
–	–	–	–	–	–	15-apr-92
<0.0002	0.001	0.0032	<0.0002	<0.0002	<0.0002	15-apr-92
–	–	–	–	–	–	15-apr-92
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	15-apr-92
–	–	–	–	–	–	15-apr-92
<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-apr-92
–	–	–	–	–	–	15-apr-92
<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	15-apr-92
–	–	–	–	–	–	15-apr-92
<0.01	0.02	<0.01	<0.01	<0.01	<0.01	15-apr-92
–	–	–	–	–	–	15-apr-92
<0.01	0.02	<0.01	<0.01	<0.01	<0.01	15-apr-92
–	–	–	–	–	–	15-apr-92
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	15-apr-92
–	–	–	–	–	–	15-apr-92
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-apr-92
–	–	–	–	–	–	15-apr-92
						W-879-01
<0.1	<0.1	<0.1	<0.1	–	<0.1	12-feb-90
<0.1	<0.1	<0.1	<0.1	–	<0.1	12-feb-90
<0.1	<0.1	<0.1	<0.1	–	<0.1	12-feb-90
<0.1	<0.1	<0.1	<0.1	–	<0.1	12-feb-90
<0.1	<0.1	<0.1	<0.1	–	<0.1	13-feb-90
<0.1	<0.1	<0.1	<0.1	–	<0.1	13-feb-90
						W-889-01
<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	15-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	15-jun-88
<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	16-jun-88
<0.0002	0.003	<0.0002	<0.0002	<0.0002	<0.0002	16-jun-88
<0.0002	0.0016	0.0009	<0.0002	<0.0002	<0.0002	16-jun-88
<0.0002	<0.0002	0.0002	<0.0002	0.0003	<0.0002	16-jun-88

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Val. Note	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
3SS-CHC-001										
08-jul-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
3SS-26-01										
20-sep-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
20-sep-91	CL a	U	0.0	<0.003	<0.003	<0.003	<0.003	<0.004	<0.004	<0.003
3SS-26-02										
20-sep-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
3SS-27-01										
17-sep-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
3SS-27-02										
17-sep-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
3SS-27-03										
25-sep-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005	0.008	<0.005	<0.005
3SS-27-04										
25-sep-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005	0.084	0.03	<0.005
3SS-27-05										
25-sep-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
3SS-51-01										
20-sep-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
20-sep-91	CL a	U	0.0	<0.003	<0.003	<0.003	<0.003	<0.004	<0.004	<0.003
3SS-51-02										
26-sep-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
3SS-GSA-01										
24-apr-92	CH a	U	1.0	<0.005	-	-	-	<0.005	<0.005	-
3SS-GSA-02										
24-apr-92	CH a	U	1.0	<0.005	-	-	-	<0.005	<0.005	-
3SS-GSA-03										
24-apr-92	CH a	U	1.0	<0.005	-	-	-	<0.005	<0.005	-

Results recorded by 17-oct-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						3SS-CHC-001
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	08-jul-91
						3SS-26-01
<0.005	<0.005	<0.005	<0.005	0.017	<0.005	20-sep-91
<0.003	<0.003	<0.003	<0.003	0.007	<0.003	20-sep-91
						3SS-26-02
<0.005	<0.005	<0.005	0.01	0.079	<0.005	20-sep-91
						3SS-27-01
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	17-sep-91
						3SS-27-02
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	17-sep-91
						3SS-27-03
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	25-sep-91
						3SS-27-04
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	25-sep-91
						3SS-27-05
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	25-sep-91
						3SS-51-01
<0.005	<0.005	<0.005	0.013	0.015	<0.005	20-sep-91
<0.003	<0.003	<0.003	<0.003	0.05	<0.003	20-sep-91
						3SS-51-02
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	26-sep-91
						3SS-GSA-01
<0.005	<0.005	<0.005	-	-	<0.005	24-apr-92
						3SS-GSA-02
<0.005	<0.005	<0.005	-	-	<0.005	24-apr-92
						3SS-GSA-03
<0.005	<0.005	<0.005	-	-	<0.005	24-apr-92

See following page for notes

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.
Results recorded by 17-oct-1994.

Notes:

- Indicates no analysis performed for this compound.

Footnotes

a ERD data
b EMAD data
c Analytical results for this sample are suspect
d Sample taken during hydraulic testing
e Blind sample, sent to lab without well identity
f Sample dilution necessary for analysis; detection limits increased
g Interlaboratory collocated sample
h Intralaboratory collocated sample
i Sample collected as part of pilot study
j Note may contain important information regarding this sample
k Pre-development sample
l Norm_month, norm_qtr or norm_year inconsistent with sample date
n Sample analyzed after standard holding time

Lab Codes

BC Brown and Caldwell, Emeryville, CA
CH Characterization Labs-Chemistry, LLNL, Livermore, CA.
CL Clayton Environmental Consultants, Pleasanton, CA.
CS California Laboratory Services, Rancho Cordova, CA.
GT Groundwater Technology Environmental Labs, Concord, CA.

Validation Codes

V Validated
N Not validated (default value)
U Undeclared
H Historical comparison only

Appendix A
Section A-3.2

Soil Analysis for Volatile Organic Compounds (BTEX) Sampled Before September 31, 1994, and Recorded by November 17, 1994

Soil analyses (mg/kg) for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-oct-1994.

Site 300 BTEX compounds in soil
14-dec-1994
water::epddata

s3btxGsaSO.13dec94

Min Sample Date
01-jan-1972
Max Sample Date
30-sep-1994

Soil analyses (mg/kg) for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-oct-1994.

Location Date	Lab	Val. Note	Depth	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite							
W-25N-20							
16-oct-91	BC a	U	5.5	<0.005	<0.005	<0.005	<0.005
16-oct-91	BC a	U	10.5	<0.005	<0.005	<0.005	<0.005
W-25N-21							
18-oct-91	BC a	U	0.5	<0.005	<0.005	<0.005	<0.005
17-oct-91	BC a	U	6.0	<0.005	<0.005	<0.005	<0.005
17-oct-91	BC a	U	10.0	<0.005	<0.005	<0.005	<0.005
W-25N-22							
21-oct-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005
W-25N-23							
23-oct-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005
W-25N-24							
19-nov-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005
W-26R-04							
07-oct-91	BC a	U	6.3	<0.005	<0.005	<0.005	<0.005
07-oct-91	BC a	U	10.3	<0.005	<0.005	<0.005	<0.005
W-26R-05							
24-oct-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005
24-oct-91	BC a	U	5.3	<0.005	0.005	<0.005	<0.005
W-26R-06							
28-oct-91	BC a	U	0.5	<0.005	<0.005	<0.005	<0.005
28-oct-91	BC a	U	6.0	<0.005	<0.005	<0.005	<0.005
W-26R-07							
25-oct-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005
25-oct-91	BC a	U	5.3	<0.005	<0.005	<0.005	<0.005
W-26R-08							
29-oct-91	BC a	U	0.5	<0.005	<0.005	<0.005	<0.005
26R-09							
30-oct-91	BC a	U	0.5	<0.005	<0.005	<0.005	<0.005
26R-10							
30-oct-91	BC a	U	0.1	<0.005	<0.005	<0.005	<0.005
W-7F							
25-apr-88	BC a	U	5.5	<0.0002	0.001	0.007	<0.0002
25-apr-88	BC a	U	10.3	0.0008	0.0009	0.0005	0.0013
25-apr-88	BC a	U	15.3	0.0012	0.0014	0.0008	0.0021
25-apr-88	BC a	U	20.3	<0.0002	0.0011	0.001	0.0024
25-apr-88	BC a	U	32.5	<0.0002	0.0006	0.0002	0.001
25-apr-88	BC a	U	39.5	0.0005	0.0008	<0.0002	<0.0002
26-apr-88	BC a	U	42.5	0.0004	0.0003	0.0006	0.0005
26-apr-88	BC a	U	56.2	0.0004	0.0006	<0.0002	<0.0002
27-apr-88	BC a	U	57.1	<0.0002	0.0003	0.0002	0.0002
W-873-02							
03-jun-88	BC a	U	6.2	0.0014	0.0022	0.0006	0.0022
03-jun-88	BC a	U	10.2	0.0016	0.002	0.0011	0.0019
03-jun-88	BC a	U	15.0	0.0011	0.0012	0.0004	0.0015
03-jun-88	BC a	U	20.4	0.0006	0.0008	0.0002	0.0005
03-jun-88	BC a	U	25.8	<0.0002	0.0006	<0.0002	0.0002
03-jun-88	BC a	U	30.3	<0.0002	0.0006	0.0003	0.0005
06-jun-88	BC a	U	35.7	<0.0002	<0.0002	<0.0002	<0.0002
06-jun-88	BC a	U	41.3	<0.0002	<0.0002	<0.0002	<0.0002
08-jun-88	BC a	U	43.0	0.0008	0.0006	<0.0002	<0.0002
08-jun-88	BC a	U	47.0	0.0008	0.0005	<0.0002	<0.0002
08-jun-88	BC a	U	51.0	0.0006	0.0005	<0.0002	<0.0002

Soil analyses (mg/kg) for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-oct-1994.

Location Date	Lab	Val. Note	Depth	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
W-873-03							
10-jun-88	BC	a U	6.0	<0.0002	0.0046	0.0005	0.0037
10-jun-88	BC	a U	15.3	0.0014	0.0014	0.0005	0.0018
10-jun-88	BC	a U	20.3	0.0003	0.0005	<0.0002	0.0005
10-jun-88	BC	a U	25.3	0.0008	0.0005	<0.0002	0.0005
10-jun-88	BC	a U	30.3	0.0006	0.0004	<0.0002	0.0005
10-jun-88	BC	a U	35.1	0.0003	0.0003	<0.0002	0.0006
10-jun-88	BC	a U	40.3	0.0003	<0.0002	<0.0002	0.0004
10-jun-88	BC	a U	45.3	<0.0002	0.002	<0.0002	0.0063
13-jun-88	BC	a U	46.0	0.0007	0.0006	0.0002	0.0013
13-jun-88	BC	a U	51.3	0.0004	0.0003	0.0002	0.0007
W-873-04							
30-may-90	BC	a U	13.9	<0.001	<0.002	<0.002	<0.002
873-05							
30-may-90	BC	a U	14.4	<0.001	<0.002	<0.002	<0.002
875-A							
20-nov-89	BC	a U	6.7	<0.001	<0.002	<0.002	<0.002
20-nov-89	BC	a U	10.5	<0.001	<0.002	<0.002	<0.002
20-nov-89	BC	a U	15.5	<0.001	<0.002	<0.002	<0.002
20-nov-89	BC	a U	20.6	<0.001	<0.002	<0.002	<0.002
20-nov-89	BC	a U	25.5	<0.001	<0.002	<0.002	<0.002
875-B (completed as W-875-05)							
21-nov-89	BC	a U	3.5	<0.001	<0.002	<0.002	<0.002
21-nov-89	BC	a U	5.3	<0.001	<0.002	<0.002	<0.002
21-nov-89	BC	a U	11.0	<0.001	<0.002	<0.002	<0.002
21-nov-89	BC	a U	15.6	<0.001	<0.002	<0.002	<0.002
21-nov-89	BC	a U	21.0	<0.001	<0.002	<0.002	<0.002
13-dec-89	BC	a U	25.4	<0.001	<0.002	<0.002	<0.002
13-dec-89	BC	a U	30.5	<0.001	<0.002	<0.002	<0.002
875-C							
21-nov-89	BC	a U	2.5	<0.001	<0.002	<0.002	<0.002
21-nov-89	BC	a U	5.3	<0.001	<0.002	<0.002	<0.002
21-nov-89	BC	a U	10.5	<0.001	<0.002	<0.002	<0.002
21-nov-89	BC	a U	15.5	<0.001	<0.002	<0.002	<0.002
875-D (completed as W-875-02)							
27-nov-89	BC	a U	5.0	<0.001	<0.002	<0.002	<0.002
27-nov-89	BC	a U	10.8	0.001	<0.002	<0.002	<0.002
27-nov-89	BC	a U	15.3	<0.001	0.003	<0.002	<0.002
27-nov-89	BC	a U	20.3	0.001	<0.002	<0.002	<0.002
27-nov-89	BC	a U	23.3	<0.001	<0.002	<0.002	<0.002
30-nov-89	BC	a U	25.3	<0.001	<0.002	<0.002	<0.002
30-nov-89	BC	a U	30.5	<0.001	<0.002	<0.002	<0.002
30-nov-89	BC	a U	35.3	<0.001	<0.002	<0.002	<0.002
30-nov-89	BC	a U	40.8	<0.001	<0.002	<0.002	<0.002
875-E (completed as W-875-03)							
27-nov-89	BC	a U	7.3	<0.001	<0.002	<0.002	<0.002
27-nov-89	BC	a U	10.3	<0.001	<0.002	<0.002	<0.002
27-nov-89	BC	a U	15.3	<0.001	<0.002	<0.002	<0.002
27-nov-89	BC	a U	20.5	<0.001	<0.002	<0.002	<0.002
04-dec-89	BC	a U	25.8	<0.001	<0.002	<0.002	<0.002
04-dec-89	BC	a U	35.3	<0.001	<0.002	<0.002	<0.002
04-dec-89	BC	a U	39.9	<0.001	<0.002	<0.002	<0.002
875-F (completed as W-872-01)							
29-nov-89	BC	a U	3.3	0.003	<0.002	<0.002	<0.002
29-nov-89	BC	a U	5.6	<0.001	<0.002	<0.002	<0.002
29-nov-89	BC	a U	10.5	<0.001	<0.002	<0.002	<0.002
29-nov-89	BC	a U	15.4	0.001	<0.002	<0.002	<0.002
29-nov-89	BC	a U	20.3	<0.001	<0.002	<0.002	<0.002
06-dec-89	BC	a U	25.0	<0.001	0.004	<0.002	<0.002
06-dec-89	BC	a U	30.5	<0.001	0.08	<0.002	0.008

Soil analyses (mg/kg) for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-oct-1994.

Location Date	Lab	Val. Note	Depth	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
875-F (continued)							
06-dec-89	BC a	U	36.0	<0.001	0.003	<0.002	<0.002
875-G (completed as W-875-04)							
29-nov-89	BC a	U	3.0	<0.001	<0.002	<0.002	<0.002
29-nov-89	BC a	U	5.5	<0.001	<0.002	<0.002	<0.002
29-nov-89	BC a	U	10.7	<0.001	<0.002	<0.002	<0.002
29-nov-89	BC a	U	15.5	0.001	<0.002	<0.002	<0.002
29-nov-89	BC a	U	20.8	<0.001	<0.002	<0.002	<0.002
30-nov-89	BC a	U	25.3	0.002	<0.002	<0.002	<0.002
12-dec-89	BC a	U	29.5	<0.001	<0.002	<0.002	<0.002
875-H (completed as W-876-01)							
14-dec-89	BC a	U	6.3	<0.001	<0.002	<0.002	<0.002
14-dec-89	BC a	U	11.3	0.001	<0.002	<0.002	<0.002
14-dec-89	BC a	U	15.5	<0.001	<0.002	<0.002	<0.002
14-dec-89	BC a	U	21.0	<0.001	<0.002	<0.002	<0.002
14-dec-89	BC a	U	26.3	<0.001	<0.002	<0.002	<0.002
14-dec-89	BC a	U	30.8	<0.001	<0.002	<0.002	<0.002
14-dec-89	BC a	U	35.8	<0.001	<0.002	<0.002	<0.002
14-dec-89	BC a	U	41.8	<0.001	<0.002	<0.002	<0.002
W-875-01							
22-jun-88	BC a	U	3.0	<0.0002	0.0009	<0.0002	<0.0002
22-jun-88	BC a	U	5.3	<0.0002	0.0004	0.0008	<0.0002
22-jun-88	BC a	U	10.3	<0.0002	0.0004	0.001	<0.0002
22-jun-88	BC a	U	15.3	<0.0002	<0.0002	<0.0002	<0.0002
22-jun-88	BC a	U	20.8	<0.0002	0.0008	0.0003	0.0012
22-jun-88	BC a	U	25.5	<0.0002	<0.0002	<0.0002	<0.0002
22-jun-88	BC a	U	30.3	<0.0002	<0.0002	0.0003	<0.0002
W-875-06							
11-feb-92	BC a	U	1.8	<0.005	<0.005	<0.005	<0.005
11-feb-92	BC a	U	6.5	<0.005	<0.005	<0.005	<0.005
11-feb-92	BC a	U	12.5	<0.005	<0.005	<0.005	<0.005
12-feb-92	BC a	U	17.0	<0.005	<0.005	<0.005	<0.005
12-feb-92	BC a	U	22.4	<0.005	<0.005	<0.005	<0.005
12-feb-92	BC a	U	29.5	<0.005	<0.005	<0.005	<0.005
W-875-07							
02-mar-92	BC a	U	1.0	<0.005	<0.005	<0.005	<0.005
02-mar-92	BC a	U	3.5	<0.005	<0.005	<0.005	<0.005
02-mar-92	BC a	U	5.5	<0.005	<0.005	<0.005	<0.005
02-mar-92	BC a	U	7.7	<0.005	<0.005	<0.005	<0.005
02-mar-92	BC a	U	7.9	<0.005	<0.005	<0.005	<0.005
02-mar-92	BC a	U	14.0	<0.005	<0.005	<0.005	<0.005
03-mar-92	BC a	U	14.5	<0.005	<0.005	<0.005	<0.005
02-mar-92	BC a	U	15.1	<0.005	<0.005	<0.005	<0.005
03-mar-92	BC a	U	18.2	<0.005	<0.005	<0.005	<0.005
02-mar-92	BC a	U	19.2	<0.005	<0.005	<0.005	<0.005
03-mar-92	BC a	U	20.7	<0.005	<0.005	<0.005	<0.005
02-mar-92	BC a	U	21.3	<0.005	<0.005	<0.005	<0.005
02-mar-92	BC a	U	23.5	<0.005	<0.005	<0.005	<0.005
03-mar-92	BC a	U	24.0	<0.005	<0.005	<0.005	<0.005
02-mar-92	BC a	U	26.0	<0.005	<0.005	<0.005	<0.005
03-mar-92	BC a	U	26.5	<0.005	<0.005	<0.005	<0.005
02-mar-92	BC a	U	28.5	<0.005	<0.005	<0.005	<0.005
03-mar-92	BC a	U	28.9	<0.005	<0.005	<0.005	<0.005
05-mar-92	BC a	U	31.4	<0.05	<0.05	<0.05	<0.05
05-mar-92	BC a	U	31.7	<0.005	<0.005	<0.005	<0.005
05-mar-92	BC a	U	34.0	<0.05	<0.05	<0.05	<0.05
05-mar-92	BC a	U	34.5	<0.005	<0.005	<0.005	<0.005
W-875-08							
09-mar-92	BC a	U	2.2	<0.005	<0.005	<0.005	<0.005
09-mar-92	BC a	U	5.0	<0.005	<0.005	<0.005	<0.005
09-mar-92	BC a	U	8.5	<0.005	<0.005	<0.005	<0.005
10-mar-92	BC a	U	15.2	<0.005	<0.005	<0.005	<0.005

Soil analyses (mg/kg) for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-oct-1994.

Location Date	Lab	Val. Note	Depth	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
W-875-08 (continued)							
10-mar-92	BC a	U	20.9	<3	<3	<3	5
10-mar-92	BC a	U	22.7	<0.3	<0.3	<0.3	<0.3
10-mar-92	BC a	U	23.7	<0.005	<0.005	<0.005	<0.005
10-mar-92	BC a	U	26.2	<0.005	<0.005	<0.005	<0.005
10-mar-92	BC a	U	28.3	<0.005	<0.005	<0.005	<0.005
11-mar-92	BC a	U	30.8	<0.005	<0.005	<0.005	<0.005
11-mar-92	BC a	U	33.0	<0.005	<0.005	<0.005	<0.005
12-mar-92	CH a	U	35.2	<0.025	<0.025	<0.025	<0.05
12-mar-92	CH a	U	37.8	<0.025	<0.025	<0.025	<0.05
12-mar-92	BC a	U	39.0	<0.005	<0.005	<0.005	<0.005
12-mar-92	CH a	U	40.1	<0.025	<0.025	<0.025	<0.05
12-mar-92	CH a	U	42.2	<0.025	<0.025	<0.025	<0.05
12-mar-92	BC a	U	43.0	<0.005	<0.005	<0.005	<0.005
12-mar-92	CH a	U	44.3	<0.025	<0.025	<0.025	<0.05
12-mar-92	CH a	U	46.3	<0.025	<0.025	<0.025	<0.05
12-mar-92	BC a	U	47.8	<0.005	<0.005	<0.005	<0.005
12-mar-92	CH a	U	48.2	<0.025	<0.025	<0.025	<0.05
12-mar-92	BC a	U	49.6	<0.005	<0.005	<0.005	<0.005
W-875-09							
18-mar-92	BC af	U	5.8	<0.005	<0.005	<0.005	<0.005
18-mar-92	BC a	U	11.3	<0.005	<0.005	<0.005	<0.005
18-mar-92	BC a	U	16.0	<0.005	<0.005	<0.005	<0.005
18-mar-92	BC a	U	18.3	<0.005	<0.005	<0.005	<0.005
18-mar-92	BC a	U	22.3	<0.005	<0.005	<0.005	<0.005
18-mar-92	BC a	U	27.0	<0.005	<0.005	<0.005	<0.005
18-mar-92	BC a	U	29.5	<0.005	<0.005	<0.005	<0.005
18-mar-92	BC a	U	32.4	<0.005	<0.005	<0.005	<0.005
18-mar-92	BC a	U	35.0	<0.005	<0.005	<0.005	<0.005
18-mar-92	BC a	U	37.8	<0.005	<0.005	<0.005	<0.005
W-875-15							
09-apr-92	CH a	U	3.5	<0.006	<0.006	<0.006	<0.012
W-879-01							
12-feb-90	BC a	U	1.5	<0.1	<0.1	<0.1	<0.1
12-feb-90	BC a	U	6.0	<0.1	<0.1	<0.1	<0.1
12-feb-90	BC a	U	10.6	<0.1	<0.1	<0.1	<0.1
12-feb-90	BC a	U	15.5	<0.1	<0.1	<0.1	<0.1
13-feb-90	BC a	U	45.5	<0.1	<0.1	<0.1	<0.1
13-feb-90	BC a	U	50.3	<0.1	<0.1	<0.1	<0.1
W-889-01							
15-jun-88	BC a	U	5.8	<0.0002	<0.0002	<0.0002	<0.0002
15-jun-88	BC a	U	10.8	0.0007	0.0006	<0.0002	<0.0002
15-jun-88	BC a	U	15.5	0.0005	0.0006	<0.0002	<0.0002
15-jun-88	BC a	U	20.5	<0.0002	0.0016	<0.0002	0.0009
15-jun-88	BC a	U	25.5	<0.0002	<0.0002	<0.0002	<0.0002
15-jun-88	BC a	U	30.5	0.0005	0.0008	<0.0002	0.0005
15-jun-88	BC a	U	35.5	0.0005	0.0008	<0.0002	0.0006
16-jun-88	BC a	U	38.0	0.0004	0.0006	0.0002	0.001
16-jun-88	BC a	U	42.3	<0.0002	0.0004	<0.0002	0.0006
16-jun-88	BC a	U	45.5	0.0007	0.0006	<0.0002	0.0008
16-jun-88	BC a	U	51.6	0.0009	0.0009	0.0002	0.0012
3SS-CHC-001							
08-jul-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005
3SS-26-01							
20-sep-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005
20-sep-91	CL a	U	0.0	<0.002	<0.002	<0.003	<0.003
3SS-26-02							
20-sep-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005

Soil analyses (mg/kg) for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-oct-1994.

Location Date	Lab	Val. Note	Depth	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
3SS-27-01							
17-sep-91	BC	a U	0.0	<0.005	<0.005	<0.005	<0.005
3SS-27-02							
17-sep-91	BC	a U	0.0	<0.005	<0.005	<0.005	<0.005
3SS-27-03							
25-sep-91	BC	a U	0.0	<0.005	<0.005	<0.005	<0.005
3SS-27-04							
25-sep-91	BC	a U	0.0	<0.005	<0.005	<0.005	<0.005
3SS-27-05							
25-sep-91	BC	a U	0.0	<0.005	<0.005	<0.005	<0.005
3SS-51-01							
20-sep-91	BC	a U	0.0	<0.005	0.006	<0.005	0.007
20-sep-91	CL	a U	0.0	<0.002	<0.002	<0.003	<0.003
3SS-51-02							
26-sep-91	BC	a U	0.0	<0.005	<0.005	<0.005	<0.005

See following page for notes

Soil analyses (mg/kg) for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-oct-1994.

Notes:

- Indicates no analysis performed for this compound.

Footnotes

a ERD data
b EMAD data
c Analytical results for this sample are suspect
d Sample taken during hydraulic testing
e Blind sample, sent to lab without well identity
f Sample dilution necessary for analysis; detection limits increased
g Interlaboratory collocated sample
h Intralaboratory collocated sample
i Sample collected as part of pilot study
j Note may contain important information regarding this sample
k Pre-development sample
l Norm_month, norm_qtr or norm_year inconsistent with sample date
n Sample analyzed after standard holding time

Lab Codes

BC Brown and Caldwell, Emeryville, CA
CH Characterization Labs-Chemistry, LLNL, Livermore, CA.
CL Clayton Environmental Consultants, Pleasanton, CA.

Validation Codes

V Validated
N Not validated (default value)
U Undeclared
H Historical comparison only

Appendix A
Section A-3.3

Soil Analysis for Metals (TTLC Method) Sampled Before September 31, 1994, and Recorded by November 17, 1994

TTLC analyses (mg/kg) for metals in soil from the General Services Area (GSA), Site 300.
Results recorded by 17-oct-1994.

Metals in Soil from Boreholes, GSA, Site 300
16-dec-1994
water::epddata

s3metGSA.SO-1L.16dec94
s3metGSA.SO-1R.16dec94

Min Sample Date
01-jan-1972
Max Sample Date
30-sep-1994

TTLC analyses (mg/kg) for metals in soil from the General Services Area (GSA), Site 300.

Location Date	Lab	Val. Note	Depth	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite										
W-25N-21										
18-oct-91	CL a	U	1.0	<1	140	0.4	<0.1	19	–	20
17-oct-91	BC a	U	5.0	1.7	180	0.4	12	32	–	21
W-25N-22										
21-oct-91	BC a	U	0.0	2	170	0.5	14	23	–	21
W-25N-23										
23-oct-91	BC a	U	0.0	1.9	170	0.4	14	28	–	24
W-25N-24										
19-nov-91	BC a	U	0.0	3	140	0.2	10	23	–	22
W-25N-25										
17-may-94	CS a	V	0.0	1.7	160	<0.5	<1	21	–	11
17-may-94	CS a	V	0.0	–	–	–	<0.1	–	–	–
17-may-94	CS a	V	1.7	1.2	190	0.52	<1	15	–	7.7
17-may-94	CS a	V	1.7	–	–	–	<0.1	–	–	–
W-25N-26										
01-jun-94	CS a	V	0.0	1.1	100	<0.5	<1	18	–	15
01-jun-94	CS a	V	0.0	–	–	–	<0.1	–	–	–
01-jun-94	GT ag	V	0.0	4	92	<0.5	<0.5	19	–	14
01-jun-94	CS a	V	5.0	1.8	62	<0.5	<1	20	–	17
01-jun-94	CS a	V	5.0	–	–	–	<0.1	–	–	–
W-25N-28										
15-jun-94	CS ah	V	0.0	1.3	160	<0.5	<1	18	–	18
15-jun-94	CS ah	V	0.0	1.2	130	<0.5	<1	13	–	16
15-jun-94	CS ah	V	0.0	–	–	–	<0.1	–	–	–
15-jun-94	CS ah	V	0.0	–	–	–	<0.1	–	–	–
16-jun-94	CS a	V	6.3	1.3	110	<0.5	<1	11	–	9.3
16-jun-94	CS a	V	6.3	–	–	–	<0.1	–	–	–
W-26R-04										
07-oct-91	BC a	U	6.0	4.3	220	0.5	14	48	–	150
W-26R-05										
24-oct-91	BC a	U	0.0	6.7	180	0.4	14	29	–	28
24-oct-91	BC a	U	5.8	2.7	160	0.3	13	28	–	22
24-oct-91	BC a	U	10.0	2.4	110	0.2	13	34	–	19
W-26R-06										
28-oct-91	BC a	U	0.0	3.1	160	0.3	12	28	–	25
28-oct-91	BC a	U	5.0	<0.5	170	0.3	9	12	–	17
28-oct-91	BC a	U	10.0	0.5	130	0.6	12	10	–	28
W-26R-07										
25-oct-91	BC a	U	0.0	4.1	160	0.3	13	28	–	31
25-oct-91	BC a	U	5.8	4.2	170	0.3	15	35	–	140
25-oct-91	BC a	U	10.5	0.7	220	0.6	15	35	–	29
W-26R-08										
29-oct-91	BC a	U	0.0	1.2	190	0.6	14	18	–	23
26R-09										
30-oct-91	BC a	U	0.0	3.1	180	0.3	11	34	–	27
26R-10										
30-oct-91	BC a	U	0.0	2.9	220	0.3	12	35	–	32
W-35A-07										
25-mar-94	CS a	V	0.0	2.2	140	<0.5	<1	22	–	15
25-mar-94	CS a	V	0.0	2.3	190	<0.5	<1	23	–	16
24-mar-94	CS a	V	5.3	1.9	100	<0.5	<1	26	–	18

Results recorded by 17-oct-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								GSA Study Area and Offsite
								W-25N-21
–	17	–	<0.1	16	<1	<0.5	210	18-oct-91
–	5	–	<0.05	29	<0.4	<1	46	17-oct-91
								W-25N-22
–	9	–	0.06	22	<0.4	<1	94	21-oct-91
								W-25N-23
–	11	–	<0.05	29	<0.4	<1	100	23-oct-91
								W-25N-24
–	23	–	<0.05	27	<0.4	<1	98	19-nov-91
								W-25N-25
–	14	–	<0.05	21	0.64	<2.5	53	17-may-94
–	–	–	–	–	–	–	–	17-may-94
–	<10	–	<0.05	19	<0.5	<2.5	26	17-may-94
–	–	–	–	–	–	–	–	17-may-94
								W-25N-26
–	<10	–	<0.05	20	<0.5	<2.5	60	01-jun-94
–	–	–	–	–	–	–	–	01-jun-94
–	7	–	<0.1	24	<5	<1	50	01-jun-94
–	<10	–	<0.05	30	<0.5	<2.5	37	01-jun-94
–	–	–	–	–	–	–	–	01-jun-94
								W-25N-28
–	<10	–	<0.05	15	0.96	<2.5	140	15-jun-94
–	<10	–	<0.05	13	<0.5	<2.5	120	15-jun-94
–	–	–	–	–	–	–	–	15-jun-94
–	–	–	–	–	–	–	–	15-jun-94
–	<10	–	<0.05	14	<0.5	<2.5	17	16-jun-94
–	–	–	–	–	–	–	–	16-jun-94
								W-26R-04
–	11	–	<0.05	130	<0.4	<1	74	07-oct-91
								W-26R-05
–	9	–	<0.05	24	<0.4	<1	240	24-oct-91
–	8	–	<0.05	30	<0.4	<1	51	24-oct-91
–	6	–	0.05	29	<0.4	<1	48	24-oct-91
								W-26R-06
–	9	–	<0.05	28	<0.4	<1	180	28-oct-91
–	6	–	<0.05	8	<0.4	<1	32	28-oct-91
–	5	–	<0.05	11	<0.4	<1	39	28-oct-91
								W-26R-07
–	42	–	0.05	32	<0.4	<1	90	25-oct-91
–	30	–	1.4	37	<0.4	<1	2200	25-oct-91
–	8	–	<0.05	24	<0.4	<1	86	25-oct-91
								W-26R-08
–	11	–	<0.05	18	<0.4	<1	310	29-oct-91
								26R-09
–	7	–	<0.05	30	<0.4	<1	180	30-oct-91
								26R-10
–	14	–	<0.05	33	<0.4	<1	420	30-oct-91
								W-35A-07
–	14	–	<0.05	27	<0.5	<2.5	51	25-mar-94
–	16	–	<0.05	26	<0.5	<2.5	62	25-mar-94
–	15	–	<0.05	27	<0.5	<2.5	41	24-mar-94

TTLC analyses (mg/kg) for metals in soil from the General Services Area (GSA), Site 300.

Location Date	Lab	Val. Note	Depth	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
W-35A-08										
04-may-94	CS ah	V	0.0	0.64	200	0.6	2.4	40	–	33
04-may-94	CS ah	V	0.0	1.4	170	<0.5	2	27	–	28
05-may-94	CS a	V	4.5	2	130	<0.5	<1	16	–	16
W-35A-09										
16-may-94	CS ah	V	0.0	<2.5	170	0.84	<1	46	–	26
16-may-94	CS ah	V	0.0	<2.5	170	0.66	<1	35	–	26
16-may-94	CS ah	N	0.0	–	–	–	<0.1	–	–	–
16-may-94	CS ah	N	0.0	–	–	–	0.12	–	–	–
17-may-94	CS a	V	4.8	<2.5	63	<0.5	<1	25	–	19
17-may-94	CS a	V	4.8	–	–	–	<0.1	–	–	–
W-35A-10										
24-may-94	CS a	V	0.0	2.4	160	<0.5	<1	21	–	15
24-may-94	CS a	N	0.0	–	–	–	<0.1	–	–	–
24-may-94	CS a	V	4.0	1.8	34	<0.5	<1	26	–	11
24-may-94	CS a	N	4.0	–	–	–	<0.1	–	–	–
W-35A-11										
01-jun-94	CS ah	V	0.0	2.3	200	<0.5	<1	29	–	19
01-jun-94	CS ah	V	0.0	2.8	140	<0.5	<1	23	–	17
01-jun-94	CS ah	V	0.0	–	–	–	<0.1	–	–	–
01-jun-94	CS ah	V	0.0	–	–	–	<0.1	–	–	–
01-jun-94	CS a	V	3.8	0.99	120	<0.5	<1	23	–	21
W-35A-13										
14-jul-94	CS ah	V	0.0	1.5	140	<0.5	<1	40	–	17
14-jul-94	CS a	V	0.0	–	–	–	0.1	–	–	–
18-jul-94	CS a	V	4.5	1.5	68	<0.5	<1	8	–	8.5
W-35A-14										
02-aug-94	CS ah	N	0.0	–	–	–	0.13	–	–	–
02-aug-94	CS ah	N	0.0	–	–	–	0.14	–	–	–
02-aug-94	CS a	N	5.6	–	–	–	<0.1	–	–	–
W-7P										
31-mar-94	CS a	V	0.0	1.2	270	0.53	<1	29	–	27
31-mar-94	CS ah	V	4.5	1.7	94	<0.5	<1	23	–	16
31-mar-94	CS ah	V	4.5	1.8	89	<0.5	<1	38	–	18
W-875-07										
02-mar-92	BC a	U	1.0	2.5	210	0.6	2	24	–	34
02-mar-92	BC a	U	3.5	3.2	270	0.5	2	27	–	48
02-mar-92	BC a	U	5.5	0.4	270	0.5	2	29	–	24
02-mar-92	BC a	U	7.9	1.5	260	0.5	2	32	–	23
02-mar-92	BC a	U	15.1	<0.4	90	0.3	<1	10	–	14
02-mar-92	BC a	U	19.2	<0.4	71	0.3	1	17	–	12
03-mar-92	BC a	U	22.7	<0.4	51	0.3	5	8	–	14
03-mar-92	BC a	U	25.7	<0.4	58	0.4	9	20	–	13
03-mar-92	BC a	U	28.2	<0.4	65	0.5	7	10	–	12
W-875-08										
09-mar-92	BC a	U	2.2	3.8	170	0.7	10	26	–	29
09-mar-92	BC a	U	7.2	2.2	310	0.7	12	33	–	24
09-mar-92	BC a	U	9.5	2.9	120	0.3	9	34	–	23
10-mar-92	BC a	U	14.2	0.6	95	0.4	8	35	–	13
10-mar-92	BC a	U	21.7	0.5	45	0.3	7	10	–	11
10-mar-92	BC a	U	23.4	0.5	72	0.5	9	8	–	17
10-mar-92	BC a	U	25.3	0.7	74	0.5	9	6	–	14
10-mar-92	BC a	U	27.2	<0.4	69	0.4	8	6	–	12
11-mar-92	BC a	U	29.5	0.5	69	0.5	9	7	–	13
11-mar-92	BC a	U	33.0	0.4	40	0.4	9	14	–	15
12-mar-92	BC a	U	39.8	0.6	240	1	11	22	–	27
12-mar-92	BC a	U	42.5	3.9	510	0.8	11	38	–	27
12-mar-92	BC a	U	47.2	18	220	0.4	13	50	–	16
12-mar-92	BC a	U	49.2	2.8	180	0.8	10	26	–	26

Results recorded by 17-oct-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								(continued) GSA Study Area and Offsite
								W-35A-08
–	<10	–	0.081	44	1	<2.5	97	04-may-94
–	<10	–	0.08	35	0.75	<2.5	91	04-may-94
–	<10	–	<0.05	21	0.53	<2.5	32	05-may-94
								W-35A-09
–	42	–	<0.05	44	1.2	<2.5	130	16-may-94
–	31	–	0.051	40	0.97	<2.5	100	16-may-94
–	–	–	–	–	–	–	–	16-may-94
–	–	–	–	–	–	–	–	16-may-94
–	12	–	<0.05	32	0.61	<2.5	55	17-may-94
–	–	–	–	–	–	–	–	17-may-94
								W-35A-10
–	<10	–	<0.05	25	0.53	<2.5	39	24-may-94
–	–	–	–	–	–	–	–	24-may-94
–	<10	–	<0.05	25	<0.5	<2.5	26	24-may-94
–	–	–	–	–	–	–	–	24-may-94
								W-35A-11
–	<10	–	<0.05	30	<0.5	<2.5	46	01-jun-94
–	<10	–	<0.05	25	<0.5	<2.5	41	01-jun-94
–	–	–	–	–	–	–	–	01-jun-94
–	–	–	–	–	–	–	–	01-jun-94
–	<10	–	<0.05	30	<0.5	<2.5	38	01-jun-94
								W-35A-13
–	<10	–	<0.05	41	<0.5	<2.5	130	14-jul-94
–	–	–	–	–	–	–	–	14-jul-94
–	<10	–	<0.05	12	<0.5	<2.5	16	18-jul-94
								W-35A-14
–	–	–	–	–	–	–	–	02-aug-94
–	–	–	–	–	–	–	–	02-aug-94
–	–	–	–	–	–	–	–	02-aug-94
								W-7P
–	<10	–	<0.05	30	<0.5	<2.5	54	31-mar-94
–	<10	–	<0.05	27	<0.5	<2.5	36	31-mar-94
–	<10	–	<0.05	40	<0.5	<2.5	41	31-mar-94
								W-875-07
–	<4	–	<0.02	20	<0.4	<1	63	02-mar-92
–	42	–	0.06	26	<0.4	<1	140	02-mar-92
–	5	–	<0.02	25	<0.4	<1	58	02-mar-92
–	5	–	0.04	25	<0.4	<1	59	02-mar-92
–	<4	–	<0.02	7	<0.4	<1	38	02-mar-92
–	<4	–	<0.02	9	<0.4	<1	43	02-mar-92
–	4	–	<0.02	6	<0.4	<1	32	03-mar-92
–	5	–	<0.02	8	<0.4	<1	44	03-mar-92
–	6	–	<0.02	5	<0.4	<1	33	03-mar-92
								W-875-08
–	7	–	<0.02	22	<0.4	<1	65	09-mar-92
–	7	–	0.03	34	<0.4	<1	66	09-mar-92
–	5	–	0.07	31	<0.4	<1	49	09-mar-92
–	<4	–	<0.02	8	<0.4	<1	36	10-mar-92
–	<4	–	<0.02	7	<0.4	<1	38	10-mar-92
–	4	–	<0.02	7	<0.4	<1	43	10-mar-92
–	7	–	<0.02	7	<0.4	<1	37	10-mar-92
–	4	–	<0.02	5	<0.4	<1	33	10-mar-92
–	6	–	<0.02	5	<0.4	<1	35	11-mar-92
–	6	–	<0.02	6	<0.4	<1	52	11-mar-92
–	8	–	<0.02	12	<0.4	<1	46	12-mar-92
–	5	–	0.06	22	<0.4	<1	70	12-mar-92
–	5	–	<0.02	22	<0.4	<1	70	12-mar-92
–	9	–	0.1	16	<0.4	<1	61	12-mar-92

TTLC analyses (mg/kg) for metals in soil from the General Services Area (GSA), Site 300.

Location Date	Lab	Val. Note	Depth	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
W-875-09										
18-mar-92	BC af	U	5.8	2	240	0.5	12	66	–	180
18-mar-92	BC a	U	11.3	4	100	0.2	7	31	–	23
18-mar-92	BC a	U	16.0	<0.4	59	0.2	5	12	–	11
18-mar-92	BC a	U	18.3	<0.4	49	0.3	6	9	–	10
18-mar-92	BC a	U	22.3	0.4	45	0.3	5	9	–	18
18-mar-92	BC a	U	27.0	0.5	45	0.4	6	7	–	9
18-mar-92	BC a	U	29.5	<0.4	41	0.4	5	5	–	13
18-mar-92	BC a	U	32.4	0.5	54	0.5	9	5	–	17
18-mar-92	BC a	U	35.0	0.5	32	0.3	7	15	–	14
18-mar-92	BC a	U	37.8	2.2	180	0.4	6	14	–	21
W-875-15										
15-apr-92	BC a	U	5.2	1.9	260	0.6	<1	33	–	30
15-apr-92	BC a	U	10.2	2.4	240	0.3	<1	30	–	24
15-apr-92	BC a	U	16.2	<0.4	65	<2	<1	13	–	15
15-apr-92	BC a	U	19.0	<0.4	59	0.5	<1	18	–	12
15-apr-92	BC a	U	24.0	0.9	62	0.5	<1	7	–	5
15-apr-92	BC a	U	28.2	<0.4	61	0.5	<1	7	–	14
15-apr-92	BC a	U	30.5	1.2	100	0.7	<1	9	–	11
W-879-01										
12-feb-90	BC a	U	1.5	0.68	140	<0.2	6.4	47	–	56
12-feb-90	BC a	U	6.0	<0.4	1100	0.58	4.5	65	–	41
12-feb-90	BC a	U	10.6	1.7	160	<0.2	6.4	38	–	40
12-feb-90	BC a	U	15.5	0.64	95	<0.2	5.3	32	–	38
13-feb-90	BC a	U	45.8	1.8	23	<0.2	4.3	17	–	21
13-feb-90	BC a	U	50.0	0.6	30	<0.2	3.1	14	–	19
3SS-26-01										
20-sep-91	BC a	U	0.0	0.6	210	0.6	16	19	–	27
20-sep-91	CL a	U	0.0	2	170	0.6	<0.1	17	–	29
3SS-26-02										
20-sep-91	CL a	U	0.0	3	210	0.4	1.3	36	–	340
30-aug-94	CS a	V	0.0	<0.5	80	<0.5	<0.1	8.6	–	11
3SS-27-01										
17-sep-91	CL a	U	0.0	<1	200	0.3	<0.1	23	–	18
3SS-27-02										
17-sep-91	CL a	U	0.0	<1	140	0.8	0.1	31	–	26
3SS-27-03										
25-sep-91	CL a	U	0.0	<1	140	0.5	<0.1	18	–	18
3SS-27-04										
25-sep-91	CL a	U	0.0	<1	190	0.5	1.4	23	–	95
3SS-27-05										
25-sep-91	CL a	U	0.0	<1	120	0.4	0.2	21	–	68
3SS-51-01										
20-sep-91	BC a	U	0.0	4.2	130	0.4	12	28	–	22
20-sep-91	CL a	U	0.0	3	160	0.6	0.2	24	–	31
3SS-51-02										
26-sep-91	CL a	U	0.0	1	110	0.2	<0.1	24	–	18
3SS-51-07										
30-aug-94	CS a	V	0.0	2.7	170	<0.5	<0.1	34	–	21
3SS-51-08										
14-sep-94	CS a	V	0.0	2.4	220	<0.5	<0.1	25	–	18
3SS-51-09										
30-aug-94	CS a	V	0.0	1.5	160	<0.5	<0.1	25	–	17

Results recorded by 17-oct-1994.

(continued) GSA Study Area and Offsite

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								W-875-09
–	180	–	0.2	31	<0.4	<1	360	18-mar-92
–	5	–	0.03	35	<0.4	<1	45	18-mar-92
–	<4	–	<0.02	6	<0.4	<1	30	18-mar-92
–	<4	–	<0.02	7	<0.4	<1	32	18-mar-92
–	<4	–	<0.02	5	10	<1	36	18-mar-92
–	<4	–	<0.02	5	<0.4	<1	31	18-mar-92
–	<4	–	<0.02	5	<0.4	<1	29	18-mar-92
–	5	–	<0.02	8	<0.4	<1	34	18-mar-92
–	<4	–	<0.02	10	1.2	<1	63	18-mar-92
–	4	–	<0.02	10	<0.4	<1	57	18-mar-92
								W-875-15
–	33	–	0.03	25	<0.4	1	70	15-apr-92
–	16	–	0.03	36	<0.4	<1	47	15-apr-92
–	<40	–	<0.02	<20	<0.4	<1	34	15-apr-92
–	10	–	<0.02	10	<0.4	<1	43	15-apr-92
–	13	–	<0.02	7	<0.4	<1	34	15-apr-92
–	16	–	<0.02	3	<0.4	<1	34	15-apr-92
–	19	–	<0.02	13	<0.4	1	20	15-apr-92
								W-879-01
–	<6	–	0.03	29	<0.4	<0.4	91	12-feb-90
–	<6	–	0.04	35	<0.4	<0.4	57	12-feb-90
–	<6	–	0.05	26	<0.4	<0.4	47	12-feb-90
–	<6	–	0.01	17	<0.4	<0.4	49	12-feb-90
–	<6	–	0.05	13	<0.4	<0.4	45	13-feb-90
–	<6	–	0.04	9.3	<0.4	<0.4	55	13-feb-90
								3SS-26-01
–	5	–	<0.05	19	<0.4	<1	500	20-sep-91
–	18	–	<0.1	16	<1	<0.5	580	20-sep-91
								3SS-26-02
–	74	–	0.2	44	<1	2.5	830	20-sep-91
–	14	–	<0.05	<10	<0.5	<2.5	40	30-aug-94
								3SS-27-01
–	14	–	<0.1	19	<1	<0.5	39	17-sep-91
								3SS-27-02
–	20	–	<0.1	32	<1	<0.5	40	17-sep-91
								3SS-27-03
–	29	–	<0.1	18	<1	<0.5	64	25-sep-91
								3SS-27-04
–	68	–	<0.1	23	<1	<0.5	140	25-sep-91
								3SS-27-05
–	48	–	<0.1	17	<1	<0.5	150	25-sep-91
								3SS-51-01
–	9	–	<0.05	31	<0.4	<1	54	20-sep-91
–	22	–	<0.1	32	<1	<0.5	65	20-sep-91
								3SS-51-02
–	7	–	<0.1	28	<1	<0.5	41	26-sep-91
								3SS-51-07
–	28	–	<0.05	38	<0.5	<2.5	53	30-aug-94
								3SS-51-08
–	15	–	<0.05	18	0.51	<2.5	47	14-sep-94
								3SS-51-09
–	28	–	<0.05	16	<0.5	<2.5	57	30-aug-94

TTLC analyses (mg/kg) for metals in soil from the General Services Area (GSA), Site 300.

Location Date	Lab	Val. Note	Depth	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
3SS-51-10 30-aug-94	CS a	V	0.0	3.6	230	0.59	<0.1	30	–	22
3SS-60-01 30-aug-94	CS a	V	0.0	1.7	110	<0.5	<0.1	21	–	18

Results recorded by 17-oct-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
					(continued) GSA Study Area and Offsite			
-	35	-	<0.05	25	<0.5	<2.5	53	3SS-51-10 30-aug-94
-	23	-	<0.05	16	<0.5	<2.5	50	3SS-60-01 30-aug-94

See following page for notes

TTLC analyses (mg/kg) for metals in soil from the General Services Area (GSA), Site 300.
Results recorded by 17-oct-1994.

Notes:

- Indicates no analysis performed for this compound.

* Maximum Contaminant Levels (MCL) for selected metals

Footnotes

a ERD data
b EMAD data
c Analytical results for this sample are suspect
d Sample taken during hydraulic testing
e Blind sample, sent to lab without well identity
f Sample dilution necessary for analysis; detection limits increased
g Interlaboratory collocated sample
h Intralaboratory collocated sample
i Sample collected as part of pilot study
j Note may contain important information regarding this sample
k Pre-development sample
l Norm_month, norm_qtr or norm_year inconsistent with sample date
n Sample analyzed after standard holding time

Lab Codes

BC Brown and Caldwell, Emeryville, CA
CL Clayton Environmental Consultants, Pleasanton, CA.
CS California Laboratory Services, Rancho Cordova, CA.
GT Groundwater Technology Environmental Labs, Concord, CA.

Validation Codes

V Validated
N Not validated (default value)
U Undeclared
H Historical comparison only

Appendix A
Section A-3.4

Soil Analysis for Metals (STLC Method) Sampled Before September 31, 1994, and Recorded by November 17, 1994

STLC analyses (mg/L) for metals in soil from the General Services Area (GSA), Site 300.
Results recorded by 17-oct-1994.

Metals in Soil from Boreholes, GSA, Site 300
14-dec-1994
water::epddata

s3metGSA.SO-2L.13dec94
s3metGSA.SO-2R.13dec94

Min Sample Date
01-jan-1972
Max Sample Date
30-sep-1994

STLC analyses (mg/L) for metals in soil from the General Services Area (GSA), Site 300.

Location Date	Lab	Val.	Note	Depth	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite											
W-26R-04											
07-oct-91	BC	a	U	6.0	0.08	8.9	<0.01	<0.05	<0.05	–	4
875-B (completed as W-875-05)											
21-nov-89	BC	a	U	5.3	0.14	4.9	<0.01	<0.04	<0.05	–	5.7
21-nov-89	BC	a	U	10.5	0.08	4.2	<0.01	<0.04	<0.05	–	0.14
875-D (completed as W-875-02)											
27-nov-89	BC	a	U	5.0	<0.02	5.6	<0.01	<0.04	<0.05	–	0.18
27-nov-89	BC	a	U	10.3	0.05	7.3	<0.01	<0.04	<0.05	–	0.35
875-E (completed as W-875-03)											
27-nov-89	BC	a	U	7.3	0.03	8.4	<0.01	<0.04	0.06	–	0.53
27-nov-89	BC	a	U	10.6	0.02	7	<0.01	<0.04	0.15	–	0.42
875-F (completed as W-872-01)											
29-nov-89	BC	a	U	5.6	0.03	5.8	<0.01	<0.04	<0.05	–	0.18
29-nov-89	BC	a	U	10.5	0.03	3.8	<0.01	<0.04	<0.05	–	0.21
875-G (completed as W-875-04)											
29-nov-89	BC	a	U	5.5	0.05	4.9	<0.01	<0.04	<0.05	–	0.14
29-nov-89	BC	a	U	10.4	0.04	6.1	<0.01	<0.04	0.05	–	0.17
875-H (completed as W-876-01)											
14-dec-89	BC	a	U	6.3	0.02	4.8	<0.01	<0.04	<0.05	–	0.19
14-dec-89	BC	a	U	11.0	0.1	1.7	<0.01	<0.04	<0.05	–	0.24
3SS-26-01											
20-sep-91	BC	a	U	0.0	0.02	6.3	<0.01	<0.05	<0.05	–	0.16
20-sep-91	CL	a	U	0.0	<0.05	6.6	<0.05	<0.05	<0.1	–	0.2
3SS-26-02											
20-sep-91	CL	a	U	0.0	<0.05	9.8	<0.05	0.07	0.1	–	34
3SS-27-01											
17-sep-91	CL	a	U	0.0	<0.05	13	<0.05	<0.05	<0.1	–	0.3
3SS-27-02											
17-sep-91	CL	a	U	0.0	<0.05	7.8	<0.05	<0.05	<0.1	–	0.5
3SS-27-03											
25-sep-91	CL	a	U	0.0	<0.05	6.8	<0.05	<0.05	<0.1	–	0.2
3SS-27-04											
25-sep-91	CL	a	U	0.0	<0.05	10	<0.05	0.1	0.1	–	1.4
3SS-27-05											
25-sep-91	CL	a	U	0.0	<0.05	4.8	<0.05	<0.05	<0.1	–	0.5
3SS-51-01											
20-sep-91	BC	a	U	0.0	0.04	5.6	<0.01	<0.05	0.07	–	0.17
20-sep-91	CL	a	U	0.0	0.09	6.3	<0.05	<0.05	<0.1	–	0.4
3SS-51-02											
26-sep-91	CL	a	U	0.0	<0.05	4.5	<0.05	<0.05	<0.1	–	0.1

Results recorded by 17-oct-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								GSA Study Area and Offsite
–	0.2	–	<0.005	0.3	<0.02	<0.05	0.55	W-26R-04 07-oct-91
–	<0.3	–	<0.001	0.3	<0.02	<0.02	0.36	875-B 21-nov-89
–	<0.3	–	<0.001	0.28	<0.02	<0.02	<0.01	21-nov-89
–	<0.3	–	<0.001	0.32	<0.02	<0.02	<0.01	875-D 27-nov-89
–	<0.3	–	<0.001	0.36	<0.02	<0.02	<0.01	27-nov-89
–	<0.3	–	<0.001	0.52	<0.02	<0.02	0.04	875-E 27-nov-89
–	<0.3	–	<0.001	0.27	<0.02	<0.02	0.56	27-nov-89
–	<0.3	–	0.001	0.48	<0.02	<0.02	<0.01	875-F 29-nov-89
–	<0.3	–	0.001	0.37	<0.02	<0.02	0.03	29-nov-89
–	<0.3	–	<0.001	0.43	<0.02	<0.02	<0.01	875-G 29-nov-89
–	<0.3	–	<0.001	0.42	<0.02	<0.02	0.44	29-nov-89
–	<0.3	–	<0.001	0.25	<0.02	<0.02	0.06	875-H 14-dec-89
–	<0.3	–	<0.001	0.1	<0.02	<0.02	0.04	14-dec-89
–	<0.2	–	<0.005	0.2	<0.02	<0.05	23	3SS-26-01 20-sep-91
–	0.1	–	<0.01	0.3	<0.05	<0.1	23	20-sep-91
–	5.5	–	<0.01	0.6	<0.05	<0.1	48	3SS-26-02 20-sep-91
–	0.1	–	<0.01	0.4	<0.05	<0.1	0.3	3SS-27-01 17-sep-91
–	0.1	–	<0.01	1.3	<0.05	<0.1	0.4	3SS-27-02 17-sep-91
–	0.2	–	<0.01	0.4	<0.05	<0.1	1.9	3SS-27-03 25-sep-91
–	2.2	–	<0.01	0.6	<0.05	<0.1	5.6	3SS-27-04 25-sep-91
–	0.1	–	<0.01	0.4	<0.05	<0.1	0.2	3SS-27-05 25-sep-91
–	<0.2	–	<0.005	0.2	<0.02	<0.05	0.64	3SS-51-01 20-sep-91
–	0.1	–	<0.01	0.3	<0.05	<0.1	0.9	20-sep-91
–	0.1	–	<0.01	<0.1	<0.05	<0.1	0.2	3SS-51-02 26-sep-91

See following page for notes

STLC analyses (mg/L) for metals in soil from the General Services Area (GSA), Site 300.
Results recorded by 17-oct-1994.

Notes:

- Indicates no analysis performed for this compound.

* Maximum Contaminant Levels (MCL) for selected metals

Footnotes

a ERD data
b EMAD data
c Analytical results for this sample are suspect
d Sample taken during hydraulic testing
e Blind sample, sent to lab without well identity
f Sample dilution necessary for analysis; detection limits increased
g Interlaboratory collocated sample
h Intralaboratory collocated sample
i Sample collected as part of pilot study
j Note may contain important information regarding this sample
k Pre-development sample
l Norm_month, norm_qtr or norm_year inconsistent with sample date
n Sample analyzed after standard holding time

Lab Codes

BC Brown and Caldwell, Emeryville, CA
CL Clayton Environmental Consultants, Pleasanton, CA.

Validation Codes

V Validated
N Not validated (default value)
U Undeclared
H Historical comparison only

Appendix A
Section A-4

Passive Soil Vapor Analyses for the GSA Operable Unit

Petrex soil vapor analyses (total ion counts) from the General Service Area (GSA), Site 300. Results recorded by January 12, 1995.

Location	Date	Duration (days)	TCE	PCE

Petrex Soil Vapor from GSA, Site 300
(gsasvx)
Current Date: 26-jan-1995
Current Time: 12:21:06

Data Set Includes Data
From: 31-JAN-91
To: 18-FEB-94

Petrex soil vapor analyses (total ion counts) from the General Service Area (GSA), Site 300. Results recorded by January 12, 1995.

Location	Date	Duration (days)	TCE	PCE
GSA Study Area and Offsite				
SVX-GALLO-01	11-feb-1994	14	<200	-
SVX-GALLO-02	11-feb-1994	14	<200	-
SVX-GALLO-03	11-feb-1994	14	<200	-
SVX-GALLO-04	11-feb-1994	14	<200	-
SVX-GALLO-05	11-feb-1994	14	<200	-
SVX-GALLO-06	11-feb-1994	14	<200	-
SVX-GALLO-07	11-feb-1994	14	<200	-
SVX-GALLO-08	11-feb-1994	14	<200	-
SVX-GALLO-09	11-feb-1994	14	<200	-
SVX-GALLO-10	11-feb-1994	14	<200	-
SVX-GALLO-11	11-feb-1994	14	<200	-
SVX-GALLO-12	11-feb-1994	14	<200	-
SVX-GALLO-13	11-feb-1994	14	<200	-
SVX-GALLO-14	11-feb-1994	14	<200	-
SVX-GALLO-15	11-feb-1994	14	<200	-
SVX-GALLO-16	11-feb-1994	14	<200	-
SVX-GALLO-17	11-feb-1994	14	<200	-
SVX-GALLO-18	11-feb-1994	14	<200	-
SVX-GALLO-19	11-feb-1994	14	<200	-
SVX-GALLO-20	11-feb-1994	14	<200	-
SVX-GALLO-21	11-feb-1994	14	<200	-
SVX-GALLO-22	11-feb-1994	14	<200	-
SVX-GALLO-23	11-feb-1994	14	<200	-
SVX-GALLO-24	11-feb-1994	14	<200	-
SVX-GALLO-25	11-feb-1994	14	<200	-
SVX-GALLO-26	11-feb-1994	14	<200	-
SVX-GALLO-27	11-feb-1994	14	<200	-
SVX-GALLO-28	11-feb-1994	14	<200	-
SVX-GALLO-29	11-feb-1994	14	<200	-
SVX-GALLO-30	11-feb-1994	14	<200	-

Petrex soil vapor analyses (total ion counts) from the General Service Area (GSA), Site 300. Results recorded by January 12, 1995.

Location	Date	Duration (days)	TCE	PCE
GSA Study Area and Offsite (continued)				
SVX-GALLO-31	11-feb-1994	14	<200	-
SVX-GALLO-32	11-feb-1994	14	<200	-
SVX-GALLO-33	11-feb-1994	14	<200	-
SVX-GALLO-34	11-feb-1994	14	<200	-
SVX-GALLO-35	11-feb-1994	14	<200	-
SVX-GALLO-36	11-feb-1994	14	<200	-
SVX-GALLO-37	11-feb-1994	14	<200	-
SVX-GSA-001	31-jan-1991	22	0	413
SVX-GSA-002	31-jan-1991	22	0	0
SVX-GSA-003	31-jan-1991	22	0	0
SVX-GSA-004	31-jan-1991	22	211	264
SVX-GSA-005	31-jan-1991	22	0	0
SVX-GSA-006	31-jan-1991	22	0	0
SVX-GSA-007	31-jan-1991	22	0	0
SVX-GSA-008	31-jan-1991	22	272	1304
SVX-GSA-009	31-jan-1991	22	0	253
SVX-GSA-010	31-jan-1991	22	0	0
SVX-GSA-011	31-jan-1991	22	0	210
SVX-GSA-012	31-jan-1991	22	0	248
SVX-GSA-013	31-jan-1991	22	0	0
SVX-GSA-014	31-jan-1991	22	0	333
SVX-GSA-015	31-jan-1991	22	0	0
SVX-GSA-016	31-jan-1991	22	0	0
SVX-GSA-017	31-jan-1991	22	0	282
SVX-GSA-018	31-jan-1991	22	0	0
SVX-GSA-019	31-jan-1991	22	0	0
SVX-GSA-020	31-jan-1991	22	0	290
SVX-GSA-021	31-jan-1991	22	0	381
SVX-GSA-200	02-jul-1992	14	494	2469
	02-jul-1992	14	427	1953
SVX-GSA-201	02-jul-1992	14	453	7603

Petrex soil vapor analyses (total ion counts) from the General Service Area (GSA), Site 300. Results recorded by January 12, 1995.

Location	Date	Duration (days)	TCE	PCE
GSA Study Area and Offsite (continued)				
SVX-GSA-202	02-jul-1992	14	0	2661
SVX-GSA-203	02-jul-1992	14	2851	40747
SVX-GSA-204	02-jul-1992	14	392	8447
SVX-GSA-205	02-jul-1992	14	904	8982
SVX-GSA-206	02-jul-1992	14	0	201
SVX-GSA-207	02-jul-1992	14	485	2360
SVX-GSA-208	02-jul-1992	14	0	209
SVX-GSA-209	02-jul-1992	14	0	1000
SVX-GSA-210	02-jul-1992	14	0	0
SVX-GSA-211	02-jul-1992	14	0	0
SVX-GSA-212	02-jul-1992	14	0	0
SVX-GSA-213	02-jul-1992	14	579	9613
SVX-GSA-214	02-jul-1992	14	448	2308
	02-jul-1992	14	216	1342
SVX-GSA-215	02-jul-1992	14	7463	5204
SVX-GSA-216	02-jul-1992	14	35939	39370
SVX-GSA-217	02-jul-1992	14	0	578
SVX-GSA-218	02-jul-1992	14	0	395
SVX-GSA-219	02-jul-1992	14	453	3492
SVX-GSA-220	02-jul-1992	14	0	293
SVX-GSA-225	18-feb-1994	14	19556	8918
SVX-GSA-226	18-feb-1994	14	0	0
SVX-GSA-227	18-feb-1994	14	40227	13764
SVX-GSA-228	18-feb-1994	14	-	94840
SVX-GSA-229	18-feb-1994	14	8413	0
SVX-GSA-230	18-feb-1994	14	-	25243
SVX-GSA-231	18-feb-1994	14	81125	15520
SVX-GSA-232	18-feb-1994	14	20090	4456
SVX-GSA-233	18-feb-1994	14	0	0
SVX-GSA-234	18-feb-1994	14	43448	9354
SVX-GSA-235	18-feb-1994	14	4375	0

Petrex soil vapor analyses (total ion counts) from the General Service Area (GSA), Site 300. Results recorded by January 12, 1995.

Location	Date	Duration (days)	TCE	PCE
GSA Study Area and Offsite (continued)				
SVX-GSA-236	18-feb-1994	14	0	0
SVX-GSA-237	18-feb-1994	14	85527	17859
SVX-GSA-238	18-feb-1994	14	49119	44163
SVX-GSA-239	18-feb-1994	14	0	0
SVX-GSA-240	18-feb-1994	14	-	-
SVX-GSA-241	18-feb-1994	14	-	81378
SVX-GSA-242	18-feb-1994	14	-	-

Notes:
- Indicates no analysis performed for this compound.
  All samples were taken using PETREX.

Appendix A
Section A-5

Emission Isolation Flux Chamber Analyses for the GSA Operable Unit

Appendix A
Section A-5.1

Emission Isolation Flux Chamber Analyses for Volatile Organic Compounds

Table A-5.1. Emission isolation flux chamber concentrations (ppm(v/v)) for volatile organic compounds.

Sample label	Location	Type	Sample date	1,1,1,-TCA		Chloromethane		Dichloro-difluoromethane		Methylene chloride		Styrene		PCE		TCE		Freon 113	
Building 875 dry well area sampling zone																			
3SF-WGSA-001-001	3SF-WGSA-001	RTN	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0008	JF	<0.0007	U	<0.0007	U	<0.0007	U	0.027	
3SF-WGSA-002-001	3SF-WGSA-002	RTN	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0033		<0.0007	U	<0.0007	U	<0.0007	U	0.011	F
3SF-WGSA-003-001	3SF-WGSA-003	RTN	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.014	JF	<0.0007	U	<0.0007	U	0.0052		0.015	F
3SF-WGSA-004-001	3SF-WGSA-004	RTN	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.008	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.00075	U
3SF-WGSA-005-001	3SF-WGSA-005	RTN	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	UJ	<0.0007	U	<0.0007	U	0.001		0.015	
3SF-WGSA-006-001	3SF-WGSA-006	RTN	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0016		<0.0007	U	<0.0007	U	<0.0007	U	0.011	F
3SF-WGSA-006-002	3SF-WGSA-006	DUP	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0009	F	<0.0007	U	<0.0007	U	<0.0007	U	0.012	F
3SF-WGSA-007-001	3SF-WGSA-007	RTN	22-Sep-94	<0.0007	U	0.0017		<0.0007	U	0.047	FJ	<0.0007	U	0.001		0.01		0.025	F
3SF-WGSA-008-001	3SF-WGSA-008	RTN	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0011	F	<0.0007	U	<0.0007	U	<0.0007	U	0.009	F
3SF-WGSA-009-001	3SF-WGSA-009	RTN	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0018	JF	<0.0007	U	<0.0007	U	<0.0007	U	0.021	
3SF-WGSA-010-001	3SF-WGSA-010	RTN	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0008	JF	<0.0007	U	<0.0007	U	<0.0007	U	0.021	F
3SF-WGSA-011-001	3SF-WGSA-011	RTN	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.046	FJ	<0.0007	U	<0.0007	U	0.0009		0.019	F
3SF-WGSA-012-001	3SF-WGSA-012	RTN	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.0091	F
3SF-WGSA-CONTROL-001	SVX-GSA-242	CNT	22-Sep-94	<0.0007	U	<0.0007	U	0.0007		<0.0007	UJ	<0.0007	U	<0.0007	U	<0.0007	U	0.013	F
3SF-WGSA-CONTROL-002	SVX-GSA-242	CNT	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0023	FJ	<0.0007	U	<0.0007	U	<0.0007	U	0.016	F
3SF-WGSA-CONTROL-003	SVX-GSA-242	DUP	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0029	FJ	<0.0007	U	<0.0007	U	<0.0007	U	0.018	
Central GSA sampling zone																			
3SF-CGSA-001-001	3SF-CGSA-001	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.037	F
3SF-CGSA-002-001	3SF-CGSA-002	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-003-001	3SF-CGSA-003	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.13	
3SF-CGSA-004-001	3SF-CGSA-004	RTN	19-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0022	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-005-001	3SF-CGSA-005	RTN	19-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0087	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-006-001	3SF-CGSA-006	RTN	19-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.02	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-007-001	3SF-CGSA-007	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0065	F	<0.0007	U	<0.0007	U	<0.0007	U	0.11	
3SF-CGSA-008-001	3SF-CGSA-008	RTN	19-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0014	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-009-001	3SF-CGSA-009	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0012	F	<0.0007	U	<0.0007	U	<0.0007	U	0.066	F
3SF-CGSA-010-001	3SF-CGSA-010	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0024	F	<0.0007	U	<0.0007	U	<0.0007	U	0.1	F
3SF-CGSA-011-001	3SF-CGSA-011	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.087	
3SF-CGSA-012-001	3SF-CGSA-012	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0011	F	<0.0007	U	<0.0007	U	<0.0007	U	0.052	
3SF-CGSA-012-002	3SF-CGSA-012	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0014	F	<0.0007	U	<0.0007	U	<0.0007	U	0.054	
3SF-CGSA-013-001	3SF-CGSA-013	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.12	F
3SF-CGSA-014-001	3SF-CGSA-014	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.09	F
3SF-CGSA-015-001	3SF-CGSA-015	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.002	F	<0.0007	U	<0.0007	U	<0.0007	U	0.031	F
3SF-CGSA-016-001	3SF-CGSA-016	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.002	F	<0.0007	U	<0.0007	U	<0.0007	U	0.13	F

Table A-5.1. (Continued)

Sample label	Location	Type	Sample date	1,1,1,-TCA		Chloromethane		Dichloro-difluoromethane		Methylene chloride		Styrene		PCE		TCE		Freon 113	
3SF-CGSA-016-004	3SF-CGSA-016	CNT	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0074	F	<0.0007	U	<0.0007	U	<0.0007	U	0.02	F
3SF-CGSA-017-001	3SF-CGSA-017	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.006	F	<0.0007	U	<0.0007	U	<0.0007	U	0.086	
3SF-CGSA-018-001	3SF-CGSA-018	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0013	F	<0.0007	U	<0.0007	U	<0.0007	U	0.025	F
3SF-CGSA-019-001	3SF-CGSA-019	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0013	F	<0.0007	U	<0.0007	U	<0.0007	U	0.024	
3SF-CGSA-020-001	3SF-CGSA-020	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.036	F	<0.0007	U	<0.0007	U	<0.0007	U	0.028	F
3SF-CGSA-020-002	3SF-CGSA-020	DUP	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.036	F	<0.0007	U	<0.0007	U	<0.0007	U	0.025	F
3SF-CGSA-CONTROL-001	SVX-GSA-240	DUP	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0044	JF	<0.0007	U	<0.0007	U	<0.0007	U	0.01	
3SF-CGSA-CONTROL-002	SVX-GSA-240	DUP	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0039	JF	<0.0007	U	<0.0007	U	0.0018		0.018	
Eastern GSA sampling zone																			
3SF-EGSA-001-001	3SF-EGSA-001	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.011	F	<0.0007	U	<0.0007	U	0.0008		0.014	F
3SF-EGSA-002-001	3SF-EGSA-002	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0067	F	<0.0007	U	<0.0007	U	<0.0007	U	0.012	
3SF-EGSA-003-001	3SF-EGSA-003	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0057	F	0.0009		<0.0007	U	<0.0007	U	0.014	
3SF-EGSA-004-001	3SF-EGSA-004	RTN	21-Sep-94	<0.0008	U	<0.0008	U	<0.0008	U	0.0014	F	<0.0008	U	<0.0008	U	<0.0008	U	0.0069	F
3SF-EGSA-004-002	3SF-EGSA-004	DUP	21-Sep-94	0.0007		<0.0007	U	<0.0007	U	0.0063	F	<0.0007	U	<0.0007	U	<0.0007	U	0.017	F
3SF-EGSA-005-001	3SF-EGSA-005	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0013	F	<0.0007	U	<0.0007	U	<0.0007	U	0.011	F
3SF-EGSA-006-001	3SF-EGSA-006	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.003	F	<0.0007	U	<0.0007	U	<0.0007	U	0.016	
3SF-EGSA-007-001	3SF-EGSA-007	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0077	F	<0.0007	U	<0.0007	U	<0.0007	U	0.012	
3SF-EGSA-007-002	3SF-EGSA-007	DUP	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.011	F	<0.0007	U	<0.0007	U	<0.0007	U	0.014	
3SF-EGSA-008-001	3SF-EGSA-008	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0012	F	<0.0007	U	<0.0007	U	<0.0007	U	0.016	F
3SF-EGSA-009-001	3SF-EGSA-009	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.002	F	<0.0007	U	<0.0007	U	<0.0007	U	0.015	F
3SF-EGSA-010-001	3SF-EGSA-010	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0012	F	<0.0007	U	<0.0007	U	<0.0007	U	0.022	F
3SF-EGSA-011-001	3SF-EGSA-011	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.024	F	<0.0007	U	<0.0007	U	<0.0007	U	0.017	F
3SF-EGSA-012-001	3SF-EGSA-012	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.032	F	<0.0007	U	<0.0007	U	<0.0007	U	0.015	F
3SF-EGSA-013-001	3SF-EGSA-013	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.041	F	<0.0007	U	<0.0007	U	<0.0007	U	0.014	F
3SF-EGSA-014-001	3SF-EGSA-014	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.014	F	<0.0007	U	<0.0007	U	<0.0007	U	0.022	F
3SF-EGSA-015-001	3SF-EGSA-015	RTN	22-Sep-94	<0.0007	DU	<0.0007	DU	0.001	D	<0.0007	DU	<0.0007	DU	<0.0007	DU	<0.0007	DU	0.021	DF
3SF-EGSA-015-002	3SF-EGSA-015	DUP	22-Sep-94	<0.0007	DU	<0.0007	DU	0.0008	D	<0.0007	DU	<0.0007	DU	<0.0007	DU	<0.0007	DU	0.014	DF
3SF-EGSA-016-001	3SF-EGSA-016	RTN	22-Sep-94	<0.0007	DU	<0.0007	DU	0.0014	D	<0.0007	DU	<0.0007	DU	<0.0007	DU	<0.0007	DU	0.012	D
3SF-EGSA-017-001	3SF-EGSA-017	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.014	F	<0.0007	U	<0.0007	U	<0.0007	U	0.012	
3SF-EGSA-017-002	3SF-EGSA-017	DUP	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.022	F	<0.0007	U	<0.0007	U	<0.0007	U	0.019	
3SF-EGSA-CONTROL-001	SVX-GSA-241	CNT	21-Sep-94	<0.0007	DU	<0.0007	DU	<0.0007	DU	0.0013	DF	<0.0007	DU	<0.0007	DU	<0.0007	DU	0.018	D
3SF-EGSA-CONTROL-002	SVX-GSA-241	CNT	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0017	F	<0.0007	U	<0.0007	U	<0.0007	U	0.016	
3SF-EGSA-CONTROL-003	SVX-GSA-241	DUP	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0015	F	<0.0007	U	<0.0007	U	<0.0007	U	0.019	
Method blanks																			
3SF-WGSA-METHOD-001	GSA field	BLM	19-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0008	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-WGSA-METHOD-002	GSA field	BLM	19-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0009	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U

Table A-5.1. (Continued)

Sample label	Location	Type	Sample date	1,1,1,-TCA		Chloromethane		Dichloro-difluoromethane		Methylene chloride		Styrene		PCE		TCE		Freon 113	
3SF-WGSA-METHOD-003	GSA field	BLM	19-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0086	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-METHOD-002	GSA field	BLM	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.025	F	<0.0007	U	<0.0007	U	<0.0007	U	0.043	F
3SF-EGSA-METHOD-001	GSA field	BLM	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0025	F	<0.0007	U	<0.0007	U	<0.0007	U	0.024	F
3SF-LAB-METHOD-001	LLNL laboratory	BLM	29-Sep-94	<0.0003	DU	<0.0003	DU	0.0004	D	0.0011	DJ	<0.0003	DU	<0.0003	DU	<0.0003	DU	0.0069	D
3SF-LAB-METHOD-002	LLNL laboratory	BLM	29-Sep-94	<0.0003	DU	<0.0003	DU	0.0008	D	0.0015	DU	<0.0003	DU	<0.0003	DU	<0.0003	DU	0.023	D
3SF-LAB-METHOD-003	LLNL laboratory	BLM	29-Sep-94	<0.0003	DU	<0.0003	DU	0.0005	D	0.0007	DJ	<0.0003	DU	<0.0003	DU	<0.0003	DU	0.079	D

Sample Types:

RTN = Routine sample

DUP = Duplicate sample

CNT = Control point sample

BLM = Method blank

Data Qualifiers:

D = Analysis performed at a secondary dilution or concentration.

F = Analyte detected in field blank.

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.

U = Compound was analyzed for, but not detected above detection limit.

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Appendix A
Section A-5.2

Emission Isolation Flux Chamber Analyses for Aromatic and Fuel Hydrocarbons

Table A-5.2. Emission isolation flux chamber concentrations (ppm (v/v)) for aromatics and fuel hydrocarbons.

Sample label	Location	Sample type	Sample date	1,2,4-Trimethylbenzene		1,3,5-Trimethylbenzene		Benzene		Ethylbenzene		Toluene		m- and p-xylenes		o- xylene	
Building 875 dry well area sampling zone																	
3SF-WGSA-001-001	3SF-WGSA-001	RTN	22-Sep-94	<0.0007	U	<0.0007	U	0.0007	F	<0.0007	U	0.0009		<0.0007	U	<0.0007	U
3SF-WGSA-002-001	3SF-WGSA-002	RTN	22-Sep-94	<0.0007	U	<0.0007	U	0.0014	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-WGSA-003-001	3SF-WGSA-003	RTN	22-Sep-94	<0.0007	U	<0.0007	U	0.0011	F	<0.0007	U	0.0012	F	0.0016		<0.0007	U
3SF-WGSA-004-001	3SF-WGSA-004	RTN	22-Sep-94	<0.0007	U	<0.0007	U	0.0015	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-WGSA-005-001	3SF-WGSA-005	RTN	22-Sep-94	0.0013		<0.0007	U	0.0017	F	<0.0007	U	0.0017		<0.0007	U	<0.0007	U
3SF-WGSA-006-001	3SF-WGSA-006	RTN	22-Sep-94	<0.0007	U	<0.0007	U	0.002	F	<0.0007	U	0.0008	F	<0.0007	U	<0.0007	U
3SF-WGSA-006-002	3SF-WGSA-006	DUP	22-Sep-94	<0.0007	U	<0.0007	U	0.0019	F	<0.0007	U	0.0011	F	0.0007		<0.0007	U
3SF-WGSA-007-001	3SF-WGSA-007	RTN	22-Sep-94	0.0025		<0.0007	U	0.0011	F	<0.0007	U	0.0088		0.005		0.0013	
3SF-WGSA-008-001	3SF-WGSA-008	RTN	22-Sep-94	<0.0007	U	<0.0007	U	0.0015	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-WGSA-009-001	3SF-WGSA-009	RTN	22-Sep-94	0.0013		<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-WGSA-010-001	3SF-WGSA-010	RTN	22-Sep-94	<0.0007	U	<0.0007	U	0.0011	F	0.0024		<0.0007	U	0.0098		0.0018	
3SF-WGSA-011-001	3SF-WGSA-011	RTN	22-Sep-94	<0.0007	U	<0.0007	U	0.0008	F	<0.0007	U	0.0018		<0.0007	U	<0.0007	U
3SF-WGSA-012-001	3SF-WGSA-012	RTN	22-Sep-94	<0.0007	U	<0.0007	U	0.0011	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-WGSA-CONTROL-001	SVX-GSA-242	CNT	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.0009		<0.0007	U	<0.0007	U
3SF-WGSA-CONTROL-002	SVX-GSA-242	CNT	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.001		<0.0007	U	<0.0007	U
3SF-WGSA-CONTROL-003	SVX-GSA-242	DUP	22-Sep-94	<0.0007	U	<0.0007	U	0.0007	F	<0.0007	U	0.001		<0.0007	U	<0.0007	U
Central GSA sampling zone																	
3SF-CGSA-001-001	3SF-CGSA-001	RTN	20-Sep-94	<0.0007	U	<0.0007	U	0.0013	F	<0.0007	U	0.0013	F	0.0009		<0.0007	U
3SF-CGSA-002-001	3SF-CGSA-002	RTN	20-Sep-94	<0.0007	U	<0.0007	U	0.0016	F	<0.0007	U	0.0017		0.0014		<0.0007	U
3SF-CGSA-003-001	3SF-CGSA-003	RTN	20-Sep-94	<0.0007	U	<0.0007	U	0.0009	F	<0.0007	U	0.0012		<0.0007	U	<0.0007	U
3SF-CGSA-004-001	3SF-CGSA-004	RTN	19-Sep-94	<0.0007	U	<0.0007	U	0.001	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-005-001	3SF-CGSA-005	RTN	19-Sep-94	<0.0007	U	<0.0007	U	0.0013	F	<0.0007	U	0.0014		<0.0007	U	<0.0007	U
3SF-CGSA-006-001	3SF-CGSA-006	RTN	19-Sep-94	0.0021		<0.0007	U	<0.0007	U	<0.0007	U	0.0009	F	0.0018		0.0013	
3SF-CGSA-007-001	3SF-CGSA-007	RTN	20-Sep-94	<0.0007	U	<0.0007	U	0.0008	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-008-001	3SF-CGSA-008	RTN	19-Sep-94	<0.0007	U	<0.0007	U	0.0009	F	<0.0007	U	0.0007	F	<0.0007	U	<0.0007	U
3SF-CGSA-009-001	3SF-CGSA-009	RTN	20-Sep-94	<0.0007	U	<0.0007	U	0.018	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-010-001	3SF-CGSA-010	RTN	20-Sep-94	<0.0007	U	<0.0007	U	0.0008	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-011-001	3SF-CGSA-011	RTN	20-Sep-94	<0.0007	U	<0.0007	U	0.0015	F	<0.0007	U	0.0013		0.001		<0.0007	U
3SF-CGSA-012-001	3SF-CGSA-012	RTN	20-Sep-94	<0.0007	U	<0.0007	U	0.002	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-012-002	3SF-CGSA-012	RTN	20-Sep-94	<0.0007	U	<0.0007	U	0.0014	F	<0.0007	U	0.0009		<0.0007	U	<0.0007	U
3SF-CGSA-013-001	3SF-CGSA-013	RTN	20-Sep-94	<0.0007	U	<0.0007	U	0.0011	F	<0.0007	U	0.0009	F	<0.0007	U	<0.0007	U
3SF-CGSA-014-001	3SF-CGSA-014	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-015-001	3SF-CGSA-015	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-016-001	3SF-CGSA-016	RTN	20-Sep-94	<0.0007	U	<0.0007	U	0.0013	F	<0.0007	U	0.001		<0.0007	U	<0.0007	U

Table A-5.2. (Continued)

Sample label	Location	Sample type	Sample date	1,2,4-Trimethylbenzene		1,3,5-Trimethylbenzene		Benzene		Ethylbenzene		Toluene		m- and p-Xylenes		o- Xylene	
3SF-CGSA-016-004	3SF-CGSA-016	CNT	20-Sep-94	<0.0007	U	<0.0007	U	0.0008	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-017-001	3SF-CGSA-017	RTN	20-Sep-94	<0.0007	U	<0.0007	U	0.0012	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-018-001	3SF-CGSA-018	RTN	20-Sep-94	<0.0007	U	<0.0007	U	0.0008	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-019-001	3SF-CGSA-019	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-020-001	3SF-CGSA-020	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-020-002	3SF-CGSA-020	DUP	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-CONTROL-001	SVX-GSA-240	DUP	22-Sep-94	0.0009		<0.0007	U	0.0011	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-CONTROL-002	SVX-GSA-240	DUP	22-Sep-94	0.0048		0.0011		0.0009	F	<0.0007	U	0.0011		0.003		0.0012	
Eastern GSA sampling zone																	
3SF-EGSA-001-001	3SF-EGSA-001	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.0011	F	0.001		<0.0007	U
3SF-EGSA-002-001	3SF-EGSA-002	RTN	21-Sep-94	0.0008		<0.0007	U	0.0009	F	<0.0007	U	0.001		0.001		<0.0007	U
3SF-EGSA-003-001	3SF-EGSA-003	RTN	21-Sep-94	<0.0007	U	<0.0007	U	0.0008	F	<0.0007	U	0.0008		<0.0007	U	<0.0007	U
3SF-EGSA-004-001	3SF-EGSA-004	RTN	21-Sep-94	<0.0008	U	<0.0008	U	0.0014	F	<0.0008	U	0.0011		<0.0008	U	<0.0008	U
3SF-EGSA-004-002	3SF-EGSA-004	DUP	21-Sep-94	<0.0007	U	<0.0007	U	0.0008	F	<0.0007	U	0.0013		<0.0007	U	<0.0007	U
3SF-EGSA-005-001	3SF-EGSA-005	RTN	21-Sep-94	0.0008		<0.0007	U	0.0011	F	<0.0007	U	0.0014		0.0012		<0.0007	U
3SF-EGSA-006-001	3SF-EGSA-006	RTN	21-Sep-94	0.0011		<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-EGSA-007-001	3SF-EGSA-007	RTN	21-Sep-94	<0.0007	U	<0.0007	U	0.0007	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-EGSA-007-002	3SF-EGSA-007	DUP	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-EGSA-008-001	3SF-EGSA-008	RTN	21-Sep-94	<0.0007	U	<0.0007	U	0.001	F	<0.0007	U	0.0012	F	0.0008		<0.0007	U
3SF-EGSA-009-001	3SF-EGSA-009	RTN	21-Sep-94	0.001		<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-EGSA-010-001	3SF-EGSA-010	RTN	21-Sep-94	<0.0007	U	<0.0007	U	0.0009		<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-EGSA-011-001	3SF-EGSA-011	RTN	21-Sep-94	0.0009		<0.0007	U	<0.0007	U	<0.0007	U	0.0008		0.0011		<0.0007	U
3SF-EGSA-012-001	3SF-EGSA-012	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-EGSA-013-001	3SF-EGSA-013	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.0007	F	0.0008		0.0008	
3SF-EGSA-014-001	3SF-EGSA-014	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.0011	F	0.0015		<0.0007	U
3SF-EGSA-015-001	3SF-EGSA-015	RTN	22-Sep-94	<0.0007	DU	<0.0007	DU	0.0013	DF	<0.0007	DU	0.001	DF	<0.0007	DU	<0.0007	DU
3SF-EGSA-015-002	3SF-EGSA-015	DUP	22-Sep-94	<0.0007	DU	<0.0007	DU	0.0009	DF	<0.0007	DU	0.0007	DF	<0.0007	DU	<0.0007	DU
3SF-EGSA-016-001	3SF-EGSA-016	RTN	22-Sep-94	<0.0007	DU	<0.0007	DU	0.0012	DF	<0.0007	DU	0.0009	D	<0.0007	DU	<0.0007	DU
3SF-EGSA-017-001	3SF-EGSA-017	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-EGSA-017-002	3SF-EGSA-017	DUP	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.0009		0.0016		<0.0007	U
3SF-EGSA-CONTROL-001	SVX-GSA-241	CNT	21-Sep-94	<0.0007	DU	<0.0007	DU	0.0012	DF	<0.0007	DU	0.0011	D	<0.0007	DU	<0.0007	DU
3SF-EGSA-CONTROL-002	SVX-GSA-241	CNT	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.0008		<0.0007	U	<0.0007	U
3SF-EGSA-CONTROL-003	SVX-GSA-241	DUP	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
Method blanks																	
3SF-WGSA-METHOD-001	GSA field	BLM	19-Sep-94	<0.0007	U	<0.0007	U	0.0009	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-WGSA-METHOD-002	GSA field	BLM	19-Sep-94	<0.0007	U	<0.0007	U	0.0008	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U

Table A-5.2. (Continued)

Sample label	Location	Sample type	Sample date	1,2,4-Trimethylbenzene		1,3,5-Trimethylbenzene		Benzene		Ethylbenzene		Toluene		m- and p-Xylenes		o- Xylene	
3SF-WGSA-METHOD-003	GSA field	BLM	19-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-METHOD-002	GSA field	BLM	20-Sep-94	<0.0007	U	<0.0007	U	0.0011	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-EGSA-METHOD-001	GSA field	BLM	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.0007	F	<0.0007	U	<0.0007	U
3SF-LAB-METHOD-001	LLNL laboratory	BLM	29-Sep-94	<0.0003	DU	<0.0003	DU	0.0003	D	<0.0003	DU	0.0003	D	<0.0003	DU	<0.0003	DU
3SF-LAB-METHOD-002	LLNL laboratory	BLM	29-Sep-94	<0.0003	DU	<0.0003	DU	0.0004	D	<0.0003	DU	0.0005	D	0.0003	D	<0.0003	DU
3SF-LAB-METHOD-003	LLNL laboratory	BLM	29-Sep-94	<0.0003	DU	<0.0003	DU	0.0003	D	<0.0003	DU	0.0004	D	0.0003	D	<0.0003	DU

Sample Types:

RTN = Routine sample.

DUP = Duplicate sample.

CNT = Control point sample.

BLM = Method blank.

Data Qualifiers:

D = Analysis performed at a secondary dilution or concentration.

F = Analyte detected in field blank.

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.

U = Compound was analyzed for, but not detected above detection limit.

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Appendix A
Section A-6

Aquatic Bioassays on Springs 1 and GEOCRK

Appendix A-6.

Aquatic Bioassays on Springs 1 and GEOCRK

The Bioassay Division of MEC Analytical Systems, Inc., performed a series of aquatic bioassays on water samples from two springs in the GSA, spring 1 and spring GEOCRK. The studies conducted were the chronic toxicity test with *Ceriodaphnia dubia* (EPA Method 1002) and the four-day *Selenastrum* growth test (EPA Method 1003) (U.S. EPA, 1989). The study was conducted at the MEC Analytical Systems Bioassay Laboratory in Tiburon, California, under the management of Diane Griffin.

A-6.1. Sampling Protocol

We conducted sampling of spring 1 and spring GEOCRK between May 9, 1994, and May 13, 1994. Due to the small quantity of flowing water in the springs, we excavated a small depression in the spring sediments and allowed water to collect. This allowed us to obtain sufficient water to sample. After the majority of the disturbed sediments settled out of the water (settling time was usually around 10 to 15 minutes), we collected samples using a battery-powered centrifugal pump. Prior to sampling, deionized water was pumped through the centrifugal pump to thoroughly rinse the internal part of the pump. Disposable tubing was used for each sampling. The spring water was pumped directly into precleaned, 1-gal. cubitainers supplied by the analytical laboratory. For the *Ceriodaphia dubia* test (EPA Method 1002), a seven-day test requiring daily renewal of the test water, we collected a 1-gal. water samples from each spring for four successive days. On the fifth day, we collected 3 gal. of water from each spring to provide enough sample water for the daily renewal of the test water over the weekend. The spring water collected on the first day of sampling was also used for the *Selenastrum* test (EPA 1003), a four-day static test that does not require daily renewal of the test water.

A-6.2. Analytical Methods

Maintenance of *Ceriodaphnia* and *Selenastrum* and their testing procedures are described in general form in U.S. EPA (1989). The *Ceriodaphnia* test was a static seven-day test with daily renewal of the test solutions. The *Selenastrum* test was run as a static, 96-hour test.

A-6.2.1. Test Solution Preparation

The spring water samples were chilled in coolers and delivered to MEC Analytical Systems by California Laboratory Services personnel. The samples were held in the dark at 4°C until tested.

The spring water sample concentrations for all tests were 6.25, 12.5, 25, 50, and 100%. Control and dilution water for the *Ceriodaphnia* test was Nanopure-filtered water adjusted to a moderate hardness (80–100 mg/L $CaCO_3$) with Evian™ water.

Control and dilution water for the *Selenastrum* test was Evian™ water with added nutrients for freshwater medium (U.S. EPA, 1989). Freshwater medium nutrients were also added to the spring water samples. All water for the *Selenastrum* test was filtered at 0.45 µm.

A-6.2.2. *Ceriodaphnia dubia* Test

Neonates less than 24 hours old, obtained from the third to eighth brood of batchstock of females selected from in-house laboratory cultures, were used in the test. A single neonate was placed in each of 10 replicate 25-mL test chambers containing 20 mL of test solution. The test was run at 25 ± 1°C under a 16-hour light/8-hour dark photoperiod. Test solutions were renewed daily. Water quality measurements, including temperature, pH, conductivity and dissolved oxygen, were taken on initial and renewal solutions. Mortality and number of neonates were recorded daily. Animals were fed 0.15 mL of a Yeast-Cerophyll-Tetramin-Trout Chow (Y-C-T-T) mix and 350,000 cells/mL *Selenastrum capricornutum* daily. The test was terminated when at least 60% of the controls had produced three broods of neonates.

A-6.2.3. *Selenastrum capricornutum* Test

Triplicate 250-mL flasks containing 100 mL of test solution were inoculated using a log-phase, in-house culture to a density of approximately 10,000 cells/mL of phytoplankton. The test was run at 25 ± 1°C under continuous light for 96 hours. Test containers were randomized and shaken twice daily. Conductivity and pH were recorded in each concentration upon initiation. Alkalinity and hardness were taken in the control and 100% concentration. At the conclusion of the 96-hour exposure period, duplicate turbidity readings were made on each replicate using a Hach DR 2000 spectrophotometer. A calibration curve was constructed to establish the relationship between turbidity and cell density.

A-6.2.4. Criteria for Test Acceptability

The criteria used to determine test acceptability were the following:

Ceriodaphnia dubia

1. Control or 100% effluent survival must equal or exceed 80%.
2. Sixty percent of the surviving control females must produce at least three broods to an average of 15 neonates per female.

Selenastrum capricornutum

1. Control culture must contain an average of 200,000 cells/mL or more.
2. Percent coefficient of variation (c.v.) must be 20% or less between control replicates.

A-6.2.5. Statistical Analysis

Statistical effects can be measured by the ICp, the estimated concentration that causes sublethal or inhibitory (IC) effects on p% of the test population. The IC50 or IC25 is the point estimate of the concentration at which an inhibitory effect in a sublethal parameter (e.g., growth, reproduction) is observed in 50% or 25% of the organisms. The ICp values include 95% confidence limits when available.

The NOEC (No Observable Effect Concentration) is the highest tested concentration at which mortality and other sublethal measured effects are not significantly different from the same parameters in the control. The TUc is defined as 100%/NOEC.

Acute survival data is obtained by calculating percent survival in 100% concentration at 48 hours for *Ceriodaphnia*.

Data were evaluated statistically using ToxCalc™ to determine ICp, NOEC, and TUc values where appropriate. ToxCalc™ is a comprehensive statistical application that follows standard guidelines for acute and chronic toxicity data analysis. An alpha level of 0.05 was used for tests for statistical significance.

A-6.3. Results

All tests met or exceeded passing criteria. Tables A-6.2 and A-6.3 summarize the results of the bioassays. Tables A-6.3 and A-6.4 presents the reference toxicant test results, and Tables A-6.5 and A-6.6 summarize the test conditions. Laboratory bench sheets are archived at LLNL and are available for review.

A-6.3.1. *Ceriodaphnia dubia* Test

Water quality parameters were within acceptable limits. Control survival of *Ceriodaphnia* was 100%. The mean number of neonates per initial female was 18.8. Acute survival was 100% for both spring waters. IC50 values for spring 1 and GEOCRK were >100%. The NOECs were 100% and the TUcs were 1.0.

A-6.3.2. *Selenastrum capricornutum* Test

Water quality parameters were within acceptable limits. The controls averaged 1,101,000 cells/mL with a percent c.v. of 6.1%. IC50 values were >100%, NOECs were 100%, and TUcs were 1.0.

A-6-4. Quality Assurance

Reference toxicant tests were conducted concurrently with both bioassays to determine the sensitivity of the test organisms. Reference toxicant IC50 values within two standard deviations of the laboratory mean indicate that the test organisms used were of normal sensitivity.

The reference toxicant test conducted with the *Ceriodaphnia* bioassay used sodium chloride (NaCl) as the toxicant. The resulting IC50 was 1.4 g/L, which was within one standard deviation of the lab mean of 1.0 g/L.

Zinc (added as zinc chloride) was used as the reference toxicant for the *Selenastrum* growth test. The IC50 of 68.2 µg/L was within two standard deviations of the lab mean of 82.8 µg/L.

A-6-5. Reference

U.S. EPA (1989), *Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, second edition, Weber, C.I., et al., Eds., U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio (EPA/600/4-89/001).

Table A-6.1. Summary of results of *Ceriodaphnia dubia* tests on surface water samples from spring 1 and spring GEOCRK.[a]

Spring test dates	Concentration (%)	Survival (%)	Mean neonates/ initial females	ICp[b] (%)		NOEC[c] (%)	TUc[d]	Acute survival (%)
Spring 1	Control	100.0	18.8	IC50	>100	100	1.0	100
05/10–05/16/94	6.25	100.0	17.4	IC40	>100			
	12.5	100.0	18.4	IC25	>100			
	25	100.0	21.1	IC15	>100			
	50	100.0	17.7	IC10	90.3			
	100	100.0	16.9					
GEOCRK	Control	100.0	18.8	IC50	>100	100	1.0	100
05/10–05/16/94	6.25	90.0	14.2	IC40	>100			
	12.5	100.0	15.7	IC25	>100			
	25	100.0	15.7	IC15	>100			
	50	100.0	17.9	IC10	<6.25			
	100	90.0	17.0					

a There were no statistically significant results at alpha = 0.05.

b ICp = Lethal/Inhibition Concentration for p% of the organisms.

c NOEC = No Observable Effect Concentration.

d TUc = 100%/NOEC.

Table A-6.2. Summary of results of *Selenastrum capricornutum* tests on surface water samples from spring 1 and spring GEOCRK.[a]

Spring test dates	Cells/mL/ 1,000	Inhibition (%)	ICp[b] (%)		NOEC[c] (%)	TUc[d]
Spring 1	1,101	NA[e]	IC50	>100	100	1.0
05/10–05/14/94	1,111	0.0	IC40	>100		
	1,120	0.0	IC25	>100		
	1,208	0.0	IC15	>100		
	1,130	0.0	IC10	>100		
	1,421	0.0				
GEOCRK	1,101	NA	IC50	>100	100	1.0
05/10–05/14/94	1,963	0.0	IC40	>100		
	1,169	0.0	IC25	>100		
	1,615	0.0	IC15	>100		
	1,818	0.0	IC10	>100		
	1,537	0.0				

a There were no statistically significant results at alpha = 0.05.

b ICp = Lethal/Inhibition Concentration for p% of the organisms.

c NOEC = No Observable Effect Concentration.

d TUc = 100%/NOEC.

e NA = Not applicable.

Table A-6.3. Summary of results of *Ceriodaphnia dubia* reference toxicant test.[a]

Toxicant test dates	Concentration (g/L)	Survival (%)	Mean neonates/ initial females	ICp[b] (g/L)		NOEC[c] (g/L)
NaCl	Control	100.0	18.8	IC50	1.4	1
05/10–05/16/94	0.056	90.0	14.0	IC40	1.2	
	0.32	100.0	16.3	IC25	1	
	1.0	100.0	14.6	IC15	<0.056	
	2.0	90.0	1.1*	IC10	<0.056	
	4.0	0.0*	0.0*			

a Statistically significant results at alpha = 0.05 are indicated with an *.

b ICp = Lethal/Inhibition Concentration for p% of the organisms.

c NOEC = No Observable Effect Concentration.

Table A-6.4. Summary of results of *Selenastrum capricornutum* reference toxicant test.[a]

Toxicant test dates	Concentration (µg/L)	Cells/mL/ 1,000	Inhibition (%)	ICp[b] (µg/L)		NOEC[c] (µg/L)
Zinc	Control	2,283	NA[d]	IC50	68.2 (65.8-70.2)	25
05/10–05/14/94	10	2,322	0.0	IC40	59.3 (56.8-61.4)	
	25	2,099	8.1	IC25	44.6 (40.6-47.7)	
	50	1,624*	28.9	IC15	32.5 (24.8-36.4)	
	100	326*	85.7	IC10	26.7 (19.9-30.8)	
	150	83*	96.3			

a Statistically significant results at alpha = 0.05 are indicated with an *.

b ICp = Lethal/Inhibition Concentration for p% of the organisms. Values in parentheses are 95% confidence limits.

c NOEC = No Observable Effect Concentration.

d NA = Not applicable.

Table A-6.5. Summary of bioassay procedure and organism data for the three brood bioassay using *Ceriodaphnia dubia* (EPA Method 1002).

Sample Identification Data	
Dates sampled	05/09–05/13/94
Dates received at MEC	05/10–05/14/94
Volume received	1 gal./day (3 gal. for last sample)
Sample storage conditions	4°C in the dark
Species Data	
Test species	Water flea, *Ceriodaphnia dubia*
Supplier	MEC in-house culture
Acclimation water	Deionized and Evian™ waters mixed to moderate hardness
Acclimation temperature	25 ± 2°C
Age group	Neonates, <24 hrs old
Procedure Data	
Test type	EPA Method 1002: Chronic/renewal
Duration	6 days (144 hours)
Test dates	05/10–05/16/94
Control water	Deionized and Evian™ waters mixed to moderate hardness
Test temperature	25 ± 1°C
Test photoperiod	16 hours light/8 hours dark
Salinity	Freshwater
Test chamber	25 mL vial
Animals/replicate	1
Exposure volume	20 mL
Replicates/treatment	10
Feeding	7.5 mL/L Y-C-T-T[a] and 350,000 cells/mL *Selenastrum capricornutum*
Deviations from procedures	None

[a] Y-C-T-T = Yeast-Cerophyll-Tetramin-Trout chow.

Table A-6.6. Summary of bioassay procedure and organism data for the 4-day *Selenastrum capricornutum* growth bioassay (EPA Method 1003).

Sample Identification Data	
Dates sampled	05/09/94
Dates received at MEC	05/10/94
Volume received	1 gal.
Sample storage conditions	4°C in the dark
Species Data	
Test species	Green alga, *Selenastrum capricornutum*
Supplier	MEC in-house culture
Age of culture	7 days
Acclimation water	Evian™ water mixed with freshwater medium
Acclimation temperature	25 ± 2°C
Acclimation photoperiod	Continuous light
Procedure Data	
Test type	EPA Method 1003: Chronic/static
Duration	4 days (96 hours)
Start date	05/10/94
Completion date	05/14/94
Test photoperiod	Continuous light
Control water	Evian™ water mixed with freshwater medium
Test temperature	25 ± 1°C
Organisms/chamber	1,000,000 cells
Test chamber/exposure volume	250 mL flask/100 mL
Replicates/treatment	3
Deviations from procedures	None

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Appendix A
Section A-7

Ground Water Elevation Data through 1994

GSA GWELEV SITE 300.RPT
Current Date: 25-jul-1995
Current Time: 10:38:11

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
General Services Area (GSA)			
CDF1			
12/01/81	14.40	488.57	
12/29/81	14.10	488.87	
02/02/82	8.00	494.97	
02/22/82	5.80	497.17	
04/08/82	3.50	499.47	
05/04/82	4.00	498.97	
07/09/82	5.90	497.07	
10/07/82	9.00	493.97	
06/06/89	16.78	486.19	
07/06/89	17.65	485.32	
08/08/89	18.06	484.91	
09/06/89	17.77	485.20	
10/06/89	17.16	485.81	
11/08/89	17.85	485.12	
12/05/89	15.29	487.68	
01/09/90	15.07	487.90	
01/31/90	14.80	488.10	
03/08/90	16.38	486.59	
04/04/90	14.96	488.01	
05/02/90	16.16	486.81	
06/06/90	15.55	487.42	PT
07/03/90	18.17	484.80	
08/06/90	15.83	487.14	
09/10/90	17.62	485.35	
10/11/90	17.10	485.87	
11/15/90	16.27	486.70	
12/04/90	16.23	486.74	
01/25/91	16.00	486.97	
02/08/91	15.99	486.98	
03/08/91	14.91	488.06	
04/03/91	13.53	489.44	
05/03/91	14.91	488.06	
06/19/91	20.07	482.90	
07/17/91	17.32	485.65	
08/05/91			NA
09/06/91	16.51	486.46	
10/03/91	15.17	487.80	
11/12/91	14.42	488.55	
12/04/91	14.38	488.59	
01/08/92	14.42	488.55	
04/01/92	10.32	492.65	
07/08/92	12.33	490.64	
10/05/92	12.88	490.09	
01/05/93	16.88	486.09	
04/05/93	9.50	493.47	
07/13/93	11.70	491.27	
10/12/93	11.41	491.56	
01/07/94	13.27	489.70	PF
02/07/94	12.68	490.29	PF
04/06/94	13.02	489.95	PF
07/08/94	13.52	489.45	PF
10/10/94	14.35	488.62	PF
CDF2			
12/01/81	13.90		
12/29/81	14.00		
02/02/82	8.00		
02/22/82	5.40		
04/08/82	4.10		
04/18/82	4.10		
05/04/82	3.90		
07/09/82	5.30		
09/07/82	5.30		
10/07/82	8.10		

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
CON1			
04/05/89	14.07	488.40	
05/08/89	14.95	487.52	
06/06/89	15.34	487.13	
07/06/89	16.35	486.12	
08/08/89	16.93	485.54	
09/06/89	16.00	486.47	
10/06/89	16.12	486.35	
11/07/89	13.42	489.05	
12/05/89	13.69	488.78	
01/09/90	13.68	488.79	
01/31/90	13.50	489.00	
03/06/90	13.16	489.31	
04/04/90	13.65	488.82	
05/02/90	15.85	486.62	
06/06/90	14.00	488.47	
07/03/90	13.90	488.57	
08/06/90	14.69	487.78	
09/10/90	15.22	487.25	
10/11/90	16.60	485.87	
11/15/90	15.18	487.29	
12/04/90	14.92	487.55	
01/25/91	14.98	487.49	
02/08/91	14.88	487.59	
03/13/91	14.16	488.31	
04/03/91	12.74	489.73	
05/03/91	13.73	488.74	
06/17/91	14.70	487.77	
07/17/91	18.31	484.16	
08/05/91	14.72	487.75	
09/06/91	17.21	485.26	
10/02/91	17.49	484.98	
11/12/91	13.58	488.89	
12/04/91	13.49	488.98	
01/08/92	13.38	489.09	
04/01/92	10.00	492.47	
07/08/92	31.02	471.45	
10/05/92	11.88	490.59	
01/05/93	12.36	490.11	
04/05/93	28.63	473.84	
07/13/93	34.50	467.97	
10/12/93	10.80	491.67	
01/07/94	11.70	490.77	PF
02/07/94	11.70	490.77	PF
04/06/94	12.10	490.37	PF
07/08/94	12.61	489.86	PF
10/10/94	12.27	490.20	PF
CON2			
05/10/89	18.29	487.00	
06/06/89	18.86	486.43	
07/06/89	19.11	486.18	
08/08/89	19.90	485.39	
09/06/89	19.68	485.61	
10/06/89	19.78	485.51	
11/07/89	18.23	487.06	
12/05/89	17.86	487.43	
01/09/90	17.76	487.53	
01/31/90	17.50	487.80	
03/06/90	17.02	488.27	
04/04/90	17.72	487.57	
05/02/90	18.22	487.07	
06/06/90			NA
07/03/90	18.70	486.59	
08/06/90	18.26	487.03	
09/10/90	18.64	486.65	
10/11/90	19.50	485.79	
11/15/90	18.45	486.84	
12/04/90	18.51	486.78	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
CON2 (continued)			
01/25/91	18.64	486.65	
02/08/91	18.43	486.86	
03/08/91	16.44	488.85	
04/03/91	14.98	490.31	
05/03/91	16.90	488.39	
06/17/91	17.33	487.96	
07/17/91	17.94	487.35	
08/05/91	17.60	487.69	
09/06/91	16.91	488.38	
10/02/91	16.77	488.52	
11/12/91	16.23	489.06	
12/04/91	16.57	488.72	
01/08/92	16.22	489.07	
04/01/92	11.20	494.09	
07/08/92	11.51	493.78	
10/05/92	13.60	491.69	
01/05/93	14.05	491.24	
04/05/93	7.85	497.44	
07/13/93	9.42	495.87	
10/12/93	13.19	492.10	
01/07/94	13.82	491.47	
02/07/94	14.05	491.24	
04/06/94	14.02	491.27	
07/08/94	14.43	490.86	
10/10/94	14.20	491.09	
GALLO2			
01/07/94	21.28	495.42	
02/07/94	21.64	497.04	
04/06/94	21.92	496.76	
07/08/94	22.38	496.30	
10/10/94	22.82	495.86	
W-24P-03			
12/09/91			NA
01/08/92			NA
02/05/92			NA
03/02/92			NA
04/02/92	4.74	423.00	
05/05/92			NA
06/01/92			NA
07/08/92	4.94	422.80	
08/05/92			NA
09/02/92			NA
10/14/92			NA
11/03/92			NA
12/03/92	4.62	423.12	
01/05/93			NA
02/03/93			NA
03/01/93			NA
04/06/93	4.19	423.55	
05/10/93	4.35	423.39	
06/08/93	4.48	423.26	
07/13/93	4.60	423.14	
08/10/93	4.58	423.16	
09/14/93	4.57	423.17	
10/12/93	4.47	423.27	
11/02/93	4.50	423.24	
12/06/93	4.32	423.42	
01/07/94	4.28	423.46	
02/07/94			NA
04/06/94			NA
07/07/94			NA
10/10/94	1.50	426.24	
W-25D-01			
10/06/89	22.22	443.27	
11/08/89	23.21	442.28	
12/05/89	22.25	443.24	
01/12/90	21.94	443.55	
01/31/90	21.70	443.79	
03/08/90			NA
04/04/90			NA
05/03/90	21.78	443.71	
06/06/90	22.28	443.21	
07/03/90	22.58	442.91	
08/06/90	23.11	442.38	
09/11/90	23.32	442.17	
10/11/90	23.40	442.09	
11/15/90	23.18	442.31	
12/04/90	22.86	442.63	
01/25/91	22.28	443.21	
02/08/91	22.29	443.20	
03/12/91	21.99	443.50	
04/03/91	19.08	446.41	
05/13/91	20.13	445.36	
06/20/91	21.60	443.89	
07/02/91	21.78	443.71	
08/02/91	22.69	442.80	
09/05/91	23.09	442.40	
10/02/91	23.06	442.43	
11/04/91	22.49	443.00	
12/04/91	21.52	443.97	
01/08/92	20.44	445.05	
02/05/92	20.17	445.32	
03/04/92	17.44	448.05	
04/02/92	17.35	448.14	
05/05/92	17.50	447.99	
06/01/92	17.48	448.01	
07/13/92	17.44	448.05	
08/06/92	17.87	447.62	
09/02/92	17.82	447.67	
10/08/92	18.19	447.30	
11/04/92	18.32	447.17	
12/03/92	18.42	447.07	
01/05/93	17.60	447.89	
02/02/93	16.34	449.15	
03/01/93	15.83	449.66	
04/06/93	16.22	449.27	
05/10/93	16.50	448.99	
06/08/93	16.52	448.97	
07/13/93	16.83	448.66	
08/12/93	16.92	448.57	
09/14/93	17.28	448.21	
10/12/93	17.47	448.02	
11/02/93	17.66	447.83	
12/06/93	17.76	447.73	
01/07/94	17.91	447.58	
02/07/94	18.08	447.41	
04/07/94	18.59	446.90	
07/07/94	19.97	445.52	
10/10/94	20.87	444.62	
W-25D-02			
10/06/89	16.65	441.54	
11/08/89	15.44	442.75	
12/05/89	14.99	443.20	
01/12/90	14.41	443.78	
01/31/90	14.20	443.99	
03/08/90			NA
04/04/90			NA
05/03/90	14.20	443.99	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-25D-02 (continued)			
06/06/90	14.75	443.44	
07/03/90	14.91	443.28	
08/06/90	15.53	442.66	
09/11/90	15.74	442.45	
10/11/90	15.85	442.34	
11/15/90	15.61	442.58	
12/04/90	15.35	442.84	
01/25/91	14.75	443.44	
02/08/91	14.67	443.52	
03/12/91	14.49	443.70	
04/03/91	11.49	446.70	
05/13/91	12.90	445.29	
06/20/91	14.11	444.08	
07/02/91	14.30	443.89	
08/02/91	15.17	443.02	
09/05/91	15.51	442.68	
10/02/91	15.45	442.74	
11/04/91	14.95	443.24	
12/04/91	14.03	444.16	
01/08/92	12.90	445.29	
04/02/92	9.65	448.54	
07/13/92	9.77	448.42	
10/14/92			NA
01/05/93	9.92	448.27	
04/05/93	8.34	449.85	
07/13/93	9.06	449.13	
10/12/93	9.69	448.50	
01/07/94	10.42	447.77	
04/07/94	11.04	447.15	
07/07/94	12.82	445.37	
10/10/94	13.43	444.76	
W-25M-01			
10/06/89	26.40	453.10	
11/08/89	26.10	450.80	
12/05/89	25.60	453.90	
01/12/90	25.24	454.32	
01/31/90	25.10	454.50	
03/08/90			NA
04/04/90			NA
05/03/90	24.99	454.57	
06/06/90	25.46	454.10	
07/03/90	25.61	453.95	
08/06/90	25.99	453.57	
09/11/90	26.18	453.38	
10/11/90	26.24	453.32	
11/15/90	26.16	453.40	
12/04/90	26.03	453.53	
01/25/91	25.87	453.69	
02/08/91	25.92	453.64	
03/12/91	24.75	454.81	
04/03/91			NA
05/13/91	23.63	455.93	
06/20/91	25.00	454.56	
07/02/91	25.20	454.36	
08/02/91	25.71	453.85	
09/05/91	25.76	453.80	
10/02/91	25.57	453.99	
11/04/91	24.93	454.63	
12/04/91	24.13	455.43	
01/08/92	23.42	456.14	
02/05/92	23.18	456.38	
03/04/92	19.05	460.51	
04/02/92	18.48	461.08	
05/05/92	18.25	461.31	
06/01/92	18.05	461.51	

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-25M-01 (continued)			
07/13/92	18.03	461.53	
08/06/92	18.89	460.67	
09/02/92	19.68	459.88	
10/05/92	20.70	458.86	
11/03/92	21.31	458.25	
12/03/92	21.88	457.68	
01/05/93	20.62	458.94	
02/02/93	17.25	462.31	
03/01/93	15.13	464.43	
04/05/93	16.01	463.55	
05/10/93	16.73	462.83	
06/08/93	16.75	462.81	
07/13/93	17.50	462.06	
08/12/93	17.68	461.88	
09/14/93	18.52	461.04	
10/12/93	19.23	460.33	
11/02/93	19.82	459.74	
12/06/93	20.46	459.10	
01/07/94	21.13	458.43	
02/07/94	21.53	458.03	
04/07/94	22.02	457.54	
07/08/94	23.12	456.44	
10/10/94	24.17	455.39	
W-25M-02			
11/08/89	14.00	468.60	
12/05/89	14.50	470.70	
01/09/90	13.37	471.87	
01/31/90	13.30	472.00	
03/08/90	12.76	472.48	
04/04/90	13.21	472.03	
05/02/90	13.52	471.72	
06/06/90	13.66	471.58	
07/03/90	13.93	471.31	
08/06/90	14.32	470.92	
09/11/90	14.45	470.79	
10/11/90	14.45	470.79	
11/15/90	14.25	470.99	
12/04/90	14.16	471.08	
01/25/91	14.13	471.11	
02/08/91	14.18	471.06	
03/13/91	12.47	472.77	
04/03/91	10.19	475.05	
05/06/91	12.54	472.70	
06/19/91	13.70	471.54	
07/17/91	13.89	471.35	
08/05/91	13.88	471.36	
09/05/91	13.65	471.59	
10/02/91	13.25	471.99	
11/11/91	12.14	473.10	
12/09/91	11.85	473.39	
01/08/92	11.30	473.94	
02/05/92	11.75	473.49	
03/02/92	9.10	476.14	
04/02/92	8.64	476.60	
05/05/92	8.52	476.72	
06/01/92	8.44	476.80	
07/13/92	8.49	476.75	
08/06/92	8.85	476.39	
09/02/92	9.28	475.96	
10/05/92	9.78	475.46	
11/03/92	10.27	474.97	
12/02/92	10.66	474.58	
01/05/93	9.81	475.43	
02/02/93	8.22	477.02	
03/01/93	7.37	477.87	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

Location	Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-25M-02 (continued)				
	04/05/93	7.84	477.40	
	05/10/93	8.10	477.14	
	06/08/93	8.17	477.07	
	07/13/93	8.35	476.89	
	08/10/93	8.55	476.69	
	09/14/93	8.88	476.36	
	10/12/93	9.10	476.14	
	11/03/93	9.41	475.83	
	12/02/93	9.66	475.58	
	01/07/94	10.03	475.21	
	02/07/94	10.22	475.02	
	04/06/94	10.69	474.55	
	07/08/94	11.24	474.00	
	10/10/94	12.22	473.02	
W-25M-03				
	12/05/89	14.10	473.40	
	01/09/90	13.96	473.47	
	01/31/90	13.90	473.60	
	03/08/90	13.37	474.06	
	04/04/90	13.84	473.59	
	05/02/90	14.14	473.29	
	06/06/90	14.25	473.18	
	07/03/90	14.52	472.91	
	08/06/90	14.89	472.54	
	09/11/90	15.06	472.37	
	10/11/90	15.09	472.34	
	11/15/90	14.86	472.57	
	12/04/90	14.81	472.62	
	01/25/91	14.82	472.61	
	02/08/91	14.81	472.62	
	03/13/91	13.12	474.31	
	04/03/91	10.78	476.65	
	05/06/91	13.22	474.21	
	06/19/91	14.30	473.13	
	07/17/91	14.51	472.92	
	08/05/91	14.48	472.95	
	09/05/91	14.22	473.21	
	10/02/91	13.81	473.62	
	11/11/91	12.72	474.71	
	12/09/91	12.48	474.95	
	01/08/92	11.92	475.51	
	04/02/92	8.82	478.61	
	07/13/92	8.61	478.82	
	10/05/92	10.35	477.08	
	01/05/93	10.36	477.07	
	04/05/93	7.61	479.82	
	07/13/93	8.34	479.09	
	10/12/93	9.44	477.99	
	01/07/94	10.62	476.81	
	04/06/94	11.31	476.12	
	07/08/94	12.46	474.97	
	10/10/94	12.86	474.57	
W-25N-01				
	08/03/88	21.92	488.17	
	09/06/88	23.01	487.08	
	10/06/88	22.37	487.72	
	11/03/88	22.62	487.47	
	11/29/88	22.65	487.44	
	01/12/89	22.54	487.55	
	02/07/89	22.66	487.43	
	02/21/89	22.67	487.42	
	04/05/89	22.94	487.15	
	05/10/89	23.38	486.71	

Location	Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-25N-01 (continued)				
	06/06/89	23.81	486.28	
	07/06/89	24.06	486.03	
	08/08/89	24.43	485.66	
	09/06/89	24.33	485.76	
	10/06/89	24.49	485.60	
	11/08/89	23.30	486.79	
	12/05/89	22.80	487.29	
	01/10/90	22.78	487.31	
	01/31/90	22.60	487.50	
	03/08/90	22.29	487.80	
	04/04/90	22.77	487.32	
	05/02/90	22.99	487.10	
	06/06/90	22.82	487.27	
	07/03/90	23.19	486.90	
	08/06/90	23.48	486.61	
	09/13/90	23.71	486.38	
	10/11/90	23.82	486.27	
	11/15/90	23.74	486.35	
	12/04/90	23.80	486.29	
	01/25/91	23.91	486.18	
	02/08/91	23.58	486.51	
	03/12/91	22.62	487.47	
	04/03/91	20.70	489.39	
	05/06/91	22.17	487.92	
	06/19/91	23.13	486.96	
	07/18/91	23.37	486.72	
	08/05/91	23.07	487.02	
	09/05/91	22.36	487.73	
	10/02/91	21.90	488.19	
	11/12/91	21.80	488.29	
	12/04/91	22.21	487.88	
	01/08/92	22.07	488.02	
	02/04/92	22.16	487.93	
	03/04/92	18.50	491.59	
	04/02/92	16.77	493.32	
	05/05/92	16.11	493.98	
	06/01/92	16.11	493.98	
	07/13/92	17.47	492.62	
	08/06/92	18.01	492.08	
	09/02/92	19.10	490.99	
	10/08/92	20.02	490.07	
	11/04/92	20.72	489.37	
	12/03/92	21.20	488.89	
	01/05/93	20.50	489.59	
	02/02/93	15.07	495.02	
	03/02/93	13.33	496.76	
	04/05/93	13.79	496.30	
	05/10/93	14.30	495.79	
	06/08/93	14.54	495.55	
	07/13/93	15.44	494.65	
	08/10/93	16.74	493.35	
	09/14/93	18.28	491.81	
	10/12/93	19.12	490.97	
	11/03/93	19.69	490.40	
	12/01/93	20.33	489.76	
	01/07/94	20.64	489.45	
	02/07/94	20.93	489.16	
	04/07/94	21.26	488.83	
	07/05/94	21.87	488.22	
	10/10/94	22.38	487.71	
W-25N-04				
	11/29/88	44.25	484.60	
	01/12/89	44.07	484.78	
	02/07/89	43.99	484.86	
	02/21/89	43.84	485.01	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-25N-04 (continued)			
04/04/89	43.86	484.99	
05/10/89	43.98	484.87	
06/06/89	44.05	484.80	
07/06/89	44.05	484.80	
08/08/89	44.11	484.74	
09/06/89	44.06	484.79	
10/06/89	44.16	484.69	
11/08/89	44.67	484.18	
12/05/89	44.72	484.13	
01/10/90	44.60	484.25	
01/31/90	44.60	484.20	
03/08/90	44.80	484.05	
04/04/90	44.52	484.33	
05/02/90	44.61	484.24	
06/06/90	44.75	484.10	
07/03/90	44.69	484.16	
08/06/90	44.84	484.01	
09/13/90	44.88	483.97	
10/11/90	44.80	484.05	
11/15/90	44.94	483.91	
12/04/90	44.80	484.05	
01/25/91	44.70	484.15	
02/08/91	44.73	484.12	
03/12/91	44.73	484.12	
04/03/91	44.59	484.26	
05/06/91	45.43	483.42	
06/19/91	44.67	484.18	
07/18/91	44.57	484.28	
08/02/91	44.76	484.09	
09/05/91	44.60	484.25	
10/02/91	44.57	484.28	
11/12/91	44.57	484.28	
12/04/91	44.43	484.42	
01/08/92	44.25	484.60	
02/04/92	44.19	484.66	
03/04/92	43.98	484.87	
04/02/92	43.75	485.10	
05/05/92	43.59	485.26	
06/02/92	44.13	484.72	
07/13/92	47.41	481.44	
08/06/92	46.00	482.85	
09/02/92	45.42	483.43	
10/08/92	45.00	483.85	
11/04/92	44.82	484.03	
12/03/92	44.58	484.27	
01/05/93	44.32	484.53	
02/02/93	43.90	484.95	
03/02/93	43.52	485.33	
04/05/93	43.18	485.67	
05/10/93	42.95	485.90	
06/08/93	43.02	485.83	
07/13/93	42.90	485.95	
08/10/93	43.05	485.80	
09/14/93	43.06	485.79	
10/12/93	43.13	485.72	
11/03/93	43.18	485.67	
12/01/93	43.22	485.63	
01/07/94	43.31	485.54	
02/07/94	43.13	485.72	
04/07/94	43.45	485.40	
07/05/94	43.51	485.34	
10/11/94	43.98	484.87	
W-25N-05			
01/12/89	14.49	482.98	
02/07/89	14.64	482.83	
W-25N-05 (continued)			
02/21/89	14.55	482.92	
04/04/89	14.83	482.64	
05/09/89	15.29	482.18	
06/06/89	15.70	481.77	
07/06/89	16.06	481.41	
08/08/89	16.44	481.03	
09/06/89	16.29	481.18	
10/06/89	16.40	481.07	
11/08/89	14.90	482.57	
12/05/89	14.58	482.89	
01/09/90	14.61	482.86	
01/31/90	14.40	483.00	
03/08/90	14.08	483.39	
04/04/90	14.54	482.93	
05/02/90	14.80	482.67	
06/06/90	14.79	482.68	
07/03/90	15.08	482.39	
08/06/90	15.37	482.10	
09/11/90	15.63	481.84	
10/11/90	15.78	481.69	
11/15/90	15.57	481.90	
12/04/90	15.61	481.86	
01/25/91	15.60	481.87	
02/08/91	15.45	482.02	
03/13/91	14.17	483.30	
04/03/91	12.22	485.25	
05/06/91	14.15	483.32	
06/19/91	14.86	482.61	
07/17/91	14.94	482.53	
08/05/91	14.79	482.68	
09/05/91	14.33	483.14	
10/02/91	13.92	483.55	
11/11/91	13.29	484.18	
12/09/91	13.38	484.09	
01/08/92	13.17	484.30	
02/05/92	13.77	483.70	
03/02/92	10.59	486.88	
04/02/92	9.12	488.35	
05/05/92	8.62	488.85	
06/02/92	8.54	488.93	
07/08/92	9.07	488.40	
08/06/92	10.13	487.34	
09/02/92	10.98	486.49	
10/05/92	11.64	485.83	
11/03/92	12.25	485.22	
12/02/92	12.67	484.80	
01/05/93	11.98	485.49	
02/02/93	7.29	490.18	
03/01/93	6.17	491.30	
04/05/93	6.72	490.75	
05/10/93	7.02	490.45	
06/08/93	7.11	490.36	
07/13/93	7.59	489.88	
08/10/93	8.56	488.91	
09/14/93	9.93	487.54	
10/12/93	10.58	486.89	
11/03/93	11.05	486.42	
12/02/93	11.52	485.95	
01/07/94	12.04	485.43	
02/07/94	12.29	485.18	
04/06/94	12.69	484.78	
07/08/94	13.40	484.07	
10/10/94	13.70	483.77	
W-25N-06			
01/12/89	17.59	479.23	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-25N-06 (continued)			
02/07/89	17.62	479.20	
02/21/89	17.63	479.19	
04/04/89	17.98	478.84	
05/09/89	18.43	478.39	
06/06/89	18.82	478.00	
07/06/89	19.06	477.76	
08/08/89	19.53	477.29	
09/06/89	19.45	477.37	
10/06/89	19.47	477.35	
11/08/89	18.05	478.77	
12/05/89	17.71	479.11	
01/09/90	17.77	479.05	
01/31/90	17.60	479.20	
03/08/90	17.16	479.66	
04/04/90	17.69	479.13	
05/02/90	17.93	478.89	
06/06/90	18.02	478.80	
07/03/90	18.27	478.55	
08/06/90	18.66	478.16	
09/11/90	18.86	477.96	
10/11/90	18.92	477.90	
11/15/90	18.74	478.08	
12/04/90	18.77	478.05	
01/25/91	18.74	478.08	
02/08/91	18.71	478.11	
03/13/91	17.10	479.72	
04/03/91	14.72	482.10	
05/06/91	17.16	479.66	
06/19/91	18.09	478.73	
07/17/91	18.26	478.56	
08/05/91	18.19	478.63	
09/05/91	17.82	479.00	
10/02/91	17.37	479.45	
11/11/91	16.36	480.46	
12/09/91	16.40	480.42	
01/08/92	15.94	480.88	
04/02/92	11.84	484.98	
07/08/92	11.65	485.17	
10/05/92	14.41	482.41	
01/05/93	14.61	482.21	
04/05/93	9.29	487.53	
07/13/93	10.40	486.42	
10/12/93	13.32	483.50	
01/07/94	14.77	482.05	
04/06/94	15.44	481.38	
07/08/94	16.37	480.45	
10/10/94	16.75	480.07	
W-25N-07			
05/08/89	19.03	486.37	
06/06/89	19.43	485.97	
07/06/89	19.72	485.68	
08/08/89	20.20	485.20	
09/06/89	20.00	485.40	
10/06/89	20.11	485.29	
11/07/89	18.61	486.79	
12/05/89	18.10	487.30	
01/09/90	18.08	487.32	
01/31/90	17.90	487.50	
03/06/90	17.48	487.92	
04/04/90	18.05	487.35	
05/02/90	18.29	487.11	
06/06/90	18.07	487.33	
07/03/90	18.45	486.95	
08/06/90	18.75	486.65	
09/10/90	18.93	486.47	
W-25N-07 (continued)			
10/11/90	19.13	486.27	
11/15/90	19.00	486.40	
12/04/90	19.07	486.33	
01/25/91	19.22	486.18	
02/08/91			NA
03/12/91			NA
04/03/91			NA
05/06/91	16.97	488.43	
06/17/91	17.19	488.21	
07/03/91	18.01	487.39	
08/05/91	17.76	487.64	
09/05/91	17.12	488.28	
10/02/91	16.68	488.72	
11/12/91	16.47	488.93	
12/04/91	16.82	488.58	
01/08/92	16.69	488.71	
02/05/92	16.91	488.49	
03/02/92	13.26	492.14	
04/02/92	11.46	493.94	
05/05/92	10.76	494.64	
06/02/92	10.75	494.65	
07/08/92	11.80	493.60	
08/06/92	12.65	492.75	
09/02/92	13.66	491.74	
10/05/92	14.48	490.92	
11/03/92	15.22	490.18	
12/02/92	15.70	489.70	
01/05/93	15.24	490.16	
02/02/93	9.59	495.81	
03/01/93	7.78	497.62	
04/05/93	8.29	497.11	
05/10/93	8.77	496.63	
06/08/93	9.02	496.38	
07/13/93	9.94	495.46	
08/10/93	11.32	494.08	
09/14/93	12.86	492.54	
10/12/93	13.58	491.82	
11/03/93	14.20	491.20	
12/02/93	14.74	490.66	
01/07/94	15.08	490.32	
02/07/94	15.38	490.02	
04/06/94	16.68	488.72	
07/08/94	16.28	489.12	
10/10/94	16.81	488.59	
W-25N-08			
11/08/89	26.00	484.80	
12/05/89	25.40	485.40	
01/10/90	25.34	485.48	
01/31/90	25.20	485.60	
03/08/90	25.07	485.75	
04/04/90	25.29	485.53	
05/02/90	25.86	484.96	
06/06/90	25.46	485.36	
07/03/90	26.18	484.64	
08/06/90	26.13	484.69	
09/13/90	26.37	484.45	
10/11/90	26.63	484.19	
11/15/90	26.39	484.43	
12/04/90	26.41	484.41	
01/25/91	26.45	484.37	
02/08/91	26.18	484.64	
03/12/91	24.96	485.86	
04/03/91	23.17	487.65	
05/03/91	24.67	486.15	
06/19/91	26.11	484.71	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

W-25N-08 (continued)

Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
07/18/91	25.64	485.18	
08/02/91	25.65	485.17	
09/05/91	25.07	485.75	
10/02/91	24.95	485.87	
11/12/91	24.08	486.74	
12/04/91	24.13	486.69	
01/07/92	24.01	486.81	
02/04/92	24.52	486.30	
03/04/92	21.53	489.29	
04/02/92	20.04	490.78	
05/05/92	19.51	491.31	
06/02/92	19.41	491.41	
07/13/92	20.20	490.62	
08/06/92	21.04	489.78	
09/02/92	22.15	488.67	
10/08/92	22.50	488.32	
11/04/92	23.47	487.35	
12/03/92	23.45	487.37	
01/05/93	22.73	488.09	
02/02/93	18.34	492.48	
03/02/93	17.12	493.70	
04/05/93	17.75	493.07	
05/10/93	17.77	493.05	
06/08/93	17.95	492.87	
07/13/93	19.11	491.71	
08/10/93	19.46	491.36	
09/14/93	20.93	489.89	
10/12/93	21.44	489.38	
11/03/93	21.91	488.91	
12/01/93	22.50	488.32	
01/07/94	23.97	486.85	
02/07/94	23.11	487.71	
04/07/94	22.39	488.43	
07/05/94	24.15	486.67	
10/11/94	24.44	486.38	

W-25N-09

Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
11/08/89	24.40	486.10	
12/05/89	23.80	486.70	
01/10/90	22.27	488.19	
01/31/90	22.50	488.00	
03/08/90	22.24	488.22	
04/04/90	22.44	488.02	
05/02/90	23.18	487.28	
06/06/90	22.64	487.82	
07/03/90	23.49	486.97	
08/06/90	23.41	487.05	
09/13/90	23.71	486.75	
10/11/90	24.35	486.11	
11/15/90	23.59	486.87	
12/04/90	23.53	486.93	
01/25/91	23.44	487.02	
02/08/91	23.32	487.14	
03/12/91	22.52	487.94	
04/03/91	21.45	489.01	
05/03/91	22.07	488.39	
06/19/91	23.61	486.85	
07/18/91	23.00	487.46	
08/02/91	23.06	487.40	
09/05/91	22.46	488.00	
10/02/91	22.91	487.55	
11/12/91	21.81	488.65	
12/04/91	21.68	488.78	
01/07/92	21.52	488.94	
02/04/92	21.49	488.97	
03/04/92	19.63	490.83	

W-25N-09 (continued)

Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
04/02/92	18.04	492.42	
05/05/92	17.50	492.96	
06/02/92	17.15	493.31	
07/13/92	17.71	492.75	
08/06/92	18.20	492.26	
09/02/92	19.82	490.64	
10/08/92	19.55	490.91	
11/04/92	20.80	489.66	
12/03/92	20.12	490.34	
01/05/93	19.90	490.56	
02/02/93	16.31	494.15	
03/02/93	14.62	495.84	
04/05/93	14.70	495.76	
05/10/93	14.83	495.63	
06/08/93	15.13	495.33	
07/14/93	15.95	494.51	
08/10/93	16.85	493.61	
09/14/93	17.93	492.53	
10/12/93	18.41	492.05	
11/03/93	18.90	491.56	
12/01/93	19.50	490.96	
01/07/94	19.55	490.91	
02/07/94	19.49	490.97	
04/07/94	19.98	490.48	
07/05/94	20.81	489.65	
10/11/94	21.19	489.27	

W-25N-10

Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
03/13/91	16.31	489.55	
04/03/91	16.31	489.55	
05/03/91	17.33	488.53	
06/19/91	23.19	482.67	
07/03/91	21.63	484.23	
07/18/91	21.63	484.23	
08/02/91	18.35	487.51	
09/05/91	17.86	488.00	
10/02/91	21.34	484.52	
11/12/91	17.17	488.69	
12/04/91	17.08	488.78	
01/08/92	16.92	488.94	
04/02/92	13.58	492.28	
07/08/92	16.63	489.23	
10/05/92	15.37	490.49	
01/05/93	15.90	489.96	
04/05/93	14.80	491.06	
07/13/93	17.73	488.13	
10/12/93	14.30	491.56	
01/07/94	16.23	489.63	
04/06/94	15.81	490.05	
07/08/94	22.29	483.57	
10/10/94	16.95	488.91	

W-25N-11

Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
03/13/91			NA
04/03/91			NA
05/03/91			NA
06/17/91	18.10	487.76	
07/03/91	23.72	482.05	
08/05/91	18.12	487.65	
09/05/91	17.62	488.15	
10/02/91	20.73	485.04	
11/12/91	16.93	488.84	
12/04/91	16.80	488.97	
01/08/92	16.65	489.12	
04/02/92	13.10	492.67	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

W-25N-11 (continued)

Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
07/08/92	17.90	487.87	
10/05/92	15.25	490.52	
01/05/93	15.65	490.12	
04/05/93	15.83	489.94	
07/13/93	18.59	487.18	
10/12/93	13.96	491.81	
01/07/94	17.53	488.24	
04/06/94	15.42	490.35	
07/08/94	22.44	483.33	
10/10/94	16.70	489.07	

W-25N-12

Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
03/13/91	17.99	487.53	
04/03/91	16.38	489.14	
05/03/91	17.59	487.93	
06/17/91	18.33	487.19	
07/03/91	21.34	484.18	
08/05/91	18.63	486.89	
09/05/91	18.10	487.42	
10/02/91	21.90	483.62	
11/12/91	17.30	488.22	
12/04/91	17.25	488.27	
01/08/92	17.15	488.37	
04/02/92	13.55	491.97	
07/08/92	15.69	489.83	
10/05/92	15.55	489.97	
01/05/93	16.05	489.47	
04/05/93	13.87	491.65	
07/13/93	17.16	488.36	
10/12/93	14.50	491.02	
01/07/94	16.22	489.30	
04/06/94	16.11	489.41	
07/08/94	22.02	483.50	
10/10/94	17.25	488.27	

W-25N-13

Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
03/13/91			NA
04/03/91			NA
05/03/91	17.71	487.67	
06/17/91	18.72	486.66	
07/03/91	19.00	486.38	
08/05/91	18.56	486.82	
09/05/91	17.96	487.42	
10/02/91	17.75	487.63	
11/12/91	17.18	488.20	
12/04/91	17.46	487.92	
01/08/92	17.41	487.97	
04/02/92	12.60	492.78	
07/08/92	12.93	492.45	
10/05/92	15.45	489.93	
01/05/93	16.02	489.36	
04/05/93	9.80	495.58	
07/13/93	11.25	494.13	
10/12/93	14.44	490.94	
01/07/94	16.26	489.12	
04/06/94	16.40	488.98	
07/08/94	17.47	487.91	
10/10/94	17.49	487.89	

W-25N-15

Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
03/13/91			NA
04/03/91			NA
05/03/91	14.86	486.51	
06/19/91	15.95	485.42	

W-25N-15 (continued)

Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
07/17/91	15.97	485.40	
08/05/91	15.72	485.65	
09/05/91	15.11	486.26	
10/02/91	14.66	486.71	
11/12/91	14.25	487.12	
12/09/91	14.35	487.02	
01/08/92	14.42	486.95	
02/05/92	14.81	486.56	
03/02/92	11.59	489.78	
04/02/92	10.05	491.32	
05/05/92	9.50	491.87	
06/02/92	9.47	491.90	
07/08/92	10.21	491.16	
08/06/92	11.10	490.27	
09/02/92	12.00	489.37	
10/05/92	12.64	488.73	
11/03/92	13.25	488.12	
12/02/92	13.62	487.75	
01/05/93	13.13	488.24	
02/02/93	8.29	493.08	
03/01/93	6.91	494.46	
04/05/93	7.45	493.92	
05/10/93	7.77	493.60	
06/08/93	7.92	493.45	
07/13/93	8.61	492.76	
08/10/93	9.63	491.74	
09/14/93	11.07	490.30	
10/12/93	11.68	489.69	
11/03/93	12.20	489.17	
12/02/93	12.70	488.67	
01/07/94	13.04	488.33	
02/07/94	13.35	488.02	
04/06/94	13.69	487.68	
07/08/94	14.29	487.08	
10/10/94	14.66	486.71	

W-25N-18

Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
04/02/92			NA
07/08/92	11.44	490.38	
10/05/92	13.50	488.32	
01/05/93	13.99	487.83	
04/05/93	8.98	492.84	
07/13/93	10.08	491.74	
10/12/93	12.53	489.29	
01/07/94	13.99	487.83	
04/06/94	14.44	487.38	
07/08/94	15.65	486.17	
10/10/94	15.54	486.28	

W-25N-20

Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
01/08/92			NA
04/02/92	11.14	493.80	
07/13/92	11.76	493.18	
10/08/92	14.34	490.60	
01/08/93	14.82	490.12	
04/05/93	8.04	496.90	
07/14/93	9.64	495.30	
10/12/93	13.35	491.59	
01/07/94	14.87	490.07	
04/07/94	15.46	489.48	
07/12/94	16.16	488.78	
10/11/94	16.59	488.35	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
General Services Area (GSA) (continued)			
W-25N-21			
04/02/92	20.80	492.38	
07/13/92	20.49	492.69	
10/08/92	22.26	490.92	
01/08/93	22.59	490.59	
04/05/93	17.45	495.73	
07/13/93	19.43	493.75	
10/12/93	21.12	492.06	
01/07/94	22.25	490.93	
04/07/94	22.65	490.53	
07/05/94	23.70	489.48	
10/11/94	23.95	489.23	
W-25N-22			
01/08/92			NA
04/02/92	21.80	491.25	
07/13/92	21.62	491.43	
10/08/92	23.67	489.38	
01/08/93	24.28	488.77	
04/05/93	18.41	494.64	
07/13/93	19.64	493.41	
10/12/93	22.56	490.49	
01/07/94	23.86	489.19	
04/07/94	21.83	491.22	
07/05/94	23.40	489.65	
10/11/94	25.56	487.49	
W-25N-23			
01/08/92			NA
04/02/92	18.48	491.90	
07/13/92	18.82	491.56	
10/08/92	21.08	489.30	
01/08/93	21.52	488.86	
04/05/93	15.67	494.71	
07/13/93	16.94	493.44	
10/12/93	20.00	490.38	
01/07/94	21.51	488.87	
04/07/94	21.58	488.80	
07/05/94	22.51	487.87	
10/11/94	23.20	487.18	
W-25N-24			
04/02/92	16.10	493.34	
07/13/92	16.70	492.74	
10/08/92	19.20	490.24	
01/08/93	19.66	489.78	
04/05/93	15.73	493.71	
07/13/93	14.78	494.66	
10/12/93	18.50	490.94	
01/07/94	20.21	489.23	
04/07/94	20.94	488.50	
07/05/94	21.35	488.09	
10/11/94	21.84	487.60	
W-25N-25			
07/05/94			NA
10/10/94	13.58	487.89	
W-25N-26			
07/05/94			NA
10/10/94	13.08	486.29	
W-25N-28			
07/05/94			NA
10/10/94	19.01	478.14	
W-26R-01			
01/10/89			DRY
02/07/89			DRY
02/22/89	22.05	487.66	
04/03/89	22.25	487.46	
05/08/89	22.66	487.05	
06/07/89	23.13	486.58	
07/06/89	23.30	486.41	
08/08/89	23.82	485.89	
09/06/89	23.64	486.07	
10/06/89	23.82	485.89	
11/08/89	22.67	487.04	
12/05/89	22.14	487.57	
01/10/90	22.09	487.62	
01/31/90	21.90	487.80	
03/06/90	21.95	487.76	
04/03/90	22.08	487.63	
05/02/90	22.24	487.47	
06/07/90	22.23	487.48	
07/03/90	22.43	487.28	
08/06/90	22.76	486.95	
09/11/90	22.99	486.72	
10/11/90	23.12	486.59	
11/15/90	23.36	486.35	
12/04/90	23.16	486.55	
01/28/91	23.29	486.42	
02/06/91	23.02	486.69	
03/12/91	21.67	488.04	
04/02/91	19.67	490.04	
05/02/91	21.16	488.55	
06/19/91	22.12	487.59	
07/02/91	22.23	487.48	
08/05/91	22.19	487.52	
09/05/91	21.43	488.28	
10/03/91	20.88	488.83	
10/30/91	20.87	488.84	
12/04/91	21.15	488.56	
01/08/92	21.03	488.68	
02/04/92	21.22	488.49	
03/04/92	17.37	492.34	
04/02/92	15.49	494.22	
05/05/92	14.77	494.94	
06/02/92	14.78	494.93	
07/13/92	16.11	493.60	
08/06/92	16.80	492.91	
09/02/92	17.87	491.84	
10/08/92	18.87	490.84	
11/03/92	19.61	490.10	
12/03/92	20.15	489.56	
01/08/93	19.43	490.28	
02/02/93	13.61	496.10	
03/02/93	11.79	497.92	
04/05/93	12.19	497.52	
05/10/93	12.76	496.95	
06/08/93	13.04	496.67	
07/14/93	13.95	495.76	
08/10/93	15.38	494.33	
09/14/93	16.93	492.78	
10/12/93	17.76	491.95	
11/03/93	18.41	491.30	
12/01/93	19.06	490.65	
01/07/94	19.40	490.31	
02/07/94	19.71	490.00	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-26R-01 (continued)			
04/07/94	20.03	489.68	
07/05/94	19.87	489.84	
10/11/94	21.22	488.49	
W-26R-02			
05/08/89			NA
06/07/89	34.75	493.45	
07/06/89	44.09	484.11	
08/08/89	44.02	484.18	
09/06/89	43.08	485.12	
10/06/89	43.00	485.20	
11/08/89	42.00	486.20	
12/05/89	40.98	487.22	
01/10/90	40.43	487.77	
01/31/90	41.10	487.10	
03/06/90	39.89	488.31	
04/03/90	40.17	488.03	
05/03/90	40.09	488.11	
06/07/90	40.19	488.01	
07/03/90	40.95	487.25	
08/06/90	41.09	487.11	
09/11/90	41.31	486.89	
10/11/90	41.62	486.58	
11/15/90	41.03	487.17	
12/04/90	40.87	487.33	
01/28/91	41.37	486.83	
02/06/91	40.74	487.46	
03/12/91	40.19	488.01	
04/02/91	39.12	489.08	
05/02/91	39.86	488.34	
06/19/91	41.30	486.90	
07/02/91	40.55	487.65	
08/01/91	41.71	486.49	
09/05/91	40.14	488.06	
10/03/91	40.60	487.60	
10/30/91	40.17	488.03	
12/04/91	39.41	488.79	
01/08/92	39.24	488.96	
02/04/92	39.22	488.98	
03/04/92	37.42	490.78	
04/02/92	35.86	492.34	
05/05/92	35.32	492.88	
06/02/92	34.98	493.22	
07/13/92	35.50	492.70	
08/06/92	35.92	492.28	
09/02/92	37.62	490.58	
10/08/92	37.26	490.94	
11/03/92	38.54	489.66	
12/03/92	37.80	490.40	
01/08/93	37.54	490.66	
02/02/93	34.15	494.05	
03/02/93	32.42	495.78	
04/05/93	32.47	495.73	
05/10/93	32.50	495.70	
06/08/93	32.79	495.41	
07/13/93	34.57	493.63	
08/10/93	34.52	493.68	
09/14/93	35.56	492.64	
10/12/93	36.09	492.11	
11/03/93	36.50	491.70	
12/01/93	37.02	491.18	
01/07/94	37.24	490.96	
02/07/94	37.15	491.05	
04/07/94	37.66	490.54	
07/05/94	37.87	490.33	
10/10/94	38.95	489.25	

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-26R-03			
10/06/89	23.45	485.74	
11/08/89	22.28	486.91	
12/05/89	21.77	487.42	
01/10/90	21.75	487.44	
01/31/90	21.60	487.60	
03/06/90	21.42	487.77	
04/03/90	21.75	487.44	
05/02/90	21.91	487.28	
06/07/90	21.90	487.29	
07/03/90	22.14	487.05	
08/06/90	22.44	486.75	
09/11/90	22.67	486.52	
10/11/90	22.84	486.35	
11/15/90	22.73	486.46	
12/04/90	22.83	486.36	
01/28/91	22.97	486.22	
02/06/91	22.66	486.53	
03/12/91	21.30	487.89	
04/02/91			NA
05/02/91	20.82	488.37	
06/19/91	21.85	487.34	
07/02/91	22.33	486.86	
08/01/91	22.16	487.03	
09/05/91	20.99	488.20	
10/03/91	20.54	488.65	
10/30/91			NA
12/04/91	21.11	488.08	
01/08/92	20.90	488.29	
02/04/92	20.82	488.37	
03/04/92	17.12	492.07	
04/02/92	15.37	493.82	
05/05/92	14.70	494.49	
06/02/92	14.70	494.49	
07/13/92	16.29	492.90	
08/06/92	16.64	492.55	
09/02/92	17.96	491.23	
10/08/92	18.85	490.34	
11/04/92	19.57	489.62	
12/03/92	20.12	489.07	
01/08/93	19.40	489.79	
02/02/93	13.90	495.29	
03/02/93	12.15	497.04	
04/05/93	12.29	496.90	
05/10/93	13.13	496.06	
06/08/93	13.38	495.81	
07/13/93	14.39	494.80	
08/10/93	15.63	493.56	
09/14/93	17.17	492.02	
10/12/93	17.74	491.45	
11/03/93	18.37	490.82	
12/01/93	18.98	490.21	
01/07/94	19.26	489.93	
02/07/94	19.58	489.61	
04/07/94	19.91	489.28	
07/05/94	20.42	488.77	
10/11/94	21.00	488.19	
W-26R-04			
01/08/92			NA
04/02/92	14.55	494.41	
07/13/92	15.17	493.79	
10/08/92			DRY
01/08/93	18.45	490.51	
04/05/93	11.22	497.74	
07/14/93	13.00	495.96	
10/12/93	16.85	492.11	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-26R-04 (continued)			
01/07/94	18.46	490.50	
04/07/94	19.10	489.86	
07/05/94	19.68	489.28	
10/10/94	20.25	488.71	
W-26R-05			
01/08/92			NA
04/02/92	19.33	493.78	
07/13/92			NA
10/08/92			NA
01/08/93	23.00	490.11	
04/05/93	16.20	496.91	
07/20/93	17.99	495.12	
10/12/93	21.31	491.80	
01/07/94	22.84	490.27	
04/07/94	23.46	489.65	
07/05/94	23.87	489.24	
10/11/94	24.50	488.61	
W-26R-06			
04/02/92	20.70	494.43	
07/13/92	21.36	493.77	
10/08/92	24.14	490.99	
01/08/93	24.71	490.42	
04/05/93	17.45	497.68	
07/13/93	19.26	495.87	
10/12/93	23.07	492.06	
01/07/94	24.70	490.43	
04/07/94	25.32	489.81	
07/05/94	25.38	489.75	
10/10/94	26.51	488.62	
W-26R-07			
01/08/92			NA
04/02/92	28.26	492.33	
07/13/92	27.85	492.74	
10/08/92	29.66	490.93	
01/08/93	29.93	490.66	
04/05/93	24.89	495.70	
07/13/93	26.89	493.70	
10/12/93	28.49	492.10	
01/07/94	29.64	490.95	
04/07/94	30.01	490.58	
07/05/94	30.84	489.75	
10/11/94	31.29	489.30	
W-26R-08			
04/02/92	30.70	492.41	
07/13/92	30.35	492.76	
10/08/92	32.16	490.95	
01/08/93	32.40	490.71	
04/05/93	27.33	495.78	
07/13/93	29.50	493.61	
10/12/93	30.89	492.22	
01/07/94	32.00	491.11	
04/07/94	32.46	490.65	
07/05/94	32.60	490.51	
10/10/94	33.80	489.31	
W-26R-11			
04/02/92	12.68	494.53	
07/13/92	13.30	493.91	

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-26R-11 (continued)			
10/08/92	16.09	491.12	
01/08/93	16.58	490.63	
04/05/93	9.35	497.86	
07/14/93	11.12	496.09	
10/12/93	14.97	492.24	
01/07/94	16.64	490.57	
04/07/94	17.24	489.97	
07/08/94	17.69	489.52	
10/10/94	18.40	488.81	
W-35A-01			
05/09/89	21.34	489.84	
06/06/89	21.54	489.64	
07/06/89	21.76	489.42	
08/09/89	22.25	488.93	
09/06/89	22.13	489.05	
10/06/89	22.28	488.90	
11/07/89	21.41	489.77	
12/05/89	20.81	490.37	
01/09/90	20.77	490.41	
01/31/90	20.60	490.60	
03/06/90	20.18	491.00	
04/04/90	20.77	490.41	
05/02/90	20.97	490.21	
06/06/90	20.71	490.47	
07/03/90	21.10	490.08	
08/06/90	21.42	489.76	
09/10/90	21.69	489.49	
10/11/90	21.85	489.33	
11/15/90	21.87	489.31	
12/04/90	21.98	489.20	
01/25/91	22.13	489.05	
02/08/91	21.71	489.47	
03/12/91	20.31	490.87	
04/03/91	18.52	492.66	
05/06/91	19.88	491.30	
06/17/91	20.62	490.56	
07/17/91	20.56	490.62	
08/05/91	20.32	490.86	
09/06/91	19.69	491.49	
10/02/91	19.21	491.97	
11/12/91	18.95	492.23	
12/09/91	19.15	492.03	
01/08/92	19.07	492.11	
04/02/92	13.00	498.18	
07/08/92	13.43	497.75	
10/05/92	16.92	494.26	
01/05/93	17.79	493.39	
04/05/93	8.40	502.78	
07/13/93	11.11	500.07	
10/12/93	15.78	495.40	
01/07/94	17.71	493.47	
04/06/94	18.34	492.84	
07/08/94	18.97	492.21	
10/10/94	19.57	491.61	
W-35A-02			
05/09/89	19.99	492.78	
06/06/89	20.06	492.71	
07/06/89	20.06	492.71	
08/09/89	20.38	492.39	
09/06/89	20.31	492.46	
10/06/89	20.39	492.38	
11/07/89	19.98	492.79	
12/05/89	19.69	493.08	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-35A-02 (continued)			
01/09/90	19.72	493.05	
01/31/90	19.70	493.10	
03/06/90	19.51	493.26	
04/04/90	19.86	492.91	
05/02/90	19.96	492.81	
06/06/90	19.74	493.03	
07/03/90	19.99	492.78	
08/06/90	20.15	492.62	
09/10/90	20.25	492.52	
10/11/90	20.28	492.49	
11/15/90	20.37	492.40	
12/04/90	20.42	492.35	
01/25/91	20.49	492.28	
02/08/91	20.29	492.48	
03/12/91	19.57	493.20	
04/03/91	18.03	494.74	
05/06/91	19.21	493.56	
06/17/91	19.39	493.38	
07/17/91	19.52	493.25	
08/05/91	19.26	493.51	
09/06/91	18.58	494.19	
10/02/91	18.12	494.65	
11/12/91	17.93	494.84	
12/09/91	18.22	494.55	
01/08/92	18.23	494.54	
02/05/92	18.80	493.97	
03/02/92	14.35	498.42	
04/02/92	11.68	501.09	
05/05/92	10.66	502.11	
06/02/92	10.90	501.87	
07/08/92	12.21	500.56	
08/06/92	13.54	499.23	
09/02/92	14.79	497.98	
10/05/92	16.03	496.74	
11/03/92	16.90	495.87	
12/02/92	17.62	495.15	
01/05/93	17.11	495.66	
02/02/93	8.19	504.58	
03/02/93	6.04	506.73	
04/05/93	6.46	506.31	
05/10/93	7.26	505.51	
06/08/93	8.05	504.72	
07/13/93	9.74	503.03	
08/10/93	11.59	501.18	
09/14/93	13.63	499.14	
10/12/93	14.87	497.90	
11/03/93	15.68	497.09	
12/02/93	16.48	496.29	
01/07/94	17.08	495.69	
02/07/94	17.47	495.30	
04/06/94	17.72	495.05	
07/08/94	17.98	494.79	
10/10/94	18.72	494.05	
W-35A-03			
05/09/89	20.69	489.36	
06/06/89	21.00	489.05	
07/06/89	21.19	488.86	
08/09/89	21.60	488.45	
09/06/89	21.51	488.54	
10/06/89	21.65	488.40	
11/07/89	20.75	489.30	
12/05/89	20.20	489.85	
01/09/90	20.16	489.89	
01/31/90	20.00	490.10	
03/05/90	19.62	490.43	

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-35A-03 (continued)			
04/04/90	20.15	489.90	
05/02/90	20.35	489.70	
06/06/90	20.13	489.92	
07/03/90	20.49	489.56	
08/06/90	20.85	489.20	
09/10/90	21.00	489.05	
10/11/90	21.28	488.77	
11/15/90	21.20	488.85	
12/04/90	21.31	488.74	
01/25/91	21.41	488.64	
02/08/91	21.04	489.01	
03/12/91	19.76	490.29	
04/03/91	17.83	492.22	
05/06/91	19.27	490.78	
06/17/91	20.05	490.00	
07/17/91	20.03	490.02	
08/05/91	19.81	490.24	
09/06/91	19.15	490.90	
10/02/91	18.62	491.43	
11/12/91	18.36	491.69	
12/09/91	18.55	491.50	
01/08/92	18.53	491.52	
02/05/92	19.00	491.05	
03/02/92	14.83	495.22	
04/02/92	12.50	497.55	
05/05/92	11.63	498.42	
06/02/92	11.73	498.32	
07/08/92	12.94	497.11	
08/06/92	14.04	496.01	
09/02/92	15.24	494.81	
10/05/92	16.36	493.69	
11/03/92	17.19	492.86	
12/02/92	17.78	492.27	
01/05/93	17.22	492.83	
02/02/93	9.86	500.19	
03/01/93	7.94	502.11	
04/05/93	8.40	501.65	
05/10/93	8.88	501.17	
06/08/93	9.45	500.60	
07/13/93	10.74	499.31	
08/10/93	12.37	497.68	
09/14/93	14.19	495.86	
10/12/93	15.20	494.85	
11/03/93	15.99	494.06	
12/02/93	16.72	493.33	
01/07/94	17.13	492.92	
02/07/94	17.48	492.57	
04/06/94	17.73	492.32	
07/08/94	18.10	491.95	
10/10/94	18.92	491.13	
W-35A-04			
11/07/89	19.40	487.70	
12/05/89	18.80	488.30	
01/09/90	18.77	488.27	
01/31/90	18.50	488.50	
03/05/90	18.10	488.90	
04/04/90	18.69	488.35	
05/03/90	18.88	488.16	
06/06/90	18.72	488.32	
07/03/90	19.07	487.97	
08/06/90	19.42	487.62	
09/10/90	19.66	487.38	
10/11/90	19.87	487.17	
11/15/90	19.76	487.28	
12/04/90	19.90	487.14	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
General Services Area (GSA) (continued)			
W-35A-04 (continued)			
01/25/91	19.97	487.07	
02/08/91	19.60	487.44	
03/08/91	18.24	488.80	
04/03/91	13.29	493.75	
05/06/91	17.81	489.23	
06/17/91	18.63	488.41	
07/17/91	18.70	488.34	
08/05/91	18.50	488.54	
09/06/91	17.89	489.15	
10/02/91	17.91	489.13	
11/12/91	17.13	489.91	
12/09/91	17.19	489.85	
01/08/92	17.31	489.73	
04/02/92	11.54	495.50	
07/08/92	11.90	495.14	
10/05/92	15.02	492.02	
01/05/93	15.86	491.18	
04/05/93	7.89	499.15	
07/13/93	9.84	497.20	
10/12/93	13.91	493.13	
01/07/94	15.67	491.37	
04/06/94	16.29	490.75	
07/07/94	16.90	490.14	
10/10/94	17.46	489.58	
W-35A-05			
12/05/89	21.10	490.20	
01/09/90	21.08	490.20	
01/31/90	20.90	490.40	
03/06/90	20.43	490.85	
04/04/90	21.10	490.18	
05/02/90	21.32	489.96	
06/06/90	21.05	490.23	
07/03/90	21.43	489.85	
08/06/90	21.82	489.46	
09/10/90	22.09	489.19	
10/11/90	22.24	489.04	
11/15/90	22.28	489.00	
12/04/90	22.35	488.93	
01/25/91	22.55	488.73	
02/08/91	22.08	489.20	
03/12/91	20.68	490.60	
04/03/91	18.80	492.48	
05/06/91	20.28	491.00	
06/17/91	20.95	490.33	
07/17/91	20.95	490.33	
08/05/91	20.74	490.54	
09/06/91	20.19	491.09	
10/02/91	19.51	491.77	
11/12/91	19.23	492.05	
12/09/91	19.47	491.81	
04/02/92	13.44	497.84	
07/08/92	13.83	497.45	
10/05/92	17.21	494.07	
01/05/93	18.08	493.20	
04/05/93	8.96	502.32	
07/13/93	11.50	499.78	
10/12/93	16.08	495.20	
01/07/94	17.98	493.30	
04/06/94	18.74	492.54	
07/08/94	19.37	491.91	
10/10/94	19.90	491.38	
W-35A-06			
01/31/90	16.70	487.70	
W-35A-06 (continued)			
03/08/90	15.26	489.06	
04/04/90	15.79	488.53	
05/02/90	16.00	488.32	
06/06/90	15.79	488.53	
07/03/90	16.19	488.13	
08/06/90	16.55	487.77	
09/10/90	16.78	487.54	
10/11/90	17.00	487.32	
11/15/90	16.86	487.46	
12/04/90	17.00	487.32	
01/25/91	17.01	487.31	
02/08/91	16.70	487.62	
03/08/91	15.33	488.99	
04/03/91	13.39	490.93	
05/06/91	14.89	489.43	
06/17/91	15.75	488.57	
07/17/91	15.78	488.54	
08/05/91	15.56	488.76	
09/06/91	14.94	489.38	
10/02/91	14.45	489.87	
11/12/91	14.20	490.12	
12/09/91	14.30	490.02	
01/08/92	14.35	489.97	
02/05/92	14.76	489.56	
03/02/92	10.65	493.67	
04/02/92	8.49	495.83	
05/05/92	7.65	496.67	
06/02/92	7.74	496.58	
07/08/92	8.89	495.43	
08/06/92	9.90	494.42	
09/02/92	11.00	493.32	
10/05/92	12.06	492.26	
11/03/92	12.90	491.42	
12/02/92	13.52	490.80	
01/05/93	12.91	491.41	
02/02/93	6.24	498.08	
03/01/93	4.40	499.92	
04/05/93	4.86	499.46	
05/10/93	5.37	498.95	
06/08/93	5.71	498.61	
07/13/93	6.82	497.50	
08/10/93	8.33	495.99	
09/14/93	10.05	494.27	
10/12/93	10.96	493.36	
11/03/93	11.70	492.62	
12/02/93	12.38	491.94	
01/07/94	12.70	491.62	
02/07/94	13.11	491.21	
04/06/94	13.33	490.99	
07/08/94	13.93	490.39	
10/10/94	14.51	489.81	
W-35A-07			
07/05/94	5.81	506.89	
10/10/94	7.19	505.51	
W-35A-08			
07/08/94	17.63	500.23	
10/10/94	17.90	499.96	
W-35A-09			
07/08/94	18.58	496.97	
10/10/94	19.05	496.50	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
General Services Area (GSA) (continued)			
W-35A-10			
07/08/94	19.03	492.99	
10/10/94	16.19	495.83	
W-35A-11			
07/08/94			NA
10/10/94	11.20	495.90	
W-35A-12			
10/10/94	19.55	487.77	
W-35A-13			
10/10/94	15.35	490.39	
W-35A-14			
10/10/94	18.80	496.13	
W-7A			
06/01/88	15.28	510.33	
07/06/88	16.38	509.23	
08/01/88	17.67	507.94	
09/06/88	18.73	506.88	
10/06/88	18.62	506.99	
11/01/88	18.94	506.67	
11/29/88	18.93	506.68	
01/10/89	18.04	507.57	
02/07/89	17.90	507.71	
02/21/89	18.30	507.31	
04/04/89	18.14	507.47	
05/08/89	19.22	506.39	
06/07/89	19.23	506.38	
07/07/89	19.87	505.74	
08/08/89	20.70	504.91	
09/06/89	20.51	505.10	
10/06/89	20.45	505.16	
11/08/89	21.88	503.73	
12/05/89	22.28	503.33	
01/10/90	21.23	504.38	
01/22/90	20.70	504.90	
03/06/90	20.02	505.59	
04/03/90	20.27	505.34	
05/02/90	20.02	505.59	
06/07/90	20.22	505.39	
07/03/90	20.18	505.43	
08/07/90	20.65	504.96	
09/12/90	21.04	504.57	
10/12/90	22.81	502.80	
11/15/90	22.88	502.73	
12/07/90	22.33	503.28	
01/25/91	21.54	504.07	
02/11/91	21.64	503.97	
03/07/91	21.56	504.05	
04/03/91			NA
05/06/91	19.86	505.75	
06/19/91	20.18	505.43	
07/17/91	20.31	505.30	
08/01/91	20.84	504.77	
09/06/91	20.54	505.07	
10/03/91	20.65	504.96	
11/12/91	20.55	505.06	
12/09/91	20.25	505.36	
01/08/92	19.39	506.22	
04/02/92	16.65	508.96	
W-7A (continued)			
07/13/92	16.23	509.38	
10/05/92	18.54	507.07	
01/05/93	18.13	507.48	
04/06/93	12.87	512.74	
07/13/93	13.25	512.36	
10/12/93	15.59	510.02	
01/07/94	16.24	509.37	
04/07/94	16.55	509.06	
07/05/94	16.72	508.89	
10/11/94	18.72	506.89	
W-7B			
07/06/88	20.11	491.33	
08/03/88	21.75	489.69	
09/02/88	22.27	489.17	
10/10/88	22.37	489.07	
11/03/88	22.56	488.88	
11/29/88	22.56	488.88	
01/10/89	22.39	489.05	
02/07/89	22.47	488.97	
02/21/89	22.50	488.94	
04/04/89	22.71	488.73	
05/08/89	23.40	488.04	
06/07/89	23.94	487.50	
07/06/89	24.17	487.27	
08/08/89	24.70	486.74	
09/06/89	24.37	487.07	
10/06/89	24.49	486.95	
11/08/89	23.18	488.26	
12/05/89	22.65	488.79	
01/10/90	22.66	488.78	
01/22/90	22.30	489.10	
03/06/90	21.85	489.59	
04/03/90	22.36	489.08	
05/02/90	22.47	488.97	
06/07/90	22.49	488.95	
07/03/90	22.70	488.74	
08/06/90	23.10	488.34	
09/11/90	23.28	488.16	
10/11/90	23.70	487.74	
11/15/90	23.35	488.09	
12/04/90	23.43	488.01	
01/28/91	23.43	488.01	
02/08/91	23.02	488.42	
03/12/91	21.91	489.53	
04/02/91	19.96	491.48	
05/02/91	21.26	490.18	
06/19/91	22.27	489.17	
07/02/91	22.21	489.23	
08/01/91	22.18	489.26	
09/05/91	21.50	489.94	
10/03/91	20.98	490.46	
11/12/91			NA
12/04/91	21.03	490.41	
01/08/92	20.84	490.60	
04/02/92	15.42	496.02	
07/13/92	15.96	495.48	
10/08/92	18.87	492.57	
01/08/93	19.24	492.20	
04/05/93	11.73	499.71	
07/14/93	13.80	497.64	
10/12/93	17.64	493.80	
01/07/94	19.27	492.17	
04/07/94	19.80	491.64	
07/05/94	19.91	491.53	
10/10/94	21.00	490.44	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

Location	Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-7C				
	06/01/88	12.76	505.11	
	07/06/88	12.37	505.50	
	08/03/88	14.75	503.12	
	09/02/88	15.45	502.42	
	10/10/88	15.43	502.44	
	11/03/88	14.14	503.73	
	11/29/88	15.21	502.66	
	01/10/89	15.20	502.67	
	02/07/89	13.14	504.73	
	02/21/89	14.14	503.73	
	04/04/89	14.51	503.36	
	05/08/89	15.63	502.24	
	06/07/89	16.55	501.32	
	07/06/89	16.87	501.00	
	08/08/89	16.79	501.08	
	09/06/89	17.48	500.39	
	10/06/89	17.53	500.34	
	11/08/89	18.45	499.42	
	12/05/89	19.09	498.78	
	01/10/90	18.18	499.69	
	01/22/90	17.50	500.40	
	03/06/90	16.71	501.16	
	04/03/90	17.00	500.87	
	05/02/90	16.75	501.12	
	06/07/90	17.02	500.85	
	07/03/90	16.81	501.06	
	08/06/90	17.23	500.64	
	09/11/90	17.30	500.57	
	10/11/90	19.23	498.64	
	11/15/90	18.80	499.07	
	12/04/90	18.88	498.99	
	01/28/91	18.10	499.77	
	02/06/91	18.02	499.85	
	03/12/91	17.23	500.64	
	04/02/91	16.31	501.56	
	05/02/91	15.34	502.53	
	06/19/91	16.93	500.94	
	07/02/91	17.08	500.79	
	08/01/91	15.86	502.01	
	09/05/91	16.82	501.05	
	10/03/91	16.97	500.90	
	11/12/91			NA
	12/04/91	16.28	501.59	
	01/08/92	16.01	501.86	
	04/02/92	12.75	505.12	
	07/13/92	11.75	506.12	
	10/08/92	14.61	503.26	
	01/08/93	14.13	503.74	
	04/05/93	8.05	509.82	
	07/14/93	9.21	508.66	
	10/12/93	12.23	505.64	
	01/07/94	12.49	505.38	
	04/07/94	13.21	504.66	
	07/05/94	13.53	504.34	
	10/10/94	14.85	503.02	
W-7D				
	06/01/88	18.97	488.15	
	07/06/88	19.79	487.33	
	08/03/88	21.56	485.56	
	09/02/88	21.60	485.52	
	10/10/88	20.68	486.44	
	11/03/88	20.87	486.25	
	11/29/88	20.08	487.04	
	01/10/89	19.61	487.51	
	02/07/89	20.71	486.41	

Location	Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-7D (continued)				
	02/21/89	19.60	487.52	
	04/04/89	20.28	486.84	
	05/08/89	20.96	486.16	
	06/07/89	22.78	484.34	
	07/06/89	23.87	483.25	
	08/08/89	22.82	484.30	
	09/06/89	21.49	485.63	
	10/06/89	21.88	485.24	
	11/08/89	20.91	486.21	
	12/05/89	19.75	487.37	
	01/10/90	19.33	487.79	
	01/22/90	19.00	488.10	
	03/06/90	18.66	488.46	
	04/03/90	19.06	488.06	
	05/02/90	19.37	487.75	
	06/07/90	18.95	488.17	
	07/03/90	20.11	487.01	
	08/06/90	19.60	487.52	
	09/11/90	20.47	486.65	
	10/11/90	20.44	486.68	
	11/15/90	19.88	487.24	
	12/04/90	19.80	487.32	
	01/28/91	20.27	486.85	
	02/07/91	19.58	487.54	
	03/12/91	18.99	488.13	
	04/02/91	17.89	489.23	
	05/02/91	18.72	488.40	
	06/19/91	20.43	486.69	
	07/02/91	19.51	487.61	
	08/01/91	20.79	486.33	
	09/05/91	18.96	488.16	
	10/03/91	19.53	487.59	
	10/30/91	18.35	488.77	
	12/04/91	18.25	488.87	
	01/08/92	18.06	489.06	
	02/04/92	18.02	489.10	
	03/04/92	16.25	490.87	
	04/02/92	14.65	492.47	
	05/05/92	14.17	492.95	
	06/02/92	13.85	493.27	
	07/13/92	14.35	492.77	
	08/06/92	14.83	492.29	
	09/02/92	16.74	490.38	
	10/08/92	16.15	490.97	
	11/04/92	17.60	489.52	
	12/03/92	16.68	490.44	
	01/08/93	16.38	490.74	
	02/02/93	12.98	494.14	
	03/02/93	11.32	495.80	
	04/05/93	11.55	495.57	
	05/10/93	11.40	495.72	
	06/08/93	11.73	495.39	
	07/14/93	12.61	494.51	
	08/10/93	13.38	493.74	
	09/14/93	14.36	492.76	
	10/12/93	14.92	492.20	
	11/03/93	15.41	491.71	
	12/01/93	15.80	491.32	
	01/07/94	16.41	490.71	
	02/07/94	15.93	491.19	
	04/07/94	16.39	490.73	
	07/05/94	17.67	489.45	
	10/10/94	17.80	489.32	
W-7DS				
	06/01/88	17.06	489.54	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

Location	Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-7DS (continued)				
	07/06/88	17.48	489.12	
	08/03/88	17.80	488.80	
	09/02/88	18.12	488.48	
	10/10/88	18.32	488.28	
	11/03/88	18.55	488.05	
	11/29/88	18.60	488.00	
	01/10/89	18.49	488.11	
	02/07/89	18.58	488.02	
	02/21/89	18.58	488.02	
	04/04/89	18.87	487.73	
	05/08/89	19.29	487.31	
	06/07/89	19.78	486.82	
	07/06/89	19.98	486.62	
	08/08/89	20.50	486.10	
	09/06/89	20.31	486.29	
	10/06/89	20.49	486.11	
	11/08/89	19.29	487.31	
	12/05/89	18.79	487.81	
	01/10/90	18.75	487.85	
	01/22/90	18.60	488.00	
	03/06/90	18.18	488.42	
	04/03/90	18.72	487.88	
	05/02/90	18.89	487.71	
	06/07/90	18.89	487.71	
	07/03/90	19.08	487.52	
	08/06/90	19.45	487.15	
	09/11/90	19.64	486.96	
	10/11/90	19.84	486.76	
	11/15/90	19.72	486.88	
	12/04/90	19.84	486.76	
	01/28/91	19.96	486.64	
	02/07/91	19.60	487.00	
	03/12/91	18.28	488.32	
	04/02/91	16.26	490.34	
	05/02/91	17.76	488.84	
	06/19/91	18.70	487.90	
	07/02/91	18.80	487.80	
	08/01/91	18.76	487.84	
	09/05/91	17.94	488.66	
	10/03/91	17.45	489.15	
	10/30/91	17.37	489.23	
	12/04/91	17.67	488.93	
	01/08/92	17.53	489.07	
	02/04/92	17.80	488.80	
	03/04/92	13.89	492.71	
	04/02/92	12.02	494.58	
	05/05/92	11.25	495.35	
	06/02/92	11.29	495.31	
	07/13/92	12.57	494.03	
	08/06/92	13.30	493.30	
	09/02/92	14.35	492.25	
	10/08/92	15.32	491.28	
	11/04/92	16.14	490.46	
	12/03/92	16.67	489.93	
	01/08/93	15.87	490.73	
	02/02/93	10.01	496.59	
	03/02/93	8.22	498.38	
	04/05/93	8.60	498.00	
	05/10/93	9.15	497.45	
	06/08/93	9.44	497.16	
	07/14/93	10.42	496.18	
	08/10/93	11.85	494.75	
	09/14/93	13.47	493.13	
	10/12/93	14.28	492.32	
	11/03/93	14.93	491.67	
	12/01/93	15.57	491.03	
	01/07/94	15.90	490.70	
W-7DS (continued)				
	02/07/94	16.23	490.37	
	04/07/94	16.51	490.09	
	07/05/94	16.83	489.77	
	10/10/94	17.68	488.92	
W-7E				
	06/01/88	19.41	490.59	
	07/06/88	19.73	490.27	
	08/03/88	20.27	489.73	
	09/02/88	20.72	489.28	
	10/10/88	20.85	489.15	
	11/03/88	21.04	488.96	
	11/29/88	21.04	488.96	
	01/10/89	20.85	489.15	
	02/07/89	20.92	489.08	
	02/21/89	20.97	489.03	
	04/04/89	21.26	488.74	
	05/08/89	21.86	488.14	
	06/07/89	22.45	487.55	
	07/06/89	22.66	487.34	
	08/08/89	23.20	486.80	
	09/06/89	22.87	487.13	
	10/06/89	23.01	486.99	
	11/08/89	21.65	488.35	
	12/05/89	21.16	488.84	
	01/10/90	21.33	488.67	
	01/22/90	20.90	489.10	
	03/06/90	20.31	489.69	
	04/03/90	20.83	489.17	
	05/02/90	20.89	489.11	
	06/07/90	21.00	489.00	
	07/03/90	21.15	488.85	
	08/06/90	21.67	488.33	
	09/11/90	21.85	488.15	
	10/11/90	22.10	487.90	
	11/15/90	21.85	488.15	
	12/04/90	21.93	488.07	
	01/28/91	21.99	488.01	
	02/06/91	21.73	488.27	
	03/12/91	20.39	489.61	
	04/03/91			NA
	05/02/91	19.29	490.71	
	06/19/91	20.32	489.68	
	07/02/91	20.31	489.69	
	08/01/91	20.21	489.79	
	09/05/91	19.52	490.48	
	10/03/91	19.02	490.98	
	10/30/91	18.92	491.08	
	12/04/91	19.06	490.94	
	01/08/92	18.86	491.14	
	04/02/92	13.45	496.55	
	07/13/92	13.91	496.09	
	10/08/92	16.90	493.10	
	01/08/93	17.28	492.72	
	04/05/93	9.84	500.16	
	07/14/93	11.83	498.17	
	10/12/93	15.72	494.28	
	01/07/94	17.28	492.72	
	04/07/94	18.83	491.17	
	07/12/94	18.46	491.54	
	10/10/94	19.02	490.98	
W-7ES				
	06/01/88	18.45	491.26	
	07/06/88	18.86	490.85	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

Location	Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-7ES (continued)				
	08/03/88	19.23	490.48	
	09/02/88	19.60	490.11	
	10/10/88	19.88	489.83	
	11/03/88	20.14	489.57	
	11/29/88	20.22	489.49	
	01/10/89	20.10	489.61	
	02/07/89	20.17	489.54	
	02/21/89	20.17	489.54	
	04/04/89	20.44	489.27	
	05/08/89	20.98	488.73	
	06/07/89	21.38	488.33	
	07/06/89	21.62	488.09	
	08/08/89	22.18	487.53	
	09/06/89	22.03	487.68	
	10/06/89	22.18	487.53	
	11/08/89	21.11	488.60	
	12/05/89	20.62	489.09	
	01/10/90	20.45	489.26	
	01/22/90	20.30	489.40	
	03/06/90	19.81	489.90	
	04/03/90	20.37	489.34	
	05/02/90	20.52	489.19	
	06/07/90	20.50	489.21	
	07/03/90	20.79	488.92	
	08/06/90	21.18	488.53	
	09/11/90	21.39	488.32	
	10/11/90	21.60	488.11	
	11/15/90	21.53	488.18	
	12/04/90	21.67	488.04	
	01/28/91	21.78	487.93	
	02/08/91	21.37	487.98	
	03/12/91	19.98	489.73	
	04/02/91	17.91	491.80	
	05/02/91	19.28	490.43	
	06/19/91	20.27	489.44	
	07/02/91	20.28	489.43	
	08/01/91	20.15	489.56	
	09/05/91	19.40	490.31	
	10/03/91	18.83	490.88	
	10/30/91	18.66	491.05	
	12/04/91	18.90	490.81	
	01/08/92	18.68	491.03	
	02/04/92	19.21	490.50	
	03/04/92	15.05	494.66	
	04/02/92	12.85	496.86	
	05/05/92	12.05	497.66	
	06/02/92	12.12	497.59	
	07/13/92	13.48	496.23	
	08/06/92	14.38	495.33	
	09/02/92	15.43	494.28	
	10/08/92	16.62	493.09	
	11/04/92	17.35	492.36	
	12/03/92	17.94	491.77	
	01/08/93	17.10	492.61	
	02/02/93	10.45	499.26	
	03/02/93	8.62	501.09	
	04/05/93	8.96	500.75	
	05/10/93	9.55	500.16	
	06/08/93	9.99	499.72	
	07/14/93	11.19	498.52	
	08/10/93	12.71	497.00	
	09/14/93	14.45	495.26	
	10/12/93	15.41	494.30	
	11/03/93	16.41	493.30	
	12/01/93	16.90	492.81	
	01/07/94	17.26	492.45	
	02/07/94	17.57	492.14	

Location	Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-7ES (continued)				
	04/07/94	18.81	490.90	
	07/12/94	18.43	491.28	
	10/10/94	19.03	490.68	
W-7F				
	06/01/88	28.62	498.46	
	07/06/88	30.13	496.95	
	08/01/88	28.25	498.83	
	09/06/88	28.59	498.49	
	10/06/88	28.57	498.51	
	11/01/88	28.59	498.49	
	11/29/88	29.19	497.89	
	01/10/89	28.85	498.23	
	02/07/89	28.36	498.72	
	02/21/89	28.25	498.83	
	04/04/89	27.37	499.71	
	05/08/89	27.53	499.55	
	06/07/89	28.25	498.83	
	07/06/89	28.66	498.42	
	08/08/89	29.13	497.95	
	09/06/89	28.81	498.27	
	10/06/89	28.73	498.35	
	11/08/89	29.42	497.66	
	12/05/89	26.39	500.69	
	01/10/90	27.19	499.89	
	01/22/90	27.50	499.60	
	03/06/90	27.43	499.65	
	04/03/90	27.71	499.37	
	05/02/90	27.88	499.20	
	06/06/90	27.74	499.34	
	07/03/90	28.11	498.97	
	08/06/90	28.35	498.73	
	09/13/90	28.72	498.36	
	10/11/90	28.82	498.26	
	11/15/90	28.90	498.18	
	12/10/90	28.99	498.09	
	01/25/91	28.86	498.22	
	02/08/91	28.61	498.47	
	03/07/91	27.96	499.12	
	04/03/91	26.51	500.57	
	05/06/91	26.41	500.67	
	06/19/91	27.02	500.06	
	07/17/91	27.42	499.66	
	08/01/91	27.52	499.56	
	09/06/91	27.64	499.44	
	10/03/91	27.75	499.33	
	11/12/91	27.87	499.21	
	12/09/91	27.87	499.21	
	01/08/92	27.38	499.70	
	04/02/92	25.15	501.93	
	07/13/92	25.29	501.79	
	10/08/92	27.44	499.64	
	01/07/93	26.90	500.18	
	04/06/93	20.84	506.24	
	07/13/93	23.37	503.71	
	10/12/93	23.12	501.94	VE
	11/02/93	26.50	500.58	VE
	12/01/93	27.60	499.48	VE
	01/07/94	26.55	500.53	VE
	02/07/94	28.81	498.27	VE
	04/07/94	42.55	484.53	VE
	07/05/94	48.01	479.07	VE
	10/11/94	42.41	484.67	VE

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

Location	Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-7G	06/07/89			PT
	07/07/89	31.05	481.84	
	08/08/89	29.38	483.51	
	09/06/89	27.09	485.80	
	10/06/89	26.16	486.73	
	11/08/89	24.22	488.67	
	12/05/89	23.97	488.92	
	01/10/90	22.43	490.46	
	01/22/90	22.00	490.90	
	03/06/90	22.27	490.62	
	04/03/90	21.04	491.85	
	05/02/90	20.75	492.14	
	06/07/90	20.79	492.10	
	07/03/90	21.15	491.74	
	08/06/90	21.63	491.26	
	09/12/90	22.05	490.84	
	10/11/90	22.63	490.26	
	11/15/90	22.23	490.66	
	12/04/90	22.11	490.78	
	01/25/91	21.84	491.05	
	02/11/91	21.70	491.19	
	03/07/91	21.25	491.64	
	04/03/91	19.96	492.93	
	05/06/91	20.35	492.54	
	06/19/91	20.79	492.10	
	07/17/91	21.11	491.78	
	08/01/91	21.28	491.61	
	09/06/91	20.94	491.95	
	10/03/91	20.70	492.19	
	11/12/91	21.47	491.42	
	12/09/91	20.25	492.64	
	01/08/92	19.93	492.96	
	04/02/92	16.44	496.45	
	07/13/92	16.15	496.74	
	10/08/92	18.82	494.07	
	01/07/93	18.37	494.52	
	04/06/93	12.86	500.03	
	07/13/93	13.64	499.25	
	10/12/93	16.45	496.44	
	01/07/94	17.05	495.84	
	04/07/94	17.37	495.52	
	07/05/94	17.99	494.90	
	10/11/94	19.62	493.27	
W-7H	10/06/89	6.20	505.20	
	11/08/89	5.90	505.50	
	12/05/89	4.80	506.60	
	01/10/90	4.00	507.44	
	01/22/90	4.50	506.90	
	03/08/90	4.65	506.79	
	04/03/90	5.27	506.17	
	05/02/90	5.34	506.10	
	06/07/90	5.72	505.72	
	07/03/90	6.74	504.70	
	08/06/90	6.56	504.88	
	09/13/90	6.49	504.95	
	10/11/90	6.60	504.84	
	11/15/90	6.14	505.30	
	12/12/90	6.26	505.18	
	01/29/91	6.50	504.94	
	02/11/91	6.47	504.97	
	03/13/91	5.69	505.75	
	04/04/91	5.32	506.12	
	05/06/91	5.44	506.00	
	06/20/91	5.57	505.87	
W-7H (continued)	07/03/91	5.53	505.91	
	08/01/91	5.53	505.91	
	09/06/91			NA
	10/03/91	4.89	506.55	
	11/12/91	4.77	506.67	
	12/09/91	4.87	506.57	
	01/08/92	5.01	506.43	
	02/05/92	4.88	506.56	
	03/02/92	3.11	508.33	
	04/02/92	3.26	508.18	
	05/05/92	3.13	508.31	
	06/02/92	3.72	507.72	
	07/13/92	3.15	508.29	
	08/06/92	3.78	507.66	
	09/02/92	4.47	506.97	
	10/08/92	4.88	506.56	
	11/04/92	5.00	506.44	
	12/03/92	5.00	506.44	
	01/07/93	4.27	507.17	
	02/02/93	2.15	509.29	
	03/02/93	1.59	509.85	
	04/06/93	1.30	510.14	
	05/10/93	1.90	509.54	
	06/08/93	2.62	508.82	
	07/13/93	3.72	507.72	
	08/10/93	4.23	507.21	
	09/14/93	5.20	506.24	
	10/12/93	5.43	506.01	
	11/03/93	5.93	505.51	
	12/06/93	5.84	505.60	
	01/07/94	4.64	506.80	
	02/07/94			NA
	04/07/94			NA
	06/03/94	4.79	506.65	
	07/05/94	5.41	506.03	
	10/11/94	5.85	505.59	
W-7I	10/06/89	25.95	498.34	
	11/08/89	26.62	497.67	
	12/05/89	23.55	500.74	
	01/10/90	24.44	499.85	
	01/22/90	24.70	499.60	
	03/06/90	24.51	499.78	
	04/03/90	24.90	499.39	
	05/02/90	25.10	499.19	
	06/07/90	25.06	499.23	
	07/05/90	25.35	498.94	
	08/07/90	25.54	498.75	
	09/12/90	25.92	498.37	
	10/11/90	26.03	498.26	
	11/15/90	26.12	498.17	
	12/07/90	26.23	498.06	
	01/25/91	26.17	498.12	
	02/11/91	25.74	498.55	
	03/08/91	25.02	499.27	
	04/04/91	23.69	500.60	
	05/06/91	23.62	500.67	
	06/20/91	24.21	500.08	
	07/03/91	24.33	499.96	
	08/01/91	24.72	504.30	
	09/06/91	24.85	504.17	
	10/03/91	24.95	504.07	
	11/12/91			NA
	12/09/91	29.81	499.21	
	01/08/92	29.35	499.67	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location	Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
General Services Area (GSA) (continued)				
W-7I (continued)				
	04/02/92	27.15	501.87	
	07/08/92	27.19	501.83	
	10/08/92			NA
	01/07/93			NA
	04/06/93	22.96	506.22	
	07/14/93	25.50	503.68	
	08/26/93	26.41	502.77	
	10/12/93	27.25	501.93	VE
	11/03/93	28.11	501.07	VE
	12/06/93	28.65	500.53	VE
	01/07/94	28.67	500.51	VE
	02/07/94	30.97	498.21	VE
	04/07/94	46.44	482.74	VE
	07/05/94	44.78	484.40	VE
	10/11/94			VE DRY
W-7J				
	10/06/89	28.93	499.23	
	11/08/89	30.00	498.20	
	12/05/89	26.90	501.30	
	01/10/90	27.79	500.37	
	01/22/90	28.00	500.20	
	03/06/90	27.90	500.26	
	04/03/90	28.52	499.64	
	05/02/90	28.79	499.37	
	06/07/90	28.75	499.41	
	07/05/90	28.91	499.25	
	08/07/90	29.08	499.08	
	09/12/90	29.56	498.60	
	10/11/90	29.56	498.60	
	11/15/90	29.86	498.30	
	12/07/90	29.94	498.22	
	01/25/91	29.83	498.33	
	02/11/91	29.50	498.66	
	03/08/91	28.76	499.40	
	04/04/91	27.42	500.74	
	05/02/91	27.34	500.82	
	06/20/91	27.90	500.26	
	07/03/91	28.08	500.08	
	08/01/91	28.41	499.75	
	09/06/91	28.54	499.62	
	10/03/91	28.65	499.51	
	11/12/91	29.95	498.21	
	12/09/91	28.75	499.41	
	01/08/92	28.29	499.87	
	04/02/92	26.15	502.01	
	07/13/92	26.18	501.98	
	10/05/92	28.33	499.83	
	01/07/93	27.64	500.52	
	04/06/93	24.83	503.33	
	07/14/93	24.35	503.81	
	08/26/93	25.20	502.96	
	10/12/93	25.92	502.24	VE
	11/02/93	27.25	500.91	VE
	12/01/93	27.52	500.64	VE
	01/07/94	27.31	500.85	VE
	02/07/94	29.88	498.28	VE
	04/07/94	44.25	483.91	VE
	07/05/94	43.86	484.30	VE
	10/11/94	44.54	483.62	VE
W-7K				
	03/06/90			NA
	04/03/90	19.06	491.87	
	05/02/90			NA
W-7K (continued)				
	06/06/90	18.89	492.04	
	07/05/90	18.79	492.14	
	08/06/90	19.36	491.57	
	09/11/90	19.68	491.25	
	10/11/90	20.37	490.56	
	11/15/90	19.96	490.97	
	12/04/90	19.86	491.07	
	01/28/91	19.55	491.38	
	02/11/91	19.56	491.37	
	03/12/91	18.72	492.21	
	04/02/91	17.69	493.24	
	05/02/91			NA
	06/20/91	18.65	492.28	
	07/02/91	18.56	492.37	
	08/01/91	18.99	491.94	
	09/05/91	18.54	492.39	
	10/03/91	18.38	492.55	
	11/12/91	18.57	492.36	
	12/04/91	18.00	492.93	
	01/08/92	17.79	493.14	
	04/02/92	14.15	496.78	
	07/13/92	13.84	497.09	
	10/08/92	16.61	494.32	
	01/07/93	16.06	494.87	
	04/05/93	10.53	500.40	
	07/14/93	11.41	499.52	
	10/12/93	14.15	496.78	
	01/07/94	14.76	496.17	
	04/07/94	15.11	495.82	
	07/05/94	15.76	495.17	
	10/10/94	17.30	493.63	
W-7L				
	12/04/90	21.67	491.09	
	01/28/91	21.36	491.40	
	02/07/91	22.78	489.98	
	03/12/91	20.63	492.13	
	04/02/91	19.53	493.23	
	05/02/91	19.86	492.90	
	06/19/91	20.45	492.31	
	07/02/91	20.38	492.38	
	08/01/91	20.85	491.91	
	09/05/91	20.40	492.36	
	10/03/91	20.24	492.52	
	10/29/91	20.27	492.49	
	12/04/91	19.86	492.90	
	01/08/92	19.64	493.12	
	04/02/92	16.00	496.76	
	07/13/92	15.68	497.08	
	10/08/92	18.43	494.33	
	01/08/93	17.92	494.84	
	04/05/93	12.33	500.43	
	07/14/93	13.26	499.50	
	10/12/93	16.00	496.76	
	01/07/94	16.64	496.12	
	04/07/94	16.97	495.79	
	07/05/94	17.60	495.16	
	10/10/94	19.18	493.58	
W-7M				
	12/04/90	18.85	488.90	
	01/28/91	18.72	489.03	
	02/07/91	18.41	489.34	
	03/12/91	17.43	490.32	
	04/02/91	15.75	492.00	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
General Services Area (GSA) (continued)			
W-7M (continued)			
05/02/91	16.83	490.92	
06/19/91	17.22	490.53	
07/03/91	17.66	490.09	
08/01/91	17.83	489.92	
09/05/91	17.03	490.72	
10/03/91	16.75	491.00	
10/29/91	18.80	488.95	
12/04/91	16.58	491.17	
01/08/92	16.32	491.43	
04/02/92	11.70	496.05	
07/13/92	12.03	495.72	
10/08/92	14.60	493.15	
01/08/93	14.79	492.96	
04/05/93	8.07	499.68	
07/14/93	9.85	497.90	
10/12/93	13.17	494.58	
01/07/94	14.49	493.26	
04/07/94	14.93	492.82	
07/05/94	15.53	492.22	
10/10/94	16.25	491.50	
W-7N			
12/04/90	20.19	487.99	
01/28/91	20.26	487.92	
02/07/91	20.04	488.14	
03/12/91	18.64	489.54	
04/02/91	16.71	491.47	
05/02/91	18.02	490.16	
06/19/91	19.05	489.13	
07/03/91	18.97	489.21	
08/01/91	18.93	489.25	
09/05/91	18.22	489.96	
10/03/91	17.72	490.46	
10/29/91	17.78	490.40	
12/04/91	17.77	490.41	
01/08/92	17.69	490.49	
04/02/92	12.15	496.03	
07/13/92	12.70	495.48	
10/08/92	15.61	492.57	
01/08/93	16.00	492.18	
04/05/93	8.54	499.64	
07/14/93	10.54	497.64	
10/12/93	14.40	493.78	
01/07/94	16.00	492.18	
04/07/94	16.54	491.64	
07/05/94	17.11	491.07	
10/10/94	17.74	490.44	
W-7O			
04/02/92	18.55	497.54	
07/13/92	19.19	496.90	
10/08/92	22.46	493.63	
01/08/93	23.25	492.84	
04/05/93	14.32	501.77	
07/13/93	16.70	499.39	
08/26/93	19.31	496.78	
10/12/93	21.22	494.87	VE
11/01/93	21.97	494.12	VE
12/01/93	23.73	492.36	VE
01/07/94	23.12	492.97	VE
02/07/94	23.48	492.61	VE
04/07/94	23.78	492.31	VE
07/05/94	24.02	492.07	VE
10/11/94	24.90	491.19	VE
W-7P			
07/05/94	19.11	490.53	
10/10/94	19.80	489.84	
W-7PS			
07/05/94	18.06	496.87	
10/10/94	18.65	496.28	
W-843-01			
03/06/90			NA
04/03/90	127.46	496.30	
05/03/90	127.65	496.11	
06/07/90	127.02	496.74	
07/05/90	127.33	496.43	
08/07/90	127.76	496.00	
09/11/90	127.99	495.77	
10/12/90	128.25	495.51	
11/16/90	128.06	495.70	
12/10/90	127.46	496.30	
01/28/91	127.05	496.71	
02/07/91	126.87	496.89	
03/07/91	126.79	496.97	
04/02/91	126.07	497.69	
05/03/91	125.66	498.10	
06/19/91	125.88	497.88	
07/03/91	125.83	497.93	
08/01/91	126.68	497.08	
09/06/91	126.71	497.05	
10/02/91	126.76	497.00	
11/12/91	126.36	497.40	
12/09/91	125.86	497.90	
01/08/92	125.38	498.38	
04/02/92	123.47	500.29	
07/09/92	123.15	500.61	
10/05/92	126.39	497.37	
01/07/93	123.52	500.24	
04/06/93	120.09	503.67	
07/14/93	120.00	503.76	
10/12/93	121.45	502.31	
01/07/94	120.67	503.09	
04/08/94	120.66	503.10	
07/05/94	120.66	611.10	
10/11/94	124.96	498.80	
W-843-02			
03/06/90			NA
04/03/90	109.14	513.45	
05/02/90	109.84	512.75	
06/07/90	109.37	513.22	
07/05/90	109.38	513.21	
08/07/90	109.62	512.97	
09/11/90	109.89	512.70	
10/12/90	110.38	512.21	
11/16/90	111.05	511.54	
12/10/90	110.57	512.02	
01/28/91	110.10	512.49	
02/07/91	110.05	512.54	
03/07/91	109.96	512.63	
04/02/91	109.36	513.23	
05/03/91	108.91	513.68	
06/19/91	109.11	513.48	
07/03/91	109.10	513.49	
08/01/91	109.47	513.12	
09/06/91	109.61	512.98	
10/02/91	109.61	512.98	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
General Services Area (GSA) (continued)			
W-843-02 (continued)			
11/12/91	109.55	513.04	
12/09/91	109.26	513.33	
01/08/92	108.89	513.70	
04/02/92	107.38	515.21	
07/09/92	107.12	515.47	
10/05/92	107.94	514.65	
01/07/93	107.88	514.71	
04/06/93	104.36	518.23	
07/14/93	103.24	519.35	
10/12/93	104.65	517.94	
01/07/94	105.25	517.34	
04/08/94	105.62	516.97	
07/05/94	105.60	516.99	
10/11/94	107.34	515.25	
W-872-01			
01/10/90	29.77	500.87	
01/22/90	29.80	500.80	
03/09/90	29.70	500.94	
04/03/90	29.84	500.80	
05/02/90	30.44	500.20	
06/07/90	30.22	500.42	
07/05/90	30.03	500.61	
08/07/90	30.30	500.34	
09/13/90	30.69	499.95	
10/11/90	30.65	499.99	
11/16/90	31.44	499.20	
12/12/90	30.96	499.68	
01/25/91	30.85	499.79	
02/11/91	31.12	499.52	
03/07/91	33.80	496.84	
04/04/91	28.56	502.08	
05/03/91	28.38	502.26	
06/20/91	29.11	501.53	
07/17/91	29.26	501.38	
08/01/91	29.37	501.27	
09/06/91	29.99	500.65	
10/03/91	29.79	500.85	
11/12/91	30.54	500.10	
12/09/91	30.06	500.58	
01/08/92	29.67	500.97	
02/04/92	29.94	500.70	
03/02/92	28.00	502.64	
04/01/92	28.11	502.53	
05/05/92	27.87	502.77	
06/02/92	27.38	503.26	
07/09/92	27.95	502.69	
08/06/92	28.33	502.31	
09/02/92	28.49	502.15	
10/05/92	29.74	500.90	
11/04/92	29.80	500.84	
12/03/92	29.83	500.81	
01/07/93	29.00	501.64	
02/02/93	26.24	504.40	
03/02/93	24.16	506.48	
04/06/93	23.32	507.32	
05/10/93	24.51	506.13	
06/08/93	27.16	503.48	
07/14/93	25.82	504.82	
08/10/93	28.44	502.20	
09/14/93	26.58	504.06	
10/12/93	27.09	503.55	
11/03/93	28.06	502.58	
12/02/93	28.16	502.48	
01/07/94	28.17	502.47	
02/07/94	29.81	500.83	
W-872-01 (continued)			
04/08/94	31.45	499.19	
07/05/94	31.13	499.51	
10/10/94	33.38	497.26	
W-872-02			
09/12/90	32.40	499.37	
10/11/90	34.23	497.54	
11/16/90	34.44	497.33	
12/10/90	34.65	497.12	
01/25/91	34.64	497.13	
02/11/91	34.68	497.09	
04/03/91	31.93	499.84	
05/03/91	31.81	499.96	
06/20/91	32.37	499.40	
07/17/91	32.81	498.96	
08/01/91	33.07	498.70	
09/06/91	33.51	498.26	
10/03/91	33.77	498.00	
11/12/91	33.87	497.90	
12/09/91	34.03	497.74	
01/08/92	33.55	498.22	
04/01/92	30.08	501.69	
07/08/92	30.05	501.72	
10/05/92	31.75	500.02	
01/07/93	31.38	500.39	
04/06/93	25.30	506.47	
07/14/93	27.01	504.76	
10/12/93	28.99	502.78	
11/03/93	28.63	503.14	
12/02/93	30.34	501.43	
01/07/94	30.23	501.54	
02/07/94	30.84	500.93	
04/08/94	31.52	500.25	
07/05/94	31.49	500.28	
10/10/94	34.34	497.43	
W-873-01			
06/06/88	51.24	482.69	
07/06/88	54.39	479.54	
08/02/88	60.42	473.51	
09/06/88	58.16	475.77	
10/06/88	56.37	477.56	
11/01/88	53.53	480.40	
11/29/88	48.41	485.52	
01/10/89	45.39	488.54	
02/07/89	45.80	488.13	
02/21/89	45.18	488.75	
04/04/89	44.12	489.81	
05/08/89	51.72	482.21	
06/07/89	52.58	481.35	
07/07/89	56.12	477.81	
08/08/89	53.29	480.64	
09/06/89	47.74	486.19	
10/06/89	45.16	488.77	
11/08/89	42.63	491.30	
12/05/89	42.82	491.11	
01/10/90	38.85	495.08	
01/22/90	38.10	495.80	
03/06/90	36.55	497.38	
04/03/90	35.77	498.16	
05/02/90	35.76	498.17	
06/07/90	35.45	498.48	
07/05/90	32.10	501.03	
08/07/90	37.14	496.79	
09/12/90	37.44	496.49	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

W-873-01 (continued)

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
10/12/90	37.45	496.48	
11/16/90	37.02	496.91	
12/10/90	36.03	497.90	
01/28/91	35.27	498.66	
02/11/91	34.99	498.94	
03/07/91	34.91	499.02	
04/03/91	34.13	499.80	
05/03/91	33.97	499.96	
06/20/91	34.57	499.36	
07/17/91	35.80	498.13	
08/01/91	36.41	497.52	
09/06/91	36.11	497.82	
10/03/91	36.24	497.69	
11/12/91	35.27	498.66	
12/09/91	34.31	499.62	
01/08/92	33.13	500.80	
04/01/92	31.39	502.54	
07/08/92	32.71	501.22	
10/05/92	37.55	496.38	
01/07/93	31.85	502.08	
04/06/93	27.95	505.98	
07/14/93	29.53	504.40	
10/12/93	30.56	503.37	
01/07/94	28.27	505.66	
04/08/94	28.77	505.16	
07/05/94	30.54	503.39	
10/10/94	34.73	499.20	

W-873-02

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
07/06/88	31.54	501.59	
08/04/88	31.96	501.17	
09/06/88	32.35	500.78	
10/06/88	32.68	500.45	
11/01/88	32.95	500.18	
11/29/88	33.26	499.87	
01/10/89	32.83	500.30	
02/06/89	32.65	500.48	
02/21/89	32.21	500.92	
04/04/89	31.26	501.87	
05/08/89	31.40	501.73	
06/07/89	31.74	501.39	
07/07/89	32.17	500.96	
08/08/89	32.55	500.58	
09/06/89	32.67	500.46	
10/06/89	32.69	500.44	
11/08/89	32.22	500.91	
12/08/89	32.36	500.77	
01/10/90	32.57	500.56	
01/22/90	32.30	500.80	
03/06/90	31.57	501.56	
04/03/90	31.55	501.58	
05/02/90	31.88	501.25	
06/07/90	31.90	501.23	
07/05/90	32.10	501.03	
08/07/90	32.71	500.42	
09/12/90	33.26	499.87	
10/11/90	33.53	499.60	
11/16/90	33.84	499.29	
12/10/90	34.05	499.08	
01/25/91	33.90	499.23	
02/11/91	33.86	499.27	
03/07/91	33.28	499.85	
04/03/91	31.53	501.60	
05/03/91	31.34	501.79	
06/20/91	31.64	501.49	
07/17/91	32.15	500.98	

W-873-02 (continued)

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
08/01/91	32.38	500.75	
09/06/91	32.83	500.30	
10/03/91	33.04	500.09	
11/12/91	33.24	499.89	
12/09/91	33.26	499.87	
01/08/92	32.93	500.20	
02/04/92	32.72	500.41	
03/02/92	30.86	502.27	
04/01/92	29.20	503.93	
05/05/92	28.48	504.65	
06/02/92	28.22	504.91	
07/08/92	28.54	504.59	
08/06/92	28.37	504.76	
09/02/92	28.78	504.35	
10/05/92	30.23	502.90	
11/04/92	30.90	502.23	
12/03/92	31.44	501.69	
01/07/93	30.41	502.72	
02/02/93	27.45	505.68	
03/02/93	24.61	508.52	
04/06/93	23.20	509.93	
05/10/93	23.15	509.98	
06/08/93	23.71	509.42	
07/14/93	24.67	508.46	
10/12/93	27.46	505.67	
01/07/94	29.14	503.99	
04/08/94	29.54	503.59	
07/05/94	30.38	502.75	
10/10/94	32.28	500.85	

W-873-03

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
07/06/88	28.52	505.27	
08/01/88	29.08	504.71	
09/06/88	29.74	504.05	
10/06/88	29.97	503.82	
11/01/88	29.48	504.31	
11/29/88	30.13	503.66	
01/10/89	29.45	504.34	
02/07/89	28.69	505.10	
02/21/89	28.51	505.28	
04/04/89	28.14	505.65	
05/08/89	28.05	505.74	
06/07/89	28.41	505.38	
07/07/89	28.59	505.20	
08/08/89	28.41	505.38	
09/06/89	28.48	505.31	
10/06/89	24.64	509.15	
11/08/89	28.43	505.36	
12/08/89	29.03	504.76	
01/10/90	29.21	504.58	
01/22/90	29.10	504.60	
03/06/90	28.40	505.39	
04/03/90	29.08	504.71	
05/02/90	28.89	504.90	
06/07/90	28.86	504.93	
07/05/90	29.37	504.42	
08/07/90	29.72	504.07	
09/12/90	29.89	503.90	
10/12/90	30.25	503.54	
11/16/90	30.05	503.74	
12/10/90	30.30	503.49	
01/28/91	29.74	504.05	
02/11/91	29.52	504.27	
03/07/91	28.99	504.80	
04/03/91	28.47	505.32	
05/03/91	28.61	505.18	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
General Services Area (GSA) (continued)			
W-873-03 (continued)			
06/20/91	29.01	504.78	
07/17/91	29.46	504.33	
08/01/91	29.63	504.16	
09/06/91	29.82	503.97	
10/03/91	30.18	503.61	
11/12/91	29.95	503.84	
12/09/91	30.29	503.50	
01/08/92	29.96	503.83	
04/01/92	27.76	506.03	
07/08/92	27.81	505.98	
10/05/92	29.35	504.44	
01/07/93	28.95	504.84	
04/06/93	21.32	512.47	
07/14/93	23.95	509.84	
10/12/93	27.23	506.56	
01/07/94	28.40	505.39	
04/08/94	28.51	505.28	
07/05/94	29.21	504.58	
10/10/94	30.17	503.62	
W-873-04			
10/12/90	19.53	511.88	
11/16/90	19.47	511.94	
12/12/90	19.45	511.96	
01/28/91	19.16	512.25	
02/11/91	19.54	511.87	
03/07/91	19.43	511.98	
04/03/91	19.31	512.10	
05/03/91	19.34	512.07	
06/20/91	19.53	511.88	
07/17/91	19.35	512.06	
08/01/91	19.39	512.02	
09/06/91	19.53	511.88	
10/04/91	19.58	511.83	
11/12/91			NA
12/09/91	19.33	512.08	
01/08/92	19.43	511.98	
04/01/92	19.25	512.16	
07/08/92	19.25	512.16	
10/05/92	19.05	512.36	
01/07/93	18.68	512.73	
04/06/93	18.00	513.41	
07/14/93	17.95	513.46	
10/12/93	18.60	512.81	
01/07/94	18.98	512.43	
04/08/94	18.40	513.01	
07/05/94	18.81	512.60	
10/11/94	19.32	512.09	
W-873-06			
09/12/90	31.49	500.34	
10/11/90	33.28	498.55	
11/16/90	33.69	498.14	
12/10/90	33.80	498.03	
01/28/91	33.61	498.22	
02/11/91	33.58	498.25	
03/07/91	33.19	498.64	
04/03/91	31.45	500.38	
05/03/91	31.10	500.73	
06/20/91	31.47	500.36	
07/17/91	31.84	499.99	
08/01/91	32.16	499.67	
09/06/91	32.60	499.23	
10/03/91	32.83	499.00	
11/12/91	33.13	498.70	
W-873-06 (continued)			
12/09/91	33.08	498.75	
01/08/92	32.78	499.05	
04/01/92	29.18	502.65	
07/08/92	28.54	503.29	
10/05/92	30.22	501.61	
01/07/93	30.56	501.27	
04/06/93	22.92	508.91	
07/14/93	24.55	507.28	
10/12/93	27.48	504.35	
01/07/94	29.21	502.62	
04/08/94	29.54	502.29	
07/05/94	30.03	501.80	
10/10/94	32.19	499.64	
W-873-07			
09/12/90	31.86	499.90	
10/11/90	33.53	498.23	
11/16/90	33.92	497.84	
12/10/90	34.10	497.66	
01/25/91	33.97	497.79	
02/11/91	34.03	497.73	
03/07/91	33.61	498.15	
04/03/91	31.83	499.93	
05/03/91	31.35	500.41	
06/20/91	31.56	500.20	
07/17/91	32.06	499.70	
08/01/91	32.34	499.42	
09/06/91	32.85	498.91	
10/03/91	33.07	498.69	
11/12/91	33.23	498.53	
12/09/91	33.25	498.51	
01/08/92	33.03	498.73	
04/01/92	29.60	502.16	
07/08/92	28.82	502.94	
10/05/92	30.24	501.52	
01/07/93	30.59	501.17	
04/06/93	24.19	507.57	
07/14/93	24.87	506.89	
10/12/93	27.26	504.50	
01/07/94	28.85	502.91	
04/08/94	29.24	502.52	
07/05/94	30.48	501.28	
10/10/94	32.16	499.60	
W-875-01			
07/08/88	21.83	510.57	
08/04/88	21.90	510.50	
09/06/88	22.15	510.25	
10/17/88	22.16	510.24	
11/07/88	22.29	510.11	
11/29/88	22.32	510.08	
01/12/89	20.27	512.13	
02/10/89	21.36	511.04	
02/28/89	21.08	511.32	
04/04/89	21.02	511.38	
05/09/89	21.82	510.58	
06/07/89	21.90	510.50	
07/07/89	21.97	510.43	
08/08/89	22.08	510.32	
09/06/89	22.14	510.26	
10/06/89	22.11	510.29	
11/09/89	21.97	510.43	
12/08/89	21.87	510.53	
01/10/90	21.65	510.75	
01/22/90	21.60	510.80	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
General Services Area (GSA) (continued)			
W-875-01 (continued)			
03/08/90	21.70	510.70	
04/03/90	21.54	510.86	
05/03/90	21.62	510.78	
06/07/90	20.78	511.62	
07/05/90	21.19	511.21	
08/07/90	21.67	510.73	
09/13/90	21.70	510.70	
10/11/90	21.85	510.55	
11/16/90	21.93	510.47	
12/12/90	21.97	510.43	
01/28/91	22.00	510.40	
02/11/91	22.05	510.35	
03/08/91	24.62	507.78	
04/02/91	20.25	512.15	
05/03/91	20.85	511.55	
06/20/91	21.63	510.77	
07/17/91			NA
08/01/91	21.62	510.78	
09/06/91	21.82	510.58	
10/03/91	21.85	510.55	
11/11/91	22.11	510.29	
12/09/91	21.92	510.48	
01/08/92	21.94	510.46	
04/01/92	21.12	511.28	
07/08/92			NA
10/05/92	21.91	510.49	
01/07/93	20.53	511.87	
04/06/93	20.43	511.97	
07/13/93	21.36	511.04	
10/12/93	21.38	511.02	
01/07/94	21.32	511.08	
04/08/94	21.05	511.35	
07/05/94	21.79	510.61	
10/11/94	21.92	510.48	
W-875-02			
01/10/90	31.30	500.00	
01/22/90	22.30	509.10	
03/08/90	22.58	508.78	
04/03/90	21.79	509.57	
05/02/90	31.62	499.74	
06/07/90	22.00	509.36	
07/05/90	21.45	509.91	
08/07/90	21.49	509.87	
09/13/90	21.60	509.76	
10/11/90	21.70	509.66	
11/16/90	24.97	506.39	
12/12/90	22.12	509.24	
01/28/91	21.96	509.40	
02/11/91	22.03	509.33	
03/07/91	23.03	508.33	
04/03/91	21.75	509.61	
05/03/91	21.13	510.23	
06/20/91	21.79	509.57	
07/17/91	21.55	509.81	
08/01/91	21.51	509.85	
09/06/91	22.44	508.92	
10/03/91	21.67	509.69	
11/12/91	24.01	507.35	
12/09/91	22.03	509.33	
01/08/92	21.96	509.40	
02/04/92	21.85	509.51	
03/02/92	21.35	510.01	
04/01/92	21.27	510.09	
05/05/92	21.23	510.13	
06/02/92	21.40	509.96	
W-875-02 (continued)			
07/08/92	22.19	509.17	
08/06/92	21.62	509.74	
09/02/92	21.68	509.68	
10/05/92	21.73	509.63	
11/04/92	21.93	509.43	
12/03/92	21.70	509.66	
01/07/93	21.52	509.84	
02/02/93	20.75	510.61	
03/02/93	20.83	510.53	
04/06/93	21.52	509.84	
05/10/93	20.88	510.48	
06/09/93	21.97	509.39	
07/13/93	21.36	510.00	
08/10/93	22.17	509.19	
09/14/93	21.43	509.93	
10/12/93	21.56	509.80	
11/03/93	21.67	509.69	
12/06/93	23.34	508.02	
01/07/94	21.96	509.40	
02/07/94	23.15	508.21	
04/08/94	21.39	509.97	
07/05/94	21.47	509.89	
10/11/94	21.84	509.52	
W-875-03			
01/10/90	30.20	498.40	
01/22/90	28.50	500.10	
03/08/90	28.48	500.16	
04/03/90	28.66	499.98	
05/02/90	29.13	499.51	
06/07/90	28.96	499.68	
07/05/90	29.00	499.64	
08/07/90	29.19	499.45	
09/13/90	29.51	499.13	
10/11/90	29.61	499.03	
11/16/90	30.07	498.57	
12/12/90	29.85	498.79	
01/25/91	29.79	498.85	
02/11/91	29.88	498.76	
03/07/91	29.24	499.40	
04/03/91	28.47	500.17	
05/03/91	27.34	501.30	
06/20/91	28.01	500.63	
07/17/91	28.21	500.43	
08/01/91	28.32	500.32	
09/06/91	28.62	500.02	
10/03/91	28.57	500.07	
11/06/91	28.50	500.14	
12/09/91	28.82	499.82	
01/08/92	28.35	500.29	
04/01/92	23.58	505.06	
07/08/92	26.61	502.03	
10/05/92	28.72	499.92	
01/07/93	28.33	500.31	
04/06/93	22.22	506.42	
07/14/93	24.73	503.91	
10/12/93	26.52	502.12	
01/07/94	27.84	500.80	
04/08/94	33.95	494.69	
07/05/94	33.56	495.08	
10/11/94	34.08	494.56	
W-875-04			
01/10/90	24.94	507.29	
01/22/90	21.10	511.10	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
General Services Area (GSA) (continued)			
W-875-04 (continued)			
03/08/90	21.00	511.23	
04/03/90	21.00	511.23	
05/02/90	21.17	511.06	
06/07/90	20.92	511.31	
07/05/90	21.00	511.23	
08/07/90	21.14	511.09	
09/13/90	21.25	510.98	
10/11/90	21.31	510.92	
11/16/90	22.13	510.10	
12/12/90	20.88	511.35	
01/27/91	21.38	510.85	
02/11/91	21.33	510.90	
03/13/91	20.83	511.40	
04/03/91	20.33	511.90	
05/03/91	20.63	511.60	
06/20/91	21.02	511.21	
07/17/91	21.08	511.15	
08/01/91	21.12	511.11	
09/06/91	21.16	511.07	
10/03/91	21.27	510.96	
11/12/91	21.39	510.84	
12/09/91	21.40	510.83	
01/08/92	21.50	510.73	
04/01/92	21.02	511.21	
07/13/92	21.20	511.03	
10/05/92	21.48	510.75	
01/07/93	20.13	512.10	
04/06/93	20.58	511.65	
07/13/93	21.24	510.99	
10/12/93	21.95	510.28	
01/07/94	21.48	510.75	
04/08/94	21.21	511.02	
07/05/94	20.73	511.50	
10/11/94	21.61	510.62	
W-875-05			
01/22/90	22.90	513.80	
03/06/90	22.73	513.97	
04/03/90	22.71	513.99	
05/02/90	22.71	513.99	
06/07/90	22.65	514.05	
07/05/90	22.68	514.02	
08/07/90	22.74	513.96	
09/12/90	22.84	513.86	
10/11/90	22.86	513.84	
11/16/90	22.85	513.85	
12/10/90	22.83	513.87	
01/28/91	22.96	513.74	
02/11/91	23.03	513.67	
03/07/91	23.00	513.70	
04/03/91	22.83	513.87	
05/03/91	22.80	513.90	
06/20/91	22.24	514.46	
07/17/91	22.78	513.92	
08/01/91	22.81	513.89	
09/06/91	22.81	513.89	
10/02/91	22.82	513.88	
11/11/91	22.93	513.77	
12/09/91	22.96	513.74	
01/08/92	22.91	513.79	
02/04/92	23.00	513.70	
03/11/92	22.85	513.85	
04/01/92	22.81	513.89	
05/05/92			NA
06/02/92			NA
07/08/92	22.95	513.75	
W-875-05 (continued)			
08/06/92			NA
09/02/92	23.04	513.66	
10/05/92	23.13	513.57	
11/04/92	23.20	513.50	
12/03/92	23.12	513.58	
01/07/93	22.72	513.98	
02/02/93	22.70	514.00	
03/02/93	22.75	513.95	
04/06/93	22.60	514.10	
05/10/93	22.55	514.15	
06/08/93	22.50	514.20	
07/13/93	21.24	515.46	
08/10/93	22.67	514.03	
09/14/93	22.74	513.96	
10/12/93	22.82	513.88	
11/03/93	22.86	513.84	
01/07/94	22.72	513.98	
04/08/94	22.66	514.04	
07/05/94	22.81	513.89	
10/11/94	22.82	513.88	
W-875-06			
04/01/92			NA
07/09/92			NA
10/05/92	24.76	504.66	
01/07/93			NA
04/06/93	21.26	508.16	
07/13/93	23.50	505.92	
10/12/93	24.37	505.05	
01/07/94	24.76	504.66	
04/08/94	24.62	504.80	
07/05/94	24.61	504.81	
10/11/94	25.42	504.00	
W-875-07			
07/09/92	26.34	501.81	
10/05/92			NA
01/07/93			NA
04/06/93	22.21	506.23	
07/14/93	24.76	503.68	
08/26/93	25.63	502.81	
10/12/93	26.57	501.87	VE
11/03/93	27.27	501.17	VE
12/02/93	28.08	500.36	VE
01/07/94	28.10	500.34	VE
02/07/94	29.08	499.36	VE
04/07/94	30.01	498.43	VE
07/05/94	30.56	497.88	VE
10/11/94			VE DRY
W-875-08			
07/09/92	26.12	502.03	
10/05/92			NA
01/07/93			NA
04/06/93	21.88	506.27	
07/14/93	24.57	503.58	
08/26/93	25.42	502.73	
10/12/93	26.30	501.85	VE
11/01/93	26.62	501.53	VE
12/02/93	27.74	500.41	VE
01/07/94	27.71	500.44	VE
02/07/94	30.05	498.10	VE
04/07/94			VE DRY
07/05/94			VE DRY

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
General Services Area (GSA) (continued)			
W-875-08 (continued)			
10/11/94			VE DRY
W-875-09			
07/09/92	26.30	503.25	
10/05/92			NA
01/07/93			NA
04/06/93	23.29	506.26	
07/14/93	25.81	503.74	
08/26/93	26.69	502.86	
10/12/93	27.58	501.97	VE
11/01/93	27.90	501.65	VE
12/02/93	29.04	500.51	VE
01/07/94	28.99	500.56	VE
02/07/94	31.32	498.23	VE
04/07/94			VE DRY
07/05/94			VE DRY
10/11/94			VE DRY
W-875-10			
07/09/92	26.22	503.10	
10/05/92			NA
01/07/93			NA
04/06/93	23.07	506.25	
07/14/93	25.62	503.70	
08/26/93	26.42	502.90	
10/12/93	27.31	502.01	VE
11/02/93	27.65	501.67	VE
12/02/93	28.71	500.61	
01/07/94	28.80	500.52	VE
02/07/94	31.12	498.20	VE
04/07/94			VE
07/05/94			VE DRY
10/11/94			VE DRY
W-875-11			
10/05/92			NA
01/07/93			NA
04/06/93	22.85	506.31	
07/14/93	25.42	503.74	
08/26/93	26.30	502.86	
10/12/93	27.20	501.96	VE
11/03/93	27.96	501.20	VE
12/02/93	28.64	500.52	VE
01/07/94	28.60	500.56	VE
02/07/94	30.92	498.24	VE
04/07/94			VE DRY
07/05/94			VE DRY
10/11/94			VE DRY
W-875-12			
10/05/92			NA
01/07/93			NA
04/06/93			NA
W-875-13			
10/05/92			NA
01/07/93			NA
04/06/93			NA
W-875-15			
07/09/92	26.18	502.16	
W-875-15 (continued)			
10/05/92			NA
01/07/93			NA
04/06/93	22.11	506.23	
07/14/93	24.65	503.69	
08/26/93	25.73	502.61	
10/12/93	26.43	501.91	VE
11/03/93	27.18	501.16	VE
12/02/93	27.84	500.50	VE
01/07/94	28.71	499.63	VE
02/07/94	30.16	498.18	VE
04/07/94			VE DRY
07/05/94			VE DRY
10/11/94			VE DRY
W-876-01			
01/22/90	25.20	514.10	
03/06/90	24.82	514.46	
04/03/90	24.69	514.59	
05/02/90	24.80	514.48	
06/07/90	24.24	515.04	
07/05/90	24.29	514.99	
08/07/90	24.45	514.83	
09/12/90	24.72	514.56	
10/11/90	24.71	514.57	
11/16/90	24.96	514.32	
12/10/90	24.93	514.35	
01/28/91	25.01	514.27	
02/11/91	25.07	514.21	
03/07/91	24.20	515.08	
04/03/91	24.03	515.25	
05/03/91	23.92	515.36	
06/20/91	24.04	515.24	
07/17/91	24.14	515.14	
08/01/91	24.16	515.12	
09/06/91	24.32	514.96	
10/02/91	24.71	514.57	
11/11/91	24.72	514.56	
12/09/91	24.86	514.42	
01/08/92	25.00	514.28	
04/01/92	24.20	515.08	
07/08/92	24.72	514.56	
10/05/92	25.13	514.15	
01/07/93	23.97	515.31	
04/06/93	23.86	515.42	
07/13/93	24.26	515.02	
10/12/93	24.80	514.48	
01/07/94	24.59	514.69	
04/08/94	14.11	525.17	
07/05/94	23.92	515.36	
10/11/94	24.83	514.45	
W-879-01			
03/08/90	45.42	506.90	
04/03/90	45.55	506.77	
05/03/90	44.27	508.05	
06/07/90	45.33	506.99	
07/05/90	45.39	506.93	
08/07/90	45.69	506.63	
09/12/90	46.12	506.20	
10/15/90	47.72	504.60	
11/16/90	47.73	504.59	
12/07/90	47.20	505.12	
01/25/91	46.57	505.75	
02/11/91	46.59	505.73	
03/07/91	46.49	505.83	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
General Services Area (GSA) (continued)			
W-879-01 (continued)			
04/03/91	45.35	506.97	
05/03/91	45.36	506.96	
06/20/91	45.66	506.66	
07/03/91	45.52	506.80	
08/01/91	46.19	506.13	
09/06/91	46.00	506.32	
10/02/91	46.11	506.21	
11/12/91	46.04	506.28	
12/09/91	45.70	506.62	
01/08/92	45.15	507.17	
02/04/92	45.22	507.10	
03/02/92	44.00	508.32	
04/01/92	42.62	509.70	
05/05/92	41.71	510.61	
06/02/92	41.60	510.72	
07/09/92	42.16	510.16	
08/06/92	42.70	509.62	
09/02/92	43.60	508.72	
10/05/92	44.08	508.24	
11/04/92	44.32	508.00	
12/03/92	44.16	508.16	
01/07/93	43.70	508.62	
02/02/93	41.73	510.59	
03/02/93	39.74	512.58	
04/06/93	38.55	513.77	
05/10/93	38.20	514.12	
06/08/93	38.27	514.05	
07/14/93	38.71	513.61	
08/10/93	39.36	512.96	
09/14/93	40.30	512.02	
10/12/93	40.75	511.57	
11/03/93	40.87	511.45	
12/01/93	41.10	511.22	
01/07/94	41.42	510.90	
02/07/94	41.33	510.99	
04/08/94	41.45	510.87	
07/05/94	41.81	510.51	
10/10/94	43.04	509.28	
W-889-01			
07/08/88	39.08	514.55	
08/01/88	39.17	514.46	
09/06/88	39.30	514.33	
10/06/88	39.26	514.37	
11/03/88	39.21	514.42	
11/29/88	39.22	514.41	
01/10/89	39.16	514.47	
02/07/89	39.20	514.43	
02/21/89	39.14	514.49	
04/04/89	39.09	514.54	
05/08/89	39.19	514.44	
06/08/89	39.24	514.39	
07/07/89	39.30	514.30	
08/08/89	39.30	514.33	
09/06/89	39.18	514.45	
10/06/89	39.17	514.46	
11/08/89	39.02	514.61	
12/08/89	39.00	514.63	
01/10/90	38.97	514.66	
01/22/90	39.00	514.60	
03/06/90	38.90	514.70	
04/03/90	39.08	514.55	
05/03/90	39.07	514.56	
06/07/90	39.20	514.43	
07/05/90	39.15	514.48	
08/07/90	39.14	514.49	
W-889-01 (continued)			
09/12/90	39.14	514.49	
10/15/90	39.22	514.41	
11/16/90	39.20	514.43	
12/07/90	39.19	514.44	
01/25/91	39.24	514.39	
02/11/91	39.20	514.43	
03/07/91	39.22	514.41	
04/03/91	39.17	514.46	
05/03/91	39.14	514.49	
06/20/91	39.22	514.41	
07/03/91	39.18	514.45	
08/01/91	39.28	514.35	
09/06/91	39.30	514.33	
10/02/91	39.30	514.33	
11/12/91	39.28	514.35	
12/09/91	39.25	514.38	
01/08/92	39.23	514.40	
02/04/92	39.20	514.43	
03/02/92	39.15	514.48	
04/01/92	39.05	514.58	
05/05/92	39.08	514.55	
06/02/92	39.07	514.56	
07/09/92	39.15	514.48	
08/06/92	39.20	514.43	
09/02/92	39.37	514.26	
10/05/92	39.34	514.29	
11/04/92	39.33	514.30	
12/03/92	39.24	514.39	
01/07/93	39.15	514.48	
02/02/93	38.92	514.71	
03/02/93	38.83	514.80	
04/06/93	38.78	514.85	
05/10/93	38.81	514.82	
06/08/93	38.88	514.75	
07/14/93	38.97	514.66	
08/10/93	39.05	514.58	
09/14/93	39.10	514.53	
10/12/93	39.06	514.57	
11/03/93	39.04	514.59	
12/01/93	39.06	514.57	
01/07/94	39.07	514.56	
02/07/94	38.99	514.64	
04/08/94	39.02	514.61	
07/05/94	39.18	514.45	
10/11/94	39.22	514.41	
WELL07			
08/07/56			FL
10/21/81	19.00	492.02	
11/23/81	18.30	492.72	
12/01/81	17.80	493.22	
12/29/81	18.00	493.02	
02/02/82	14.00	497.02	
02/23/82	13.70	497.32	
04/08/82	9.00	502.02	
05/02/82	2.80	508.22	
05/28/82	9.70	501.32	
07/07/82	10.00	501.02	
10/06/82	12.10	498.92	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes	Location Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes

Notes:

- DRY Well dry at time of time of measurement.
- FL Flowing artesian aquifer.
- NA Information not available.
- PF Pump not running at time of measurement.
- PT Pump test interfered with measurement.
- VE Vacuum Extraction Well.

Appendix B

Air Sampling and Modeling Protocol

Appendix B

Air Sampling and Modeling Protocol

Measurements of volatile organic compound (VOC) soil flux were made in the General Services Area (GSA) operable unit (OU) using the emission isolation flux chamber methodology with samples collected in SUMMA™ canisters as recommended by the U.S. Environmental Protection Agency (EPA) (1986). To estimate outdoor exposure-point concentrations of VOCs in air, an exposure model must be applied that utilizes the measured VOC soil flux. The modeled ambient outdoor concentrations may then be used to estimate the potential hazard and risk from inhalation of these compounds. This appendix provides a detailed description of the following:

- Emission isolation flux chamber methodology.
- Field and laboratory quality assurance/quality control (QA/QC) data.
- GSA OU sampling protocol.
- Calculation methods and pertinent field data.
- Values for VOC soil flux measured at individual sample locations.
- Estimation of exposure-point concentrations in ambient air.

B-1. Emission Isolation Flux Chamber Methodology and Results

The emission isolation flux chamber technique is applicable to the measurement of air emission rates at the ground surface from the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 waste sites where contaminants have been released to the surface or subsurface (U.S. EPA, 1986). The emission isolation flux chamber technique is listed as the preferred testing technique for the direct measurement of VOC vapor emission by the U.S. EPA in the *Air/Superfund Technical Guidance Series* (U.S. EPA, 1990).

B-1.1. Description of VOC Soil Flux Measurement Protocol

The emission isolation flux chamber methodology used at Lawrence Livermore National Laboratory (LLNL) is based on U.S. EPA guidance (U.S. EPA, 1986). The emission isolation flux chamber is placed on the ground surface, and VOC soil flux emissions enter the open bottom of the chamber. Clean dry sweep air is added into the chamber at a metered rate. Within the chamber a fan mixes the sweep air with emitted VOC vapors. When the concentration of the VOC soil flux emissions and the sweep air reaches equilibrium, a sample is collected in a SUMMA™ canister for analysis. VOC flux (emission/area-time) from the soil surface is then calculated from the VOC vapor concentration using the following formula:

$$F = \frac{Q_{sweep} \bullet C_{SUMMA^{TM}}}{A_{chamber}} \quad \text{(B-1)}$$

where

F = VOC soil flux, $\mu g/(m^2 \bullet sec)$,

Q_{sweep} = Sweep flow rate, m^3/sec,

$C_{SUMMA^{TM}}$ = VOC vapor concentration in SUMMA™ canister sample, $\mu g/m^3$, and

$A_{chamber}$ = Surface area enclosed by the chamber, m^2.

B-1.1.1. Flux Chamber Operation

The emission isolation flux chamber system is composed of three parts: the chamber, the sweep air controller and data logger, and the sampling system. The flux chamber contains a fan to circulate air and a thermistor to measure the chamber temperature. Three emission isolation flux chambers have been constructed by LLNL (Martins, 1993). Each chamber encloses a surface area of approximately 0.122 m^2 and a total volume of about 27 L (0.027 m^3).

The sweep air controller and data logger contains a metering pump, two rotometers used to measure air flow in and out of the chamber, a battery, and the associated electronics required for chamber control and data acquisition. The metering pump and two rotometers are used to control air flow in and out of the chamber to maintain a negligible pressure differential across the chamber. The chamber controller is connected to an external data logger that acquires temperature and pressure data.

When the flux chamber is in operation, ultra-pure “zero air” is metered into the chamber using a pressure regulator and the first rotometers. At approximately the same rate, air is pulled from the chamber through the second rotometer using the pump in the chamber controller. Both rotometers are adjusted to achieve a net pressure drop of zero (±0.1 in. H_2O) between the inside and the outside of the chamber. An air flow rate of about 3 L/min is used to achieve a chamber air residence time of approximately 10 min. A minimum of 30 min. is required for the sweep air to reach a steady state concentration with the VOC soil flux emissions. At that time, the effluent sweep air pump is turned off and an evacuated SUMMA™ canister is used to withdraw a vapor sample at approximately the same air flow rate (3 L/min).

B-1.1.2. Equipment Calibration

The emission isolation flux chamber sampling equipment was calibrated according to the U.S. EPA methodology (1986).

1. Each emission isolation flux chamber system was calibrated by manual injections of a standard gas of tetrachloroethene (PCE) at a known rate with concurrent metered-flow of ultra-pure sweep air into the chamber. The measured recovery efficiencies for emission chambers 1, 2, and 3 were 101%, 106%, and 80%, respectively. The measured recovery efficiency should be within 10% of the true concentration, although recovery efficiencies for halogenated compounds within more than 10% of the true concentration are acceptable (U.S. EPA, 1986).

2. The thermistor in each of the flux chambers and the portable thermocouple device used for temperature measurements were calibrated against a mercury thermometer. In each case, the internal temperature of the chamber was maintained at three different temperatures for at least 15 min. Thermistor data were recorded continuously over this period using a data logger. The temperature of the mercury thermometer and the portable thermocouple were recorded manually over these periods. All thermistors and the thermocouple proved to have an accuracy of within ±0.5°C. The thermistors and thermocouple should have an accuracy of ±1°C (U.S. EPA, 1986).

3. A calibration consisting of four observations at two set points was performed on each of the rotometers used for flux measurements. A Gilian Instrument Corporation Gilibator bubble flow meter was used to measure the actual air flow when the rotometers were set at 3 and 2.8 L/min. In the table below, the numbers listed to the right of the associated chamber are the air flow rate set points on the respective rotometer required to produce the desired flow rate. These data are used to correct sweep air flow rates recorded in the field before flux rates are calculated from SUMMA™ canister analyses.

Rotometer	Sweep air effluent		Sweep air influent	
Desired flow	**3 L/min**	**2.8 L/min**	**3 L/min**	**2.8 L/min**
Set point for				
Chamber 1	3.13	2.99	2.91	2.67
Chamber 2	3.29	3.13	3.11	2.97
Chamber 3	3.49	3.28	2.96	2.79

4. All SUMMA™ canisters (6-L size) were precleaned at the analytical laboratory. The initial and final canister pressures were recorded on the field log sheets.

B-1.1.3. Field and Laboratory QA/QC

The VOC soil flux measurement protocol we developed for the GSA survey meets or exceeds all the data quality objectives recommended by the U.S. EPA (1986).

1. Field blank samples were collected at a frequency of at least one per day. Collection of field blank samples for emission isolation flux chambers consisted of placing the chamber over a clean surface and running a test using ultra-pure sweep air under routine operating conditions. Over the course of the GSA field sampling, two field blank samples were taken for each of chamber 1 and chamber 2, and one field blank sample was taken for chamber 3. Subsequent to field sampling, one blank sample was taken for each chamber in the laboratory.

2. Field duplicate samples were collected at a frequency of at least 20%. The two samples were taken using the same flux chamber over as brief a time span as feasible to minimize any temporal variations. Most locations for duplicate samples were selected in the field. However, for each of the three sampling zones, one duplicate sample was collected at the

location where we expected to measure the highest VOC soil vapor flux. These locations were based upon passive SVS data collected in January and February 1994 (Fig. 1-41).

3. In each sampling zone, one control point location was sampled at two different times during the diurnal cycle. These times were chosen near the maximum and minimum diurnal temperatures. The control point samples were also collected from those locations where we expected to measure the highest VOC soil vapor flux. The control point sample locations correspond to the following passive SVS sample locations (see Fig. 1-45):

Sampling zone	Passive SVS ID	Control point ID
Building 875 dry well area	SVX-GSA-242	3SF-WGSA-CONTROL
Central GSA	SVX-GSA-230	3SF-CGSA-016 (see note)
Eastern GSA	SVX-GSA-241	3SF-EGSA-CONTROL

Note: The central GSA control point sample was collected at sample location 3SF-CGSA-016, which is near the passive SVS sample location SVX-GSA-230. The sample labeled 3SF-CGSA-CONTROL in data tables presented in Appendix A and B is in actuality a duplicate sample taken at SVS sample location SVX-GSA-240.

4. A field sample log sheet was completed for each sample collected. All relevant parameters were recorded on the sample log sheet: sample location and number, chamber number, sweep flow rate, ambient and chamber air temperature, and sample start and stop time. A daily field log was also completed, noting field conditions of interest.

5. For each sample collected, proper sample labeling was completed using indelible ink. Sample ID, SUMMA™ canister number, and date were recorded on the sample label. Formal chain-of-custody procedures, as described in our standard operating procedures (Carlsen et al., 1993), were followed by all field personnel. SUMMA™ canister samples were delivered to a certified analytical laboratory within 48 h of the time collected, and were analyzed for VOCs using EPA method TO-14. The range of detection limits for individual VOC compounds in field vapor samples was 0.7 to 0.8 ppb_V.

6. The laboratory reported full QA/QC results, including results from lab blanks, spike, and duplicate analyses. The laboratory performed about 20% laboratory blanks, 7% lab spikes, and 10% duplicate analyses in accordance with U.S. EPA criteria for acceptability.

B-1.1.4. Sampling Strategy

The VOC soil vapor flux sampling methodology was taken from the Air/Superfund Technical Guidance Series, Volume II (U.S. EPA, 1990). A stratified-random sampling approach was used, in which the initial sampling zones were delineated using SVS and soil/rock concentration data collected during and subsequent to characterization efforts described in the SWRI report (Webster-Scholten, 1994). The number of sample units (which are potential sample locations) within each sampling zone was calculated from the area of the zone based upon standard data quality objectives for a risk assessment (U.S. EPA, 1990). Sample locations were then selected randomly from among the sample units in accordance with U.S. EPA guidance (U.S. EPA, 1986).

B-1.2. GSA Sampling Zones and Sample Locations

Three discrete sampling zones were delineated using both passive SVS analytical data collected in January and February 1994 (Fig. 1-41) and available soil/rock analytical data. Figure 1-45 shows these VOC soil flux sampling zones and the individual emission isolation flux chamber sample locations. The three sampling zones are:

- Building 875 dry well area (unpaved area approximately 50 ft south of Building 875).
- Central GSA (area west of sewage treatment pond).
- Eastern GSA (area east of sewage treatment pond).

The Air/Superfund Technical Guidance Series, Volume II (U.S. EPA, 1990), provides a methodology for dividing the sampling zone into an imaginary grid with unit areas that depend on the sampling zone area size (Z) as follows:

- $Z < 500\ m^2$, divide the sampling zone into units with areas equal to 5% of the total sampling zone area.
- $500\ m^2 < Z < 4{,}000\ m^2$, divide the sampling zone into units of $25\ m^2$.
- $4{,}000\ m^2 < Z < 32{,}000\ m^2$, divide the sampling zone into 160 units.

The number of units to be sampled in each sampling zone was determined based upon the area of the sampling zone using the following equation (U.S. EPA, 1990):

$$\text{Number of samples} = 6 + 0.15 \bullet \left[\text{sampling zone area}\left(m^2\right)\right]^{0.5}. \quad \text{(B-2)}$$

Equation B-2 determines the number of samples necessary to provide an estimated average emission rate within 20% of the true mean with 95% confidence. The units sampled in each sampling zone were selected using a table of random numbers. VOC soil vapor flux measurements were then obtained for each of the randomly selected units.

B-1.2.1. Building 875 Dry Well Area Sampling Zone

The Building 875 dry well area sampling zone is defined as the unpaved strip between the parking lot south of Building 875 and Corral Hollow Road, in the vicinity of the former dry wells at Building 875. The area encompasses an unpaved strip approximately 35 ft wide and 300 ft long (Fig. 1-45).

A random approach for selecting sample locations could not be reasonably applied to this sampling zone. This is because the Building 875 dry well area has many obstacles (such as trees and a soil vapor extraction platform), making location of random samples difficult.

Flux chamber sample locations were, therefore, chosen in the field to best characterize expected VOC soil vapor flux in the Building 875 dry well area. The sampling zone parameters for the Building 875 dry well area were:

$$\text{Area} = 10{,}500 \text{ ft}^2 \left(975 \text{ m}^2\right).$$

$$\text{Number of samples} = 6 + 0.15 \bullet \left(975 \text{ m}^2\right)^{0.5} = 11 \text{ samples.}$$

B-1.2.2. Central GSA Sampling Zone

The central GSA sampling zone is defined as the area directly west of the sewage treatment pond, bounded by the existing fence line to the west and south. The eastern boundary is defined as an imaginary north-south line approximately 40 ft to the east of well W-7PS, extending approximately 160 ft north of well W-7PS to the northeast vertex of the sample zone. The northern boundary is then defined as an imaginary line that runs from the northeast vertex of the sample zone, approximately 20 ft to the north of well W-7C, to the fence line west of the sampling zone (Fig. 1-45).

$$\text{Area} = 83{,}742 \text{ ft}^2 \left(7{,}780 \text{ m}^2\right).$$

Sampling zone = 173 units.

The area of the sampling zone was divided into 160 units of 523.4 ft^2 each. This corresponded to a 22.9-ft square grid. A square grid was then created which was 22 ft on a side with 19 × 13 units, for a total of 247 units. The central GSA quadrangular boundary (Fig. 1-45) was then laid out on top of the 19 × 13 unit grid. The central GSA sampling zone covered 70% of this grid area or 173 units.

$$\text{Number of samples} = 6 + 0.15 \bullet \left(7{,}780 \text{ m}^2\right)^{0.5} = 20 \text{ samples.}$$

Random numbers between 0 and 247 were generated, and the first 20 randomly selected units that fell onto or within the central GSA sampling zone boundary were chosen as sampling locations.

B-1.2.3. Eastern GSA Sampling Zone

The eastern GSA sampling zone is defined as the area northeast of the sewage treatment pond. This zone is bounded by an imaginary triangle with a southwest corner located at the inside junction of two dirt roads approximately 100 ft west of SVS point SVX-GSA-227. The southeast corner is located at well W-25N-20, and the northern corner is located approximately 100 ft due north of well W-26R-07.

$$\text{Area} = 43{,}745 \text{ ft}^2 \left(4{,}064 \text{ m}^2\right).$$

Sampling zone = 158 units.

The sampling zone area was divided into 160 units of 273.4 ft^2 each. This corresponds to a 16.5 ft square grid. A grid 16.4 ft on a side with 21 × 15 units (315 units total), was then developed. The eastern GSA triangular boundary (Fig. 1-45) was then laid out on this 21 × 15 unit grid. The eastern GSA sampling zone covered 50% of this grid or 158 units.

$$\text{Number of samples} = 6 + 0.15 \bullet \left(4{,}064\ \text{m}^2\right)^{0.5} = 16\ \text{samples.}$$

Random numbers between 0 and 315 were generated, and the first 16 randomly selected units that fell onto or within the eastern GSA sampling zone boundary were chosen as sampling locations.

B-1.3. Field Data and VOC Soil Flux Calculations

Field data from sample log sheets are presented in Table B-1. Rotometer settings recorded in the field are noted together with their corrected values, based upon rotometer calibration data described above.

VOC soil vapor flux calculations for each sample location are presented in Tables B-2 and B-3. VOC soil vapor flux was calculated using Equation B-1, with the following parameters:

Q_{sweep} = Sample specific, corrected sweep flow rate from Table B-1, converted to units of (m^3/sec).

$C_{SUMMA^{TM}}$ = Sample specific VOC SUMMA™ canister vapor concentration from Table A-1 and Table A-2, converted to units of ($\mu g/m^3$).

$A_{chamber}$ = Surface area enclosed by the chamber, 0.122 m^2.

Blank samples provide a measure of contamination that may have been introduced to the data set by the emission isolation flux chamber system. To prevent the inclusion of non-site-related contaminants in the risk assessment, the concentration of chemicals detected in blank samples must be compared with concentrations of the same chemicals detected in site samples (U.S. EPA, 1989). In accordance with U.S. EPA guidance (1989), soil vapor flux measurements from individual VOC analyses were included in the risk assessment only if the VOC concentration exceeded five times the maximum VOC concentration detected in any blank sample. VOC concentrations less than five times the maximum VOC concentration detected in any blank sample were treated as non-detections. Contaminants detected in soil flux samples at less than five times those detected in method blank samples are qualified with an "M" in Tables B-2 and B-3. The more significant contaminants detected in blank samples as well as in VOC soil vapor flux samples were methylene chloride, benzene, and toluene.

Forty-three out of 53 soil vapor flux samples had a methylene chloride concentration less than five times the maximum concentration detected in the respective emission isolation flux chamber blank. Forty-three out of 44 soil vapor flux samples had a benzene concentration less than five times the maximum concentration detected in the respective emission isolation flux chamber blank vapor sample. Thirteen out of 37 soil vapor flux samples had toluene concentrations exceeding five times the maximum concentration detected in the respective emission isolation flux chamber blank vapor sample. Based on these data, we suspect that, at least for methylene chloride and benzene, the source of these analytes in soil vapor flux samples may be the emission isolation flux chamber system itself.

Samples with VOC concentrations less than five times the maximum VOC concentration detected in any blank sample were treated as nondetections in the calculation of 95% Upper Confidence Limits (UCLs) for VOC soil vapor flux presented in Table 1-16. The 95% UCLs for each source area are used as inputs for air exposure-point calculations in a risk assessment.

B-2. Outdoor Air Exposure-Point Concentration Model and Parameters

To estimate exposure-point concentrations of VOCs in air, an exposure model must be applied that uses measured values of VOC soil vapor flux to estimate ambient outdoor air concentrations. To estimate maximum plausible ambient outdoor air concentrations in the vicinity of the Building 875 dry well area and in the central and eastern GSA, we used calculated 95% UCLs of the measured VOC soil vapor flux from each sampling zone as model inputs. The three source area boundaries are the same as the sampling zone boundaries described in Section B-1.2.

We applied a simple box model to estimate local exposure-point concentrations. This approach is applicable to the prediction of local short- and long-term exposure-point concentrations resulting from any area source. Because estimated exposure-point concentrations in outdoor air are intended only for receptors in the immediate vicinity and directly over the GSA, standard air dispersion modeling methods cannot be used because these methods are intended to estimate exposure concentrations at larger distances from the source.

The box model used to estimate VOC exposure point concentrations in outdoor air was taken from the recent American Society for Testing and Materials (ASTM) *Emergency Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites* (ASTM, 1994) and recommended by the U.S. EPA (1992).

$$C_{outdoor} = \frac{F \bullet L}{U_w \bullet H_m}, \qquad \text{(B-3)}$$

where

$C_{outdoor}$ = VOC concentration resulting from the GSA area vapor source, $\mu g/m^3$,

F = VOC soil flux from the GSA area source, $\mu g/(m^2 \bullet sec)$,

L = Downwind length of the GSA VOC emission source (site specific), m,

U_w = Average wind speed within the mixing zone, 2.25 m/sec (ASTM default parameter), and

H_m = Ambient air mixing zone height, 2 m (ASTM default parameter).

Although the ASTM box model is simple to apply, it is also very conservative. As a result, it is used as a screening method only. Actual air concentrations corresponding to measured VOC soil vapor flux emissions are expected to be lower than those estimated by application of this model. The downwind length of the vapor emission source was estimated based upon the prevailing wind direction at Site 300 and the source area boundaries. The downwind length of the vapor emission sources was estimated to be 65 m, 110 m, and 90 m, for the Building 875 dry well area, the central GSA, and the eastern GSA, respectively. To be conservative, the wind speed and the mixing height used in the model are the default parameters cited in the ASTM guidance. The annual average wind speed reported for Site 300 in the *Environmental Report 1993, LLNL* is approximately 5.25 m/sec (Gallegos et al., 1994).

Estimated air exposure-point screening concentrations for outdoor air, based upon 95% UCLs for VOC soil vapor flux, are presented in Table 1-22.

B-3. References

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Table B-1. VOC soil flux survey field data.

Sample number	Chamber No.[a]	Date sampled	Sample start time	Sample stop time	Sample time (min)	Temperatures		Rotometer setting		Corrected flow rates	
						Ambient (deg C)	Chamber (deg C)	Sweep in (L/min)	Sweep out (L/min)	Sweep in (L/min)	Sweep out (L/min)
Building dry well area sampling zone											
3SF-WGSA-001-001	3	9/22/94	14:16:55	14:19:00	2.08	32.70	33.70	2.80	2.40	2.81	2.06
3SF-WGSA-002-001	2	9/22/94	16:45:05	16:46:40	1.58	29.70	37.80	2.60	2.40	2.28	1.96
3SF-WGSA-003-001	1	9/22/94	13:44:00	13:46:10	2.17	36.50	54.70	2.90	2.55	2.99	2.23
3SF-WGSA-004-001	2	9/22/94	15:40:00	15:41:50	1.83	NA[b]	NA	2.60	2.40	2.28	1.96
3SF-WGSA-005-001	3	9/22/94	13:30:45	13:32:00	1.25	34.50	46.50	2.80	2.40	2.81	2.06
3SF-WGSA-006-001	1	9/22/94	16:34:15	16:36:15	2.00	NA	39.10	2.90	2.60	2.99	2.30
3SF-WGSA-006-002	1	9/22/94	16:38:00	16:39:55	1.92	NA	NA	2.90	2.60	2.99	2.30
3SF-WGSA-007-001	2	9/22/94	11:58:15	12:00:10	1.92	33.00	51.30	2.60	2.40	2.28	1.96
3SF-WGSA-008-001	1	9/22/94	17:31:25	17:32:35	1.17	30.60	30.60	2.90	2.60	2.99	2.30
3SF-WGSA-009-001	3	9/22/94	12:09:50	12:12:00	2.17	35.60	46.52	2.80	2.40	2.81	2.06
3SF-WGSA-010-001	1	9/22/94	12:17:00	12:19:00	2.00	31.30	34.90	2.90	2.60	2.99	2.30
3SF-WGSA-011-001	2	9/22/94	13:08:45	13:11:00	2.25	33.40	55.00	2.60	2.40	2.28	1.96
3SF-WGSA-012-001	2	9/22/94	17:37:00	17:39:00	2.00	NA	NA	2.60	2.40	2.28	1.96
3SF-WGSA-CONTROL-1	2	9/22/94	9:50:20	9:52:35	2.25	27.70	32.00	2.60	2.40	2.28	1.96
3SF-WGSA-CONTROL-2	2	9/22/94	13:56:50	13:58:50	2.00	33.00	34.70	2.60	2.40	2.28	1.96
3SF-WGSA-CONTROL-3	2	9/22/94	14:01:30	14:03:50	2.33	33.00	34.70	2.60	2.40	2.28	1.96
Central GSA sampling zone											
3SF-CGSA-001-001	1	9/20/94	9:23:55	9:24:15	0.33			2.90	2.60	2.99	2.30
3SF-CGSA-002-001	3	9/20/94	9:04:48	9:07:20	2.53	28.00	32.84	3.8	3.4	4.03	2.85
3SF-CGSA-003-001	3	9/20/94	9:43:39	9:45:02	1.38	26.37	38.80	2.80	2.40	2.81	2.06
3SF-CGSA-004-001	3	9/19/94	13:09:00	13:12:15	3.25	33.10	48.20	2.80	2.40	2.81	2.06
3SF-CGSA-005-001	2	9/19/94	14:14:46	14:16:41	1.92	36	47.6	2.60	2.40	2.28	1.96
3SF-CGSA-006-001	1	9/19/94	14:30:00	14:32:05	2.08	37.30	50.20	2.90	2.60	2.99	2.30
3SF-CGSA-007-001	3	9/20/94	12:09:00	12:11:10	2.17	35.20	55.60	2.80	2.40	2.81	2.06
3SF-CGSA-008-001	1	9/19/94	13:45:00	13:48:00	3.00	35.40	49.30	2.90	2.55	2.99	2.23
3SF-CGSA-009-001	1	9/20/94	12:26:35	12:28:45	2.17	33.90	50.80	2.90	2.60	2.99	2.30
3SF-CGSA-010-001	2	9/20/94	11:20:00	11:23:00	3.00	32.50	51.00	2.60	2.40	2.28	1.96
3SF-CGSA-011-001	3	9/20/94	10:30:45	10:32:45	2.00	NA	NA	2.80	2.40	2.81	2.06
3SF-CGSA-012-001	3	9/20/94	12:59:25	13:01:54	2.48	35.00	52.10	2.80	2.40	2.81	2.06
3SF-CGSA-012-002	3	9/20/94	13:10:15	13:13:05	2.83	35.00	55.00	2.80	2.40	2.81	2.06
3SF-CGSA-013-001	1	9/20/94	10:12:00	10:14:10	2.17	28.20	42.30	2.90	2.60	2.99	2.30
3SF-CGSA-014-001	1	9/20/94	11:46:10	11:48:25	2.25	28.94	41.60	2.90	2.60	2.99	2.30
3SF-CGSA-015-001	2	9/20/94	12:35:40	12:38:10	2.50	37.50	53.70	2.60	2.40	2.28	1.96

Table B-1. (Continued)

Sample number	Chamber No.[a]	Date sampled	Sample start time	Sample stop time	Sample time (min)	Temperatures: Ambient (deg C)	Temperatures: Chamber (deg C)	Rotometer setting: Sweep in (L/min)	Rotometer setting: Sweep out (L/min)	Corrected flow rates: Sweep in (L/min)	Corrected flow rates: Sweep out (L/min)
3SF-CGSA-016-001	2	9/20/94	9:35:30	9:37:30	2.00	32.00	48.60	2.80	2.80	2.56	2.42
3SF-CGSA-016-004	2	9/20/94	14:51:05	14:53:00	1.92	38.00	56.50	2.60	2.50	2.28	2.08
3SF-CGSA-017-001	3	9/20/94	11:25:00	11:26:50	1.83	33.00	48.70	2.80	2.40	2.81	2.06
3SF-CGSA-018-001	2	9/20/94	13:29:45	13:31:10	1.42	35.50	47.20	2.60	2.40	2.28	1.96
3SF-CGSA-019-001	3	9/20/94	14:00:30	14:02:26	1.93	35.70	49.40	2.81	2.38	2.82	2.05
3SF-CGSA-020-001	1	9/20/94	13:42:00	13:44:45	2.75	36.00	52.90	2.90	2.60	2.99	2.30
3SF-CGSA-020-002	1	9/20/94	13:52:00	13:54:00	2.00	36.00	51.50	2.40	2.60	2.00	2.19
3SF-CGSA-CONTROL-1	3	9/22/94	15:30:20	15:33:00	2.67	30.40	43.00	2.80	2.40	2.81	2.06
3SF-CGSA-CONTROL-2	3	9/22/94	15:36:22	15:38:35	2.22	30.40	42.90	2.80	2.40	2.81	2.06
Eastern GSA sampling zone											
3SF-EGSA-001-001	1	9/21/94	10:11:30	10:13:30	2.00	31.20	49.20	2.90	2.60	2.99	2.30
3SF-EGSA-002-001	3	9/21/94	9:56:10	9:58:05	1.92	32.10	48.20	2.80	2.40	2.81	2.06
3SF-EGSA-003-001	3	9/21/94	10:33:00	10:35:05	2.08	31.30	45.70	2.80	2.40	2.81	2.06
3SF-EGSA-004-001	2	9/21/94	9:31:55	9:33:10	1.25	34.00	47.30	2.60	2.80	2.28	2.42
3SF-EGSA-004-002	2	9/21/94	9:43:40	9:45:45	2.08	34.00	49.00	2.60	2.80	2.28	2.42
3SF-EGSA-005-001	2	9/21/94	10:27:30	10:28:55	1.42	32.80	38.40	2.60	2.40	2.28	1.96
3SF-EGSA-006-001	3	9/21/94	12:06:10	12:08:15	2.08	51.76	34.50	2.80	2.40	2.81	2.06
3SF-EGSA-007-001	3	9/21/94	12:53:45	12:55:45	2.00	34.80	51.40	2.80	2.40	2.81	2.06
3SF-EGSA-007-002	3	9/21/94	12:57:15	12:59:15	2.00	34.80	51.40	2.80	2.40	2.81	2.06
3SF-EGSA-008-001	1	9/21/94	10:58:10	11:00:10	2.00	46.80	51.60	2.90	2.60	2.99	2.30
3SF-EGSA-009-001	1	9/21/94	12:31:30	12:34:00	2.50	NA	36.5	3.00	2.60	3.06	2.30
3SF-EGSA-010-001	2	9/21/94	13:23:00	13:25:00	2.00	39.00	51.40	2.60	2.40	2.28	1.96
3SF-EGSA-011-001	2	9/21/94	12:16:30	12:18:30	2.00	43.00	54.90	2.60	2.40	2.28	1.96
3SF-EGSA-012-001	2	9/21/94	14:14:00	14:16:16	2.27	38.00	51.80	2.60	2.40	2.28	1.96
3SF-EGSA-013-001	1	9/21/94	13:37:00	13:39:10	2.17	40.40	61.50	3.00	2.60	3.06	2.30
3SF-EGSA-014-001	1	9/21/94	14:28:30	14:30:40	2.17	38.40	55.30	3.00	2.60	3.06	2.30
3SF-EGSA-015-001	1	9/22/94	9:14:20	9:16:15	1.92	30.6	32.9	2.90	2.60	2.99	2.30
3SF-EGSA-015-002	1	9/22/94	9:19:20	9:21:40	2.33	30.6	32.9	2.90	2.60	2.99	2.30
3SF-EGSA-016-001	3	9/22/94	9:05:00	9:07:20	2.33	26.50	39.20	2.60	2.40	2.56	2.06
3SF-EGSA-017-001	3	9/21/94	13:50:45	13:52:55	2.17	37.40	47.60	2.80	2.40	2.81	2.06
3SF-EGSA-017-002	3	9/21/94	13:57:10	13:59:10	2.00	37.40	47.40	2.60	2.40	2.56	2.06
3SF-EGSA-CONTROL-1	3	9/21/94	9:19:06	9:21:20	2.23	30.11	42.97	2.80	2.40	2.81	2.06
3SF-EGSA-CONTROL-2	3	9/21/94	15:12:00	15:14:00	2.00	35.60	37.20	2.80	2.40	2.81	2.06
3SF-EGSA-CONTROL-3	3	9/21/94	15:15:00	15:17:05	2.08	37.60	37.10	2.80	2.40	2.81	2.06

Table B-1. (Continued)

Sample number	Chamber No.[a]	Date sampled	Sample start time	Sample stop time	Sample time (min)	Temperatures: Ambient (deg C)	Temperatures: Chamber (deg C)	Rotometer setting: Sweep in (L/min)	Rotometer setting: Sweep out (L/min)	Corrected flow rates: Sweep in (L/min)	Corrected flow rates: Sweep out (L/min)
Method blanks											
3SF-WGSA-METHOD-1	3	9/19/94	11:39:00	11:40:35	1.58	30.00	30.70	2.80	2.40	2.81	2.06
3SF-WGSA-METHOD-2	1	9/19/94	12:39:25	12:41:30	2.08	30.60	31.40	2.90	2.50	2.99	2.17
3SF-WGSA-METHOD-3	2	9/19/94	13:13:36	13:18:00	4.40	31.50	35.00	2.60	2.40	2.28	1.96
3SF-CGSA-METHOD-2	2	9/20/94	15:37:00	15:39:25	2.42	33.70	36.50	2.60	2.40	2.28	1.96
3SF-EGSA-METHOD-1	1	9/21/94	15:23:00	15:25:05	2.08	35.70	37.00	2.90	2.60	2.99	2.30
3SF-LAB-METHOD-1	1	9/29/94	15:20:00	15:23:00	3.00	21.50	21.50	2.92	2.55	3.01	2.23
3SF-LAB-METHOD-2	2	9/29/94	15:59:00	16:01:00	2.00	21.50	21.50	2.60	2.40	2.28	1.96
3SF-LAB-METHOD-3	3	9/29/94	16:33:00	16:36:35	3.58	21.50	21.50	2.80	2.40	2.81	2.06

[a] Chamber number (one through three) signifies the chamber with which the individual sample was collected.

[b] NA = Not available.

Table B-2. Measured soil vapor flux rates (μg/[m^2•sec]) for VOCs.

Sample label	Location	Chamber No.[a]	Sample date	1,1,1-TCA	Chloromethane	Dichloro-difluoromethane	Methylene chloride	Concentration[b]	Styrene	PCE	TCE	Freon 113	
Building 875 dry well sampling zone													
3SF-WGSA-001-001	3SF-WGSA-001	3	22-Sep-94	< 1.45E-03	< 5.70E-04	< 1.34E-03	1.10E-03	M[b]	< 1.12E-03	< 1.90E-03	< 1.45E-03	8.06E-02	
3SF-WGSA-002-001	3SF-WGSA-002	2	22-Sep-94	< 1.26E-03	< 4.96E-04	< 1.17E-03	3.63E-03	M	< 9.72E-04	< 1.65E-03	< 1.26E-03	2.66E-02	M
3SF-WGSA-003-001	3SF-WGSA-003	1	22-Sep-94	< 1.66E-03	< 6.50E-04	< 1.53E-03	2.02E-02		< 1.28E-03	< 2.17E-03	1.15E-02	4.77E-02	M
3SF-WGSA-004-001	3SF-WGSA-004	2	22-Sep-94	< 1.26E-03	< 4.96E-04	< 1.17E-03	8.81E-03	M	< 9.72E-04	< 1.65E-03	< 1.26E-03	1.82E-03	
3SF-WGSA-005-001	3SF-WGSA-005	3	22-Sep-94	< 1.45E-03	< 5.70E-04	< 1.34E-03	< 9.50E-04		< 1.12E-03	< 1.90E-03	2.07E-03	4.48E-02	
3SF-WGSA-006-001	3SF-WGSA-006	1	22-Sep-94	< 1.66E-03	< 6.50E-04	< 1.53E-03	2.31E-03	M	< 1.28E-03	< 2.17E-03	< 1.66E-03	3.50E-02	M
3SF-WGSA-006-002	3SF-WGSA-006	1	22-Sep-94	< 1.55E-03	< 6.07E-04	< 1.43E-03	1.36E-03	M	< 1.19E-03	< 2.02E-03	< 1.55E-03	3.82E-02	M
3SF-WGSA-007-001	3SF-WGSA-007	2	22-Sep-94	< 1.18E-03	1.12E-03	< 1.09E-03	5.18E-02	M	< 9.07E-04	2.20E-03	1.68E-02	6.06E-02	M
3SF-WGSA-008-001	3SF-WGSA-008	1	22-Sep-94	< 1.55E-03	< 6.07E-04	< 1.43E-03	1.59E-03	M	< 1.19E-03	< 2.02E-03	< 1.55E-03	2.86E-02	M
3SF-WGSA-009-001	3SF-WGSA-009	3	22-Sep-94	< 1.45E-03	< 5.70E-04	< 1.34E-03	2.44E-03	M	< 1.12E-03	< 1.90E-03	< 1.45E-03	6.27E-02	
3SF-WGSA-010-001	3SF-WGSA-010	1	22-Sep-94	< 1.55E-03	< 6.07E-04	< 1.43E-03	1.21E-03	M	< 1.19E-03	< 2.02E-03	< 1.55E-03	6.68E-02	M
3SF-WGSA-011-001	3SF-WGSA-011	2	22-Sep-94	< 1.18E-03	< 4.63E-04	< 1.09E-03	5.07E-02	M	< 9.07E-04	< 1.54E-03	1.47E-03	4.60E-02	M
3SF-WGSA-012-001	3SF-WGSA-012	2	22-Sep-94	< 1.18E-03	< 4.63E-04	< 1.09E-03	< 7.71E-04		< 9.07E-04	< 1.54E-03	< 1.18E-03	2.20E-02	M
3SF-WGSA-CONTROL-001	SVX-GSA-242	2	22-Sep-94	< 1.18E-03	< 4.63E-04	1.10E-03	< 7.71E-04		< 9.07E-04	< 1.54E-03	< 1.18E-03	3.15E-02	M
3SF-WGSA-CONTROL-002	SVX-GSA-242	2	22-Sep-94	< 1.18E-03	< 4.63E-04	< 1.09E-03	2.53E-03	M	< 9.07E-04	< 1.54E-03	< 1.18E-03	3.88E-02	M
3SF-WGSA-CONTROL-003	SVX-GSA-242	2	22-Sep-94	< 1.18E-03	< 4.63E-04	< 1.09E-03	3.19E-03	M	< 9.07E-04	< 1.54E-03	< 1.18E-03	4.36E-02	M
Central GSA sampling zone													
3SF-CGSA-001-001	3SF-CGSA-001	1	20-Sep-94	< 1.66E-03	< 6.50E-04	< 1.53E-03	< 1.08E-03		< 1.28E-03	< 2.17E-03	< 1.66E-03	1.18E-01	M
3SF-CGSA-002-001	3SF-CGSA-002	3	20-Sep-94	< 2.09E-03	< 8.18E-04	< 1.93E-03	< 1.36E-03		< 1.60E-03	< 2.73E-03	< 2.09E-03	3.00E-03	
3SF-CGSA-003-001	3SF-CGSA-003	3	20-Sep-94	< 1.45E-03	< 5.70E-04	< 1.34E-03	< 9.50E-04		< 1.12E-03	< 1.90E-03	< 1.45E-03	3.88E-01	
3SF-CGSA-004-001	3SF-CGSA-004	3	19-Sep-94	< 1.45E-03	< 5.70E-04	< 1.34E-03	2.98E-03	M	< 1.12E-03	< 1.90E-03	< 1.45E-03	2.09E-03	
3SF-CGSA-005-001	3SF-CGSA-005	2	19-Sep-94	< 1.18E-03	< 4.63E-04	< 1.09E-03	9.58E-03	M	< 9.07E-04	< 1.54E-03	< 1.18E-03	1.70E-03	
3SF-CGSA-006-001	3SF-CGSA-006	1	19-Sep-94	< 1.55E-03	< 6.07E-04	< 1.43E-03	2.89E-02		< 1.19E-03	< 2.02E-03	< 1.55E-03	2.23E-03	
3SF-CGSA-007-001	3SF-CGSA-007	3	20-Sep-94	< 1.56E-03	< 6.10E-04	< 1.44E-03	8.82E-03	M	< 1.20E-03	< 2.03E-03	< 1.56E-03	3.28E-01	
3SF-CGSA-008-001	3SF-CGSA-008	1	19-Sep-94	< 1.55E-03	< 6.07E-04	< 1.43E-03	2.02E-03	M	< 1.19E-03	< 2.02E-03	< 1.55E-03	2.23E-03	
3SF-CGSA-009-001	3SF-CGSA-009	1	20-Sep-94	< 1.55E-03	< 6.07E-04	< 1.43E-03	1.73E-03	M	< 1.19E-03	< 2.02E-03	< 1.55E-03	2.10E-01	M
3SF-CGSA-010-001	3SF-CGSA-010	2	20-Sep-94	< 1.18E-03	< 4.63E-04	< 1.09E-03	2.64E-03	M	< 9.07E-04	< 1.54E-03	< 1.18E-03	2.42E-01	M
3SF-CGSA-011-001	3SF-CGSA-011	3	20-Sep-94	< 1.56E-03	< 6.10E-04	< 1.44E-03	< 1.02E-03		< 1.20E-03	< 2.03E-03	< 1.56E-03	2.60E-01	
3SF-CGSA-012-001	3SF-CGSA-012	3	20-Sep-94	< 1.56E-03	< 6.10E-04	< 1.44E-03	1.49E-03	M	< 1.20E-03	< 2.03E-03	< 1.56E-03	1.55E-01	
3SF-CGSA-012-002	3SF-CGSA-012	3	20-Sep-94	< 1.56E-03	< 6.10E-04	< 1.44E-03	1.90E-03	M	< 1.20E-03	< 2.03E-03	< 1.56E-03	1.61E-01	
3SF-CGSA-013-001	3SF-CGSA-013	1	20-Sep-94	< 1.55E-03	< 6.07E-04	< 1.43E-03	< 1.01E-03		< 1.19E-03	< 2.02E-03	< 1.55E-03	3.82E-01	M
3SF-CGSA-014-001	3SF-CGSA-014	1	20-Sep-94	< 1.55E-03	< 6.07E-04	< 1.43E-03	< 1.01E-03		< 1.19E-03	< 2.02E-03	< 1.55E-03	2.86E-01	M
3SF-CGSA-015-001	3SF-CGSA-015	2	20-Sep-94	< 1.18E-03	< 4.63E-04	< 1.09E-03	2.20E-03	M	< 9.07E-04	< 1.54E-03	< 1.18E-03	7.51E-02	M
3SF-CGSA-016-001	3SF-CGSA-016	2	20-Sep-94	< 1.33E-03	< 5.20E-04	< 1.22E-03	2.48E-03	M	< 1.02E-03	< 1.73E-03	< 1.33E-03	3.54E-01	M

Table B-2. (Continued)

Sample label	Location	Chamber No.[a]	Sample date	1,1,1-TCA	Chloromethane	Dichloro-difluoromethane	Methylene chloride	Concentration[b]	Styrene	PCE	TCE	Freon 113	
3SF-CGSA-016-004	3SF-CGSA-016	2	20-Sep-94	< 1.26E-03	< 4.96E-04	< 1.17E-03	8.15E-03	M	< 9.72E-04	< 1.65E-03	< 1.26E-03	4.85E-02	M
3SF-CGSA-017-001	3SF-CGSA-017	3	20-Sep-94	< 1.45E-03	< 5.70E-04	< 1.34E-03	8.14E-03		< 1.12E-03	< 1.90E-03	< 1.45E-03	2.57E-01	
3SF-CGSA-018-001	3SF-CGSA-018	2	20-Sep-94	< 1.18E-03	< 4.63E-04	< 1.09E-03	1.43E-03	M	< 9.07E-04	< 1.54E-03	< 1.18E-03	6.06E-02	M
3SF-CGSA-019-001	3SF-CGSA-019	3	20-Sep-94	< 1.56E-03	< 6.13E-04	< 1.44E-03	1.77E-03	M	< 1.20E-03	< 2.04E-03	< 1.56E-03	7.19E-02	
3SF-CGSA-020-001	3SF-CGSA-020	1	20-Sep-94	< 1.66E-03	< 6.50E-04	< 1.53E-03	5.20E-02		< 1.28E-03	< 2.17E-03	< 1.66E-03	8.90E-02	M
3SF-CGSA-020-002	3SF-CGSA-020	1	20-Sep-94	< 1.13E-03	< 4.44E-04	< 1.05E-03	3.81E-02		< 8.71E-04	< 1.48E-03	< 1.13E-03	5.82E-02	M
3SF-CGSA-CONTROL-001	SVX-GSA-240	3	22-Sep-94	< 1.56E-03	< 6.10E-04	< 1.44E-03	5.97E-03	M	< 1.20E-03	< 2.03E-03	< 1.56E-03	2.98E-02	
3SF-CGSA-CONTROL-002	SVX-GSA-240	3	22-Sep-94	< 1.56E-03	< 6.10E-04	< 1.44E-03	5.29E-03	M	< 1.20E-03	< 2.03E-03	3.73E-03	5.37E-02	
Eastern GSA sampling zone													
3SF-EGSA-001-001	3SF-EGSA-001	1	21-Sep-94	< 1.55E-03	< 6.07E-04	< 1.43E-03	1.59E-02	M	< 1.19E-03	< 2.02E-03	1.77E-03	4.45E-02	M
3SF-EGSA-002-001	3SF-EGSA-002	3	21-Sep-94	< 1.45E-03	< 5.70E-04	< 1.34E-03	9.09E-03		< 1.12E-03	< 1.90E-03	< 1.45E-03	3.58E-02	
3SF-EGSA-003-001	3SF-EGSA-003	3	21-Sep-94	< 1.56E-03	< 6.10E-04	< 1.44E-03	7.73E-03		1.42E-03	< 2.03E-03	< 1.56E-03	4.18E-02	
3SF-EGSA-004-001	3SF-EGSA-004	2	21-Sep-94	< 1.43E-03	< 5.61E-04	< 1.32E-03	1.63E-03	M	< 1.10E-03	< 1.87E-03	< 1.43E-03	1.77E-02	M
3SF-EGSA-004-002	3SF-EGSA-004	2	21-Sep-94	1.32E-03	< 4.90E-04	< 1.15E-03	7.36E-03	M	< 9.62E-04	< 1.63E-03	< 1.25E-03	4.37E-02	M
3SF-EGSA-005-001	3SF-EGSA-005	2	21-Sep-94	< 1.18E-03	< 4.63E-04	< 1.09E-03	1.43E-03	M	< 9.07E-04	< 1.54E-03	< 1.18E-03	2.66E-02	M
3SF-EGSA-006-001	3SF-EGSA-006	3	21-Sep-94	< 1.56E-03	< 6.10E-04	< 1.44E-03	4.07E-03	M	< 1.20E-03	< 2.03E-03	< 1.56E-03	4.78E-02	
3SF-EGSA-007-001	3SF-EGSA-007	3	21-Sep-94	< 1.45E-03	< 5.70E-04	< 1.34E-03	1.04E-02		< 1.12E-03	< 1.90E-03	< 1.45E-03	3.58E-02	
3SF-EGSA-007-002	3SF-EGSA-007	3	21-Sep-94	< 1.56E-03	< 6.10E-04	< 1.44E-03	1.49E-02		< 1.20E-03	< 2.03E-03	< 1.56E-03	4.18E-02	
3SF-EGSA-008-001	3SF-EGSA-008	1	21-Sep-94	< 1.66E-03	< 6.50E-04	< 1.53E-03	1.73E-03	M	< 1.28E-03	< 2.17E-03	< 1.66E-03	5.09E-02	M
3SF-EGSA-009-001	3SF-EGSA-009	1	21-Sep-94	< 1.58E-03	< 6.21E-04	< 1.46E-03	2.96E-03	M	< 1.22E-03	< 2.07E-03	< 1.58E-03	4.88E-02	M
3SF-EGSA-010-001	3SF-EGSA-010	2	21-Sep-94	< 1.26E-03	< 4.96E-04	< 1.17E-03	1.32E-03	M	< 9.72E-04	< 1.65E-03	< 1.26E-03	5.33E-02	M
3SF-EGSA-011-001	3SF-EGSA-011	2	21-Sep-94	< 1.26E-03	< 4.96E-04	< 1.17E-03	2.64E-02	M	< 9.72E-04	< 1.65E-03	< 1.26E-03	4.12E-02	M
3SF-EGSA-012-001	3SF-EGSA-012	2	21-Sep-94	< 1.18E-03	< 4.63E-04	< 1.09E-03	3.52E-02	M	< 9.07E-04	< 1.54E-03	< 1.18E-03	3.63E-02	M
3SF-EGSA-013-001	3SF-EGSA-013	1	21-Sep-94	< 1.58E-03	< 6.21E-04	< 1.46E-03	6.06E-02		< 1.22E-03	< 2.07E-03	< 1.58E-03	4.56E-02	M
3SF-EGSA-014-001	3SF-EGSA-014	1	21-Sep-94	< 1.58E-03	< 6.21E-04	< 1.46E-03	2.07E-02		< 1.22E-03	< 2.07E-03	< 1.58E-03	7.16E-02	M
3SF-EGSA-015-001	3SF-EGSA-015	1	22-Sep-94	< 1.55E-03	< 6.07E-04	1.96E-03	< 1.01E-03		< 1.19E-03	< 2.02E-03	< 1.55E-03	6.68E-02	M
3SF-EGSA-015-002	3SF-EGSA-015	1	22-Sep-94	< 1.55E-03	< 6.07E-04	1.65E-03	< 1.01E-03		< 1.19E-03	< 2.02E-03	< 1.55E-03	4.45E-02	M
3SF-EGSA-016-001	3SF-EGSA-016	3	22-Sep-94	< 1.33E-03	< 5.20E-04	2.45E-03	< 8.67E-04		< 1.02E-03	< 1.73E-03	< 1.33E-03	3.27E-02	
3SF-EGSA-017-001	3SF-EGSA-017	3	21-Sep-94	< 1.45E-03	< 5.70E-04	< 1.34E-03	1.90E-02		< 1.12E-03	< 1.90E-03	< 1.45E-03	3.58E-02	
3SF-EGSA-017-002	3SF-EGSA-017	3	21-Sep-94	< 1.33E-03	< 5.20E-04	< 1.22E-03	2.72E-02		< 1.02E-03	< 1.73E-03	< 1.33E-03	5.18E-02	
3SF-EGSA-CONTROL-001	SVX-GSA-241	3	21-Sep-94	< 1.45E-03	< 5.70E-04	< 1.34E-03	1.76E-03	M	< 1.12E-03	< 1.90E-03	< 1.45E-03	5.37E-02	
3SF-EGSA-CONTROL-002	SVX-GSA-241	3	21-Sep-94	< 1.45E-03	< 5.70E-04	< 1.34E-03	2.31E-03	M	< 1.12E-03	< 1.90E-03	< 1.45E-03	4.78E-02	
3SF-EGSA-CONTROL-003	SVX-GSA-241	3	21-Sep-94	< 1.45E-03	< 5.70E-04	< 1.34E-03	2.03E-03	M	< 1.12E-03	< 1.90E-03	< 1.45E-03	5.67E-02	
Method blank													
3SF-WGSA-METHOD-001	GSA field	3	19-Sep-94	< 1.45E-03	< 5.70E-04	< 1.34E-03	1.15E-03		< 1.12E-03	< 1.90E-03	< 1.45E-03	2.09E-03	
3SF-WGSA-METHOD-002	GSA field	1	19-Sep-94	< 1.55E-03	< 6.07E-04	< 1.43E-03	1.37E-03		< 1.19E-03	< 2.02E-03	< 1.55E-03	2.23E-03	
3SF-WGSA-METHOD-003	GSA field	2	19-Sep-94	< 1.18E-03	< 4.63E-04	< 1.09E-03	9.47E-03		< 9.07E-04	< 1.54E-03	< 1.18E-03	1.70E-03	

Table B-2. (Continued)

Sample label	Location	Chamber No.[a]	Sample date	1,1,1-TCA	Chloromethane	Dichloro-difluoromethane	Methylene chloride	Concentration[b]	Styrene	PCE	TCE	Freon 113
3SF-CGSA-METHOD-002	GSA field	2	20-Sep-94	< 1.18E-03	< 4.63E-04	< 1.09E-03	2.75E-02		< 9.07E-04	< 1.54E-03	< 1.18E-03	1.04E-01
3SF-EGSA-METHOD-001	GSA field	1	21-Sep-94	< 1.55E-03	< 6.07E-04	< 1.43E-03	3.61E-03		< 1.19E-03	< 2.02E-03	< 1.55E-03	7.63E-02
3SF-LAB-METHOD-001	LLNL laboratory	1	29-Sep-94	< 6.00E-04	< 2.35E-04	9.02E-04	1.60E-03		< 4.61E-04	< 7.84E-04	< 6.00E-04	2.20E-02
3SF-LAB-METHOD-002	LLNL laboratory	2	29-Sep-94	< 4.72E-04	< 1.85E-04	1.26E-03	1.65E-03		< 3.63E-04	< 6.17E-04	< 4.72E-04	5.57E-02
3SF-LAB-METHOD-003	LLNL laboratory	3	29-Sep-94	< 5.60E-04	< 2.20E-04	1.03E-03	1.02E-03		< 4.31E-04	< 7.33E-04	< 5.60E-04	2.36E-01

[a] Chamber number (one through three) signifies the chamber with which the individual sample was collected.

[b] "M" qualifier in column to the right of sample result indicates concentration was less than five times the maximum VOC flux detected in any method blank using the same chamber. Results from "M" qualified samples are treated as nondetections.

Table B-3. Measured soil vapor flux rates ($\mu g/[m^2 \cdot sec]$) for aromatics and fuel hydrocarbons.

Sample label	Location	Chamber No.[a]	Sample date	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Benzene		Ethylbenzene	Toluene		m- and p-xylenes	o- xylene
Building 875 dry well sampling zone												
3SF-WGSA-001-001	3SF-WGSA-001	3	22-Sep-94	< 1.34E-03	< 1.34E-03	8.84E-04	M[b]	< 1.23E-03	1.28E-03		< 1.23E-03	< 1.23E-03
3SF-WGSA-002-001	3SF-WGSA-002	2	22-Sep-94	< 1.17E-03	< 1.17E-03	1.41E-03	M	< 1.07E-03	< 8.94E-04		< 1.07E-03	< 1.07E-03
3SF-WGSA-003-001	3SF-WGSA-003	1	22-Sep-94	< 1.53E-03	< 1.53E-03	1.46E-03	M	< 1.40E-03	1.88E-03	M	2.99E-03	< 1.40E-03
3SF-WGSA-004-001	3SF-WGSA-004	2	22-Sep-94	< 1.17E-03	< 1.17E-03	1.52E-03	M	< 1.07E-03	< 8.94E-04		< 1.07E-03	< 1.07E-03
3SF-WGSA-005-001	3SF-WGSA-005	3	22-Sep-94	2.49E-03	< 1.34E-03	2.12E-03	M	< 1.23E-03	2.50E-03		< 1.23E-03	< 1.23E-03
3SF-WGSA-006-001	3SF-WGSA-006	1	22-Sep-94	< 1.53E-03	< 1.53E-03	2.65E-03	M	< 1.40E-03	1.27E-03	M	< 1.40E-03	< 1.40E-03
3SF-WGSA-006-002	3SF-WGSA-006	1	22-Sep-94	< 1.43E-03	< 1.43E-03	2.52E-03	M	< 1.31E-03	1.72E-03	M	1.38E-03	< 1.31E-03
3SF-WGSA-007-001	3SF-WGSA-007	2	22-Sep-94	3.89E-03	< 1.09E-03	1.11E-03	M	< 9.98E-04	1.05E-02		7.13E-03	1.85E-03
3SF-WGSA-008-001	3SF-WGSA-008	1	22-Sep-94	< 1.43E-03	< 1.43E-03	1.99E-03	M	< 1.31E-03	< 1.09E-03		< 1.31E-03	< 1.31E-03
3SF-WGSA-009-001	3SF-WGSA-009	3	22-Sep-94	2.49E-03	< 1.34E-03	< 8.71E-04		< 1.23E-03	< 1.03E-03		< 1.23E-03	< 1.23E-03
3SF-WGSA-010-001	3SF-WGSA-010	1	22-Sep-94	< 1.43E-03	< 1.43E-03	1.46E-03	M	4.49E-03	< 1.09E-03		1.83E-02	3.37E-03
3SF-WGSA-011-001	3SF-WGSA-011	2	22-Sep-94	< 1.09E-03	< 1.09E-03	8.39E-04	M	< 9.98E-04	2.15E-03		< 9.98E-04	< 9.98E-04
3SF-WGSA-012-001	3SF-WGSA-012	2	22-Sep-94	< 1.09E-03	< 1.09E-03	1.11E-03	M	< 9.98E-04	< 8.34E-04		< 9.98E-04	< 9.98E-04
3SF-WGSA-CONTROL-001	SVX-GSA-242	2	22-Sep-94	< 1.09E-03	< 1.09E-03	< 7.07E-04		< 9.98E-04	1.08E-03		< 9.98E-04	< 9.98E-04
3SF-WGSA-CONTROL-002	SVX-GSA-242	2	22-Sep-94	< 1.09E-03	< 1.09E-03	< 7.07E-04		< 9.98E-04	1.19E-03		< 9.98E-04	< 9.98E-04
3SF-WGSA-CONTROL-003	SVX-GSA-242	2	22-Sep-94	< 1.09E-03	< 1.09E-03	7.48E-04	M	< 9.98E-04	1.19E-03		< 9.98E-04	< 9.98E-04
Central GSA sampling zone												
3SF-CGSA-001-001	3SF-CGSA-001	1	20-Sep-94	< 1.53E-03	< 1.53E-03	1.72E-03	M	< 1.40E-03	2.03E-03	M	1.65E-03	< 1.40E-03
3SF-CGSA-002-001	3SF-CGSA-002	3	20-Sep-94	< 1.93E-03	< 1.93E-03	2.86E-03	M	< 1.77E-03	3.59E-03		3.53E-03	< 1.77E-03
3SF-CGSA-003-001	3SF-CGSA-003	3	20-Sep-94	< 1.34E-03	< 1.34E-03	1.12E-03	M	< 1.23E-03	1.76E-03		< 1.23E-03	< 1.23E-03
3SF-CGSA-004-001	3SF-CGSA-004	3	19-Sep-94	< 1.34E-03	< 1.34E-03	1.24E-03	M	< 1.23E-03	< 1.03E-03		< 1.23E-03	< 1.23E-03
3SF-CGSA-005-001	3SF-CGSA-005	2	19-Sep-94	< 1.09E-03	< 1.09E-03	1.31E-03	M	< 9.98E-04	1.67E-03		< 9.98E-04	< 9.98E-04
3SF-CGSA-006-001	3SF-CGSA-006	1	19-Sep-94	4.28E-03	< 1.43E-03	< 9.28E-04		< 1.31E-03	1.44E-03	M	3.37E-03	2.43E-03
3SF-CGSA-007-001	3SF-CGSA-007	3	20-Sep-94	< 1.44E-03	< 1.44E-03	1.06E-03	M	< 1.32E-03	< 1.10E-03		< 1.32E-03	< 1.32E-03
3SF-CGSA-008-001	3SF-CGSA-008	1	19-Sep-94	< 1.43E-03	< 1.43E-03	1.23E-03	M	< 1.31E-03	1.16E-03	M	< 1.31E-03	< 1.31E-03
3SF-CGSA-009-001	3SF-CGSA-009	1	20-Sep-94	< 1.43E-03	< 1.43E-03	2.39E-02		< 1.31E-03	< 1.09E-03		< 1.31E-03	< 1.31E-03
3SF-CGSA-010-001	3SF-CGSA-010	2	20-Sep-94	< 1.09E-03	< 1.09E-03	7.98E-04	M	< 9.98E-04	< 8.34E-04		< 9.98E-04	< 9.98E-04
3SF-CGSA-011-001	3SF-CGSA-011	3	20-Sep-94	< 1.44E-03	< 1.44E-03	1.87E-03	M	< 1.32E-03	1.91E-03		1.76E-03	< 1.32E-03
3SF-CGSA-012-001	3SF-CGSA-012	3	20-Sep-94	< 1.44E-03	< 1.44E-03	2.49E-03	M	< 1.32E-03	< 1.10E-03		< 1.32E-03	< 1.32E-03
3SF-CGSA-012-002	3SF-CGSA-012	3	20-Sep-94	< 1.44E-03	< 1.44E-03	1.74E-03	M	< 1.32E-03	1.37E-03		< 1.32E-03	< 1.32E-03
3SF-CGSA-013-001	3SF-CGSA-013	1	20-Sep-94	< 1.43E-03	< 1.43E-03	1.46E-03	M	< 1.31E-03	1.41E-03	M	< 1.31E-03	< 1.31E-03
3SF-CGSA-014-001	3SF-CGSA-014	1	20-Sep-94	< 1.43E-03	< 1.43E-03	< 9.28E-04		< 1.31E-03	< 1.09E-03		< 1.31E-03	< 1.31E-03
3SF-CGSA-015-001	3SF-CGSA-015	2	20-Sep-94	< 1.09E-03	< 1.09E-03	< 7.07E-04		< 9.98E-04	< 8.34E-04		< 9.98E-04	< 9.98E-04
3SF-CGSA-016-001	3SF-CGSA-016	2	20-Sep-94	< 1.22E-03	< 1.22E-03	1.48E-03	M	< 1.12E-03	1.33E-03		< 1.12E-03	< 1.12E-03

Table B-3. (Continued)

Sample label	Location	Chamber No.[a]	Sample date	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Benzene		Ethylbenzene	Toluene		m- and p-xylenes	o- xylene
3SF-CGSA-016-004	3SF-CGSA-016	2	20-Sep-94	< 1.17E-03	< 1.17E-03	7.78E-04	M	< 1.07E-03	< 8.94E-04		< 1.07E-03	< 1.07E-03
3SF-CGSA-017-001	3SF-CGSA-017	3	20-Sep-94	< 1.34E-03	< 1.34E-03	1.49E-03	M	< 1.23E-03	< 1.03E-03		< 1.23E-03	< 1.23E-03
3SF-CGSA-018-001	3SF-CGSA-018	2	20-Sep-94	< 1.09E-03	< 1.09E-03	8.08E-04	M	< 9.98E-04	< 8.34E-04		< 9.98E-04	< 9.98E-04
3SF-CGSA-019-001	3SF-CGSA-019	3	20-Sep-94	< 1.44E-03	< 1.44E-03	< 9.38E-04		< 1.32E-03	< 1.11E-03		< 1.32E-03	< 1.32E-03
3SF-CGSA-020-001	3SF-CGSA-020	1	20-Sep-94	< 1.53E-03	< 1.53E-03	< 9.95E-04		< 1.40E-03	< 1.17E-03		< 1.40E-03	< 1.40E-03
3SF-CGSA-020-002	3SF-CGSA-020	1	20-Sep-94	< 1.05E-03	< 1.05E-03	< 6.79E-04		< 9.58E-04	< 8.01E-04		< 9.58E-04	< 9.58E-04
3SF-CGSA-CONTROL-001	SVX-GSA-240	3	22-Sep-94	1.76E-03	< 1.44E-03	1.37E-03	M	< 1.32E-03	< 1.10E-03		< 1.32E-03	< 1.32E-03
3SF-CGSA-CONTROL-002	SVX-GSA-240	3	22-Sep-94	9.19E-03	2.11E-03	1.08E-03	M	< 1.32E-03	1.62E-03		5.27E-03	2.11E-03
Eastern GSA sampling zone												
3SF-EGSA-001-001	3SF-EGSA-001	1	21-Sep-94	< 1.43E-03	< 1.43E-03	< 9.28E-04		< 1.31E-03	1.72E-03	M	1.87E-03	< 1.31E-03
3SF-EGSA-002-001	3SF-EGSA-002	3	21-Sep-94	1.59E-03	< 1.34E-03	1.08E-03	M	< 1.23E-03	1.47E-03		1.76E-03	< 1.23E-03
3SF-EGSA-003-001	3SF-EGSA-003	3	21-Sep-94	< 1.44E-03	< 1.44E-03	1.05E-03	M	< 1.32E-03	1.15E-03		< 1.32E-03	< 1.32E-03
3SF-EGSA-004-001	3SF-EGSA-004	2	21-Sep-94	< 1.32E-03	< 1.32E-03	1.50E-03	M	< 1.21E-03	1.39E-03		< 1.21E-03	< 1.21E-03
3SF-EGSA-004-002	3SF-EGSA-004	2	21-Sep-94	< 1.15E-03	< 1.15E-03	8.57E-04	M	< 1.06E-03	1.64E-03		< 1.06E-03	< 1.06E-03
3SF-EGSA-005-001	3SF-EGSA-005	2	21-Sep-94	1.29E-03	< 1.09E-03	1.11E-03	M	< 9.98E-04	1.67E-03		1.71E-03	< 9.98E-04
3SF-EGSA-006-001	3SF-EGSA-006	3	21-Sep-94	2.11E-03	< 1.44E-03	< 9.34E-04		< 1.32E-03	< 1.10E-03		< 1.32E-03	< 1.32E-03
3SF-EGSA-007-001	3SF-EGSA-007	3	21-Sep-94	< 1.34E-03	< 1.34E-03	9.21E-04	M	< 1.23E-03	< 1.03E-03		< 1.23E-03	< 1.23E-03
3SF-EGSA-007-002	3SF-EGSA-007	3	21-Sep-94	< 1.44E-03	< 1.44E-03	< 9.34E-04		< 1.32E-03	< 1.10E-03		< 1.32E-03	< 1.32E-03
3SF-EGSA-008-001	3SF-EGSA-008	1	21-Sep-94	< 1.53E-03	< 1.53E-03	1.33E-03	M	< 1.40E-03	1.88E-03	M	1.57E-03	< 1.40E-03
3SF-EGSA-009-001	3SF-EGSA-009	1	21-Sep-94	2.03E-03	< 1.46E-03	< 9.50E-04		< 1.34E-03	< 1.12E-03		< 1.34E-03	< 1.34E-03
3SF-EGSA-010-001	3SF-EGSA-010	2	21-Sep-94	< 1.17E-03	< 1.17E-03	9.30E-04	M	< 1.07E-03	< 8.94E-04		< 1.07E-03	< 1.07E-03
3SF-EGSA-011-001	3SF-EGSA-011	2	21-Sep-94	1.34E-03	< 1.17E-03	< 7.58E-04		< 1.07E-03	9.89E-04		1.57E-03	< 1.07E-03
3SF-EGSA-012-001	3SF-EGSA-012	2	21-Sep-94	< 1.09E-03	< 1.09E-03	< 7.07E-04		< 9.98E-04	< 8.34E-04		< 9.98E-04	< 9.98E-04
3SF-EGSA-013-001	3SF-EGSA-013	1	21-Sep-94	< 1.46E-03	< 1.46E-03	< 9.50E-04		< 1.34E-03	1.20E-03	M	1.59E-03	1.45E-03
3SF-EGSA-014-001	3SF-EGSA-014	1	21-Sep-94	< 1.46E-03	< 1.46E-03	< 9.50E-04		< 1.34E-03	1.76E-03	M	2.87E-03	< 1.34E-03
3SF-EGSA-015-001	3SF-EGSA-015	1	22-Sep-94	< 1.43E-03	< 1.43E-03	1.72E-03	M	< 1.31E-03	1.56E-03	M	< 1.31E-03	< 1.31E-03
3SF-EGSA-015-002	3SF-EGSA-015	1	22-Sep-94	< 1.43E-03	< 1.43E-03	1.18E-03	M	< 1.31E-03	1.14E-03	M	< 1.31E-03	< 1.31E-03
3SF-EGSA-016-001	3SF-EGSA-016	3	22-Sep-94	< 1.22E-03	< 1.22E-03	1.36E-03	M	< 1.12E-03	1.19E-03		< 1.12E-03	< 1.12E-03
3SF-EGSA-017-001	3SF-EGSA-017	3	21-Sep-94	< 1.34E-03	< 1.34E-03	< 8.71E-04		< 1.23E-03	< 1.03E-03		< 1.23E-03	< 1.23E-03
3SF-EGSA-017-002	3SF-EGSA-017	3	21-Sep-94	< 1.22E-03	< 1.22E-03	< 7.95E-04		< 1.12E-03	1.18E-03		2.56E-03	< 1.12E-03
3SF-EGSA-CONTROL-001	SVX-GSA-241	3	21-Sep-94	< 1.34E-03	< 1.34E-03	1.49E-03	M	< 1.23E-03	1.62E-03		< 1.23E-03	< 1.23E-03
3SF-EGSA-CONTROL-002	SVX-GSA-241	3	21-Sep-94	< 1.34E-03	< 1.34E-03	< 8.71E-04		< 1.23E-03	1.19E-03		< 1.23E-03	< 1.23E-03
3SF-EGSA-CONTROL-003	SVX-GSA-241	3	21-Sep-94	< 1.34E-03	< 1.34E-03	< 8.71E-04		< 1.23E-03	< 1.03E-03		< 1.23E-03	< 1.23E-03
Method blanks												
3SF-WGSA-METHOD-001	GSA field	3	19-Sep-94	< 1.34E-03	< 1.34E-03	1.08E-03		< 1.23E-03	< 1.03E-03		< 1.23E-03	< 1.23E-03
3SF-WGSA-METHOD-002	GSA field	1	19-Sep-94	< 1.43E-03	< 1.43E-03	1.11E-03		< 1.31E-03	< 1.09E-03		< 1.31E-03	< 1.31E-03

Table B-3. (Continued)

Sample label	Location	Chamber No.[a]	Sample date	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Benzene	Ethylbenzene	Toluene	m- and p-xylenes	o- xylene
3SF-WGSA-METHOD-003	GSA field	2	19-Sep-94	< 1.09E-03	< 1.09E-03	< 7.07E-04	< 9.98E-04	< 8.34E-04	< 9.98E-04	< 9.98E-04
3SF-CGSA-METHOD-002	GSA field	2	20-Sep-94	< 1.09E-03	< 1.09E-03	1.11E-03	< 9.98E-04	< 8.34E-04	< 9.98E-04	< 9.98E-0 4
3SF-EGSA-METHOD-001	GSA field	1	21-Sep-94	< 1.43E-03	< 1.43E-03	< 9.28E-04	< 1.31E-03	1.16E-03	< 1.31E-03	< 1.31E-03
3SF-LAB-METHOD-001	LLNL laboratory	1	29-Sep-94	< 5.53E-04	< 5.53E-04	3.86E-04	< 5.07E-04	4.24E-04	< 5.07E-04	< 5.07E-04
3SF-LAB-METHOD-002	LLNL laboratory	2	29-Sep-94	< 4.35E-04	< 4.35E-04	4.04E-04	< 3.99E-04	5.48E-04	4.99E-04	< 3.99E-04
3SF-LAB-METHOD-003	LLNL laboratory	3	29-Sep-94	< 5.17E-04	< 5.17E-04	3.61E-04	< 4.74E-04	5.58E-04	5.09E-04	< 4.74E-04

a Chamber number (one through three) signifies the chamber with which the individual sample was collected.

b "M" qualifier in column to the right of sample result indicates concentration was less than five times the maximum VOC flux detected in any method blank using the same chamber. Results from "M" qualified samples are treated as nondetections.

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Appendix C

Evaluation of Cumulative Data on Ground Water Contamination in the GSA

Appendix C

Evaluation of Cumulative Data on Ground Water Contamination in the General Services Area Operable Unit

This appendix presents summary statistics for contaminants detected in ground water in the General Services Area (GSA) operable unit (OU). The primary purpose of this appendix is to provide an overview of contaminant concentrations in ground water, based on data collected through September 30, 1994.

In the Site-Wide Remedial Investigation (SWRI) report (Webster-Scholten, 1994), we presented summary statistics for contaminants detected in ground water in the vicinity of the Building 875 dry wells and the eastern GSA debris burial trenches. These calculated values were based on data collected through March 31, 1992, for the Building 875 dry well area, and through December 31, 1991, for the eastern GSA. Since that time, acquisition and analysis of additional site characterization data have changed our understanding of the number and location of release areas in the GSA. On the basis of data acquired since completion of the SWRI report, we have identified six locations as primary release sites for ground water contamination in the GSA. The release areas are the Building 875 dry wells; Building 872/873 dry wells; central GSA debris trenches; a solvent drum rack; eastern GSA debris trenches (alluvial); and the eastern GSA debris trenches ($Tnbs_1$). Ground water monitor wells that characterize contamination in the vicinity of each release site are listed in Table C-1.

We used data from each of the ground water monitor well groups listed in Table C-1 to calculate the 95% Upper Confidence Limit (95% UCL) of the mean concentration of VOCs in ground water. Table C-2 presents the 95% UCLs for contaminants detected in ground water near the Building 875 dry wells. Table C-3 provides the 95% UCLs for this release site originally presented in the SWRI report. Tables C-4 through C-8 provide the 95% UCLs for VOCs detected in ground water for all other monitor well groups listed in Table C-1. Tables C-2 through C-8 also give data on the number of samples, frequency of detection, and maximum and mean concentrations. A discussion of the statistical methods used to calculate the 95% UCLs is presented in Appendix P of the SWRI report (Webster-Scholten, 1994).

C-1. Building 875 Dry Wells

The group of ground water monitor wells that characterize contamination in the vicinity of the Building 875 dry wells is the only monitor well set retained from the SWRI report. We examined data obtained between March 31, 1992, and September 30, 1994, to determine if any substances have been detected in ground water in this area other than those previously identified as contaminants of potential concern. This comparison indicates that there have been multiple detections of 1,1,2-trichloroethane, 1,1-dichloroethane, 1,2-dichloroethane, chlorobenzene, chloroform, cis-1,2-dichloroethylene, and trans-1,2-dichloroethylene; none of these substances had been detected in ground water in this area at the time of the SWRI. In addition, 1,2-dichloroethylene (total isomers) and toluene have been detected at concentrations higher than had been observed at the time of the SWRI. These new maxima resulted in higher 95% UCLs for the 1,2-dichloroethylene analyses relative to values presented in the SWRI report. The 95% UCL for toluene has decreased, however. In addition, the 95% UCLs for 1,1-dichloroethylene and trichloroethylene have increased compared to values calculated for the SWRI at the same time that those for tetrachloroethylene, xylenes (total isomers), and 1,1,-trichloroethane have decreased. The 95% UCLs were not calculated previously for benzene and ethylbenzene, rather maximum concentrations were reported. Summary statistics for all contaminants in this area are given in Table C-2. Table C-3 provides the baseline statistics for contaminants in this area which were originally presented in Chapter 4 of the SWRI report.

C-2. Building 872/873 Dry Wells

For the Building 872/873 dry well release area, trichlorofluoromethane (Freon 11) is the primary ground water contaminant, based both on the frequency of detection (88.7%) and a maximum measured concentration of 1.6×10^2 µg/L in representative wells (Table C-1). The 95% UCL of trichlorofluoromethane is 4.66×10^1 µg/L. Trichloroethylene has been detected in nearly 100% of the samples, but this contaminant has both a lower maximum concentration and lower 95% UCL than trichlorofluoromethane (6.3×10^1 µg/L and 2.58×10^1 µg/L, respectively). Statistical data for these and other VOCs detected in this release area are provided in Table C-4.

C-3. Central GSA Debris Trenches

The central GSA debris trenches have contaminated the $Tnbs_1$ aquifer with a number of VOCs. Trichloroethylene, the principal contaminant, has been detected in 83.6% of the samples from representative wells (Table C-1), at a maximum concentration of 3.1×10^1 µg/L (Table C-5). The corresponding 95% UCL for trichloroethylene is 8.14×10^0 µg/L. Cis-1,2-dichloroethylene and 1,2-dichloroethylene (total isomers) have been detected with approximately equal frequency (33.3 and 27.3%, respectively) in ground water from this area. The maximum measured concentration for these two analytes are identical (1.9×10^0 µg/L), indicating the analyses for the total isomers are probably simply reflecting the presence of cis-1,2-dichloroethylene. However, the trans-isomer has not been specifically analyzed for. Other than trichloroethylene, none of the VOCs in ground water in this release area yielded 95% UCLs greater than 1.0 µg/L (Table C-5).

C-4. Solvent Drum Rack

Trichloroethylene is the primary ground water contaminant in wells that characterize the solvent drum rack release area and has been detected in 100% of samples from representative wells (Table C-1). The maximum measured concentration of trichloroethylene from this area is 1.9×10^2 µg/L; the 95% UCL is 9.87×10^1 µg/L (Table C-6). Cis-1,2-dichloroethylene and 1,2-dichloroethylene (total isomers) have also been commonly detected (38.5 and 39.3% frequency-of-detection, respectively). The maximum measured concentration of 1,2-dichloroethylene (total isomers) is 8.8×10^1 µg/L; that of cis-1,2-dichloroethylene is 1.2×10^1 µg/L, indicating that trans-1,2-dichloroethylene may be responsible for the higher concentrations reflected in the analyses of total isomers (specific analyses of the trans-isomer are not available). Summary information for all ground water contaminants in this release area are presented in Table C-6.

C-5. Eastern GSA Debris Trenches (Alluvial Aquifer)

Trichloroethylene, tetrachloroethylene, and xylenes (total isomers) are the only substances that have been detected in ground water samples from monitor wells that characterize the alluvial aquifer contaminated by the eastern GSA debris trenches (Table C-1). As is typical of most of the ground water in the GSA OU, trichloroethylene is the principal contaminant, having been detected in 96.0% of samples. The maximum concentration of trichloroethylene in this area is 6.9×10^1 µg/L; the 95% UCL is 2.51×10^1 µg/L. Table C-7 presents these values as well as summary statistics for tetrachloroethylene and xylenes (total isomers) in this area.

C-6. Eastern GSA Debris Trenches ($Tnbs_1$ Aquifer)

Releases from the eastern GSA debris burial trenches have also contaminated the $Tnbs_1$ regional aquifer. Contaminants include trichloroethylene, tetrachloroethylene, and the trihalomethanes—bromoform, bromodichloromethane, chloroform, and dibromochloromethane. Again, trichloroethylene is the main contaminant with a 95.5% frequency-of-detection. The maximum concentration of trichloroethylene is 7.1×10^1 µg/L, and the 95% UCL is 5.59×10^1 µg/L. Tetrachloroethylene has been detected in 53.0% of samples but is present at very low concentrations (maximum concentration, 4.4×10^0 µg/L, 95% UCL, 2.35×10^0 µg/L). Of the trihalomethanes, chloroform is the only one that has been detected with any consistency (15.2% of the samples). The maximum measured concentration of chloroform is 4.2×10^1 µg/L, and the 95% UCL is 3.10×10^0 µg/L. Summary statistics for all ground water contaminants in wells representative of this area are given in Table C-8.

C-7. Reference

Webster-Scholten, C. P., Ed. (1994), *Final Site-Wide Remedial Investigation Report, Lawrence Livermore National Laboratory Site 300*, Lawrence Livermore National Laboratory, Livermore, Calif. (UCRL-AR-108131).

Table C-1. Representative wells that delineate sources of ground water contamination in the GSA operable unit.

Release site	Representative wells
Building 875 dry wells	W-875-07
	W-875-08
	W-875-09
	W-875-11
	W-7I
Building 872/873 dry wells	W-872-02
	W-873-02
	W-873-06
	W-873-07
	W-35A-10
Central GSA debris trenches ($Tnbs_1$)	W-7P
	W-7N
	W-7B
	W-7L
Solvent drum rack	W-875-01
	W-875-06
	W-876-01
	W-889-01
Eastern GSA debris trenches (alluvial)	W-25D-02
	W-25M-02
	W-25M-03
	W-25N-01
	W-25N-05
	W-25N-06
	W-25N-15
	W-26R-03
Eastern GSA debris trenches ($Tnbs_1$)	W-26R-01
	W-26R-06
	W-26R-07
	W-25N-09
	W-26N-21

Table C-2. Summary statistics for contaminants in ground water in the GSA operable unit: Building 875 dry wells.

Contaminant	Frequency of detection (%)	No. of detections/no. of samples	Maximum concentration (µg/L)	Mean concentration (µg/L)[a]	95% UCL (µg/L)
1,1,1-Trichloroethane	26.0	13/50	2.0×10^3	1.07×10^2	1.98×10^2
1,1,2-Trichloroethane	10.0	5/50	7.9×10^1	1.48×10^1	2.72×10^1
1,1-Dichloroethane	10.0	5/50	3.8×10^1	1.08×10^1	1.73×10^1
1,1-Dichloroethylene	34.0	17/50	4.0×10^3	3.35×10^2	1.01×10^3
1,2-Dichloroethane	10.0	5/50	3.9×10^1	9.63×10^0	1.44×10^1
1,2-Dichloroethylene (t)	34.0	17/50	1.6×10^3	2.69×10^2	6.90×10^2
Benzene	21.9	7/32	5.0×10^1	1.13×10^1	1.90×10^1
Chlorobenzene	10.0	5/50	4.8×10^1	8.90×10^0	1.38×10^1
Chloroform	10.0	5/50	3.8×10^1	1.04×10^1	1.57×10^1
Ethylbenzene	9.4	3/32	6.0×10^1	7.84×10^0	4.32×10^1
Tetrachloroethylene	100.0	50/50	2.5×10^4	2.37×10^3	3.28×10^3
Toluene	18.8	6/32	5.0×10^2	1.71×10^1	5.41×10^1
Trichloroethylene	100.0	50/50	2.4×10^5	2.47×10^4	3.61×10^4
Xylenes (total isomers)	12.5	4/32	2.7×10^2	2.16×10^1	1.44×10^2
cis-1,2-Dichloroethylene	44.1	15/34	1.6×10^3	3.74×10^2	1.22×10^3
trans-1,2-Dichloroethylene	11.8	4/34	3.2×10^1	8.00×10^0	1.25×10^1

[a] Estimate of the arithmetic mean of the log-normal distribution.

Table C-3. Summary statistics for ground water contaminants in the vicinity of the Building 875 dry wells, baseline data set[a].

Contaminant	Units	Maximum concentration	Mean concentration[a]	95% UCL
1,1,1-Trichloroethane	µg/L	2.0×10^3	1.58×10^2	1.22×10^3
1,1-Dichloroethylene	µg/L	4.0×10^3	2.99×10^2	8.03×10^2
1,2-Dichloroethylene (total)	µg/L	1.0×10^3	1.21×10^2	7.16×10^2
Benzene	µg/L	5.0×10^1	NA	5.00×10^1[b]
Ethylbenzene	µg/L	6.0×10^1	NA	6.00×10^1[b]
Tetrachloroethylene	µg/L	2.5×10^4	1.97×10^3	8.11×10^3
Toluene	µg/L	2.2×10^2	5.08×10^1	1.41×10^2
Trichloroethylene	µg/L	2.4×10^5	9.04×10^3	3.58×10^4
Xylenes (total isomers)	µg/L	2.7×10^2	6.51×10^1	1.75×10^2

[a] Values include data collected through March 31, 1992, and originally presented in SWRI, Chapter 4 (Webster-Scholten, 1994).

[b] These values represent the maximum measured concentration. A 95% UCL was not calculated.

Table C-4. Summary statistics for contaminants in ground water in the GSA operable unit: Building 872/873 dry wells.

Contaminant	Frequency of detection (%)	No. of detections/no. of samples	Maximum concentration (μg/L)	Mean concentration (μg/L)[a]	95% UCL (μg/L)
1,1-Dichloroethylene	37.7	20/53	5.9×10^{0}	8.60×10^{-1}	1.27×10^{0}
Acetone	16.7	1/6	8.2×10^{0}	3.24×10^{0}	6.08×10^{0}
Chloroform	20.8	11/53	7.4×10^{0}	4.57×10^{-1}	7.33×10^{-1}
Tetrachloroethylene	5.7	3/53	1.3×10^{0}	1.76×10^{-1}	3.02×10^{-1}
Toluene	10.3	3/29	1.0×10^{0}	1.93×10^{-1}	3.16×10^{-1}
Trichloroethylene	98.1	52/53	6.3×10^{1}	1.94×10^{1}	2.58×10^{1}
Trichlorofluoromethane	88.7	47/53	1.6×10^{2}	3.68×10^{1}	4.66×10^{1}
Trichlorotrifluoroethane	9.4	5/53	5.1×10^{0}	4.94×10^{-1}	2.07×10^{0}
Xylenes (total isomers)	6.9	2/29	1.0×10^{0}	2.02×10^{-1}	3.72×10^{-1}

[a] Estimate of the arithmetic mean of the log-normal distribution.

Table C-5. Summary statistics for contaminants in ground water in the GSA operable unit: central GSA debris trenches ($Tnbs_1$).

Contaminant	Frequency of detection (%)	No. of detections/no. of samples	Maximum concentration (µg/L)	Mean concentration (µg/L)[a]	95% UCL (µg/L)
1,2-Dichloroethylene (t)	27.3	18/66	1.9×10^{0}	4.43×10^{-1}	5.39×10^{-1}
Tetrachloroethylene	16.7	11/66	1.7×10^{0}	3.26×10^{-1}	6.44×10^{-1}
Toluene	4.5	1/22	1.0×10^{0}	9.35×10^{-2}	2.62×10^{-1}
Trichloroethylene	83.6	56/67	3.1×10^{1}	6.36×10^{0}	8.14×10^{0}
Trichlorotrifluoroethane	3.1	2/65	2.3×10^{0}	2.01×10^{-1}	2.60×10^{-1}
Xylenes (total isomers)	4.8	1/21	9.6×10^{-1}	1.41×10^{-1}	3.38×10^{-1}
cis-1,2-Dichloroethylene	33.3	12/36	1.9×10^{0}	5.40×10^{-1}	7.14×10^{-1}

[a] Estimate of the arithmetic mean of the log-normal distribution.

Table C-6. Summary statistics for contaminants in ground water in the GSA operable unit: solvent drum rack.

Contaminant	Frequency of detection (%)	No. of detections/no. of samples	Maximum concentration (µg/L)	Mean concentration (µg/L)[a]	95% UCL (µg/L)
1,1-Dichloroethylene	3.3	2/61	1.5×10^{0}	9.85×10^{-2}	1.98×10^{-1}
1,2-Dichloroethylene (t)	39.3	24/61	8.8×10^{1}	4.45×10^{0}	1.13×10^{1}
Chloroform	8.2	5/61	1.4×10^{0}	2.01×10^{-1}	3.05×10^{-1}
Tetrachloroethylene	29.5	18/61	6.5×10^{0}	1.16×10^{0}	1.64×10^{0}
Trichloroethylene	100.0	61/61	1.9×10^{2}	6.38×10^{1}	9.87×10^{1}
Trichlorotrifluoroethane	3.3	2/61	7.9×10^{0}	1.42×10^{-1}	1.49×10^{0}
cis-1,2-Dichloroethylene	38.5	15/39	1.2×10^{1}	3.20×10^{0}	8.52×10^{0}

[a] Estimate of the arithmetic mean of the log-normal distribution.

Table C-7. Summary statistics for contaminants in ground water in the GSA operable unit: eastern GSA debris trenches (alluvial).

Contaminant	Frequency of detection (%)	No. of detections/no. of samples	Maximum concentration (µg/L)	Mean concentration (µg/L)[a]	95% UCL (µg/L)
Tetrachloroethylene	50.7	102/201	5.3×10^{0}	8.63×10^{-1}	9.81×10^{-1}
Trichloroethylene	96.0	193/201	6.9×10^{1}	2.00×10^{1}	2.51×10^{1}
Xylenes (total isomers)	4.5	4/89	1.4×10^{0}	1.23×10^{-1}	2.04×10^{-1}

[a] Estimate of the arithmetic mean of the log-normal distribution.

Table C-8. Summary statistics for contaminants in ground water in the GSA operable unit: eastern GSA debris trenches ($Tnbs_1$).

Contaminant	Frequency of detection (%)	No. of detections/no. of samples	Maximum concentration (µg/L)	Mean concentration (µg/L)[a]	95% UCL (µg/L)
Bromodichloromethane	6.1	4/66	3.3×10^{0}	1.62×10^{-1}	3.32×10^{-1}
Bromoform	4.5	3/66	2.5×10^{1}	3.80×10^{-1}	3.69×10^{0}
Carbon disulfide	16.7	1/6	1.0×10^{0}	3.89×10^{-1}	7.49×10^{-1}
Chloroform	15.2	10/66	4.2×10^{1}	1.01×10^{0}	3.10×10^{0}
Dibromochloromethane	4.5	3/66	1.6×10^{1}	2.49×10^{-1}	1.84×10^{0}
Tetrachloroethylene	53.0	35/66	4.4×10^{0}	1.66×10^{0}	2.35×10^{0}
Trichloroethylene	95.5	63/66	7.1×10^{1}	3.10×10^{1}	5.59×10^{1}
Trichlorotrifluoroethane	3.1	2/65	1.5×10^{1}	2.46×10^{-1}	5.17×10^{0}
Xylenes (total isomers)	4.2	1/24	6.0×10^{-1}	3.00×10^{-1}	5.34×10^{-1}

[a] Estimate of the arithmetic mean of the log-normal distribution.

Appendix A

Supporting Characterization Data

Appendix A
Section A-1

Summary Figures of Stratigraphic Units, Borehole Geophysics, Well Completions, and Lithology for New GSA Monitor Wells

Appendix A
Section A-2

Ground and Surface Water Analyses for the GSA Operable Unit

Appendix A
Section A-2.1

Ground and Surface Water Analyses for Volatile Organic Compounds Sampled Before September 31, 1994, and Recorded by November 17, 1994

VOCs in Ground Water, GSA, Site 300
18-nov-1994

Min Sample Date
01-jan-1970
Max Sample Date
30-sep-1994

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite										
CDF1										
21-may-1987	BC	bh	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
21-may-1987	BC	beh	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
26-jul-1988	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
09-nov-1988	BC	b	N	<0.5 P	–	–	0.6 P	<0.5 P	<0.5 P	<0.5 P
23-jan-1989	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-mar-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-apr-1989	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-may-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-jul-1989	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
14-aug-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-sep-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-oct-1989	BC	b	N	<0.5 P	<0.5 P	<0.5 P	–	<0.5 P	<0.5 P	<0.5 P
16-nov-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-dec-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-feb-1990	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-mar-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-apr-1990	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-jun-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-sep-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-oct-1990	BC	be	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-dec-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-jan-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-mar-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-jun-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-jun-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-aug-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-nov-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-jan-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	<0.2 P	<0.2 P
18-feb-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-mar-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-apr-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–	0.3 P	<0.2 P	<0.2 P
15-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-jul-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	<0.2 P	<0.2 P
14-aug-1992	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-aug-1992	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-sep-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-oct-1992	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-oct-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	<0.2 P	<0.2 P
19-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-jan-1993	BC	b	N	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
19-feb-1993	BC	a	V	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	<0.2 P	<0.2 P
19-feb-1993	CL	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-mar-1993	BC	a	V	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
12-mar-1993	CL	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
05-may-1993	BC	b	N	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
14-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
28-jul-1993	CS	b	N	<1 U	<1 U	<1 U	–	<1 U	<1 U	<1 U
13-aug-1993	CS	a	V	<1 U	<1 U	<1 U	–	<0.5 U	<1 U	<1 U
27-sep-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
13-oct-1993	CS	b	N	<1 U	<1 U	<1 U	–	<0.5 U	<1 U	<1 U
18-nov-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
16-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
07-jan-1994	GT	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
20-jan-1994	CS	b	N	<1 U	<1 U	<1 U	–	<0.5 U	<1 U	<1 U

30-sept-1994 ?

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						GSA Study Area and Offsite
						CDF1
<1 P	<1 P	<1 P	<1 P	–	<1 P	21-may-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	21-may-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	26-jul-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-nov-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jan-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-mar-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-may-1989
<1 P	<1 P	<1 P	<1 P	–	<1 P	06-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-sep-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-nov-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-dec-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-mar-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-jun-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-sep-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-oct-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-dec-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-jan-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-mar-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-jun-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-jun-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-dec-1991
<0.2 P	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	08-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-feb-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-mar-1992
<0.2 P	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	29-apr-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-jun-1992
<0.2 P	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	22-jul-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-sep-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-oct-1992
<0.2 P	<0.3 P	<0.2 P	<1 P	–	<0.3 P	26-oct-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-nov-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<1 P	<0.5 P	16-dec-1992
<0.2 U	<0.3 U	<0.2 U	<1 U	–	<0.3 U	27-jan-1993
<0.2 P	<0.3 P	<0.2 P	<1 P	–	<0.3 P	19-feb-1993
<0.5 P	<0.5 P	<0.5 P	<0.5 P	–	<0.5 P	19-feb-1993
<0.2 U	<0.3 U	<0.2 U	<1 U	–	<0.3 U	12-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	12-mar-1993
<0.2 U	<0.3 U	<0.2 U	<1 U	–	<0.3 U	05-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	14-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	15-jun-1993
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	28-jul-1993
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	13-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-sep-1993
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	13-oct-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-nov-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5	<0.5 U	16-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	07-jan-1994
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	20-jan-1994

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
CDF1 (continued)										
15-feb-1994	CS	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-feb-1994	GT	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
11-mar-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
07-apr-1994	CS	b	N	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
10-may-1994	CS	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
10-may-1994	GT	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-jun-1994	CS	a	V	<0.5 HU	–	–	<0.5 HU	<0.5 HU	<0.5 HU	<0.5 HU
14-jun-1994	GT	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
11-aug-1994	CS	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
11-aug-1994	GT	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
17-aug-1994	CS	b	N	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
CON1										
16-dec-1982	BC	a	U	–	–	–	–	<0.5 P	–	–
26-jul-1988	BC	bh	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
26-jul-1988	BC	beh	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
09-nov-1988	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jan-1989	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-mar-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-apr-1989	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-may-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-jul-1989	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
14-aug-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-sep-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-oct-1989	BC	b	N	<0.5 P	<0.5 P	<0.5 P	–	<0.5 P	<0.5 P	<0.5 P
16-nov-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-dec-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-feb-1990	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-mar-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-apr-1990	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-jun-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-sep-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-oct-1990	BC	be	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-dec-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-jan-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-mar-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-jun-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-jun-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-aug-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-aug-1991	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-aug-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-nov-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-jan-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	<0.2 P	<0.2 P
18-feb-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-mar-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-apr-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	<0.2 P	<0.2 P
15-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-jul-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	<0.2 P	<0.2 P
14-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-sep-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-oct-1992	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-oct-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	<0.2 P	<0.2 P
19-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-jan-1993	BC	b	N	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
19-feb-1993	BC	a	V	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	<0.2 P	<0.2 P
19-feb-1993	CL	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-mar-1993	BC	a	V	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) CDF1
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	15-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-mar-1994
<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	07-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-may-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	10-may-1994
<0.5 HU	<0.5 HU	<0.5 HU	<0.5 HU	<0.5 HU	<0.5 HU	14-jun-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	14-jun-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-aug-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	11-aug-1994
<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	17-aug-1994
						CON1
–	–	–	–	–	–	16-dec-1982
<1 P	<1 P	<1 P	<1 P	–	<1 P	26-jul-1988
<1 P	<1 P	<1 P	<1 P	–	<1 P	26-jul-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-nov-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jan-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-mar-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-may-1989
<1 P	<1 P	<1 P	<1 P	–	<1 P	06-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-sep-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-nov-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-dec-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-mar-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-jun-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-sep-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-oct-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-dec-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-jan-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-mar-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-jun-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-jun-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-dec-1991
<0.2 P	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	08-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-feb-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-mar-1992
<0.2 P	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	29-apr-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-jun-1992
<0.2 P	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	22-jul-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-sep-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-oct-1992
<0.2 P	<0.3 P	<0.2 P	<1 P	–	<0.3 P	26-oct-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-nov-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<1 P	<0.5 P	16-dec-1992
<0.2 U	<0.3 U	<0.2 U	<1 U	–	<0.3 U	27-jan-1993
<0.2 P	<0.3 P	<0.2 P	<1 P	–	<0.3 P	19-feb-1993
<0.5 P	<0.5 P	<0.5 P	<0.5 P	–	<0.5 P	19-feb-1993
<0.2 U	<0.3 U	<0.2 U	<1 U	–	<0.3 U	12-mar-1993

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
CON1 (continued)										
12-mar-1993	CL	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
05-may-1993	BC	b	N	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
14-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
28-jul-1993	CS	b	N	<1 U	<1 U	<1 U	–	<0.5 U	<1 U	<1 U
13-aug-1993	CS	a	V	<1 U	<1 U	<1 U	–	<0.5 U	<1 U	<1 U
27-sep-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
13-oct-1993	CS	bh	N	<1 U	<1 U	<1 U	–	<0.5 U	<1 U	<1 U
13-oct-1993	CS	beh	N	<1 U	<1 U	<1 U	–	<0.5 U	<1 U	<1 U
18-nov-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-dec-1993	CS	a	V	<0.5 U	–	–	0.7	2.8 s	<0.5 U	<0.5 U
07-jan-1994	CS	agh	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
07-jan-1994	CS	agh	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
07-jan-1994	GT	agh	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
12-jan-1994	CS	bh	N	<1 U	<1 U	<1 U	–	<0.5 U	<1 U	<1 U
12-jan-1994	CS	beh	N	<1 U	<1 U	<1 U	–	<0.5 U	<1 U	<1 U
15-feb-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-feb-1994	GT	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
11-mar-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
07-apr-1994	CS	b	N	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
10-may-1994	CS	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
10-may-1994	GT	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-jun-1994	CS	ag	V	<0.5 HU	–	–	<0.5 HU	<0.5 HU	<0.5 HU	<0.5 HU
14-jun-1994	GT	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
11-aug-1994	CS	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
11-aug-1994	GT	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
17-aug-1994	CS	b	N	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
CON2										
02-may-1989	BC	a	U	<1 P	–	–	<1 P	1 P	<1 P	<1 P
05-may-1989	BC	a	U	<0.5 P	–	–	<0.5 P	1.2 P	<0.5 P	<0.5 P
26-jul-1989	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-aug-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-sep-1989	BC	a	U	<0.5 P	–	–	<0.5 P	0.5 P	<0.5 P	<0.5 P
17-oct-1989	BC	b	N	<0.5 P	<0.5 P	<0.5 P	–	<0.5 P	<0.5 P	<0.5 P
16-nov-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-dec-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-feb-1990	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-mar-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1 P	<0.5 P	<0.5 P
24-apr-1990	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.5 P	<0.5 P	<0.5 P
18-jun-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-jul-1990	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.7 P	<0.5 P	<0.5 P
19-sep-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-oct-1990	BC	be	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-dec-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-jan-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-mar-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1991	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-jun-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-jun-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-aug-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-nov-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1 P	<0.5 P	<0.5 P
25-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.2 P	<0.5 P	<0.5 P
16-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-jan-1992	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.7 P	<0.5 P	<0.5 P
18-feb-1992	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-feb-1992	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-mar-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-apr-1992	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) CON1
<0.5 U	<0.5 U	<0.5 U	<0.5 U	-	<0.5 U	12-mar-1993
<0.2 U	<0.3 U	<0.2 U	<1 U	-	<0.3 U	05-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	14-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	15-jun-1993
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	28-jul-1993
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	13-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-sep-1993
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	13-oct-1993
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	13-oct-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-nov-1993
<0.5 Us	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	07-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	07-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	-	<0.5 U	07-jan-1994
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	12-jan-1994
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	12-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	-	<0.5 U	15-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-mar-1994
<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	07-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-may-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	-	<0.5 U	10-may-1994
<0.5 HU	<0.5 HU	<0.5 HU	<0.5 HU	<0.5 HU	<0.5 HU	14-jun-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	-	<0.5 U	14-jun-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-aug-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	-	<0.5 U	11-aug-1994
<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	17-aug-1994
						CON2
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	02-may-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-may-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-sep-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-nov-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-dec-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-mar-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-jun-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-jul-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-sep-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-oct-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-dec-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-jan-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-mar-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-jun-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-jun-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-dec-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-feb-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-feb-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-mar-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-apr-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1992

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
CON2 (continued)										
23-jun-1992	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jun-1992	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jul-1992	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-sep-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-oct-1992	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-feb-1993	BC	bh	N	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-feb-1993	BC	beh	N	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
19-feb-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
05-may-1993	BC	b	N	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
27-jul-1993	CS	bh	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
27-jul-1993	CS	beh	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
13-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
27-sep-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
13-oct-1993	CS	b	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
19-nov-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
16-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
19-jan-1994	CS	b	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
26-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
07-apr-1994	CS	b	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
13-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
02-sep-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
GALLO2										
09-jun-1987	BC	bh	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
09-jun-1987	BC	bh	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
09-nov-1988	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
16-oct-1989	BC	b	N	<0.5 P	<0.5 P	<0.5 P	–	<0.5 P	<0.5 P	<0.5 P
08-aug-1990	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-sep-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-nov-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-aug-1993	CS	a	V	<1 U	<1 U	<1 U	–	<0.5 U	<1 U	<1 U
GALLO3										
15-jun-1993	CL	b	N	<0.2 U	<0.4 U	<0.4 U	<0.4 U	<0.3 U	<0.5 U	<0.4 U
W-24P-03										
09-aug-1991	CH	a	U	–	–	–	–	<0.5 P	–	–
16-sep-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-jun-1993	BC	a	U	<0.5 UH	<0.5 UH	<0.5 UH	<0.5 UH	<0.5 UH	<0.5 UH	<0.5 UH
W-25D-01										
20-dec-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1990	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1990	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	<0.3 P	<0.5 P	<0.4 P
07-aug-1990	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-aug-1990	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-dec-1992	BC	ah	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-dec-1992	BC	aeh	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
22-dec-1993	CS	ah	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
22-dec-1993	CS	aeh	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
19-apr-1994	CS	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
19-apr-1994	GT	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-jul-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) CON2
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jul-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-sep-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-oct-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-nov-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	18-feb-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	18-feb-1993
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<1 P	<0.5 P	19-feb-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	12-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	05-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	14-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	15-jun-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-sep-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-oct-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	19-nov-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5	<0.5 U	16-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	19-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	26-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	07-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-sep-1994
						GALLO2
<1 P	<1 P	<1 P	<1 P	–	<1 P	09-jun-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	09-jun-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	09-nov-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-aug-1990
<0.5 P	0.6 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-nov-1991
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	16-aug-1993
						GALLO3
<0.3 U	<0.5 U	<0.5 U	<0.4 U	<0.6 U	<0.6 U	15-jun-1993
						W-24P-03
–	–	–	–	–	–	09-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-sep-1992
<0.5 UH	<0.5 UH	<0.5 UH	<0.5 UH	<1 UH	<0.5 UH	24-jun-1993
						W-25D-01
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-dec-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1990
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	15-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-dec-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	20-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	19-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	19-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-jul-1994

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-25D-02										
20-dec-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	7.6 P	<0.5 P	<0.5 P
15-may-1990	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1990	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	8.5 P	<0.5 P	<0.4 P
07-aug-1990	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	6.4 P	<0.5 P	<0.5 P
07-aug-1990	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12 P	<0.5 P	<0.5 P
01-nov-1990	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	9.6 P	<0.5 P	<0.5 P
01-nov-1990	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.7 P	<0.5 P	<0.5 P
13-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.9 P	<0.5 P	<0.5 P
26-apr-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.2 P	<0.5 P	<0.5 P
26-apr-1991	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	5.4 P	<0.5 P	<0.4 P
26-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.9 P	<0.5 P	<0.5 P
04-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	8.1 P	<0.5 P	<0.5 P
08-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.63 P	<0.5 P	<0.5 P
09-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.84	<0.5 U	<0.5 U
20-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	1.8	<0.5 U	<0.5 U
23-aug-1993	CS	a	V	<0.5 U	-	-	<0.5 U	1	<0.5 U	<0.5 U
30-nov-1993	CS	a	V	<0.5 U	-	-	<0.5 U	0.7	<0.5 U	<0.5 U
27-jan-1994	CS	ah	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
27-jan-1994	CS	aeh	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
19-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
11-aug-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25M-01										
31-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.5 P	<0.5 P	<0.5 P
20-dec-1989	BC	a	U	<0.2 P	-	-	<0.2 P	0.5 P	<0.2 P	<0.2 P
15-may-1990	BC	ag	U	<0.5 P	2.9 P	<0.5 P	2.9 P	1 P	0.8 P	<0.5 P
15-may-1990	CL	afg	U	<3 P	<3 P	<3 P	<3 P	<4 P	<4 P	<3 P
07-aug-1990	BC	aegh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.7 P	<0.5 P	<0.5 P
07-aug-1990	BC	agh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.9 P	<0.5 P	<0.5 P
07-aug-1990	CL	ag	U	<3 P	<3 P	<3 P	<3 P	<4 P	<4 P	<3 P
01-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.6 P	<0.5 P	<0.5 P
25-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.1 P	<0.5 P	<0.5 P
09-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1 P	<0.5 P	<0.5 P
03-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.86 P	<0.5 P	<0.5 P
09-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	1.3	<0.5 U	<0.5 U
20-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	1.1	<0.5 U	<0.5 U
17-aug-1993	CS	a	V	<0.5 U	-	-	<0.5 U	0.8	<0.5 U	<0.5 U
30-nov-1993	CS	a	V	<0.5 U	-	-	<0.5 U	1	<0.5 U	<0.5 U
27-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	1	<0.5 U	<0.5 U
19-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	0.7	<0.5 U	<0.5 U
10-aug-1994	CS	ag	V	<0.5 U	-	-	<0.5 U	0.7	<0.5 U	<0.5 U
10-aug-1994	GT	ag	V	<0.5 U	-	-	<0.5 U	0.7	<0.5 U	<0.5 U
W-25M-02										
21-dec-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	6 P	<0.5 P	<0.5 P
01-mar-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	6.5 P	<0.5 P	<0.5 P
03-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.9 P	<0.5 P	<0.5 P
13-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.9 P	<0.5 P	<0.5 P
06-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	6.2 P	<0.5 P	<0.5 P
25-feb-1991	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	2.9 P	<0.5 P	<0.4 P
25-feb-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5 P	<0.5 P	<0.5 P
25-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	6.8 P	<0.5 P	<0.5 P
26-jul-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	6.3 P	<0.5 P	<0.5 P
26-jul-1991	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.8 P	<0.5 P	<0.5 P
04-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	8 P	<0.5 P	<0.5 P
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.7 P	<0.5 P	<0.5 P
23-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	3.7	<0.5 U	<0.5 U
06-dec-1993	CS	a	V	<0.5 U	-	-	<0.5 U	2.8	<0.5 U	<0.5 U
14-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	2.6	<0.5 U	<0.5 U
22-jul-1994	CS	a	N	<0.5 U	-	-	<0.5 U	3.6	<0.5 U	<0.5 U
W-25M-03										
21-dec-1989	BC	a	U	<0.2 P	-	-	<0.2 P	4.3 P	0.4 P	<0.2 P
01-mar-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.2 P	<0.5 P	<0.5 P

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
				(continued)	GSA Study Area and Offsite	
						W-25D-02
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-dec-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1990
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	15-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-apr-1991
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	26-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	09-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	20-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	23-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-nov-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	19-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-aug-1994
						W-25M-01
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-oct-1989
<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P	20-dec-1989
<0.5 P	94 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1990
<3 P	<3 P	<3 P	<3 P	<3 P	<3 P	15-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-aug-1990
<3 P	<3 P	<3 P	<3 P	<3 P	<3 P	07-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	09-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	20-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	17-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-nov-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	19-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-aug-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	-	<0.5 U	10-aug-1994
						W-25M-02
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-dec-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-mar-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-nov-1990
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	25-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	23-jun-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	06-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-jul-1994
						W-25M-03
<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P	21-dec-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-mar-1990

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-25M-03 (continued)										
03-may-1990	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.4 P	<0.5 P	<0.5 P
03-may-1990	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.7 P	<0.5 P	<0.5 P
14-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4 P	<0.5 P	<0.5 P
06-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.6 P	<0.5 P	<0.5 P
25-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4 P	<0.5 P	<0.5 P
25-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	6.2 P	<0.5 P	<0.5 P
26-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.4 P	<0.5 P	<0.5 P
04-nov-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.8 P	<0.5 P	<0.5 P
04-nov-1991	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	4.2 P	<0.5 P	<0.4 P
10-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.9 P	<0.5 P	<0.5 P
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.4 P	<0.5 P	<0.5 P
24-feb-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	1.6	<0.5 U	<0.5 U
23-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	1.3	<0.5 U	<0.5 U
30-jul-1993	CS	a	V	<0.5 U	-	-	<0.5 U	1.6	<0.5 U	<0.5 U
09-dec-1993	CS	a	V	<0.5 U	-	-	<0.5 U	2.9	<0.5 U	<0.5 U
12-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	3.3	<0.5 U	<0.5 U
14-apr-1994	CS	ah	V	<0.5 U	-	-	<0.5 U	2.4	<0.5 U	<0.5 U
14-apr-1994	CS	aeh	V	<0.5 U	-	-	<0.5 U	2.4	<0.5 U	<0.5 U
10-aug-1994	CS	ag	V	<0.5 U	-	-	<0.5 U	2.4	<0.5 U	<0.5 U
10-aug-1994	GT	ag	V	<0.5 U	-	-	<0.5 U	2.3	<0.5 U	<0.5 U
W-25N-01										
26-jul-1988	BC	a	U	<1 P	-	-	<1 P	31 P	2 P	<1 P
04-nov-1988	BC	a	U	<0.5 P	-	-	0.6 P	33 P	1.8 P	<0.5 P
17-jan-1989	BC	a	U	<0.5 P	-	-	<0.5 P	26 P	1.3 P	<0.5 P
03-apr-1989	BC	a	U	<0.5 P	-	-	<0.5 P	34 P	1.9 P	<0.5 P
05-jul-1989	BC	a	U	<0.5 P	-	-	<0.5 P	32 P	1.2 P	<0.5 P
24-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	35 P	1.1 P	<0.5 P
22-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	34 P	1.4 P	<0.5 P
02-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	36 P	1.3 P	<0.5 P
13-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	39 P	1.5 P	<0.5 P
07-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	45 P	2.1 P	<0.5 P
27-feb-1991	BC	ah	U	0.5 P	<0.5 P	<0.5 P	<0.5 P	39 P	2.3 P	<0.5 P
27-feb-1991	BC	aeh	U	0.6 P	<0.5 P	<0.5 P	<0.5 P	39 P	2.1 P	<0.5 P
26-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	45 P	1 P	<0.5 P
25-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21 P	0.5 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18 P	<0.5 P	<0.5 P
17-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21 P	<0.5 P	<0.5 P
05-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27 P	1.1 P	<0.5 P
10-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12 P	1 P	<0.5 P
21-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	8.2 P	<0.5 P	<0.5 P
04-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	8.5	<0.5 U	<0.5 U
07-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	8.8	<0.5 U	<0.5 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10	0.67	<0.5 U
17-aug-1993	CS	a	V	<0.5 U	-	-	<0.5 U	7.2	<0.5 U	<0.5 U
02-dec-1993	CS	a	V	<0.5 U	-	-	<0.5 U	4.7	<0.5 U	<0.5 U
12-jan-1994	CS	ah	V	<0.5 U	-	-	<0.5 U	4.3	<0.5 U	<0.5 U
12-jan-1994	CS	aeh	V	<0.5 U	-	-	<0.5 U	4.3	<0.5 U	<0.5 U
14-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	3.7	<0.5 U	<0.5 U
28-jul-1994	CS	a	N	<0.5 U	-	-	<0.5 U	4.2	<0.5 U	<0.5 U
W-25N-04										
04-oct-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-nov-1988	BC	a	U	<1 P	-	-	<1 P	<1 P	<1 P	<1 P
19-jan-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-apr-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-jul-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-mar-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.7 P	<0.5 P
02-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.3 P	<0.5 P	<0.5 P
25-jul-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-jul-1991	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	-	<0.3 P	<0.5 P	<0.4 P
12-nov-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-nov-1991	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	<0.3 P	<0.5 P	<0.4 P

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-25M-03
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-nov-1991
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	04-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	24-feb-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	23-jun-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	12-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-aug-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	-	<0.5 U	10-aug-1994
						W-25N-01
<1 P	<1 P	<1 P	<1 P	-	<1 P	26-jul-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-nov-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-jan-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	04-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	07-apr-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	12-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	17-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	12-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	12-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	28-jul-1994
						W-25N-04
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-oct-1988
<1 P	<1 P	<1 P	<1 P	-	<1 P	04-nov-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-jan-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-mar-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-jul-1991
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	25-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-nov-1991
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	12-nov-1991

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-25N-04 (continued)										
29-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-jun-1992	BC	a	N	<0.5 HU	<0.5 HU	<0.5 HU	<0.5 HU	<0.5 HU	<0.5 HU	<0.5 HU
21-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
12-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
28-jul-1994	CS	a	N	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25N-05										
17-jan-1989	BC	a	U	<1 P	-	-	<1 P	23 P	2 P	<1 P
07-feb-1989	BC	a	U	<1 P	-	-	<1 P	24 P	1 P	<1 P
03-apr-1989	BC	a	U	<0.5 P	-	-	<0.5 P	40 P	1.9 P	<0.5 P
06-jul-1989	BC	a	U	<0.5 P	-	-	<0.5 P	30 P	1.7 P	<0.5 P
10-oct-1989	BC	a	U	<0.5 P	-	-	<0.5 P	32 P	1.7 P	<0.5 P
23-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18 P	0.7 P	<0.5 P
02-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19 P	0.8 P	<0.5 P
14-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19 P	<0.5 P	<0.5 P
06-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20 P	1 P	<0.5 P
25-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18 P	1 P	<0.5 P
25-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23 P	0.9 P	<0.5 P
26-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18 P	0.9 P	<0.5 P
08-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24 P	0.8 P	<0.5 P
21-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30 P	0.9 P	<0.5 P
10-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23 P	<0.5 P	<0.5 P
11-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22 P	1.4 P	<0.5 P
05-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	24	1.4	<0.5 U
23-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	20	0.58 O	<0.5 U
30-jul-1993	CS	ah	V	<0.5 U	-	-	<0.5 U	18	1.1	<0.5 U
30-jul-1993	CS	aeh	V	<0.5 U	-	-	<0.5 U	19	1.1	<0.5 U
03-dec-1993	CS	a	V	<0.5 U	-	-	<0.5 U	11	0.7	<0.5 U
12-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	13	0.6	<0.5 U
14-apr-1994	CS	ag	V	<0.5 U	-	-	<0.5 U	9.8	0.6	<0.5 U
14-apr-1994	GT	ag	V	<0.5 U	-	-	<0.5 U	13	0.7	<0.5 U
28-jul-1994	CS	a	N	<0.5 U	-	-	<0.5 U	9.2	<0.5 U	<0.5 U
W-25N-06										
17-jan-1989	BC	a	U	<1 P	-	-	<1 P	5 P	<1 P	<1 P
07-feb-1989	BC	a	U	<1 P	-	-	<1 P	5 P	<1 P	<1 P
03-apr-1989	BC	a	U	<0.5 P	-	-	<0.5 P	5.8 P	0.7 P	<0.5 P
06-jul-1989	BC	a	U	<0.5 P	-	-	<0.5 P	5.4 P	<0.5 P	<0.5 P
09-oct-1989	BC	a	U	<0.5 P	-	-	<0.5 P	5.9 P	<0.5 P	<0.5 P
23-feb-1990	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.4 P	<0.5 P	<0.5 P
23-feb-1990	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.5 P	<0.5 P	<0.5 P
02-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.3 P	<0.5 P	<0.5 P
14-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.6 P	<0.5 P	<0.5 P
06-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	7.4 P	<0.5 P	<0.5 P
27-feb-1991	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	3.4 P	<0.5 P	<0.4 P
27-feb-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.8 P	<0.5 P	<0.5 P
25-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10 P	<0.5 P	<0.5 P
26-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	7.9 P	<0.5 P	<0.5 P
04-nov-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	9.4 P	<0.5 P	<0.5 P
04-nov-1991	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	5.8 P	<0.5 P	<0.4 P
24-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11 P	<0.5 P	<0.5 P
10-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	7.9 P	<0.5 P	<0.5 P
11-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	8.8 P	<0.5 P	<0.5 P
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	6.5 P	<0.5 P	<0.5 P
24-feb-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	6.5	<0.5 U	<0.5 U
30-sep-1993	CS	a	V	<0.5 U	-	-	<0.5 U	3.8	<0.5 U	<0.5 U
03-dec-1993	CS	a	V	<0.5 U	-	-	<0.5 U	2.9	<0.5 U	<0.5 U
12-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	2.8	<0.5 U	<0.5 U
14-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	2	<0.5 U	<0.5 U
04-aug-1994	CS	a	N	<0.5 U	-	-	<0.5 U	2	<0.5 U	<0.5 U
W-25N-07										
03-may-1989	BC	a	U	<1 P	-	-	<1 P	<1 P	<1 P	<1 P
06-jul-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-oct-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
				(continued)	GSA Study Area and Offsite	
					(continued)	W-25N-04
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-may-1992
<0.5 HU	<0.5 HU	8.4 H	<0.5 HU	<0.5 HU	<0.5 HU	15-jun-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	21-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	12-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	28-jul-1994
						W-25N-05
<1 P	<1 P	<1 P	<1 P	-	<1 P	17-jan-1989
<1 P	<1 P	<1 P	<1 P	-	<1 P	07-feb-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-nov-1990
<0.5 P	0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-nov-1991
<0.5 P	<0.5 P	1.4 P	<0.5 P	<0.5 P	<0.5 P	21-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-aug-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	05-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	23-jun-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	03-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	12-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	-	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	28-jul-1994
						W-25N-06
<1 P	<1 P	<1 P	<1 P	-	<1 P	17-jan-1989
<1 P	<1 P	<1 P	<1 P	-	<1 P	07-feb-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-nov-1990
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	27-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-jul-1991
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	04-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.5 P	<0.5 P	16-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	24-feb-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-sep-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	03-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	12-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	04-aug-1994
						W-25N-07
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	03-may-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-aug-1990

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-25N-07 (continued)										
06-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-jul-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
24-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
16-aug-1993	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
03-dec-1993	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
11-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
13-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-aug-1994	CS	a	N	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25N-08										
15-dec-1989	BC	a	U	<1 P	-	-	<1 P	1 P	<1 P	<1 P
22-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.6 P	<0.5 P	<0.5 P
02-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1 P	<0.5 P	<0.5 P
13-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.2 P	<0.5 P	<0.5 P
07-nov-1990	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.6 P	<0.5 P	<0.5 P
07-nov-1990	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.6 P	<0.5 P	<0.5 P
30-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.8 P	<0.5 P	<0.5 P
05-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.7 P	<0.5 P	<0.5 P
12-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.3 P	<0.5 P	<0.5 P
21-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	1.2	<0.5 U	<0.5 U
18-aug-1993	CS	a	V	<0.5 U	-	-	<0.5 U	1.7	<0.5 U	<0.5 U
18-aug-1993	GT	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
30-nov-1993	CS	a	V	<0.5 U	-	-	<0.5 U	1.3	<0.5 U	<0.5 U
12-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	1.4	<0.5 U	<0.5 U
14-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	1	<0.5 U	<0.5 U
04-aug-1994	CS	a	N	<0.5 U	-	-	<0.5 U	1.3	<0.5 U	<0.5 U
W-25N-09										
14-dec-1989	BC	a	U	<1 P	-	-	<1 P	3 P	<1 P	<1 P
22-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.3 P	<0.5 P	<0.5 P
02-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.3 P	<0.5 P	<0.5 P
13-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-nov-1990	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.7 P	<0.5 P	<0.5 P
01-nov-1990	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	2.2 P	<0.5 P	<0.4 P
27-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.7 P	<0.5 P	<0.5 P
25-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.5 P	<0.5 P	<0.5 P
24-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.8 P	<0.5 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.8 P	<0.5 P	<0.5 P
23-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.2 P	<0.5 P	<0.5 P
05-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	7.1 P	<0.5 P	<0.5 P
12-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	8.9 P	<0.5 P	<0.5 P
21-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	6.7 P	<0.5 P	<0.5 P
10-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	7.6	<0.5 U	<0.5 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	8.6	<0.5 U	<0.5 U
17-aug-1993	CS	a	V	<0.5 U	-	-	<0.5 U	5	<0.5 U	<0.5 U
30-nov-1993	CS	a	V	<0.5 U	-	-	<0.5 U	4.3	<0.5 U	<0.5 U
13-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	3.8	<0.5 U	<0.5 U
14-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	3.3	<0.5 U	<0.5 U
04-aug-1994	CS	a	N	<0.5 U	-	-	<0.5 U	2.6	<0.5 U	<0.5 U
W-25N-10										
08-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-jul-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-25N-07
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-jul-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	12-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	24-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	16-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	03-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-aug-1994
						W-25N-08
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	15-dec-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	10-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	18-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-nov-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	12-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	04-aug-1994
						W-25N-09
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	14-dec-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-nov-1990
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	01-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	10-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	12-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	17-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-nov-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	04-aug-1994
						W-25N-10
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-jul-1992

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-25N-10 (continued)										
24-nov-1992	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-nov-1992	BC	ah	U	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
24-feb-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
24-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
05-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
03-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
11-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
13-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
27-jul-1994	CS	ah	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
27-jul-1994	CS	aeh	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25N-11										
12-jun-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-aug-1992	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-aug-1992	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	<0.3 P	<0.5 P	<0.4 P
24-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
24-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
05-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
03-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
11-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
13-apr-1994	CS	a	V	<1 U	–	–	<1 U	<0.5 U	<1 U	<1 U
27-jul-1994	CS	a	N	<1 U	–	–	<1 U	<0.5 U	<1 U	<1 U
W-25N-12										
07-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-mar-1993	BC	a	V	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
08-mar-1993	CL	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
24-may-1993	BC	ah	V	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
24-may-1993	BC	ah	V	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
05-aug-1993	CS	a	V	<1 HU	<1 HU	<1 HU	–	0.8 H	<1 HU	<1 HU
03-dec-1993	CS	a	V	<1 U	–	–	<1 U	<0.5 U	<1 U	<1 U
11-jan-1994	CS	a	V	<1 U	–	–	<1 U	<0.5 U	<1 U	<1 U
13-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
27-jul-1994	CS	a	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25N-13										
06-may-1991	CL	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1 P	<0.5 P	<0.5 P
06-may-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.9 P	<0.5 P	<0.5 P
25-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.7 P	<0.5 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jan-1992	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.7 P	<0.5 P	<0.5 P
23-jan-1992	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	<0.5 P	<0.7 P	<0.4 P
09-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.53 P	<0.5 P	<0.5 P
17-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.78 P	<0.5 P	<0.5 P
05-mar-1993	BC	a	V	<0.2 U	<0.2 U	<0.2 U	–	0.4	<0.2 U	<0.2 U
08-mar-1993	CL	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
24-may-1993	BC	ah	V	<0.2 U	<0.2 U	<0.2 U	–	0.5	<0.2 U	<0.2 U
24-may-1993	BC	ah	V	<0.2 U	<0.2 U	<0.2 U	–	0.5	<0.2 U	<0.2 U
10-aug-1993	CS	a	V	<1 U	<1 U	<1 U	–	1	<1 U	<1 U
07-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
11-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	0.5	<0.5 U	<0.5 U
13-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
05-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-25N-10
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-nov-1992
<0.5	<0.5	<0.5	<0.5	0.68 B	<0.5	24-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	24-feb-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	24-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	05-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	03-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jul-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jul-1994
						W-25N-11
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-jun-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-aug-1992
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	04-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	12-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	24-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	05-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	03-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-jan-1994
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	13-apr-1994
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	27-jul-1994
						W-25N-12
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-dec-1992
<0.2 U	<0.3 U	<0.2 U	<1 U	–	<0.3 U	08-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	08-mar-1993
<0.2 U	<0.3 U	<0.2 U	<1 U	–	<0.3 U	24-may-1993
<0.2 U	<0.3 U	<0.2 U	<1 U	–	<0.3 U	24-may-1993
<1 HU	<1 HU	<1 HU	<1 HU	<1 HU	<1 HU	05-aug-1993
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	03-dec-1993
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	11-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jul-1994
						W-25N-13
<0.5 P	<0.5 P	<0.5 P	<0.5 P	–	<0.5 P	06-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jan-1992
<0.5 P	<0.3 P	<0.4 P	<1 P	<0.4 P	<0.5 P	23-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-dec-1992
<0.2 U	<0.3 U	<0.2 U	<1 U	–	<0.3 U	05-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	08-mar-1993
<0.2 U	<0.3 U	<0.2 U	<1 U	–	<0.3 U	24-may-1993
<0.2 U	<0.3 U	<0.2 U	<1 U	–	<0.3 U	24-may-1993
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	10-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	07-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	05-aug-1994

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-25N-15										
25-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.7 P	<0.5 P	<0.5 P
25-jul-1991	CL	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4 P	<0.5 P	<0.5 P
25-jul-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.8 P	<0.5 P	<0.5 P
01-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3 P	<0.5 P	<0.5 P
30-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.8 P	<0.5 P	<0.5 P
09-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.9 P	<0.5 P	<0.5 P
13-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.8 P	<0.5 P	<0.5 P
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.55 P	<0.5 P	<0.5 P
05-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.76	<0.5 U	<0.5 U
26-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.86	<0.5 U	<0.5 U
30-jul-1993	CS	a	V	<0.5 U	–	–	<0.5 U	0.7	<0.5 U	<0.5 U
22-dec-1993	CS	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
22-dec-1993	GT	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
11-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
05-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25N-18										
11-mar-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.7 P	<0.5 P	<0.5 P
11-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.8 P	<0.5 P	<0.5 P
03-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.8 P	<0.5 P	<0.5 P
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.8 P	<0.5 P	<0.5 P
05-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	1.9	<0.5 U	<0.5 U
26-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	1.3	<0.5 U	<0.5 U
30-jul-1993	CS	a	V	<0.5 U	–	–	<0.5 U	1.3	<0.5 U	<0.5 U
30-jul-1993	GT	a	V	<0.5 U	–	–	<0.5 U	1	<0.5 U	<0.5 U
30-nov-1993	CS	a	V	<0.5 U	–	–	<0.5 U	0.8	<0.5 U	<0.5 U
12-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	0.8	<0.5 U	<0.5 U
14-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	0.7	<0.5 U	<0.5 U
04-aug-1994	CS	a	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25N-20										
08-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-dec-1992	BC	ag	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-dec-1992	CL	ag	V	<0.2 P	<0.4 P	<0.4 P	<0.4 P	<0.3 P	<0.5 P	<0.4 P
04-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
21-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
25-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
02-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
13-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-apr-1994	CS	ah	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-apr-1994	CS	aeh	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
27-jul-1994	CS	a	N	<0.5 U	–	–	<0.5 U	0.55	<0.5 U	<0.5 U
W-25N-21										
08-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11 P	0.7 P	<0.5 P
22-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.5 P	<0.5 P	<0.5 P
19-may-1993	BC	a	U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10	<0.5 U	<0.5 U
01-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	1.3	<0.5 U	<0.5 U
14-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	0.7	<0.5 U	<0.5 U
04-aug-1994	CS	a	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25N-22										
08-jun-1992	CL	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13 P	<0.5 P	<0.5 P
08-jun-1992	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12 P	0.9 P	<0.5 P
29-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.1 P	<0.5 P	<0.5 P
19-may-1993	BC	a	U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	4.9	<0.5 U	<0.5 U
30-nov-1993	CS	a	V	<0.5 U	–	–	<0.5 U	2.4	<0.5 U	<0.5 U
14-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	0.9	<0.5 U	<0.5 U
27-jul-1994	CS	a	N	<0.5 U	–	–	<0.5 U	0.62	<0.5 U	<0.5 U
28-jul-1994	GT	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25N-23										
11-mar-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24 P	1.6 P	<0.5 P
08-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	37 P	0.8 P	<0.5 P
22-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22 P	<0.5 P	<0.5 P
19-may-1993	BC	a	U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	21	1.2	<0.5 U
01-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	9.5	<0.5 U	<0.5 U

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						W-25N-15
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	-	<0.5 P	25-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	05-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	26-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	-	<0.5 U	22-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	05-aug-1994
						W-25N-18
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-mar-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	05-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	26-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	-	<0.5 U	30-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-nov-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	12-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	04-aug-1994
						W-25N-20
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-dec-1992
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	29-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	04-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	21-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	25-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jul-1994
						W-25N-21
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	19-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	01-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	04-aug-1994
						W-25N-22
<0.5 P	<0.5 P	<0.5 P	<0.5 P	-	<0.5 P	08-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	19-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-nov-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jul-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	-	<0.5 U	28-jul-1994
						W-25N-23
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-mar-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.5 P	22-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	19-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	01-dec-1993

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-25N-23 (continued)										
14-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	6.5	<0.5 U	<0.5 U
04-aug-1994	CS	a	N	<0.5 U	–	–	<0.5 U	3.9	<0.5 U	<0.5 U
W-25N-24										
11-mar-1992	BC	a	U	0.6 P	<0.5 P	<0.5 P	<0.5 P	38 P	2.1 P	<0.5 P
08-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	38 P	0.7 P	<0.5 P
22-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	39 P	2.8 P	<0.5 P
25-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	29	1.9	<0.5 U
25-mar-1993	CH	a	U	<0.2 U	5 P	–	–	19 P	<0.2 U	–
25-mar-1993	CH	a	U	<0.2 U	<0.2 U	–	–	16 P	<0.2 U	–
25-mar-1993	CH	a	U	<0.2 U	<0.2 U	–	–	16 P	<0.2 U	–
02-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	32	2	<0.5 U
25-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	25	0.77	<0.5 U
18-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	30	1.5	<0.5 U
01-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	13	0.9	<0.5 U
13-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	11	0.8	<0.5 U
14-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	8.8	0.6	<0.5 U
27-jul-1994	CS	a	N	<0.5 U	–	–	<0.5 U	15	1	<0.5 U
W-25N-25										
04-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25N-26										
05-aug-1994	CS	a	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25N-28										
05-aug-1994	CS	a	N	<0.5 U	–	–	<0.5 U	1.2	<0.5 U	<0.5 U
W-26R-01										
07-mar-1989	BC	a	U	<1 P	–	–	<1 P	19 P	2 P	<1 P
03-apr-1989	BC	a	U	<0.5 P	–	–	<0.5 P	50 P	2.1 P	<0.5 P
21-jul-1989	BC	a	U	<0.5 P	–	–	<0.5 P	45 P	2.7 P	<0.5 P
24-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	58 P	3.3 P	<0.5 P
05-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	42 P	2.6 P	<0.5 P
03-may-1990	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	43 P	2.7 P	<0.5 P
03-may-1990	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	42 P	2.8 P	<0.5 P
09-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	36 P	2.4 P	<0.5 P
02-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	39 P	2.6 P	<0.5 P
06-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	52 P	4.4 P	<0.5 P
30-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	45 P	2.3 P	<0.5 P
23-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	56 P	3.6 P	<0.5 P
30-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	61 P	3.2 P	<0.5 P
17-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	56 P	3.1 P	<0.5 P
04-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	71 P	3 P	<0.5 P
10-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	54 P	2.7 P	<0.5 P
20-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	54 P	2.7 P	<0.5 P
04-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	43	2.9	<0.5 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	34	2.5	<0.5 U
12-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	26	1.7	<0.5 U
01-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	28	1.7	<0.5 U
01-feb-1994	CS	a	V	<0.5 U	–	–	<0.5 U	22	1.7	<0.5 U
29-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	20	1.5	<0.5 U
10-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	22	1.8	<0.5 U
W-26R-02										
31-may-1989	BC	a	U	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
21-jul-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
				(continued)	GSA Study Area	and Offsite
						(continued) W-25N-23
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	04-aug-1994
						W-25N-24
<0.5 P	<0.5 P	<0.5 P	0.7 P	<0.5 P	<0.5 P	11-mar-1992
<0.5 P	1.4 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	25-mar-1993
-	<0.2 U	<0.2 U	-	-	-	25-mar-1993
-	<0.2 U	<0.2 U	-	-	-	25-mar-1993
-	<0.2 U	<0.2 U	-	-	-	25-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	02-apr-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	25-jun-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	01-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jul-1994
						W-25N-25
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	04-aug-1994
						W-25N-26
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	05-aug-1994
						W-25N-28
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	05-aug-1994
						W-26R-01
<1 P	<1 P	<1 P	<1 P	-	<1 P	07-mar-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-apr-1989
<0.5 P	<0.5 P	14 P	<0.5 P	<0.5 P	<0.5 P	21-jul-1989
<0.5 P	<0.5 P	8.2 P	<0.5 P	<0.5 P	<0.5 P	24-oct-1989
<0.5 P	<0.5 P	2.4 P	<0.5 P	<0.5 P	<0.5 P	05-feb-1990
<0.5 P	<0.5 P	0.8 P	<0.5 P	<0.5 P	<0.5 P	03-may-1990
<0.5 P	<0.5 P	0.8 P	<0.5 P	<0.5 P	<0.5 P	03-may-1990
<0.5 P	<0.5 P	2.1 P	<0.5 P	<0.5 P	<0.5 P	09-aug-1990
<0.5 P	<0.5 P	1.8 P	<0.5 P	<0.5 P	<0.5 P	02-nov-1990
<0.5 P	<0.5 P	0.6 P	<0.5 P	<0.5 P	<0.5 P	06-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1991
<0.5 P	<0.5 P	42 P	<0.5 P	<0.5 P	<0.5 P	17-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	04-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	12-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	15	<0.5 U	12-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	01-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	01-feb-1994
<0.5 U	<0.5 U	2.8	<0.5 U	<0.5 U	<0.5 U	29-apr-1994
<0.5 U	<0.5 U	2.2	<0.5 U	<0.5 U	<0.5 U	10-aug-1994
						W-26R-02
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	31-may-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-may-1992

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-26R-02 (continued)										
07-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.81	<0.5 U	<0.5 U
18-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
17-aug-1993	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
02-dec-1993	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
13-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
28-jul-1994	CS	a	N	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-26R-03										
23-aug-1989	BC	a	U	<0.5 P	-	-	<0.5 P	25 P	1.4 P	<0.5 P
11-oct-1989	BC	a	U	<1 P	-	-	<1 P	20 P	<1 P	<1 P
05-feb-1990	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	38 P	1.4 P	<0.5 P
05-feb-1990	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	28 P	1.3 P	<0.4 P
03-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	40 P	1.7 P	<0.5 P
09-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	44 P	1.8 P	<0.5 P
02-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	52 P	2.4 P	<0.5 P
06-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	48 P	2.4 P	<0.5 P
14-jun-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	56 P	2.3 P	<0.5 P
14-jun-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	50 P	2 P	<0.5 P
26-jun-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	46 P	2.6 P	<0.5 P
28-jun-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	50 P	2.2 P	<0.5 P
08-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	54 P	2.4 P	<0.5 P
19-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	47 P	2.2 P	<0.5 P
23-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	43 P	2.1 P	<0.5 P
01-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	43 P	2.4 P	<0.5 P
05-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	39 P	1.6 P	<0.5 P
06-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	46 P	2.7 P	<0.5 P
07-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	41 P	1.7 P	<0.5 P
08-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	48 P	2 P	<0.5 P
09-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	45 P	1.8 P	<0.5 P
12-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	36 P	2 P	<0.5 P
13-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	42 P	2 P	<0.5 P
20-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	38 P	1.5 P	<0.5 P
30-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	36 P	1.6 P	<0.5 P
16-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	49 P	2.5 P	<0.5 P
17-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	63 P	3.6 P	<0.5 P
18-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	51 P	2.4 P	<0.5 P
19-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	53 P	2.5 P	<0.5 P
20-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	42 P	1.8 P	<0.5 P
23-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	53 P	2 P	<0.5 P
24-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	56 P	2.3 P	<0.5 P
16-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	55 P	1.8 P	<0.5 P
17-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	53 P	1.6 P	<0.5 P
18-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	45 P	2 P	<0.5 P
21-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	40 P	2 P	<0.5 P
22-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	47 P	2.2 P	<0.5 P
23-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	56 P	2.7 P	<0.5 P
24-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	57 P	2.1 P	<0.5 P
25-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	50 P	2.3 P	<0.5 P
28-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	47 P	2.3 P	<0.5 P
29-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	50 P	2.3 P	<0.5 P
30-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	57 P	2.1 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	49 P	1.8 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	40 P	1.6 P	<0.5 P
04-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	56 P	2.1 P	<0.5 P
05-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	50 P	2.1 P	<0.5 P
06-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	59 P	2.1 P	<0.5 P
07-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	57 P	2 P	<0.5 P
08-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	53 P	2 P	<0.5 P
11-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	54 P	2.8 P	<0.5 P
19-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	49 P	2 P	<0.5 P
21-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	41 P	1.4 P	<0.5 P
02-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	47 P	1.9 P	<0.5 P
12-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	61 P	3.1 P	<0.5 P
13-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	52 P	2.2 P	<0.5 P
17-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	49 P	2.6 P	<0.5 P

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-26R-02
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	04-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	18-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	17-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	28-jul-1994
						W-26R-03
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-aug-1989
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	11-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-feb-1990
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	05-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-jun-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-jun-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-jun-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-jun-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-sep-1991
<0.5 P	<0.5 P	<0.5 P	0.6 P	<0.5 P	<0.5 P	17-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-dec-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-dec-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-dec-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-dec-1991

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-26R-03 (continued)										
19-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	45 P	2.2 P	<0.5 P
03-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	67 P	5.3 P	<0.5 P
06-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	55 P	2.6 P	<0.5 P
07-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	62 P	2.7 P	<0.5 P
08-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	57 P	2.8 P	<0.5 P
09-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	65 P	2.7 P	<0.5 P
10-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	59 P	2.5 P	<0.5 P
13-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	74 P	3.4 P	<0.5 P
22-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	58 P	2.3 P	<0.5 P
22-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	69 P	2.1 P	<0.5 P
28-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	68 P	3 P	<0.5 P
30-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	54 P	4 P	<0.5 P
20-feb-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	48 P	2.9 P	<0.5 P
21-feb-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	65 P	3 P	<0.5 P
27-feb-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	63 P	4.5 P	<0.5 P
10-apr-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	37 P	1.8 P	<0.5 P
10-apr-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	36 P	1.8 P	<0.5 P
10-apr-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	36 P	1.9 P	<0.5 P
10-apr-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	34 P	1.7 P	<0.5 P
17-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	38 P	1.4 P	<0.5 P
17-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	34 P	1.3 P	<0.5 P
17-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31 P	1.4 P	<0.5 P
23-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21 P	<0.5 P	<0.5 P
24-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30 P	<0.5 P	<0.5 P
24-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24 P	<0.5 P	<0.5 P
25-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	33 P	<0.5 P	<0.5 P
26-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	38 P	<0.5 P	<0.5 P
29-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28 P	<0.5 P	<0.5 P
30-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	37 P	<0.5 P	<0.5 P
06-jul-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	38 P	<0.5 P	<0.5 P
09-jul-1992	BC	a	N	<0.5 U	<0.5 U	<0.5 U	<0.5 U	42	<0.5 U	<0.5 U
14-jul-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	34 P	<0.5 P	<0.5 P
20-jul-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30 P	<0.5 P	<0.5 P
21-jul-1992	CH	a	U	–	–	–	–	14	1	–
21-jul-1992	CH	a	U	–	–	–	–	13	1	–
21-jul-1992	CH	a	U	–	–	–	–	14	1	–
29-jul-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	35 P	0.6 P	<0.5 P
10-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18 P	1.1 P	<0.5 P
11-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14 P	1.1 P	<0.5 P
01-sep-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25 P	1.3 P	<0.5 P
16-sep-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26 P	1.2 P	<0.5 P
25-sep-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25 P	1.3 P	<0.5 P
14-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23 P	1 P	<0.5 P
20-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24 P	0.6 P	<0.5 P
02-nov-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18 P	0.92 P	<0.5 P
13-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26 P	1.6 P	<0.5 P
18-nov-1992	BC	a	U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	17 L	1.2	<0.5 U
25-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20 P	1.4 P	<0.5 P
02-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19 P	1.2 P	<0.5 P
09-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20 P	0.98 P	<0.5 P
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18 P	1.1 P	<0.5 P
30-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25 P	1.2 P	<0.5 P
06-jan-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25 P	1.5 P	<0.5 P
13-jan-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23 P	2.1 P	<0.5 P
20-jan-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22 P	1.5 P	<0.5 P
27-jan-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21 P	1.4 P	<0.5 P
03-feb-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16 P	1.2 P	<0.5 P
10-feb-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24 P	1.6 P	<0.5 P
17-feb-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22 P	1.3 P	<0.5 P
25-feb-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18 P	1.2 P	<0.5 P
03-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	16	0.91	<0.5 U
04-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15	0.87	<0.5 U
10-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13	0.81	<0.5 U
17-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	16	0.95	<0.5 U
25-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15	1	<0.5 U
31-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	17	0.94	<0.5 U
07-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13	<0.5 U	<0.5 U
14-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13	0.6	<0.5 U

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-26R-03
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-dec-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-feb-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-feb-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-feb-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-apr-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-apr-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-apr-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-apr-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-jun-1992
<0.5 P	0.8 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-jul-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-jul-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-jul-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-jul-1992
–	–	–	–	–	–	21-jul-1992
–	–	–	–	–	–	21-jul-1992
–	–	–	–	–	–	21-jul-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-jul-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-sep-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-sep-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-sep-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-oct-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-oct-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-nov-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.5 P	13-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-nov-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-nov-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-dec-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-dec-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-dec-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-dec-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-jan-1993
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-jan-1993
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-jan-1993
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-jan-1993
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-feb-1993
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-feb-1993
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-feb-1993
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<1 P	<0.5 P	25-feb-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	03-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	04-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	10-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	17-mar-1993
<0.5 U	0.54	<0.5 U	<0.5 U	<1 U	<0.5 U	25-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	31-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	07-apr-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	14-apr-1993

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-26R-03 (continued)										
04-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11	0.81	<0.5 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13	0.88	<0.5 U
17-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	12	0.91	<0.5 U
01-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11	0.68	<0.5 U
15-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11	0.79	<0.5 U
16-jul-1993	CS	a	V	<0.5 U	–	–	<0.5 U	10	0.6	<0.5 U
26-jul-1993	CS	a	V	<0.5 U	–	–	<0.5 U	11	0.6	<0.5 U
02-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	12	0.8	<0.5 U
12-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	9.4	0.6	<0.5 U
19-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	7.6	0.7	<0.5 U
24-sep-1993	CS	a	V	<0.5 U	–	–	<0.5 U	10	0.8	<0.5 U
07-oct-1993	CS	a	V	<0.5 U	–	–	<0.5 U	11	0.8	<0.5 U
22-oct-1993	CS	a	V	<0.5 U	–	–	<0.5 U	11	0.7	<0.5 U
02-nov-1993	CS	a	V	<0.5 U	–	–	<0.5 U	9	1	<0.5 U
02-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	7.4	0.6	<0.5 U
13-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	9.1	0.8	<0.5 U
15-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	9.3	0.6	<0.5 U
28-jul-1994	CS	a	N	<0.5 U	–	–	<0.5 U	13	0.76	<0.5 U
W-26R-04										
04-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	39 P	2.8 P	<0.5 P
20-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	50 P	3.6 P	<0.5 P
20-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	31	1.9	<0.5 U
02-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	16	1.4	<0.5 U
29-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	25	1.8	<0.5 U
10-aug-1994	CS	ah	V	<0.5 U	–	–	<0.5 U	30	2.4	<0.5 U
10-aug-1994	CS	aeh	V	<0.5 U	–	–	<0.5 U	30	2	<0.5 U
W-26R-05										
05-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	9.3 P	0.5 P	<0.5 P
20-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.2 P	<0.5 P	<0.5 P
19-may-1993	BC	a	U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	1.8	<0.5 U	<0.5 U
02-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	0.6	<0.5 U	<0.5 U
29-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	0.7	<0.5 U	<0.5 U
05-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	0.72	<0.5 U	<0.5 U
W-26R-06										
17-mar-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	33 P	2 P	<0.5 P
09-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	50 P	2.9 P	<0.5 P
20-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	40 P	1.9 P	<0.5 P
18-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	29	1.8	<0.5 U
18-may-1993	CL	a	V	<0.2 U	<0.4 U	<0.4 U	<0.4 U	24 P	1.7 P	<0.4 U
17-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	26	1.8	<0.5 U
03-dec-1993	CS	ag	V	<0.5 U	–	–	<0.5 U	24	1.6	<0.5 U
03-dec-1993	GT	ag	V	<0.5 U	–	–	<0.5 U	26	2	<0.5 U
18-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	24	1.4	<0.5 U
15-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	20	1.6	<0.5 U
11-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	19	1	<0.5 U
W-26R-07										
12-jun-1992	BC	a	U	<0.5	<0.5	<0.5	<0.5	15	0.8	<0.5
21-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	6.1 P	<0.5 P	<0.5 P
18-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13	<0.5 U	<0.5 U
01-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	9.7	<0.5 U	<0.5 U
15-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	1.9	<0.5 U	<0.5 U
09-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	0.88	<0.5 U	<0.5 U
W-26R-08										
09-jun-1992	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.6 P	<0.5 P
09-jun-1992	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
13-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-jul-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-aug-1994	CS	a	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-26R-03
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	04-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	12-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	17-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	01-jun-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	15-jun-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	16-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	26-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	12-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	19-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	24-sep-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	07-oct-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-oct-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-nov-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	28-jul-1994
						W-26R-04
<0.5 P	0.6 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	20-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	29-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-aug-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-aug-1994
						W-26R-05
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	19-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	29-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	05-aug-1994
						W-26R-06
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-mar-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	18-may-1993
<0.3 U	<0.5 U	<0.5 U	<0.4 U	<0.6 U	<0.6 U	18-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	17-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	03-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	03-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-aug-1994
						W-26R-07
<0.5	<0.5	<0.5	<0.5	0.9 B	<0.5	12-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	18-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	01-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-aug-1994
						W-26R-08
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	18-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-jul-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-aug-1994

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-26R-11										
17-mar-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18 P	1 P	<0.5 P
09-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19 P	0.7 P	<0.5 P
21-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16 P	<0.5 P	<0.5 P
03-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	4.9	<0.5 U	<0.5 U
15-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	5.4	<0.5 U	<0.5 U
09-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	6.3	<0.5 U	<0.5 U
24-aug-1994	CS	a	N	<0.5 U	–	–	<0.5 U	6.1	<0.5 U	<0.5 U
W-35A-01										
02-may-1989	BC	a	U	8 P	–	–	4 P	380 P	22 P	<1 P
13-jul-1989	BC	af	U	7 P	–	–	4 P	160 P	21 P	<1 P
17-oct-1989	BC	af	U	2 P	<1 P	<1 P	<1 P	180 P	16 P	<1 P
01-mar-1990	BC	afg	U	4 P	2 P	<1 P	2 P	220 P	27 P	<1 P
01-mar-1990	CL	ag	U	5 P	3.3 P	<0.4 P	3.3 P	320 P	23 P	<0.4 P
07-may-1990	BC	af	U	5 P	3 P	<2 P	3 P	360 P	26 P	<2 P
13-aug-1990	BC	aefh	U	3 P	<2 P	<2 P	<2 P	330 P	19 P	<2 P
13-aug-1990	BC	afh	U	3 P	<2 P	<2 P	<2 P	380 P	21 P	<2 P
12-nov-1990	BC	af	U	<2 P	<2 P	<2 P	<2 P	350 P	16 P	<2 P
25-feb-1991	BC	af	U	3 P	<2 P	<2 P	<2 P	240 P	12 P	<2 P
02-may-1991	BC	af	U	<5 P	<5 P	<5 P	<5 P	510 P	30 P	<5 P
06-aug-1991	BC	af	U	2 P	<2 P	<2 P	<2 P	390 P	27 P	<2 P
07-nov-1991	BC	af	U	3 P	<2 P	<2 P	<2 P	510 P	32 P	<2 P
10-jun-1992	BC	af	U	3 P	<2 P	<2 P	<2 P	460 P	20 P	<2 P
17-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26 P	0.64 P	<0.5 P
30-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	20	1.3	<0.5 U
28-may-1993	BC	a	V	4.4	3	<0.5 U	3 U	370	19	<0.5 U
16-aug-1993	CS	a	V	0.9	–	–	<0.5 U	54	2.7	<0.5 U
09-dec-1993	CS	af	V	<12 UD	–	–	<12 UD	250 D	14 D	<12 UD
28-jan-1994	CS	af	V	<25 DU	–	–	<25 DU	390 D	<25 DU	<25 DU
19-apr-1994	CS	af	V	<10 DU	–	–	<10 DU	120 D	<10 DU	<10 DU
02-sep-1994	CS	af	V	3.3	–	–	1.9	250 D	13	<0.5 U
W-35A-02										
02-may-1989	BC	a	U	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
13-jul-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-mar-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.5 P	<0.5 P	<0.5 P
03-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.61 P	<0.5 P	<0.5 P
16-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
23-jun-1993	BC	ah	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
23-jun-1993	BC	aefh	V	<5 DU	<5 DU	<5 DU	<5 DU	<5 DU	<5 DU	<5 DU
04-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
06-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
28-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
10-may-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
23-aug-1994	CS	a	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-35A-03										
02-may-1989	BC	a	U	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
13-jul-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-mar-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17 P	<0.5 P	<0.5 P
06-aug-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-aug-1991	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	<0.3 P	<0.5 P	<0.4 P

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						W-26R-11
<0.5 P	0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-mar-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	03-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-aug-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	24-aug-1994
						W-35A-01
<1 P	<1 P	<1 P	2 P	<1 P	<1 P	02-may-1989
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	13-jul-1989
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	17-oct-1989
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	01-mar-1990
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	01-mar-1990
<2 P	<2 P	<2 P	<2 P	<2 P	<2 P	07-may-1990
<2 P	<2 P	<2 P	<2 P	<2 P	<2 P	13-aug-1990
<2 P	<2 P	<2 P	<2 P	<2 P	<2 P	13-aug-1990
<2 P	<2 P	<2 P	<2 P	<2 P	<2 P	12-nov-1990
<2 P	<2 P	<2 P	<2 P	<2 P	<2 P	25-feb-1991
<5 P	<5 P	<5 P	<5 P	<5 P	<5 P	02-may-1991
<2 P	<2 P	<2 P	<2 P	<2 P	<2 P	06-aug-1991
<2 P	<2 P	<2 P	<2 P	<2 P	<2 P	07-nov-1991
<2 P	6 P	<2 P	<2 P	<2 P	<2 P	10-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-dec-1992
<0.5 U	<0.5 U	<0.5 U	0.71	<1 U	<0.5 U	30-mar-1993
<0.5 U	<0.5 U	<0.5 U	0.65	<1 U	<0.5 U	28-may-1993
<0.5 U	<0.5 U	<0.5 U	0.6	<0.5 U	<0.5 U	16-aug-1993
<12 UD	<12 UD	<12 UD	<12 UD	<12 UD	<12 UD	09-dec-1993
<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	28-jan-1994
<10 DU	<10 DU	<10 DU	<10 DU	<10 DU	<10 DU	19-apr-1994
<0.5 U	<0.5 U	<0.5 U	0.52	<0.5 U	<0.5 U	02-sep-1994
						W-35A-02
<1 P	3 P	<1 P	<1 P	<1 P	<1 P	02-may-1989
<0.5 P	1.9 P	<0.5 P	1.3 P	<0.5 P	<0.5 P	13-jul-1989
<0.5 P	0.8 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-mar-1990
<0.5 P	<0.5 P	<0.5 P	1.1 P	<0.5 P	<0.5 P	07-may-1990
<0.5 P	<0.5 P	<0.5 P	0.5 P	<0.5 P	<0.5 P	13-aug-1990
<0.5 P	<0.5 P	<0.5 P	1.2 P	<0.5 P	<0.5 P	07-nov-1990
<0.5 P	1 P	<0.5 P	2 P	<0.5 P	<0.5 P	25-feb-1991
<0.5 P	<0.5 P	<0.5 P	2 P	<0.5 P	<0.5 P	03-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-nov-1991
<0.5 P	1.1 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-aug-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	16-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	23-jun-1993
<5 DU	<5 DU	<5 DU	<5 DU	<10 DU	<5 DU	23-jun-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	04-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	06-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	28-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-may-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	23-aug-1994
						W-35A-03
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	02-may-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-mar-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-aug-1991
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	06-aug-1991

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-35A-03 (continued)										
01-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
26-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
26-may-1993	CL	a	V	<0.2 U	<0.4 U	<0.4 U	<0.4 U	<0.3 U	<0.5 U	<0.4 U
30-sep-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
06-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
28-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
20-jul-1994	CS	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
20-jul-1994	GT	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-35A-04										
15-dec-1989	BC	an	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-mar-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.8 P	<0.5 P	<0.5 P
06-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-nov-1991	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-nov-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-aug-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P
04-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
26-may-1993	BC	ah	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
04-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
09-sep-1993	CS	b	N	<1 U	<1 U	<1 U	–	<0.5 U	<1 U	<1 U
06-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
27-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
20-jul-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
31-aug-1994	CS	beh	N	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
31-aug-1994	CS	bh	N	<0.2 U	<0.2 U	<0.2 U	–	<0.2 U	<0.2 U	<0.2 U
W-35A-05										
15-dec-1989	BC	an	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
28-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
06-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
28-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
19-apr-1994	CS	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
19-apr-1994	GT	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
02-sep-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-35A-06										
06-mar-1990	BC	a	U	<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	<1 P
07-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-nov-1990	BC	a	U	3.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.5 P
25-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-35A-03
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	30-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	26-may-1993
<0.3 U	<0.5 U	<0.5 U	<0.4 U	<0.6 U	<0.6 U	26-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-sep-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	06-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	28-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	20-jul-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	20-jul-1994
						W-35A-04
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-dec-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-mar-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-aug-1992
<0.2 P	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	26-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	05-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	26-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	04-aug-1993
<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	09-sep-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	06-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	20-jul-1994
<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	31-aug-1994
<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	31-aug-1994
						W-35A-05
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-dec-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	02-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	28-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	06-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	28-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	19-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	19-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-sep-1994
						W-35A-06
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	06-mar-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-nov-1991

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-35A-06 (continued)										
24-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
04-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
06-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
27-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
28-jul-1994	CS	ah	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
28-jul-1994	CS	aeh	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-35A-07										
09-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-35A-08										
08-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-35A-09										
10-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	4	<0.5 U	<0.5 U
W-35A-10										
22-jul-1994	CS	a	V	0.66	–	–	<0.5 U	29	<0.5 U	<0.5 U
10-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	35	<0.5 U	<0.5 U
W-35A-11										
09-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-35A-12										
08-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-35A-13										
10-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	1.6	<0.5 U	<0.5 U
W-7A										
30-aug-1983	BC	a	U	<1 P	–	–	<1 P	44 P	<1 P	<1 P
23-sep-1983	BC	a	U	–	–	–	–	<0.5 P	–	–
26-jun-1986	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-aug-1986	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	0.6 P	<0.5 P
20-nov-1986	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-mar-1987	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-jul-1987	BC	a	U	<0.5	–	–	<0.5	<0.5	<0.5	<0.5
28-sep-1987	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-dec-1987	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-mar-1988	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-jun-1988	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-oct-1988	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-jan-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-apr-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-jul-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.8 P	<0.5 P	<0.5 P
16-nov-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.6 P	<0.5 P	<0.5 P
20-apr-1990	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-apr-1990	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.5 P	<0.5 P	<0.5 P
09-aug-1990	CL	a	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	0.6 P	<0.5 P	<0.4 P
29-oct-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.5 P	<0.5 P	<0.5 P
30-jan-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1 P	<0.5 P	<0.5 P
05-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.9 P	<0.5 P	<0.5 P
30-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.4 P	<0.5 P	<0.5 P
15-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.6 P	<0.5 P	<0.5 P
27-jul-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.8 P	<0.5 P	<0.5 P
07-dec-1992	BC	a	U	<0.5 P	2.4 P	<0.5 P	2.4 P	1.1 P	<0.5 P	<0.5 P
01-mar-1993	BC	a	V	<0.5 U	1.3	<0.5 U	1.3	0.65	<0.5 U	<0.5 U
19-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.61	<0.5 U	<0.5 U

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-35A-06
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	16-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	14-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	04-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	06-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	28-jul-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	28-jul-1994
						W-35A-07
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-aug-1994
						W-35A-08
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	08-aug-1994
						W-35A-09
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-aug-1994
						W-35A-10
<0.5 U	<0.5 U	<0.5 U	28	<0.5 U	<0.5 U	22-jul-1994
<0.5 U	<0.5 U	<0.5 U	23	<0.5 U	<0.5 U	10-aug-1994
						W-35A-11
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-aug-1994
						W-35A-12
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	08-aug-1994
						W-35A-13
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-aug-1994
						W-7A
<1 P	<1 P	<1 P	<1 P	-	<1 P	30-aug-1983
-	-	-	-	-	-	23-sep-1983
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-jun-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-aug-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-nov-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-mar-1987
<0.5	<0.5	<0.5	<0.5	0.6 B	<0.5	01-jul-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-sep-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-dec-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-mar-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-jun-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-oct-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-jan-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-nov-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-apr-1990
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	09-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-oct-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-jan-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-jul-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	01-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	19-may-1993

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-7A (continued)										
10-aug-1993	CS	a	V	<0.5 U	–	–	2	1.3	<0.5 U	<0.5 U
09-dec-1993	CS	ah	V	<0.5 U	–	–	<0.5 U	0.5	0.8	<0.5 U
09-dec-1993	CS	aeh	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
21-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
02-sep-1994	CS	a	V	<0.5 U	–	–	0.69	<0.5 U	<0.5 U	<0.5 U
W-7B										
30-aug-1983	BC	a	U	<1 P	–	–	<1 P	12 P	<1 P	<1 P
23-sep-1983	BC	a	U	–	–	–	–	0.9 P	–	–
27-jun-1986	BC	a	U	<0.5 P	–	–	<0.5 P	17 P	<0.5 P	<0.5 P
19-aug-1986	BC	a	U	<0.5 P	–	–	<0.5 P	17 P	1.7 P	<0.5 P
19-nov-1986	BC	a	U	<0.5 P	–	–	0.6 P	5.4 P	<0.5 P	<0.5 P
17-mar-1987	BC	ah	U	<0.5 P	–	–	<0.5 P	0.8 P	<0.5 P	<0.5 P
17-mar-1987	BC	ah	U	<0.5 P	–	–	<0.5 P	0.8 P	<0.5 P	<0.5 P
23-jun-1987	BC	ah	U	<0.5 P	–	–	<0.5 P	3.6 P	<0.5 P	<0.5 P
23-jun-1987	BC	ah	U	<0.5 P	–	–	<0.5 P	3.5 P	<0.5 P	<0.5 P
28-sep-1987	BC	a	U	<0.5 P	–	–	<0.5 P	3.2 P	<0.5 P	<0.5 P
11-dec-1987	BC	ah	U	<0.5 P	–	–	<0.5 P	12 P	<0.5 P	<0.5 P
11-dec-1987	BC	ah	U	<1 P	–	–	<1 P	4.9 P	<1 P	<1 P
08-mar-1988	BC	a	U	<0.5 P	–	–	<0.5 P	2.8 P	<0.5 P	<0.5 P
21-jun-1988	BC	a	U	<0.5	–	–	<0.5	2.1	<0.5	<0.5
26-oct-1988	BC	a	U	<0.5 P	–	–	<0.5 P	2.6 P	<0.5 P	<0.5 P
01-feb-1989	BC	a	U	<0.5 P	–	–	<0.5 P	1.8 P	<0.5 P	<0.5 P
12-apr-1989	BC	a	U	<0.5 P	–	–	<0.5 P	1.1 P	<0.5 P	<0.5 P
12-jul-1989	BC	a	U	<0.5 P	–	–	<0.5 P	0.7 P	<0.5 P	<0.5 P
12-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-oct-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.9 P	<0.5 P	<0.5 P
02-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.2 P	<0.5 P	<0.5 P
04-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	6.8	<0.5 U	<0.5 U
14-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	5.2	<0.5 U	<0.5 U
06-aug-1993	CS	ag	V	<0.5 U	–	–	<0.5 U	0.5	<0.5 U	<0.5 U
06-aug-1993	GT	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
07-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	1.1	<0.5 U	<0.5 U
14-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	0.9	<0.5 U	<0.5 U
19-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	0.6	<0.5 U	<0.5 U
05-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-7C										
30-aug-1983	BC	a	U	<1 P	–	–	<1 P	44 P	<1 P	<1 P
23-sep-1983	BC	a	U	–	–	–	–	<0.5 P	–	–
27-jun-1986	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-aug-1986	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	0.9 P	<0.5 P
16-mar-1987	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jun-1987	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-sep-1987	BC	a	U	<0.5 P	–	–	0.8 P	0.6 P	<0.5 P	<0.5 P
08-dec-1987	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-mar-1988	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-jun-1988	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-oct-1988	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-feb-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-apr-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-jul-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-oct-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-7A
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	21-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-sep-1994
						W-7B
<1 P	<1 P	<1 P	<1 P	-	<1 P	30-aug-1983
-	-	-	-	-	-	23-sep-1983
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-jun-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-aug-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-nov-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-mar-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-mar-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.3 P	<0.5 P	23-jun-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.2 P	<0.5 P	23-jun-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-sep-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-dec-1987
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	11-dec-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-mar-1988
<0.5	<0.5	<0.5	<0.5	0.5 B	<0.5	21-jun-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-oct-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-feb-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	04-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	14-apr-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	06-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	-	<0.5 U	06-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	07-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	19-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	05-aug-1994
						W-7C
<1 P	<1 P	<1 P	<1 P	-	<1 P	30-aug-1983
-	-	-	-	-	-	23-sep-1983
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-jun-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-aug-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-mar-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jun-1987
<0.5 P	0.6 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-sep-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-dec-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-mar-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-jun-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-oct-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-feb-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-apr-1991

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-7C (continued)										
24-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.8 P	<0.5 P
02-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	3.7	<0.5 U	<0.5 U
07-dec-1993	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
10-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
20-jul-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-7D										
08-oct-1986	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-mar-1987	BC	a	U	<0.5 P	-	-	<0.5 P	1.4 P	<0.5 P	<0.5 P
22-jun-1987	BC	a	U	<1 P	-	-	<1 P	<1 P	<1 P	<1 P
25-sep-1987	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-dec-1987	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-mar-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-jun-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-oct-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-feb-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-apr-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-jul-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-oct-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.7 P	<0.5 P	<0.5 P
29-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.2 P	<0.5 P	<0.5 P
09-mar-1993	BC	aeh	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.54	<0.5 U	<0.5 U
09-mar-1993	BC	ah	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.51	<0.5 U	<0.5 U
12-aug-1993	CS	a	V	<0.5 U	-	-	<0.5 U	0.6	<0.5 U	<0.5 U
10-dec-1993	CS	a	V	<0.5 U	-	-	<0.5 U	0.6	<0.5 U	<0.5 U
13-jan-1994	CS	ah	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
13-jan-1994	CS	aeh	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
19-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
09-aug-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
24-aug-1994	CS	a	N	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-7DS										
23-jan-1987	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-mar-1987	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-jun-1987	BC	a	U	<1 P	-	-	<1 P	<1 P	<1 P	<1 P
25-sep-1987	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-dec-1987	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-mar-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-jun-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-oct-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-feb-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-apr-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-jul-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-oct-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.6 P	<0.5 P	<0.5 P
30-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-oct-1991	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P

(continued) GSA Study Area and Offsite

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) W-7C
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	03-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	14-apr-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	07-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	20-jul-1994
						W-7D
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-oct-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-mar-1987
<1 P	<1 P	<1 P	<1 P	-	<1 P	22-jun-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-sep-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.8 P	<0.5 P	09-dec-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-mar-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-jun-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-oct-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-feb-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-oct-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	09-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	09-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	12-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	12-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	19-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-aug-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	24-aug-1994
						W-7DS
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jan-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-mar-1987
<1 P	<1 P	<1 P	<1 P	-	<1 P	22-jun-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-sep-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	1 P	<0.5 P	09-dec-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-mar-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-jun-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-oct-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-feb-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-oct-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1991

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-7DS (continued)										
30-oct-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
12-aug-1993	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
10-dec-1993	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
13-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
30-mar-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
28-jul-1994	CS	a	N	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-7E										
06-feb-1987	BC	a	U	<0.5 P	-	-	<0.5 P	0.7 P	<0.5 P	<0.5 P
17-mar-1987	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-jun-1987	BC	a	U	<1 P	-	-	<1 P	<1 P	<1 P	<1 P
25-sep-1987	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-dec-1987	BC	a	U	<0.5	-	-	<0.5	<0.5	<0.5	<0.5
07-mar-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-jun-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-oct-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-feb-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-apr-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-jul-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	9.2 P	<0.5 P	<0.5 P
16-nov-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2 P	<0.5 P	<0.5 P
30-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-oct-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.6 P	<0.5 P	<0.5 P
01-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-dec-1992	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-dec-1992	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	<0.3 P	<0.5 P	<0.4 P
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
06-aug-1993	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
07-dec-1993	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-jan-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-apr-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
20-jul-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-7ES										
06-feb-1987	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-mar-1987	BC	a	U	<0.5 P	-	-	<0.5 P	4 P	<0.5 P	<0.5 P
22-jun-1987	BC	a	U	<1 P	-	-	<1 P	<1 P	<1 P	<1 P
25-sep-1987	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-dec-1987	BC	af	U	<10 P	-	-	<10 P	<10 P	<10 P	<10 P
07-mar-1988	BC	ah	U	<0.5	-	-	<0.5	<0.5	<0.5	<0.5
07-mar-1988	BC	aeh	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-jun-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-oct-1988	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-feb-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-apr-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-jul-1989	BC	a	U	<0.5 P	-	-	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-oct-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2- DCA	1,1,1- TCA	Chloro- form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-7DS
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	04-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	12-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	12-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-mar-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	28-jul-1994
						W-7E
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-feb-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-mar-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	22-jun-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-sep-1987
<0.5	<0.5	<0.5	<0.5	0.5 B	<0.5	09-dec-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-mar-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-jun-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-oct-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-feb-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-nov-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-oct-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-dec-1992
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	07-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	12-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	06-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	07-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	20-jul-1994
						W-7ES
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-feb-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-mar-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	22-jun-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-sep-1987
<10 P	<10 P	<10 P	<10 P	<10 P	<10 P	09-dec-1987
<0.5	<0.5	<0.5	<0.5	0.9 B	<0.5	07-mar-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-mar-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-jun-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-oct-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-feb-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31-oct-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1991

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-7ES (continued)										
03-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-mar-1993	BC	ag	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
09-mar-1993	CL	ag	V	<0.2 U	<0.4 U	<0.4 U	<0.4 U	<0.3 U	<0.5 U	<0.4 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
06-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
09-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	1.6	<0.5 U	<0.5 U
14-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
21-jul-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-7F										
29-apr-1988	BC	a	U	0.7 P	–	–	7.9 P	61 P	5.6 P	<0.5 P
12-may-1988	BC	a	U	0.8	–	–	10	64	4.6	<0.5
18-may-1988	BC	ad	U	1.1 P	–	–	12 P	120 P	9.8 P	0.5 P
18-may-1988	BC	ad	U	1.1 P	–	–	15 P	140 P	11 P	0.8 P
28-jun-1988	BC	a	U	1.5	–	–	15	110	8	<0.5
24-oct-1988	BC	a	U	1 P	–	–	10 P	63 P	4.6 P	<0.5 P
01-feb-1989	BC	af	U	<1 P	–	–	9.3 P	69 P	5 P	<1 P
13-apr-1989	BC	af	U	<1 P	–	–	12 P	87 P	6.4 P	<1 P
11-jul-1989	BC	a	U	1.2 P	–	–	9.2 P	64 P	7 P	<0.5 P
09-oct-1989	BC	a	U	<0.5 P	–	–	8 P	74 P	6.5 P	<0.5 P
06-feb-1990	BC	ah	U	<0.5 P	9.8 P	<0.5 P	9.8 P	53 P	4.1 P	<0.5 P
06-feb-1990	BC	aeh	U	<0.5 P	9.6 P	<0.5 P	9.6 P	53 P	3.9 P	<0.5 P
24-apr-1990	BC	a	U	<0.5 P	12 P	<0.5 P	12 P	54 P	4.8 P	<0.5 P
15-aug-1990	BC	a	U	<0.5 P	5.2 P	<0.5 P	5.2 P	26 P	0.9 P	<0.5 P
30-oct-1990	BC	aeh	U	<0.5 P	14 P	<0.5 P	14 P	46 P	3 P	<0.5 P
30-oct-1990	BC	ah	U	<0.5 P	15 P	<0.5 P	15 P	46 P	2.6 P	<0.5 P
08-feb-1991	BC	a	U	<0.5 P	17 P	<0.5 P	17 P	50 P	2.1 P	<0.5 P
13-may-1991	BC	a	U	0.8 P	27 P	<0.5 P	27 P	65 P	4.9 P	<0.5 P
20-aug-1991	BC	aeh	U	<0.5 P	7.2 P	<0.5 P	7.2 P	36 P	2 P	<0.5 P
20-aug-1991	BC	ah	U	<0.5 P	7.9 P	<0.5 P	7.9 P	44 P	2.6 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	23 P	<0.5 P	23 P	60 P	2.5 P	<0.5 P
10-jun-1992	BC	a	U	<0.5 P	7.5 P	<0.5 P	7.5 P	68 P	6 P	<0.5 P
25-nov-1992	BC	a	U	1 P	7.6 P	<0.5 P	7.6 P	81 P	14 P	<0.5 P
25-feb-1993	BC	a	V	2.2	12	<0.5 U	12	130	39	0.64
18-may-1993	BC	a	V	3.1	21	<0.5 U	21	380	64	1.2
18-jun-1993	BC	a	V	8.3 L	20 J	<0.5 U	20	530	69	<0.5 U
29-jul-1993	CS	afh	V	<25 DU	–	–	<25 U	580 D	79 D	<25 DU
29-jul-1993	CS	aefh	V	<25 DU	–	–	<25 U	530 D	78 D	<25 DU
04-nov-1993	CS	a	V	<25 U	–	–	<25 U	620	65	<25 U
08-dec-1993	CS	af	V	<50 UD	–	–	<50 UD	400 D	63 D	<50 UD
18-jan-1994	CS	af	V	<12 DU	–	–	18 D	330 D	44 D	<12 DU
22-apr-1994	CS	af	V	1.3	–	–	6.7	82 D	12	<0.5 U
09-aug-1994	CS	af	V	<0.5 U	–	–	4.5	120 D	8.1	<0.5 U
W-7G										
05-jul-1989	BC	a	U	<1 P	–	–	1 P	27 P	2 P	<1 P
07-aug-1989	BC	ad	U	<0.5 P	–	–	0.8 P	44 P	2.4 P	<0.5 P
07-aug-1989	BC	ad	U	<0.5 P	–	–	1.4 P	43 P	2.3 P	<0.5 P
07-aug-1989	BC	ad	U	<0.5 P	–	–	0.9 P	32 P	1.3 P	<0.5 P
14-aug-1989	BC	a	U	<0.5 P	–	–	<0.5 P	28 P	1.4 P	<0.5 P
01-sep-1989	BC	ad	U	<0.5 P	–	–	1 P	41 P	2.1 P	<0.5 P
01-sep-1989	BC	ad	U	<0.5 P	–	–	0.7 P	28 P	1.2 P	<0.5 P
11-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	8.3 P	<0.5 P	<0.5 P
14-nov-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24 P	<0.5 P	<0.5 P
14-feb-1990	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10 P	<0.5 P	<0.5 P
14-feb-1990	CL	ag	U	<0.2 P	0.5 P	<0.4 P	0.5 P	7.3 P	<0.5 P	<0.4 P
30-apr-1990	BC	a	U	<0.5 P	0.8 P	<0.5 P	0.8 P	13 P	<0.5 P	<0.5 P
17-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	8.1 P	<0.5 P	<0.5 P
07-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	7.2 P	<0.5 P	<0.5 P
26-feb-1991	BC	a	U	<0.5 P	1 P	<0.5 P	1 P	6 P	<0.5 P	<0.5 P
13-may-1991	BC	a	U	<0.5 P	1.9 P	<0.5 P	1.9 P	9 P	<0.5 P	<0.5 P
17-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	8.2 P	<0.5 P	<0.5 P
05-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.4 P	<0.5 P	<0.5 P
11-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.8 P	<0.5 P	<0.5 P
25-nov-1992	BC	ah	U	<0.5 P	0.71 P	<0.5 P	0.71 P	4.6 P	<0.5 P	<0.5 P
25-nov-1992	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.4 P	<0.5 P	<0.5 P

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-7ES
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	09-mar-1993
<0.3 U	<0.5 U	<0.5 U	<0.4 U	<0.6 U	<0.6 U	09-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	12-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	06-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	21-jul-1994
						W-7F
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-apr-1988
<0.5	<0.5	<0.5	<0.5	0.7 B	<0.5	12-may-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.2 P	<0.5 P	18-may-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-may-1988
<0.5	<0.5	<0.5	<0.5	0.6 B	<0.5	28-jun-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-oct-1988
<1 P	<1 P	<1 P	<1 P	1.8 P	<1 P	01-feb-1989
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	13-apr-1989
<0.5 P	<0.5 P	2 P	<0.5 P	<0.5 P	<0.5 P	11-jul-1989
<0.5 P	<0.5 P	1.2 P	<0.5 P	<0.5 P	<0.5 P	09-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-apr-1990
<0.5 P	<0.5 P	2.1 P	<0.5 P	<0.5 P	<0.5 P	15-aug-1990
<0.5 P	<0.5 P	0.6 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1990
<0.5 P	<0.5 P	0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-may-1991
<0.5 P	<0.5 P	0.5 P	<0.5 P	<0.5 P	<0.5 P	20-aug-1991
<0.5 P	<0.5 P	0.7 P	<0.5 P	<0.5 P	<0.5 P	20-aug-1991
<0.5 P	<0.5 P	1.3 P	<0.5 P	<0.5 P	<0.5 P	31-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	25-feb-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	18-may-1993
<0.5 U	4.3	<0.5 U	<0.5 U	<1 U	<0.5 U	18-jun-1993
<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	29-jul-1993
<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	29-jul-1993
<25 U	<25 U	<25 U	<25 U	<25 U	<25 U	04-nov-1993
<50 UD	<50 UD	<50 UD	<50 UD	<50 UD	<50 UD	08-dec-1993
<12 DU	<12 DU	<12 DU	<12 DU	<12 DU	<12 DU	18-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-aug-1994
						W-7G
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	05-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-aug-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-aug-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-aug-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.6 P	<0.5 P	14-aug-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-sep-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-sep-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-nov-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1990
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	14-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-nov-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-nov-1992

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1- DCE	cis- 1,2- DCE	trans- 1,2- DCE	Total 1,2- DCE	TCE	PCE	1,1- DCA
GSA Study Area and Offsite (continued)										
W-7G (continued)										
20-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	1.6	<0.5 U	<0.5 U
07-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	1.3	<0.5 U	<0.5 U
19-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	1.2	<0.5 U	<0.5 U
21-jul-1994	CS	a	V	<0.5 U	–	–	<0.5 U	0.76	<0.5 U	<0.5 U
W-7H										
23-aug-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-dec-1989	BC	a	U	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
12-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-mar-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.1 P	<0.5 P	<0.5 P
14-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-nov-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-nov-1991	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	<0.3 P	<0.5 P	<0.4 P
03-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
09-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
11-may-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
02-aug-1994	CS	a	N	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-7I										
16-nov-1989	BC	af	U	<50 P	–	–	<50 P	6100 P	1300 P	<50 P
06-feb-1990	BC	af	U	<20 P	<20 P	<20 P	<20 P	5000 P	2400 P	<20 P
24-apr-1990	BC	af	U	<20 P	<20 P	<20 P	<20 P	2600 P	730 P	<20 P
17-aug-1990	BC	afgh	U	<20 P	<20 P	<20 P	<20 P	4000 P	1100 P	<20 P
17-aug-1990	BC	afgh	U	<20 P	<20 P	<20 P	<20 P	3500 P	980 P	<20 P
17-aug-1990	CL	afg	U	<20 P	<40 P	<40 P	<40 P	3100 P	870 P	<40 P
08-nov-1990	BC	af	U	<50 P	<50 P	<50 P	<50 P	3200 P	810 P	<50 P
27-feb-1991	BC	af	U	10 P	14 P	<10 P	14 P	2000 P	420 P	<10 P
06-jun-1991	BC	af	U	<20 P	<20 P	<20 P	<20 P	3500 P	780 P	<20 P
20-aug-1991	BC	af	U	<20 P	<20 P	<20 P	<20 P	2300 P	500 P	<20 P
20-dec-1991	BC	af	U	<20 P	<20 P	<20 P	<20 P	2100 P	330 P	<20 P
06-feb-1992	BC	af	U	<5 P	<5 P	<5 P	<5 P	580 P	83 P	<5 P
29-jun-1992	BC	af	U	<100 P	<100 P	<100 P	<100 P	17000 P	3300 P	<100 P
11-aug-1992	BC	af	U	<50 P	58 P	<50 P	58 P	7800 P	1600 P	<50 P
26-mar-1993	BC	af	V	860 D	1600 D	<5 DU	1600 D	19000 D	1600 D	<5 DU
17-may-1993	BC	af	V	400 D	420 D	8.1 D	430 D	39000 D	2800 D	38 D
18-jun-1993	BC	af	V	520 DL	490 DJ	<5 DU	490 D	62000 D	2500 D	38 D
16-jul-1993	CS	af	V	<2500 DU	–	–	<2500 U	69000 D	4700 D	<2500 DU
04-nov-1993	CS	af	V	<500 DU	–	–	<500 DU	29000 D	2500 D	<500 DU
17-feb-1994	CS	af	V	210 D	–	–	520 D	27000 D	2200 D	<100 DU
12-aug-1994	CS	af	N	<130 DU	–	–	<130 DU	7200 D	500 D	<130 DU
W-7J										
15-nov-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	31 P	1.6 P	<0.5 P
15-nov-1989	BC	a	U	<1 P	–	–	<1 P	27 P	2 P	<1 P
07-mar-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13	1.5	<0.5 U
18-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	6.3	1.6	<0.5 U
29-jul-1993	CS	a	V	<0.5 U	–	–	<0.5 U	5.3	1.4	<0.5 U
02-nov-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
23-feb-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	0.8	<0.5 U
11-may-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
				(continued)	GSA Study Area and Offsite	
						(continued) W-7G
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	20-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	07-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	19-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	21-jul-1994
						W-7H
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-aug-1989
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	14-dec-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-mar-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-nov-1991
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	07-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	25-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-may-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-aug-1994
						W-7I
<50 P	<50 P	<50 P	<50 P	<50 P	<50 P	16-nov-1989
<20 P	<20 P	<20 P	<20 P	<20 P	<20 P	06-feb-1990
<20 P	<20 P	<20 P	<20 P	<20 P	<20 P	24-apr-1990
<20 P	<20 P	<20 P	<20 P	<20 P	<20 P	17-aug-1990
<20 P	<20 P	<20 P	<20 P	<20 P	<20 P	17-aug-1990
<30 P	<50 P	<50 P	<40 P	<60 P	<60 P	17-aug-1990
<50 P	<50 P	<50 P	<50 P	<50 P	<50 P	08-nov-1990
<10 P	<10 P	<10 P	<10 P	<10 P	<10 P	27-feb-1991
<20 P	<20 P	<20 P	<20 P	<20 P	<20 P	06-jun-1991
<20 P	<20 P	<20 P	<20 P	<20 P	<20 P	20-aug-1991
<20 P	<20 P	<20 P	<20 P	<20 P	<20 P	20-dec-1991
<5 P	<5 P	<5 P	<5 P	<5 P	<5 P	06-feb-1992
<100 P	<100 P	<100 P	<100 P	<100 P	<100 P	29-jun-1992
<50 P	<50 P	<50 P	<50 P	<50 P	<50 P	11-aug-1992
<5 DU	<5 DU	<5 DU	<5 DU	<10 DU	<5 DU	26-mar-1993
18 D	150 D	20 D	<5 DU	<10 DU	<5 DU	17-may-1993
23 D	190 D	24 D	<5 DU	<10 DU	<5 DU	18-jun-1993
<2500 DU	<2500 DU	<2500 DU	<2500 DU	<2500 DU	<2500 DU	16-jul-1993
<500 DU	<500 DU	<500 DU	<500 DU	<500 DU	<500 DU	04-nov-1993
<100 DU	<100 DU	<100 DU	<100 DU	<100 DU	<100 DU	17-feb-1994
<130 DU	<130 DU	<130 DU	<130 DU	<130 DU	<130 DU	12-aug-1994
						W-7J
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-nov-1989
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	15-nov-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-mar-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	02-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	18-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	18-jun-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	29-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-nov-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	23-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-may-1994

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-7J (continued)										
02-sep-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-7K										
16-mar-1990	BC	a	U	<0.2 P	0.7 P	<0.2 P	0.7 P	1.6 P	<0.2 P	<0.2 P
30-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.2 P	<0.5 P	<0.5 P
09-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.7 P	<0.5 P	<0.5 P
07-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-jan-1992	BC	a	U	<0.5 P	1.3 P	<0.5 P	1.3 P	1 P	<0.5 P	<0.5 P
29-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.5 P	<0.5 P	<0.5 P
07-aug-1992	BC	ag	U	<0.5 P	0.76 P	<0.5 P	0.76 P	<0.5 P	<0.5 P	<0.5 P
07-aug-1992	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	<0.3 P	<0.5 P	<0.4 P
02-dec-1992	BC	a	U	<0.5 P	0.8 P	<0.5 P	0.8 P	<0.5 P	<0.5 P	<0.5 P
03-dec-1992	CL	a	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	<0.3 P	<0.5 P	<0.4 P
03-mar-1993	BC	a	V	<0.5 U	1	<0.5 U	1	0.64	<0.5 U	<0.5 U
12-may-1993	BC	a	V	<0.5 U	1.3	<0.5 U	1.3	1.1	<0.5 U	<0.5 U
06-aug-1993	CS	a	V	<0.5 U	–	–	0.7	<0.5 U	<0.5 U	<0.5 U
07-dec-1993	CS	a	V	<0.5 U	–	–	0.7	<0.5 U	<0.5 U	<0.5 U
14-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
19-apr-1994	CS	a	V	<0.5 U	–	–	1	<0.5 U	<0.5 U	<0.5 U
09-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-7L										
19-nov-1990	BC	a	U	<0.5 P	1 P	<0.5 P	1 P	9 P	<0.5 P	<0.5 P
07-feb-1991	BC	a	U	<0.5 P	0.9 P	<0.5 P	0.9 P	8.2 P	<0.5 P	<0.5 P
29-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	9.5 P	<0.5 P	<0.5 P
24-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	9.4 P	<0.5 P	<0.5 P
30-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	9.6 P	<0.5 P	<0.5 P
22-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11 P	<0.5 P	<0.5 P
04-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	8.4 P	0.6 P	<0.5 P
07-aug-1992	BC	a	U	<0.5 P	0.74 P	<0.5 P	0.74 P	9.3 P	<0.5 P	<0.5 P
22-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	8.2 P	<0.5 P	<0.5 P
03-mar-1993	BC	a	V	<0.5 U	0.78	<0.5 U	0.78	5.3	<0.5 U	<0.5 U
14-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	4.7	<0.5 U	<0.5 U
03-dec-1993	CS	a	V	<0.5 U	–	–	0.5	2.9	<0.5 U	<0.5 U
18-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	2.9	<0.5 U	<0.5 U
19-apr-1994	CS	a	V	<0.5 U	–	–	0.6	4.4	<0.5 U	<0.5 U
08-aug-1994	CS	ag	V	<0.5 U	–	–	<0.5 U	2	<0.5 U	<0.5 U
08-aug-1994	GT	ag	V	<0.5 U	–	–	<0.5 U	1.9	<0.5 U	<0.5 U
W-7M										
20-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
30-sep-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
02-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
10-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
20-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
26-jul-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-7N										
19-nov-1990	BC	a	U	<0.5 P	1 P	<0.5 P	1 P	14 P	0.5 P	<0.5 P
07-feb-1991	BC	a	U	<0.5 P	0.9 P	<0.5 P	0.9 P	11 P	<0.5 P	<0.5 P
01-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20 P	<0.5 P	<0.5 P
23-jul-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16 P	<0.5 P	<0.5 P
23-jul-1991	CL	ag	U	<0.2 P	1.2 P	<0.4 P	–	8.7 P	0.7 P	<0.4 P
30-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27 P	<0.5 P	<0.5 P

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-7J
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-sep-1994
						W-7K
<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P	16-mar-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-aug-1992
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	07-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-dec-1992
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	03-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	03-mar-1993
<0.5 U	0.5	<0.5 U	<0.5 U	<1 U	<0.5 U	12-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	06-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	07-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	14-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	19-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-aug-1994
						W-7L
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-apr-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	04-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	03-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	14-apr-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	03-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	18-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	19-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	08-aug-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	08-aug-1994
						W-7M
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	03-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	14-apr-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	30-sep-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	20-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	26-jul-1994
						W-7N
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	23-jul-1991
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	23-jul-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-oct-1991

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-7N (continued)										
22-jan-1992	BC	a	U	<0.5 P	1.9 P	<0.5 P	1.9 P	27 P	<0.5 P	<0.5 P
08-jun-1992	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27 P	<0.5 P	<0.5 P
08-jun-1992	CL	ag	U	<0.2 P	1.4 P	<0.4 P	1.4 P	25 P	1.2 P	<0.4 P
10-aug-1992	BC	a	U	<0.5 P	1.4 P	<0.5 P	1.4 P	16 P	0.81 P	<0.5 P
07-dec-1992	BC	a	U	<0.5 P	1.2 P	<0.5 P	1.2 P	13 P	<0.5 P	<0.5 P
10-mar-1993	BC	a	V	<0.5 U	0.53	<0.5 U	0.53	19	1.1	<0.5 U
14-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	13	0.67	<0.5 U
06-aug-1993	CS	a	V	<0.5 U	-	-	1.3	14	0.5	<0.5 U
03-dec-1993	CS	a	V	<0.5 U	-	-	0.9	7.4	<0.5 U	<0.5 U
10-jan-1994	CS	a	V	<0.5 U	-	-	0.6	4.7	<0.5 U	<0.5 U
20-apr-1994	CS	a	V	<0.5 U	-	-	0.6	4.3	<0.5 U	<0.5 U
08-aug-1994	CS	ag	V	<0.5 U	-	-	<0.5 U	2.6	<0.5 U	<0.5 U
08-aug-1994	GT	ag	V	<0.5 U	-	-	<0.5 U	2.8	<0.5 U	<0.5 U
W-7O										
17-mar-1992	BC	af	U	11 P	5 P	<5 P	5 P	690 P	39 P	<5 P
11-jun-1992	BC	af	U	5 P	<2 P	<2 P	<2 P	520 P	39 P	<2 P
08-dec-1992	BC	a	U	6.6 P	4.2 P	<0.5 P	4.2 P	630 P	36 P	<0.5 P
01-mar-1993	BC	af	V	<5 UD	<5 UD	<5 UD	<5 UD	790 D	56 D	<5 UD
18-may-1993	BC	a	V	2.3	2.1	<0.5 U	2.1	210	16	<0.5 U
18-jun-1993	BC	a	V	3.9 L	2.5 J	<0.5 U	2.5	390	20	<0.5 U
16-jul-1993	CS	af	V	<25 DU	-	-	<25 U	630 D	45 D	<25 DU
01-nov-1993	CS	af	V	<25 UD	-	-	<25 UD	560 D	36 D	<25 UD
18-jan-1994	CS	af	V	<25 DU	-	-	<25 DU	620 D	41 D	<25 DU
03-may-1994	CS	afh	V	<25 DU	-	-	<25 DU	870 D	52 D	<25 DU
03-may-1994	CS	aefh	V	<25 DU	-	-	<25 DU	830 D	53 D	<25 DU
22-jul-1994	CS	af	N	<50 DU	-	-	<50 DU	810 D	<50 DU	<50 DU
W-7P										
11-aug-1994	CS	a	V	<0.5 U	-	-	<0.5 U	31	0.71	<0.5 U
W-7PS										
11-aug-1994	CS	a	V	<0.5 U	-	-	<0.5 U	17	<0.5 U	<0.5 U
W-843-01										
07-mar-1990	BC	a	U	<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P
30-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-jan-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-may-1992	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-may-1992	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
07-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
01-feb-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
21-jul-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-843-02										
02-may-1990	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-mar-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
22-feb-1994	CS	a	V	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
02-aug-1994	CS	a	N	<0.5 U	-	-	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-872-01										
06-mar-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-7N
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-jan-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-jun-1992
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	08-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-aug-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	10-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	14-apr-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	06-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	03-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	10-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	20-apr-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	08-aug-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	08-aug-1994
						W-7O
<5 P	<5 P	<5 P	<5 P	7 P	<5 P	17-mar-1992
<2 P	<2 P	<2 P	<2 P	<2 P	<2 P	11-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-dec-1992
<5 UD	<5 UD	<5 UD	<5 UD	<10 UD	<5 UD	01-mar-1993
<0.5 U	0.86	<0.5 U	<0.5 U	<1 U	<0.5 U	18-may-1993
<0.5 U	0.67	<0.5 U	0.87	<1 U	<0.5 U	18-jun-1993
<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	16-jul-1993
<25 UD	<25 UD	<25 UD	<25 UD	<25 UD	<25 UD	01-nov-1993
<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	18-jan-1994
<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	03-may-1994
<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	<25 DU	03-may-1994
<50 DU	<50 DU	<50 DU	<50 DU	<50 DU	<50 DU	22-jul-1994
						W-7P
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-aug-1994
						W-7PS
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	11-aug-1994
						W-843-01
<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P	<0.2 P	07-mar-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-jan-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	01-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	07-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	01-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	21-jul-1994
						W-843-02
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-mar-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-dec-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-may-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	07-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-aug-1994
						W-872-01
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-mar-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-aug-1990

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-872-01 (continued)										
08-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-nov-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
09-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	7.9	1.9	<0.5 U
22-dec-1993	CS	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
22-dec-1993	GT	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
22-feb-1994	CS	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
22-feb-1994	GT	ag	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
03-may-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-872-02										
08-nov-1990	BC	a	U	0.5 P	<0.5 P	<0.5 P	<0.5 P	3 P	<0.5 P	<0.5 P
26-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.6 P	<0.5 P	<0.5 P
16-may-1991	BC	ag	U	0.8 P	<0.5 P	<0.5 P	<0.5 P	6.1 P	<0.5 P	<0.5 P
16-may-1991	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	2.9 P	<0.5 P	<0.4 P
12-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.2 P	<0.5 P	<0.5 P
28-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.4 P	<0.5 P	<0.5 P
30-jun-1992	BC	a	U	4.7 P	<0.5 P	<0.5 P	<0.5 P	24 P	<0.5 P	<0.5 P
12-oct-1992	BC	a	U	5.9 P	<0.5 P	<0.5 P	<0.5 P	27 P	1.3 P	<0.5 P
21-may-1993	BC	ah	V	1.1	<0.5 U	<0.5 U	<0.5 U	13	<0.5 U	<0.5 U
21-may-1993	BC	aeh	V	1.4	<0.5 U	<0.5 U	<0.5 U	15	<0.5 U	<0.5 U
22-nov-1993	CS	a	V	2.5	–	–	<0.5 U	16	0.6	<0.5 U
21-apr-1994	CS	a	V	1.8	–	–	<0.5 U	13	0.5	<0.5 U
03-aug-1994	CS	a	N	1.3	–	–	<0.5 U	10	<0.5 U	<0.5 U
W-873-01										
25-may-1988	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-jul-1988	BC	a	U	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
25-oct-1988	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-feb-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-jul-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-nov-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
21-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
26-jul-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-873-02										
08-jun-1988	BC	a	U	<0.5 P	–	–	<0.5 P	17 P	<0.5 P	<0.5 P
28-oct-1988	BC	a	U	1.2 P	–	–	<0.5 P	15 P	<0.5 P	<0.5 P
07-feb-1989	BC	a	U	2.2 P	–	–	<0.5 P	22 P	<0.5 P	<0.5 P
13-apr-1989	BC	a	U	<0.5 P	–	–	<0.5 P	17 P	<0.5 P	<0.5 P
18-jul-1989	BC	a	U	0.9 P	–	–	<0.5 P	20 P	<0.5 P	<0.5 P
20-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18 P	<0.5 P	<0.5 P
15-feb-1990	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16 P	<0.5 P	<0.5 P
15-feb-1990	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17 P	<0.5 P	<0.5 P
27-apr-1990	BC	a	U	0.6 P	<0.5 P	<0.5 P	<0.5 P	16 P	<0.5 P	<0.5 P
16-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14 P	<0.5 P	<0.5 P
06-nov-1990	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18 P	<0.5 P	<0.5 P
06-nov-1990	BC	ah	U	0.8 P	<0.5 P	<0.5 P	<0.5 P	17 P	<0.5 P	<0.5 P
12-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12 P	<0.5 P	<0.5 P
17-may-1991	BC	a	U	1.3 P	<0.5 P	<0.5 P	<0.5 P	28 P	<0.5 P	<0.5 P
13-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12 P	<0.5 P	<0.5 P
05-nov-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24 P	<0.5 P	<0.5 P
05-nov-1991	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22 P	<0.5 P	<0.5 P
11-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22 P	<0.5 P	<0.5 P
12-oct-1992	BC	a	U	1.8 P	<0.5 P	<0.5 P	<0.5 P	19 P	<0.5 P	<0.5 P
25-feb-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	20	<0.5 U	<0.5 U

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-872-01
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	23-mar-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	09-jun-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	22-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	22-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	03-may-1994
						W-872-02
<0.5 P	<0.5 P	<0.5 P	6.5 P	<0.5 P	<0.5 P	08-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-feb-1991
<0.5 P	<0.5 P	<0.5 P	19 P	<0.5 P	<0.5 P	16-may-1991
<0.3 P	<0.5 P	<0.5 P	17 P	<0.6 P	<0.6 P	16-may-1991
<0.5 P	<0.5 P	<0.5 P	3 P	<0.5 P	<0.5 P	12-aug-1991
<0.5 P	<0.5 P	<0.5 P	13 P	<0.5 P	<0.5 P	28-oct-1991
<0.5 P	<0.5 P	<0.5 P	60 P	<0.5 P	<0.5 P	30-jun-1992
<0.5 P	<0.5 P	0.5 P	83 P	5.1 P	<0.5 P	12-oct-1992
<0.5 U	<0.5 U	<0.5 U	45	<1 U	<0.5 U	21-may-1993
<0.5 U	<0.5 U	<0.5 U	56	<1 U	<0.5 U	21-may-1993
<0.5 U	<0.5 U	<0.5 U	31	2.5	<0.5 U	22-nov-1993
<0.5 U	<0.5 U	<0.5 U	19	1	<0.5 U	21-apr-1994
<0.5 U	<0.5 U	<0.5 U	19	0.87	<0.5 U	03-aug-1994
						W-873-01
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-may-1988
<1 P	<1 P	<1 P	<1 P	–	<1 P	28-jul-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	25-oct-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-feb-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	18-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	21-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	26-jul-1994
						W-873-02
<0.5 P	<0.5 P	<0.5 P	9.8 P	<0.5 P	<0.5 P	08-jun-1988
<0.5 P	<0.5 P	<0.5 P	28 P	<0.5 P	<0.5 P	28-oct-1988
<0.5 P	<0.5 P	<0.5 P	67 P	<0.5 P	<0.5 P	07-feb-1989
<0.5 P	<0.5 P	<0.5 P	37 P	<0.5 P	<0.5 P	13-apr-1989
<0.5 P	<0.5 P	7.4 P	33 P	<0.5 P	<0.5 P	18-jul-1989
<0.5 P	<0.5 P	2.3 P	30 P	<0.5 P	<0.5 P	20-oct-1989
<0.5 P	<0.5 P	0.9 P	34 P	<0.5 P	<0.5 P	15-feb-1990
<0.5 P	<0.5 P	0.8 P	29 P	<0.5 P	<0.5 P	15-feb-1990
<0.5 P	<0.5 P	0.9 P	38 P	<0.5 P	<0.5 P	27-apr-1990
<0.5 P	<0.5 P	<0.5 P	34 P	<0.5 P	<0.5 P	16-aug-1990
<0.5 P	<0.5 P	0.6 P	40 P	<0.5 P	<0.5 P	06-nov-1990
<0.5 P	<0.5 P	1.2 P	44 P	<0.5 P	<0.5 P	06-nov-1990
<0.5 P	<0.5 P	0.6 P	28 P	<0.5 P	<0.5 P	12-feb-1991
<0.5 P	<0.5 P	0.9 P	66 P	<0.5 P	<0.5 P	17-may-1991
<0.5 P	<0.5 P	1.9 P	28 P	<0.5 P	<0.5 P	13-aug-1991
<0.5 P	<0.5 P	<0.5 P	28 P	<0.5 P	<0.5 P	05-nov-1991
<0.5 P	<0.5 P	<0.5 P	28 P	<0.5 P	<0.5 P	05-nov-1991
<0.5 P	<0.5 P	<0.5 P	37 P	<0.5 P	<0.5 P	11-jun-1992
<0.5 P	<0.5 P	0.94 P	34 P	<0.5 P	<0.5 P	12-oct-1992
<0.5 U	<0.5 U	0.93	45	<1 U	<0.5 U	25-feb-1993

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-873-02 (continued)										
20-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	12	<0.5 U	<0.5 U
20-may-1993	CL	a	V	<0.2 U	<0.4 U	<0.4 U	<0.4 U	12 P	<0.5 U	<0.4 U
22-feb-1994	CS	a	V	<0.5 U	–	–	<0.5 U	10	<0.5 U	<0.5 U
26-jul-1994	CS	a	V	<0.5 U	–	–	<0.5 U	7.4	<0.5 U	<0.5 U
W-873-03										
13-jun-1988	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-jun-1988	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-oct-1988	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-feb-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-apr-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-jul-1989	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-feb-1991	CL	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-feb-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-oct-1992	BC	ac	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	37 P	<0.5 P	<0.5 P
20-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
22-feb-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
21-jul-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-873-04										
16-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.6 P	<0.5 P
28-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-nov-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
25-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
01-sep-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-873-06										
21-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	41 P	<0.5 P	<0.5 P
27-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	47 P	<0.5 P	<0.5 P
21-may-1991	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	61 P	<0.5 P	<0.5 P
21-may-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	55 P	<0.5 P	<0.5 P
12-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	39 P	<0.5 P	<0.5 P
12-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	63 P	<0.5 P	<0.5 P
11-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	37 P	<0.5 P	<0.5 P
12-oct-1992	BC	ac	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-feb-1993	BC	ah	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	43	<0.5 U	<0.5 U
25-feb-1993	BC	aeh	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	33	<0.5 U	<0.5 U
20-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	20	<0.5 U	<0.5 U
24-nov-1993	CS	a	V	<0.5 U	–	–	<0.5 U	23	<0.5 U	<0.5 U
15-jul-1994	CS	a	V	<0.5 U	–	–	<0.5 U	12	<0.5 U	<0.5 U
W-873-07										
20-nov-1990	BC	a	U	1.2 P	<0.5 P	<0.5 P	<0.5 P	8.5 P	<0.5 P	<0.5 P
27-feb-1991	BC	a	U	1 P	<0.5 P	<0.5 P	<0.5 P	8.5 P	<0.5 P	<0.5 P
17-may-1991	BC	a	U	<1 P	<1 P	<1 P	<1 P	10 P	<1 P	<1 P
13-aug-1991	BC	a	U	1 P	<0.5 P	<0.5 P	<0.5 P	10 P	<0.5 P	<0.5 P
06-nov-1991	BC	a	U	3 P	<0.5 P	<0.5 P	<0.5 P	15 P	<0.5 P	<0.5 P
10-jun-1992	BC	a	U	1.3 P	<0.5 P	<0.5 P	<0.5 P	11 P	<0.5 P	<0.5 P
12-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13 P	<0.5 P	<0.5 P
20-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	4.4	<0.5 U	<0.5 U
24-nov-1993	CS	a	V	<0.5 U	–	–	<0.5 U	5.4	<0.5 U	<0.5 U
25-jan-1994	CS	af	V	<0.5 U	–	–	<0.5 U	5.9	<0.5 U	<0.5 U
15-jul-1994	CS	af	V	<0.5 U	–	–	<0.5 U	7.1	<0.5 U	<0.5 U

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-873-02
<0.5 U	<0.5 U	<0.5 U	42	<1 U	<0.5 U	20-may-1993
<0.3 U	<0.5 U	<0.5 U	25 P	<0.6 U	<0.6 U	20-may-1993
<0.5 U	<0.5 U	<0.5 U	23	<0.5 U	<0.5 U	22-feb-1994
<0.5 U	<0.5 U	<0.5 U	18	<0.5 U	<0.5 U	26-jul-1994
						W-873-03
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-jun-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-jun-1988
<0.5 P	0.7 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	26-oct-1988
<0.5 P	1.2 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-feb-1989
<0.5 P	0.8 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-apr-1989
<0.5 P	0.5 P	4.8 P	<0.5 P	<0.5 P	<0.5 P	18-jul-1989
<0.5 P	<0.5 P	4 P	<0.5 P	<0.5 P	<0.5 P	20-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-feb-1990
<0.5 P	0.6 P	2.6 P	<0.5 P	<0.5 P	<0.5 P	27-apr-1990
<0.5 P	<0.5 P	1.8 P	<0.5 P	<0.5 P	<0.5 P	16-aug-1990
<0.5 P	0.5 P	5.9 P	<0.5 P	<0.5 P	<0.5 P	06-nov-1990
<0.5 P	0.6 P	4.4 P	<0.5 P	–	<0.5 P	12-feb-1991
<0.5 P	<0.5 P	5 P	<0.5 P	<0.5 P	<0.5 P	12-feb-1991
<0.5 P	<0.5 P	2.5 P	<0.5 P	<0.5 P	<0.5 P	14-may-1991
<0.5 P	0.9 P	0.6 P	<0.5 P	<0.5 P	<0.5 P	12-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	05-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-may-1992
<0.5 P	<0.5 P	<0.5 P	1.2 P	<0.5 P	<0.5 P	12-oct-1992
<0.5 U	1.4	<0.5 U	<0.5 U	<1 U	<0.5 U	20-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	21-jul-1994
						W-873-04
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	09-jun-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	25-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	01-sep-1994
						W-873-06
<0.5 P	<0.5 P	<0.5 P	2.5 P	<0.5 P	<0.5 P	21-nov-1990
<0.5 P	<0.5 P	<0.5 P	2 P	<0.5 P	<0.5 P	27-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-aug-1991
<0.5 P	<0.5 P	<0.5 P	0.7 P	<0.5 P	<0.5 P	12-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-jun-1992
<0.5 P	0.81 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-oct-1992
<0.5 U	<0.5 U	<0.5 U	1.5	<1 U	<0.5 U	25-feb-1993
<0.5 U	<0.5 U	<0.5 U	0.9	<1 U	<0.5 U	25-feb-1993
<0.5 U	<0.5 U	<0.5 U	1.5	<1 U	<0.5 U	20-may-1993
<0.5 U	<0.5 U	<0.5 U	0.6	<0.5 U	<0.5 U	24-nov-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-jul-1994
						W-873-07
<0.5 P	<0.5 P	<0.5 P	160 P	<0.5 P	<0.5 P	20-nov-1990
<0.5 P	<0.5 P	<0.5 P	84 P	<0.5 P	<0.5 P	27-feb-1991
<1 P	<1 P	<1 P	120 P	<1 P	<1 P	17-may-1991
<0.5 P	<0.5 P	<0.5 P	96 P	<0.5 P	<0.5 P	13-aug-1991
<0.5 P	<0.5 P	<0.5 P	140 P	<0.5 P	<0.5 P	06-nov-1991
<0.5 P	<0.5 P	<0.5 P	92 P	4 P	<0.5 P	10-jun-1992
<0.5 P	<0.5 P	<0.5 P	140 P	<0.5 P	<0.5 P	12-oct-1992
<0.5 U	<0.5 U	<0.5 U	57	<1 U	<0.5 U	20-may-1993
<0.5 U	<0.5 U	<0.5 U	29	<0.5 U	<0.5 U	24-nov-1993
<0.5 U	<0.5 U	<0.5 U	67 D	<0.5 U	<0.5 U	25-jan-1994
<0.5 U	<0.5 U	<0.5 U	84 D	<0.5 U	<0.5 U	15-jul-1994

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-875-01										
25-oct-1988	BC	a	U	<1 P	–	–	1.1 P	110 P	3 P	<1 P
10-feb-1989	BC	a	U	<0.5 P	–	–	<0.5 P	88 P	2.9 P	<0.5 P
20-apr-1989	BC	af	U	<1 P	–	–	88 P	120 P	3.4 P	<1 P
18-jul-1989	BC	af	U	<1 P	–	–	<1 P	180 P	6.5 P	<1 P
18-oct-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	110 P	6.2 P	<0.5 P
13-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	69 P	3.1 P	<0.5 P
16-may-1990	BC	a	U	<0.5 P	0.8 P	<0.5 P	0.8 P	75 P	3.7 P	<0.5 P
16-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	110 P	5 P	<0.5 P
06-nov-1990	BC	afg	U	<1 P	<1 P	<1 P	<1 P	110 P	4 P	<1 P
06-nov-1990	CL	ag	U	<1 P	<2 P	<2 P	<2 P	120 P	4 P	<2 P
07-mar-1991	BC	af	U	<1 P	<1 P	<1 P	<1 P	96 P	4 P	<1 P
21-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	90 P	3.4 P	<0.5 P
14-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	93 P	4.4 P	<0.5 P
12-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	91 P	4.4 P	<0.5 P
30-jun-1992	BC	afg	U	<1 P	<1 P	<1 P	<1 P	190 P	<1 P	<1 P
30-jun-1992	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	87 P	3 P	<0.4 P
08-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	110 P	5.5 P	<0.5 P
21-may-1993	BC	a	V	<0.5 U	0.7	<0.5 U	0.7	120	3.5	<0.5 U
22-feb-1994	CS	a	V	<0.5 U	–	–	22	29	1.3	<0.5 U
03-aug-1994	CS	af	N	<0.5 U	–	–	0.87	83 D	3.2	<0.5 U
W-875-02										
13-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.3 P	<0.5 P	<0.5 P
13-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.5 P	<0.5 P	<0.5 P
14-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.2 P	<0.5 P	<0.5 P
20-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1 P	<0.5 P	<0.5 P
01-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
21-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
05-aug-1993	CS	a	V	<0.5 U	–	–	<0.5 U	1	<0.5 U	<0.5 U
24-nov-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
26-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
04-may-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
24-aug-1994	CS	a	N	<0.5 U	–	–	<0.5 U	1	<0.5 U	<0.5 U
W-875-03										
13-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.9 P	<0.5 P	<0.5 P
27-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2 P	<0.5 P	<0.5 P
17-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.8 P	<0.5 P	<0.5 P
13-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.4 P	<0.5 P	<0.5 P
14-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.1 P	<0.5 P	<0.5 P
17-may-1991	BC	a	U	<0.5 P	0.7 P	<0.5 P	0.7 P	2.6 P	<0.5 P	<0.5 P
20-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.1 P	<0.5 P	<0.5 P
06-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.6 P	<0.5 P	<0.5 P
12-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.9 P	<0.5 P	<0.5 P
08-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	46 P	2.4 P	<0.5 P
21-may-1993	BC	aeh	V	0.52	1	<0.5 U	1	81	4.3	<0.5 U
21-may-1993	BC	ah	V	0.6	0.89	<0.5 U	0.89	86	3.8	<0.5 U
28-jul-1993	CS	af	V	<2.5 DU	–	–	<2.5 U	170 D	8.5 D	<2.5 DU
08-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	17	1.3	<0.5 U
22-feb-1994	CS	af	V	1	–	–	2	85 D	3.6	<0.5 U
04-may-1994	CS	af	V	<0.5 U	–	–	0.8	60 D	2.4	<0.5 U
W-875-04										
13-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-may-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.4 P	<0.5 P	<0.5 P
08-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	1.9 P	<0.5 P	<0.5 P

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						W-875-01
<1 P	<1 P	1.4 P	<1 P	<1 P	<1 P	25-oct-1988
<0.5 P	<0.5 P	0.7 P	<0.5 P	<0.5 P	<0.5 P	10-feb-1989
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	20-apr-1989
<1 P	<1 P	1 P	<1 P	<1 P	<1 P	18-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-feb-1990
<0.5 P	<0.5 P	0.7 P	<0.5 P	<0.5 P	<0.5 P	16-may-1990
<0.5 P	<0.5 P	0.7 P	<0.5 P	<0.5 P	<0.5 P	16-aug-1990
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	06-nov-1990
<2 P	<3 P	<3 P	<2 P	<3 P	<3 P	06-nov-1990
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	07-mar-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-nov-1991
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	30-jun-1992
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	30-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	21-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	03-aug-1994
						W-875-02
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	23-mar-1993
<0.5 U	<0.5 U	20	<0.5 U	<1 U	<0.5 U	21-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	05-aug-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	24-nov-1993
2.6	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	26-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	04-may-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	24-aug-1994
						W-875-03
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	21-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	21-may-1993
<2.5 DU	<2.5 DU	<2.5 DU	<2.5 DU	<2.5 DU	<2.5 DU	28-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	08-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	04-may-1994
						W-875-04
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	03-may-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-dec-1992

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-875-04 (continued)										
20-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	1.7	<0.5 U	<0.5 U
18-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
28-jul-1993	CS	a	V	<0.5 U	–	–	<0.5 U	2.1	<0.5 U	<0.5 U
08-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	1.1	<0.5 U	<0.5 U
22-feb-1994	CS	a	V	<0.5 U	–	–	<0.5 U	0.9	<0.5 U	<0.5 U
04-may-1994	CS	a	V	<0.5 U	–	–	<0.5 U	1.4	<0.5 U	<0.5 U
02-sep-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-875-05										
13-feb-1990	BC	a	U	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
27-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-nov-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
24-nov-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
25-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
01-sep-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-875-06										
16-jun-1992	BC	a	U	1.5 P	6.4 P	<0.5 P	6.4 P	39 P	<0.5 P	<0.5 P
08-dec-1992	BC	a	U	0.56 P	4.3 P	<0.5 P	<4.3 P	37 P	<0.5 P	<0.5 P
23-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	16	<0.5 U	<0.5 U
28-jul-1993	CS	a	V	<0.5 U	–	–	2.2	18	<0.5 U	<0.5 U
09-dec-1993	CS	a	V	<0.5 U	–	–	3.2	31	<0.5 U	<0.5 U
22-feb-1994	CS	a	V	<0.5 U	–	–	1.7	13	<0.5 U	<0.5 U
02-sep-1994	CS	aj	V	<0.5 U	–	–	1.5	26	<0.5 U	<0.5 U
W-875-07										
12-jun-1992	BC	af	U	800 P	<500 P	<500 P	<500 P	64000 P	6400 P	<500 P
26-mar-1993	BC	af	V	520 D	910 D	<500 DU	910 D	57000 D	3200 D	<500 DU
17-may-1993	BC	af	V	<500 DU	<500 DU	<500 DU	<500 DU	59000 D	4200 D	<500 DU
18-jun-1993	BC	a	V	420 L	480 J	29	510	78000	3600	38
16-jul-1993	CS	af	V	<5000 DU	–	–	<5000 U	120000 D	13000 D	<5000 DU
03-nov-1993	CS	af	V	<1000 DU	–	–	<1000 DU	13000 D	1100 D	<1000 DU
W-875-08										
08-dec-1992	BC	af	U	<20 P	43 P	<20 P	43 P	3900 P	620 P	<20 P
26-mar-1993	BC	af	V	<10 DU	<10 DU	<10 DU	<10 DU	800 D	69 D	<10 DU
17-may-1993	BC	af	V	120 D	<100 DU	<100 DU	<100 DU	15000 D	1600 D	<100 DU
18-jun-1993	BC	a	V	160 L	280 J	8.7	290	26000	2000	6.7
16-jul-1993	CS	af	V	<1200 DU	–	–	<1200 U	26000 D	3600 D	<1200 DU
01-nov-1993	CS	af	V	<100 UD	–	–	<100 UD	4600 D	580 D	<100 UD
23-feb-1994	CS	af	V	8.5 D	–	–	30 D	910 D	120 D	<5 DU
12-aug-1994	CS	af	N	<100 DU	–	–	<100 DU	2800 D	440 D	<100 DU
W-875-09										
08-dec-1992	BC	af	U	110 P	180 P	<100 P	180 P	12000 P	1700 P	<100 P
26-mar-1993	BC	af	V	<30 DU	57 D	<30 DU	57 D	4000 D	670 D	<30 DU
17-may-1993	BC	af	V	<100 DU	<100 DU	<100 DU	<100 DU	14000 D	1700 D	<100 DU
18-jun-1993	BC	a	V	350 L	400 J	32	430	55000	3300	26
16-jul-1993	CS	af	V	<1200 DU	–	–	<1200 U	29000 D	4100 D	<1200 DU
01-nov-1993	CS	af	V	<130 UD	–	–	<130 UD	5500 D	770 D	<130 UD
W-875-10										
26-mar-1993	BC	af	V	<100 DU	<100 DU	<100 DU	<100 DU	11000 D	1400 D	<100 DU
17-may-1993	BC	af	V	<500 DU	<500 DU	<500 DU	<500 DU	66000 D	6500 D	<500 DU
18-jun-1993	BC	a	V	180 L	200 J	11	210	46000	3800	9.4
16-jul-1993	CS	af	V	<1200 DU	–	–	<1200 U	14000 D	1400 D	<1200 DU
02-nov-1993	CS	a	V	<130 U	–	–	<130 U	9100	830	<130 U
12-aug-1994	CS	af	N	<50 DU	–	–	<50 DU	970 D	130 D	<50 DU

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
				(continued) GSA Study Area and Offsite		
						(continued) W-875-04
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	20-apr-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	18-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	28-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	08-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	04-may-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-sep-1994
						W-875-05
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	13-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	21-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	24-nov-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	25-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	01-sep-1994
						W-875-06
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-dec-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	23-jun-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	28-jul-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	09-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-sep-1994
						W-875-07
<500 P	500 P	<500 P	<500 P	<500 P	<500 P	12-jun-1992
<500 DU	<500 DU	<500 DU	<500 DU	<1000 DU	<500 DU	26-mar-1993
<500 DU	740 D	<500 DU	<500 DU	<1000 DU	<500 DU	17-may-1993
39	970	38	<0.5 U	<1 U	<0.5 U	18-jun-1993
<5000 DU	<5000 DU	<5000 DU	<5000 DU	<5000 DU	<5000 DU	16-jul-1993
<1000 DU	<1000 DU	<1000 DU	<1000 DU	<1000 DU	<1000 DU	03-nov-1993
						W-875-08
<20 P	<20 P	<20 P	<20 P	<40 P	<20 P	08-dec-1992
<10 DU	<10 DU	<10 DU	<10 DU	<20 DU	<10 DU	26-mar-1993
<100 DU	160 D	<100 DU	<100 DU	<200 DU	<100 DU	17-may-1993
8	190	13	<0.5 U	<1 U	<0.5 U	18-jun-1993
<1200 DU	<1200 DU	<1200 DU	<1200 DU	<1200 DU	<1200 DU	16-jul-1993
<100 UD	<100 UD	<100 UD	<100 UD	<100 UD	<100 UD	01-nov-1993
<5 DU	<5 DU	<5 DU	<5 DU	<5 DU	<5 DU	23-feb-1994
<100 DU	<100 DU	<100 DU	<100 DU	<100 DU	<100 DU	12-aug-1994
						W-875-09
<100 P	<100 P	<100 P	<100 P	<200 P	<100 P	08-dec-1992
<30 DU	<30 DU	<30 DU	<30 DU	<50 DU	<30 DU	26-mar-1993
<100 DU	140 D	<100 DU	<100 DU	<200 DU	<100 DU	17-may-1993
21	250	26	<0.5 U	<1 U	<0.5 U	18-jun-1993
<1200 DU	<1200 DU	<1200 DU	<1200 DU	<1200 DU	<1200 DU	16-jul-1993
<130 UD	<130 UD	<130 UD	<130 UD	<130 UD	<130 UD	01-nov-1993
						W-875-10
<100 DU	220 D	<100 DU	<100 DU	<200 DU	<100 DU	26-mar-1993
<500 DU	1000 D	<500 DU	<500 DU	<1000 DU	<500 DU	17-may-1993
21	540	21	<0.5 U	<1 U	<0.5 U	18-jun-1993
<1200 DU	<1200 DU	<1200 DU	<1200 DU	<1200 DU	<1200 DU	16-jul-1993
<130 U	<130 U	<130 U	<130 U	<130 U	<130 U	02-nov-1993
<50 DU	<50 DU	<50 DU	<50 DU	<50 DU	<50 DU	12-aug-1994

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-875-11										
08-dec-1992	BC	af	U	69 P	<50 P	<50 P	<50 P	8100 P	620 P	<50 P
26-mar-1993	BC	af	V	<50 DU	<50 DU	<50 DU	<50 DU	3300 D	160 D	<50 DU
17-may-1993	BC	af	V	110 D	120 D	<100 DU	120 D	14000 D	1200 D	<100 DU
18-jun-1993	BC	af	V	<100 DU	<100 DU	<100 DU	<100 DU	9200 D	530 DO	<100 DU
16-jul-1993	CS	af	V	<1200 DU	–	–	<1200 U	15000 D	1500 D	<1200 DU
03-nov-1993	CS	a	V	<250 U	–	–	<250 U	7400	510	<250 U
12-aug-1994	CS	af	N	<50 DU	–	–	<50 DU	2400 D	170 D	<50 DU
W-875-15										
26-mar-1993	BC	af	V	<50 DU	<50 DU	<50 DU	<50 DU	5200 D	460 D	<50 DU
17-may-1993	BC	af	V	<50 DU	130 D	<50 DU	130 D	7300 D	1000 D	<50 DU
18-jun-1993	BC	af	V	<300 DU	<300 DU	<300 DU	<300 DU	31000 D	1200 D	<300 DU
16-jul-1993	CS	af	V	<1200 DU	–	–	<1200 U	27000 D	2200 D	<1200 DU
03-nov-1993	CS	a	V	<250 U	–	–	<250 U	6700	590	<250 U
W-876-01										
13-feb-1990	BC	a	U	<0.5 P	3.4 P	<0.5 P	3.4 P	1.4 P	<0.5 P	<0.5 P
27-apr-1990	BC	a	U	<0.5 P	1.8 P	<0.5 P	1.8 P	71 P	<0.5 P	<0.5 P
12-jun-1990	BC	agh	U	<0.5 P	4.2 P	<0.5 P	4.2 P	51 P	<0.5 P	<0.5 P
12-jun-1990	BC	aegh	U	<0.5 P	4.3 P	<0.5 P	4.3 P	46 P	<0.5 P	<0.5 P
12-jun-1990	CL	ag	U	<0.2 P	2.5 P	<0.4 P	2.5 P	39 P	<0.5 P	<0.4 P
22-aug-1990	BC	agh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	58 P	<0.5 P	<0.5 P
22-aug-1990	BC	agh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	56 P	<0.5 P	<0.5 P
22-aug-1990	CL	afg	U	<1 P	<2 P	<2 P	<2 P	43 P	<3 P	<2 P
08-nov-1990	BC	a	U	<0.5 P	12 P	<0.5 P	12 P	5.9 P	<0.5 P	<0.5 P
14-feb-1991	BC	aeh	U	<0.5 P	11 P	<0.5 P	11 P	3.4 P	<0.5 P	<0.5 P
14-feb-1991	BC	ah	U	<0.5 P	9.7 P	<0.5 P	9.7 P	3.2 P	<0.5 P	<0.5 P
16-may-1991	BC	a	U	<0.5 P	5.2 P	<0.5 P	5.2 P	70 P	<0.5 P	<0.5 P
14-aug-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	44 P	<0.5 P	<0.5 P
14-aug-1991	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	45 P	<0.5 P	<0.5 P
06-nov-1991	BC	a	U	<0.5 P	7 P	<0.5 P	7 P	18 P	<0.5 P	<0.5 P
30-jun-1992	BC	ag	U	<0.5 P	1.1 P	<0.5 P	1.1 P	46 P	<0.5 P	<0.5 P
30-jun-1992	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	26 P	<0.5 P	<0.4 P
12-oct-1992	BC	a	U	<0.5 P	1.3 P	<0.5 P	1.3 P	23 P	<0.5 P	<0.5 P
21-may-1993	BC	a	V	<0.5 U	0.85	<0.5 U	0.85	33	<0.5 U	<0.5 U
23-feb-1994	CS	a	V	<0.5 U	–	–	0.7	9.5	<0.5 U	<0.5 U
03-aug-1994	CS	a	N	<0.5 U	–	–	5.1	2.2	<0.5 U	<0.5 U
W-879-01										
20-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
25-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
26-jul-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-889-01										
17-jun-1988	BC	a	U	<0.5	–	–	<0.5	1.5	<0.5	<0.5
24-oct-1988	BC	a	U	<0.5 P	–	–	<0.5 P	2.3 P	<0.5 P	<0.5 P
07-feb-1989	BC	a	U	<0.5 P	–	–	<0.5 P	3.3 P	<0.5 P	<0.5 P
13-apr-1989	BC	a	U	<0.5 P	–	–	<0.5 P	2.2 P	<0.5 P	<0.5 P
06-jul-1989	BC	a	U	<0.5 P	–	–	<0.5 P	2.9 P	<0.5 P	<0.5 P
10-oct-1989	BC	a	U	<0.5 P	–	–	<0.5 P	2.1 P	<0.5 P	<0.5 P
14-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.8 P	<0.5 P	<0.5 P
27-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.1 P	<0.5 P	<0.5 P
17-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.1 P	<0.5 P	<0.5 P
02-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.7 P	<0.5 P	<0.5 P
12-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2.1 P	<0.5 P	<0.5 P
15-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	4.9 P	<0.5 P	<0.5 P
11-sep-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	2 P	<0.5 P	<0.5 P
11-sep-1991	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	1.9 P	<0.5 P	<0.4 P
06-nov-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	3.6 P	<0.5 P	<0.5 P

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						W-875-11
<50 P	63 P	<50 P	<50 P	<100 P	<50 P	08-dec-1992
<50 DU	<50 DU	<50 DU	<50 DU	<100 DU	<50 DU	26-mar-1993
<100 DU	200 D	<100 DU	<100 DU	<200 DU	<100 DU	17-may-1993
<100 DU	<100 DU	<100 DU	<100 DU	<200 DU	<100 DU	18-jun-1993
<1200 DU	<1200 DU	<1200 DU	<1200 DU	<1200 DU	<1200 DU	16-jul-1993
<250 U	<250 U	<250 U	<250 U	<250 U	<250 U	03-nov-1993
<50 DU	<50 DU	<50 DU	<50 DU	<50 DU	<50 DU	12-aug-1994
						W-875-15
<50 DU	<50 DU	<50 DU	<50 DU	<100 DU	<50 DU	26-mar-1993
<50 DU	120 D	<50 DU	<50 DU	<100 DU	<50 DU	17-may-1993
<300 DU	<300 DU	<300 DU	<300 DU	<500 DU	<300 DU	18-jun-1993
<1200 DU	<1200 DU	<1200 DU	<1200 DU	<1200 DU	<1200 DU	16-jul-1993
<250 U	<250 U	<250 U	<250 U	<250 U	<250 U	03-nov-1993
						W-876-01
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-jun-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-jun-1990
<0.3 P	<0.5 P	<0.5 P	<0.4 P	7.9 P	<0.6 P	12-jun-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-aug-1990
<2 P	<3 P	<3 P	<2 P	<3 P	<3 P	22-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-jun-1992
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	30-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-oct-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	21-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	23-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	03-aug-1994
						W-879-01
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	16-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	20-aug-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-oct-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-may-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	23-jun-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	25-jan-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	26-jul-1994
						W-889-01
<0.5	<0.5	<0.5	<0.5	0.7 B	<0.5	17-jun-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-oct-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	07-feb-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	13-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-feb-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	27-apr-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-aug-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-nov-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-feb-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15-may-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-sep-1991
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	11-sep-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-nov-1991

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1- DCE	cis- 1,2- DCE	trans- 1,2- DCE	Total 1,2- DCE	TCE	PCE	1,1- DCA
GSA Study Area and Offsite (continued)										
W-889-01 (continued)										
06-nov-1991	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	2 P	<0.5 P	<0.4 P
30-jun-1992	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	5.8 P	<0.5 P	<0.5 P
30-jun-1992	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	10 P	<0.5 P	<0.5 P
18-nov-1992	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	15 P	<0.5 P	<0.5 P
18-nov-1992	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	5.6 P	<0.5 P	<0.4 P
07-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U	23	<0.5 U	<0.5 U
07-may-1993	CL	a	V	<0.2 U	<0.4 U	<0.4 U	<0.4 U	20 P	<0.5 U	<0.4 U
08-dec-1993	CS	a	V	<0.5 U	–	–	<0.5 U	16	<0.5 U	<0.5 U
22-feb-1994	CS	ag	V	<0.5 U	–	–	<0.5 U	9.5	<0.5 U	<0.5 U
22-feb-1994	GT	ag	V	<0.5 U	–	–	<0.5 U	9	<0.5 U	<0.5 U
08-aug-1994	CS	a	V	<0.5 U	–	–	<0.5 U	11	<0.5 U	<0.5 U
WELL07										
25-aug-1982	BC	a	U	–	–	–	–	52 P	–	–
10-sep-1982	BC	ah	U	–	–	–	–	7 P	–	–
10-sep-1982	BC	ah	U	<1 P	–	–	<1 P	5 P	<1 P	<1 P
22-sep-1982	BC	a	U	–	–	–	–	<0.5 P	–	–
19-oct-1982	BC	a	U	–	–	–	–	5.3 P	–	–
16-dec-1982	BC	a	U	–	–	–	–	3.1 P	–	–
24-feb-1983	BC	a	U	–	–	–	–	1.7 P	–	–
24-mar-1983	BC	a	U	–	–	–	–	0.9 P	–	–
02-may-1983	BC	a	U	–	–	–	–	2.1 P	–	–
02-jun-1983	BC	a	U	–	–	–	–	4 P	–	–
30-jun-1983	BC	a	U	–	–	–	–	2.8 P	–	–
03-aug-1983	BC	a	U	–	–	–	–	3.3 P	–	–
06-mar-1985	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-may-1985	BC	b	N	–	–	–	–	2 P	–	–
08-may-1985	BC	b	N	<1 P	–	–	<1 P	–	<1 P	<1 P
24-jun-1986	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-jul-1986	BC	a	U	<0.5 P	–	–	<0.5 P	20 P	<0.5 P	<0.5 P
14-aug-1986	BC	b	N	<1 P	–	–	<1 P	15 P	<1 P	<1 P
19-nov-1986	BC	a	U	<0.5 P	–	–	1 P	16 P	0.8 P	<0.5 P
17-mar-1987	BC	a	U	<0.5 P	–	–	<0.5 P	17 P	<0.5 P	<0.5 P
21-may-1987	BC	b	N	<0.5 P	–	–	0.7 P	13 P	0.5 P	<0.5 P
24-jun-1987	BC	a	U	<1 P	–	–	<1 P	10 P	<1 P	<1 P
16-jul-1987	BC	b	N	<1 P	–	–	<1 P	14 P	<1 P	<1 P
08-oct-1987	BC	b	N	<1 P	–	–	<1 P	28 P	2 P	<1 P
04-feb-1988	BC	b	N	<1 P	–	–	<1 P	21 P	1 P	<1 P
12-may-1988	BC	bh	N	<1 P	–	–	<1 P	26 P	1 P	<1 P
12-may-1988	BC	bh	N	<1 P	–	–	<1 P	21 P	1 P	<1 P
18-aug-1988	BC	b	N	<1 P	–	–	<1 P	26 P	1 P	<1 P
12-oct-1988	BC	b	N	<0.5 P	–	–	<0.5 P	29 P	0.8 P	<0.5 P
WELL19										
24-jun-1986	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-jul-1986	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-jul-1986	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-aug-1986	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
19-nov-1986	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-mar-1987	BC	a	U	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-may-1987	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-jun-1987	BC	a	U	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
17-jul-1987	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
08-oct-1987	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
04-feb-1988	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
28-apr-1988	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
10-may-1988	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
26-jul-1988	BC	b	N	<1 P	–	–	<1 P	<1 P	1 P	<1 P
17-aug-1988	BC	bh	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
17-aug-1988	BC	bh	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
11-oct-1988	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-nov-1988	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
29-dec-1988	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-jan-1989	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-mar-1989	BC	b	N	<0.5 P	–	–	<0.5 P	0.6 P	<0.5 P	<0.5 P
12-apr-1989	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-may-1989	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-jun-1989	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-889-01
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	06-nov-1991
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-jun-1992
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-nov-1992
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	18-nov-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	07-may-1993
<0.3 U	<0.5 U	<0.5 U	<0.4 U	<0.6 U	<0.6 U	07-may-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	08-dec-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	22-feb-1994
1	<0.5 U	<0.5 U	<0.5 U	–	<0.5 U	22-feb-1994
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	08-aug-1994
						WELL07
–	–	–	–	–	–	25-aug-1982
–	–	–	–	–	–	10-sep-1982
<1 P	<1 P	<1 P	<1 P	–	<1 P	10-sep-1982
–	–	–	–	–	–	22-sep-1982
–	–	–	–	–	–	19-oct-1982
–	–	–	–	–	–	16-dec-1982
–	–	–	–	–	–	24-feb-1983
–	–	–	–	–	–	24-mar-1983
–	–	–	–	–	–	02-may-1983
–	–	–	–	–	–	02-jun-1983
–	–	–	–	–	–	30-jun-1983
–	–	–	–	–	–	03-aug-1983
<0.5 P	<0.5 P	3.7 P	<0.5 P	–	<0.5 P	06-mar-1985
–	–	–	–	–	–	08-may-1985
<1 P	<1 P	<1 P	<1 P	–	<1 P	08-may-1985
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-jun-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-jul-1986
<1 P	<1 P	<1 P	<1 P	–	<1 P	14-aug-1986
<0.5 P	<0.5 P	0.7 P	<0.5 P	<0.5 P	<0.5 P	19-nov-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-mar-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-may-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	24-jun-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	16-jul-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	08-oct-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	04-feb-1988
<1 P	<1 P	<1 P	<1 P	–	<1 P	12-may-1988
<1 P	<1 P	<1 P	<1 P	–	<1 P	12-may-1988
<1 P	<1 P	<1 P	<1 P	–	<1 P	18-aug-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-oct-1988
						WELL19
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	24-jun-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	09-jul-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	22-jul-1986
<1 P	<1 P	<1 P	<1 P	–	<1 P	14-aug-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-nov-1986
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	17-mar-1987
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-may-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	24-jun-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	17-jul-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	08-oct-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	04-feb-1988
<1 P	<1 P	<1 P	<1 P	–	<1 P	28-apr-1988
<1 P	<1 P	<1 P	<1 P	–	<1 P	10-may-1988
<1 P	<1 P	<1 P	<1 P	–	<1 P	26-jul-1988
<1 P	<1 P	<1 P	<1 P	–	<1 P	17-aug-1988
<1 P	<1 P	<1 P	<1 P	–	<1 P	17-aug-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	11-oct-1988
<1 P	<1 P	<1 P	<1 P	–	<1 P	28-nov-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	29-dec-1988
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-jan-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	28-mar-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	12-apr-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	08-may-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	01-jun-1989

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services

Location Date	Lab	Notes	Val.	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
WELL19 (continued)										
06-jul-1989	BC	b	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-aug-1989	BC	b	N	<0.5 P	–	–	<0.5 P	1.1 P	<0.5 P	<0.5 P
18-aug-1989	BC	bg	N	<0.5 P	–	–	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-aug-1989	CL	bg	N	<0.2 P	–	<0.4 P	<0.4 P	<0.3 P	<0.5 P	<0.4 P
30-nov-1989	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	0.6 P	<0.5 P	<0.5 P
30-nov-1989	CL	ag	U	<0.2 P	<0.4 P	<0.4 P	<0.4 P	<0.3 P	<0.5 P	<0.4 P
19-dec-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-jan-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-feb-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
SPRING1										
19-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-sep-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
27-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
SPRING2										
16-dec-1982	BC	a	U	–	–	–	–	<0.5 P	–	–
04-may-1983	BC	a	U	–	–	–	–	<0.5 P	–	–
19-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-sep-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
27-jan-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
GEOCRK										
22-may-1987	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
17-jul-1987	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
10-may-1988	BC	b	N	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
09-oct-1989	BC	a	U	<1 P	–	–	<1 P	<1 P	<1 P	<1 P
02-oct-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-jan-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	<0.2 P	<0.2 P
02-sep-1993	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-apr-1994	CS	a	V	<0.5 U	–	–	<0.5 U	<0.5 U	<0.5 U	<0.5 U

Area (GSA) of Site 300. Results recorded by 17-nov-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) WELL19
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	06-jul-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	14-aug-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	18-aug-1989
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	18-aug-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	30-nov-1989
<0.3 P	<0.5 P	<0.5 P	<0.4 P	<0.6 P	<0.6 P	30-nov-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-dec-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-jan-1990
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	21-feb-1990
						SPRING1
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-nov-1991
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-sep-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jan-1994
						SPRING2
–	–	–	–	–	–	16-dec-1982
–	–	–	–	–	–	04-may-1983
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	19-nov-1991
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-sep-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	27-jan-1994
						GEOCRK
<1 P	<1 P	<1 P	<1 P	–	<1 P	22-may-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	17-jul-1987
<1 P	<1 P	<1 P	<1 P	–	<1 P	10-may-1988
<1 P	<1 P	<1 P	<1 P	<1 P	<1 P	09-oct-1989
<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	<0.5 P	02-oct-1990
<0.2 P	<0.2 P	<0.2 P	<0.2 P	–	<0.2 P	15-jan-1992
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	02-sep-1993
<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	15-apr-1994

See following page for notes

Ground and surface water analyses (ug/L) for volatile organic compounds at the General Services Area (GSA) of Site 300. Results recorded by 17-nov-1994.

Notes:

- Indicates no analysis performed for this compound.

Footnotes

a ERD data
b EMAD data
c Analytical results for this sample are suspect
d Sample taken during hydraulic testing
e Blind sample, sent to lab without well identity
f Sample dilution necessary for analysis; detection limits increased
g Interlaboratory collocated sample
h Intralaboratory collocated sample
i Sample collected as part of pilot study
j Note may contain important information regarding this sample
k Pre-development sample
l Norm_month, norm_qtr or norm_year inconsistent with sample date
n Sample analyzed after standard holding time

Lab Codes

BC Brown and Caldwell, Emeryville, CA
CH Characterization Labs-Chemistry, LLNL, Livermore, CA.
CL Clayton Environmental Consultants, Pleasanton, CA.
CS California Laboratory Services, Rancho Cordova, CA.
GT Groundwater Technology Environmental Labs, Concord, CA.

Validation Codes

V Validated
N Not validated(default value)
U Undeclared
H Historical comparison only

CLP flags (follows result)

B Analyte detected in method blank
C The analytical results for this sample are not in agreement with the intra or interlaboratory collocated sample results and the historical data
D Analysis performed at a secondary dilution or concentration (i.e. vapor samples
E Concentration exceeds calibration range
F Analyte detected in field blank
H Sample analyzed outside of the holding time; sample results should be rejected
J The analyte was postively identified; the associated numerical value is the approximate concentration of the analyte
L Spike accuracy not within control limits
O Duplicate spike precision not within control limits
P The absence of a data qualifier flag does not mean that the data does not need qualification, but that the implementation of electronic data qualifier flags was not yet established
R Sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria; the presence or absence of the analyte cannot be verified
S The analytical results for this sample are suspect
T Analyte is tentatively identified compound; result is approximate
U Compound was analyzed for, but not detected above detection limit

Appendix A
Section A-2.2

Ground and Surface Water Analyses for Volatile Organic Compounds (BTEX) Sampled Before September 31, 1994, and Recorded by November 17, 1994

Site 300 BTEX compounds in Ground Water
18-nov-1994

Ground and surface water analyses for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-nov-1994.

Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite							
CDF1							
21-may-1987	BC	bh	N	<1 P	<1 P	<1 P	–
21-may-1987	BC	beh	N	<1 P	<1 P	<1 P	–
26-jul-1988	BC	b	N	<1 P	<1 P	<1 P	–
06-jul-1989	BC	b	N	<1 P	<1 P	<1 P	–
26-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-aug-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-jan-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–
29-apr-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–
22-jul-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–
26-oct-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-jan-1993	BC	b	N	<0.2 U	<0.2 U	<0.2 U	–
19-feb-1993	BC	a	V	<0.2 P	<0.2 P	<0.2 P	–
19-feb-1993	CL	a	V	<0.5 P	<0.5 P	<0.5 P	–
12-mar-1993	BC	a	V	<0.2 U	<0.2 U	<0.2 U	–
12-mar-1993	CL	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
05-may-1993	BC	b	N	<0.2 U	<0.2 U	<0.2 U	–
28-jul-1993	CS	b	N	<1 U	<1 U	<1 U	–
13-aug-1993	CS	a	V	<1 U	<1 U	<1 U	–
13-oct-1993	CS	b	N	<1 U	<1 U	<1 U	–
20-jan-1994	CS	b	N	<1 U	<1 U	<1 U	–
07-apr-1994	CS	b	N	<0.2 U	<0.2 U	<0.2 U	–
17-aug-1994	CS	b	N	<0.2 U	<0.2 U	<0.2 U	–
CON1							
26-jul-1988	BC	bh	N	<1 P	<1 P	<1 P	–
26-jul-1988	BC	beh	N	<1 P	<1 P	<1 P	–
06-jul-1989	BC	b	N	<1 P	<1 P	<1 P	–
26-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-aug-1991	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-jan-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–
29-apr-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–
22-jul-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–
26-oct-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-jan-1993	BC	b	N	<0.2 U	<0.2 U	<0.2 U	–
19-feb-1993	BC	a	V	<0.2 P	<0.2 P	<0.2 P	–
19-feb-1993	CL	a	V	<0.5 P	<0.5 P	<0.5 P	–
12-mar-1993	BC	a	V	<0.2 U	<0.2 U	<0.2 U	–
12-mar-1993	CL	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
05-may-1993	BC	b	N	<0.2 U	<0.2 U	<0.2 U	–
28-jul-1993	CS	b	N	<1 U	<1 U	<1 U	–
13-aug-1993	CS	a	V	<1 U	<1 U	<1 U	–
13-oct-1993	CS	bh	N	<1 U	<1 U	<1 U	–
13-oct-1993	CS	beh	N	<1 U	<1 U	<1 U	–
12-jan-1994	CS	bh	N	<1 U	<1 U	<1 U	–
12-jan-1994	CS	beh	N	<1 U	<1 U	<1 U	–
07-apr-1994	CS	b	N	<0.2 U	<0.2 U	<0.2 U	–
17-aug-1994	CS	b	N	<0.2 U	<0.2 U	<0.2 U	–
CON2							
02-may-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
26-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jun-1992	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jun-1992	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-feb-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
19-nov-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
16-dec-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U

Ground and surface water analyses for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-nov-1994.

Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl- benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
CON2 (continued)							
13-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
GALLO2							
09-jun-1987	BC	bh	N	<1 P	<1 P	<1 P	–
09-nov-1988	BC	b	N	<1 P	<1 P	<1 P	1 P
16-aug-1993	CS	a	V	<1 U	<1 U	<1 U	–
W-24P-03							
16-sep-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
W-25M-01							
20-dec-1989	BC	a	U	<0.2 P	<0.2 P	<0.2 P	<0.2 P
15-may-1990	BC	ag	U	<0.5 P	1 P	<0.5 P	3.3 P
15-may-1990	CL	afg	U	<2 P	<2 P	<3 P	<3 P
07-aug-1990	BC	aegh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-aug-1990	BC	agh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-aug-1990	CL	ag	U	<2 P	<2 P	<3 P	<3 P
30-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
20-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25M-02							
25-feb-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-jul-1994	CS	a	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-25M-03							
21-dec-1989	BC	a	U	<0.2 P	<0.2 P	<0.2 P	<0.2 P
25-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	1 P
24-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-feb-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
23-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25N-01							
26-jul-1988	BC	a	U	<1 P	<1 P	<1 P	–
27-feb-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-feb-1991	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
07-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
02-dec-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
14-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-25N-04							
04-nov-1988	BC	a	U	<1 P	<1 P	<1 P	<1 P
27-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-nov-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-nov-1991	CL	ag	U	<0.4 P	<0.3 P	<0.3 P	<0.4 P
15-jun-1992	BC	a	N	<0.5 HU	<0.5 HU	<0.5 HU	<0.5 HU
W-25N-05							
17-jan-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
07-feb-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
25-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P

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Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
W-25N-05 (continued)							
10-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
23-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
03-dec-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
14-apr-1994	GT	ag	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-apr-1994	CS	ag	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-25N-06							
17-jan-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
07-feb-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
27-feb-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
W-25N-07							
03-may-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
03-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
24-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25N-08							
15-dec-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
27-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-oct-1992	BC	a	U	<0.5 P	0.89 P	<0.5 P	1.7 P
10-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
30-nov-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
14-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-25N-09							
14-dec-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
27-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
30-nov-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
14-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-25N-10							
08-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
W-25N-11							
12-jun-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-apr-1994	CS	a	V	<1 U	<1 U	<1 U	<2 U
27-jul-1994	CS	a	N	<1 U	<1 U	<1 U	<2 U
W-25N-12							
07-may-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-mar-1993	BC	a	V	<0.2 U	<0.2 U	<0.2 U	–
08-mar-1993	CL	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
24-may-1993	BC	ah	V	<0.2 U	<0.2 U	<0.2 U	–
24-may-1993	BC	ah	V	<0.2 U	<0.2 U	<0.2 U	–
05-aug-1993	CS	a	V	<1 HU	<1 HU	<1 HU	–
03-dec-1993	CS	a	V	<1 U	<1 U	<1 U	<2 U
11-jan-1994	CS	a	V	<1 U	<1 U	<1 U	<2 U

Ground and surface water analyses for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-nov-1994.

Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
W-25N-13							
06-may-1991	CL	ag	U	<0.5 P	<0.5 P	<0.5 P	–
06-may-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-mar-1993	BC	a	V	<0.2 U	<0.2 U	<0.2 U	–
08-mar-1993	CL	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
24-may-1993	BC	ah	V	<0.2 U	<0.2 U	<0.2 U	–
24-may-1993	BC	ah	V	<0.2 U	<0.2 U	<0.2 U	–
10-aug-1993	CS	a	V	<1 U	<1 U	<1 U	–
W-25N-15							
25-apr-1991	BC	a	U	<0.5 P	0.6 P	<0.5 P	1.4 P
25-jul-1991	CL	ag	U	<0.5 P	<0.5 P	<0.5 P	–
25-jul-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
26-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-25N-18							
11-mar-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
W-25N-20							
08-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
W-25N-21							
08-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
W-25N-22							
08-jun-1992	CL	ag	U	<0.5 P	0.8 P	<0.5 P	–
08-jun-1992	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
W-25N-23							
11-mar-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
W-25N-24							
11-mar-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-dec-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
14-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-25N-25							
04-aug-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-25N-26							
05-aug-1994	CS	a	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-25N-28							
05-aug-1994	CS	a	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-26R-01							
07-mar-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
30-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	0.6
01-dec-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
29-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-26R-02							
31-may-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
30-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P

Ground and surface water analyses for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-nov-1994.

Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl- benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
W-26R-02 (continued)							
07-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
17-aug-1993	CS	a	V	<0.5 U	<0.5 U	<0.5 U	<1 U
02-dec-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
15-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-26R-03							
11-oct-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
14-jun-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-jun-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-jun-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-jun-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-sep-1991	BC	a	U	<0.5 P	0.5 P	<0.5 P	0.8 P
17-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-sep-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
19-dec-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-jan-1992	BC	a	U	<0.5 P	1.4 P	<0.5 P	1 P
06-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
08-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P

Ground and surface water analyses for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-nov-1994.

Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
W-26R-03 (continued)							
22-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-feb-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-feb-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-feb-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	4.2 P
10-apr-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-apr-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-apr-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-apr-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-jul-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-jul-1992	BC	a	N	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-jul-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-jul-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-jul-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-sep-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-sep-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-sep-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-nov-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-nov-1992	BC	a	U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
25-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
16-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-dec-1992	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
13-jan-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-jan-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-jan-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-feb-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-feb-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
17-feb-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-feb-1993	BC	a	V	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
04-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
10-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
17-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
25-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
01-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
02-dec-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
15-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-26R-04							
04-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
W-26R-05							
05-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
W-26R-06							
17-mar-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P

Ground and surface water analyses for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-nov-1994.

Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
W-26R-07							
12-jun-1992	BC	a	U	<0.5	<0.5	<0.5	<0.5
W-26R-08							
09-jun-1992	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-jun-1992	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
W-26R-11							
17-mar-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
W-35A-01							
02-may-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
25-feb-1991	BC	af	U	<2 P	<2 P	<2 P	<2 P
28-jan-1994	CS	af	V	<15 DU	<15 DU	<15 DU	<30 DU
19-apr-1994	CS	af	V	<6 DU	<6 DU	<6 DU	<12 DU
02-sep-1994	CS	af	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-35A-02							
02-may-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
25-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
10-may-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
23-aug-1994	CS	a	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-35A-03							
02-may-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
25-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
18-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
20-jul-1994	CS	ag	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
20-jul-1994	GT	ag	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
W-35A-04							
25-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-aug-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	–
05-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
09-sep-1993	CS	b	N	<1 U	<1 U	<1 U	–
18-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
20-jul-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
31-aug-1994	CS	beh	N	<0.2 U	<0.2 U	<0.2 U	–
31-aug-1994	CS	bh	N	<0.2 U	<0.2 U	<0.2 U	–
20-oct-1994	CS	a	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-35A-05							
26-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
19-apr-1994	CS	ag	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
19-apr-1994	GT	ag	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
02-sep-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-35A-06							
06-mar-1990	BC	a	U	<1 P	<1 P	<1 P	<1 P
25-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
18-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
28-jul-1994	CS	ah	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U
28-jul-1994	CS	aeh	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U
20-oct-1994	CS	a	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-35A-07							
09-aug-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-35A-08							
08-aug-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-35A-09							
10-aug-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U

Ground and surface water analyses for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-nov-1994.

Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
W-35A-10							
10-aug-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-35A-11							
09-aug-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-35A-12							
08-aug-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-35A-13							
10-aug-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7A							
30-aug-1983	BC	a	U	<1 P	1 P	<1 P	-
28-jun-1988	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
15-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-jul-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
19-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
10-aug-1993	CS	a	V	<0.5 U	<0.5 U	<0.5 U	<1 U
09-dec-1993	CS	ah	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
09-dec-1993	CS	aeh	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
18-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
21-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
02-sep-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7B							
30-aug-1983	BC	a	U	<1 P	1 P	<1 P	-
21-jun-1988	BC	a	U	<0.5	<0.5	<0.5	<0.5
24-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7C							
30-aug-1983	BC	a	U	<1 P	3 P	<1 P	-
21-jun-1988	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
05-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
14-apr-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
07-dec-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
10-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
18-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
20-jul-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7D							
22-jun-1987	BC	a	U	<1 P	<1 P	<1 P	-
21-jun-1988	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
09-mar-1993	BC	aeh	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U

Ground and surface water analyses for BTEX compounds at the General Services Area (GSA), Site 300. Results recorded by 17-nov-1994.

Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
W-7D (continued)							
09-mar-1993	BC	ah	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
10-dec-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
19-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7DS							
22-jun-1987	BC	a	U	<1 P	<1 P	<1 P	-
28-jun-1988	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-apr-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
30-oct-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-oct-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
04-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
10-dec-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
15-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7E							
22-jun-1987	BC	a	U	<1 P	<1 P	<1 P	-
21-jun-1988	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
18-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
20-jul-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7ES							
22-jun-1987	BC	a	U	<1 P	<1 P	<1 P	-
21-jun-1988	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
18-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
21-jul-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7F							
29-apr-1988	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-may-1988	BC	a	U	<0.5	1.8	<0.5	<0.5
28-jun-1988	BC	a	U	<0.5	6.5	<0.5	<0.5
20-aug-1991	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
20-aug-1991	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
22-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-jul-1992	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-jul-1992	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-feb-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
29-jul-1993	CS	afh	V	<25 DU	<25 DU	<25 DU	<50 DU
29-jul-1993	CS	aefh	V	<25 DU	<25 DU	<25 DU	<50 DU
04-nov-1993	CS	a	V	<15 U	<15 U	<15 U	<30 U
08-dec-1993	CS	af	V	<30 UD	<30 UD	<30 UD	<60 UD
18-jan-1994	CS	af	V	<7 DU	<7 DU	<7 DU	<15 DU
22-apr-1994	CS	af	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
09-aug-1994	CS	af	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7G							
05-jul-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
14-aug-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-jul-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7H							
14-dec-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
02-aug-1994	CS	a	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U

Ground and surface water analyses for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-nov-1994.

Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
W-7I							
16-nov-1989	BC	af	U	<50 P	<50 P	<50 P	<50 P
27-feb-1991	BC	af	U	<10 P	<10 P	<10 P	<10 P
17-may-1993	BC	af	V	10 D	<5 DU	<5 DU	<5 DU
18-jun-1993	BC	af	V	14 D	7.3 D	<5 DU	<5 DU
16-jul-1993	CS	af	V	<2500 DU	<2500 DU	<2500 DU	<5000 DU
04-nov-1993	CS	af	V	<300 DU	<300 DU	<300 DU	<600 DU
17-feb-1994	CS	af	V	<60 DU	<60 DU	<60 DU	<120 DU
12-aug-1994	CS	af	N	<75 DU	<75 DU	<75 DU	<150 DU
W-7J							
15-nov-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
27-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
29-jul-1993	CS	af	V	<0.5 DU	<0.5 DU	<0.5 DU	<1 DU
02-nov-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
23-feb-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
11-may-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
02-sep-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7K							
16-mar-1990	BC	a	U	<0.2 P	0.2 P	<0.2 P	0.5 P
23-jul-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
29-may-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-aug-1992	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-aug-1992	CL	ag	U	<0.4 P	<0.3 P	<0.3 P	<0.4 P
07-aug-1992	CL	ah	U	<0.4 P	<0.3 P	<0.3 P	<0.4 P
02-dec-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-dec-1992	CL	a	U	<0.4 P	<0.3 P	<0.3 P	<0.4 P
03-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
12-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
06-aug-1993	CS	a	V	<0.5 U	<0.5 U	<0.5 U	<1 U
16-dec-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
14-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
19-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
09-aug-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7L							
19-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
19-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
08-aug-1994	GT	ag	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
08-aug-1994	CS	ag	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7M							
20-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
20-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
26-jul-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7N							
19-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
07-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
10-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
20-apr-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
08-aug-1994	GT	ag	V	<0.5 U	<0.5 U	<0.5 U	0.96
08-aug-1994	CS	ag	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7O							
17-mar-1992	BC	af	U	<5 P	<5 P	<5 P	<5 P
18-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
18-jun-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
16-jul-1993	CS	af	V	<25 DU	<25 DU	<25 DU	<50 DU

Ground and surface water analyses for BTEX compounds at the General Services Area (GSA), Site 300. Results recorded by 17-nov-1994.

Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
W-70 (continued)							
01-nov-1993	CS	af	V	<15 UD	<15 UD	<15 UD	<30 UD
18-jan-1994	CS	af	V	<15 DU	<15 DU	<15 DU	<30 DU
03-may-1994	CS	afh	V	<15 DU	<15 DU	<15 DU	<30 DU
03-may-1994	CS	aefh	V	<15 DU	<15 DU	<15 DU	<30 DU
22-jul-1994	CS	af	N	<30 DU	<30 DU	<30 DU	<60 DU
W-7P							
11-aug-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-7PS							
11-aug-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-843-01							
07-mar-1990	BC	a	U	<0.2 P	0.4 P	<0.2 P	<0.2 P
21-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
23-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-may-1992	BC	aeh	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-may-1992	BC	ah	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
31-jul-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
18-nov-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-mar-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
07-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
01-feb-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
21-jul-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-843-02							
02-may-1990	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
21-aug-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
02-aug-1994	CS	a	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-872-01							
22-feb-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
22-feb-1994	GT	ag	V	<0.5 U	<0.5 U	<0.5 U	<0.5 UL
03-may-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-872-02							
08-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-oct-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-aug-1994	CS	a	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-873-01							
25-may-1988	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
28-jul-1988	BC	a	U	<1 P	<1 P	<1 P	<1 P
26-jul-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-873-02							
08-jun-1988	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-nov-1989	BC	a	U	<0.3 P	0.6 P	<0.3 P	0.7 P
12-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-nov-1991	BC	a	U	<0.5 P	1 P	<0.5 P	<0.5 P
30-jan-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	1 P
11-aug-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-oct-1992	BC	a	U	<0.5 P	0.69 P	<0.5 P	<0.5 P
25-feb-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
20-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
20-may-1993	CL	a	V	<0.4 U	<0.3 U	<0.3 U	<0.4 U
22-feb-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
26-jul-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-873-03							
13-jun-1988	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-jun-1988	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-feb-1991	CL	ag	U	<0.5 P	<0.5 P	<0.5 P	-
12-feb-1991	BC	ag	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P

Ground and surface water analyses for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-nov-1994.

Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
W-873-03 (continued)							
20-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
22-feb-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
21-jul-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-873-04							
16-aug-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
01-sep-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-873-06							
21-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
11-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-oct-1992	BC	ac	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-feb-1993	BC	ah	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
25-feb-1993	BC	aeh	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
20-may-1993	BC	a	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
24-nov-1993	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
25-jan-1994	CS	ag	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
25-jan-1994	GT	ag	V	<0.5 U	<0.5 U	<0.5 U	<0.5 U
15-jul-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-873-07							
20-nov-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
27-feb-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
25-jan-1994	CS	af	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
15-jul-1994	CS	af	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-875-01							
10-feb-1989	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
03-aug-1994	CS	af	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-875-02							
26-jan-1994	CS	a	V	<0.3 U	0.5	<0.3 U	<0.6 U
04-may-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
24-aug-1994	CS	a	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-875-03							
22-feb-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
04-may-1994	CS	af	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-875-04							
22-feb-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
04-may-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
02-sep-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-875-05							
13-feb-1990	BC	a	U	<1 P	<1 P	<1 P	<1 P
25-jan-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
01-sep-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-875-06							
16-jun-1992	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
W-875-07							
12-jun-1992	BC	af	U	<500 P	<500 P	<500 P	<500 P
17-may-1993	BC	af	V	<500 DU	<500 DU	<500 DU	<500 DU
18-jun-1993	BC	a	V	20	16	2.8	3.7 L
16-jul-1993	CS	af	V	<5000 DU	<5000 DU	<5000 DU	<10000 DU
03-nov-1993	CS	af	V	<600 DU	<600 DU	<600 DU	<1200 DU
W-875-08							
08-dec-1992	BC	af	U	<20 P	<20 P	<20 P	<20 P
17-may-1993	BC	af	V	<100 DU	<100 DU	<100 DU	<100 DU
18-jun-1993	BC	a	V	6.7	2.4	<0.5 U	<0.5 U
16-jul-1993	CS	af	V	<1200 DU	<1200 DU	<1200 DU	<2500 DU
01-nov-1993	CS	af	V	<60 UD	<60 UD	<60 UD	<120 UD
23-feb-1994	CS	af	V	<3 DU	<3 DU	<3 DU	<6 DU

Ground and surface water analyses for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-nov-1994.

Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl- benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
W-875-08 (continued)							
12-aug-1994	CS	af	N	<60 DU	<60 DU	<60 DU	<120 DU
W-875-09							
08-dec-1992	BC	af	U	<100 P	<100 P	<100 P	<100 P
17-may-1993	BC	af	V	<100 DU	<100 DU	<100 DU	<100 DU
18-jun-1993	BC	a	V	14	5.7	<0.5 U	<0.5 U
16-jul-1993	CS	af	V	<1200 DU	<1200 DU	<1200 DU	<2500 DU
01-nov-1993	CS	af	V	<75 UD	<75 UD	<75 UD	<150 UD
W-875-10							
18-jun-1993	BC	a	V	12	9.1	1.2	0.84 L
16-jul-1993	CS	af	V	<1200 DU	<1200 DU	<1200 DU	<2500 DU
02-nov-1993	CS	a	V	<75 U	<75 U	<75 U	<150 U
12-aug-1994	CS	af	N	<30 DU	<30 DU	<30 DU	<60 DU
W-875-11							
08-dec-1992	BC	af	U	<50 P	<50 P	<50 P	<50 P
26-aug-1993	CS	a	V	1	<0.3 U	<0.3 U	<0.6 U
03-nov-1993	CS	a	V	<150 U	<150 U	<150 U	<300 U
12-aug-1994	CS	af	N	<150 DU	<150 DU	<150 DU	<300 DU
W-875-15							
26-aug-1993	CS	a	V	2.3	0.5	<0.3 U	<0.6 U
03-nov-1993	CS	a	V	<150 U	<150 U	<150 U	<300 U
W-876-01							
03-aug-1994	CS	a	N	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-879-01							
20-apr-1990	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
26-jul-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
W-889-01							
17-jun-1988	BC	a	U	<0.5	<0.5	<0.5	<0.5
22-feb-1994	CS	ag	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
22-feb-1994	GT	ag	V	<0.5 U	<0.5 U	<0.5 U	<0.5 UL
08-aug-1994	CS	a	V	<0.3 U	<0.3 U	<0.3 U	<0.6 U
WELL07							
10-sep-1982	BC	ah	U	<1 P	<1 P	<1 P	–
08-may-1985	BC	b	N	<1 P	<1 P	<1 P	–
14-aug-1986	BC	b	N	<1 P	<1 P	<1 P	–
21-may-1987	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-jun-1987	BC	a	U	<1 P	<1 P	<1 P	–
16-jul-1987	BC	b	N	<1 P	<1 P	<1 P	–
08-oct-1987	BC	b	N	<1 P	<1 P	<1 P	–
04-feb-1988	BC	b	N	<1 P	<1 P	<1 P	–
12-may-1988	BC	bh	N	<1 P	<1 P	<1 P	–
12-may-1988	BC	bh	N	<1 P	<1 P	<1 P	–
18-aug-1988	BC	b	N	<1 P	<1 P	<1 P	–
WELL19							
14-aug-1986	BC	b	N	<1 P	<1 P	<1 P	–
21-may-1987	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P
24-jun-1987	BC	a	U	<1 P	<1 P	<1 P	–
17-jul-1987	BC	b	N	<1 P	<1 P	<1 P	–
08-oct-1987	BC	b	N	<1 P	<1 P	<1 P	–
04-feb-1988	BC	b	N	<1 P	<1 P	<1 P	–
28-apr-1988	BC	b	N	<1 P	<1 P	<1 P	–
10-may-1988	BC	b	N	<1 P	<1 P	<1 P	–
26-jul-1988	BC	b	N	<1 P	<1 P	<1 P	–
17-aug-1988	BC	bh	N	<1 P	<1 P	<1 P	–
17-aug-1988	BC	bh	N	<1 P	<1 P	<1 P	–
28-nov-1988	BC	b	N	<1 P	<1 P	<1 P	–
18-jan-1989	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P
12-apr-1989	BC	b	N	<0.5 P	<0.5 P	<0.5 P	2.9 P
08-may-1989	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P

Ground and surface water analyses for BTEX compounds at the General Services Area (GSA), Site 300. Results recorded by 17-nov-1994.

Location Date	Lab	Notes	Val.	Benzene	Toluene	Ethyl- benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
WELL19 (continued)							
01-jun-1989	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P
06-jul-1989	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P
14-aug-1989	BC	b	N	<0.5 P	<0.5 P	<0.5 P	<0.5 P
SPRING1							
19-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
SPRING2							
19-nov-1991	BC	a	U	<0.5 P	<0.5 P	<0.5 P	<0.5 P
GEOCRK							
22-may-1987	BC	b	N	<1 P	<1 P	<1 P	–
17-jul-1987	BC	b	N	<1 P	<1 P	<1 P	–
10-may-1988	BC	b	N	<1 P	<1 P	<1 P	–
09-oct-1989	BC	a	U	<1 P	<1 P	<1 P	<1 P
15-jan-1992	BC	b	N	<0.2 P	<0.2 P	<0.2 P	

See following page for notes

Ground and surface water analyses for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-nov-1994.

Notes:

- Indicates no analysis performed for this compound.

Footnotes

a ERD data
b EMAD data
c Analytical results for this sample are suspect
d Sample taken during hydraulic testing
e Blind sample, sent to lab without well identity
f Sample dilution necessary for analysis; detection limits increased
g Interlaboratory collocated sample
h Intralaboratory collocated sample
i Sample collected as part of pilot study
j Note may contain important information regarding this sample
k Pre-development sample
l Norm_month, norm_qtr or norm_year inconsistent with sample date
n Sample analyzed after standard holding time

Lab Codes

BC Brown and Caldwell, Emeryville, CA
CL Clayton Environmental Consultants, Pleasanton, CA.
CS California Laboratory Services, Rancho Cordova, CA.
GT Groundwater Technology Environmental Labs, Concord, CA.

Validation Codes

V Validated
N Not validated(default value)
U Undeclared
H Historical comparison only

CLP flags (follows result)

B Analyte detected in method blank
C The analytical results for this sample are not in agreement with the intra or interlaboratory collocated sample results and the historical data
D Analysis performed at a secondary dilution or concentration (i.e. vapor samples
E Concentration exceeds calibration range
F Analyte detected in field blank
H Sample analyzed outside of the holding time; sample results should be rejected
J The analyte was postively identified; the associated numerical value is the approximate concentration of the analyte
L Spike accuracy not within control limits
O Duplicate spike precision not within control limits
P The absence of a data qualifier flag does not mean that the data does not need qualification, but that the implementation of electronic data qualifier flags was not yet established
R Sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria; the presence or absence of the analyte cannot be verified
S The analytical results for this sample are suspect
T Analyte is tentatively identified compound; result is approximate
U Compound was analyzed for, but not detected above detection limit

Appendix A
Section A-2.3

Ground and Surface Water Analyses for Metals Sampled Before September 31, 1994, and Recorded by November 17, 1994

Site 300 Metals Report
18-nov-1994

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.

Location Date	Lab	Notes	Val.	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite										
CDF1										
21-may-1987	BC	bh	N	0.002 P	<0.1 P	<0.01 P	<0.01 P	<0.02 P	–	<0.02 P
21-may-1987	BC	b	N	0.001 P	<0.1 P	<0.01 P	<0.01 P	<0.02 P	–	<0.02 P
26-jul-1988	BC	b	N	0.005 P	<0.1 P	<0.001 P	<0.0001 P	0.0003 P	–	<0.02 P
20-sep-1988	BC	bh	N	–	–	–	–	–	–	–
20-sep-1988	BC	beh	N	–	–	–	–	–	–	–
09-nov-1988	BC	b	N	–	–	0.0002 P	–	–	–	–
23-jan-1989	BC	b	N	–	–	0.0001 P	–	–	–	–
12-apr-1989	BC	b	N	–	–	<0.0001 P	–	<0.02 P	–	<0.02 P
06-jul-1989	BC	b	N	0.005 P	<0.1 P	<0.0001 P	0.0006 P	<0.02 P	–	<0.08 P
06-jul-1989	BC	b	N	–	–	–	–	–	–	–
17-oct-1989	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	<0.02 P
14-feb-1990	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	<0.08 P
24-apr-1990	BC	b	N	–	–	<0.0005 P	–	0.008 P	–	<0.08 P
10-jul-1990	BC	b	N	–	–	–	<0.05 P	–	–	–
05-oct-1990	BC	be	N	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P
05-nov-1990	BC	be	N	–	<0.05 P	<0.0005 P	–	–	–	–
11-jan-1991	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P
21-jun-1991	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	<0.005 P
12-aug-1991	BC	b	N	–	–	–	–	–	–	–
12-aug-1991	BC	beh	N	–	–	–	–	–	–	–
12-aug-1991	BC	b	N	0.005 P	<0.05 P	<0.0005 P	<0.0005 P	<0.005 P	–	<0.05 P
12-aug-1991	BC	beh	N	0.005 P	<0.05 P	<0.0005 P	<0.0005 P	<0.005 P	–	<0.05 P
22-nov-1991	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P
08-jan-1992	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	0.006 P
29-apr-1992	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P
22-jul-1992	BC	b	N	–	–	–	–	–	–	–
22-jul-1992	BC	b	N	0.003 P	<0.05 P	<0.0005 P	<0.0005 P	<0.005 P	–	<0.05 P
07-oct-1992	BC	b	N	–	–	<0.0002 P	–	<0.005 P	–	<0.05 P
27-jan-1993	BC	b	N	–	–	<0.0002 U	–	<0.005 U	–	<0.05 U
05-may-1993	BC	b	N	–	–	<0.0002 U	–	<0.005 U	–	<0.05 U
14-may-1993	BC	a	V	0.0032	0.034	–	<0.0005 U	<0.005 U	–	–
28-jul-1993	CS	b	N	<0.005 U	<0.05 U	–	<0.001 U	<0.001 U	–	–
28-jul-1993	CS	b	N	–	–	<0.001 U	–	–	–	–
28-jul-1993	CS	b	N	–	–	–	–	–	–	<0.05 U
13-aug-1993	CS	a	V	<0.005 U	<0.05 U	–	<0.001 U	<0.01 U	–	–
13-oct-1993	CS	b	N	–	–	<0.0005 U	–	<0.01 U	–	<0.01 U
18-nov-1993	CS	a	V	<0.005 U	<0.05 U	–	<0.001 U	<0.01 U	–	–
16-dec-1993	CS	a	V	0.0049	<0.05 U	–	<0.001 U	<0.01 U	–	–
20-jan-1994	CS	b	N	–	–	<0.0005 U	–	<0.01 U	–	<0.01 U
15-feb-1994	CS	a	V	0.0093	<0.05 U	–	<0.001 U	<0.01 U	–	–
11-mar-1994	CS	a	V	0.0055	<0.05 U	–	<0.001 U	<0.01 U	–	–
07-apr-1994	CS	b	N	–	–	<0.0005 U	–	<0.01 U	–	<0.01 U
10-may-1994	CS	a	V	0.0055	0.032	–	<0.0005 U	<0.01 U	–	–
14-jun-1994	CS	a	V	0.0064	0.078	–	<0.0005 U	<0.01 U	–	–
17-aug-1994	CS	b	N	0.0027	0.051	<0.0005 U	<0.0005 U	<0.01 U	–	<0.01 U
17-aug-1994	CS	b	N	–	–	–	–	–	–	<0.05 U
CON1										
10-jan-1985	HC	b	N	–	–	0.0013 P	–	–	–	–
10-jan-1985	HC	bh	N	–	–	0.0011 P	–	–	–	–
06-jun-1985	HC	b	N	–	–	<0.001 P	–	–	–	–
26-jul-1985	HC	b	N	–	–	<0.0005 P	–	–	–	–
14-oct-1985	HC	b	N	–	–	<0.0003 P	–	–	–	–
26-jul-1988	BC	bh	N	0.002 P	<0.1 P	<0.001 P	<0.0001 P	<0.0001 P	–	<0.02 P
26-jul-1988	BC	beh	N	<0.002 P	<0.1 P	<0.001 P	<0.0001 P	<0.0001 P	–	<0.02 P
20-sep-1988	BC	bh	N	–	–	–	–	–	–	–
20-sep-1988	BC	beh	N	–	–	–	–	–	–	–
09-nov-1988	BC	b	N	–	–	0.0017 P	–	–	–	–
23-jan-1989	BC	b	N	–	–	0.0001 P	–	–	–	–
12-apr-1989	BC	b	N	–	–	0.0002 P	–	<0.02 P	–	<0.02 P
06-jul-1989	BC	b	N	0.002 P	<0.1 P	<0.0001 P	0.0008 P	<0.02 P	–	<0.08 P
06-jul-1989	BC	b	N	–	–	–	–	–	–	–
17-oct-1989	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	<0.02 P
14-feb-1990	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	<0.08 P
24-apr-1990	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	<0.08 P
10-jul-1990	BC	b	N	–	–	–	<0.05 P	–	–	–
05-oct-1990	BC	be	N	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P

Results recorded by 17-nov-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								GSA Study Area and Offsite
								CDF1
<0.03 P	0.012 P	<0.01 P	<0.0001 P	–	<0.001 P	<0.01 P	0.09 P	21-may-1987
<0.03 P	0.011 P	<0.01 P	<0.0001 P	–	<0.001 P	<0.01 P	0.08 P	21-may-1987
<0.03 P	0.006 P	<0.01 P	0.0017 P	–	<0.001 P	<0.01 P	<0.01 P	26-jul-1988
–	–	–	0.0001 P	–	–	–	–	20-sep-1988
–	–	–	<0.0001 P	–	–	–	–	20-sep-1988
–	0.01 P	–	<0.00001 P	–	–	–	–	09-nov-1988
–	0.002 P	–	<0.0001 P	–	–	–	–	23-jan-1989
–	0.003 P	–	–	–	–	–	–	12-apr-1989
<0.04 P	0.002 P	<0.04 P	–	–	<0.002 P	<0.01 P	0.05 P	06-jul-1989
–	–	–	<0.0001 P	–	–	–	–	06-jul-1989
–	0.015 P	–	–	–	–	–	–	17-oct-1989
–	<0.002 P	–	–	–	–	–	–	14-feb-1990
–	<0.002 P	–	–	–	–	–	–	24-apr-1990
–	–	–	–	–	–	–	–	10-jul-1990
–	<0.002 P	–	–	–	–	–	–	05-oct-1990
–	<0.002 P	–	–	–	–	–	–	05-nov-1990
–	<0.002 P	–	–	–	–	–	–	11-jan-1991
–	<0.002 P	–	–	–	–	–	–	21-jun-1991
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	12-aug-1991
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	12-aug-1991
–	<0.002 P	–	<0.0005 P	–	<0.002 P	<0.0005 P	–	12-aug-1991
–	<0.002 P	–	<0.0005 P	–	<0.002 P	<0.0005 P	–	12-aug-1991
–	<0.002 P	–	–	–	–	–	–	22-nov-1991
–	<0.002 P	–	–	–	–	–	–	08-jan-1992
–	<0.002 P	–	–	–	–	–	–	29-apr-1992
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	22-jul-1992
–	<0.002 P	–	<0.0002 P	–	0.004 P	<0.0005 P	–	22-jul-1992
–	<0.002 P	–	–	–	–	–	–	07-oct-1992
–	<0.002 U	–	–	–	–	–	–	27-jan-1993
–	<0.002 U	–	–	–	–	–	–	05-may-1993
–	0.0052	–	<0.0002 U	–	0.0021	<0.01 U	–	14-may-1993
–	<0.005 U	–	<0.0005 U	–	<0.005 U	<0.001 U	–	28-jul-1993
–	–	–	–	–	–	–	–	28-jul-1993
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	28-jul-1993
–	<0.005 U	–	<0.0005 U	–	<0.005 U	<0.001 U	–	13-aug-1993
–	<0.002 U	–	–	–	–	–	–	13-oct-1993
–	<0.005 U	–	<0.0005 U	–	<0.005 U	<0.001 U	–	18-nov-1993
–	<0.002 U	–	<0.0005 U	–	<0.002 U	<0.001 U	–	16-dec-1993
–	<0.002 U	–	–	–	–	–	–	20-jan-1994
–	<0.002 U	–	<0.0002 U	–	<0.002 U	<0.001 U	–	15-feb-1994
–	<0.002 U	–	<0.0002 U	–	<0.002 U	<0.001 U	–	11-mar-1994
–	<0.002 U	–	–	–	–	–	–	07-apr-1994
–	0.0063	–	0.00021	–	0.0021	<0.001 U	–	10-may-1994
–	<0.002 U	–	<0.0002 U	–	0.0037	<0.001 U	–	14-jun-1994
–	<0.002 U	–	<0.0002 U	–	0.0031	<0.0005 U	–	17-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	17-aug-1994
								CON1
–	–	–	–	–	–	–	–	10-jan-1985
–	–	–	–	–	–	–	–	10-jan-1985
–	–	–	–	–	–	–	–	06-jun-1985
–	–	–	–	–	–	–	–	26-jul-1985
–	–	–	–	–	–	–	–	14-oct-1985
0.03 P	0.008 P	0.15 P	0.0004 P	–	<0.001 P	<0.01 P	<0.01 P	26-jul-1988
<0.03 P	0.002 P	0.15 P	0.0041 P	–	<0.001 P	<0.01 P	<0.01 P	26-jul-1988
–	–	–	<0.0001 P	–	–	–	–	20-sep-1988
–	–	–	0.0001 P	–	–	–	–	20-sep-1988
–	<0.001 P	–	<0.00001 P	–	–	–	–	09-nov-1988
–	<0.001 P	–	<0.0001 P	–	–	–	–	23-jan-1989
–	0.005 P	–	–	–	–	–	–	12-apr-1989
<0.04 P	<0.001 P	0.2 P	–	–	<0.002 P	<0.01 P	<0.01 P	06-jul-1989
–	–	–	<0.0001 P	–	–	–	–	06-jul-1989
–	<0.002 P	–	–	–	–	–	–	17-oct-1989
–	<0.002 P	–	–	–	–	–	–	14-feb-1990
–	<0.002 P	–	–	–	–	–	–	24-apr-1990
–	–	–	–	–	–	–	–	10-jul-1990
–	<0.002 P	–	–	–	–	–	–	05-oct-1990

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.

Location Date	Lab	Notes	Val.	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
CON1 (continued)										
11-jan-1991	BC	b	N	–	–	<0.0005 P	–	0.005 P	–	<0.05 P
21-jun-1991	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	<0.005 P
12-aug-1991	BC	b	N	–	–	–		–	–	–
12-aug-1991	BC	b	N	<0.002 P	<0.05 P	<0.0005 P	<0.0005 P	<0.005 P	–	<0.05 P
22-nov-1991	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P
08-jan-1992	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	–
08-jan-1992	BC	b	N	–	–	–	–	–	–	<0.005 P
29-apr-1992	BC	b	N	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P
22-jul-1992	BC	b	N	–	–	–	–	–	–	–
22-jul-1992	BC	b	N	<0.002 P	<0.05 P	<0.0005 P	<0.0005 P	0.005 P	–	<0.05 P
07-oct-1992	BC	b	N	–	–	<0.0002 P	–	<0.005 P	–	<0.05 P
27-jan-1993	BC	b	N	–	–	<0.0002 U	–	<0.005 U	–	<0.05 U
05-may-1993	BC	b	N	–	–	<0.0002 U	–	<0.005 U	–	<0.05 U
28-jul-1993	CS	b	N	<0.005 U	<0.05 U	–	<0.001 U	0.0017	–	–
28-jul-1993	CS	b	N	–	–	<0.001 U	–	–	–	–
28-jul-1993	CS	b	N	–	–	–	–	–	–	<0.05 U
13-oct-1993	CS	bh	N	–	–	<0.0005 U	–	<0.01 U	–	<0.01 U
13-oct-1993	CS	beh	N	–	–	<0.0005 U	–	<0.01 U	–	<0.01 U
12-jan-1994	CS	bh	N	–	–	<0.0005 U	–	<0.01 U	–	<0.01 U
12-jan-1994	CS	beh	N	–	–	<0.0005 U	–	<0.01 U	–	<0.01 U
07-apr-1994	CS	b	N	–	–	<0.0005 U	–	<0.01 U	–	<0.01 U
11-aug-1994	CS	ag	V	0.0048	0.038	–	<0.0005 U	<0.01 U	–	–
17-aug-1994	CS	b	N	<0.002 U	<0.05 U	<0.0005 U	<0.0005 U	<0.01 U	–	<0.01 U
17-aug-1994	CS	b	N	–	–	–	–	–	–	<0.05 U
CON2										
02-may-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
GALLO2										
09-jun-1987	BC	bh	N	<0.001 P	<0.1 P	<0.01 P	<0.01 P	<0.02 P	–	0.04 P
09-jun-1987	BC	bh	N	0.002 P	<0.1 P	<0.01 P	<0.01 P	<0.02 P	–	0.03 P
09-nov-1988	BC	b	N	<0.002 P	<0.1 P	0.0003 P	0.0004 P	<0.02 P	–	<0.08 P
16-oct-1989	BC	b	N	<0.002 P	<0.05 P	<0.0005 P	<0.04 P	<0.05 P	–	–
08-aug-1990	BC	b	N	–	–	–	–	–	–	0.06 P
08-aug-1990	BC	b	N	0.002 P	0.05 P	<0.0005 P	<0.0005 P	<0.005 P	–	–
13-sep-1991	BC	b	N	–	–	–	–	–	–	–
13-sep-1991	BC	b	N	<0.002 P	<0.05 P	<0.0005 P	<0.0005 P	<0.005 P	–	<0.05 P
W-24P-03										
16-sep-1992	BC	a	U	–	–	–	–	–	–	<0.05 P
16-sep-1992	BC	a	U	<0.002 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
W-25D-01										
20-dec-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
W-25D-02										
20-dec-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
W-25M-01										
20-dec-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
W-25M-02										
21-dec-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
22-jul-1994	CS	a	N	–	0.052	–	<0.0005 U	–	–	<0.01 U
22-jul-1994	CS	a	N	–	–	–	–	–	–	<0.05 U
W-25M-03										
21-dec-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
W-25N-01										
04-nov-1988	BC	a	U	–	–	–	–	–	–	<0.08 P
17-jan-1989	BC	a	U	–	–	–	–	–	–	<0.02 P
17-jan-1992	BC	a	U	<0.002 P	0.05 P	–	<0.0005 P	<0.005 P	–	–
17-aug-1993	CS	a	V	–	–	–	–	–	–	–
02-dec-1993	CS	a	V	–	–	–	–	–	–	–
12-jan-1994	CS	ah	V	–	–	–	–	–	–	–
12-jan-1994	CS	aeh	V	–	–	–	–	–	–	–

Results recorded by 17-nov-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								(continued) GSA Study Area and Offsite
								(continued) CON1
–	<0.002 P	–	–	–	–	–	–	11-jan-1991
–	<0.002 P	–	–	–	–	–	–	21-jun-1991
<0.1 P	–	0.2 P	–	–	–	–	<0.05 P	12-aug-1991
–	<0.002 P	–	<0.0005 P	–	<0.002 P	<0.0005 P	–	12-aug-1991
–	<0.002 P	–	–	–	–	–	–	22-nov-1991
–	<0.002 P	–	–	–	–	–	–	08-jan-1992
–	–	–	–	–	–	–	–	08-jan-1992
–	<0.002 P	–	–	–	–	–	–	29-apr-1992
<0.1 P	–	0.16 P	–	–	–	–	<0.05 P	22-jul-1992
–	<0.002 P	–	<0.0002 P	–	<0.002 P	<0.0005 P	–	22-jul-1992
–	<0.002 P	–	–	–	–	–	–	07-oct-1992
–	<0.002 U	–	–	–	–	–	–	27-jan-1993
–	<0.002 U	–	–	–	–	–	–	05-may-1993
–	<0.005 U	–	<0.0005 U	–	<0.005 U	<0.001 U	–	28-jul-1993
–	–	–	–	–	–	–	–	28-jul-1993
<0.1 U	–	0.13	–	<0.1 U	–	–	<0.05 U	28-jul-1993
–	<0.002 U	–	–	–	–	–	–	13-oct-1993
–	<0.002 U	–	–	–	–	–	–	13-oct-1993
–	<0.002 U	–	–	–	–	–	–	12-jan-1994
–	<0.002 U	–	–	–	–	–	–	12-jan-1994
–	<0.002 U	–	–	–	–	–	–	07-apr-1994
–	<0.002 U	–	<0.0002 U	–	<0.002 U	<0.001 U	–	11-aug-1994
–	<0.002 U	–	<0.0002 U	–	<0.002 U	<0.0005 U	–	17-aug-1994
<0.1 U	–	0.13	–	<0.1 U	–	–	<0.05 U	17-aug-1994
								CON2
0.81 P	–	0.1 P	–	–	–	–	0.02 P	02-may-1989
								GALLO2
0.06 P	0.004 P	0.01 P	<0.0001 P	–	0.001 P	<0.01 P	0.01 P	09-jun-1987
<0.03 P	0.009 P	0.01 P	<0.0001 P	–	0.001 P	<0.01 P	0.01 P	09-jun-1987
<0.04 P	<0.001 P	0.08 P	<0.0001 P	–	0.003 P	0.04 P	0.06 P	09-nov-1988
<0.04 P	<0.002 P	0.05 P	<0.0001 P	<0.03 P	0.004 P	<0.02 P	–	16-oct-1989
<0.1 P	–	0.06 P	–	–	–	–	0.22 P	08-aug-1990
–	0.002 P	–	<0.0005 P	<0.1 P	0.008 P	<0.05 P	–	08-aug-1990
<0.1 P	–	0.09 P	–	–	–	–	<0.05 P	13-sep-1991
–	<0.002 P	–	<0.0005 P	–	<0.002 P	<0.0005 P	–	13-sep-1991
								W-24P-03
<0.1 P	–	0.42 P	–	–	–	–	<0.05 P	16-sep-1992
–	0.0083 P	–	<0.0002 P	–	<0.002 P	<0.05 P	–	16-sep-1992
								W-25D-01
<0.04 P	–	<0.04 P	–	–	–	–	<0.01 P	20-dec-1989
								W-25D-02
<0.04 P	–	<0.04 P	–	–	–	–	<0.01 P	20-dec-1989
								W-25M-01
<0.04 P	–	<0.04 P	–	–	–	–	<0.01 P	20-dec-1989
								W-25M-02
<0.04 P	–	<0.04 P	–	–	–	–	<0.01 P	21-dec-1989
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	22-jul-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	22-jul-1994
								W-25M-03
<0.04 P	–	<0.04 P	–	–	–	–	<0.01 P	21-dec-1989
								W-25N-01
<0.04 P	–	0.06 P	–	–	–	–	0.04 P	04-nov-1988
<0.04 P	–	<0.04 P	–	–	–	–	<0.01 P	17-jan-1989
–	<0.002 P	–	<0.0002 P	–	0.009 P	<0.05 P	–	17-jan-1992
–	–	–	–	–	<0.005 U	–	–	17-aug-1993
–	–	–	–	–	<0.002 U	–	–	02-dec-1993
–	–	–	–	–	0.0047	–	–	12-jan-1994
–	–	–	–	–	0.0041	–	–	12-jan-1994

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.

Location Date	Lab	Notes	Val.	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
W-25N-04										
04-nov-1988	BC	a	U	–	–	–	–	–	–	<0.08 P
19-jan-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
W-25N-05										
17-jan-1989	BC	a	U	–	–	–	–	–	–	<0.02 P
21-jan-1992	BC	a	U	0.005 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
W-25N-06										
17-jan-1989	BC	a	U	–	–	–	–	–	–	<0.02 P
03-dec-1993	CS	a	V	0.0037	0.53	–	<0.001 U	0.013	–	–
12-jan-1994	CS	a	V	0.0035	<0.05 U	–	<0.001 U	<0.01 U	–	–
14-apr-1994	CS	a	V	0.0023	<0.05 U	–	<0.001 U	<0.01 U	–	–
04-aug-1994	CS	a	N	0.0033	0.044	–	<0.0005 U	<0.01 U	–	–
W-25N-07										
03-may-1989	BC	a	U	–	–	–	–	–	–	<0.02 P
W-25N-08										
15-dec-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
W-25N-09										
14-dec-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
W-25N-10										
08-aug-1991	BC	a	U	0.002 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
08-aug-1991	BC	a	U	–	–	–	–	–	–	<0.05 P
W-25N-11										
12-jun-1991	BC	a	U	0.008 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
12-jun-1991	BC	a	U	–	–	–	–	–	–	<0.05 P
W-25N-12										
07-may-1991	BC	a	U	<0.002 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
07-may-1991	BC	a	U	–	–	–	–	–	–	<0.05 P
W-25N-13										
06-may-1991	BC	ag	U	<0.002 P	<0.05 P	–	<0.0005 P	0.007 P	–	–
06-may-1991	BC	ag	U	–	–	–	–	–	–	<0.05 P
W-25N-15										
25-apr-1991	BC	a	U	0.003 P	0.06 P	–	<0.0005 P	<0.005 P	–	–
25-apr-1991	BC	a	U	–	–	–	–	–	–	<0.05 P
25-jul-1991	BC	ag	U	<0.002 P	0.06 P	–	<0.0005 P	<0.005 P	–	–
26-may-1993	BC	a	V	0.002	0.038	–	<0.0005 U	0.0056	–	–
30-jul-1993	CS	a	V	<0.005 U	<0.05 U	–	<0.001 U	<0.001 U	–	–
11-jan-1994	CS	a	V	0.0093	<0.05 U	–	<0.001 U	<0.01 U	–	–
14-apr-1994	CS	a	V	<0.002 U	0.053	–	<0.001 U	<0.01 U	–	–
05-aug-1994	CS	a	V	0.0031	0.042	–	<0.0005 U	<0.01 U	–	–
W-25N-18										
11-mar-1992	BC	a	U	–	–	–	–	–	–	<0.05 P
11-mar-1992	BC	a	U	0.004 P	0.05 P	–	0.0006 P	<0.005 P	–	–
W-25N-20										
08-jun-1992	BC	a	U	<0.002 P	0.05 P	–	<0.0005 P	<0.005 P	–	–
08-jun-1992	BC	a	U	–	–	–	–	–	–	<0.05 P
21-may-1993	BC	a	V	0.0025	0.044	–	<0.0005 U	<0.005 U	–	–
25-aug-1993	CS	a	V	<0.005 U	0.052	–	<0.001 U	<0.01 DU	–	–
02-dec-1993	CS	a	V	0.0061	0.052	–	<0.001 U	<0.01 U	–	–
13-jan-1994	CS	a	V	0.0053	0.051	–	<0.001 U	<0.01 U	–	–
14-apr-1994	CS	ah	V	<0.002 U	<0.05 U	–	<0.001 U	0.012	–	–
14-apr-1994	CS	aeh	V	<0.002 U	<0.05 U	–	<0.001 U	0.011	–	–
27-jul-1994	CS	a	N	–	0.052	–	<0.0005 U	–	–	0.021
W-25N-21										
08-jun-1992	BC	a	U	0.007 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
08-jun-1992	BC	a	U	–	–	–	–	–	–	<0.05 P

Results recorded by 17-nov-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								(continued) GSA Study Area and Offsite
								W-25N-04
0.16 P	–	<0.04 P	–	–	–	–	0.06 P	04-nov-1988
<0.04 P	–	0.04 P	–	–	–	–	<0.01 P	19-jan-1989
								W-25N-05
<0.04 P	–	<0.04 P	–	–	–	–	0.02 P	17-jan-1989
–	0.009 P	–	<0.0002 P	–	0.005 P	<0.0005 P	–	21-jan-1992
								W-25N-06
<0.04 P	–	<0.04 P	–	–	–	–	<0.01 P	17-jan-1989
–	<0.002 U	–	<0.0005 U	–	<0.002 U	<0.001 U	–	03-dec-1993
–	<0.002 U	–	<0.0005 U	–	<0.002 U	<0.001 U	–	12-jan-1994
–	<0.002 U	–	<0.0002 U	–	0.0036	<0.001 U	–	14-apr-1994
–	0.0022	–	<0.0002 U	–	0.0051	<0.001 U	–	04-aug-1994
								W-25N-07
3.8 P	–	0.2 P	–	–	–	–	0.01 P	03-may-1989
								W-25N-08
0.63 P	–	0.06 P	–	–	–	–	<0.01 P	15-dec-1989
								W-25N-09
0.27 P	–	0.29 P	–	–	–	–	0.06 P	14-dec-1989
								W-25N-10
–	<0.002 P	–	<0.0005 P	–	<0.002 P	<0.05 P	–	08-aug-1991
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	08-aug-1991
								W-25N-11
–	<0.002 P	–	<0.0005 P	–	<0.002 P	<0.05 P	–	12-jun-1991
<0.1 P	–	0.18 P	–	–	–	–	<0.05 P	12-jun-1991
								W-25N-12
–	0.002 P	–	<0.0005 P	–	<0.002 P	<0.05 P	–	07-may-1991
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	07-may-1991
								W-25N-13
–	<0.002 P	–	<0.0005 P	–	<0.002 P	<0.05 P	–	06-may-1991
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	06-may-1991
								W-25N-15
–	<0.002 P	–	<0.0005 P	–	0.011 P	0.28 P	–	25-apr-1991
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	25-apr-1991
–	<0.002 P	–	<0.0005 P	–	0.009 P	<0.05 P	–	25-jul-1991
–	0.003	–	<0.0002 U	–	0.0024	<0.01 U	–	26-may-1993
–	<0.005 U	–	<0.0005 U	–	<0.005 U	<0.001 U	–	30-jul-1993
–	<0.002 U	–	<0.0005 U	–	0.0089	<0.001 U	–	11-jan-1994
–	<0.002 U	–	<0.0002 U	–	0.0029	<0.001 U	–	14-apr-1994
–	<0.002 U	–	<0.0002 U	–	0.0049	<0.001 U	–	05-aug-1994
								W-25N-18
0.4 P	–	0.08 P	–	–	–	–	<0.05 P	11-mar-1992
–	<0.002 P	–	<0.0002 P	–	0.009 P	<0.0005 P	–	11-mar-1992
								W-25N-20
–	<0.002 P	–	<0.0002 P	–	0.004 P	<0.05 P	–	08-jun-1992
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	08-jun-1992
–	0.0041	–	<0.0002 U	–	0.0036	<0.01 U	–	21-may-1993
–	<0.005 U	–	<0.0005 U	–	<0.005 U	<0.001 U	–	25-aug-1993
–	<0.002 U	–	<0.0005 U	–	<0.002 U	<0.001 U	–	02-dec-1993
–	<0.002 U	–	<0.0005 U	–	<0.002 U	<0.001 U	–	13-jan-1994
–	<0.002 U	–	<0.0002 U	–	0.0033	<0.001 U	–	14-apr-1994
–	<0.002 U	–	<0.0002 U	–	0.0035	<0.001 U	–	14-apr-1994
–	<0.002 U	–	0.00028	–	–	<0.001 U	0.039	27-jul-1994
								W-25N-21
–	<0.002 P	–	<0.0002 P	–	<0.002 P	<0.05 P	–	08-jun-1992
<0.1 P	–	0.37 P	–	–	–	–	<0.05 P	08-jun-1992

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.

Location Date	Lab	Notes	Val.	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
W-25N-22										
08-jun-1992	BC	ag	U	0.005 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
08-jun-1992	BC	ag	U	–	–	–	–	–	–	<0.05 P
W-25N-23										
11-mar-1992	BC	a	U	–	–	–	–	–	–	<0.05 P
11-mar-1992	BC	a	U	0.007 P	<0.05 P	–	0.005 P	<0.005 P	–	–
19-may-1993	BC	a	U	0.0045	0.043	–	<0.0005 U	<0.005 U	–	–
01-dec-1993	CS	a	V	0.0087	<0.05 U	–	<0.001 U	<0.01 U	–	–
14-apr-1994	CS	a	V	0.0065	<0.05 U	–	<0.001 U	<0.01 U	–	–
W-25N-24										
11-mar-1992	BC	a	U	–	–	–	–	–	–	<0.05 P
11-mar-1992	BC	a	U	0.005 P	0.06 P	–	<0.0005 P	0.007 P	–	–
25-jun-1993	BC	a	V	0.0024	0.051	–	<0.0005 U	<0.005 U	–	–
18-aug-1993	CS	a	V	<0.005 U	0.058	–	<0.001 U	<0.01 DU	–	–
01-dec-1993	CS	a	V	0.0045	0.058	–	<0.001 U	<0.01 U	–	–
13-jan-1994	CS	a	V	0.0062	0.058	–	<0.001 U	<0.01 U	–	–
27-jul-1994	CS	a	N	–	0.056	–	<0.0005 U	–	–	0.011
W-25N-25										
04-aug-1994	CS	a	V	–	0.036	–	<0.0005 U	–	–	<0.01 U
04-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-25N-26										
05-aug-1994	CS	a	N	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
05-aug-1994	CS	a	N	–	–	–	–	–	–	<0.05 U
W-25N-28										
05-aug-1994	CS	a	N	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
05-aug-1994	CS	a	N	–	–	–	–	–	–	<0.05 U
W-26R-01										
03-apr-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
11-sep-1989	BC	a	U	0.005 P	–	–	–	–	–	–
11-sep-1989	BC	a	U	–	<0.05 P	<0.01 P	<0.04 P	<0.05 P	–	<0.08 P
10-feb-1992	CL	a	U	<0.005 P	0.06 P	<0.005 P	<0.005 P	<0.01 P	–	<0.01 P
20-feb-1992	CL	a	U	–	–	–	–	–	–	<0.005 P
12-may-1993	BC	a	V	0.0063	0.035	–	<0.0005 U	<0.005 U	–	–
12-aug-1993	CS	a	V	<0.005 U	<0.05 U	–	<0.001 U	<0.01 U	–	–
01-dec-1993	CS	a	V	0.0093	<0.05 U	–	<0.001 U	<0.01 U	–	–
01-feb-1994	CS	a	V	0.0071	<0.05 U	–	<0.001 U	<0.01 U	–	–
29-apr-1994	CS	a	V	0.0075	0.033	–	<0.0005 U	<0.01 U	–	–
10-aug-1994	CS	a	V	0.0059	0.036	–	<0.0005 U	0.011	–	–
W-26R-02										
21-jul-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
24-oct-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
W-26R-03										
11-oct-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
12-may-1993	BC	a	V	0.0026	0.049	–	<0.0005 U	<0.005 U	–	–
17-may-1993	BC	a	V	–	–	–	–	–	–	<0.02 DU
12-aug-1993	CS	a	V	<0.005 U	0.051	–	<0.001 U	<0.01 U	–	–
09-sep-1993	CS	a	V	–	–	–	–	–	–	–
13-sep-1993	CS	a	V	–	–	–	–	–	–	–
13-sep-1993	CS	a	V	–	–	–	–	–	–	–
02-dec-1993	CS	a	V	0.0057	0.057	–	<0.001 U	<0.01 U	–	–
13-jan-1994	CS	a	V	0.0067	0.056	–	<0.001 U	<0.01 U	–	–
15-apr-1994	CS	a	V	0.0042	<0.05 U	–	<0.001 U	<0.01 U	–	–
28-jul-1994	CS	a	N	–	0.055	–	<0.0005 U	–	–	<0.01 U
W-26R-04										
04-jun-1992	BC	a	U	<0.002 P	0.06 P	–	<0.0005 P	<0.005 P	–	–
04-jun-1992	BC	a	U	–	–	–	–	–	–	<0.05 P
20-may-1993	BC	a	V	0.0035	0.06	–	<0.0005 U	<0.005 U	–	–
02-dec-1993	CS	a	V	0.0068	0.063	–	<0.001 U	<0.01 U	–	–
29-apr-1994	CS	a	V	0.0041	0.067	–	<0.0005 U	<0.01 U	–	–

Results recorded by 17-nov-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								(continued) GSA Study Area and Offsite
								W-25N-22
–	<0.002 P	–	<0.0002 P	–	<0.002 P	<0.05 P	–	08-jun-1992
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	08-jun-1992
								W-25N-23
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	11-mar-1992
–	0.048 P	–	<0.0002 P	–	0.015 P	<0.0005 P	–	11-mar-1992
–	<0.002 U	–	<0.0002 U	–	0.0063	<0.01 U	–	19-may-1993
–	<0.002 U	–	<0.0005 U	–	<0.002 U	<0.001 U	–	01-dec-1993
–	<0.002 U	–	<0.0002 U	–	0.006	<0.001 U	–	14-apr-1994
								W-25N-24
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	11-mar-1992
–	<0.002 P	–	<0.0002 P	–	0.02 P	<0.0005 P	–	11-mar-1992
–	0.0031	–	<0.0005 U	–	0.01	<0.01 U	–	25-jun-1993
–	<0.005 U	–	<0.0005 U	–	0.0069	<0.001 U	–	18-aug-1993
–	<0.002 U	–	<0.0005 U	–	0.0031	<0.001 U	–	01-dec-1993
–	<0.002 U	–	<0.0005 U	–	0.0076	<0.001 U	–	13-jan-1994
–	<0.002 U	–	0.00038	–	–	<0.001 U	<0.02 U	27-jul-1994
								W-25N-25
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	04-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	04-aug-1994
								W-25N-26
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	05-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	05-aug-1994
								W-25N-28
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	05-aug-1994
<0.1 U	–	0.083	–	<0.1 U	–	–	<0.05 U	05-aug-1994
								W-26R-01
0.22 P	–	<0.04 P	–	–	–	–	0.1 P	03-apr-1989
–	–	–	0.0003 P	–	0.008 P	–	–	11-sep-1989
–	<0.3 P	–	–	<0.03 P	–	<0.02 P	0.04 P	11-sep-1989
–	<0.05 P	–	<0.0005 P	<0.02 P	<0.005 P	<0.01 P	<0.01 P	10-feb-1992
0.04 P	–	<0.005 P	–	–	–	–	<0.01 P	20-feb-1992
–	<0.002 U	–	<0.0002 U	–	0.0081	<0.01 U	–	12-may-1993
–	<0.005 U	–	<0.0005 U	–	0.0072	<0.001 U	–	12-aug-1993
–	<0.002 U	–	<0.0005 U	–	0.0038	<0.001 U	–	01-dec-1993
–	<0.002 U	–	<0.0002 U	–	0.0082	<0.001 U	–	01-feb-1994
–	<0.002 U	–	<0.0002 U	–	0.0072	<0.001 U	–	29-apr-1994
–	<0.002 U	–	<0.0002 U	–	0.0079	<0.001 U	–	10-aug-1994
								W-26R-02
0.29 P	–	0.24 P	–	–	–	–	0.03 P	21-jul-1989
0.9 P	–	0.25 P	–	–	–	–	<0.01 P	24-oct-1989
								W-26R-03
0.45 P	–	0.04 P	–	–	–	–	0.06 P	11-oct-1989
–	<0.002 U	–	<0.0002 U	–	0.0062	<0.01 U	–	12-may-1993
<0.1 DU	–	<0.01 DU	–	–	–	–	<0.05 DU	17-may-1993
–	<0.005 U	–	<0.0005 U	–	<0.005 U	<0.001 U	–	12-aug-1993
–	–	–	–	–	<0.005 U	–	–	09-sep-1993
–	–	–	–	–	<0.005 U	–	–	13-sep-1993
–	–	–	–	–	<0.005 U	–	–	13-sep-1993
–	<0.002 U	–	<0.0005 U	–	0.0023	<0.001 U	–	02-dec-1993
–	<0.002 U	–	<0.0005 U	–	0.0072	<0.001 U	–	13-jan-1994
–	<0.002 U	–	<0.0002 U	–	0.016	<0.001 U	–	15-apr-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	28-jul-1994
								W-26R-04
–	<0.002 P	–	<0.0002 P	–	0.013 P	<0.05 P	–	04-jun-1992
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	04-jun-1992
–	0.0037	–	<0.0002 U	–	0.0097	<0.01 U	–	20-may-1993
–	<0.002 U	–	<0.0005 U	–	0.0035	<0.001 U	–	02-dec-1993
–	<0.002 U	–	<0.0002 U	–	0.012	<0.001 U	–	29-apr-1994

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.

Location Date	Lab	Notes	Val.	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
W-26R-05										
05-jun-1992	BC	a	U	0.007 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
05-jun-1992	BC	a	U	–	–	–	–	–	–	<0.05 P
W-26R-06										
17-mar-1992	BC	a	U	–	–	–	–	–	–	<0.05 P
17-mar-1992	BC	a	U	0.008 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
18-may-1993	BC	a	V	0.007 D	0.04 D	–	<0.0005 DU	0.031 D	–	–
17-aug-1993	CS	a	V	0.0072	<0.05 U	–	<0.001 U	<0.01 DU	–	–
03-dec-1993	CS	ag	V	0.0079	<0.05 U	–	<0.001 U	<0.01 U	–	–
18-jan-1994	CS	a	V	0.0088	<0.05 U	–	<0.001 U	<0.01 U	–	–
15-apr-1994	CS	a	V	0.011	<0.05 U	–	<0.001 U	<0.01 U	–	–
11-aug-1994	CS	a	V	0.013	0.036	–	<0.0005 U	<0.01 U	–	–
W-26R-07										
12-jun-1992	BC	a	U	0.003	<0.05	–	<0.0005	<0.005	–	–
12-jun-1992	BC	a	U	–	–	–	–	–	–	<0.05
W-26R-08										
09-jun-1992	BC	ah	U	0.008 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
09-jun-1992	BC	ah	U	–	–	–	–	–	–	<0.05 P
W-26R-11										
17-mar-1992	BC	a	U	–	–	–	–	–	–	<0.05 P
17-mar-1992	BC	a	U	0.003 P	0.06 P	–	<0.0005 P	<0.005 P	–	–
W-35A-01										
02-may-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
28-jan-1994	CS	a	V	–	<0.05 U	–	<0.0005 U	–	–	<0.01 U
28-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
19-apr-1994	CS	a	V	–	<0.05 U	–	<0.005 U	–	–	<0.01 U
19-apr-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
02-sep-1994	CS	a	V	–	0.036	<0.005 U	0.00062	<0.01 U	–	0.039
02-sep-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-35A-02										
02-may-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
28-jan-1994	CS	a	V	–	0.056	–	<0.0005 U	–	–	<0.01 U
28-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
10-may-1994	CS	a	V	–	0.051	–	<0.005 U	–	–	<0.01 U
10-may-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
23-aug-1994	CS	a	N	–	0.05	–	<0.0005 U	–	–	<0.05 U
23-aug-1994	CS	a	N	–	–	–	–	–	–	<0.05 U
W-35A-03										
02-may-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
28-jan-1994	CS	a	V	–	<0.05 U	–	<0.0005 U	–	–	<0.01 U
28-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
18-apr-1994	CS	a	V	–	0.057	–	<0.0005 U	–	–	<0.01 U
18-apr-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
20-jul-1994	CS	ag	V	–	0.047	–	<0.0005 U	–	–	<0.01 U
20-jul-1994	CS	ag	V	–	–	–	–	–	–	<0.05 U
W-35A-04										
15-dec-1989	BC	an	U	–	–	–	–	–	–	<0.08 P
17-jan-1992	BC	a	U	<0.002 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
03-aug-1992	BC	a	U	<0.002 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
26-aug-1992	BC	b	N	–	–	–	–	–	–	<0.05 P
26-aug-1992	BC	b	N	<0.002 P	0.053 P	<0.0002 P	<0.0005 P	<0.005 P	–	–
09-sep-1993	CS	b	N	<0.005 U	<0.05 U	<0.001 U	<0.001 U	<0.01 U	–	–
09-sep-1993	CS	b	N	–	–	–	–	–	–	<0.05 U
27-jan-1994	CS	a	V	–	<0.05 U	–	<0.0005 U	–	–	<0.01 U
27-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
18-apr-1994	CS	a	V	–	0.047	–	<0.0005 U	–	–	<0.01 U
18-apr-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
20-jul-1994	CS	a	V	–	0.041	–	<0.0005 U	–	–	<0.01 U
20-jul-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
31-aug-1994	CS	beh	N	0.0034	0.042	<0.0005 U	<0.0005 U	<0.01 U	–	<0.01 U
31-aug-1994	CS	bh	N	0.0028	0.041	<0.0005 U	<0.0005 U	<0.01 U	–	<0.01 U

Results recorded by 17-nov-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								(continued) GSA Study Area and Offsite
								W-26R-05
–	<0.002 P	–	<0.0002 P	–	0.005 P	<0.05 P	–	05-jun-1992
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	05-jun-1992
								W-26R-06
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	17-mar-1992
–	<0.002 P	–	<0.0002 P	–	<0.002 P	<0.0005 P	–	17-mar-1992
–	0.0045 D	–	0.0002 D	–	0.0089 D	<0.01 DU	–	18-may-1993
–	<0.005 U	–	<0.0005 U	–	0.0051	<0.001 U	–	17-aug-1993
–	<0.002 U	–	<0.0005 U	–	0.003	<0.001 U	–	03-dec-1993
–	<0.002 U	–	<0.0005 U	–	0.0043	<0.001 U	–	18-jan-1994
–	<0.002 U	–	<0.0002 U	–	0.011	<0.001 U	–	15-apr-1994
–	<0.002 U	–	<0.0002 U	–	0.006	<0.001 U	–	11-aug-1994
								W-26R-07
–	<0.002	–	<0.0002	–	<0.002	<0.05	–	12-jun-1992
<0.1	–	0.43	–	–	–	–	<0.05	12-jun-1992
								W-26R-08
–	<0.002 P	–	<0.0002 P	–	<0.002 P	<0.05 P	–	09-jun-1992
<0.1 P	–	0.12 P	–	–	–	–	<0.05 P	09-jun-1992
								W-26R-11
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	17-mar-1992
–	<0.002 P	–	<0.0002 P	–	0.016 P	<0.0005 P	–	17-mar-1992
								W-35A-01
2 P	–	0.14 P	–	–	–	–	0.16 P	02-may-1989
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	28-jan-1994
0.1	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	28-jan-1994
–	0.0057	–	<0.0002 U	–	–	<0.01 U	0.039	19-apr-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	19-apr-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	0.088	02-sep-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	02-sep-1994
								W-35A-02
2.3 P	–	0.25 P	–	–	–	–	0.14 P	02-may-1989
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	28-jan-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	28-jan-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.01 U	0.022	10-may-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	10-may-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	0.03	23-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	23-aug-1994
								W-35A-03
6.3 P	–	0.25 P	–	–	–	–	0.06 P	02-may-1989
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	28-jan-1994
0.36	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	28-jan-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.01 U	0.026	18-apr-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	18-apr-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	0.023	20-jul-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	20-jul-1994
								W-35A-04
0.13 P	–	<0.04 P	–	–	–	–	<0.01 P	15-dec-1989
–	<0.002 P	–	0.0004 P	–	<0.002 P	<0.05 P	–	17-jan-1992
–	<0.002 P	–	<0.0002 P	–	<0.002 P	<0.05 P	–	03-aug-1992
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	26-aug-1992
–	<0.002 P	–	<0.0002 P	–	0.0031 P	<0.0005 P	–	26-aug-1992
–	<0.005 U	–	<0.0005 U	–	<0.005 U	<0.001 U	–	09-sep-1993
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	09-sep-1993
–	<0.002 U	–	<0.0002 U	–	–	<0.0005 U	<0.02 U	27-jan-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	27-jan-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.01 U	<0.02 U	18-apr-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	18-apr-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	20-jul-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	20-jul-1994
–	<0.002 U	–	<0.0002 U	–	0.0024	<0.05 U	–	31-aug-1994
–	<0.002 U	–	<0.0002 U	–	0.0027	<0.05 U	–	31-aug-1994

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.

Location Date	Lab	Notes	Val.	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
W-35A-04 (continued)										
31-aug-1994	CS	beh	N	–	–	–	–	–	–	<0.05 U
31-aug-1994	CS	bh	N	–	–	–	–	–	–	0.056
W-35A-05										
15-dec-1989	BC	an	U	–	–	–	–	–	–	<0.08 P
28-jan-1994	CS	a	V	–	<0.05 U	–	<0.0005 U	–	–	<0.01 U
28-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
19-apr-1994	CS	ag	V	–	<0.05 U	–	<0.005 U	–	–	<0.01 U
19-apr-1994	CS	ag	V	–	–	–	–	–	–	<0.05 U
02-sep-1994	CS	a	V	–	<0.025 U	<0.005 U	<0.0005 U	<0.01 U	–	<0.01 U
02-sep-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-35A-06										
06-mar-1990	BC	a	U	–	–	–	–	–	–	0.1 P
27-jan-1994	CS	a	V	–	<0.05 U	–	<0.0005 U	–	–	<0.01 U
27-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
18-apr-1994	CS	a	V	–	0.037	–	<0.0005 U	–	–	<0.01 U
18-apr-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
28-jul-1994	CS	ah	N	–	0.037	–	<0.0005 U	–	–	<0.01 U
28-jul-1994	CS	aeh	N	–	0.032	–	<0.0005 U	–	–	<0.01 U
28-jul-1994	CS	ah	N	–	–	–	–	–	–	<0.05 U
28-jul-1994	CS	aeh	N	–	–	–	–	–	–	<0.05 U
W-35A-07										
09-aug-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
09-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-35A-08										
08-aug-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
08-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-35A-09										
10-aug-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
10-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-35A-10										
10-aug-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
10-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-35A-11										
09-aug-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
09-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-35A-12										
08-aug-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
08-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-35A-13										
10-aug-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
10-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-7A										
27-oct-1988	BC	a	U	–	–	–	–	–	–	<0.02 P
17-jan-1989	BC	a	U	–	–	<0.001 P	–	<0.02 P	–	<0.02 P
04-apr-1989	BC	a	U	–	–	<0.01 P	–	<0.001 P	–	<0.02 P
05-jul-1989	BC	a	U	–	–	<0.01 P	–	<0.02 P	–	<0.02 P
11-oct-1989	BC	a	U	–	–	<0.001 P	–	<0.005 P	–	<0.02 P
14-feb-1990	BC	a	U	–	–	<0.0005 P	–	<0.005 P	–	<0.08 P
20-apr-1990	BC	ah	U	–	–	<0.0005 P	–	<0.005 P	–	<0.08 P
29-oct-1990	BC	a	U	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P
30-jan-1991	BC	a	U	–	–	<0.0005 P	–	<0.005 P	–	<0.005 P
02-may-1991	BC	a	U	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P
24-jul-1991	BC	a	U	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P
05-nov-1991	BC	a	U	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P
30-jan-1992	BC	a	U	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P
15-may-1992	BC	a	U	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P
27-jul-1992	BC	a	U	–	–	<0.0005 P	–	<0.005 P	–	<0.05 P
07-dec-1992	BC	a	U	–	–	<0.0002 P	–	<0.005 P	–	<0.05 P

Results recorded by 17-nov-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								(continued) GSA Study Area and Offsite
								(continued) W-35A-04
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	31-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	31-aug-1994
								W-35A-05
0.49 P	–	<0.04 P	–	–	–	–	<0.01 P	15-dec-1989
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	28-jan-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	28-jan-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.01 U	<0.02 U	19-apr-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	19-apr-1994
–	0.0038	–	<0.0002 U	–	–	<0.001 U	<0.02 U	02-sep-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	02-sep-1994
								W-35A-06
0.06 P	–	0.08 P	–	–	–	–	0.06 P	06-mar-1990
–	<0.002 U	–	<0.0002 U	–	–	<0.0005 U	<0.02 U	27-jan-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	27-jan-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.01 U	<0.02 U	18-apr-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	18-apr-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	28-jul-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	28-jul-1994
<0.1 U	–	0.034	–	<0.1 U	–	–	<0.05 U	28-jul-1994
<0.1 U	–	0.039	–	<0.1 U	–	–	<0.05 U	28-jul-1994
								W-35A-07
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	09-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	09-aug-1994
								W-35A-08
–	<0.002 U	–	<0.0002 U	–	–	<0.02 U	<0.001 U	08-aug-1994
0.17	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	08-aug-1994
								W-35A-09
–	<0.002 U	–	–	–	<0.002 U	<0.001 UL	<0.02 U	10-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	10-aug-1994
								W-35A-10
–	<0.002 U	–	–	–	<0.002 U	<0.001 UL	<0.02 U	10-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	10-aug-1994
								W-35A-11
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	09-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	09-aug-1994
								W-35A-12
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	08-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	08-aug-1994
								W-35A-13
–	<0.002 U	–	–	–	<0.002 U	<0.001 UL	<0.02 U	10-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	10-aug-1994
								W-7A
<0.04 P	–	<0.04 P	–	–	–	–	<0.01 P	27-oct-1988
–	0.002 P	–	–	–	–	–	–	17-jan-1989
–	0.003 P	–	–	–	–	–	–	04-apr-1989
–	<0.001 P	–	–	–	–	–	–	05-jul-1989
–	0.002 P	–	–	–	–	–	–	11-oct-1989
–	<0.002 P	–	–	–	–	–	–	14-feb-1990
–	<0.002 P	–	–	–	–	–	–	20-apr-1990
–	<0.002 P	–	–	–	–	–	–	29-oct-1990
–	<0.002 P	–	–	–	–	–	–	30-jan-1991
–	<0.002 P	–	–	–	–	–	–	02-may-1991
–	<0.002 P	–	–	–	–	–	–	24-jul-1991
–	<0.002 P	–	–	–	–	–	–	05-nov-1991
–	<0.002 P	–	–	–	–	–	–	30-jan-1992
–	<0.002 P	–	–	–	–	–	–	15-may-1992
–	<0.002 P	–	–	–	–	–	–	27-jul-1992
–	<0.002 P	–	–	–	–	–	–	07-dec-1992

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.

Location Date	Lab	Notes	Val.	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
W-7A (continued)										
01-mar-1993	BC	a	V	–	–	<0.0002 U	–	<0.005 U	–	<0.05 U
19-may-1993	BC	a	V	–	–	<0.0002 U	–	<0.005 U	–	<0.02 U
10-aug-1993	CS	a	V	–	–	<0.0005 U	–	<0.01 U	–	<0.01 U
09-dec-1993	CS	ah	V	–	–	<0.0005 U	–	<0.01 U	–	<0.01 U
09-dec-1993	CS	aeh	V	–	–	<0.0005 U	–	<0.01 U	–	<0.01 U
18-jan-1994	CS	a	V	–	<0.05 U	<0.005 U	<0.0005 U	<0.01 U	–	<0.01 U
18-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
21-apr-1994	CS	a	V	–	<0.025 U	–	<0.005 U	–	–	<0.01 U
21-apr-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
02-sep-1994	CS	a	V	–	<0.025 U	<0.005 U	<0.0005 U	<0.01 U	–	<0.01 U
02-sep-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-7B										
26-oct-1988	BC	a	U	–	–	–	–	–	–	<0.02 P
W-7C										
26-oct-1988	BC	a	U	–	–	–	–	–	–	<0.02 P
10-jan-1994	CS	a	V	–	–	–	<0.001 U	<0.01 U	–	<0.01 U
10-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
18-apr-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
18-apr-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
20-jul-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
20-jul-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-7D										
26-oct-1988	BC	a	U	–	–	–	–	–	–	<0.02 P
30-apr-1991	BC	a	U	–	–	–	–	–	–	<0.05 P
18-jul-1991	BC	a	U	–	–	–	–	–	–	<0.05 P
09-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-7DS										
26-oct-1988	BC	a	U	–	–	–	–	–	–	<0.02 P
30-apr-1991	BC	a	U	–	–	–	–	–	–	<0.05 P
18-jul-1991	BC	a	U	–	–	–	–	–	–	<0.05 P
16-jan-1992	BC	a	U	<0.002 P	0.06 P	–	<0.0005 P	<0.005 P	–	–
W-7E										
27-oct-1988	BC	a	U	–	–	–	–	–	–	<0.02 P
16-jan-1992	BC	a	U	<0.002 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
14-jan-1994	CS	a	V	–	<0.05 U	–	<0.0005 U	<0.01 U	–	<0.01 U
14-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
18-apr-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
18-apr-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
20-jul-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
20-jul-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-7ES										
27-oct-1988	BC	a	U	–	–	–	–	–	–	<0.02 P
16-jan-1992	BC	a	U	<0.002 P	0.06 P	–	<0.0005 P	<0.005 P	–	–
14-jan-1994	CS	a	V	–	0.057	–	<0.0005 U	<0.01 U	–	<0.01 U
14-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
18-apr-1994	CS	a	V	–	0.055	–	<0.0005 U	–	–	<0.01 U
18-apr-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
21-jul-1994	CS	a	V	–	0.059	–	<0.0005 U	–	–	<0.01 U
21-jul-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-7F										
24-oct-1988	BC	a	U	–	–	–	–	–	–	<0.02 P
30-mar-1993	BC	a	V	<0.004 U	<0.1 U	–	<0.0005 U	<0.005 U	–	–
18-may-1993	BC	a	V	–	–	–	–	–	–	<0.02 DU
29-jul-1993	CS	ah	V	<0.005 U	<0.05 U	–	<0.001 U	<0.001 U	–	–
29-jul-1993	CS	aeh	V	<0.005 U	<0.05 U	–	<0.001 U	<0.001 U	–	–
29-jul-1993	CS	ah	V	–	–	–	–	–	–	<0.05 U
29-jul-1993	CS	aeh	V	–	–	–	–	–	–	<0.05 U
04-nov-1993	CS	a	V	<0.005 U	<0.05 U	–	<0.001 U	<0.01 U	–	–
04-nov-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
08-dec-1993	CS	a	V	0.0032	<0.05 U	–	<0.001 U	<0.01 U	–	–
08-dec-1993	CS	a	V	–	–	–	–	–	–	<0.05 U

Results recorded by 17-nov-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								(continued) GSA Study Area and Offsite
								(continued) W-7A
-	<0.002 U	-	-	-	-	-	-	01-mar-1993
-	<0.002 U	-	-	-	-	-	-	19-may-1993
-	<0.002 U	-	-	-	-	-	-	10-aug-1993
-	<0.002 U	-	-	-	-	-	-	09-dec-1993
-	<0.002 U	-	-	-	-	-	-	09-dec-1993
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	<0.05 U	18-jan-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	18-jan-1994
-	<0.002 U	-	<0.0002 U	-	-	<0.01 U	<0.02 U	21-apr-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	21-apr-1994
-	<0.002 U	-	0.00037	-	-	<0.001 U	<0.02 U	02-sep-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	02-sep-1994
								W-7B
<0.03 P	-	<0.01 P	-	-	-	-	<0.01 P	26-oct-1988
								W-7C
<0.03 P	-	0.02 P	-	-	-	-	<0.01 P	26-oct-1988
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	<0.02 U	10-jan-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	10-jan-1994
-	<0.002 U	-	<0.0002 U	-	-	<0.01 U	<0.02 U	18-apr-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	18-apr-1994
-	<0.002 U	-	0.00021	-	-	<0.001 U	<0.02 U	20-jul-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	20-jul-1994
								W-7D
<0.03 P	-	0.14 P	-	-	-	-	<0.01 P	26-oct-1988
<0.1 P	-	0.18 P	-	-	-	-	<0.05 P	30-apr-1991
0.1 P	-	0.25 P	-	-	-	-	<0.05 P	18-jul-1991
<0.1 U	-	0.17	-	<0.1 U	-	-	<0.05 U	09-aug-1994
								W-7DS
<0.03 P	-	<0.01 P	-	-	-	-	0.01 P	26-oct-1988
<0.1 P	-	<0.05 P	-	-	-	-	<0.05 P	30-apr-1991
<0.1 P	-	<0.05 P	-	-	-	-	<0.05 P	18-jul-1991
-	<0.002 P	-	<0.0002 P	-	0.004 P	<0.05 P	-	16-jan-1992
								W-7E
<0.04 P	-	<0.04 P	-	-	-	-	0.06 P	27-oct-1988
-	<0.002 P	-	0.0004 P	-	<0.002 P	<0.05 P	-	16-jan-1992
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	<0.05 U	14-jan-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	14-jan-1994
-	<0.002 U	-	<0.0002 U	-	-	<0.01 U	<0.02 U	18-apr-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	18-apr-1994
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	<0.02 U	20-jul-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	20-jul-1994
								W-7ES
0.06 P	-	<0.04 P	-	-	-	-	<0.01 P	27-oct-1988
-	<0.002 P	-	0.0004 P	-	0.004 P	<0.05 P	-	16-jan-1992
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	<0.05 U	14-jan-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	14-jan-1994
-	<0.002 U	-	<0.0002 U	-	-	<0.01 U	<0.02 U	18-apr-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	18-apr-1994
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	<0.02 U	21-jul-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	21-jul-1994
								W-7F
0.05 P	-	0.04 P	-	-	-	-	<0.01 P	24-oct-1988
-	<0.002 U	-	<0.0002 U	-	<0.002 U	<0.05 U	-	30-mar-1993
<0.1 DU	-	0.066 D	-	-	-	-	<0.05 DU	18-may-1993
-	<0.005 U	-	<0.0005 U	-	<0.005 U	<0.001 U	-	29-jul-1993
-	<0.005 U	-	<0.0005 U	-	<0.005 U	<0.001 U	-	29-jul-1993
<0.1 U	-	0.036	-	<0.1 U	-	-	<0.05 U	29-jul-1993
<0.1 U	-	0.035	-	<0.1 U	-	-	<0.05 U	29-jul-1993
-	<0.005 U	-	<0.0005 U	-	<0.005 U	<0.001 U	-	04-nov-1993
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	04-nov-1993
-	<0.002 U	-	<0.0005 U	-	<0.002 U	<0.001 U	-	08-dec-1993
<0.1 U	-	0.041	-	<0.1 U	-	-	<0.05 U	08-dec-1993

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.

Location Date	Lab	Notes	Val.	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
W-7F (continued)										
18-jan-1994	CS	a	V	–	<0.05 U	<0.005 U	<0.0005 U	<0.01 U	–	<0.01 U
18-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
22-apr-1994	CS	a	V	–	<0.025 U	–	<0.005 U	–	–	<0.01 U
22-apr-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
09-aug-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
09-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-7G										
05-jul-1989	BC	a	U	–	–	–	–	–	–	<0.02 P
21-jul-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
21-jul-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-7H										
14-dec-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
25-mar-1993	BC	a	V	<0.002 U	<0.1 U	–	<0.0005 U	<0.005 U	–	–
02-aug-1994	CS	a	N	<0.002 U	<0.025 U	–	<0.0005 U	<0.01 U	–	–
02-aug-1994	CS	a	N	–	–	–	–	–	–	<0.05 U
W-7I										
16-nov-1989	BC	af	U	–	–	–	–	–	–	<0.08 P
26-mar-1993	BC	af	V	<0.002 U	<0.1 U	–	<0.0005 U	<0.005 U	–	–
17-may-1993	BC	af	V	–	–	–	–	–	–	<0.02 DU
17-may-1993	BC	a	V	0.0057	0.025	–	<0.001 DU	<0.005 DU	–	–
16-jul-1993	CS	a	V	0.0059	<0.05 U	–	<0.001 U	0.0013	–	<0.05 U
16-jul-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
04-nov-1993	CS	a	V	0.0095	<0.05 U	–	<0.001 U	<0.01 U	–	–
04-nov-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
17-feb-1994	CS	a	V	–	<0.05 U	–	<0.001 U	–	–	<0.05 U
22-feb-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
12-aug-1994	CS	a	N	0.0056	<0.025 U	–	<0.0005 U	<0.01 U	–	–
12-aug-1994	CS	a	N	–	–	–	–	–	–	<0.05 U
W-7J										
17-nov-1989	BC	a	U	–	–	–	–	–	–	<0.08 P
18-may-1993	BC	a	V	–	–	–	–	–	–	<0.02 DU
29-jul-1993	CS	a	V	<0.005 U	<0.05 U	–	<0.001 U	<0.001 U	–	–
29-jul-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
02-nov-1993	CS	a	V	<0.005 U	<0.05 U	–	<0.001 U	<0.01 U	–	–
02-nov-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
23-feb-1994	CS	a	V	–	<0.05 U	–	<0.01 U	–	–	<0.05 U
23-feb-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
11-may-1994	CS	a	V	–	<0.025 U	–	<0.005 U	–	–	<0.01 U
11-may-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
02-sep-1994	CS	a	V	–	<0.025 U	<0.005 U	<0.0005 U	<0.01 U	–	<0.01 U
02-sep-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-7K										
16-mar-1990	BC	a	U	–	–	–	–	–	–	<0.08 P
06-may-1991	BC	a	U	–	–	–	–	–	–	<0.05 P
14-jan-1994	CS	a	V	–	<0.05 U	–	<0.0005 U	<0.01 U	–	<0.01 U
14-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
19-apr-1994	CS	a	V	–	<0.05 U	–	<0.005 U	–	–	<0.01 U
19-apr-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
09-aug-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
09-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-7L										
19-nov-1990	BC	a	U	0.003 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
19-nov-1990	BC	a	U	–	–	–	–	–	–	0.05 P
18-jan-1994	CS	a	V	–	<0.05 U	<0.005 U	<0.0005 U	<0.01 U	–	<0.01 U
18-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
19-apr-1994	CS	a	V	–	<0.05 U	–	<0.005 U	–	–	<0.01 U
19-apr-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
08-aug-1994	CS	ag	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
08-aug-1994	CS	ag	V	–	–	–	–	–	–	<0.05 U

Results recorded by 17-nov-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								(continued) GSA Study Area and Offsite
								(continued) W-7F
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.05 U	18-jan-1994
<0.1 U	–	0.033	–	<0.1 U	–	–	<0.05 U	18-jan-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.01 U	<0.02 U	22-apr-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	22-apr-1994
–	<0.002 U	–	–	–	<0.002 U	<0.001 UL	<0.02 U	09-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	09-aug-1994
								W-7G
0.07 P	–	0.06 P	–	–	–	–	0.05 P	05-jul-1989
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	21-jul-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	21-jul-1994
								W-7H
0.07 P	–	0.07 P	–	–	–	–	0.04 P	14-dec-1989
–	<0.002 U	–	<0.0002 U	–	<0.002 U	<0.05 U	–	25-mar-1993
–	0.0063	–	<0.0002 U	–	<0.002 U	<0.001 U	–	02-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	02-aug-1994
								W-7I
1.9 P	–	0.08 P	–	–	–	–	0.08 P	16-nov-1989
–	0.0022	–	<0.0002 U	–	<0.002 U	<0.05 U	–	26-mar-1993
<0.1 DU	–	<0.01 DU	–	–	–	–	<0.05 DU	17-may-1993
–	<0.002 U	–	<0.0002 HU	–	<0.002 U	<0.01 U	–	17-may-1993
0.048	<0.005 U	0.056	<0.0005 U	–	<0.005 U	<0.001 U	<0.05 U	16-jul-1993
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	16-jul-1993
–	<0.005 U	–	<0.0005 U	–	<0.005 U	<0.001 U	–	04-nov-1993
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	04-nov-1993
–	0.0023	–	0.0021	–	–	<0.001 U	<0.02 U	17-feb-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	22-feb-1994
–	<0.002 U	–	<0.0002 U	–	<0.002 U	<0.001 U	–	12-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	12-aug-1994
								W-7J
0.11 P	–	<0.04 P	–	–	–	–	0.07 P	17-nov-1989
<0.1 DU	–	0.012 D	–	–	–	–	<0.05 DU	18-may-1993
–	<0.005 U	–	<0.0005 U	–	<0.005 U	<0.001 U	–	29-jul-1993
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	29-jul-1993
–	<0.005 U	–	<0.0005 U	–	<0.005 U	<0.001 U	–	02-nov-1993
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	02-nov-1993
–	<0.002 U	–	<0.0002 U	–	–	<0.05 U	<0.05 U	23-feb-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	23-feb-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.01 U	<0.02 U	11-may-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	11-may-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	02-sep-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	02-sep-1994
								W-7K
<0.04 P	–	<0.04 P	–	–	–	–	<0.05 P	16-mar-1990
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	06-may-1991
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.05 U	14-jan-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	14-jan-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.01 U	<0.02 U	19-apr-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	19-apr-1994
–	<0.002 U	–	–	–	<0.002 U	<0.001 UL	<0.02 U	09-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	09-aug-1994
								W-7L
–	<0.002 P	–	<0.001 P	–	<0.002 P	<0.05 P	–	19-nov-1990
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	19-nov-1990
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.05 U	18-jan-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	18-jan-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.01 U	<0.02 U	19-apr-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	19-apr-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	08-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	08-aug-1994

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.

Location Date	Lab	Notes	Val.	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
W-7M										
20-nov-1990	BC	a	U	0.002 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
20-nov-1990	BC	a	U	–	–	–	–	–	–	<0.05 P
10-jan-1994	CS	a	V	–	–	–	<0.001 U	<0.01 U	–	<0.01 U
10-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
20-apr-1994	CS	a	V	–	<0.025 U	–	<0.005 U	–	–	<0.01 U
20-apr-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
26-jul-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
26-jul-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-7N										
19-nov-1990	BC	a	U	0.009 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
19-nov-1990	BC	a	U	–	–	–	–	–	–	<0.05 P
07-feb-1991	BC	a	U	0.007 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
10-jan-1994	CS	a	V	–	–	–	<0.001 U	<0.01 U	–	<0.01 U
10-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
20-apr-1994	CS	a	V	–	0.053	–	<0.005 U	–	–	<0.01 U
20-apr-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
08-aug-1994	CS	ag	V	–	0.045	–	<0.0005 U	–	–	<0.01 U
08-aug-1994	CS	ag	V	–	–	–	–	–	–	<0.05 U
W-7O										
17-mar-1992	BC	af	U	–	–	–	–	–	–	<0.05 P
17-mar-1992	BC	af	U	0.005 P	<0.05 P	–	<0.0005 P	0.006 P	–	–
17-may-1993	BC	a	V	0.0032	0.053	–	<0.001 DU	<0.005 DU	–	–
18-may-1993	BC	a	V	–	–	–	–	–	–	<0.02 DU
16-jul-1993	CS	a	V	<0.005 U	0.054	–	<0.001 U	0.0041	–	<0.05 U
16-jul-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
01-nov-1993	CS	a	V	0.0063	<0.05 U	–	<0.001 U	<0.01 U	–	–
01-nov-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
18-jan-1994	CS	a	V	–	<0.05 U	<0.005 U	<0.0005 U	<0.01 U	–	<0.01 U
18-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
03-may-1994	CS	ah	V	–	0.046	–	<0.0005 U	–	–	<0.01 U
03-may-1994	CS	aeh	V	–	0.047	–	<0.0005 U	–	–	<0.01 U
03-may-1994	CS	ah	V	–	–	–	–	–	–	<0.05 U
03-may-1994	CS	aeh	V	–	–	–	–	–	–	<0.05 U
02-sep-1994	CS	a	V	–	0.038	<0.005 U	<0.0005 U	<0.01 U	–	0.78
02-sep-1994	CS	a	V	–	–	–	–	–	–	1.1
W-7P										
11-aug-1994	CS	a	V	–	0.047	–	<0.0005 U	–	–	<0.01 U
11-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-7PS										
11-aug-1994	CS	a	V	–	0.058	–	<0.0005 U	–	–	<0.01 U
11-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-843-01										
07-mar-1990	BC	a	U	–	–	–	–	–	–	<0.08 P
21-jul-1994	CS	a	V	–	0.029	–	<0.0005 U	–	–	<0.01 U
21-jul-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-843-02										
02-may-1990	BC	ag	U	–	–	–	–	–	–	<0.08 P
02-aug-1994	CS	a	N	0.02	<0.025 U	–	<0.0005 U	<0.01 U	–	–
02-aug-1994	CS	a	N	–	–	–	–	–	–	<0.05 U
W-872-01										
06-mar-1990	BC	a	U	–	–	–	–	–	–	0.1 P
23-mar-1993	BC	a	V	0.0051	<0.1 U	–	<0.0005 U	<0.005 U	–	–
22-feb-1994	CS	a	V	–	0.13	–	<0.01 U	–	–	<0.05 U
22-feb-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
03-may-1994	CS	a	V	–	<0.05 U	–	<0.0005 U	–	–	<0.01 U
03-may-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-872-02										
08-nov-1990	BC	a	U	0.006 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
08-nov-1990	BC	a	U	–	–	–	–	–	–	<0.05 P
03-aug-1994	CS	a	N	–	0.041	–	<0.0005 U	–	–	<0.01 U

Results recorded by 17-nov-1994.

(continued) GSA Study Area and Offsite

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								W-7M
–	<0.002 P	–	<0.001 P	–	<0.002 P	<0.05 P	–	20-nov-1990
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	20-nov-1990
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	10-jan-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	10-jan-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.01 U	<0.02 U	20-apr-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	20-apr-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	26-jul-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	26-jul-1994
								W-7N
–	<0.002 P	–	0.002 P	–	<0.002 P	<0.05 P	–	19-nov-1990
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	19-nov-1990
–	<0.002 P	–	<0.001 P	–	<0.002 P	<0.05 P	–	07-feb-1991
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	10-jan-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	10-jan-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.01 U	<0.02 U	20-apr-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	20-apr-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	0.045	08-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	08-aug-1994
								W-7O
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	17-mar-1992
–	<0.002 P	–	<0.0002 P	–	0.018 P	<0.0005 P	–	17-mar-1992
–	<0.002 U	–	<0.0002 HU	–	0.012	<0.01 U	–	17-may-1993
<0.1 DU	–	<0.01 DU	–	–	–	–	<0.05 DU	18-may-1993
0.086	<0.005 U	<0.03 U	<0.0005 U	–	0.014	<0.001 U	<0.05 U	16-jul-1993
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	16-jul-1993
–	<0.005 U	–	<0.0005 U	–	0.014	<0.001 U	–	01-nov-1993
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	01-nov-1993
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.05 U	18-jan-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	18-jan-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	03-may-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	03-may-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	03-may-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	03-may-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	0.53	02-sep-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	0.82	02-sep-1994
								W-7P
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	11-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	11-aug-1994
								W-7PS
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	11-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	11-aug-1994
								W-843-01
0.1 P	–	0.14 P	–	–	–	–	0.06 P	07-mar-1990
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	21-jul-1994
0.4	–	0.059	–	<0.1 U	–	–	<0.05 U	21-jul-1994
								W-843-02
<0.04 P	–	0.07 P	–	–	–	–	<0.05 P	02-may-1990
–	0.0029	–	<0.0002 U	–	0.0034	<0.001 U	–	02-aug-1994
<0.1 U	–	0.055	–	<0.1 U	–	–	<0.05 U	02-aug-1994
								W-872-01
0.07 P	–	0.05 P	–	–	–	–	0.06 P	06-mar-1990
–	<0.002 U	–	<0.0002 U	–	<0.002 U	<0.05 U	–	23-mar-1993
–	0.012	–	<0.0002 U	–	–	<0.05 U	0.055	22-feb-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	22-feb-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	03-may-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	03-may-1994
								W-872-02
–	<0.002 P	–	<0.001 P	–	0.002 P	<0.05 P	–	08-nov-1990
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	08-nov-1990
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	03-aug-1994

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.

Location Date	Lab	Notes	Val.	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
W-872-02 (continued)										
03-aug-1994	CS	a	N	–	–	–	–	–	–	<0.05 U
W-873-01										
25-oct-1988	BC	a	U	–	–	–	–	–	–	<0.02 P
26-jul-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
26-jul-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-873-02										
28-oct-1988	BC	a	U	–	–	–	–	–	–	<0.02 P
26-jul-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
26-jul-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-873-03										
26-oct-1988	BC	a	U	–	–	–	–	–	–	<0.02 P
21-jul-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
21-jul-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-873-04										
16-aug-1990	BC	a	U	–	–	–	–	–	–	<0.05 P
01-apr-1994	CS	a	V	–	<0.05 U	–	<0.0005 U	–	–	<0.01 U
01-sep-1994	CS	a	V	–	0.026	<0.005 U	<0.0005 U	<0.01 U	–	<0.01 U
01-sep-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-873-06										
21-nov-1990	BC	a	U	0.018 P	<0.05 P	–	<0.0005 P	0.008 P	–	–
21-nov-1990	BC	a	U	–	–	–	–	–	–	<0.05 P
25-jan-1994	CS	ag	V	–	<0.05 U	–	<0.001 U	–	–	<0.05 U
25-jan-1994	CS	ag	V	–	–	–	–	–	–	<0.05 U
15-jul-1994	CS	a	V	–	<0.025 U	–	100	–	–	<0.01 U
15-jul-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-873-07										
20-nov-1990	BC	a	U	0.02 P	<0.05 P	–	<0.0005 P	0.028 P	–	–
20-nov-1990	BC	a	U	–	–	–	–	–	–	<0.05 P
25-jan-1994	CS	a	V	–	<0.05 U	–	<0.001 U	–	–	<0.05 U
25-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
15-jul-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
15-jul-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-875-01										
25-oct-1988	BC	a	U	–	–	–	–	–	–	<0.02 P
16-aug-1990	BC	a	U	0.003 P	<0.05 P	–	<0.0005 P	0.005 P	–	–
16-aug-1990	BC	a	U	0.003 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
16-aug-1990	BC	a	U	–	–	–	–	–	–	0.018 P
03-aug-1994	CS	a	N	–	0.073	–	0.0007	–	–	0.1
03-aug-1994	CS	a	N	–	–	–	–	–	–	<0.05 U
W-875-02										
13-feb-1990	BC	a	U	–	–	–	–	–	–	<0.08 P
23-mar-1993	BC	a	V	0.0029	<0.1 U	–	<0.0005 U	<0.005 U	–	–
26-jan-1994	CS	a	V	–	<0.05 U	–	<0.0005 U	–	–	<0.01 U
26-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
04-may-1994	CS	a	V	–	<0.025 U	–	<0.005 U	–	–	<0.01 U
04-may-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
24-aug-1994	CS	a	N	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
24-aug-1994	CS	a	N	–	–	–	–	–	–	<0.05 U
W-875-03										
13-feb-1990	BC	a	U	–	–	–	–	–	–	<0.08 P
04-may-1994	CS	a	V	–	0.026	–	<0.005 U	–	–	<0.01 U
04-may-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-875-04										
13-feb-1990	BC	a	U	–	–	–	–	–	–	<0.08 P
20-apr-1993	BC	a	V	<0.002 U	<0.1 U	–	<0.0005 U	<0.005 U	–	–
18-may-1993	BC	a	V	0.0035	0.022	–	<0.0005 U	<0.005 U	–	–
22-feb-1994	CS	a	V	–	0.05	–	<0.01 U	–	–	<0.05 U
22-feb-1994	CS	a	V	–	–	–	–	–	–	<0.05 U

Results recorded by 17-nov-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								(continued) GSA Study Area and Offsite
								(continued) W-872-02
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	03-aug-1994
								W-873-01
0.03 P	–	<0.01 P	–	–	–	–	<0.01 P	25-oct-1988
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	26-jul-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	26-jul-1994
								W-873-02
0.36 P	–	0.06 P	–	–	–	–	0.05 P	28-oct-1988
–	<0.002 U	–	<0.0002 U	–	–	<0.0005 U	0.028	26-jul-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	26-jul-1994
								W-873-03
<0.03 P	–	0.07 P	–	–	–	–	0.11 P	26-oct-1988
–	<0.002 U	–	<0.0002 U	–	–	<0.001 U	<0.02 U	21-jul-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	21-jul-1994
								W-873-04
<0.1 P	–	<0.04 P	–	–	–	–	<0.05 P	16-aug-1990
–	<0.002 U	–	<0.0002 U	–	–	<0.01 U	0.027	01-apr-1994
–	0.0037	–	<0.0002 U	–	–	<0.001 U	<0.02 U	01-sep-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	01-sep-1994
								W-873-06
–	<0.002 P	–	<0.001 P	–	0.005 P	<0.05 P	–	21-nov-1990
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	21-nov-1990
–	<0.002 U	–	<0.0005 U	–	–	<0.001 U	<0.05 U	25-jan-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	25-jan-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 UR	<0.02 U	15-jul-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	15-jul-1994
								W-873-07
–	<0.002 P	–	<0.001 P	–	0.005 P	<0.05 P	–	20-nov-1990
<0.1 P	–	<0.05 P	–	–	–	–	<0.05 P	20-nov-1990
–	<0.002 U	–	<0.0005 U	–	–	<0.001 U	<0.05 U	25-jan-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	25-jan-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.001 UR	<0.02 U	15-jul-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	15-jul-1994
								W-875-01
0.09 P	–	0.02 P	–	–	–	–	<0.01 P	25-oct-1988
–	<0.002 P	–	<0.001 P	–	<0.002 P	<0.05 P	–	16-aug-1990
–	<0.002 P	–	<0.0005 P	–	<0.002 P	<0.05 P	–	16-aug-1990
–	–	–	–	–	–	–	–	16-aug-1990
–	0.0096	–	<0.0002 U	–	–	<0.001 U	0.16	03-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	03-aug-1994
								W-875-02
<0.04 P	–	<0.04 P	–	–	–	–	<0.01 P	13-feb-1990
–	<0.002 U	–	<0.0002 U	–	<0.002 U	<0.05 U	–	23-mar-1993
–	<0.002 U	–	<0.0002 U	–	–	<0.0005 U	<0.02 U	26-jan-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	26-jan-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.01 U	<0.02 U	04-may-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	04-may-1994
–	<0.002 U	–	<0.0002 U	–	–	<0.02 U	<0.001 U	24-aug-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	24-aug-1994
								W-875-03
<0.04 P	–	<0.04 P	–	–	–	–	<0.01 P	13-feb-1990
–	<0.002 U	–	<0.0002 U	–	–	<0.01 U	<0.02 U	04-may-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	04-may-1994
								W-875-04
0.11 P	–	<0.04 P	–	–	–	–	<0.01 P	13-feb-1990
–	<0.002 U	–	<0.0002 U	–	<0.002 U	<0.05 U	–	20-apr-1993
–	<0.002 U	–	<0.0002 U	–	<0.002 U	<0.01 U	–	18-may-1993
–	0.0033	–	<0.0002 U	–	–	<0.05 U	<0.05 U	22-feb-1994
<0.1 U	–	<0.03 U	–	<0.1 U	–	–	<0.05 U	22-feb-1994

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.

Location Date	Lab	Notes	Val.	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
W-875-04 (continued)										
04-may-1994	CS	a	V	–	<0.025 U	–	<0.005 U	–	–	<0.01 U
04-may-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
02-sep-1994	CS	a	V	–	0.038	<0.005 U	<0.0005 U	<0.01 U	–	<0.01 U
02-sep-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-875-05										
13-feb-1990	BC	a	U	–	–	–	–	–	–	<0.08 P
25-jan-1994	CS	a	V	–	<0.05 U	–	<0.001 U	–	–	<0.05 U
25-jan-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
01-sep-1994	CS	a	V	–	<0.025 U	<0.005 U	<0.0005 U	<0.01 U	–	<0.01 U
01-sep-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-875-06										
16-jun-1992	BC	a	U	0.009 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
16-jun-1992	BC	a	U	–	–	–	–	–	–	<0.05 P
W-875-07										
12-jun-1992	BC	af	U	0.006 P	0.06 P	–	<0.0005 P	<0.005 P	–	–
12-jun-1992	BC	af	U	–	–	–	–	–	–	<0.05 P
26-mar-1993	BC	af	V	<0.002 U	<0.1 U	–	<0.0005 U	<0.005 U	–	–
17-may-1993	BC	af	V	–	–	–	–	–	–	0.02 D
17-may-1993	BC	a	V	0.0066	0.065	–	<0.001 DU	<0.005 DU	–	–
16-jul-1993	CS	a	V	0.0066	0.062	–	<0.001 U	0.0091	–	<0.05 U
16-jul-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
03-nov-1993	CS	a	V	0.013	0.054	–	<0.001 U	<0.01 U	–	–
03-nov-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
W-875-08										
08-dec-1992	BC	af	U	–	–	–	–	–	–	<0.05 P
08-dec-1992	BC	af	U	0.0039 P	<0.05 P	–	<0.0005 P	<0.005 P	–	–
26-mar-1993	BC	af	V	<0.002 U	<0.1 U	–	<0.0005 U	<0.005 U	–	–
17-may-1993	BC	af	V	–	–	–	–	–	–	<0.02 DU
17-may-1993	BC	a	V	0.0044	0.026	–	<0.001 DU	<0.005 DU	–	–
16-jul-1993	CS	a	V	<0.005 U	<0.05 U	–	<0.001 U	0.0018	–	<0.05 U
16-jul-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
01-nov-1993	CS	a	V	0.0056	<0.05 U	–	<0.001 U	<0.01 U	–	–
01-nov-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
23-feb-1994	CS	a	V	–	<0.05 U	–	<0.01 U	–	–	<0.05 U
23-feb-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
12-aug-1994	CS	a	N	<0.002 U	<0.025 U	–	<0.0005 U	<0.01 U	–	–
12-aug-1994	CS	a	N	–	–	–	–	–	–	<0.05 U
W-875-09										
26-mar-1993	BC	af	V	<0.002 U	<0.1 U	–	<0.0005 U	<0.005 U	–	–
17-may-1993	BC	af	V	–	–	–	–	–	–	<0.02 DU
17-may-1993	BC	a	V	0.0041	0.033	–	<0.001 DU	<0.005 DU	–	–
16-jul-1993	CS	a	V	0.0055	0.1	–	<0.001 U	0.0021	–	<0.05 U
16-jul-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
19-jul-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
01-nov-1993	CS	a	V	0.0086	<0.05 U	–	<0.001 U	<0.01 U	–	–
01-nov-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
W-875-10										
26-mar-1993	BC	af	V	0.0033	<0.1 U	–	<0.0005 U	<0.005 U	–	–
17-may-1993	BC	af	V	–	–	–	–	–	–	<0.02 DU
17-may-1993	BC	a	V	0.01	0.042	–	<0.001 DU	<0.005 DU	–	–
16-jul-1993	CS	a	V	0.0053	0.45	–	<0.001 U	0.022	–	<0.05 U
16-jul-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
02-nov-1993	CS	a	V	0.027	2	–	<0.001 U	0.057	–	–
02-nov-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
W-875-11										
26-mar-1993	BC	af	V	<0.002 U	<0.1 U	–	<0.0005 U	<0.005 U	–	–
17-may-1993	BC	af	V	–	–	–	–	–	–	<0.02 DU
17-may-1993	BC	a	V	0.042	0.039	–	<0.001 DU	0.032 D	–	–
16-jul-1993	CS	a	V	0.013	0.8	–	<0.001 U	0.041	–	<0.05 U
16-jul-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
03-nov-1993	CS	a	V	0.011	0.48	–	<0.001 U	<0.01 U	–	–

Results recorded by 17-nov-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								(continued) GSA Study Area and Offsite
								(continued) W-875-04
-	<0.002 U	-	<0.0002 U	-	-	<0.01 U	<0.02 U	04-may-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	04-may-1994
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	0.034	02-sep-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	02-sep-1994
								W-875-05
<0.04 P	-	<0.04 P	-	-	-	-	<0.01 P	13-feb-1990
-	<0.002 U	-	<0.0005 U	-	-	<0.001 U	<0.05 U	25-jan-1994
0.19	-	0.058	-	<0.1 U	-	-	<0.05 U	25-jan-1994
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	<0.02 U	01-sep-1994
<0.1 U	-	0.055	-	<0.1 U	-	-	<0.05 U	01-sep-1994
								W-875-06
-	<0.002 P	-	<0.0002 P	-	0.002 P	<0.05 P	-	16-jun-1992
<0.1 P	-	<0.05 P	-	-	-	-	<0.05 P	16-jun-1992
								W-875-07
-	0.003 P	-	<0.0002 P	-	0.003 P	<0.05 P	-	12-jun-1992
0.2 P	-	0.82 P	-	-	-	-	<0.05 P	12-jun-1992
-	<0.002 U	-	<0.0002 U	-	<0.002 U	<0.05 U	-	26-mar-1993
0.19 D	-	0.38 D	-	-	-	-	0.043 D	17-may-1993
-	<0.002 U	-	<0.0002 HU	-	0.0028	<0.01 U	-	17-may-1993
0.18	<0.005 U	0.55	<0.0005 U	-	0.0053	<0.001 U	<0.05 U	16-jul-1993
<0.1 U	-	0.6	-	<0.1 U	-	-	<0.05 U	16-jul-1993
-	<0.005 U	-	<0.0005 U	-	<0.005 U	<0.001 U	-	03-nov-1993
<0.1 U	-	0.57	-	<0.1 U	-	-	<0.05 U	03-nov-1993
								W-875-08
<0.1 P	-	0.073 P	-	-	-	-	<0.05 P	08-dec-1992
-	<0.002 P	-	<0.0002 P	-	<0.002 P	<0.05 P	-	08-dec-1992
-	<0.002 U	-	<0.0002 U	-	<0.002 U	<0.05 U	-	26-mar-1993
<0.1 DU	-	0.11 D	-	-	-	-	<0.04 DU	17-may-1993
-	<0.002 U	-	<0.0002 HU	-	<0.002 U	<0.01 U	-	17-may-1993
0.042	<0.005 U	0.075	<0.0005 U	-	<0.005 U	<0.001 U	<0.05 U	16-jul-1993
<0.1 U	-	0.048	-	<0.1 U	-	-	<0.05 U	16-jul-1993
-	<0.005 U	-	<0.0005 U	-	<0.005 U	<0.001 U	-	01-nov-1993
<0.1 U	-	0.085	-	<0.1 U	-	-	<0.05 U	01-nov-1993
-	<0.002 U	-	<0.0002 U	-	-	<0.05 U	<0.05 U	23-feb-1994
<0.1 U	-	0.036	-	<0.1 U	-	-	<0.05 U	23-feb-1994
-	<0.002 U	-	<0.0002 U	-	<0.002 U	<0.001 U	-	12-aug-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	12-aug-1994
								W-875-09
-	<0.002 U	-	<0.0002 U	-	<0.002 U	<0.05 U	-	26-mar-1993
0.3 D	-	0.11 D	-	-	-	-	<0.04 DU	17-may-1993
-	<0.002 U	-	<0.0002 HU	-	<0.002 U	<0.01 U	-	17-may-1993
0.22	<0.005 U	0.081	<0.0005 U	-	<0.005 U	<0.001 U	<0.05 U	16-jul-1993
<0.1 U	-	0.049	-	<0.1 U	-	-	<0.05 U	16-jul-1993
<0.1 U	-	0.089	-	<0.1 U	-	-	<0.05 U	19-jul-1993
-	<0.005 U	-	<0.0005 U	-	<0.005 U	<0.001 U	-	01-nov-1993
<0.1 U	-	0.09	-	<0.1 U	-	-	<0.05 U	01-nov-1993
								W-875-10
-	<0.002 U	-	<0.0002 U	-	<0.002 U	<0.05 U	-	26-mar-1993
<0.1 DU	-	0.066 D	-	-	-	-	<0.05 DU	17-may-1993
-	<0.002 U	-	<0.0002 HU	-	0.0039	<0.01 U	-	17-may-1993
11	<0.005 U	1.2	<0.0005 U	-	<0.005 U	<0.001 U	0.073	16-jul-1993
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	16-jul-1993
-	0.021	-	<0.0005 U	-	<0.005 U	<0.001 U	-	02-nov-1993
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	02-nov-1993
								W-875-11
-	<0.002 U	-	<0.0002 U	-	<0.002 U	<0.05 U	-	26-mar-1993
0.22 D	-	0.01 D	-	-	-	-	<0.04 DU	17-may-1993
-	0.0028	-	<0.0002 HU	-	0.011	<0.01 U	-	17-may-1993
0.27	<0.005 U	<0.03 U	<0.0005 U	-	0.0094	<0.001 U	<0.05 U	16-jul-1993
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	16-jul-1993
-	<0.005 U	-	<0.0005 U	-	<0.005 U	<0.001 U	-	03-nov-1993

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.

Location Date	Lab	Notes	Val.	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
W-875-11 (continued)										
03-nov-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
W-875-15										
26-mar-1993	BC	af	V	0.0057	<0.1 U	–	<0.0005 U	<0.005 U	–	–
17-may-1993	BC	af	V	–	–	–	–	–	–	<0.02 DU
17-may-1993	BC	a	V	0.0041	0.025	–	<0.001 DU	<0.005 DU	–	–
16-jul-1993	CS	a	V	<0.005 U	<0.05 U	–	<0.001 U	0.01	–	<0.05 U
16-jul-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
03-nov-1993	CS	a	V	0.0098	<0.05 U	–	<0.001 U	0.016	–	–
03-nov-1993	CS	a	V	–	–	–	–	–	–	<0.05 U
W-876-01										
13-feb-1990	BC	a	U	–	–	–	–	–	–	<0.08 P
03-aug-1994	CS	a	N	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
03-aug-1994	CS	a	N	–	–	–	–	–	–	<0.05 U
W-879-01										
20-apr-1990	BC	a	U	0.013 P	<0.05 P	<0.01 P	<0.04 P	<0.05 P	–	<0.08 P
20-apr-1990	BC	a	U	–	–	–	–	–	–	<0.08 P
26-jul-1994	CS	a	V	–	0.049	–	<0.0005 U	–	–	<0.01 U
26-jul-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
W-889-01										
24-oct-1988	BC	a	U	–	–	–	–	–	–	<0.02 P
22-feb-1994	CS	ag	V	–	<0.05 U	–	<0.01 U	–	–	<0.05 U
22-feb-1994	CS	ag	V	–	–	–	–	–	–	<0.05 U
08-aug-1994	CS	a	V	–	<0.025 U	–	<0.0005 U	–	–	<0.01 U
08-aug-1994	CS	a	V	–	–	–	–	–	–	<0.05 U
WELL07										
07-jan-1985	HC	b	N	–	–	<0.0005 P	–	–	–	–
29-jan-1985	HC	b	N	–	–	0.0007 P	–	–	–	–
11-mar-1985	HC	b	N	–	–	<0.001 P	–	–	–	–
10-apr-1985	HC	b	N	–	–	<0.001 P	–	–	–	–
08-may-1985	BC	b	N	–	–	–	–	<0.02 P	–	<0.01 P
26-jul-1985	HC	b	N	–	–	<0.0005 P	–	–	–	–
14-oct-1985	HC	beh	N	–	–	<0.0003 P	–	–	–	–
14-oct-1985	HC	b	N	–	–	<0.0003 P	–	–	–	–
21-feb-1986	HC	b	N	–	–	0.0003 P	–	–	–	–
07-apr-1986	HC	b	N	–	–	<0.0005 P	–	–	–	–
14-aug-1986	BC	b	N	–	–	–	–	<0.02 P	–	<0.02 P
13-oct-1986	HC	b	N	–	–	<0.03 P	–	–	–	–
12-feb-1987	HC	b	N	–	–	0.0006 P	–	–	–	–
21-may-1987	BC	b	N	–	–	<0.01 P	–	<0.02 P	–	<0.02 P
16-jul-1987	BC	b	N	–	–	<0.01 P	–	0.0005 P	–	<0.02 P
21-jul-1987	HC	b	N	–	–	<0.0002 P	–	–	–	–
08-oct-1987	BC	b	N	0.003 P	–	<0.0001 P	–	0.0003 P	–	0.0031 P
13-jan-1988	BC	b	N	–	–	<0.0001 P	–	<0.02 P	–	<0.02 P
12-may-1988	BC	bh	N	–	–	<0.0001 P	–	0.0003 P	–	<0.02 P
12-may-1988	BC	bh	N	–	–	<0.0001 P	–	0.0008 P	–	<0.02 P
18-aug-1988	BC	b	N	–	–	0.0001 P	–	–	–	–
12-oct-1988	BC	b	N	–	–	<0.0001 P	–	<0.02 P	–	<0.08 P
07-may-1989	HC	b l	N	–	–	<0.001 P	–	–	–	–
WELL19										
07-apr-1986	HC	b	N	–	–	<0.0005 P	–	–	–	–
14-aug-1986	BC	b	N	–	–	–	–	<0.02 P	–	<0.02 P
13-oct-1986	HC	b	N	–	–	<0.03 P	–	–	–	–
12-feb-1987	HC	b	N	–	–	<0.0003 P	–	–	–	–
21-may-1987	BC	b	N	–	–	<0.01 P	–	<0.02 P	–	<0.02 P
17-jul-1987	BC	b	N	–	–	<0.01 P	–	0.0001 P	–	<0.02 P
21-jul-1987	HC	b	N	–	–	<0.0002 P	–	–	–	–
08-oct-1987	BC	b	N	<0.002 P	–	<0.0001 P	–	0.0003 P	–	0.0067 P
13-jan-1988	BC	b	N	–	–	<0.0001 P	–	<0.02 P	–	<0.02 P
10-may-1988	BC	b	N	–	–	<0.0001 P	–	0.0003 P	–	<0.02 P
17-aug-1988	BC	bh	N	–	–	0.0001 P	–	–	–	–
17-aug-1988	BC	bh	N	–	–	0.0001 P	–	–	–	–
11-oct-1988	BC	b	N	–	–	<0.0001 P	–	<0.02 P	–	<0.02 P

Results recorded by 17-nov-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								(continued) GSA Study Area and Offsite
								(continued) W-875-11
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	03-nov-1993
								W-875-15
-	<0.002 U	-	<0.0002 U	-	<0.002 U	<0.05 U	-	26-mar-1993
<0.1 DU	-	<0.01 DU	-	-	-	-	<0.04 DU	17-may-1993
-	<0.002 U	-	<0.0002 HU	-	<0.002 U	<0.01 U	-	17-may-1993
0.89	<0.005 U	0.042	<0.0005 U	-	<0.005 U	<0.001 U	<0.05 U	16-jul-1993
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	16-jul-1993
-	<0.005 U	-	<0.0005 U	-	<0.005 U	<0.001 U	-	03-nov-1993
<0.1 U	-	0.049	-	<0.1 U	-	-	<0.05 U	03-nov-1993
								W-876-01
<0.04 P	-	<0.04 P	-	-	-	-	<0.01 P	13-feb-1990
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	<0.02 U	03-aug-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	03-aug-1994
								W-879-01
-	<0.3 P	-	<0.0001 P	<0.03 P	<0.002 P	<0.02 P	0.09 P	20-apr-1990
<0.04 P	-	0.05 P	-	-	-	-	<0.05 P	20-apr-1990
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	<0.02 U	26-jul-1994
<0.1 U	-	0.055	-	<0.1 U	-	-	<0.05 U	26-jul-1994
								W-889-01
0.81 P	-	0.04 P	-	-	-	-	<0.01 P	24-oct-1988
-	<0.002 U	-	<0.0002 U	-	-	<0.05 U	<0.05 U	22-feb-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	22-feb-1994
-	<0.002 U	-	<0.0002 U	-	-	<0.001 U	<0.02 U	08-aug-1994
<0.1 U	-	<0.03 U	-	<0.1 U	-	-	<0.05 U	08-aug-1994
								WELL07
-	-	-	-	-	-	-	-	07-jan-1985
-	-	-	-	-	-	-	-	29-jan-1985
-	-	-	-	-	-	-	-	11-mar-1985
-	-	-	-	-	-	-	-	10-apr-1985
-	<0.1 P	-	-	-	-	-	-	08-may-1985
-	-	-	-	-	-	-	-	26-jul-1985
-	-	-	-	-	-	-	-	14-oct-1985
-	-	-	-	-	-	-	-	14-oct-1985
-	-	-	-	-	-	-	-	21-feb-1986
-	-	-	-	-	-	-	-	07-apr-1986
-	0.001 P	-	-	-	-	-	-	14-aug-1986
-	-	-	-	-	-	-	-	13-oct-1986
-	-	-	-	-	-	-	-	12-feb-1987
-	<0.001 P	-	-	-	-	-	-	21-may-1987
-	<0.001 P	-	-	-	-	-	-	16-jul-1987
-	-	-	-	-	-	-	-	21-jul-1987
0.11 P	<0.001 P	0.11 P	-	-	-	-	<0.01 P	08-oct-1987
-	0.007 P	-	-	-	-	-	-	13-jan-1988
-	0.006 P	-	-	-	-	-	-	12-may-1988
-	0.006 P	-	-	-	-	-	-	12-may-1988
-	0.001 P	-	-	-	-	-	-	18-aug-1988
-	0.003 P	-	-	-	-	-	-	12-oct-1988
-	-	-	-	-	-	-	-	07-may-1989
								WELL19
-	-	-	-	-	-	-	-	07-apr-1986
-	0.002 P	-	-	-	-	-	-	14-aug-1986
-	-	-	-	-	-	-	-	13-oct-1986
-	-	-	-	-	-	-	-	12-feb-1987
-	<0.001 P	-	-	-	-	-	-	21-may-1987
-	<0.001 P	-	-	-	-	-	-	17-jul-1987
-	-	-	-	-	-	-	-	21-jul-1987
<0.03 P	<0.001 P	<0.01 P	-	-	-	-	<0.01 P	08-oct-1987
-	0.011 P	-	-	-	-	-	-	13-jan-1988
-	0.004 P	-	-	-	-	-	-	10-may-1988
-	0.002 P	-	-	-	-	-	-	17-aug-1988
-	0.003 P	-	-	-	-	-	-	17-aug-1988
-	0.004 P	-	-	-	-	-	-	11-oct-1988

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.

Location Date	Lab	Notes	Val.	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
WELL19 (continued)										
18-jan-1989	BC	b	N	–	–	<0.0001 P	–	<0.02 P	–	<0.02 P
12-apr-1989	BC	b	N	–	–	<0.0001 P	–	<0.02 P	–	<0.02 P
06-jul-1989	BC	b	N	<0.002 P	<0.1 P	<0.0001 P	0.0007 P	<0.02 P	–	<0.08 P
01-dec-1989	BC	a	U	–	–	–	–	–	–	<0.08 P

Results recorded by 17-nov-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								(continued) GSA Study Area and Offsite
								(continued) WELL19
-	<0.001 P	-	-	-	-	-	-	18-jan-1989
-	0.002 P	-	-	-	-	-	-	12-apr-1989
<0.04 P	<0.001 P	<0.04 P	-	-	<0.002 P	<0.01 P	<0.01 P	06-jul-1989
<0.04 P	-	<0.04 P	-	-	-	-	0.01 P	01-dec-1989

See following page for notes

Water analyses (mg/L) for metals in ground water from General Services Area (GSA) at Site 300.
Results recorded by 17-nov-1994.

Notes:

* Maximum Contaminant Levels (MCL) for selected metals
- Indicates no analysis performed for this compound.

Footnotes

a ERD data
b EMAD data
c Analytical results for this sample are suspect
d Sample taken during hydraulic testing
e Blind sample, sent to lab without well identity
f Sample dilution necessary for analysis; detection limits increased
g Interlaboratory collocated sample
h Intralaboratory collocated sample
i Sample collected as part of pilot study
j Note may contain important information regarding this sample
k Pre-development sample
l Norm_month, norm_qtr or norm_year inconsistent with sample date
n Sample analyzed after standard holding time

Lab Codes

BC Brown and Caldwell, Emeryville, CA
CL Clayton Environmental Consultants, Pleasanton, CA.
CS California Laboratory Services, Rancho Cordova, CA.
HC Hazards Control LLNL Lab

Validation Codes

V Validated
N Not validated(default value)
U Undeclared
H Historical comparison only

CLP flags (follows result)

B Analyte detected in method blank
C The analytical results for this sample are not in agreement with the intra or interlaboratory collocated sample results and the historical data
D Analysis performed at a secondary dilution or concentration (i.e. vapor samples
E Concentration exceeds calibration range
F Analyte detected in field blank
H Sample analyzed outside of the holding time; sample results should be rejected
J The analyte was postively identified; the associated numerical value is the approximate concentration of the analyte
L Spike accuracy not within control limits
O Duplicate spike precision not within control limits
P The absence of a data qualifier flag does not mean that the data does not need qualification, but that the implementation of electronic data qualifier flags was not yet established
R Sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria; the presence or absence of the analyte cannot be verified
S The analytical results for this sample are suspect
T Analyte is tentatively identified compound; result is approximate
U Compound was analyzed for, but not detected above detection limit

Appendix A
Section A-3

Soil Analysis for the GSA Operable Unit

Appendix A
Section A-3.1

Soil Analysis for Volatile Organic Compounds Sampled Before September 31, 1994, and Recorded by November 17, 1994

VOCs in Soil from Boreholes, GSA, Site 300
14-dec-1994
water::epddata

s3vocGsaSOL.13dec94
s3vocGsaSOR.13dec94

Min Sample Date
01-jan-1972
Max Sample Date
30-sep-1994

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Note	Val.	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite											
W-25N-01											
07-jul-88	BC	a	U	6.0	<0.0002	-	-	<0.0002	0.023	0.0059	<0.0002
07-jul-88	BC	a	U	11.0	<0.0002	-	-	<0.0002	0.016	0.0029	<0.0002
07-jul-88	BC	a	U	15.5	<0.0002	-	-	<0.0002	0.049	0.0091	<0.0002
W-25N-04											
02-sep-88	BC	a	U	10.5	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
02-sep-88	BC	a	U	20.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
02-sep-88	BC	a	U	30.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
02-sep-88	BC	a	U	45.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
06-sep-88	BC	a	U	70.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
06-sep-88	BC	a	U	90.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
06-sep-88	BC	a	U	110.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
07-sep-88	BC	a	U	130.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
07-sep-88	BC	a	U	150.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
07-sep-88	BC	a	U	170.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
07-sep-88	BC	a	U	190.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
30-sep-88	BC	a	U	215.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
30-sep-88	BC	a	U	235.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
30-sep-88	BC	a	U	255.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
03-oct-88	BC	a	U	275.5	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
03-oct-88	BC	a	U	296.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
03-oct-88	BC	a	U	309.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
03-oct-88	BC	a	U	328.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
03-oct-88	BC	a	U	348.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
W-25N-05											
09-dec-88	BC	a	U	8.6	<0.0002	-	-	<0.0002	0.0003	<0.0002	<0.0002
09-dec-88	BC	a	U	13.7	<0.0002	-	-	<0.0002	0.0037	0.0004	<0.0002
09-dec-88	BC	a	U	15.4	<0.0002	-	-	<0.0002	0.001	<0.0002	<0.0002
09-dec-88	BC	a	U	18.4	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
12-dec-88	BC	a	U	22.4	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
12-dec-88	BC	a	U	23.4	<0.0002	-	-	<0.0002	0.0002	<0.0002	<0.0002
12-dec-88	BC	a	U	27.5	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
12-dec-88	BC	a	U	30.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
12-dec-88	BC	a	U	32.6	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
12-dec-88	BC	a	U	35.3	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
12-dec-88	BC	a	U	38.5	0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
W-25N-06											
13-dec-88	BC	a	U	8.5	<0.0002	-	-	<0.0002	0.09	0.01	<0.0002
13-dec-88	BC	a	U	13.6	<0.0002	-	-	<0.0002	0.07	0.007	<0.0002
13-dec-88	BC	a	U	15.5	<0.0002	-	-	<0.0002	0.1	0.01	<0.0002
13-dec-88	BC	a	U	18.5	<0.0002	-	-	<0.0002	0.067	0.0082	<0.0002
14-dec-88	BC	a	U	23.5	<0.0002	-	-	<0.0002	0.084	0.014	<0.0002
14-dec-88	BC	a	U	28.5	<0.0002	-	-	<0.0002	0.056	0.014	<0.0002
14-dec-88	BC	a	U	31.5	<0.0002	-	-	<0.0002	0.066	0.014	<0.0002
W-25N-07											
05-apr-89	BC	a	U	11.0	<0.0002	-	-	0.0068	0.0017	<0.0002	<0.0002
05-apr-89	BC	a	U	15.4	<0.0002	-	-	0.0072	<0.0002	0.002	<0.0002
06-apr-89	BC	a	U	21.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
06-apr-89	BC	a	U	26.0	<0.0002	-	-	0.0008	0.0003	<0.0002	<0.0002
06-apr-89	BC	a	U	31.0	<0.0002	-	-	0.0009	0.0008	<0.0002	<0.0002
06-apr-89	BC	a	U	35.3	<0.0002	-	-	0.0003	<0.0002	<0.0002	<0.0002
07-apr-89	BC	a	U	38.5	0.016	-	-	<0.008	0.19	<0.008	<0.008
07-apr-89	BC	a	U	43.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
07-apr-89	BC	a	U	46.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
07-apr-89	BC	a	U	50.5	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
07-apr-89	BC	a	U	53.8	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
07-apr-89	BC	a	U	56.5	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
07-apr-89	BC	a	U	63.3	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
07-apr-89	BC	a	U	65.8	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
W-25N-08											
02-oct-89	BC	a	U	58.7	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
10-oct-89	BC	a	U	64.2	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
10-oct-89	BC	a	U	69.7	<0.0002	-	-	<0.0002	0.0002	<0.0002	<0.0002

Results recorded by 17-oct-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						GSA Study Area and Offsite
						W-25N-01
<0.0002	<0.0002	0.043	<0.0002	<0.0002	<0.0002	07-jul-88
<0.0002	<0.0002	0.026	<0.0002	<0.0002	<0.0002	07-jul-88
<0.0002	<0.0002	0.052	<0.0002	<0.0002	<0.0002	07-jul-88
						W-25N-04
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	02-sep-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	02-sep-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	02-sep-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	02-sep-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	06-sep-88
<0.0002	<0.0002	0.0044	0.0003	<0.0002	<0.0002	06-sep-88
<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	06-sep-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-sep-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-sep-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-sep-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-sep-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	30-sep-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	30-sep-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	30-sep-88
<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	03-oct-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	03-oct-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	03-oct-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	03-oct-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	03-oct-88
						W-25N-05
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	09-dec-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	09-dec-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	09-dec-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	09-dec-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12-dec-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12-dec-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12-dec-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12-dec-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12-dec-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12-dec-88
<0.0002	0.005	<0.0002	0.0002	<0.0002	<0.0002	12-dec-88
						W-25N-06
<0.0002	0.0002	<0.0002	0.0006	<0.0002	<0.0002	13-dec-88
<0.0002	<0.0002	<0.0002	0.0009	<0.0002	<0.0002	13-dec-88
<0.0002	0.0002	<0.0002	0.0009	<0.0002	<0.0002	13-dec-88
<0.0002	0.0004	<0.0002	0.0003	<0.0002	<0.0002	13-dec-88
<0.0002	0.0002	<0.0002	0.0003	<0.0002	<0.0002	14-dec-88
<0.0002	0.0003	<0.0002	0.0003	<0.0002	<0.0002	14-dec-88
<0.0002	0.0002	<0.0002	0.0003	<0.0002	<0.0002	14-dec-88
						W-25N-07
<0.0002	<0.0002	0.0007	0.0002	0.0004	<0.0002	05-apr-89
<0.0002	<0.0002	0.0011	0.0004	0.0031	<0.0002	05-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	06-apr-89
<0.0002	<0.0002	0.0002	0.0003	0.0011	<0.0002	06-apr-89
<0.0002	<0.0002	0.0003	0.0002	0.0003	<0.0002	06-apr-89
<0.0002	<0.0002	0.0003	0.0003	<0.0002	<0.0002	06-apr-89
<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	07-apr-89
<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	07-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-apr-89
<0.0002	<0.0002	0.0005	0.0004	<0.0002	<0.0002	07-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-apr-89
<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	07-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-apr-89
						W-25N-08
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	02-oct-89
<0.0002	<0.0002	<0.0001	0.0003	<0.0002	<0.0002	10-oct-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-oct-89

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Val. Note	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-25N-08 (continued)										
10-oct-89	BC a	U	76.5	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
10-oct-89	BC a	U	81.2	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
10-oct-89	BC a	U	102.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
10-oct-89	BC a	U	107.6	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
10-oct-89	BC a	U	114.8	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
W-25N-09										
27-oct-89	BC a	U	43.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
27-oct-89	BC a	U	49.1	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
30-oct-89	BC a	U	54.4	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
30-oct-89	BC a	U	57.3	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
W-25N-10										
27-aug-90	BC a	U	5.2	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
27-aug-90	BC a	U	10.0	<0.0002	0.0039	<0.0002	0.0039	0.0004	<0.0002	<0.0002
27-aug-90	BC a	U	15.2	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
27-aug-90	BC a	U	20.2	<0.0002	0.0064	<0.0002	0.0064	0.0017	<0.0002	<0.0002
27-aug-90	BC a	U	25.2	<0.0002	0.0005	<0.0002	0.0005	0.0003	<0.0002	<0.0002
28-aug-90	BC a	U	30.7	<0.0002	0.0003	<0.0002	0.0003	<0.0002	<0.0002	<0.0002
28-aug-90	BC a	U	35.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
29-aug-90	BC a	U	42.1	<0.0002	0.0006	<0.0002	0.0006	<0.0002	<0.0002	<0.0002
29-aug-90	BC a	U	46.0	<0.0002	0.0003	<0.0002	0.0003	<0.0002	<0.0002	<0.0002
29-aug-90	BC a	U	51.5	<0.0002	0.0005	<0.0002	0.0005	<0.0002	<0.0002	<0.0002
29-aug-90	BC a	U	55.5	<0.0002	0.0006	<0.0002	0.0006	<0.0002	<0.0002	<0.0002
29-aug-90	BC a	U	60.2	<0.0002	0.0003	<0.0002	0.0003	<0.0002	<0.0002	<0.0002
29-aug-90	BC a	U	65.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
29-aug-90	BC a	U	75.7	<0.0002	0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002
29-aug-90	BC a	U	91.3	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
29-aug-90	BC a	U	96.8	<0.0002	0.0003	<0.0002	0.0003	<0.0002	<0.0002	<0.0002
30-aug-90	BC a	U	101.9	<0.0002	0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002
30-aug-90	BC a	U	105.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
30-aug-90	BC a	U	110.6	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
30-aug-90	BC a	U	119.1	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
30-aug-90	BC a	U	127.1	<0.0002	0.0004	<0.0002	0.0004	<0.0002	<0.0002	<0.0002
30-aug-90	BC a	U	146.4	<0.0002	0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002
30-aug-90	BC a	U	158.3	<0.0002	0.0021	<0.0002	0.0021	<0.0002	<0.0002	<0.0002
04-jan-91	BC a	U	164.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
04-jan-91	BC a	U	180.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
04-jan-91	BC a	U	189.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
04-jan-91	BC a	U	191.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
04-jan-91	BC a	U	199.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
04-jan-91	BC a	U	206.3	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
04-jan-91	BC a	U	214.3	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
04-jan-91	BC a	U	216.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
W-25N-18										
14-may-91	BC a	U	5.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
14-may-91	BC a	U	10.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
14-may-91	BC a	U	15.3	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
14-may-91	BC a	U	21.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
14-may-91	BC a	U	25.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002
09-aug-91	BC a	U	35.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
09-aug-91	BC a	U	62.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
09-aug-91	BC a	U	68.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
09-aug-91	BC a	U	75.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
09-aug-91	BC a	U	79.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
12-aug-91	BC a	U	81.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
12-aug-91	BC a	U	86.9	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
12-aug-91	BC a	U	96.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
W-25N-20										
16-oct-91	BC a	U	5.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0012	0.0004	<0.0002
16-oct-91	BC a	U	5.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
16-oct-91	BC a	U	10.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0027	0.0011	<0.0002
16-oct-91	BC a	U	10.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
17-oct-91	BC a	U	15.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
17-oct-91	BC a	U	21.5	<0.0002	<0.0002	<0.0002	<0.0002	0.001	<0.0002	<0.0002
17-oct-91	BC a	U	26.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002

Results recorded by 17-oct-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
				(continued)	GSA Study Area and Offsite	
					(continued)	W-25N-08
<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	10-oct-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-oct-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-oct-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-oct-89
<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	10-oct-89
						W-25N-09
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	27-oct-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	27-oct-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	30-oct-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	30-oct-89
						W-25N-10
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	27-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.001	<0.0002	27-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	27-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0022	<0.0002	27-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	27-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	28-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	28-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0007	<0.0002	29-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	29-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	29-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	29-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	29-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	29-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	29-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	29-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	29-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	30-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	30-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	30-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	30-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	30-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	30-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	30-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	04-jan-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	04-jan-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	04-jan-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	04-jan-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	04-jan-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	04-jan-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	04-jan-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	04-jan-91
						W-25N-18
<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	14-may-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0043	<0.0002	14-may-91
<0.0002	<0.0002	<0.0002	0.0002	0.003	<0.0002	14-may-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0007	<0.0002	14-may-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	14-may-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	09-aug-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	09-aug-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	09-aug-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	09-aug-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	09-aug-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12-aug-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12-aug-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12-aug-91
						W-25N-20
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	16-oct-91
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	16-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	16-oct-91
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	16-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	17-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	17-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	17-oct-91

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Note	Val.	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)											
W-25N-20 (continued)											
17-oct-91	BC	a	U	30.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
17-oct-91	BC	a	U	35.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
W-25N-21											
18-oct-91	BC	a	U	0.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
17-oct-91	BC	a	U	5.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
17-oct-91	BC	a	U	6.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
17-oct-91	BC	a	U	10.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
17-oct-91	BC	a	U	10.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
18-oct-91	BC	a	U	15.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
18-oct-91	BC	a	U	19.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
21-oct-91	BC	a	U	25.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
21-oct-91	BC	a	U	29.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
W-25N-22											
21-oct-91	BC	a	U	0.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
21-oct-91	BC	a	U	5.5	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002
21-oct-91	BC	a	U	10.3	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002
21-oct-91	BC	a	U	15.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
22-oct-91	BC	a	U	20.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002
22-oct-91	CL	a	U	20.3	<0.02	<0.04	<0.04	<0.04	<0.03	<0.05	<0.04
22-oct-91	BC	a	U	25.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	<0.0002
W-25N-23											
23-oct-91	BC	a	U	0.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
23-oct-91	BC	a	U	5.3	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
23-oct-91	BC	a	U	10.6	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
23-oct-91	BC	a	U	15.6	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
23-oct-91	BC	a	U	19.6	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
23-oct-91	BC	a	U	24.6	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
W-25N-24											
19-nov-91	BC	a	U	0.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0009	<0.0002
19-nov-91	BC	a	U	0.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
19-nov-91	BC	a	U	5.5	<0.0002	<0.0002	<0.0002	<0.0002	0.0039	0.0038	<0.0002
20-nov-91	CL	a	U	10.5	<0.02	<0.04	<0.04	<0.04	<0.03	<0.05	<0.04
20-nov-91	BC	a	U	10.8	<0.0002	<0.0002	<0.0002	<0.0002	0.0053	0.0029	<0.0002
20-nov-91	BC	a	U	15.0	<0.0002	<0.0002	<0.0002	<0.0002	0.02	0.0076	<0.0002
20-nov-91	BC	a	U	16.7	<0.008	<0.008	<0.008	<0.008	0.058	0.009	<0.008
W-25N-25											
17-may-94	CS	a	V	0.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
17-may-94	CS	a	V	1.4	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
17-may-94	CS	a	V	4.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
17-may-94	CS	a	V	8.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-may-94	CS	a	V	31.4	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-may-94	GT	a	V	36.0	<0.005	–	–	<0.005	<0.005	<0.005	<0.005
19-may-94	CS	a	V	36.3	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-may-94	CS	a	V	43.4	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-may-94	CS	a	V	48.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-may-94	CS	a	V	53.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-may-94	CS	a	V	57.1	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-may-94	CS	ah	V	68.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-may-94	CS	ah	V	68.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-may-94	CS	a	V	77.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-may-94	CS	a	V	83.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-may-94	CS	a	V	93.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-may-94	CS	a	V	103.4	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
24-may-94	CS	a	V	118.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
24-may-94	CS	a	V	128.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
24-may-94	CS	a	V	137.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
24-may-94	CS	a	V	148.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
W-25N-26											
01-jun-94	CS	ag	V	0.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
01-jun-94	GT	ag	V	0.0	<0.005	–	–	<0.005	<0.005	<0.005	<0.005
01-jun-94	CS	a	V	9.4	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	CS	a	V	65.6	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005

(continued) GSA Study Area and Offsite

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) W-25N-20
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	17-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	17-oct-91
						W-25N-21
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	18-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	17-oct-91
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	17-oct-91
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	17-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	17-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	18-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	18-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-oct-91
						W-25N-22
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	21-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	22-oct-91
<0.03	<0.05	<0.05	<0.04	<0.06	<0.06	22-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	22-oct-91
						W-25N-23
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	23-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-oct-91
						W-25N-24
<0.0002	<0.0002	0.0003	<0.0002	0.0002	<0.0002	19-nov-91
<0.005	0.005	<0.005	<0.005	<0.005	<0.005	19-nov-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	19-nov-91
<0.03	<0.05	<0.05	<0.04	<0.06	<0.06	20-nov-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	20-nov-91
<0.0002	0.0002	<0.0002	0.0002	<0.0002	<0.0002	20-nov-91
<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	20-nov-91
						W-25N-25
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	17-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	17-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	17-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	17-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-may-94
<0.005	<0.005	<0.005	<0.005	–	<0.005	19-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	24-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	24-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	24-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	24-may-94
						W-25N-26
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	01-jun-94
<0.005	<0.005	<0.005	<0.005	–	<0.005	01-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	01-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Val. Note	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-25N-26 (continued)										
06-jun-94	CS a	V	70.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	CS ah	V	75.3	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	CS a	V	75.3	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	CS a	V	81.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	CS a	V	86.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	CS a	V	91.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
07-jun-94	CS ag	V	103.6	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
07-jun-94	GT ag	V	103.6	<0.005	–	–	<0.005	<0.005	<0.005	<0.005
07-jun-94	CS a	V	111.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
07-jun-94	CS a	V	121.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
07-jun-94	CS a	V	132.4	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
07-jun-94	CS a	V	141.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	CS a	V	147.1	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	CS a	V	152.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	CS a	V	163.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	CS a	V	172.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	CS a	V	177.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	CS a	V	184.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
W-25N-28										
15-jun-94	CS ah	V	0.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
15-jun-94	CS ah	V	0.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
16-jun-94	CS a	V	6.0	<0.0005	–	–	<0.0005	0.0006	<0.0005	<0.0005
16-jun-94	CS a	V	11.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-jun-94	CS a	V	27.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-jun-94	CS a	V	32.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-jun-94	CS a	V	37.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-jun-94	CS a	V	42.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-jun-94	CS a	V	45.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-jun-94	CS a	V	51.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
22-jun-94	CS a	V	54.6	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
22-jun-94	CS ah	V	60.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
22-jun-94	CS ah	V	60.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
22-jun-94	CS a	V	64.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
22-jun-94	CS a	V	75.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
22-jun-94	CS a	V	82.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
22-jun-94	CS a	V	93.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-jun-94	CS a	V	105.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-jun-94	CS a	V	114.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-jun-94	CS a	V	121.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-jun-94	CS ah	V	121.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-jun-94	CS a	V	127.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-jun-94	CS a	V	135.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-jun-94	CS a	V	141.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
W-26R-01										
14-nov-88	BC a	U	3.5	<0.0002	–	–	<0.0002	0.0025	0.0012	<0.0002
14-nov-88	BC a	U	8.0	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
15-nov-88	BC a	U	13.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
15-nov-88	BC a	U	15.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
15-nov-88	BC a	U	22.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
15-nov-88	BC a	U	25.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
15-nov-88	BC a	U	33.4	<0.0002	–	–	<0.0002	0.0007	0.0003	<0.0002
W-26R-02										
12-apr-89	BC a	U	6.0	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
12-apr-89	BC a	U	12.3	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
12-apr-89	BC a	U	16.3	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
12-apr-89	BC a	U	23.7	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
13-apr-89	BC a	U	26.7	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
13-apr-89	BC a	U	35.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
13-apr-89	BC a	U	43.8	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
13-apr-89	BC a	U	47.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
13-apr-89	BC a	U	51.1	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
14-apr-89	BC a	U	58.7	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
14-apr-89	BC a	U	60.9	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
14-apr-89	BC a	U	62.8	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002

Results recorded by 17-oct-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-25N-26
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	07-jun-94
<0.005	<0.005	<0.005	<0.005	-	<0.005	07-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	07-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	07-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	07-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	07-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
						W-25N-28
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	15-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	15-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	16-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	16-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	22-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	22-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	22-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	22-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	22-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	22-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	22-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-jun-94
						W-26R-01
<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	14-nov-88
<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	14-nov-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-nov-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-nov-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-nov-88
<0.0002	<0.0002	0.0019	<0.0002	<0.0002	<0.0002	15-nov-88
<0.0002	<0.0002	<0.0002	0.001	<0.0002	<0.0002	15-nov-88
						W-26R-02
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12-apr-89
<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	12-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	13-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	13-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	13-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	13-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	13-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-apr-89

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Note	Val.	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)											
W-26R-04											
07-oct-91	BC	a	U	3.8	<0.0002	<0.0002	<0.0002	<0.0002	0.0018	0.0007	<0.0002
07-oct-91	BC	a	U	6.3	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
07-oct-91	BC	a	U	6.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
07-oct-91	BC	a	U	8.8	<0.0002	<0.0002	<0.0002	<0.0002	0.0057	0.0021	<0.0002
07-oct-91	BC	a	U	10.3	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
07-oct-91	BC	a	U	10.5	<0.0002	<0.0002	<0.0002	<0.0002	0.0024	0.0009	<0.0002
07-oct-91	BC	a	U	13.0	<0.0002	<0.0002	<0.0002	<0.0002	0.013	0.004	<0.0002
07-oct-91	CL	a	U	13.3	<0.02	<0.04	<0.04	<0.04	<0.03	<0.05	<0.04
07-oct-91	BC	a	U	18.8	<0.0002	<0.0002	<0.0002	<0.0002	0.036	0.0023	<0.0002
W-26R-05											
24-oct-91	BC	a	U	0.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
24-oct-91	BC	a	U	3.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0016	0.001	<0.0002
24-oct-91	BC	a	U	5.3	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
24-oct-91	BC	a	U	5.5	<0.0002	<0.0002	<0.0002	<0.0002	0.0017	0.0011	<0.0002
24-oct-91	BC	a	U	7.8	<0.0002	<0.0002	<0.0002	<0.0002	0.0057	0.0012	<0.0002
24-oct-91	BC	a	U	10.5	<0.0002	<0.0002	<0.0002	<0.0002	0.0024	0.0007	<0.0002
24-oct-91	BC	a	U	12.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
24-oct-91	BC	a	U	15.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
24-oct-91	BC	a	U	17.6	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
24-oct-91	BC	a	U	20.3	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002
24-oct-91	BC	a	U	23.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002
24-oct-91	BC	a	U	25.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
24-oct-91	BC	a	U	27.3	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
24-oct-91	BC	a	U	30.3	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
W-26R-06											
28-oct-91	BC	a	U	0.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
28-oct-91	BC	a	U	3.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
28-oct-91	BC	a	U	6.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
28-oct-91	BC	a	U	6.3	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
28-oct-91	BC	a	U	7.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
28-oct-91	BC	a	U	10.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
28-oct-91	BC	a	U	12.8	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002
28-oct-91	BC	a	U	15.3	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.0002
28-oct-91	BC	a	U	17.3	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.0002
28-oct-91	BC	a	U	20.3	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002
28-oct-91	BC	a	U	22.8	<0.0002	<0.0002	<0.0002	<0.0002	0.0017	<0.0002	<0.0002
28-oct-91	BC	a	U	25.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0026	0.0002	<0.0002
28-oct-91	BC	a	U	27.5	<0.0002	<0.0002	<0.0002	<0.0002	0.0013	<0.0002	<0.0002
W-26R-07											
25-oct-91	BC	a	U	0.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
25-oct-91	BC	a	U	3.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
25-oct-91	BC	a	U	5.3	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
25-oct-91	BC	a	U	5.5	<0.0002	<0.0002	<0.0002	<0.0002	0.024	0.0088	<0.0002
25-oct-91	BC	a	U	8.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
25-oct-91	BC	a	U	10.3	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
25-oct-91	BC	a	U	12.5	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002
25-oct-91	BC	a	U	15.3	<0.0002	<0.0002	<0.0002	<0.0002	0.008	0.0011	<0.0002
25-oct-91	BC	a	U	17.8	<0.0002	<0.0002	<0.0002	<0.0002	0.048	0.0052	<0.0002
25-oct-91	BC	a	U	20.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002
25-oct-91	BC	a	U	22.8	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002
25-oct-91	BC	a	U	25.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
05-dec-91	BC	a	U	26.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
05-dec-91	BC	a	U	32.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
05-dec-91	BC	a	U	39.2	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
09-dec-91	BC	a	U	43.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
09-dec-91	BC	a	U	46.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
09-dec-91	BC	a	U	50.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
09-dec-91	BC	a	U	52.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
W-26R-08											
29-oct-91	BC	a	U	0.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
29-oct-91	BC	a	U	5.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
29-oct-91	BC	a	U	10.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
29-oct-91	BC	a	U	15.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
29-oct-91	BC	a	U	20.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Results recorded by 17-oct-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						W-26R-04
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-oct-91
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	07-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-oct-91
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	07-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-oct-91
<0.03	<0.05	<0.05	<0.04	<0.06	<0.06	07-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-oct-91
						W-26R-05
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	24-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-oct-91
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	24-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-oct-91
						W-26R-06
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	28-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	28-oct-91
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	28-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	28-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	28-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	28-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	28-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	28-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	28-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	28-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	28-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	28-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	28-oct-91
						W-26R-07
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	25-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	25-oct-91
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	25-oct-91
<0.0002	<0.0002	<0.0002	0.0033	<0.0002	<0.0002	25-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	25-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	25-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	25-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	25-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	25-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	25-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	25-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	25-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	05-dec-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	05-dec-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	05-dec-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	09-dec-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	09-dec-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	09-dec-91
<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	09-dec-91
						W-26R-08
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	29-oct-91
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	29-oct-91
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	29-oct-91
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	29-oct-91
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	29-oct-91

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Note	Val.	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)											
W-26R-08 (continued)											
29-oct-91	BC	a	U	25.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
29-oct-91	BC	a	U	30.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
06-jan-92	BC	a	U	36.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
06-jan-92	BC	a	U	41.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
07-jan-92	BC	a	U	45.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
26R-09											
30-oct-91	BC	a	U	0.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
30-oct-91	BC	a	U	5.0	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
26R-10											
30-oct-91	BC	a	U	0.1	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
31-oct-91	BC	a	U	5.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0043	0.0027	<0.0002
31-oct-91	BC	a	U	10.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0066	0.0019	<0.0002
W-35A-01											
24-mar-89	BC	a	U	6.0	<0.008	-	-	<0.008	0.029	<0.008	<0.008
24-mar-89	BC	a	U	10.5	<0.0002	-	-	<0.0002	0.0006	<0.0002	<0.0002
24-mar-89	BC	a	U	15.1	<0.0002	-	-	<0.0002	0.0009	<0.0002	<0.0002
24-mar-89	BC	a	U	20.2	<0.0002	-	-	<0.0002	0.0005	<0.0002	<0.0002
24-mar-89	BC	a	U	25.5	<0.0002	-	-	<0.0002	0.0003	<0.0002	<0.0002
24-mar-89	BC	a	U	28.0	<0.0002	-	-	<0.0002	0.005	<0.0002	<0.0002
W-35A-02											
29-mar-89	BC	a	U	6.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
29-mar-89	BC	a	U	11.0	<0.0002	-	-	<0.0002	0.0014	<0.0002	<0.0002
29-mar-89	BC	a	U	16.0	<0.0002	-	-	<0.0002	0.0011	<0.0002	<0.0002
29-mar-89	BC	a	U	21.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
29-mar-89	BC	a	U	25.0	<0.0002	-	-	<0.0002	0.0035	<0.0002	<0.0002
W-35A-03											
31-mar-89	BC	a	U	5.5	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
31-mar-89	BC	a	U	10.5	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
31-mar-89	BC	a	U	15.5	<0.0002	-	-	<0.0002	0.0007	<0.0002	<0.0002
31-mar-89	BC	a	U	18.5	<0.0002	-	-	0.0012	0.0014	<0.0002	<0.0002
03-apr-89	BC	a	U	26.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
W-35A-07											
25-mar-94	CS	a	V	0.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
24-mar-94	CS	a	V	5.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
25-mar-94	CS	a	V	15.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
13-apr-94	CS	a	V	40.7	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
13-apr-94	CS	a	V	45.3	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
13-apr-94	CS	a	V	46.7	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
13-apr-94	CS	a	V	49.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
14-apr-94	CS	a	V	54.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
14-apr-94	CS	a	V	64.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
14-apr-94	CS	a	V	67.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
14-apr-94	CS	a	V	67.5	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
14-apr-94	CS	a	V	69.5	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
14-apr-94	CS	a	V	72.9	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
14-apr-94	CS	a	V	75.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
14-apr-94	CS	a	V	78.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
15-apr-94	CS	a	V	87.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
15-apr-94	CS	a	V	96.7	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
15-apr-94	CS	a	V	107.5	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
15-apr-94	CS	a	V	118.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
15-apr-94	CS	a	V	128.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
18-apr-94	CS	a	V	139.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
18-apr-94	CS	a	V	142.5	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
18-apr-94	CS	a	V	151.7	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
19-apr-94	CS	a	V	162.7	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
19-apr-94	GT	a	V	163.3	<0.005	-	-	<0.005	<0.005	<0.005	<0.005
19-apr-94	CS	a	V	170.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
19-apr-94	CS	a	V	170.5	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
20-apr-94	CS	a	V	177.6	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
20-apr-94	CS	a	V	184.5	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
20-apr-94	CS	a	V	189.5	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005

Results recorded by 17-oct-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-26R-08
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	29-oct-91
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	29-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	06-jan-92
<0.0002	<0.0002	<0.0002	<0.0002	0.0007	<0.0002	06-jan-92
<0.0002	<0.0002	<0.0002	<0.0002	0.0007	<0.0002	07-jan-92
						26R-09
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	30-oct-91
<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	30-oct-91
						26R-10
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	30-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	31-oct-91
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	31-oct-91
						W-35A-01
<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	24-mar-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-mar-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-mar-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-mar-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-mar-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-mar-89
						W-35A-02
<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	29-mar-89
<0.0002	0.0003	<0.0002	0.0003	<0.0002	<0.0002	29-mar-89
<0.0002	0.0005	<0.0002	0.0005	<0.0002	<0.0002	29-mar-89
<0.0002	0.0004	<0.0002	0.0004	<0.0002	<0.0002	29-mar-89
<0.0002	0.0002	<0.0002	0.0014	<0.0002	<0.0002	29-mar-89
						W-35A-03
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	31-mar-89
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	31-mar-89
0.0004	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	31-mar-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	31-mar-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	03-apr-89
						W-35A-07
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	25-mar-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	24-mar-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	25-mar-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	13-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	13-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	13-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	13-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	14-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	14-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	14-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	14-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	14-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	14-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	14-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	14-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	15-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	15-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	15-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	15-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	15-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	18-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	18-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	18-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-apr-94
<0.005	<0.005	<0.005	<0.005	-	<0.005	19-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	20-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	20-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	20-apr-94

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Note	Val.	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)											
W-35A-07 (continued)											
20-apr-94	CS	a	V	199.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-apr-94	CS	a	V	207.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-apr-94	CS	a	V	213.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-apr-94	CS	a	V	213.6	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-apr-94	CS	a	V	216.3	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-apr-94	CS	a	V	225.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-apr-94	CS	a	V	229.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
22-apr-94	CS	a	V	241.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
22-apr-94	CS	a	V	249.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
W-35A-08											
04-may-94	CS	ah	V	0.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
05-may-94	CS	a	V	4.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
05-may-94	CS	a	V	13.8	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
05-may-94	CS	a	V	19.8	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
09-may-94	CS	a	V	26.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
09-may-94	CS	a	V	30.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
09-may-94	CS	a	V	35.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
09-may-94	CS	a	V	38.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
10-may-94	CS	a	V	45.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
10-may-94	CS	a	V	50.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
10-may-94	CS	a	V	50.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
10-may-94	CS	a	V	55.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
10-may-94	GT	a	V	55.5	<0.005	–	–	<0.005	<0.005	<0.005	<0.005
10-may-94	CS	a	V	60.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
10-may-94	CS	a	V	65.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
10-may-94	CS	a	V	70.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
10-may-94	CS	a	V	73.8	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
10-may-94	CS	a	V	75.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
10-may-94	CS	a	V	75.4	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
W-35A-09											
16-may-94	CS	ah	V	0.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
17-may-94	CS	a	V	4.6	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
17-may-94	CS	a	V	9.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
17-may-94	CS	a	V	14.8	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
17-may-94	CS	a	V	19.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
18-may-94	CS	a	V	24.3	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
18-may-94	CS	a	V	30.2	<0.0005	–	–	<0.0005	0.0006	<0.0005	<0.0005
18-may-94	CS	a	V	32.9	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-may-94	CS	a	V	47.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-may-94	CS	ah	V	49.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-may-94	CS	ah	V	49.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-may-94	CS	a	V	56.4	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-may-94	GT	a	V	56.7	<0.005	–	–	<0.005	<0.005	<0.005	<0.005
19-may-94	CS	a	V	61.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-may-94	GT	a	V	61.3	<0.005	–	–	<0.005	<0.005	<0.005	<0.005
19-may-94	CS	a	V	66.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-may-94	CS	a	V	69.8	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
W-35A-10											
24-may-94	CS	a	V	0.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
24-may-94	CS	a	V	5.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
24-may-94	CS	a	V	9.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
25-may-94	CS	a	V	14.8	<0.0005	–	–	<0.0005	0.0009	<0.0005	<0.0005
25-may-94	CS	a	V	21.1	<0.0005	–	–	<0.0005	0.015	<0.0005	<0.0005
25-may-94	CS	a	V	27.1	<0.0005	–	–	<0.0005	0.0011	<0.0005	<0.0005
25-may-94	CS	a	V	32.1	<0.0005	–	–	<0.0005	0.001	<0.0005	<0.0005
25-may-94	CS	a	V	35.0	<0.0005	–	–	<0.0005	0.0016	<0.0005	<0.0005
24-may-94	CS	a	V	42.1	<0.0005	–	–	<0.0005	0.0011	<0.0005	<0.0005
24-may-94	CS	a	V	46.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
25-may-94	CS	a	V	53.3	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
W-35A-11											
01-jun-94	CS	ah	V	0.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
01-jun-94	CS	a	V	3.6	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
01-jun-94	CS	a	V	8.8	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
01-jun-94	CS	a	V	14.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005

Results recorded by 17-oct-1994.

1,2- DCA	1,1,1- TCA	Chloro- form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-35A-07
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	20-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	22-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	22-apr-94
						W-35A-08
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	04-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	05-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	05-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	05-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	09-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	09-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	09-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	09-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	10-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	10-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	10-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	10-may-94
<0.005	<0.005	<0.005	<0.005	–	<0.005	10-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	10-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	10-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	10-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	10-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	10-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	10-may-94
						W-35A-09
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	16-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	17-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	17-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	17-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	17-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	18-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	18-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	18-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-may-94
<0.005	<0.005	<0.005	<0.005	–	<0.005	19-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-may-94
<0.005	<0.005	<0.005	<0.005	–	<0.005	19-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-may-94
						W-35A-10
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	24-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	24-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	24-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	25-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	25-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	25-may-94
<0.0005	<0.0005	<0.0005	0.0013	<0.0005	<0.0005	25-may-94
<0.0005	<0.0005	<0.0005	0.0021	<0.0005	<0.0005	25-may-94
<0.0005	<0.0005	<0.0005	0.001	<0.0005	<0.0005	24-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	24-may-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	25-may-94
						W-35A-11
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	01-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	01-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	01-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	01-jun-94

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Note	Val.	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)											
W-35A-11 (continued)											
02-jun-94	CS	a	V	24.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
02-jun-94	CS	a	V	27.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
03-jun-94	CS	a	V	32.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	CS	ah	V	39.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	CS	ah	V	39.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	CS	a	V	47.4	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	CS	a	V	50.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	CS	a	V	53.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	CS	ag	V	60.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	GT	ag	V	60.0	<0.005	–	–	<0.005	<0.005	<0.005	<0.005
06-jun-94	CS	a	V	66.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
06-jun-94	CS	a	V	69.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
07-jun-94	CS	a	V	73.6	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
07-jun-94	CS	a	V	80.3	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
07-jun-94	CS	a	V	85.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
07-jun-94	CS	a	V	92.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
07-jun-94	CS	ah	V	95.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
07-jun-94	CS	ah	V	95.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
07-jun-94	CS	a	V	100.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
07-jun-94	CS	a	V	104.4	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	CS	ag	V	117.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	GT	ag	V	117.2	<0.005	–	–	<0.005	<0.005	<0.005	<0.005
08-jun-94	CS	a	V	122.4	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	CS	a	V	130.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	CS	a	V	140.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	CS	a	V	145.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	CS	a	V	151.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	CS	ah	V	157.9	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-jun-94	CS	ah	V	157.9	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
09-jun-94	CS	a	V	166.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
09-jun-94	CS	a	V	176.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
09-jun-94	CS	a	V	184.3	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
09-jun-94	CS	ah	V	190.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
09-jun-94	CS	ah	V	190.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
09-jun-94	CS	a	V	195.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
09-jun-94	CS	a	V	205.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
09-jun-94	CS	a	V	215.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
13-jun-94	CS	a	V	232.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
W-35A-12											
22-jun-94	CS	a	V	0.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-jun-94	CS	a	V	5.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-jun-94	CS	a	V	8.8	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-jun-94	CS	a	V	19.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
23-jun-94	CS	a	V	26.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
W-35A-13											
14-jul-94	CS	ah	V	0.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
18-jul-94	CS	a	V	4.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
18-jul-94	CS	a	V	9.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
18-jul-94	CS	a	V	15.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
18-jul-94	CS	a	V	20.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-jul-94	CS	a	V	25.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-jul-94	CS	a	V	30.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-jul-94	CS	ah	V	35.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-jul-94	CS	ah	V	35.2	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-jul-94	CS	ag	V	40.3	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
19-jul-94	GT	ag	V	40.3	<0.005	–	–	<0.005	<0.005	<0.005	<0.005
19-jul-94	CS	a	V	42.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
20-jul-94	CS	a	V	45.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
20-jul-94	CS	ag	V	50.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
20-jul-94	GT	ag	V	50.0	<0.005	–	–	<0.005	<0.005	<0.005	<0.005
20-jul-94	CS	a	V	53.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
20-jul-94	CS	a	V	56.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
20-jul-94	CS	a	V	62.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
20-jul-94	CS	ah	V	70.6	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
20-jul-94	CS	ah	V	70.6	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
20-jul-94	CS	a	V	81.3	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005

Results recorded by 17-oct-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-35A-11
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	02-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	02-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	03-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.005	<0.005	<0.005	<0.005	-	<0.005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	07-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	07-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	07-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	07-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	07-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	07-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	07-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	07-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
<0.005	<0.005	<0.005	<0.005	-	<0.005	08-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	09-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	09-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	09-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	09-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	09-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	09-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	09-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	09-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	13-jun-94
						W-35A-12
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	22-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-jun-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	23-jun-94
						W-35A-13
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	14-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	18-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	18-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	18-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	18-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-jul-94
<0.005	<0.005	<0.005	<0.005	-	<0.005	19-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	19-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	20-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	20-jul-94
<0.005	<0.005	<0.005	<0.005	-	<0.005	20-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	20-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	20-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	20-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	20-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	20-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	20-jul-94

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Val. Note	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-35A-13 (continued)										
21-jul-94	CS	a	V 85.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-jul-94	CS	ag	V 96.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-jul-94	GT	ag	V 96.0	<0.005	–	–	<0.005	<0.005	<0.005	<0.005
21-jul-94	CS	ah	V 105.1	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-jul-94	CS	ah	V 105.1	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-jul-94	CS	a	V 111.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-jul-94	CS	a	V 115.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-jul-94	CS	a	V 123.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
21-jul-94	CS	a	V 128.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
W-35A-14										
02-aug-94	CS	ah	N 0.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
02-aug-94	CS	a	N 5.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
02-aug-94	CS	a	N 11.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
02-aug-94	CS	a	N 15.3	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
02-aug-94	CS	a	N 20.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
02-aug-94	CS	a	N 26.6	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
04-aug-94	CS	a	V 32.6	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
04-aug-94	CS	a	V 36.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
04-aug-94	CS	ag	V 43.3	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
04-aug-94	GT	ag	V 43.3	<0.005	–	–	<0.005	<0.005	<0.005	<0.005
04-aug-94	CS	a	V 46.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
04-aug-94	CS	ah	V 52.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
04-aug-94	CS	ah	V 52.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
04-aug-94	CS	a	V 57.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-aug-94	CS	a	N 64.7	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-aug-94	CS	a	N 69.4	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-aug-94	CS	ah	N 73.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-aug-94	CS	ah	N 73.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-aug-94	CS	a	N 78.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-aug-94	GT	ag	V 78.0	<0.005	–	–	<0.005	<0.005	<0.005	<0.005
08-aug-94	CS	a	N 82.3	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-aug-94	CS	a	N 89.5	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-aug-94	CS	ah	N 92.3	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-aug-94	CS	ah	N 92.3	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
08-aug-94	CS	a	N 94.0	<0.0005	–	–	<0.0005	<0.0005	<0.0005	<0.0005
W-7F										
25-apr-88	BC	a	U 5.5	<0.0002	–	–	0.0003	0.0052	0.0017	<0.0002
25-apr-88	BC	a	U 10.3	<0.0002	–	–	0.0008	0.035	0.0068	<0.0002
25-apr-88	BC	a	U 15.3	<0.0002	–	–	0.0009	0.016	0.0027	<0.0002
25-apr-88	BC	a	U 20.3	<0.0002	–	–	0.0004	0.0089	0.0017	<0.0002
25-apr-88	BC	a	U 32.5	<0.0002	–	–	0.0008	0.0056	0.0045	<0.0002
25-apr-88	BC	a	U 39.5	0.0002	–	–	<0.0002	0.0008	0.0006	<0.0002
26-apr-88	BC	a	U 42.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
26-apr-88	BC	a	U 56.2	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
27-apr-88	BC	a	U 57.1	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
W-7G										
25-apr-89	BC	a	U 38.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
25-apr-89	BC	a	U 43.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
25-apr-89	BC	a	U 53.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
25-apr-89	BC	a	U 62.0	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
25-apr-89	BC	a	U 67.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
26-apr-89	BC	a	U 69.9	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
26-apr-89	BC	a	U 76.0	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
26-apr-89	BC	a	U 83.2	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
26-apr-89	BC	a	U 86.4	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
26-apr-89	BC	a	U 93.2	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
26-apr-89	BC	a	U 101.2	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
22-may-89	BC	a	U 112.0	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
22-may-89	BC	a	U 122.0	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
22-may-89	BC	a	U 126.9	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
22-may-89	BC	a	U 133.8	<0.0002	–	–	<0.0002	0.0005	<0.0002	<0.0002
22-may-89	BC	a	U 142.3	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
22-may-89	BC	a	U 146.3	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
22-may-89	BC	a	U 156.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
22-may-89	BC	a	U 168.0	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002

Results recorded by 17-oct-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-35A-13
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jul-94
<0.005	<0.005	<0.005	<0.005	-	<0.005	21-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jul-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	21-jul-94
						W-35A-14
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	02-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	02-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	02-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	02-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	02-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	02-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	04-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	04-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	04-aug-94
<0.005	<0.005	<0.005	<0.005	-	<0.005	04-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	04-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	04-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	04-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	04-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-aug-94
<0.005	<0.005	<0.005	<0.005	-	<0.005	08-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-aug-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	08-aug-94
						W-7F
<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	25-apr-88
<0.0002	0.0011	<0.0002	<0.0002	0.0009	<0.0002	25-apr-88
<0.0002	<0.0002	<0.0002	0.0031	0.0011	<0.0002	25-apr-88
<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	25-apr-88
<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	25-apr-88
<0.0002	0.0012	<0.0002	<0.0002	0.0079	0.0006	25-apr-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	26-apr-88
<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	26-apr-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	27-apr-88
						W-7G
<0.0002	<0.0002	<0.0002	0.0006	<0.0002	<0.0002	25-apr-89
<0.0002	<0.0002	0.0002	0.0003	<0.0002	<0.0002	25-apr-89
<0.0002	<0.0002	<0.0002	0.001	<0.0002	<0.0002	25-apr-89
<0.0002	<0.0002	<0.0002	0.001	<0.0002	<0.0002	25-apr-89
<0.0002	<0.0002	<0.0002	0.0007	<0.0002	<0.0002	25-apr-89
<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	26-apr-89
<0.0002	<0.0002	<0.0002	0.0007	<0.0002	<0.0002	26-apr-89
<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	26-apr-89
<0.0002	<0.0002	0.0002	0.0004	<0.0002	<0.0002	26-apr-89
<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	26-apr-89
<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	26-apr-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-may-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-may-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-may-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-may-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-may-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-may-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-may-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-may-89

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Val. Note	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-7G (continued)										
22-may-89	BC a	U	174.1	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
W-7H										
07-aug-89	BC a	U	5.5	<0.0002	-	-	<0.0002	0.14	0.022	<0.0002
07-aug-89	BC a	U	11.3	<0.0002	-	-	<0.0002	0.0014	0.0003	<0.0002
07-aug-89	BC a	U	16.3	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
07-aug-89	BC a	U	20.8	<0.0002	-	-	<0.0002	0.0005	<0.0002	<0.0002
07-aug-89	BC a	U	25.3	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
07-aug-89	BC a	U	30.5	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
W-7I										
09-aug-89	BC a	U	5.5	<0.0002	-	-	<0.0002	0.47	0.08	<0.0002
09-aug-89	BC a	U	10.0	<0.0002	-	-	<0.0002	0.0026	0.0007	<0.0002
10-aug-89	BC a	U	15.5	<0.0002	-	-	<0.0002	0.0028	0.0004	<0.0002
10-aug-89	BC a	U	20.7	<0.0002	-	-	<0.0002	0.06	0.0092	<0.0002
10-aug-89	BC a	U	25.4	0.0016	-	-	0.0025	0.16	0.0051	<0.0002
10-aug-89	BC a	U	30.3	0.0087	-	-	0.0066	0.49	0.023	0.0017
10-aug-89	BC a	U	35.4	<0.0002	-	-	0.0007	<0.0002	<0.0002	<0.0002
10-aug-89	BC a	U	40.4	0.001	-	-	0.0059	0.47	0.2	0.0026
10-aug-89	BC a	U	45.5	<0.0002	-	-	<0.0002	0.0089	0.0021	<0.0002
W-7J										
21-aug-89	BC a	U	48.7	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
21-aug-89	BC a	U	53.2	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
21-aug-89	BC a	U	58.7	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
21-aug-89	BC a	U	63.6	<0.0002	-	-	<0.0002	0.0003	<0.0002	<0.0002
21-aug-89	BC a	U	68.4	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
W-7L										
18-sep-90	BC a	U	5.3	<0.0002	0.0007	<0.0002	0.0007	0.0002	<0.0002	<0.0002
18-sep-90	BC a	U	10.3	<0.0002	<0.0002	<0.0002	<0.0002	0.012	0.0022	<0.0002
18-sep-90	BC a	U	15.1	<0.0002	<0.0002	<0.0002	<0.0002	0.0049	0.0003	<0.0002
18-sep-90	BC a	U	20.1	<0.0002	<0.0002	<0.0002	<0.0002	0.014	0.001	<0.0002
18-sep-90	BC a	U	25.3	<0.0002	<0.0002	<0.0002	<0.0002	0.02	0.0041	<0.0002
19-sep-90	BC a	U	31.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
19-sep-90	BC a	U	39.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
19-sep-90	BC a	U	43.0	<0.0002	0.0008	<0.0002	0.0008	<0.0002	<0.0002	<0.0002
20-sep-90	BC a	U	45.3	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
20-sep-90	BC a	U	50.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
20-sep-90	BC a	U	55.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
20-sep-90	BC a	U	61.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
20-sep-90	BC a	U	68.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
20-sep-90	BC a	U	74.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
20-sep-90	BC a	U	77.0	<0.0002	0.0003	<0.0002	0.0003	<0.0002	<0.0002	<0.0002
24-sep-90	BC a	U	83.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
24-sep-90	BC a	U	86.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
24-sep-90	BC a	U	94.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
24-sep-90	BC a	U	98.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
24-sep-90	BC a	U	104.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
24-sep-90	BC a	U	105.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
W-7O										
18-feb-92	BC a	U	4.6	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0002	<0.0002
18-feb-92	BC a	U	9.2	<0.008	<0.008	<0.008	<0.008	0.068	0.021	<0.008
18-feb-92	BC a	U	16.8	<0.0002	<0.0002	<0.0002	<0.0002	0.0039	0.0006	<0.0002
18-feb-92	BC a	U	21.2	<0.0002	<0.0002	<0.0002	<0.0002	0.01	0.002	<0.0002
18-feb-92	BC a	U	25.8	0.0003	0.0006	<0.0002	0.0006	0.042	0.0041	<0.0002
W-7P										
31-mar-94	CS a	V	0.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
31-mar-94	CS a	V	4.3	<0.0005	-	-	<0.0005	0.0011	<0.0005	<0.0005
31-mar-94	GT a	V	4.3	<0.005	-	-	<0.005	<0.005	<0.005	<0.005
01-apr-94	CS a	V	10.0	<0.0005	-	-	<0.0005	0.0014	<0.0005	<0.0005
01-apr-94	CS a	V	14.5	<0.0005	-	-	<0.0005	0.0025	<0.0005	<0.0005
05-apr-94	CS a	V	17.5	<0.0005	-	-	<0.0005	0.0074	0.0005	<0.0005
05-apr-94	CS a	V	22.0	<0.0005	-	-	<0.0005	0.0066	0.0006	<0.0005
05-apr-94	CS a	V	27.5	<0.0005	-	-	<0.0005	0.0076	<0.0005	<0.0005
05-apr-94	GT a	N	34.0	<0.005	-	-	<0.005	<0.005	<0.005	<0.005

Results recorded by 17-oct-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-7G
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-may-89
						W-7H
<0.0002	<0.0002	0.0012	<0.0002	<0.0002	<0.0002	07-aug-89
<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	07-aug-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-aug-89
<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	07-aug-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-aug-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	07-aug-89
						W-7I
<0.0002	0.0024	<0.0002	<0.0002	<0.0002	<0.0002	09-aug-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	09-aug-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-aug-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-aug-89
0.0007	<0.0002	0.0007	<0.0002	<0.0002	<0.0002	10-aug-89
0.0019	<0.0002	0.0009	<0.0002	<0.0002	<0.0002	10-aug-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-aug-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-aug-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-aug-89
						W-7J
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-aug-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-aug-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-aug-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-aug-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-aug-89
						W-7L
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	18-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	18-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	18-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	18-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	18-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	19-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	19-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	19-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	20-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	20-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	20-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	20-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	20-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	20-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	20-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-sep-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	24-sep-90
						W-7O
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	18-feb-92
<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	18-feb-92
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	18-feb-92
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	18-feb-92
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	18-feb-92
						W-7P
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	31-mar-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	31-mar-94
<0.005	<0.005	<0.005	<0.005	–	<0.005	31-mar-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	01-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	01-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	05-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	05-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	05-apr-94
<0.005	<0.005	<0.005	<0.005	–	<0.005	05-apr-94

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Note	Val.	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)											
W-7P (continued)											
05-apr-94	CS	a	V	35.9	<0.0005	-	-	<0.0005	0.0019	<0.0005	<0.0005
05-apr-94	CS	a	V	42.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
05-apr-94	CS	a	V	46.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
05-apr-94	CS	a	V	46.5	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
05-apr-94	CS	a	V	48.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
06-apr-94	CS	a	V	51.7	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
06-apr-94	CS	a	V	55.5	<0.0005	-	-	<0.0005	0.0008	<0.0005	<0.0005
06-apr-94	CS	a	V	58.7	<0.0005	-	-	<0.0005	0.0008	<0.0005	<0.0005
W-7PS											
11-apr-94	CS	a	V	0.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
11-apr-94	CS	a	V	6.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
11-apr-94	CS	a	V	11.7	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
11-apr-94	CS	a	V	12.0	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005
11-apr-94	GT	a	V	15.7	<0.005	-	-	<0.005	<0.005	<0.005	<0.005
11-apr-94	CS	a	V	16.0	<0.0005	-	-	<0.0005	0.002	<0.0005	<0.0005
11-apr-94	CS	a	V	21.5	<0.0005	-	-	<0.0005	0.0031	<0.0005	<0.0005
W-872-02											
23-aug-90	BC	a	U	5.3	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002
23-aug-90	BC	a	U	10.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
23-aug-90	BC	a	U	15.3	<0.0002	0.008	<0.0002	0.008	0.0013	<0.0002	<0.0002
23-aug-90	BC	a	U	19.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
23-aug-90	BC	a	U	24.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
23-aug-90	BC	a	U	29.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
23-aug-90	BC	a	U	34.5	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002
23-aug-90	BC	a	U	39.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
23-aug-90	BC	a	U	44.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
23-aug-90	BC	a	U	49.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
W-873-02											
03-jun-88	BC	a	U	6.2	0.0003	-	-	<0.0002	0.0026	<0.0002	<0.0002
03-jun-88	BC	a	U	10.2	<0.0002	-	-	<0.0002	0.0025	<0.0002	<0.0002
03-jun-88	BC	a	U	15.0	0.0007	-	-	<0.0002	0.014	<0.0002	<0.0002
03-jun-88	BC	a	U	20.4	0.0005	-	-	<0.0002	0.0018	<0.0002	<0.0002
03-jun-88	BC	a	U	25.8	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
03-jun-88	BC	a	U	30.3	0.001	-	-	<0.0002	0.0002	<0.0002	<0.0002
06-jun-88	BC	a	U	35.7	<0.0002	-	-	<0.0002	0.0006	<0.0002	<0.0002
06-jun-88	BC	a	U	41.3	<0.0002	-	-	<0.0002	0.001	<0.0002	<0.0002
08-jun-88	BC	a	U	43.0	<0.0002	-	-	<0.0002	0.0005	<0.0002	<0.0002
08-jun-88	BC	a	U	47.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
08-jun-88	BC	a	U	51.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
W-873-03											
10-jun-88	BC	a	U	6.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
10-jun-88	BC	a	U	15.3	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
10-jun-88	BC	a	U	20.3	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
10-jun-88	BC	a	U	25.3	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
10-jun-88	BC	a	U	30.3	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
10-jun-88	BC	a	U	35.1	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
10-jun-88	BC	a	U	40.3	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
10-jun-88	BC	a	U	45.3	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
13-jun-88	BC	a	U	46.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
13-jun-88	BC	a	U	51.3	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
W-873-04											
30-may-90	BC	a	U	13.9	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
873-05											
30-may-90	BC	a	U	14.4	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002
W-873-06											
14-aug-90	BC	a	U	5.2	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
14-aug-90	BC	a	U	10.2	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
14-aug-90	BC	a	U	15.3	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
15-aug-90	BC	a	U	19.6	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
15-aug-90	BC	a	U	24.7	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
15-aug-90	BC	a	U	30.6	<0.0002	0.0004	<0.0002	0.0004	<0.0002	<0.0002	<0.0002

Results recorded by 17-oct-1994.

1,2- DCA	1,1,1- TCA	Chloro- form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-7P
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	05-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	05-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	05-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	05-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	05-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	06-apr-94
						W-7PS
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	11-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	11-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	11-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	11-apr-94
<0.005	<0.005	<0.005	<0.005	–	<0.005	11-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	11-apr-94
<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	11-apr-94
						W-872-02
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	0.0039	<0.0002	23-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	23-aug-90
						W-873-02
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	03-jun-88
<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	03-jun-88
<0.0002	<0.0002	<0.0002	0.0011	<0.0002	<0.0002	03-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	03-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	03-jun-88
<0.0002	<0.0002	<0.0002	0.0007	<0.0002	<0.0002	03-jun-88
<0.0002	<0.0002	<0.0002	0.002	<0.0002	<0.0002	06-jun-88
<0.0002	<0.0002	0.035	0.0035	<0.0002	<0.0002	06-jun-88
<0.0002	<0.0002	<0.0002	0.004	<0.0002	<0.0002	08-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	08-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	08-jun-88
						W-873-03
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	10-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	10-jun-88
<0.0002	<0.0002	0.0008	<0.0002	0.0004	<0.0002	13-jun-88
<0.0002	<0.0002	0.0003	<0.0002	0.0004	<0.0002	13-jun-88
						W-873-04
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	30-may-90
						873-05
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	30-may-90
						W-873-06
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-aug-90

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Note	Val.	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)											
W-873-06 (continued)											
15-aug-90	BC	a	U	35.6	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
15-aug-90	BC	a	U	41.0	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.0002
W-873-07											
21-aug-90	BC	a	U	5.3	<0.0002	0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002
21-aug-90	BC	a	U	10.5	<0.0002	0.0017	<0.0002	0.0017	0.0004	0.0004	<0.0002
21-aug-90	BC	a	U	15.0	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002
21-aug-90	BC	a	U	19.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
21-aug-90	BC	a	U	24.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
22-aug-90	BC	a	U	29.8	<0.0002	0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002
22-aug-90	BC	a	U	34.8	<0.0002	0.0004	<0.0002	0.0004	<0.0002	<0.0002	<0.0002
22-aug-90	BC	a	U	39.8	<0.0002	0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002
22-aug-90	BC	a	U	44.8	<0.0002	0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002
22-aug-90	BC	a	U	48.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
875-A											
20-nov-89	BC	a	U	6.7	<0.0002	-	-	<0.0002	<0.0002	0.0002	<0.0002
20-nov-89	BC	a	U	10.5	<0.0002	-	-	<0.0002	0.0005	<0.0002	<0.0002
20-nov-89	BC	a	U	15.5	<0.0002	-	-	<0.0002	0.0019	<0.0002	<0.0002
20-nov-89	BC	a	U	20.6	<0.0002	-	-	<0.0002	0.0024	<0.0002	<0.0002
20-nov-89	BC	a	U	25.5	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
875-B (completed as W-875-05)											
21-nov-89	BC	a	U	3.5	<0.0002	-	-	<0.0002	0.0004	0.0003	<0.0002
21-nov-89	BC	a	U	5.3	<0.0002	-	-	<0.0002	0.0002	<0.0002	<0.0002
21-nov-89	BC	a	U	11.0	<0.0002	-	-	<0.0002	0.0021	0.0002	<0.0002
21-nov-89	BC	a	U	15.6	<0.0002	-	-	<0.0002	0.046	<0.0002	<0.0002
21-nov-89	BC	a	U	21.0	<0.0002	-	-	0.0031	0.0002	<0.0002	<0.0002
13-dec-89	BC	a	U	25.4	<0.0002	-	-	0.0007	0.016	<0.0002	<0.0002
13-dec-89	BC	a	U	30.5	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
875-C											
21-nov-89	BC	a	U	2.5	<0.0002	-	-	<0.0002	0.0002	<0.0002	<0.0002
21-nov-89	BC	a	U	5.3	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
21-nov-89	BC	a	U	10.5	<0.0002	-	-	<0.0002	0.0018	<0.0002	<0.0002
21-nov-89	BC	a	U	15.5	<0.0002	-	-	<0.0002	0.0044	<0.0002	<0.0002
875-D (completed as W-875-02)											
27-nov-89	BC	a	U	5.0	<0.0002	-	-	<0.0002	0.0055	0.0021	<0.0002
27-nov-89	BC	a	U	10.8	<0.0002	-	-	<0.0002	0.0052	0.0028	<0.0002
27-nov-89	BC	a	U	15.3	0.0013	-	-	0.0028	0.9	0.077	<0.0002
27-nov-89	BC	a	U	20.3	<0.0002	-	-	<0.0002	0.0089	0.0026	<0.0002
27-nov-89	BC	a	U	23.3	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
30-nov-89	BC	a	U	25.3	<0.0002	-	-	0.0003	0.05	0.0095	<0.0002
30-nov-89	BC	a	U	30.5	<0.0002	-	-	<0.0002	0.0016	0.0003	<0.0002
30-nov-89	BC	a	U	35.3	<0.0002	-	-	<0.0002	0.0022	0.0006	<0.0002
30-nov-89	BC	a	U	40.8	<0.0002	-	-	<0.0002	0.0066	0.0011	<0.0002
875-E (completed as W-875-03)											
27-nov-89	BC	a	U	7.3	<0.0002	-	-	<0.0002	0.023	0.008	<0.0002
27-nov-89	BC	a	U	10.3	<0.0002	-	-	<0.0002	0.33	0.056	<0.0002
27-nov-89	BC	a	U	15.3	<0.0002	-	-	<0.0002	0.0003	0.0011	<0.0002
27-nov-89	BC	a	U	20.5	<0.0002	-	-	<0.0002	0.0003	0.0005	<0.0002
04-dec-89	BC	a	U	25.8	0.0016	-	-	0.0007	0.26	0.013	<0.0002
04-dec-89	BC	a	U	35.3	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
04-dec-89	BC	a	U	39.9	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
875-F (completed as W-872-01)											
29-nov-89	BC	a	U	3.3	<0.0002	-	-	<0.0002	0.0031	0.0031	<0.0002
29-nov-89	BC	a	U	5.6	<0.0002	-	-	<0.0002	0.0014	0.001	<0.0002
29-nov-89	BC	a	U	10.5	<0.0002	-	-	<0.0002	0.031	0.017	<0.0002
29-nov-89	BC	a	U	15.4	<0.0002	-	-	<0.0002	0.065	0.031	<0.0002
29-nov-89	BC	a	U	20.3	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002
06-dec-89	BC	a	U	25.0	<0.0002	-	-	<0.0002	0.0004	<0.0002	<0.0002
06-dec-89	BC	a	U	30.5	<0.0002	-	-	<0.0002	0.001	0.0004	<0.0002
06-dec-89	BC	a	U	36.0	<0.0002	-	-	<0.0002	<0.0002	<0.0002	<0.0002

Results recorded by 17-oct-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-873-06
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-aug-90
						W-873-07
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-aug-90
<0.0002	0.0005	<0.0002	0.0013	<0.0002	<0.0002	21-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-aug-90
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-aug-90
						875-A
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	20-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	20-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	20-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	20-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	20-nov-89
						875-B
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-nov-89
<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	13-dec-89
<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	13-dec-89
						875-C
<0.0002	<0.0002	<0.0002	0.0016	<0.0002	<0.0002	21-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	21-nov-89
<0.0002	<0.0002	<0.0002	0.0012	<0.0002	<0.0002	21-nov-89
						875-D
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	27-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	27-nov-89
<0.0002	0.0028	0.0005	<0.0002	<0.0002	<0.0002	27-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	27-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	27-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	30-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	30-nov-89
<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	30-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	30-nov-89
						875-E
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	27-nov-89
<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	27-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	27-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	27-nov-89
<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	04-dec-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	04-dec-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	04-dec-89
						875-F
<0.0002	<0.0002	<0.0002	<0.0002	0.005	<0.0002	29-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	29-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	29-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	29-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	29-nov-89
<0.0002	<0.0002	<0.0002	0.0002	0.0002	<0.0002	06-dec-89
<0.0002	0.0011	<0.0002	0.0048	<0.0002	<0.0002	06-dec-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	06-dec-89

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Note	Val.	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)											
875-G (completed as W-875-04)											
29-nov-89	BC	a	U	3.0	<0.0002	–	–	<0.0002	0.0037	0.0003	<0.0002
29-nov-89	BC	a	U	5.5	<0.0002	–	–	<0.0002	0.0035	0.0004	<0.0002
29-nov-89	BC	a	U	10.7	<0.0002	–	–	<0.0002	0.0033	0.0003	<0.0002
29-nov-89	BC	a	U	15.5	<0.0002	–	–	<0.0002	0.12	0.015	<0.0002
29-nov-89	BC	a	U	20.8	<0.0002	–	–	<0.0002	0.0059	<0.0002	<0.0002
30-nov-89	BC	a	U	25.3	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
12-dec-89	BC	a	U	29.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
875-H (completed as W-876-01)											
14-dec-89	BC	a	U	6.3	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
14-dec-89	BC	a	U	11.3	<0.0002	–	–	<0.0002	0.0022	<0.0002	<0.0002
14-dec-89	BC	a	U	15.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
14-dec-89	BC	a	U	21.0	<0.0002	–	–	<0.0002	0.0028	<0.0002	<0.0002
14-dec-89	BC	a	U	26.3	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
14-dec-89	BC	a	U	30.8	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
14-dec-89	BC	a	U	35.8	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
14-dec-89	BC	a	U	41.8	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
875-N1											
29-jul-83	BC	a	U	10.8	–	–	–	–	<0.05	–	–
W-875-01											
22-jun-88	BC	a	U	3.0	<0.0002	–	–	<0.0002	0.029	0.0042	<0.0002
22-jun-88	BC	a	U	5.3	<0.0002	–	–	<0.0002	0.019	0.0035	<0.0002
22-jun-88	BC	a	U	10.3	<0.0002	–	–	<0.0002	0.006	0.0007	<0.0002
22-jun-88	BC	a	U	15.3	<0.0002	–	–	<0.0002	0.0052	0.0004	<0.0002
22-jun-88	BC	a	U	20.8	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
22-jun-88	BC	a	U	25.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
22-jun-88	BC	a	U	30.3	<0.0002	–	–	<0.0002	0.002	<0.0002	<0.0002
W-875-06											
11-feb-92	BC	a	U	1.8	<0.0002	<0.0002	<0.0002	<0.0002	0.024	0.0062	<0.0002
11-feb-92	BC	a	U	6.5	<0.0002	<0.0002	<0.0002	<0.0002	0.001	0.0007	<0.0002
11-feb-92	BC	a	U	12.5	<0.0002	<0.0002	<0.0002	<0.0002	0.0027	0.0007	<0.0002
12-feb-92	BC	a	U	17.2	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
12-feb-92	BC	a	U	22.2	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	<0.0002
12-feb-92	BC	a	U	29.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
W-875-07											
02-mar-92	BC	a	U	1.0	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005
02-mar-92	BC	a	U	3.5	<0.005	<0.005	<0.005	<0.005	0.12	0.032	<0.005
02-mar-92	BC	a	U	5.5	<0.005	<0.005	<0.005	<0.005	0.007	<0.005	<0.005
02-mar-92	BC	a	U	7.9	<0.005	<0.005	<0.005	<0.005	0.015	<0.005	<0.005
02-mar-92	BC	a	U	14.0	<0.005	<0.005	<0.005	<0.005	0.012	<0.005	<0.005
03-mar-92	BC	a	U	14.5	<0.005	<0.005	<0.005	<0.005	0.021	0.008	<0.005
03-mar-92	BC	a	U	18.2	<0.005	<0.005	<0.005	<0.005	0.026	<0.005	<0.005
03-mar-92	BC	a	U	20.7	<0.005	<0.005	<0.005	<0.005	0.014	<0.005	<0.005
03-mar-92	BC	a	U	24.0	<0.005	<0.005	<0.005	<0.005	0.099	0.041	<0.005
03-mar-92	BC	a	U	26.5	<0.005	<0.005	<0.005	<0.005	1.6	0.096	<0.005
03-mar-92	BC	a	U	28.9	0.024	<0.005	<0.005	<0.005	1.3	0.35	<0.005
05-mar-92	BC	a	U	31.4	<0.05	<0.05	<0.05	<0.05	76	3.3	<0.05
05-mar-92	BC	a	U	34.0	<0.05	<0.05	<0.05	<0.05	20	<0.05	<0.05
W-875-08											
09-mar-92	CH	a	U	3.5	–	–	–	–	0.041	–	–
09-mar-92	CH	a	U	6.2	–	–	–	–	0.059	–	–
09-mar-92	BC	a	U	7.4	<0.0002	<0.0002	<0.0002	<0.0002	0.019	0.004	<0.0002
09-mar-92	BC	a	U	9.5	<0.01	<0.01	<0.01	<0.01	0.48	0.08	<0.01
09-mar-92	CH	a	U	9.8	–	–	–	–	0.093	–	–
09-mar-92	CH	a	U	10.6	–	–	–	–	0.136	–	–
10-mar-92	CH	a	U	13.6	–	–	–	–	5.89	1.78	–
10-mar-92	CH	a	U	14.5	–	–	–	–	0.838	0.573	–
10-mar-92	BC	a	U	14.8	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01
10-mar-92	CH	a	U	17.2	–	–	–	–	0.715	0.719	–
10-mar-92	CH	a	U	17.7	–	–	–	–	0.738	0.684	–
10-mar-92	CH	a	U	20.1	–	–	–	–	2.41	4.74	–
10-mar-92	CH	a	U	20.4	–	–	–	–	11.2	26.6	–
10-mar-92	BC	a	U	20.7	<2	<2	<2	<2	360	390	<2

Results recorded by 17-oct-1994.

1,2-DCA	1,1,1-TCA	Chloroform	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						875-G
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	29-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	29-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	29-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	29-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	29-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	30-nov-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12-dec-89
						875-H
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-dec-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-dec-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-dec-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-dec-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-dec-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-dec-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-dec-89
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14-dec-89
						875-N1
–	–	–	–	–	–	29-jul-83
						W-875-01
<0.0002	<0.0002	0.0005	<0.0002	<0.0002	<0.0002	22-jun-88
<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	22-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	0.0013	<0.0002	22-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-jun-88
<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	22-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	22-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	22-jun-88
						W-875-06
<0.0002	<0.0002	<0.0002	<0.0002	0.0093	<0.0002	11-feb-92
<0.0002	<0.0002	<0.0002	<0.0002	0.0067	<0.0002	11-feb-92
<0.0002	<0.0002	<0.0002	<0.0002	0.0056	<0.0002	11-feb-92
<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	12-feb-92
<0.0002	<0.0002	<0.0002	<0.0002	0.0007	<0.0002	12-feb-92
<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	12-feb-92
						W-875-07
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	02-mar-92
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	02-mar-92
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	02-mar-92
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	02-mar-92
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	02-mar-92
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	03-mar-92
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	03-mar-92
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	03-mar-92
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	03-mar-92
<0.005	0.005	<0.005	<0.005	<0.005	<0.005	03-mar-92
0.005	0.034	<0.005	<0.005	<0.005	<0.005	03-mar-92
<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	05-mar-92
<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	05-mar-92
						W-875-08
–	–	–	–	–	–	09-mar-92
–	–	–	–	–	–	09-mar-92
<0.0002	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	09-mar-92
<0.01	0.01	<0.01	<0.01	0.06	<0.01	09-mar-92
–	–	–	–	–	–	09-mar-92
–	–	–	–	–	–	09-mar-92
–	–	–	–	–	–	10-mar-92
–	–	–	–	–	–	10-mar-92
<0.01	0.04	<0.01	<0.01	<0.01	<0.01	10-mar-92
–	–	–	–	–	–	10-mar-92
–	–	–	–	–	–	10-mar-92
–	–	–	–	–	–	10-mar-92
–	–	–	–	–	–	10-mar-92
<2	<2	<2	<2	<2	<2	10-mar-92

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Val. Note	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)										
W-875-08 (continued)										
10-mar-92	CH a	U	22.0	–	–	–	–	21	25.5	–
10-mar-92	BC a	U	22.4	<0.01	<0.01	<0.01	<0.01	1.3	1.1	<0.01
10-mar-92	BC a	U	24.7	<0.01	<0.01	<0.01	<0.01	0.31	<0.01	<0.01
10-mar-92	CH a	U	25.6	–	–	–	–	1.59	1.92	–
10-mar-92	BC a	U	25.8	<0.01	<0.01	<0.01	<0.01	0.05	0.03	<0.01
10-mar-92	CH a	U	27.6	–	–	–	–	22.6	1.34	–
10-mar-92	BC a	U	28.0	<0.01	<0.01	<0.01	<0.01	2.2	0.13	<0.01
11-mar-92	CH a	U	29.7	–	–	–	–	7.24	1.46	–
11-mar-92	BC a	U	30.3	<0.1	<0.1	<0.1	<0.1	13	0.5	<0.1
11-mar-92	CH a	U	33.3	–	–	–	–	52	2.63	–
11-mar-92	BC a	U	35.0	<0.01	<0.01	<0.01	<0.01	1.8	0.2	<0.01
12-mar-92	CH a	U	35.2	–	–	–	–	0.149	<0.025	–
12-mar-92	CH a	U	37.8	–	–	–	–	<0.025	<0.025	–
12-mar-92	BC a	U	39.8	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	<0.01
12-mar-92	CH a	U	40.1	–	–	–	–	<0.025	<0.025	–
12-mar-92	CH a	U	42.2	–	–	–	–	<0.025	<0.025	–
12-mar-92	BC a	U	42.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
12-mar-92	CH a	U	44.3	–	–	–	–	<0.025	<0.025	–
12-mar-92	CH a	U	46.3	–	–	–	–	<0.025	<0.025	–
12-mar-92	BC a	U	47.2	<0.01	<0.01	<0.01	<0.01	0.04	0.05	<0.01
12-mar-92	CH a	U	48.2	–	–	–	–	<0.025	<0.025	–
12-mar-92	BC a	U	49.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
W-875-09										
18-mar-92	CH a	U	2.8	–	–	–	–	<0.018	<0.018	–
18-mar-92	CH a	U	3.8	–	–	–	–	0.023	<0.011	–
18-mar-92	CH a	U	5.2	–	–	–	–	0.025	<0.015	–
18-mar-92	BC a	U	7.0	<0.0002	<0.0002	<0.0002	<0.0002	>0.013	0.0064	<0.0002
18-mar-92	BC a	U	7.0	–	–	–	–	0.023	–	–
18-mar-92	CH a	U	7.2	–	–	–	–	<0.017	<0.017	–
18-mar-92	CH a	U	11.0	–	–	–	–	0.087	<0.019	–
18-mar-92	BC a	U	11.5	0.0005	0.0003	<0.0002	0.0003	>0.013	>0.013	<0.0002
18-mar-92	BC a	U	11.5	–	–	–	–	0.75	0.091	–
18-mar-92	CH a	U	14.0	–	–	–	–	0.135	0.07	–
18-mar-92	BC a	U	16.2	<0.0002	<0.0002	<0.0002	<0.0002	0.0039	0.0028	<0.0002
18-mar-92	CH a	U	16.8	–	–	–	–	0.105	0.017	–
18-mar-92	CH a	U	18.8	–	–	–	–	0.046	0.018	–
19-mar-92	BC a	U	20.5	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
19-mar-92	CH a	U	21.0	–	–	–	–	<0.191	<0.191	–
19-mar-92	BC a	U	23.2	<0.0002	<0.0002	<0.0002	<0.0002	0.0068	0.0051	<0.0002
19-mar-92	CH a	U	24.2	–	–	–	–	<0.207	<0.207	–
19-mar-92	BC a	U	27.8	<0.01	<0.01	<0.01	<0.01	0.27	<0.01	<0.01
19-mar-92	CH a	U	29.2	–	–	–	–	22.2	1.05	–
19-mar-92	BC a	U	30.8	0.02	<0.01	<0.01	<0.01	2.7	0.12	<0.01
19-mar-92	CH a	U	31.8	–	–	–	–	7.28	0.336	–
19-mar-92	BC a	U	33.4	<0.01	<0.01	<0.01	<0.01	0.85	0.01	<0.01
19-mar-92	CH a	U	34.0	–	–	–	–	0.093	<0.037	–
19-mar-92	CH a	U	36.8	–	–	–	–	0.381	0.156	–
19-mar-92	BC a	U	37.0	<0.01	<0.01	<0.01	<0.01	0.38	0.01	<0.01
19-mar-92	CH a	U	39.2	–	–	–	–	1.51	<0.088	–
W-875-10										
24-mar-92	CH a	U	6.8	–	–	–	–	0.098	0.019	–
24-mar-92	BC a	U	7.0	<0.01	<0.01	<0.01	<0.01	0.25	0.041	<0.01
24-mar-92	CH a	U	8.0	–	–	–	–	0.026	<0.017	–
24-mar-92	CH a	U	11.5	–	–	–	–	0.098	0.02	–
24-mar-92	BC a	U	11.8	<0.01	<0.01	<0.01	<0.01	0.54	0.1	<0.01
24-mar-92	BC a	U	13.0	<0.01	<0.01	<0.01	<0.01	0.8	0.16	<0.01
24-mar-92	CH a	U	19.3	–	–	–	–	0.898	3.17	–
24-mar-92	BC a	U	19.6	<0.1	<0.1	<0.1	<0.1	2.6	22	<0.1
24-mar-92	BC a	U	20.0	<0.1	<0.1	<0.1	<0.1	1.8	25	<0.1
24-mar-92	CH a	U	22.2	–	–	–	–	0.832	1.89	–
24-mar-92	BC a	U	23.0	<0.02	<0.02	<0.02	<0.02	0.91	0.55	<0.02
24-mar-92	CH a	U	24.5	–	–	–	–	1.12	<0.177	–
24-mar-92	BC a	U	25.5	<0.01	<0.01	<0.01	<0.01	0.48	0.27	<0.01
24-mar-92	CH a	U	26.6	–	–	–	–	3.18	0.384	–
24-mar-92	BC a	U	27.6	<0.02	<0.02	<0.02	<0.02	6.4	0.44	<0.02
24-mar-92	CH a	U	29.6	–	–	–	–	3.95	0.412	–

Results recorded by 17-oct-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-875-08
–	–	–	–	–	–	10-mar-92
<0.01	0.02	<0.01	<0.01	<0.01	<0.01	10-mar-92
<0.01	0.02	<0.01	<0.01	<0.01	<0.01	10-mar-92
–	–	–	–	–	–	10-mar-92
<0.01	0.03	<0.01	<0.01	<0.01	<0.01	10-mar-92
–	–	–	–	–	–	10-mar-92
<0.01	0.05	<0.01	<0.01	<0.01	<0.01	10-mar-92
–	–	–	–	–	–	11-mar-92
<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	11-mar-92
–	–	–	–	–	–	11-mar-92
<0.01	0.02	<0.01	<0.01	<0.01	<0.01	11-mar-92
–	–	–	–	–	–	12-mar-92
–	–	–	–	–	–	12-mar-92
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	12-mar-92
–	–	–	–	–	–	12-mar-92
–	–	–	–	–	–	12-mar-92
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	12-mar-92
–	–	–	–	–	–	12-mar-92
–	–	–	–	–	–	12-mar-92
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	12-mar-92
–	–	–	–	–	–	12-mar-92
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	12-mar-92
						W-875-09
–	–	–	–	–	–	18-mar-92
–	–	–	–	–	–	18-mar-92
–	–	–	–	–	–	18-mar-92
<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	18-mar-92
–	–	–	–	–	–	18-mar-92
–	–	–	–	–	–	18-mar-92
–	–	–	–	–	–	18-mar-92
<0.0002	0.0028	0.0003	<0.0002	<0.0002	<0.0002	18-mar-92
–	–	–	–	–	–	18-mar-92
–	–	–	–	–	–	18-mar-92
<0.0002	<0.0002	0.0008	<0.0002	0.0002	<0.0002	18-mar-92
–	–	–	–	–	–	18-mar-92
–	–	–	–	–	–	18-mar-92
<0.0002	<0.0002	0.047	<0.0002	<0.0002	<0.0002	19-mar-92
–	–	–	–	–	–	19-mar-92
<0.0002	<0.0002	0.0057	<0.0002	<0.0002	<0.0002	19-mar-92
–	–	–	–	–	–	19-mar-92
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	19-mar-92
–	–	–	–	–	–	19-mar-92
<0.01	0.02	<0.01	<0.01	<0.01	<0.01	19-mar-92
–	–	–	–	–	–	19-mar-92
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	19-mar-92
–	–	–	–	–	–	19-mar-92
–	–	–	–	–	–	19-mar-92
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	19-mar-92
–	–	–	–	–	–	19-mar-92
						W-875-10
–	–	–	–	–	–	24-mar-92
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	24-mar-92
–	–	–	–	–	–	24-mar-92
–	–	–	–	–	–	24-mar-92
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	24-mar-92
<0.01	0.01	<0.01	0.01	0.04	<0.01	24-mar-92
–	–	–	–	–	–	24-mar-92
<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	24-mar-92
<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	24-mar-92
–	–	–	–	–	–	24-mar-92
<0.02	0.04	<0.02	<0.02	<0.02	<0.02	24-mar-92
–	–	–	–	–	–	24-mar-92
<0.01	0.02	<0.01	<0.01	<0.01	<0.01	24-mar-92
–	–	–	–	–	–	24-mar-92
<0.02	0.13	<0.02	<0.02	<0.02	<0.02	24-mar-92
–	–	–	–	–	–	24-mar-92

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab	Val.	Note	Depth	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Total 1,2-DCE	TCE	PCE	1,1-DCA
GSA Study Area and Offsite (continued)											
W-875-10 (continued)											
24-mar-92	BC	a	U	30.0	<0.1	<0.1	<0.1	<0.1	12	0.72	<0.1
24-mar-92	CH	a	U	32.6	–	–	–	–	0.765	<0.152	–
24-mar-92	BC	a	U	33.0	<0.01	<0.01	<0.01	<0.01	0.12	<0.01	<0.01
24-mar-92	CH	a	U	35.0	–	–	–	–	0.02	<0.016	–
25-mar-92	CH	a	U	37.2	–	–	–	–	0.387	<0.125	–
25-mar-92	BC	a	U	37.5	<0.0002	0.0002	<0.0002	0.0002	0.0034	0.0004	<0.0002
25-mar-92	CH	a	U	40.0	–	–	–	–	<0.031	<0.031	–
25-mar-92	BC	a	U	41.2	<0.0002	<0.0002	<0.0002	<0.0002	0.003	0.001	<0.0002
W-875-11											
26-mar-92	CH	a	U	3.0	–	–	–	–	0.054	0.014	–
26-mar-92	CH	a	U	6.0	–	–	–	–	0.101	0.022	–
26-mar-92	CH	a	U	7.0	–	–	–	–	0.049	<0.008	–
26-mar-92	CH	a	U	11.0	–	–	–	–	0.087	0.011	–
26-mar-92	CH	a	U	15.0	–	–	–	–	<0.025	<0.025	–
26-mar-92	CH	a	U	17.0	–	–	–	–	0.026	<0.025	–
26-mar-92	CH	a	U	19.5	–	–	–	–	<0.025	<0.025	–
27-mar-92	CH	a	U	22.5	–	–	–	–	0.503	0.029	–
27-mar-92	CH	a	U	24.9	–	–	–	–	1.23	0.102	–
27-mar-92	CH	a	U	27.0	–	–	–	–	2.24	0.239	–
27-mar-92	CH	a	U	30.0	–	–	–	–	0.953	0.04	–
27-mar-92	CH	a	U	32.8	–	–	–	–	0.011	<0.011	–
27-mar-92	CH	a	U	34.5	–	–	–	–	<0.008	<0.008	–
27-mar-92	CH	a	U	39.0	–	–	–	–	<0.009	<0.009	–
W-875-15											
09-apr-92	CH	a	U	3.5	<0.006	–	–	–	1.38	<0.006	–
15-apr-92	BC	a	U	5.0	<0.01	<0.01	<0.01	<0.01	0.07	0.02	<0.01
15-apr-92	CH	a	U	5.8	–	–	–	–	–	0.032	–
15-apr-92	CH	a	U	5.8	–	–	–	–	0.193	–	–
15-apr-92	BC	a	U	6.8	<0.0002	0.0002	<0.0002	0.0002	0.09	0.02	<0.0002
15-apr-92	CH	a	U	7.2	–	–	–	–	0.766	0.076	–
15-apr-92	BC	a	U	10.2	<0.01	0.01	<0.01	0.01	0.34	0.05	<0.01
15-apr-92	CH	a	U	16.5	–	–	–	–	0.266	0.022	–
15-apr-92	BC	a	U	16.8	<0.0002	<0.0002	<0.0002	<0.0002	0.017	0.0034	<0.0002
15-apr-92	CH	a	U	17.5	–	–	–	–	0.044	0.013	–
15-apr-92	BC	a	U	21.0	<0.008	<0.008	<0.008	<0.008	0.023	<0.008	<0.008
15-apr-92	CH	a	U	21.5	–	–	–	–	0.04	0.013	–
15-apr-92	BC	a	U	24.5	<0.01	<0.01	<0.01	<0.01	0.93	0.08	<0.01
15-apr-92	CH	a	U	24.8	–	–	–	–	8.96	1.41	–
15-apr-92	BC	a	U	28.8	<0.01	0.07	<0.01	0.07	3.2	0.28	<0.01
15-apr-92	CH	a	U	29.0	–	–	–	–	11.1	5.02	–
15-apr-92	BC	a	U	33.0	<0.01	<0.01	<0.01	<0.01	0.6	0.02	<0.01
15-apr-92	CH	a	U	33.2	–	–	–	–	1.45	0.054	–
15-apr-92	BC	a	U	37.0	<0.0002	0.0002	<0.0002	0.0002	0.0046	0.0009	<0.0002
15-apr-92	CH	a	U	37.2	–	–	–	–	0.097	0.017	–
W-879-01											
12-feb-90	BC	a	U	1.5	<0.1	–	–	<0.1	<0.1	<0.1	<0.1
12-feb-90	BC	a	U	6.0	<0.1	–	–	<0.1	<0.1	<0.1	<0.1
12-feb-90	BC	a	U	10.6	<0.1	–	–	<0.1	<0.1	<0.1	<0.1
12-feb-90	BC	a	U	15.5	<0.1	–	–	<0.1	<0.1	<0.1	<0.1
13-feb-90	BC	a	U	45.5	<0.1	–	–	<0.1	<0.1	<0.1	<0.1
13-feb-90	BC	a	U	50.3	<0.1	–	–	<0.1	<0.1	<0.1	<0.1
W-889-01											
15-jun-88	BC	a	U	5.8	<0.0002	–	–	<0.0002	0.0097	<0.0002	<0.0002
15-jun-88	BC	a	U	10.8	<0.0002	–	–	<0.0002	0.0054	<0.0002	<0.0002
15-jun-88	BC	a	U	15.5	<0.0002	–	–	<0.0002	0.0045	<0.0002	<0.0002
15-jun-88	BC	a	U	20.5	<0.0002	–	–	0.0003	0.082	<0.0002	<0.0002
15-jun-88	BC	a	U	25.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
15-jun-88	BC	a	U	30.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
15-jun-88	BC	a	U	35.5	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
16-jun-88	BC	a	U	38.0	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002
16-jun-88	BC	a	U	42.3	0.0003	–	–	<0.0002	<0.0002	<0.0002	<0.0002
16-jun-88	BC	a	U	45.5	0.0003	–	–	<0.0002	<0.0002	<0.0002	<0.0002
16-jun-88	BC	a	U	51.6	<0.0002	–	–	<0.0002	<0.0002	<0.0002	<0.0002

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						(continued) W-875-10
<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	24-mar-92
–	–	–	–	–	–	24-mar-92
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	24-mar-92
–	–	–	–	–	–	24-mar-92
–	–	–	–	–	–	25-mar-92
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	25-mar-92
–	–	–	–	–	–	25-mar-92
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	25-mar-92
						W-875-11
–	–	–	–	–	–	26-mar-92
–	–	–	–	–	–	26-mar-92
–	–	–	–	–	–	26-mar-92
–	–	–	–	–	–	26-mar-92
–	–	–	–	–	–	26-mar-92
–	–	–	–	–	–	26-mar-92
–	–	–	–	–	–	26-mar-92
–	–	–	–	–	–	27-mar-92
–	–	–	–	–	–	27-mar-92
–	–	–	–	–	–	27-mar-92
–	–	–	–	–	–	27-mar-92
–	–	–	–	–	–	27-mar-92
–	–	–	–	–	–	27-mar-92
–	–	–	–	–	–	27-mar-92
						W-875-15
<0.006	<0.006	<0.006	–	–	<0.006	09-apr-92
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	15-apr-92
–	–	–	–	–	–	15-apr-92
–	–	–	–	–	–	15-apr-92
<0.0002	0.001	0.0032	<0.0002	<0.0002	<0.0002	15-apr-92
–	–	–	–	–	–	15-apr-92
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	15-apr-92
–	–	–	–	–	–	15-apr-92
<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-apr-92
–	–	–	–	–	–	15-apr-92
<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	15-apr-92
–	–	–	–	–	–	15-apr-92
<0.01	0.02	<0.01	<0.01	<0.01	<0.01	15-apr-92
–	–	–	–	–	–	15-apr-92
<0.01	0.02	<0.01	<0.01	<0.01	<0.01	15-apr-92
–	–	–	–	–	–	15-apr-92
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	15-apr-92
–	–	–	–	–	–	15-apr-92
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-apr-92
–	–	–	–	–	–	15-apr-92
						W-879-01
<0.1	<0.1	<0.1	<0.1	–	<0.1	12-feb-90
<0.1	<0.1	<0.1	<0.1	–	<0.1	12-feb-90
<0.1	<0.1	<0.1	<0.1	–	<0.1	12-feb-90
<0.1	<0.1	<0.1	<0.1	–	<0.1	12-feb-90
<0.1	<0.1	<0.1	<0.1	–	<0.1	13-feb-90
<0.1	<0.1	<0.1	<0.1	–	<0.1	13-feb-90
						W-889-01
<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	15-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15-jun-88
<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	15-jun-88
<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	16-jun-88
<0.0002	0.003	<0.0002	<0.0002	<0.0002	<0.0002	16-jun-88
<0.0002	0.0016	0.0009	<0.0002	<0.0002	<0.0002	16-jun-88
<0.0002	<0.0002	0.0002	<0.0002	0.0003	<0.0002	16-jun-88

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.

Location Date	Lab Note	Val.	Depth	1,1- DCE	cis- 1,2- DCE	trans- 1,2- DCE	Total 1,2- DCE	TCE	PCE	1,1- DCA
GSA Study Area and Offsite (continued)										
3SS-CHC-001										
08-jul-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
3SS-26-01										
20-sep-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
20-sep-91	CL a	U	0.0	<0.003	<0.003	<0.003	<0.003	<0.004	<0.004	<0.003
3SS-26-02										
20-sep-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
3SS-27-01										
17-sep-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
3SS-27-02										
17-sep-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
3SS-27-03										
25-sep-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005	0.008	<0.005	<0.005
3SS-27-04										
25-sep-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005	0.084	0.03	<0.005
3SS-27-05										
25-sep-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
3SS-51-01										
20-sep-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
20-sep-91	CL a	U	0.0	<0.003	<0.003	<0.003	<0.003	<0.004	<0.004	<0.003
3SS-51-02										
26-sep-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
3SS-GSA-01										
24-apr-92	CH a	U	1.0	<0.005	-	-	-	<0.005	<0.005	-
3SS-GSA-02										
24-apr-92	CH a	U	1.0	<0.005	-	-	-	<0.005	<0.005	-
3SS-GSA-03										
24-apr-92	CH a	U	1.0	<0.005	-	-	-	<0.005	<0.005	-

Results recorded by 17-oct-1994.

1,2-DCA	1,1,1-TCA	Chloro-form	Freon 11	Freon 113	Methylene Chloride	Location Date
						(continued) GSA Study Area and Offsite
						3SS-CHC-001
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	08-jul-91
						3SS-26-01
<0.005	<0.005	<0.005	<0.005	0.017	<0.005	20-sep-91
<0.003	<0.003	<0.003	<0.003	0.007	<0.003	20-sep-91
						3SS-26-02
<0.005	<0.005	<0.005	0.01	0.079	<0.005	20-sep-91
						3SS-27-01
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	17-sep-91
						3SS-27-02
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	17-sep-91
						3SS-27-03
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	25-sep-91
						3SS-27-04
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	25-sep-91
						3SS-27-05
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	25-sep-91
						3SS-51-01
<0.005	<0.005	<0.005	0.013	0.015	<0.005	20-sep-91
<0.003	<0.003	<0.003	<0.003	0.05	<0.003	20-sep-91
						3SS-51-02
<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	26-sep-91
						3SS-GSA-01
<0.005	<0.005	<0.005	–	–	<0.005	24-apr-92
						3SS-GSA-02
<0.005	<0.005	<0.005	–	–	<0.005	24-apr-92
						3SS-GSA-03
<0.005	<0.005	<0.005	–	–	<0.005	24-apr-92

See following page for notes

Soil analyses (mg/kg) for volatile organic compounds from the General Services Area (GSA), Site 300.
Results recorded by 17-oct-1994.

Notes:

- Indicates no analysis performed for this compound.

Footnotes

a ERD data
b EMAD data
c Analytical results for this sample are suspect
d Sample taken during hydraulic testing
e Blind sample, sent to lab without well identity
f Sample dilution necessary for analysis; detection limits increased
g Interlaboratory collocated sample
h Intralaboratory collocated sample
i Sample collected as part of pilot study
j Note may contain important information regarding this sample
k Pre-development sample
l Norm_month, norm_qtr or norm_year inconsistent with sample date
n Sample analyzed after standard holding time

Lab Codes

BC Brown and Caldwell, Emeryville, CA
CH Characterization Labs-Chemistry, LLNL, Livermore, CA.
CL Clayton Environmental Consultants, Pleasanton, CA.
CS California Laboratory Services, Rancho Cordova, CA.
GT Groundwater Technology Environmental Labs, Concord, CA.

Validation Codes

V Validated
N Not validated (default value)
U Undeclared
H Historical comparison only

Appendix A
Section A-3.2

Soil Analysis for Volatile Organic Compounds (BTEX) Sampled Before September 31, 1994, and Recorded by November 17, 1994

Site 300 BTEX compounds in soil
14-dec-1994
water::epddata

s3btxGsaSO.13dec94

Min Sample Date
01-jan-1972
Max Sample Date
30-sep-1994

Soil analyses (mg/kg) for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-oct-1994.

Location Date	Lab	Note	Val.	Depth	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite								
W-25N-20								
16-oct-91	BC	a	U	5.5	<0.005	<0.005	<0.005	<0.005
16-oct-91	BC	a	U	10.5	<0.005	<0.005	<0.005	<0.005
W-25N-21								
18-oct-91	BC	a	U	0.5	<0.005	<0.005	<0.005	<0.005
17-oct-91	BC	a	U	6.0	<0.005	<0.005	<0.005	<0.005
17-oct-91	BC	a	U	10.0	<0.005	<0.005	<0.005	<0.005
W-25N-22								
21-oct-91	BC	a	U	0.0	<0.005	<0.005	<0.005	<0.005
W-25N-23								
23-oct-91	BC	a	U	0.0	<0.005	<0.005	<0.005	<0.005
W-25N-24								
19-nov-91	BC	a	U	0.0	<0.005	<0.005	<0.005	<0.005
W-26R-04								
07-oct-91	BC	a	U	6.3	<0.005	<0.005	<0.005	<0.005
07-oct-91	BC	a	U	10.3	<0.005	<0.005	<0.005	<0.005
W-26R-05								
24-oct-91	BC	a	U	0.0	<0.005	<0.005	<0.005	<0.005
24-oct-91	BC	a	U	5.3	<0.005	0.005	<0.005	<0.005
W-26R-06								
28-oct-91	BC	a	U	0.5	<0.005	<0.005	<0.005	<0.005
28-oct-91	BC	a	U	6.0	<0.005	<0.005	<0.005	<0.005
W-26R-07								
25-oct-91	BC	a	U	0.0	<0.005	<0.005	<0.005	<0.005
25-oct-91	BC	a	U	5.3	<0.005	<0.005	<0.005	<0.005
W-26R-08								
29-oct-91	BC	a	U	0.5	<0.005	<0.005	<0.005	<0.005
26R-09								
30-oct-91	BC	a	U	0.5	<0.005	<0.005	<0.005	<0.005
26R-10								
30-oct-91	BC	a	U	0.1	<0.005	<0.005	<0.005	<0.005
W-7F								
25-apr-88	BC	a	U	5.5	<0.0002	0.001	0.007	<0.0002
25-apr-88	BC	a	U	10.3	0.0008	0.0009	0.0005	0.0013
25-apr-88	BC	a	U	15.3	0.0012	0.0014	0.0008	0.0021
25-apr-88	BC	a	U	20.3	<0.0002	0.0011	0.001	0.0024
25-apr-88	BC	a	U	32.5	<0.0002	0.0006	0.0002	0.001
25-apr-88	BC	a	U	39.5	0.0005	0.0008	<0.0002	<0.0002
26-apr-88	BC	a	U	42.5	0.0004	0.0003	0.0006	0.0005
26-apr-88	BC	a	U	56.2	0.0004	0.0006	<0.0002	<0.0002
27-apr-88	BC	a	U	57.1	<0.0002	0.0003	0.0002	0.0002
W-873-02								
03-jun-88	BC	a	U	6.2	0.0014	0.0022	0.0006	0.0022
03-jun-88	BC	a	U	10.2	0.0016	0.002	0.0011	0.0019
03-jun-88	BC	a	U	15.0	0.0011	0.0012	0.0004	0.0015
03-jun-88	BC	a	U	20.4	0.0006	0.0008	0.0002	0.0005
03-jun-88	BC	a	U	25.8	<0.0002	0.0006	<0.0002	0.0002
03-jun-88	BC	a	U	30.3	<0.0002	0.0006	0.0003	0.0005
06-jun-88	BC	a	U	35.7	<0.0002	<0.0002	<0.0002	<0.0002
06-jun-88	BC	a	U	41.3	<0.0002	<0.0002	<0.0002	<0.0002
08-jun-88	BC	a	U	43.0	0.0008	0.0006	<0.0002	<0.0002
08-jun-88	BC	a	U	47.0	0.0008	0.0005	<0.0002	<0.0002
08-jun-88	BC	a	U	51.0	0.0006	0.0005	<0.0002	<0.0002

Soil analyses (mg/kg) for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-oct-1994.

Location Date	Lab Note		Val.	Depth	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)								
W-873-03								
10-jun-88	BC	a	U	6.0	<0.0002	0.0046	0.0005	0.0037
10-jun-88	BC	a	U	15.3	0.0014	0.0014	0.0005	0.0018
10-jun-88	BC	a	U	20.3	0.0003	0.0005	<0.0002	0.0005
10-jun-88	BC	a	U	25.3	0.0008	0.0005	<0.0002	0.0005
10-jun-88	BC	a	U	30.3	0.0006	0.0004	<0.0002	0.0005
10-jun-88	BC	a	U	35.1	0.0003	0.0003	<0.0002	0.0006
10-jun-88	BC	a	U	40.3	0.0003	<0.0002	<0.0002	0.0004
10-jun-88	BC	a	U	45.3	<0.0002	0.002	<0.0002	0.0063
13-jun-88	BC	a	U	46.0	0.0007	0.0006	0.0002	0.0013
13-jun-88	BC	a	U	51.3	0.0004	0.0003	0.0002	0.0007
W-873-04								
30-may-90	BC	a	U	13.9	<0.001	<0.002	<0.002	<0.002
873-05								
30-may-90	BC	a	U	14.4	<0.001	<0.002	<0.002	<0.002
875-A								
20-nov-89	BC	a	U	6.7	<0.001	<0.002	<0.002	<0.002
20-nov-89	BC	a	U	10.5	<0.001	<0.002	<0.002	<0.002
20-nov-89	BC	a	U	15.5	<0.001	<0.002	<0.002	<0.002
20-nov-89	BC	a	U	20.6	<0.001	<0.002	<0.002	<0.002
20-nov-89	BC	a	U	25.5	<0.001	<0.002	<0.002	<0.002
875-B (completed as W-875-05)								
21-nov-89	BC	a	U	3.5	<0.001	<0.002	<0.002	<0.002
21-nov-89	BC	a	U	5.3	<0.001	<0.002	<0.002	<0.002
21-nov-89	BC	a	U	11.0	<0.001	<0.002	<0.002	<0.002
21-nov-89	BC	a	U	15.6	<0.001	<0.002	<0.002	<0.002
21-nov-89	BC	a	U	21.0	<0.001	<0.002	<0.002	<0.002
13-dec-89	BC	a	U	25.4	<0.001	<0.002	<0.002	<0.002
13-dec-89	BC	a	U	30.5	<0.001	<0.002	<0.002	<0.002
875-C								
21-nov-89	BC	a	U	2.5	<0.001	<0.002	<0.002	<0.002
21-nov-89	BC	a	U	5.3	<0.001	<0.002	<0.002	<0.002
21-nov-89	BC	a	U	10.5	<0.001	<0.002	<0.002	<0.002
21-nov-89	BC	a	U	15.5	<0.001	<0.002	<0.002	<0.002
875-D (completed as W-875-02)								
27-nov-89	BC	a	U	5.0	<0.001	<0.002	<0.002	<0.002
27-nov-89	BC	a	U	10.8	0.001	<0.002	<0.002	<0.002
27-nov-89	BC	a	U	15.3	<0.001	0.003	<0.002	<0.002
27-nov-89	BC	a	U	20.3	0.001	<0.002	<0.002	<0.002
27-nov-89	BC	a	U	23.3	<0.001	<0.002	<0.002	<0.002
30-nov-89	BC	a	U	25.3	<0.001	<0.002	<0.002	<0.002
30-nov-89	BC	a	U	30.5	<0.001	<0.002	<0.002	<0.002
30-nov-89	BC	a	U	35.3	<0.001	<0.002	<0.002	<0.002
30-nov-89	BC	a	U	40.8	<0.001	<0.002	<0.002	<0.002
875-E (completed as W-875-03)								
27-nov-89	BC	a	U	7.3	<0.001	<0.002	<0.002	<0.002
27-nov-89	BC	a	U	10.3	<0.001	<0.002	<0.002	<0.002
27-nov-89	BC	a	U	15.3	<0.001	<0.002	<0.002	<0.002
27-nov-89	BC	a	U	20.5	<0.001	<0.002	<0.002	<0.002
04-dec-89	BC	a	U	25.8	<0.001	<0.002	<0.002	<0.002
04-dec-89	BC	a	U	35.3	<0.001	<0.002	<0.002	<0.002
04-dec-89	BC	a	U	39.9	<0.001	<0.002	<0.002	<0.002
875-F (completed as W-872-01)								
29-nov-89	BC	a	U	3.3	0.003	<0.002	<0.002	<0.002
29-nov-89	BC	a	U	5.6	<0.001	<0.002	<0.002	<0.002
29-nov-89	BC	a	U	10.5	<0.001	<0.002	<0.002	<0.002
29-nov-89	BC	a	U	15.4	0.001	<0.002	<0.002	<0.002
29-nov-89	BC	a	U	20.3	<0.001	<0.002	<0.002	<0.002
06-dec-89	BC	a	U	25.0	<0.001	0.004	<0.002	<0.002
06-dec-89	BC	a	U	30.5	<0.001	0.08	<0.002	0.008

Soil analyses (mg/kg) for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-oct-1994.

Location Date	Lab	Val. Note	Depth	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
875-F (continued)							
06-dec-89	BC a	U	36.0	<0.001	0.003	<0.002	<0.002
875-G (completed as W-875-04)							
29-nov-89	BC a	U	3.0	<0.001	<0.002	<0.002	<0.002
29-nov-89	BC a	U	5.5	<0.001	<0.002	<0.002	<0.002
29-nov-89	BC a	U	10.7	<0.001	<0.002	<0.002	<0.002
29-nov-89	BC a	U	15.5	0.001	<0.002	<0.002	<0.002
29-nov-89	BC a	U	20.8	<0.001	<0.002	<0.002	<0.002
30-nov-89	BC a	U	25.3	0.002	<0.002	<0.002	<0.002
12-dec-89	BC a	U	29.5	<0.001	<0.002	<0.002	<0.002
875-H (completed as W-876-01)							
14-dec-89	BC a	U	6.3	<0.001	<0.002	<0.002	<0.002
14-dec-89	BC a	U	11.3	0.001	<0.002	<0.002	<0.002
14-dec-89	BC a	U	15.5	<0.001	<0.002	<0.002	<0.002
14-dec-89	BC a	U	21.0	<0.001	<0.002	<0.002	<0.002
14-dec-89	BC a	U	26.3	<0.001	<0.002	<0.002	<0.002
14-dec-89	BC a	U	30.8	<0.001	<0.002	<0.002	<0.002
14-dec-89	BC a	U	35.8	<0.001	<0.002	<0.002	<0.002
14-dec-89	BC a	U	41.8	<0.001	<0.002	<0.002	<0.002
W-875-01							
22-jun-88	BC a	U	3.0	<0.0002	0.0009	<0.0002	<0.0002
22-jun-88	BC a	U	5.3	<0.0002	0.0004	0.0008	<0.0002
22-jun-88	BC a	U	10.3	<0.0002	0.0004	0.001	<0.0002
22-jun-88	BC a	U	15.3	<0.0002	<0.0002	<0.0002	<0.0002
22-jun-88	BC a	U	20.8	<0.0002	0.0008	0.0003	0.0012
22-jun-88	BC a	U	25.5	<0.0002	<0.0002	<0.0002	<0.0002
22-jun-88	BC a	U	30.3	<0.0002	<0.0002	0.0003	<0.0002
W-875-06							
11-feb-92	BC a	U	1.8	<0.005	<0.005	<0.005	<0.005
11-feb-92	BC a	U	6.5	<0.005	<0.005	<0.005	<0.005
11-feb-92	BC a	U	12.5	<0.005	<0.005	<0.005	<0.005
12-feb-92	BC a	U	17.0	<0.005	<0.005	<0.005	<0.005
12-feb-92	BC a	U	22.4	<0.005	<0.005	<0.005	<0.005
12-feb-92	BC a	U	29.5	<0.005	<0.005	<0.005	<0.005
W-875-07							
02-mar-92	BC a	U	1.0	<0.005	<0.005	<0.005	<0.005
02-mar-92	BC a	U	3.5	<0.005	<0.005	<0.005	<0.005
02-mar-92	BC a	U	5.5	<0.005	<0.005	<0.005	<0.005
02-mar-92	BC a	U	7.7	<0.005	<0.005	<0.005	<0.005
02-mar-92	BC a	U	7.9	<0.005	<0.005	<0.005	<0.005
02-mar-92	BC a	U	14.0	<0.005	<0.005	<0.005	<0.005
03-mar-92	BC a	U	14.5	<0.005	<0.005	<0.005	<0.005
02-mar-92	BC a	U	15.1	<0.005	<0.005	<0.005	<0.005
03-mar-92	BC a	U	18.2	<0.005	<0.005	<0.005	<0.005
02-mar-92	BC a	U	19.2	<0.005	<0.005	<0.005	<0.005
03-mar-92	BC a	U	20.7	<0.005	<0.005	<0.005	<0.005
02-mar-92	BC a	U	21.3	<0.005	<0.005	<0.005	<0.005
02-mar-92	BC a	U	23.5	<0.005	<0.005	<0.005	<0.005
03-mar-92	BC a	U	24.0	<0.005	<0.005	<0.005	<0.005
02-mar-92	BC a	U	26.0	<0.005	<0.005	<0.005	<0.005
03-mar-92	BC a	U	26.5	<0.005	<0.005	<0.005	<0.005
02-mar-92	BC a	U	28.5	<0.005	<0.005	<0.005	<0.005
03-mar-92	BC a	U	28.9	<0.005	<0.005	<0.005	<0.005
05-mar-92	BC a	U	31.4	<0.05	<0.05	<0.05	<0.05
05-mar-92	BC a	U	31.7	<0.005	<0.005	<0.005	<0.005
05-mar-92	BC a	U	34.0	<0.05	<0.05	<0.05	<0.05
05-mar-92	BC a	U	34.5	<0.005	<0.005	<0.005	<0.005
W-875-08							
09-mar-92	BC a	U	2.2	<0.005	<0.005	<0.005	<0.005
09-mar-92	BC a	U	5.0	<0.005	<0.005	<0.005	<0.005
09-mar-92	BC a	U	8.5	<0.005	<0.005	<0.005	<0.005
10-mar-92	BC a	U	15.2	<0.005	<0.005	<0.005	<0.005

Soil analyses (mg/kg) for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-oct-1994.

Location Date	Lab	Val. Note	Depth	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)							
W-875-08 (continued)							
10-mar-92	BC a	U	20.9	<3	<3	<3	5
10-mar-92	BC a	U	22.7	<0.3	<0.3	<0.3	<0.3
10-mar-92	BC a	U	23.7	<0.005	<0.005	<0.005	<0.005
10-mar-92	BC a	U	26.2	<0.005	<0.005	<0.005	<0.005
10-mar-92	BC a	U	28.3	<0.005	<0.005	<0.005	<0.005
11-mar-92	BC a	U	30.8	<0.005	<0.005	<0.005	<0.005
11-mar-92	BC a	U	33.0	<0.005	<0.005	<0.005	<0.005
12-mar-92	CH a	U	35.2	<0.025	<0.025	<0.025	<0.05
12-mar-92	CH a	U	37.8	<0.025	<0.025	<0.025	<0.05
12-mar-92	BC a	U	39.0	<0.005	<0.005	<0.005	<0.005
12-mar-92	CH a	U	40.1	<0.025	<0.025	<0.025	<0.05
12-mar-92	CH a	U	42.2	<0.025	<0.025	<0.025	<0.05
12-mar-92	BC a	U	43.0	<0.005	<0.005	<0.005	<0.005
12-mar-92	CH a	U	44.3	<0.025	<0.025	<0.025	<0.05
12-mar-92	CH a	U	46.3	<0.025	<0.025	<0.025	<0.05
12-mar-92	BC a	U	47.8	<0.005	<0.005	<0.005	<0.005
12-mar-92	CH a	U	48.2	<0.025	<0.025	<0.025	<0.05
12-mar-92	BC a	U	49.6	<0.005	<0.005	<0.005	<0.005
W-875-09							
18-mar-92	BC af	U	5.8	<0.005	<0.005	<0.005	<0.005
18-mar-92	BC a	U	11.3	<0.005	<0.005	<0.005	<0.005
18-mar-92	BC a	U	16.0	<0.005	<0.005	<0.005	<0.005
18-mar-92	BC a	U	18.3	<0.005	<0.005	<0.005	<0.005
18-mar-92	BC a	U	22.3	<0.005	<0.005	<0.005	<0.005
18-mar-92	BC a	U	27.0	<0.005	<0.005	<0.005	<0.005
18-mar-92	BC a	U	29.5	<0.005	<0.005	<0.005	<0.005
18-mar-92	BC a	U	32.4	<0.005	<0.005	<0.005	<0.005
18-mar-92	BC a	U	35.0	<0.005	<0.005	<0.005	<0.005
18-mar-92	BC a	U	37.8	<0.005	<0.005	<0.005	<0.005
W-875-15							
09-apr-92	CH a	U	3.5	<0.006	<0.006	<0.006	<0.012
W-879-01							
12-feb-90	BC a	U	1.5	<0.1	<0.1	<0.1	<0.1
12-feb-90	BC a	U	6.0	<0.1	<0.1	<0.1	<0.1
12-feb-90	BC a	U	10.6	<0.1	<0.1	<0.1	<0.1
12-feb-90	BC a	U	15.5	<0.1	<0.1	<0.1	<0.1
13-feb-90	BC a	U	45.5	<0.1	<0.1	<0.1	<0.1
13-feb-90	BC a	U	50.3	<0.1	<0.1	<0.1	<0.1
W-889-01							
15-jun-88	BC a	U	5.8	<0.0002	<0.0002	<0.0002	<0.0002
15-jun-88	BC a	U	10.8	0.0007	0.0006	<0.0002	<0.0002
15-jun-88	BC a	U	15.5	0.0005	0.0006	<0.0002	<0.0002
15-jun-88	BC a	U	20.5	<0.0002	0.0016	<0.0002	0.0009
15-jun-88	BC a	U	25.5	<0.0002	<0.0002	<0.0002	<0.0002
15-jun-88	BC a	U	30.5	0.0005	0.0008	<0.0002	0.0005
15-jun-88	BC a	U	35.5	0.0005	0.0008	<0.0002	0.0006
16-jun-88	BC a	U	38.0	0.0004	0.0006	0.0002	0.001
16-jun-88	BC a	U	42.3	<0.0002	0.0004	<0.0002	0.0006
16-jun-88	BC a	U	45.5	0.0007	0.0006	<0.0002	0.0008
16-jun-88	BC a	U	51.6	0.0009	0.0009	0.0002	0.0012
3SS-CHC-001							
08-jul-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005
3SS-26-01							
20-sep-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005
20-sep-91	CL a	U	0.0	<0.002	<0.002	<0.003	<0.003
3SS-26-02							
20-sep-91	BC a	U	0.0	<0.005	<0.005	<0.005	<0.005

Soil analyses (mg/kg) for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-oct-1994.

Location Date	Lab	Note	Val.	Depth	Benzene	Toluene	Ethyl-benzene	Total Xylenes
GSA Study Area and Offsite (continued)								
3SS-27-01								
17-sep-91	BC	a	U	0.0	<0.005	<0.005	<0.005	<0.005
3SS-27-02								
17-sep-91	BC	a	U	0.0	<0.005	<0.005	<0.005	<0.005
3SS-27-03								
25-sep-91	BC	a	U	0.0	<0.005	<0.005	<0.005	<0.005
3SS-27-04								
25-sep-91	BC	a	U	0.0	<0.005	<0.005	<0.005	<0.005
3SS-27-05								
25-sep-91	BC	a	U	0.0	<0.005	<0.005	<0.005	<0.005
3SS-51-01								
20-sep-91	BC	a	U	0.0	<0.005	0.006	<0.005	0.007
20-sep-91	CL	a	U	0.0	<0.002	<0.002	<0.003	<0.003
3SS-51-02								
26-sep-91	BC	a	U	0.0	<0.005	<0.005	<0.005	<0.005

See following page for notes

Soil analyses (mg/kg) for BTEX compounds at the General Services Area (GSA), Site 300.
Results recorded by 17-oct-1994.

Notes:

- Indicates no analysis performed for this compound.

Footnotes

a ERD data
b EMAD data
c Analytical results for this sample are suspect
d Sample taken during hydraulic testing
e Blind sample, sent to lab without well identity
f Sample dilution necessary for analysis; detection limits increased
g Interlaboratory collocated sample
h Intralaboratory collocated sample
i Sample collected as part of pilot study
j Note may contain important information regarding this sample
k Pre-development sample
l Norm_month, norm_qtr or norm_year inconsistent with sample date
n Sample analyzed after standard holding time

Lab Codes

BC Brown and Caldwell, Emeryville, CA
CH Characterization Labs-Chemistry, LLNL, Livermore, CA.
CL Clayton Environmental Consultants, Pleasanton, CA.

Validation Codes

V Validated
N Not validated (default value)
U Undeclared
H Historical comparison only

Appendix A
Section A-3.3

Soil Analysis for Metals (TTLC Method) Sampled Before September 31, 1994, and Recorded by November 17, 1994

Metals in Soil from Boreholes, GSA, Site 300
16-dec-1994
water::epddata

s3metGSA.SO-1L.16dec94
s3metGSA.SO-1R.16dec94

Min Sample Date
01-jan-1972
Max Sample Date
30-sep-1994

TTLC analyses (mg/kg) for metals in soil from the General Services Area (GSA), Site 300.

Location Date	Lab	Val. Note	Depth	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite										
W-25N-21										
18-oct-91	CL	a	U 1.0	<1	140	0.4	<0.1	19	–	20
17-oct-91	BC	a	U 5.0	1.7	180	0.4	12	32	–	21
W-25N-22										
21-oct-91	BC	a	U 0.0	2	170	0.5	14	23	–	21
W-25N-23										
23-oct-91	BC	a	U 0.0	1.9	170	0.4	14	28	–	24
W-25N-24										
19-nov-91	BC	a	U 0.0	3	140	0.2	10	23	–	22
W-25N-25										
17-may-94	CS	a	V 0.0	1.7	160	<0.5	<1	21	–	11
17-may-94	CS	a	V 0.0	–	–	–	<0.1	–	–	–
17-may-94	CS	a	V 1.7	1.2	190	0.52	<1	15	–	7.7
17-may-94	CS	a	V 1.7	–	–	–	<0.1	–	–	–
W-25N-26										
01-jun-94	CS	a	V 0.0	1.1	100	<0.5	<1	18	–	15
01-jun-94	CS	a	V 0.0	–	–	–	<0.1	–	–	–
01-jun-94	GT	ag	V 0.0	4	92	<0.5	<0.5	19	–	14
01-jun-94	CS	a	V 5.0	1.8	62	<0.5	<1	20	–	17
01-jun-94	CS	a	V 5.0	–	–	–	<0.1	–	–	–
W-25N-28										
15-jun-94	CS	ah	V 0.0	1.3	160	<0.5	<1	18	–	18
15-jun-94	CS	ah	V 0.0	1.2	130	<0.5	<1	13	–	16
15-jun-94	CS	ah	V 0.0	–	–	–	<0.1	–	–	–
15-jun-94	CS	ah	V 0.0	–	–	–	<0.1	–	–	–
16-jun-94	CS	a	V 6.3	1.3	110	<0.5	<1	11	–	9.3
16-jun-94	CS	a	V 6.3	–	–	–	<0.1	–	–	–
W-26R-04										
07-oct-91	BC	a	U 6.0	4.3	220	0.5	14	48	–	150
W-26R-05										
24-oct-91	BC	a	U 0.0	6.7	180	0.4	14	29	–	28
24-oct-91	BC	a	U 5.8	2.7	160	0.3	13	28	–	22
24-oct-91	BC	a	U 10.0	2.4	110	0.2	13	34	–	19
W-26R-06										
28-oct-91	BC	a	U 0.0	3.1	160	0.3	12	28	–	25
28-oct-91	BC	a	U 5.0	<0.5	170	0.3	9	12	–	17
28-oct-91	BC	a	U 10.0	0.5	130	0.6	12	10	–	28
W-26R-07										
25-oct-91	BC	a	U 0.0	4.1	160	0.3	13	28	–	31
25-oct-91	BC	a	U 5.8	4.2	170	0.3	15	35	–	140
25-oct-91	BC	a	U 10.5	0.7	220	0.6	15	35	–	29
W-26R-08										
29-oct-91	BC	a	U 0.0	1.2	190	0.6	14	18	–	23
26R-09										
30-oct-91	BC	a	U 0.0	3.1	180	0.3	11	34	–	27
26R-10										
30-oct-91	BC	a	U 0.0	2.9	220	0.3	12	35	–	32
W-35A-07										
25-mar-94	CS	a	V 0.0	2.2	140	<0.5	<1	22	–	15
25-mar-94	CS	a	V 0.0	2.3	190	<0.5	<1	23	–	16
24-mar-94	CS	a	V 5.3	1.9	100	<0.5	<1	26	–	18

Results recorded by 17-oct-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								GSA Study Area and Offsite
								W-25N-21
–	17	–	<0.1	16	<1	<0.5	210	18-oct-91
–	5	–	<0.05	29	<0.4	<1	46	17-oct-91
								W-25N-22
–	9	–	0.06	22	<0.4	<1	94	21-oct-91
								W-25N-23
–	11	–	<0.05	29	<0.4	<1	100	23-oct-91
								W-25N-24
–	23	–	<0.05	27	<0.4	<1	98	19-nov-91
								W-25N-25
–	14	–	<0.05	21	0.64	<2.5	53	17-may-94
–	–	–	–	–	–	–	–	17-may-94
–	<10	–	<0.05	19	<0.5	<2.5	26	17-may-94
–	–	–	–	–	–	–	–	17-may-94
								W-25N-26
–	<10	–	<0.05	20	<0.5	<2.5	60	01-jun-94
–	–	–	–	–	–	–	–	01-jun-94
–	7	–	<0.1	24	<5	<1	50	01-jun-94
–	<10	–	<0.05	30	<0.5	<2.5	37	01-jun-94
–	–	–	–	–	–	–	–	01-jun-94
								W-25N-28
–	<10	–	<0.05	15	0.96	<2.5	140	15-jun-94
–	<10	–	<0.05	13	<0.5	<2.5	120	15-jun-94
–	–	–	–	–	–	–	–	15-jun-94
–	–	–	–	–	–	–	–	15-jun-94
–	<10	–	<0.05	14	<0.5	<2.5	17	16-jun-94
–	–	–	–	–	–	–	–	16-jun-94
								W-26R-04
–	11	–	<0.05	130	<0.4	<1	74	07-oct-91
								W-26R-05
–	9	–	<0.05	24	<0.4	<1	240	24-oct-91
–	8	–	<0.05	30	<0.4	<1	51	24-oct-91
–	6	–	0.05	29	<0.4	<1	48	24-oct-91
								W-26R-06
–	9	–	<0.05	28	<0.4	<1	180	28-oct-91
–	6	–	<0.05	8	<0.4	<1	32	28-oct-91
–	5	–	<0.05	11	<0.4	<1	39	28-oct-91
								W-26R-07
–	42	–	0.05	32	<0.4	<1	90	25-oct-91
–	30	–	1.4	37	<0.4	<1	2200	25-oct-91
–	8	–	<0.05	24	<0.4	<1	86	25-oct-91
								W-26R-08
–	11	–	<0.05	18	<0.4	<1	310	29-oct-91
								26R-09
–	7	–	<0.05	30	<0.4	<1	180	30-oct-91
								26R-10
–	14	–	<0.05	33	<0.4	<1	420	30-oct-91
								W-35A-07
–	14	–	<0.05	27	<0.5	<2.5	51	25-mar-94
–	16	–	<0.05	26	<0.5	<2.5	62	25-mar-94
–	15	–	<0.05	27	<0.5	<2.5	41	24-mar-94

TTLC analyses (mg/kg) for metals in soil from the General Services Area (GSA), Site 300.

Location Date	Lab	Val. Note	Depth	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
W-35A-08										
04-may-94	CS	ah	V 0.0	0.64	200	0.6	2.4	40	–	33
04-may-94	CS	ah	V 0.0	1.4	170	<0.5	2	27	–	28
05-may-94	CS	a	V 4.5	2	130	<0.5	<1	16	–	16
W-35A-09										
16-may-94	CS	ah	V 0.0	<2.5	170	0.84	<1	46	–	26
16-may-94	CS	ah	V 0.0	<2.5	170	0.66	<1	35	–	26
16-may-94	CS	ah	N 0.0	–	–	–	<0.1	–	–	–
16-may-94	CS	ah	N 0.0	–	–	–	0.12	–	–	–
17-may-94	CS	a	V 4.8	<2.5	63	<0.5	<1	25	–	19
17-may-94	CS	a	V 4.8	–	–	–	<0.1	–	–	–
W-35A-10										
24-may-94	CS	a	V 0.0	2.4	160	<0.5	<1	21	–	15
24-may-94	CS	a	N 0.0	–	–	–	<0.1	–	–	–
24-may-94	CS	a	V 4.0	1.8	34	<0.5	<1	26	–	11
24-may-94	CS	a	N 4.0	–	–	–	<0.1	–	–	–
W-35A-11										
01-jun-94	CS	ah	V 0.0	2.3	200	<0.5	<1	29	–	19
01-jun-94	CS	ah	V 0.0	2.8	140	<0.5	<1	23	–	17
01-jun-94	CS	ah	V 0.0	–	–	–	<0.1	–	–	–
01-jun-94	CS	ah	V 0.0	–	–	–	<0.1	–	–	–
01-jun-94	CS	a	V 3.8	0.99	120	<0.5	<1	23	–	21
W-35A-13										
14-jul-94	CS	ah	V 0.0	1.5	140	<0.5	<1	40	–	17
14-jul-94	CS	a	V 0.0	–	–	–	0.1	–	–	–
18-jul-94	CS	a	V 4.5	1.5	68	<0.5	<1	8	–	8.5
W-35A-14										
02-aug-94	CS	ah	N 0.0	–	–	–	0.13	–	–	–
02-aug-94	CS	ah	N 0.0	–	–	–	0.14	–	–	–
02-aug-94	CS	a	N 5.6	–	–	–	<0.1	–	–	–
W-7P										
31-mar-94	CS	a	V 0.0	1.2	270	0.53	<1	29	–	27
31-mar-94	CS	ah	V 4.5	1.7	94	<0.5	<1	23	–	16
31-mar-94	CS	ah	V 4.5	1.8	89	<0.5	<1	38	–	18
W-875-07										
02-mar-92	BC	a	U 1.0	2.5	210	0.6	2	24	–	34
02-mar-92	BC	a	U 3.5	3.2	270	0.5	2	27	–	48
02-mar-92	BC	a	U 5.5	0.4	270	0.5	2	29	–	24
02-mar-92	BC	a	U 7.9	1.5	260	0.5	2	32	–	23
02-mar-92	BC	a	U 15.1	<0.4	90	0.3	<1	10	–	14
02-mar-92	BC	a	U 19.2	<0.4	71	0.3	1	17	–	12
03-mar-92	BC	a	U 22.7	<0.4	51	0.3	5	8	–	14
03-mar-92	BC	a	U 25.7	<0.4	58	0.4	9	20	–	13
03-mar-92	BC	a	U 28.2	<0.4	65	0.5	7	10	–	12
W-875-08										
09-mar-92	BC	a	U 2.2	3.8	170	0.7	10	26	–	29
09-mar-92	BC	a	U 7.2	2.2	310	0.7	12	33	–	24
09-mar-92	BC	a	U 9.5	2.9	120	0.3	9	34	–	23
10-mar-92	BC	a	U 14.2	0.6	95	0.4	8	35	–	13
10-mar-92	BC	a	U 21.7	0.5	45	0.3	7	10	–	11
10-mar-92	BC	a	U 23.4	0.5	72	0.5	9	8	–	17
10-mar-92	BC	a	U 25.3	0.7	74	0.5	9	6	–	14
10-mar-92	BC	a	U 27.2	<0.4	69	0.4	8	6	–	12
11-mar-92	BC	a	U 29.5	0.5	69	0.5	9	7	–	13
11-mar-92	BC	a	U 33.0	0.4	40	0.4	9	14	–	15
12-mar-92	BC	a	U 39.8	0.6	240	1	11	22	–	27
12-mar-92	BC	a	U 42.5	3.9	510	0.8	11	38	–	27
12-mar-92	BC	a	U 47.2	18	220	0.4	13	50	–	16
12-mar-92	BC	a	U 49.2	2.8	180	0.8	10	26	–	26

Results recorded by 17-oct-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								(continued) GSA Study Area and Offsite
								W-35A-08
–	<10	–	0.081	44	1	<2.5	97	04-may-94
–	<10	–	0.08	35	0.75	<2.5	91	04-may-94
–	<10	–	<0.05	21	0.53	<2.5	32	05-may-94
								W-35A-09
–	42	–	<0.05	44	1.2	<2.5	130	16-may-94
–	31	–	0.051	40	0.97	<2.5	100	16-may-94
–	–	–	–	–	–	–	–	16-may-94
–	–	–	–	–	–	–	–	16-may-94
–	12	–	<0.05	32	0.61	<2.5	55	17-may-94
–	–	–	–	–	–	–	–	17-may-94
								W-35A-10
–	<10	–	<0.05	25	0.53	<2.5	39	24-may-94
–	–	–	–	–	–	–	–	24-may-94
–	<10	–	<0.05	25	<0.5	<2.5	26	24-may-94
–	–	–	–	–	–	–	–	24-may-94
								W-35A-11
–	<10	–	<0.05	30	<0.5	<2.5	46	01-jun-94
–	<10	–	<0.05	25	<0.5	<2.5	41	01-jun-94
–	–	–	–	–	–	–	–	01-jun-94
–	–	–	–	–	–	–	–	01-jun-94
–	<10	–	<0.05	30	<0.5	<2.5	38	01-jun-94
								W-35A-13
–	<10	–	<0.05	41	<0.5	<2.5	130	14-jul-94
–	–	–	–	–	–	–	–	14-jul-94
–	<10	–	<0.05	12	<0.5	<2.5	16	18-jul-94
								W-35A-14
–	–	–	–	–	–	–	–	02-aug-94
–	–	–	–	–	–	–	–	02-aug-94
–	–	–	–	–	–	–	–	02-aug-94
								W-7P
–	<10	–	<0.05	30	<0.5	<2.5	54	31-mar-94
–	<10	–	<0.05	27	<0.5	<2.5	36	31-mar-94
–	<10	–	<0.05	40	<0.5	<2.5	41	31-mar-94
								W-875-07
–	<4	–	<0.02	20	<0.4	<1	63	02-mar-92
–	42	–	0.06	26	<0.4	<1	140	02-mar-92
–	5	–	<0.02	25	<0.4	<1	58	02-mar-92
–	5	–	0.04	25	<0.4	<1	59	02-mar-92
–	<4	–	<0.02	7	<0.4	<1	38	02-mar-92
–	<4	–	<0.02	9	<0.4	<1	43	02-mar-92
–	4	–	<0.02	6	<0.4	<1	32	03-mar-92
–	5	–	<0.02	8	<0.4	<1	44	03-mar-92
–	6	–	<0.02	5	<0.4	<1	33	03-mar-92
								W-875-08
–	7	–	<0.02	22	<0.4	<1	65	09-mar-92
–	7	–	0.03	34	<0.4	<1	66	09-mar-92
–	5	–	0.07	31	<0.4	<1	49	09-mar-92
–	<4	–	<0.02	8	<0.4	<1	36	10-mar-92
–	<4	–	<0.02	7	<0.4	<1	38	10-mar-92
–	4	–	<0.02	7	<0.4	<1	43	10-mar-92
–	7	–	<0.02	7	<0.4	<1	37	10-mar-92
–	4	–	<0.02	5	<0.4	<1	33	10-mar-92
–	6	–	<0.02	5	<0.4	<1	35	11-mar-92
–	6	–	<0.02	6	<0.4	<1	52	11-mar-92
–	8	–	<0.02	12	<0.4	<1	46	12-mar-92
–	5	–	0.06	22	<0.4	<1	70	12-mar-92
–	5	–	<0.02	22	<0.4	<1	70	12-mar-92
–	9	–	0.1	16	<0.4	<1	61	12-mar-92

TTLC analyses (mg/kg) for metals in soil from the General Services Area (GSA), Site 300.

Location Date	Lab	Val. Note	Depth	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
W-875-09										
18-mar-92	BC af	U	5.8	2	240	0.5	12	66	–	180
18-mar-92	BC a	U	11.3	4	100	0.2	7	31	–	23
18-mar-92	BC a	U	16.0	<0.4	59	0.2	5	12	–	11
18-mar-92	BC a	U	18.3	<0.4	49	0.3	6	9	–	10
18-mar-92	BC a	U	22.3	0.4	45	0.3	5	9	–	18
18-mar-92	BC a	U	27.0	0.5	45	0.4	6	7	–	9
18-mar-92	BC a	U	29.5	<0.4	41	0.4	5	5	–	13
18-mar-92	BC a	U	32.4	0.5	54	0.5	9	5	–	17
18-mar-92	BC a	U	35.0	0.5	32	0.3	7	15	–	14
18-mar-92	BC a	U	37.8	2.2	180	0.4	6	14	–	21
W-875-15										
15-apr-92	BC a	U	5.2	1.9	260	0.6	<1	33	–	30
15-apr-92	BC a	U	10.2	2.4	240	0.3	<1	30	–	24
15-apr-92	BC a	U	16.2	<0.4	65	<2	<1	13	–	15
15-apr-92	BC a	U	19.0	<0.4	59	0.5	<1	18	–	12
15-apr-92	BC a	U	24.0	0.9	62	0.5	<1	7	–	5
15-apr-92	BC a	U	28.2	<0.4	61	0.5	<1	7	–	14
15-apr-92	BC a	U	30.5	1.2	100	0.7	<1	9	–	11
W-879-01										
12-feb-90	BC a	U	1.5	0.68	140	<0.2	6.4	47	–	56
12-feb-90	BC a	U	6.0	<0.4	1100	0.58	4.5	65	–	41
12-feb-90	BC a	U	10.6	1.7	160	<0.2	6.4	38	–	40
12-feb-90	BC a	U	15.5	0.64	95	<0.2	5.3	32	–	38
13-feb-90	BC a	U	45.8	1.8	23	<0.2	4.3	17	–	21
13-feb-90	BC a	U	50.0	0.6	30	<0.2	3.1	14	–	19
3SS-26-01										
20-sep-91	BC a	U	0.0	0.6	210	0.6	16	19	–	27
20-sep-91	CL a	U	0.0	2	170	0.6	<0.1	17	–	29
3SS-26-02										
20-sep-91	CL a	U	0.0	3	210	0.4	1.3	36	–	340
30-aug-94	CS a	V	0.0	<0.5	80	<0.5	<0.1	8.6	–	11
3SS-27-01										
17-sep-91	CL a	U	0.0	<1	200	0.3	<0.1	23	–	18
3SS-27-02										
17-sep-91	CL a	U	0.0	<1	140	0.8	0.1	31	–	26
3SS-27-03										
25-sep-91	CL a	U	0.0	<1	140	0.5	<0.1	18	–	18
3SS-27-04										
25-sep-91	CL a	U	0.0	<1	190	0.5	1.4	23	–	95
3SS-27-05										
25-sep-91	CL a	U	0.0	<1	120	0.4	0.2	21	–	68
3SS-51-01										
20-sep-91	BC a	U	0.0	4.2	130	0.4	12	28	–	22
20-sep-91	CL a	U	0.0	3	160	0.6	0.2	24	–	31
3SS-51-02										
26-sep-91	CL a	U	0.0	1	110	0.2	<0.1	24	–	18
3SS-51-07										
30-aug-94	CS a	V	0.0	2.7	170	<0.5	<0.1	34	–	21
3SS-51-08										
14-sep-94	CS a	V	0.0	2.4	220	<0.5	<0.1	25	–	18
3SS-51-09										
30-aug-94	CS a	V	0.0	1.5	160	<0.5	<0.1	25	–	17

Results recorded by 17-oct-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								(continued) GSA Study Area and Offsite
								W-875-09
–	180	–	0.2	31	<0.4	<1	360	18-mar-92
–	5	–	0.03	35	<0.4	<1	45	18-mar-92
–	<4	–	<0.02	6	<0.4	<1	30	18-mar-92
–	<4	–	<0.02	7	<0.4	<1	32	18-mar-92
–	<4	–	<0.02	5	10	<1	36	18-mar-92
–	<4	–	<0.02	5	<0.4	<1	31	18-mar-92
–	<4	–	<0.02	5	<0.4	<1	29	18-mar-92
–	5	–	<0.02	8	<0.4	<1	34	18-mar-92
–	<4	–	<0.02	10	1.2	<1	63	18-mar-92
–	4	–	<0.02	10	<0.4	<1	57	18-mar-92
								W-875-15
–	33	–	0.03	25	<0.4	1	70	15-apr-92
–	16	–	0.03	36	<0.4	<1	47	15-apr-92
–	<40	–	<0.02	<20	<0.4	<1	34	15-apr-92
–	10	–	<0.02	10	<0.4	<1	43	15-apr-92
–	13	–	<0.02	7	<0.4	<1	34	15-apr-92
–	16	–	<0.02	3	<0.4	<1	34	15-apr-92
–	19	–	<0.02	13	<0.4	1	20	15-apr-92
								W-879-01
–	<6	–	0.03	29	<0.4	<0.4	91	12-feb-90
–	<6	–	0.04	35	<0.4	<0.4	57	12-feb-90
–	<6	–	0.05	26	<0.4	<0.4	47	12-feb-90
–	<6	–	0.01	17	<0.4	<0.4	49	12-feb-90
–	<6	–	0.05	13	<0.4	<0.4	45	13-feb-90
–	<6	–	0.04	9.3	<0.4	<0.4	55	13-feb-90
								3SS-26-01
–	5	–	<0.05	19	<0.4	<1	500	20-sep-91
–	18	–	<0.1	16	<1	<0.5	580	20-sep-91
								3SS-26-02
–	74	–	0.2	44	<1	2.5	830	20-sep-91
–	14	–	<0.05	<10	<0.5	<2.5	40	30-aug-94
								3SS-27-01
–	14	–	<0.1	19	<1	<0.5	39	17-sep-91
								3SS-27-02
–	20	–	<0.1	32	<1	<0.5	40	17-sep-91
								3SS-27-03
–	29	–	<0.1	18	<1	<0.5	64	25-sep-91
								3SS-27-04
–	68	–	<0.1	23	<1	<0.5	140	25-sep-91
								3SS-27-05
–	48	–	<0.1	17	<1	<0.5	150	25-sep-91
								3SS-51-01
–	9	–	<0.05	31	<0.4	<1	54	20-sep-91
–	22	–	<0.1	32	<1	<0.5	65	20-sep-91
								3SS-51-02
–	7	–	<0.1	28	<1	<0.5	41	26-sep-91
								3SS-51-07
–	28	–	<0.05	38	<0.5	<2.5	53	30-aug-94
								3SS-51-08
–	15	–	<0.05	18	0.51	<2.5	47	14-sep-94
								3SS-51-09
–	28	–	<0.05	16	<0.5	<2.5	57	30-aug-94

TTLC analyses (mg/kg) for metals in soil from the General Services Area (GSA), Site 300.

Location Date	Lab	Val. Note	Depth	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite (continued)										
3SS-51-10 30-aug-94	CS a	V	0.0	3.6	230	0.59	<0.1	30	-	22
3SS-60-01 30-aug-94	CS a	V	0.0	1.7	110	<0.5	<0.1	21	-	18

Results recorded by 17-oct-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
					(continued) GSA Study Area and Offsite			
-	35	-	<0.05	25	<0.5	<2.5	53	3SS-51-10 30-aug-94
-	23	-	<0.05	16	<0.5	<2.5	50	3SS-60-01 30-aug-94

See following page for notes

TTLC analyses (mg/kg) for metals in soil from the General Services Area (GSA), Site 300.
Results recorded by 17-oct-1994.

Notes:

- Indicates no analysis performed for this compound.

* Maximum Contaminant Levels (MCL) for selected metals

Footnotes

a ERD data
b EMAD data
c Analytical results for this sample are suspect
d Sample taken during hydraulic testing
e Blind sample, sent to lab without well identity
f Sample dilution necessary for analysis; detection limits increased
g Interlaboratory collocated sample
h Intralaboratory collocated sample
i Sample collected as part of pilot study
j Note may contain important information regarding this sample
k Pre-development sample
l Norm_month, norm_qtr or norm_year inconsistent with sample date
n Sample analyzed after standard holding time

Lab Codes

BC Brown and Caldwell, Emeryville, CA
CL Clayton Environmental Consultants, Pleasanton, CA.
CS California Laboratory Services, Rancho Cordova, CA.
GT Groundwater Technology Environmental Labs, Concord, CA.

Validation Codes

V Validated
N Not validated (default value)
U Undeclared
H Historical comparison only

Appendix A
Section A-3.4

Soil Analysis for Metals (STLC Method) Sampled Before September 31, 1994, and Recorded by November 17, 1994

Metals in Soil from Boreholes, GSA, Site 300
14-dec-1994
water::epddata

s3metGSA.SO-2L.13dec94
s3metGSA.SO-2R.13dec94

Min Sample Date
01-jan-1972
Max Sample Date
30-sep-1994

STLC analyses (mg/L) for metals in soil from the General Services Area (GSA), Site 300.

Location Date	Lab	Val. Note	Depth	Arsenic 0.05*	Barium 1.0*	Beryllium	Cadmium	Total Chromium 0.05*	Hexavalent Chromium	Copper
GSA Study Area and Offsite										
W-26R-04										
07-oct-91	BC a	U	6.0	0.08	8.9	<0.01	<0.05	<0.05	–	4
875-B	(completed as W-875-05)									
21-nov-89	BC a	U	5.3	0.14	4.9	<0.01	<0.04	<0.05	–	5.7
21-nov-89	BC a	U	10.5	0.08	4.2	<0.01	<0.04	<0.05	–	0.14
875-D	(completed as W-875-02)									
27-nov-89	BC a	U	5.0	<0.02	5.6	<0.01	<0.04	<0.05	–	0.18
27-nov-89	BC a	U	10.3	0.05	7.3	<0.01	<0.04	<0.05	–	0.35
875-E	(completed as W-875-03)									
27-nov-89	BC a	U	7.3	0.03	8.4	<0.01	<0.04	0.06	–	0.53
27-nov-89	BC a	U	10.6	0.02	7	<0.01	<0.04	0.15	–	0.42
875-F	(completed as W-872-01)									
29-nov-89	BC a	U	5.6	0.03	5.8	<0.01	<0.04	<0.05	–	0.18
29-nov-89	BC a	U	10.5	0.03	3.8	<0.01	<0.04	<0.05	–	0.21
875-G	(completed as W-875-04)									
29-nov-89	BC a	U	5.5	0.05	4.9	<0.01	<0.04	<0.05	–	0.14
29-nov-89	BC a	U	10.4	0.04	6.1	<0.01	<0.04	0.05	–	0.17
875-H	(completed as W-876-01)									
14-dec-89	BC a	U	6.3	0.02	4.8	<0.01	<0.04	<0.05	–	0.19
14-dec-89	BC a	U	11.0	0.1	1.7	<0.01	<0.04	<0.05	–	0.24
3SS-26-01										
20-sep-91	BC a	U	0.0	0.02	6.3	<0.01	<0.05	<0.05	–	0.16
20-sep-91	CL a	U	0.0	<0.05	6.6	<0.05	<0.05	<0.1	–	0.2
3SS-26-02										
20-sep-91	CL a	U	0.0	<0.05	9.8	<0.05	0.07	0.1	–	34
3SS-27-01										
17-sep-91	CL a	U	0.0	<0.05	13	<0.05	<0.05	<0.1	–	0.3
3SS-27-02										
17-sep-91	CL a	U	0.0	<0.05	7.8	<0.05	<0.05	<0.1	–	0.5
3SS-27-03										
25-sep-91	CL a	U	0.0	<0.05	6.8	<0.05	<0.05	<0.1	–	0.2
3SS-27-04										
25-sep-91	CL a	U	0.0	<0.05	10	<0.05	0.1	0.1	–	1.4
3SS-27-05										
25-sep-91	CL a	U	0.0	<0.05	4.8	<0.05	<0.05	<0.1	–	0.5
3SS-51-01										
20-sep-91	BC a	U	0.0	0.04	5.6	<0.01	<0.05	0.07	–	0.17
20-sep-91	CL a	U	0.0	0.09	6.3	<0.05	<0.05	<0.1	–	0.4
3SS-51-02										
26-sep-91	CL a	U	0.0	<0.05	4.5	<0.05	<0.05	<0.1	–	0.1

Results recorded by 17-oct-1994.

Iron	Lead 0.05*	Manganese	Mercury 0.002*	Nickel	Selenium 0.01*	Silver 0.05*	Zinc 5.0*	Location Date
								GSA Study Area and Offsite
								W-26R-04
-	0.2	-	<0.005	0.3	<0.02	<0.05	0.55	07-oct-91
								875-B
-	<0.3	-	<0.001	0.3	<0.02	<0.02	0.36	21-nov-89
-	<0.3	-	<0.001	0.28	<0.02	<0.02	<0.01	21-nov-89
								875-D
-	<0.3	-	<0.001	0.32	<0.02	<0.02	<0.01	27-nov-89
-	<0.3	-	<0.001	0.36	<0.02	<0.02	<0.01	27-nov-89
								875-E
-	<0.3	-	<0.001	0.52	<0.02	<0.02	0.04	27-nov-89
-	<0.3	-	<0.001	0.27	<0.02	<0.02	0.56	27-nov-89
								875-F
-	<0.3	-	0.001	0.48	<0.02	<0.02	<0.01	29-nov-89
-	<0.3	-	0.001	0.37	<0.02	<0.02	0.03	29-nov-89
								875-G
-	<0.3	-	<0.001	0.43	<0.02	<0.02	<0.01	29-nov-89
-	<0.3	-	<0.001	0.42	<0.02	<0.02	0.44	29-nov-89
								875-H
-	<0.3	-	<0.001	0.25	<0.02	<0.02	0.06	14-dec-89
-	<0.3	-	<0.001	0.1	<0.02	<0.02	0.04	14-dec-89
								3SS-26-01
-	<0.2	-	<0.005	0.2	<0.02	<0.05	23	20-sep-91
-	0.1	-	<0.01	0.3	<0.05	<0.1	23	20-sep-91
								3SS-26-02
-	5.5	-	<0.01	0.6	<0.05	<0.1	48	20-sep-91
								3SS-27-01
-	0.1	-	<0.01	0.4	<0.05	<0.1	0.3	17-sep-91
								3SS-27-02
-	0.1	-	<0.01	1.3	<0.05	<0.1	0.4	17-sep-91
								3SS-27-03
-	0.2	-	<0.01	0.4	<0.05	<0.1	1.9	25-sep-91
								3SS-27-04
-	2.2	-	<0.01	0.6	<0.05	<0.1	5.6	25-sep-91
								3SS-27-05
-	0.1	-	<0.01	0.4	<0.05	<0.1	0.2	25-sep-91
								3SS-51-01
-	<0.2	-	<0.005	0.2	<0.02	<0.05	0.64	20-sep-91
-	0.1	-	<0.01	0.3	<0.05	<0.1	0.9	20-sep-91
								3SS-51-02
-	0.1	-	<0.01	<0.1	<0.05	<0.1	0.2	26-sep-91

See following page for notes

STLC analyses (mg/L) for metals in soil from the General Services Area (GSA), Site 300.
Results recorded by 17-oct-1994.

Notes:

- Indicates no analysis performed for this compound.

* Maximum Contaminant Levels (MCL) for selected metals

Footnotes

a ERD data
b EMAD data
c Analytical results for this sample are suspect
d Sample taken during hydraulic testing
e Blind sample, sent to lab without well identity
f Sample dilution necessary for analysis; detection limits increased
g Interlaboratory collocated sample
h Intralaboratory collocated sample
i Sample collected as part of pilot study
j Note may contain important information regarding this sample
k Pre-development sample
l Norm_month, norm_qtr or norm_year inconsistent with sample date
n Sample analyzed after standard holding time

Lab Codes

BC Brown and Caldwell, Emeryville, CA
CL Clayton Environmental Consultants, Pleasanton, CA.

Validation Codes

V Validated
N Not validated (default value)
U Undeclared
H Historical comparison only

Appendix A
Section A-4

Passive Soil Vapor Analyses for the GSA Operable Unit

Petrex soil vapor analyses (total ion counts) from the General Service Area (GSA), Site 300.
Results recorded by January 12, 1995.

Location	Date	Duration (days)	TCE	PCE

Petrex Soil Vapor from GSA, Site 300
(gsasvx)
Current Date: 26-jan-1995
Current Time: 12:21:06

Data Set Includes Data
From: 31-JAN-91
To: 18-FEB-94

Petrex soil vapor analyses (total ion counts) from the General Service Area (GSA), Site 300. Results recorded by January 12, 1995.

Location	Date	Duration (days)	TCE	PCE
GSA Study Area and Offsite				
SVX-GALLO-01	11-feb-1994	14	<200	-
SVX-GALLO-02	11-feb-1994	14	<200	-
SVX-GALLO-03	11-feb-1994	14	<200	-
SVX-GALLO-04	11-feb-1994	14	<200	-
SVX-GALLO-05	11-feb-1994	14	<200	-
SVX-GALLO-06	11-feb-1994	14	<200	-
SVX-GALLO-07	11-feb-1994	14	<200	-
SVX-GALLO-08	11-feb-1994	14	<200	-
SVX-GALLO-09	11-feb-1994	14	<200	-
SVX-GALLO-10	11-feb-1994	14	<200	-
SVX-GALLO-11	11-feb-1994	14	<200	-
SVX-GALLO-12	11-feb-1994	14	<200	-
SVX-GALLO-13	11-feb-1994	14	<200	-
SVX-GALLO-14	11-feb-1994	14	<200	-
SVX-GALLO-15	11-feb-1994	14	<200	-
SVX-GALLO-16	11-feb-1994	14	<200	-
SVX-GALLO-17	11-feb-1994	14	<200	-
SVX-GALLO-18	11-feb-1994	14	<200	-
SVX-GALLO-19	11-feb-1994	14	<200	-
SVX-GALLO-20	11-feb-1994	14	<200	-
SVX-GALLO-21	11-feb-1994	14	<200	-
SVX-GALLO-22	11-feb-1994	14	<200	-
SVX-GALLO-23	11-feb-1994	14	<200	-
SVX-GALLO-24	11-feb-1994	14	<200	-
SVX-GALLO-25	11-feb-1994	14	<200	-
SVX-GALLO-26	11-feb-1994	14	<200	-
SVX-GALLO-27	11-feb-1994	14	<200	-
SVX-GALLO-28	11-feb-1994	14	<200	-
SVX-GALLO-29	11-feb-1994	14	<200	-
SVX-GALLO-30	11-feb-1994	14	<200	-

Petrex soil vapor analyses (total ion counts) from the General Service Area (GSA), Site 300. Results recorded by January 12, 1995.

Location	Date	Duration (days)	TCE	PCE
GSA Study Area and Offsite (continued)				
SVX-GALLO-31	11-feb-1994	14	<200	-
SVX-GALLO-32	11-feb-1994	14	<200	-
SVX-GALLO-33	11-feb-1994	14	<200	-
SVX-GALLO-34	11-feb-1994	14	<200	-
SVX-GALLO-35	11-feb-1994	14	<200	-
SVX-GALLO-36	11-feb-1994	14	<200	-
SVX-GALLO-37	11-feb-1994	14	<200	-
SVX-GSA-001	31-jan-1991	22	0	413
SVX-GSA-002	31-jan-1991	22	0	0
SVX-GSA-003	31-jan-1991	22	0	0
SVX-GSA-004	31-jan-1991	22	211	264
SVX-GSA-005	31-jan-1991	22	0	0
SVX-GSA-006	31-jan-1991	22	0	0
SVX-GSA-007	31-jan-1991	22	0	0
SVX-GSA-008	31-jan-1991	22	272	1304
SVX-GSA-009	31-jan-1991	22	0	253
SVX-GSA-010	31-jan-1991	22	0	0
SVX-GSA-011	31-jan-1991	22	0	210
SVX-GSA-012	31-jan-1991	22	0	248
SVX-GSA-013	31-jan-1991	22	0	0
SVX-GSA-014	31-jan-1991	22	0	333
SVX-GSA-015	31-jan-1991	22	0	0
SVX-GSA-016	31-jan-1991	22	0	0
SVX-GSA-017	31-jan-1991	22	0	282
SVX-GSA-018	31-jan-1991	22	0	0
SVX-GSA-019	31-jan-1991	22	0	0
SVX-GSA-020	31-jan-1991	22	0	290
SVX-GSA-021	31-jan-1991	22	0	381
SVX-GSA-200	02-jul-1992	14	494	2469
	02-jul-1992	14	427	1953
SVX-GSA-201	02-jul-1992	14	453	7603

Petrex soil vapor analyses (total ion counts) from the General Service Area (GSA), Site 300. Results recorded by January 12, 1995.

Location	Date	Duration (days)	TCE	PCE
GSA Study Area and Offsite (continued)				
SVX-GSA-202	02-jul-1992	14	0	2661
SVX-GSA-203	02-jul-1992	14	2851	40747
SVX-GSA-204	02-jul-1992	14	392	8447
SVX-GSA-205	02-jul-1992	14	904	8982
SVX-GSA-206	02-jul-1992	14	0	201
SVX-GSA-207	02-jul-1992	14	485	2360
SVX-GSA-208	02-jul-1992	14	0	209
SVX-GSA-209	02-jul-1992	14	0	1000
SVX-GSA-210	02-jul-1992	14	0	0
SVX-GSA-211	02-jul-1992	14	0	0
SVX-GSA-212	02-jul-1992	14	0	0
SVX-GSA-213	02-jul-1992	14	579	9613
SVX-GSA-214	02-jul-1992	14	448	2308
	02-jul-1992	14	216	1342
SVX-GSA-215	02-jul-1992	14	7463	5204
SVX-GSA-216	02-jul-1992	14	35939	39370
SVX-GSA-217	02-jul-1992	14	0	578
SVX-GSA-218	02-jul-1992	14	0	395
SVX-GSA-219	02-jul-1992	14	453	3492
SVX-GSA-220	02-jul-1992	14	0	293
SVX-GSA-225	18-feb-1994	14	19556	8918
SVX-GSA-226	18-feb-1994	14	0	0
SVX-GSA-227	18-feb-1994	14	40227	13764
SVX-GSA-228	18-feb-1994	14	–	94840
SVX-GSA-229	18-feb-1994	14	8413	0
SVX-GSA-230	18-feb-1994	14	–	25243
SVX-GSA-231	18-feb-1994	14	81125	15520
SVX-GSA-232	18-feb-1994	14	20090	4456
SVX-GSA-233	18-feb-1994	14	0	0
SVX-GSA-234	18-feb-1994	14	43448	9354
SVX-GSA-235	18-feb-1994	14	4375	0

Petrex soil vapor analyses (total ion counts) from the General Service Area (GSA), Site 300. Results recorded by January 12, 1995.

Location	Date	Duration (days)	TCE	PCE
GSA Study Area and Offsite (continued)				
SVX-GSA-236	18-feb-1994	14	0	0
SVX-GSA-237	18-feb-1994	14	85527	17859
SVX-GSA-238	18-feb-1994	14	49119	44163
SVX-GSA-239	18-feb-1994	14	0	0
SVX-GSA-240	18-feb-1994	14	-	-
SVX-GSA-241	18-feb-1994	14	-	81378
SVX-GSA-242	18-feb-1994	14	-	-

Notes:
- Indicates no analysis performed for this compound.
All samples were taken using PETREX.

Appendix A
Section A-5

Emission Isolation Flux Chamber Analyses for the GSA Operable Unit

Appendix A
Section A-5.1

Emission Isolation Flux Chamber Analyses for Volatile Organic Compounds

Table A-5.1. Emission isolation flux chamber concentrations (ppm(v/v)) for volatile organic compounds.

Sample label	Location	Type	Sample date	1,1,1,-TCA		Chloromethane		Dichloro-difluoromethane		Methylene chloride		Styrene		PCE		TCE		Freon 113	
Building 875 dry well area sampling zone																			
3SF-WGSA-001-001	3SF-WGSA-001	RTN	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0008	JF	<0.0007	U	<0.0007	U	<0.0007	U	0.027	
3SF-WGSA-002-001	3SF-WGSA-002	RTN	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0033		<0.0007	U	<0.0007	U	<0.0007	U	0.011	F
3SF-WGSA-003-001	3SF-WGSA-003	RTN	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.014	JF	<0.0007	U	<0.0007	U	0.0052		0.015	F
3SF-WGSA-004-001	3SF-WGSA-004	RTN	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.008	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.00075	U
3SF-WGSA-005-001	3SF-WGSA-005	RTN	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	UJ	<0.0007	U	<0.0007	U	0.001		0.015	
3SF-WGSA-006-001	3SF-WGSA-006	RTN	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0016		<0.0007	U	<0.0007	U	<0.0007	U	0.011	F
3SF-WGSA-006-002	3SF-WGSA-006	DUP	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0009	F	<0.0007	U	<0.0007	U	<0.0007	U	0.012	F
3SF-WGSA-007-001	3SF-WGSA-007	RTN	22-Sep-94	<0.0007	U	0.0017		<0.0007	U	0.047	FJ	<0.0007	U	0.001		0.01		0.025	F
3SF-WGSA-008-001	3SF-WGSA-008	RTN	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0011	F	<0.0007	U	<0.0007	U	<0.0007	U	0.009	F
3SF-WGSA-009-001	3SF-WGSA-009	RTN	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0018	JF	<0.0007	U	<0.0007	U	<0.0007	U	0.021	
3SF-WGSA-010-001	3SF-WGSA-010	RTN	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0008	JF	<0.0007	U	<0.0007	U	<0.0007	U	0.021	F
3SF-WGSA-011-001	3SF-WGSA-011	RTN	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.046	FJ	<0.0007	U	<0.0007	U	0.0009		0.019	F
3SF-WGSA-012-001	3SF-WGSA-012	RTN	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.0091	F
3SF-WGSA-CONTROL-001	SVX-GSA-242	CNT	22-Sep-94	<0.0007	U	<0.0007	U	0.0007		<0.0007	UJ	<0.0007	U	<0.0007	U	<0.0007	U	0.013	F
3SF-WGSA-CONTROL-002	SVX-GSA-242	CNT	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0023	FJ	<0.0007	U	<0.0007	U	<0.0007	U	0.016	F
3SF-WGSA-CONTROL-003	SVX-GSA-242	DUP	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0029	FJ	<0.0007	U	<0.0007	U	<0.0007	U	0.018	
Central GSA sampling zone																			
3SF-CGSA-001-001	3SF-CGSA-001	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.037	F
3SF-CGSA-002-001	3SF-CGSA-002	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-003-001	3SF-CGSA-003	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.13	
3SF-CGSA-004-001	3SF-CGSA-004	RTN	19-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0022	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-005-001	3SF-CGSA-005	RTN	19-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0087	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-006-001	3SF-CGSA-006	RTN	19-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.02	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-007-001	3SF-CGSA-007	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0065	F	<0.0007	U	<0.0007	U	<0.0007	U	0.11	
3SF-CGSA-008-001	3SF-CGSA-008	RTN	19-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0014	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-009-001	3SF-CGSA-009	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0012	F	<0.0007	U	<0.0007	U	<0.0007	U	0.066	F
3SF-CGSA-010-001	3SF-CGSA-010	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0024	F	<0.0007	U	<0.0007	U	<0.0007	U	0.1	F
3SF-CGSA-011-001	3SF-CGSA-011	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.087	
3SF-CGSA-012-001	3SF-CGSA-012	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0011	F	<0.0007	U	<0.0007	U	<0.0007	U	0.052	
3SF-CGSA-012-002	3SF-CGSA-012	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0014	F	<0.0007	U	<0.0007	U	<0.0007	U	0.054	
3SF-CGSA-013-001	3SF-CGSA-013	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.12	F
3SF-CGSA-014-001	3SF-CGSA-014	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.09	F
3SF-CGSA-015-001	3SF-CGSA-015	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.002	F	<0.0007	U	<0.0007	U	<0.0007	U	0.031	F
3SF-CGSA-016-001	3SF-CGSA-016	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.002	F	<0.0007	U	<0.0007	U	<0.0007	U	0.13	F

Table A-5.1. (Continued)

Sample label	Location	Type	Sample date	1,1,1,-TCA		Chloromethane		Dichloro-difluoromethane		Methylene chloride		Styrene		PCE		TCE		Freon 113	
3SF-CGSA-016-004	3SF-CGSA-016	CNT	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0074	F	<0.0007	U	<0.0007	U	<0.0007	U	0.02	F
3SF-CGSA-017-001	3SF-CGSA-017	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.006	F	<0.0007	U	<0.0007	U	<0.0007	U	0.086	
3SF-CGSA-018-001	3SF-CGSA-018	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0013	F	<0.0007	U	<0.0007	U	<0.0007	U	0.025	F
3SF-CGSA-019-001	3SF-CGSA-019	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0013	F	<0.0007	U	<0.0007	U	<0.0007	U	0.024	
3SF-CGSA-020-001	3SF-CGSA-020	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.036	F	<0.0007	U	<0.0007	U	<0.0007	U	0.028	F
3SF-CGSA-020-002	3SF-CGSA-020	DUP	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.036	F	<0.0007	U	<0.0007	U	<0.0007	U	0.025	F
3SF-CGSA-CONTROL-001	SVX-GSA-240	DUP	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0044	JF	<0.0007	U	<0.0007	U	<0.0007	U	0.01	
3SF-CGSA-CONTROL-002	SVX-GSA-240	DUP	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0039	JF	<0.0007	U	<0.0007	U	0.0018		0.018	
Eastern GSA sampling zone																			
3SF-EGSA-001-001	3SF-EGSA-001	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.011	F	<0.0007	U	<0.0007	U	0.0008		0.014	F
3SF-EGSA-002-001	3SF-EGSA-002	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0067	F	<0.0007	U	<0.0007	U	<0.0007	U	0.012	
3SF-EGSA-003-001	3SF-EGSA-003	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0057	F	0.0009		<0.0007	U	<0.0007	U	0.014	
3SF-EGSA-004-001	3SF-EGSA-004	RTN	21-Sep-94	<0.0008	U	<0.0008	U	<0.0008	U	0.0014	F	<0.0008	U	<0.0008	U	<0.0008	U	0.0069	F
3SF-EGSA-004-002	3SF-EGSA-004	DUP	21-Sep-94	0.0007		<0.0007	U	<0.0007	U	0.0063	F	<0.0007	U	<0.0007	U	<0.0007	U	0.017	F
3SF-EGSA-005-001	3SF-EGSA-005	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0013	F	<0.0007	U	<0.0007	U	<0.0007	U	0.011	F
3SF-EGSA-006-001	3SF-EGSA-006	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.003	F	<0.0007	U	<0.0007	U	<0.0007	U	0.016	
3SF-EGSA-007-001	3SF-EGSA-007	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0077	F	<0.0007	U	<0.0007	U	<0.0007	U	0.012	
3SF-EGSA-007-002	3SF-EGSA-007	DUP	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.011	F	<0.0007	U	<0.0007	U	<0.0007	U	0.014	
3SF-EGSA-008-001	3SF-EGSA-008	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0012	F	<0.0007	U	<0.0007	U	<0.0007	U	0.016	F
3SF-EGSA-009-001	3SF-EGSA-009	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.002	F	<0.0007	U	<0.0007	U	<0.0007	U	0.015	F
3SF-EGSA-010-001	3SF-EGSA-010	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0012	F	<0.0007	U	<0.0007	U	<0.0007	U	0.022	F
3SF-EGSA-011-001	3SF-EGSA-011	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.024	F	<0.0007	U	<0.0007	U	<0.0007	U	0.017	F
3SF-EGSA-012-001	3SF-EGSA-012	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.032	F	<0.0007	U	<0.0007	U	<0.0007	U	0.015	F
3SF-EGSA-013-001	3SF-EGSA-013	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.041	F	<0.0007	U	<0.0007	U	<0.0007	U	0.014	F
3SF-EGSA-014-001	3SF-EGSA-014	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.014	F	<0.0007	U	<0.0007	U	<0.0007	U	0.022	F
3SF-EGSA-015-001	3SF-EGSA-015	RTN	22-Sep-94	<0.0007	DU	<0.0007	DU	0.001	D	<0.0007	DU	<0.0007	DU	<0.0007	DU	<0.0007	DU	0.021	DF
3SF-EGSA-015-002	3SF-EGSA-015	DUP	22-Sep-94	<0.0007	DU	<0.0007	DU	0.0008	D	<0.0007	DU	<0.0007	DU	<0.0007	DU	<0.0007	DU	0.014	DF
3SF-EGSA-016-001	3SF-EGSA-016	RTN	22-Sep-94	<0.0007	DU	<0.0007	DU	0.0014	D	<0.0007	DU	<0.0007	DU	<0.0007	DU	<0.0007	DU	0.012	D
3SF-EGSA-017-001	3SF-EGSA-017	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.014	F	<0.0007	U	<0.0007	U	<0.0007	U	0.012	
3SF-EGSA-017-002	3SF-EGSA-017	DUP	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.022	F	<0.0007	U	<0.0007	U	<0.0007	U	0.019	
3SF-EGSA-CONTROL-001	SVX-GSA-241	CNT	21-Sep-94	<0.0007	DU	<0.0007	DU	<0.0007	DU	0.0013	DF	<0.0007	DU	<0.0007	DU	<0.0007	DU	0.018	D
3SF-EGSA-CONTROL-002	SVX-GSA-241	CNT	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0017	F	<0.0007	U	<0.0007	U	<0.0007	U	0.016	
3SF-EGSA-CONTROL-003	SVX-GSA-241	DUP	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0015	F	<0.0007	U	<0.0007	U	<0.0007	U	0.019	
Method blanks																			
3SF-WGSA-METHOD-001	GSA field	BLM	19-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0008	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-WGSA-METHOD-002	GSA field	BLM	19-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0009	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U

Table A-5.1. (Continued)

Sample label	Location	Type	Sample date	1,1,1,-TCA		Chloromethane		Dichloro-difluoromethane		Methylene chloride		Styrene		PCE		TCE		Freon 113	
3SF-WGSA-METHOD-003	GSA field	BLM	19-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0086	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-METHOD-002	GSA field	BLM	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.025	F	<0.0007	U	<0.0007	U	<0.0007	U	0.043	F
3SF-EGSA-METHOD-001	GSA field	BLM	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	0.0025	F	<0.0007	U	<0.0007	U	<0.0007	U	0.024	F
3SF-LAB-METHOD-001	LLNL laboratory	BLM	29-Sep-94	<0.0003	DU	<0.0003	DU	0.0004	D	0.0011	DJ	<0.0003	DU	<0.0003	DU	<0.0003	DU	0.0069	D
3SF-LAB-METHOD-002	LLNL laboratory	BLM	29-Sep-94	<0.0003	DU	<0.0003	DU	0.0008	D	0.0015	DU	<0.0003	DU	<0.0003	DU	<0.0003	DU	0.023	D
3SF-LAB-METHOD-003	LLNL laboratory	BLM	29-Sep-94	<0.0003	DU	<0.0003	DU	0.0005	D	0.0007	DJ	<0.0003	DU	<0.0003	DU	<0.0003	DU	0.079	D

Sample Types:

RTN = Routine sample

DUP = Duplicate sample

CNT = Control point sample

BLM = Method blank

Data Qualifiers:

D = Analysis performed at a secondary dilution or concentration.

F = Analyte detected in field blank.

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.

U = Compound was analyzed for, but not detected above detection limit.

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Appendix A
Section A-5.2

Emission Isolation Flux Chamber Analyses for Aromatic and Fuel Hydrocarbons

Table A-5.2. Emission isolation flux chamber concentrations (ppm (v/v)) for aromatics and fuel hydrocarbons.

Sample label	Location	Sample type	Sample date	1,2,4-Trimethylbenzene		1,3,5-Trimethylbenzene		Benzene		Ethylbenzene		Toluene		m- and p-xylenes		o- xylene	
Building 875 dry well area sampling zone																	
3SF-WGSA-001-001	3SF-WGSA-001	RTN	22-Sep-94	<0.0007	U	<0.0007	U	0.0007	F	<0.0007	U	0.0009		<0.0007	U	<0.0007	U
3SF-WGSA-002-001	3SF-WGSA-002	RTN	22-Sep-94	<0.0007	U	<0.0007	U	0.0014	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-WGSA-003-001	3SF-WGSA-003	RTN	22-Sep-94	<0.0007	U	<0.0007	U	0.0011	F	<0.0007	U	0.0012	F	0.0016		<0.0007	U
3SF-WGSA-004-001	3SF-WGSA-004	RTN	22-Sep-94	<0.0007	U	<0.0007	U	0.0015	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-WGSA-005-001	3SF-WGSA-005	RTN	22-Sep-94	0.0013		<0.0007	U	0.0017	F	<0.0007	U	0.0017		<0.0007	U	<0.0007	U
3SF-WGSA-006-001	3SF-WGSA-006	RTN	22-Sep-94	<0.0007	U	<0.0007	U	0.002	F	<0.0007	U	0.0008	F	<0.0007	U	<0.0007	U
3SF-WGSA-006-002	3SF-WGSA-006	DUP	22-Sep-94	<0.0007	U	<0.0007	U	0.0019	F	<0.0007	U	0.0011	F	0.0007		<0.0007	U
3SF-WGSA-007-001	3SF-WGSA-007	RTN	22-Sep-94	0.0025		<0.0007	U	0.0011	F	<0.0007	U	0.0088		0.005		0.0013	
3SF-WGSA-008-001	3SF-WGSA-008	RTN	22-Sep-94	<0.0007	U	<0.0007	U	0.0015	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-WGSA-009-001	3SF-WGSA-009	RTN	22-Sep-94	0.0013		<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-WGSA-010-001	3SF-WGSA-010	RTN	22-Sep-94	<0.0007	U	<0.0007	U	0.0011	F	0.0024		<0.0007	U	0.0098		0.0018	
3SF-WGSA-011-001	3SF-WGSA-011	RTN	22-Sep-94	<0.0007	U	<0.0007	U	0.0008	F	<0.0007	U	0.0018		<0.0007	U	<0.0007	U
3SF-WGSA-012-001	3SF-WGSA-012	RTN	22-Sep-94	<0.0007	U	<0.0007	U	0.0011	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-WGSA-CONTROL-001	SVX-GSA-242	CNT	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.0009		<0.0007	U	<0.0007	U
3SF-WGSA-CONTROL-002	SVX-GSA-242	CNT	22-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.001		<0.0007	U	<0.0007	U
3SF-WGSA-CONTROL-003	SVX-GSA-242	DUP	22-Sep-94	<0.0007	U	<0.0007	U	0.0007	F	<0.0007	U	0.001		<0.0007	U	<0.0007	U
Central GSA sampling zone																	
3SF-CGSA-001-001	3SF-CGSA-001	RTN	20-Sep-94	<0.0007	U	<0.0007	U	0.0013	F	<0.0007	U	0.0013	F	0.0009		<0.0007	U
3SF-CGSA-002-001	3SF-CGSA-002	RTN	20-Sep-94	<0.0007	U	<0.0007	U	0.0016	F	<0.0007	U	0.0017		0.0014		<0.0007	U
3SF-CGSA-003-001	3SF-CGSA-003	RTN	20-Sep-94	<0.0007	U	<0.0007	U	0.0009	F	<0.0007	U	0.0012		<0.0007	U	<0.0007	U
3SF-CGSA-004-001	3SF-CGSA-004	RTN	19-Sep-94	<0.0007	U	<0.0007	U	0.001	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-005-001	3SF-CGSA-005	RTN	19-Sep-94	<0.0007	U	<0.0007	U	0.0013	F	<0.0007	U	0.0014		<0.0007	U	<0.0007	U
3SF-CGSA-006-001	3SF-CGSA-006	RTN	19-Sep-94	0.0021		<0.0007	U	<0.0007	U	<0.0007	U	0.0009	F	0.0018		0.0013	
3SF-CGSA-007-001	3SF-CGSA-007	RTN	20-Sep-94	<0.0007	U	<0.0007	U	0.0008	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-008-001	3SF-CGSA-008	RTN	19-Sep-94	<0.0007	U	<0.0007	U	0.0009	F	<0.0007	U	0.0007	F	<0.0007	U	<0.0007	U
3SF-CGSA-009-001	3SF-CGSA-009	RTN	20-Sep-94	<0.0007	U	<0.0007	U	0.018	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-010-001	3SF-CGSA-010	RTN	20-Sep-94	<0.0007	U	<0.0007	U	0.0008	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-011-001	3SF-CGSA-011	RTN	20-Sep-94	<0.0007	U	<0.0007	U	0.0015	F	<0.0007	U	0.0013		0.001		<0.0007	U
3SF-CGSA-012-001	3SF-CGSA-012	RTN	20-Sep-94	<0.0007	U	<0.0007	U	0.002	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-012-002	3SF-CGSA-012	RTN	20-Sep-94	<0.0007	U	<0.0007	U	0.0014	F	<0.0007	U	0.0009		<0.0007	U	<0.0007	U
3SF-CGSA-013-001	3SF-CGSA-013	RTN	20-Sep-94	<0.0007	U	<0.0007	U	0.0011	F	<0.0007	U	0.0009	F	<0.0007	U	<0.0007	U
3SF-CGSA-014-001	3SF-CGSA-014	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-015-001	3SF-CGSA-015	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-016-001	3SF-CGSA-016	RTN	20-Sep-94	<0.0007	U	<0.0007	U	0.0013	F	<0.0007	U	0.001		<0.0007	U	<0.0007	U

Table A-5.2. (Continued)

Sample label	Location	Sample type	Sample date	1,2,4-Trimethylbenzene		1,3,5-Trimethylbenzene		Benzene		Ethylbenzene		Toluene		m- and p-Xylenes		o- Xylene	
3SF-CGSA-016-004	3SF-CGSA-016	CNT	20-Sep-94	<0.0007	U	<0.0007	U	0.0008	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-017-001	3SF-CGSA-017	RTN	20-Sep-94	<0.0007	U	<0.0007	U	0.0012	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-018-001	3SF-CGSA-018	RTN	20-Sep-94	<0.0007	U	<0.0007	U	0.0008	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-019-001	3SF-CGSA-019	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-020-001	3SF-CGSA-020	RTN	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-020-002	3SF-CGSA-020	DUP	20-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-CONTROL-001	SVX-GSA-240	DUP	22-Sep-94	0.0009		<0.0007	U	0.0011	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-CONTROL-002	SVX-GSA-240	DUP	22-Sep-94	0.0048		0.0011		0.0009	F	<0.0007	U	0.0011		0.003		0.0012	
Eastern GSA sampling zone																	
3SF-EGSA-001-001	3SF-EGSA-001	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.0011	F	0.001		<0.0007	U
3SF-EGSA-002-001	3SF-EGSA-002	RTN	21-Sep-94	0.0008		<0.0007	U	0.0009	F	<0.0007	U	0.001		0.001		<0.0007	U
3SF-EGSA-003-001	3SF-EGSA-003	RTN	21-Sep-94	<0.0007	U	<0.0007	U	0.0008	F	<0.0007	U	0.0008		<0.0007	U	<0.0007	U
3SF-EGSA-004-001	3SF-EGSA-004	RTN	21-Sep-94	<0.0008	U	<0.0008	U	0.0014	F	<0.0008	U	0.0011		<0.0008	U	<0.0008	U
3SF-EGSA-004-002	3SF-EGSA-004	DUP	21-Sep-94	<0.0007	U	<0.0007	U	0.0008	F	<0.0007	U	0.0013		<0.0007	U	<0.0007	U
3SF-EGSA-005-001	3SF-EGSA-005	RTN	21-Sep-94	0.0008		<0.0007	U	0.0011	F	<0.0007	U	0.0014		0.0012		<0.0007	U
3SF-EGSA-006-001	3SF-EGSA-006	RTN	21-Sep-94	0.0011		<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-EGSA-007-001	3SF-EGSA-007	RTN	21-Sep-94	<0.0007	U	<0.0007	U	0.0007	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-EGSA-007-002	3SF-EGSA-007	DUP	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-EGSA-008-001	3SF-EGSA-008	RTN	21-Sep-94	<0.0007	U	<0.0007	U	0.001	F	<0.0007	U	0.0012	F	0.0008		<0.0007	U
3SF-EGSA-009-001	3SF-EGSA-009	RTN	21-Sep-94	0.001		<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-EGSA-010-001	3SF-EGSA-010	RTN	21-Sep-94	<0.0007	U	<0.0007	U	0.0009		<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-EGSA-011-001	3SF-EGSA-011	RTN	21-Sep-94	0.0009		<0.0007	U	<0.0007	U	<0.0007	U	0.0008		0.0011		<0.0007	U
3SF-EGSA-012-001	3SF-EGSA-012	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-EGSA-013-001	3SF-EGSA-013	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.0007	F	0.0008		0.0008	
3SF-EGSA-014-001	3SF-EGSA-014	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.0011	F	0.0015		<0.0007	U
3SF-EGSA-015-001	3SF-EGSA-015	RTN	22-Sep-94	<0.0007	DU	<0.0007	DU	0.0013	DF	<0.0007	DU	0.001	DF	<0.0007	DU	<0.0007	DU
3SF-EGSA-015-002	3SF-EGSA-015	DUP	22-Sep-94	<0.0007	DU	<0.0007	DU	0.0009	DF	<0.0007	DU	0.0007	DF	<0.0007	DU	<0.0007	DU
3SF-EGSA-016-001	3SF-EGSA-016	RTN	22-Sep-94	<0.0007	DU	<0.0007	DU	0.0012	DF	<0.0007	DU	0.0009	D	<0.0007	DU	<0.0007	DU
3SF-EGSA-017-001	3SF-EGSA-017	RTN	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-EGSA-017-002	3SF-EGSA-017	DUP	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.0009		0.0016		<0.0007	U
3SF-EGSA-CONTROL-001	SVX-GSA-241	CNT	21-Sep-94	<0.0007	DU	<0.0007	DU	0.0012	DF	<0.0007	DU	0.0011	D	<0.0007	DU	<0.0007	DU
3SF-EGSA-CONTROL-002	SVX-GSA-241	CNT	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.0008		<0.0007	U	<0.0007	U
3SF-EGSA-CONTROL-003	SVX-GSA-241	DUP	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
Method blanks																	
3SF-WGSA-METHOD-001	GSA field	BLM	19-Sep-94	<0.0007	U	<0.0007	U	0.0009	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-WGSA-METHOD-002	GSA field	BLM	19-Sep-94	<0.0007	U	<0.0007	U	0.0008	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U

Table A-5.2. (Continued)

Sample label	Location	Sample type	Sample date	1,2,4-Trimethylbenzene		1,3,5-Trimethylbenzene		Benzene		Ethylbenzene		Toluene		m- and p-Xylenes		o- Xylene	
3SF-WGSA-METHOD-003	GSA field	BLM	19-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-CGSA-METHOD-002	GSA field	BLM	20-Sep-94	<0.0007	U	<0.0007	U	0.0011	F	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U
3SF-EGSA-METHOD-001	GSA field	BLM	21-Sep-94	<0.0007	U	<0.0007	U	<0.0007	U	<0.0007	U	0.0007	F	<0.0007	U	<0.0007	U
3SF-LAB-METHOD-001	LLNL laboratory	BLM	29-Sep-94	<0.0003	DU	<0.0003	DU	0.0003	D	<0.0003	DU	0.0003	D	<0.0003	DU	<0.0003	DU
3SF-LAB-METHOD-002	LLNL laboratory	BLM	29-Sep-94	<0.0003	DU	<0.0003	DU	0.0004	D	<0.0003	DU	0.0005	D	0.0003	D	<0.0003	DU
3SF-LAB-METHOD-003	LLNL laboratory	BLM	29-Sep-94	<0.0003	DU	<0.0003	DU	0.0003	D	<0.0003	DU	0.0004	D	0.0003	D	<0.0003	DU

Sample Types:

RTN = Routine sample.

DUP = Duplicate sample.

CNT = Control point sample.

BLM = Method blank.

Data Qualifiers:

D = Analysis performed at a secondary dilution or concentration.

F = Analyte detected in field blank.

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.

U = Compound was analyzed for, but not detected above detection limit.

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Appendix A
Section A-6

Aquatic Bioassays on Springs 1 and GEOCRK

Appendix A-6.

Aquatic Bioassays on Springs 1 and GEOCRK

The Bioassay Division of MEC Analytical Systems, Inc., performed a series of aquatic bioassays on water samples from two springs in the GSA, spring 1 and spring GEOCRK. The studies conducted were the chronic toxicity test with *Ceriodaphnia dubia* (EPA Method 1002) and the four-day *Selenastrum* growth test (EPA Method 1003) (U.S. EPA, 1989). The study was conducted at the MEC Analytical Systems Bioassay Laboratory in Tiburon, California, under the management of Diane Griffin.

A-6.1. Sampling Protocol

We conducted sampling of spring 1 and spring GEOCRK between May 9, 1994, and May 13, 1994. Due to the small quantity of flowing water in the springs, we excavated a small depression in the spring sediments and allowed water to collect. This allowed us to obtain sufficient water to sample. After the majority of the disturbed sediments settled out of the water (settling time was usually around 10 to 15 minutes), we collected samples using a battery-powered centrifugal pump. Prior to sampling, deionized water was pumped through the centrifugal pump to thoroughly rinse the internal part of the pump. Disposable tubing was used for each sampling. The spring water was pumped directly into precleaned, 1-gal. cubitainers supplied by the analytical laboratory. For the *Ceriodaphia dubia* test (EPA Method 1002), a seven-day test requiring daily renewal of the test water, we collected a 1-gal. water samples from each spring for four successive days. On the fifth day, we collected 3 gal. of water from each spring to provide enough sample water for the daily renewal of the test water over the weekend. The spring water collected on the first day of sampling was also used for the *Selenastrum* test (EPA 1003), a four-day static test that does not require daily renewal of the test water.

A-6.2. Analytical Methods

Maintenance of *Ceriodaphnia* and *Selenastrum* and their testing procedures are described in general form in U.S. EPA (1989). The *Ceriodaphnia* test was a static seven-day test with daily renewal of the test solutions. The *Selenastrum* test was run as a static, 96-hour test.

A-6.2.1. Test Solution Preparation

The spring water samples were chilled in coolers and delivered to MEC Analytical Systems by California Laboratory Services personnel. The samples were held in the dark at 4°C until tested.

The spring water sample concentrations for all tests were 6.25, 12.5, 25, 50, and 100%. Control and dilution water for the *Ceriodaphnia* test was Nanopure-filtered water adjusted to a moderate hardness (80–100 mg/L $CaCO_3$) with Evian™ water.

Control and dilution water for the *Selenastrum* test was Evian™ water with added nutrients for freshwater medium (U.S. EPA, 1989). Freshwater medium nutrients were also added to the spring water samples. All water for the *Selenastrum* test was filtered at 0.45 µm.

A-6.2.2. *Ceriodaphnia dubia* Test

Neonates less than 24 hours old, obtained from the third to eighth brood of batchstock of females selected from in-house laboratory cultures, were used in the test. A single neonate was placed in each of 10 replicate 25-mL test chambers containing 20 mL of test solution. The test was run at 25 ± 1°C under a 16-hour light/8-hour dark photoperiod. Test solutions were renewed daily. Water quality measurements, including temperature, pH, conductivity and dissolved oxygen, were taken on initial and renewal solutions. Mortality and number of neonates were recorded daily. Animals were fed 0.15 mL of a Yeast-Cerophyll-Tetramin-Trout Chow (Y-C-T-T) mix and 350,000 cells/mL *Selenastrum capricornutum* daily. The test was terminated when at least 60% of the controls had produced three broods of neonates.

A-6.2.3. *Selenastrum capricornutum* Test

Triplicate 250-mL flasks containing 100 mL of test solution were inoculated using a log-phase, in-house culture to a density of approximately 10,000 cells/mL of phytoplankton. The test was run at 25 ± 1°C under continuous light for 96 hours. Test containers were randomized and shaken twice daily. Conductivity and pH were recorded in each concentration upon initiation. Alkalinity and hardness were taken in the control and 100% concentration. At the conclusion of the 96-hour exposure period, duplicate turbidity readings were made on each replicate using a Hach DR 2000 spectrophotometer. A calibration curve was constructed to establish the relationship between turbidity and cell density.

A-6.2.4. Criteria for Test Acceptability

The criteria used to determine test acceptability were the following:

Ceriodaphnia dubia

1. Control or 100% effluent survival must equal or exceed 80%.
2. Sixty percent of the surviving control females must produce at least three broods to an average of 15 neonates per female.

Selenastrum capricornutum

1. Control culture must contain an average of 200,000 cells/mL or more.
2. Percent coefficient of variation (c.v.) must be 20% or less between control replicates.

A-6.2.5. Statistical Analysis

Statistical effects can be measured by the ICp, the estimated concentration that causes sublethal or inhibitory (IC) effects on p% of the test population. The IC50 or IC25 is the point estimate of the concentration at which an inhibitory effect in a sublethal parameter (e.g., growth, reproduction) is observed in 50% or 25% of the organisms. The ICp values include 95% confidence limits when available.

The NOEC (No Observable Effect Concentration) is the highest tested concentration at which mortality and other sublethal measured effects are not significantly different from the same parameters in the control. The TUc is defined as 100%/NOEC.

Acute survival data is obtained by calculating percent survival in 100% concentration at 48 hours for *Ceriodaphnia*.

Data were evaluated statistically using ToxCalc™ to determine ICp, NOEC, and TUc values where appropriate. ToxCalc™ is a comprehensive statistical application that follows standard guidelines for acute and chronic toxicity data analysis. An alpha level of 0.05 was used for tests for statistical significance.

A-6.3. Results

All tests met or exceeded passing criteria. Tables A-6.2 and A-6.3 summarize the results of the bioassays. Tables A-6.3 and A-6.4 presents the reference toxicant test results, and Tables A-6.5 and A-6.6 summarize the test conditions. Laboratory bench sheets are archived at LLNL and are available for review.

A-6.3.1. *Ceriodaphnia dubia* Test

Water quality parameters were within acceptable limits. Control survival of *Ceriodaphnia* was 100%. The mean number of neonates per initial female was 18.8. Acute survival was 100% for both spring waters. IC50 values for spring 1 and GEOCRK were >100%. The NOECs were 100% and the TUcs were 1.0.

A-6.3.2. *Selenastrum capricornutum* Test

Water quality parameters were within acceptable limits. The controls averaged 1,101,000 cells/mL with a percent c.v. of 6.1%. IC50 values were >100%, NOECs were 100%, and TUcs were 1.0.

A-6-4. Quality Assurance

Reference toxicant tests were conducted concurrently with both bioassays to determine the sensitivity of the test organisms. Reference toxicant IC50 values within two standard deviations of the laboratory mean indicate that the test organisms used were of normal sensitivity.

The reference toxicant test conducted with the *Ceriodaphnia* bioassay used sodium chloride (NaCl) as the toxicant. The resulting IC50 was 1.4 g/L, which was within one standard deviation of the lab mean of 1.0 g/L.

Zinc (added as zinc chloride) was used as the reference toxicant for the *Selenastrum* growth test. The IC50 of 68.2 μg/L was within two standard deviations of the lab mean of 82.8 μg/L.

A-6-5. Reference

U.S. EPA (1989), *Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, second edition, Weber, C.I., et al., Eds., U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio (EPA/600/4-89/001).

Table A-6.1. Summary of results of *Ceriodaphnia dubia* tests on surface water samples from spring 1 and spring GEOCRK.[a]

Spring test dates	Concentration (%)	Survival (%)	Mean neonates/ initial females	ICp[b] (%)		NOEC [c] (%)	TUc[d]	Acute survival (%)
Spring 1	Control	100.0	18.8	IC50	>100	100	1.0	100
05/10–05/16/94	6.25	100.0	17.4	IC40	>100			
	12.5	100.0	18.4	IC25	>100			
	25	100.0	21.1	IC15	>100			
	50	100.0	17.7	IC10	90.3			
	100	100.0	16.9					
GEOCRK	Control	100.0	18.8	IC50	>100	100	1.0	100
05/10–05/16/94	6.25	90.0	14.2	IC40	>100			
	12.5	100.0	15.7	IC25	>100			
	25	100.0	15.7	IC15	>100			
	50	100.0	17.9	IC10	<6.25			
	100	90.0	17.0					

a There were no statistically significant results at alpha = 0.05.

b ICp = Lethal/Inhibition Concentration for p% of the organisms.

c NOEC = No Observable Effect Concentration.

d TUc = 100%/NOEC.

Table A-6.2. Summary of results of *Selenastrum capricornutum* tests on surface water samples from spring 1 and spring GEOCRK.[a]

Spring test dates	Cells/mL/ 1,000	Inhibition (%)	ICp[b] (%)		NOEC[c] (%)	TUc[d]
Spring 1	1,101	NA[e]	IC50	>100	100	1.0
05/10–05/14/94	1,111	0.0	IC40	>100		
	1,120	0.0	IC25	>100		
	1,208	0.0	IC15	>100		
	1,130	0.0	IC10	>100		
	1,421	0.0				
GEOCRK	1,101	NA	IC50	>100	100	1.0
05/10–05/14/94	1,963	0.0	IC40	>100		
	1,169	0.0	IC25	>100		
	1,615	0.0	IC15	>100		
	1,818	0.0	IC10	>100		
	1,537	0.0				

[a] There were no statistically significant results at alpha = 0.05.

[b] ICp = Lethal/Inhibition Concentration for p% of the organisms.

[c] NOEC = No Observable Effect Concentration.

[d] TUc = 100%/NOEC.

[e] NA = Not applicable.

Table A-6.3. Summary of results of *Ceriodaphnia dubia* reference toxicant test.[a]

Toxicant test dates	Concentration (g/L)	Survival (%)	Mean neonates/ initial females	ICp[b] (g/L)		NOEC[c] (g/L)
NaCl	Control	100.0	18.8	IC50	1.4	1
05/10–05/16/94	0.056	90.0	14.0	IC40	1.2	
	0.32	100.0	16.3	IC25	1	
	1.0	100.0	14.6	IC15	<0.056	
	2.0	90.0	1.1*	IC10	<0.056	
	4.0	0.0*	0.0*			

a Statistically significant results at alpha = 0.05 are indicated with an *.

b ICp = Lethal/Inhibition Concentration for p% of the organisms.

c NOEC = No Observable Effect Concentration.

Table A-6.4. Summary of results of *Selenastrum capricornutum* reference toxicant test.[a]

Toxicant test dates	Concentration (µg/L)	Cells/mL/ 1,000	Inhibition (%)	ICp[b] (µg/L)		NOEC[c] (µg/L)
Zinc	Control	2,283	NA[d]	IC50	68.2 (65.8-70.2)	25
05/10–05/14/94	10	2,322	0.0	IC40	59.3 (56.8-61.4)	
	25	2,099	8.1	IC25	44.6 (40.6-47.7)	
	50	1,624*	28.9	IC15	32.5 (24.8-36.4)	
	100	326*	85.7	IC10	26.7 (19.9-30.8)	
	150	83*	96.3			

a Statistically significant results at alpha = 0.05 are indicated with an *.

b ICp = Lethal/Inhibition Concentration for p% of the organisms. Values in parentheses are 95% confidence limits.

c NOEC = No Observable Effect Concentration.

d NA = Not applicable.

Table A-6.5. Summary of bioassay procedure and organism data for the three brood bioassay using *Ceriodaphnia dubia* (EPA Method 1002).

Sample Identification Data	
Dates sampled	05/09–05/13/94
Dates received at MEC	05/10–05/14/94
Volume received	1 gal./day (3 gal. for last sample)
Sample storage conditions	4°C in the dark
Species Data	
Test species	Water flea, *Ceriodaphnia dubia*
Supplier	MEC in-house culture
Acclimation water	Deionized and Evian™ waters mixed to moderate hardness
Acclimation temperature	25 ± 2°C
Age group	Neonates, <24 hrs old
Procedure Data	
Test type	EPA Method 1002: Chronic/renewal
Duration	6 days (144 hours)
Test dates	05/10–05/16/94
Control water	Deionized and Evian™ waters mixed to moderate hardness
Test temperature	25 ± 1°C
Test photoperiod	16 hours light/8 hours dark
Salinity	Freshwater
Test chamber	25 mL vial
Animals/replicate	1
Exposure volume	20 mL
Replicates/treatment	10
Feeding	7.5 mL/L Y-C-T-T[a] and 350,000 cells/mL *Selenastrum capricornutum*
Deviations from procedures	None

[a] Y-C-T-T = Yeast-Cerophyll-Tetramin-Trout chow.

Table A-6.6. Summary of bioassay procedure and organism data for the 4-day *Selenastrum capricornutum* growth bioassay (EPA Method 1003).

Sample Identification Data	
Dates sampled	05/09/94
Dates received at MEC	05/10/94
Volume received	1 gal.
Sample storage conditions	4°C in the dark
Species Data	
Test species	Green alga, *Selenastrum capricornutum*
Supplier	MEC in-house culture
Age of culture	7 days
Acclimation water	Evian™ water mixed with freshwater medium
Acclimation temperature	25 ± 2°C
Acclimation photoperiod	Continuous light
Procedure Data	
Test type	EPA Method 1003: Chronic/static
Duration	4 days (96 hours)
Start date	05/10/94
Completion date	05/14/94
Test photoperiod	Continuous light
Control water	Evian™ water mixed with freshwater medium
Test temperature	25 ± 1°C
Organisms/chamber	1,000,000 cells
Test chamber/exposure volume	250 mL flask/100 mL
Replicates/treatment	3
Deviations from procedures	None

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Appendix A
Section A-7

Ground Water Elevation Data through 1994

GSA GWELEV SITE 300.RPT
Current Date: 25-jul-1995
Current Time: 10:38:11

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA)

CDF1

Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
12/01/81	14.40	488.57	
12/29/81	14.10	488.87	
02/02/82	8.00	494.97	
02/22/82	5.80	497.17	
04/08/82	3.50	499.47	
05/04/82	4.00	498.97	
07/09/82	5.90	497.07	
10/07/82	9.00	493.97	
06/06/89	16.78	486.19	
07/06/89	17.65	485.32	
08/08/89	18.06	484.91	
09/06/89	17.77	485.20	
10/06/89	17.16	485.81	
11/08/89	17.85	485.12	
12/05/89	15.29	487.68	
01/09/90	15.07	487.90	
01/31/90	14.80	488.10	
03/08/90	16.38	486.59	
04/04/90	14.96	488.01	
05/02/90	16.16	486.81	
06/06/90	15.55	487.42	PT
07/03/90	18.17	484.80	
08/06/90	15.83	487.14	
09/10/90	17.62	485.35	
10/11/90	17.10	485.87	
11/15/90	16.27	486.70	
12/04/90	16.23	486.74	
01/25/91	16.00	486.97	
02/08/91	15.99	486.98	
03/08/91	14.91	488.06	
04/03/91	13.53	489.44	
05/03/91	14.91	488.06	
06/19/91	20.07	482.90	
07/17/91	17.32	485.65	
08/05/91			NA
09/06/91	16.51	486.46	
10/03/91	15.17	487.80	
11/12/91	14.42	488.55	
12/04/91	14.38	488.59	
01/08/92	14.42	488.55	
04/01/92	10.32	492.65	
07/08/92	12.33	490.64	
10/05/92	12.88	490.09	
01/05/93	16.88	486.09	
04/05/93	9.50	493.47	
07/13/93	11.70	491.27	
10/12/93	11.41	491.56	
01/07/94	13.27	489.70	PF
02/07/94	12.68	490.29	PF
04/06/94	13.02	489.95	PF
07/08/94	13.52	489.45	PF
10/10/94	14.35	488.62	PF

CDF2

Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
12/01/81	13.90		
12/29/81	14.00		
02/02/82	8.00		
02/22/82	5.40		
04/08/82	4.10		
04/18/82	4.10		
05/04/82	3.90		
07/09/82	5.30		
09/07/82	5.30		
10/07/82	8.10		

CON1

Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
04/05/89	14.07	488.40	
05/08/89	14.95	487.52	
06/06/89	15.34	487.13	
07/06/89	16.35	486.12	
08/08/89	16.93	485.54	
09/06/89	16.00	486.47	
10/06/89	16.12	486.35	
11/07/89	13.42	489.05	
12/05/89	13.69	488.78	
01/09/90	13.68	488.79	
01/31/90	13.50	489.00	
03/06/90	13.16	489.31	
04/04/90	13.65	488.82	
05/02/90	15.85	486.62	
06/06/90	14.00	488.47	
07/03/90	13.90	488.57	
08/06/90	14.69	487.78	
09/10/90	15.22	487.25	
10/11/90	16.60	485.87	
11/15/90	15.18	487.29	
12/04/90	14.92	487.55	
01/25/91	14.98	487.49	
02/08/91	14.88	487.59	
03/13/91	14.16	488.31	
04/03/91	12.74	489.73	
05/03/91	13.73	488.74	
06/17/91	14.70	487.77	
07/17/91	18.31	484.16	
08/05/91	14.72	487.75	
09/06/91	17.21	485.26	
10/02/91	17.49	484.98	
11/12/91	13.58	488.89	
12/04/91	13.49	488.98	
01/08/92	13.38	489.09	
04/01/92	10.00	492.47	
07/08/92	31.02	471.45	
10/05/92	11.88	490.59	
01/05/93	12.36	490.11	
04/05/93	28.63	473.84	
07/13/93	34.50	467.97	
10/12/93	10.80	491.67	
01/07/94	11.70	490.77	PF
02/07/94	11.70	490.77	PF
04/06/94	12.10	490.37	PF
07/08/94	12.61	489.86	PF
10/10/94	12.27	490.20	PF

CON2

Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
05/10/89	18.29	487.00	
06/06/89	18.86	486.43	
07/06/89	19.11	486.18	
08/08/89	19.90	485.39	
09/06/89	19.68	485.61	
10/06/89	19.78	485.51	
11/07/89	18.23	487.06	
12/05/89	17.86	487.43	
01/09/90	17.76	487.53	
01/31/90	17.50	487.80	
03/06/90	17.02	488.27	
04/04/90	17.72	487.57	
05/02/90	18.22	487.07	
06/06/90			NA
07/03/90	18.70	486.59	
08/06/90	18.26	487.03	
09/10/90	18.64	486.65	
10/11/90	19.50	485.79	
11/15/90	18.45	486.84	
12/04/90	18.51	486.78	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
General Services Area (GSA) (continued)			
CON2 (continued)			
01/25/91	18.64	486.65	
02/08/91	18.43	486.86	
03/08/91	16.44	488.85	
04/03/91	14.98	490.31	
05/03/91	16.90	488.39	
06/17/91	17.33	487.96	
07/17/91	17.94	487.35	
08/05/91	17.60	487.69	
09/06/91	16.91	488.38	
10/02/91	16.77	488.52	
11/12/91	16.23	489.06	
12/04/91	16.57	488.72	
01/08/92	16.22	489.07	
04/01/92	11.20	494.09	
07/08/92	11.51	493.78	
10/05/92	13.60	491.69	
01/05/93	14.05	491.24	
04/05/93	7.85	497.44	
07/13/93	9.42	495.87	
10/12/93	13.19	492.10	
01/07/94	13.82	491.47	
02/07/94	14.05	491.24	
04/06/94	14.02	491.27	
07/08/94	14.43	490.86	
10/10/94	14.20	491.09	
GALLO2			
01/07/94	21.28	495.42	
02/07/94	21.64	497.04	
04/06/94	21.92	496.76	
07/08/94	22.38	496.30	
10/10/94	22.82	495.86	
W-24P-03			
12/09/91			NA
01/08/92			NA
02/05/92			NA
03/02/92			NA
04/02/92	4.74	423.00	
05/05/92			NA
06/01/92			NA
07/08/92	4.94	422.80	
08/05/92			NA
09/02/92			NA
10/14/92			NA
11/03/92			NA
12/03/92	4.62	423.12	
01/05/93			NA
02/03/93			NA
03/01/93			NA
04/06/93	4.19	423.55	
05/10/93	4.35	423.39	
06/08/93	4.48	423.26	
07/13/93	4.60	423.14	
08/10/93	4.58	423.16	
09/14/93	4.57	423.17	
10/12/93	4.47	423.27	
11/02/93	4.50	423.24	
12/06/93	4.32	423.42	
01/07/94	4.28	423.46	
02/07/94			NA
04/06/94			NA
07/07/94			NA
10/10/94	1.50	426.24	

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-25D-01			
10/06/89	22.22	443.27	
11/08/89	23.21	442.28	
12/05/89	22.25	443.24	
01/12/90	21.94	443.55	
01/31/90	21.70	443.79	
03/08/90			NA
04/04/90			NA
05/03/90	21.78	443.71	
06/06/90	22.28	443.21	
07/03/90	22.58	442.91	
08/06/90	23.11	442.38	
09/11/90	23.32	442.17	
10/11/90	23.40	442.09	
11/15/90	23.18	442.31	
12/04/90	22.86	442.63	
01/25/91	22.28	443.21	
02/08/91	22.29	443.20	
03/12/91	21.99	443.50	
04/03/91	19.08	446.41	
05/13/91	20.13	445.36	
06/20/91	21.60	443.89	
07/02/91	21.78	443.71	
08/02/91	22.69	442.80	
09/05/91	23.09	442.40	
10/02/91	23.06	442.43	
11/04/91	22.49	443.00	
12/04/91	21.52	443.97	
01/08/92	20.44	445.05	
02/05/92	20.17	445.32	
03/04/92	17.44	448.05	
04/02/92	17.35	448.14	
05/05/92	17.50	447.99	
06/01/92	17.48	448.01	
07/13/92	17.44	448.05	
08/06/92	17.87	447.62	
09/02/92	17.82	447.67	
10/08/92	18.19	447.30	
11/04/92	18.32	447.17	
12/03/92	18.42	447.07	
01/05/93	17.60	447.89	
02/02/93	16.34	449.15	
03/01/93	15.83	449.66	
04/06/93	16.22	449.27	
05/10/93	16.50	448.99	
06/08/93	16.52	448.97	
07/13/93	16.83	448.66	
08/12/93	16.92	448.57	
09/14/93	17.28	448.21	
10/12/93	17.47	448.02	
11/02/93	17.66	447.83	
12/06/93	17.76	447.73	
01/07/94	17.91	447.58	
02/07/94	18.08	447.41	
04/07/94	18.59	446.90	
07/07/94	19.97	445.52	
10/10/94	20.87	444.62	
W-25D-02			
10/06/89	16.65	441.54	
11/08/89	15.44	442.75	
12/05/89	14.99	443.20	
01/12/90	14.41	443.78	
01/31/90	14.20	443.99	
03/08/90			NA
04/04/90			NA
05/03/90	14.20	443.99	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
General Services Area (GSA) (continued)			
W-25D-02 (continued)			
06/06/90	14.75	443.44	
07/03/90	14.91	443.28	
08/06/90	15.53	442.66	
09/11/90	15.74	442.45	
10/11/90	15.85	442.34	
11/15/90	15.61	442.58	
12/04/90	15.35	442.84	
01/25/91	14.75	443.44	
02/08/91	14.67	443.52	
03/12/91	14.49	443.70	
04/03/91	11.49	446.70	
05/13/91	12.90	445.29	
06/20/91	14.11	444.08	
07/02/91	14.30	443.89	
08/02/91	15.17	443.02	
09/05/91	15.51	442.68	
10/02/91	15.45	442.74	
11/04/91	14.95	443.24	
12/04/91	14.03	444.16	
01/08/92	12.90	445.29	
04/02/92	9.65	448.54	
07/13/92	9.77	448.42	
10/14/92			NA
01/05/93	9.92	448.27	
04/05/93	8.34	449.85	
07/13/93	9.06	449.13	
10/12/93	9.69	448.50	
01/07/94	10.42	447.77	
04/07/94	11.04	447.15	
07/07/94	12.82	445.37	
10/10/94	13.43	444.76	
W-25M-01			
10/06/89	26.40	453.10	
11/08/89	26.10	450.80	
12/05/89	25.60	453.90	
01/12/90	25.24	454.32	
01/31/90	25.10	454.50	
03/08/90			NA
04/04/90			NA
05/03/90	24.99	454.57	
06/06/90	25.46	454.10	
07/03/90	25.61	453.95	
08/06/90	25.99	453.57	
09/11/90	26.18	453.38	
10/11/90	26.24	453.32	
11/15/90	26.16	453.40	
12/04/90	26.03	453.53	
01/25/91	25.87	453.69	
02/08/91	25.92	453.64	
03/12/91	24.75	454.81	
04/03/91			NA
05/13/91	23.63	455.93	
06/20/91	25.00	454.56	
07/02/91	25.20	454.36	
08/02/91	25.71	453.85	
09/05/91	25.76	453.80	
10/02/91	25.57	453.99	
11/04/91	24.93	454.63	
12/04/91	24.13	455.43	
01/08/92	23.42	456.14	
02/05/92	23.18	456.38	
03/04/92	19.05	460.51	
04/02/92	18.48	461.08	
05/05/92	18.25	461.31	
06/01/92	18.05	461.51	

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-25M-01 (continued)			
07/13/92	18.03	461.53	
08/06/92	18.89	460.67	
09/02/92	19.68	459.88	
10/05/92	20.70	458.86	
11/03/92	21.31	458.25	
12/03/92	21.88	457.68	
01/05/93	20.62	458.94	
02/02/93	17.25	462.31	
03/01/93	15.13	464.43	
04/05/93	16.01	463.55	
05/10/93	16.73	462.83	
06/08/93	16.75	462.81	
07/13/93	17.50	462.06	
08/12/93	17.68	461.88	
09/14/93	18.52	461.04	
10/12/93	19.23	460.33	
11/02/93	19.82	459.74	
12/06/93	20.46	459.10	
01/07/94	21.13	458.43	
02/07/94	21.53	458.03	
04/07/94	22.02	457.54	
07/08/94	23.12	456.44	
10/10/94	24.17	455.39	
W-25M-02			
11/08/89	14.00	468.60	
12/05/89	14.50	470.70	
01/09/90	13.37	471.87	
01/31/90	13.30	472.00	
03/08/90	12.76	472.48	
04/04/90	13.21	472.03	
05/02/90	13.52	471.72	
06/06/90	13.66	471.58	
07/03/90	13.93	471.31	
08/06/90	14.32	470.92	
09/11/90	14.45	470.79	
10/11/90	14.45	470.79	
11/15/90	14.25	470.99	
12/04/90	14.16	471.08	
01/25/91	14.13	471.11	
02/08/91	14.18	471.06	
03/13/91	12.47	472.77	
04/03/91	10.19	475.05	
05/06/91	12.54	472.70	
06/19/91	13.70	471.54	
07/17/91	13.89	471.35	
08/05/91	13.88	471.36	
09/05/91	13.65	471.59	
10/02/91	13.25	471.99	
11/11/91	12.14	473.10	
12/09/91	11.85	473.39	
01/08/92	11.30	473.94	
02/05/92	11.75	473.49	
03/02/92	9.10	476.14	
04/02/92	8.64	476.60	
05/05/92	8.52	476.72	
06/01/92	8.44	476.80	
07/13/92	8.49	476.75	
08/06/92	8.85	476.39	
09/02/92	9.28	475.96	
10/05/92	9.78	475.46	
11/03/92	10.27	474.97	
12/02/92	10.66	474.58	
01/05/93	9.81	475.43	
02/02/93	8.22	477.02	
03/01/93	7.37	477.87	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-25M-02 (continued)			
04/05/93	7.84	477.40	
05/10/93	8.10	477.14	
06/08/93	8.17	477.07	
07/13/93	8.35	476.89	
08/10/93	8.55	476.69	
09/14/93	8.88	476.36	
10/12/93	9.10	476.14	
11/03/93	9.41	475.83	
12/02/93	9.66	475.58	
01/07/94	10.03	475.21	
02/07/94	10.22	475.02	
04/06/94	10.69	474.55	
07/08/94	11.24	474.00	
10/10/94	12.22	473.02	
W-25M-03			
12/05/89	14.10	473.40	
01/09/90	13.96	473.47	
01/31/90	13.90	473.60	
03/08/90	13.37	474.06	
04/04/90	13.84	473.59	
05/02/90	14.14	473.29	
06/06/90	14.25	473.18	
07/03/90	14.52	472.91	
08/06/90	14.89	472.54	
09/11/90	15.06	472.37	
10/11/90	15.09	472.34	
11/15/90	14.86	472.57	
12/04/90	14.81	472.62	
01/25/91	14.82	472.61	
02/08/91	14.81	472.62	
03/13/91	13.12	474.31	
04/03/91	10.78	476.65	
05/06/91	13.22	474.21	
06/19/91	14.30	473.13	
07/17/91	14.51	472.92	
08/05/91	14.48	472.95	
09/05/91	14.22	473.21	
10/02/91	13.81	473.62	
11/11/91	12.72	474.71	
12/09/91	12.48	474.95	
01/08/92	11.92	475.51	
04/02/92	8.82	478.61	
07/13/92	8.61	478.82	
10/05/92	10.35	477.08	
01/05/93	10.36	477.07	
04/05/93	7.61	479.82	
07/13/93	8.34	479.09	
10/12/93	9.44	477.99	
01/07/94	10.62	476.81	
04/06/94	11.31	476.12	
07/08/94	12.46	474.97	
10/10/94	12.86	474.57	
W-25N-01			
08/03/88	21.92	488.17	
09/06/88	23.01	487.08	
10/06/88	22.37	487.72	
11/03/88	22.62	487.47	
11/29/88	22.65	487.44	
01/12/89	22.54	487.55	
02/07/89	22.66	487.43	
02/21/89	22.67	487.42	
04/05/89	22.94	487.15	
05/10/89	23.38	486.71	
W-25N-01 (continued)			
06/06/89	23.81	486.28	
07/06/89	24.06	486.03	
08/08/89	24.43	485.66	
09/06/89	24.33	485.76	
10/06/89	24.49	485.60	
11/08/89	23.30	486.79	
12/05/89	22.80	487.29	
01/10/90	22.78	487.31	
01/31/90	22.60	487.50	
03/08/90	22.29	487.80	
04/04/90	22.77	487.32	
05/02/90	22.99	487.10	
06/06/90	22.82	487.27	
07/03/90	23.19	486.90	
08/06/90	23.48	486.61	
09/13/90	23.71	486.38	
10/11/90	23.82	486.27	
11/15/90	23.74	486.35	
12/04/90	23.80	486.29	
01/25/91	23.91	486.18	
02/08/91	23.58	486.51	
03/12/91	22.62	487.47	
04/03/91	20.70	489.39	
05/06/91	22.17	487.92	
06/19/91	23.13	486.96	
07/18/91	23.37	486.72	
08/05/91	23.07	487.02	
09/05/91	22.36	487.73	
10/02/91	21.90	488.19	
11/12/91	21.80	488.29	
12/04/91	22.21	487.88	
01/08/92	22.07	488.02	
02/04/92	22.16	487.93	
03/04/92	18.50	491.59	
04/02/92	16.77	493.32	
05/05/92	16.11	493.98	
06/01/92	16.11	493.98	
07/13/92	17.47	492.62	
08/06/92	18.01	492.08	
09/02/92	19.10	490.99	
10/08/92	20.02	490.07	
11/04/92	20.72	489.37	
12/03/92	21.20	488.89	
01/05/93	20.50	489.59	
02/02/93	15.07	495.02	
03/02/93	13.33	496.76	
04/05/93	13.79	496.30	
05/10/93	14.30	495.79	
06/08/93	14.54	495.55	
07/13/93	15.44	494.65	
08/10/93	16.74	493.35	
09/14/93	18.28	491.81	
10/12/93	19.12	490.97	
11/03/93	19.69	490.40	
12/01/93	20.33	489.76	
01/07/94	20.64	489.45	
02/07/94	20.93	489.16	
04/07/94	21.26	488.83	
07/05/94	21.87	488.22	
10/10/94	22.38	487.71	
W-25N-04			
11/29/88	44.25	484.60	
01/12/89	44.07	484.78	
02/07/89	43.99	484.86	
02/21/89	43.84	485.01	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

W-25N-04 (continued)

Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
04/04/89	43.86	484.99	
05/10/89	43.98	484.87	
06/06/89	44.05	484.80	
07/06/89	44.05	484.80	
08/08/89	44.11	484.74	
09/06/89	44.06	484.79	
10/06/89	44.16	484.69	
11/08/89	44.67	484.18	
12/05/89	44.72	484.13	
01/10/90	44.60	484.25	
01/31/90	44.60	484.20	
03/08/90	44.80	484.05	
04/04/90	44.52	484.33	
05/02/90	44.61	484.24	
06/06/90	44.75	484.10	
07/03/90	44.69	484.16	
08/06/90	44.84	484.01	
09/13/90	44.88	483.97	
10/11/90	44.80	484.05	
11/15/90	44.94	483.91	
12/04/90	44.80	484.05	
01/25/91	44.70	484.15	
02/08/91	44.73	484.12	
03/12/91	44.73	484.12	
04/03/91	44.59	484.26	
05/06/91	45.43	483.42	
06/19/91	44.67	484.18	
07/18/91	44.57	484.28	
08/02/91	44.76	484.09	
09/05/91	44.60	484.25	
10/02/91	44.57	484.28	
11/12/91	44.57	484.28	
12/04/91	44.43	484.42	
01/08/92	44.25	484.60	
02/04/92	44.19	484.66	
03/04/92	43.98	484.87	
04/02/92	43.75	485.10	
05/05/92	43.59	485.26	
06/02/92	44.13	484.72	
07/13/92	47.41	481.44	
08/06/92	46.00	482.85	
09/02/92	45.42	483.43	
10/08/92	45.00	483.85	
11/04/92	44.82	484.03	
12/03/92	44.58	484.27	
01/05/93	44.32	484.53	
02/02/93	43.90	484.95	
03/02/93	43.52	485.33	
04/05/93	43.18	485.67	
05/10/93	42.95	485.90	
06/08/93	43.02	485.83	
07/13/93	42.90	485.95	
08/10/93	43.05	485.80	
09/14/93	43.06	485.79	
10/12/93	43.13	485.72	
11/03/93	43.18	485.67	
12/01/93	43.22	485.63	
01/07/94	43.31	485.54	
02/07/94	43.13	485.72	
04/07/94	43.45	485.40	
07/05/94	43.51	485.34	
10/11/94	43.98	484.87	

W-25N-05

Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
01/12/89	14.49	482.98	
02/07/89	14.64	482.83	

W-25N-05 (continued)

Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
02/21/89	14.55	482.92	
04/04/89	14.83	482.64	
05/09/89	15.29	482.18	
06/06/89	15.70	481.77	
07/06/89	16.06	481.41	
08/08/89	16.44	481.03	
09/06/89	16.29	481.18	
10/06/89	16.40	481.07	
11/08/89	14.90	482.57	
12/05/89	14.58	482.89	
01/09/90	14.61	482.86	
01/31/90	14.40	483.00	
03/08/90	14.08	483.39	
04/04/90	14.54	482.93	
05/02/90	14.80	482.67	
06/06/90	14.79	482.68	
07/03/90	15.08	482.39	
08/06/90	15.37	482.10	
09/11/90	15.63	481.84	
10/11/90	15.78	481.69	
11/15/90	15.57	481.90	
12/04/90	15.61	481.86	
01/25/91	15.60	481.87	
02/08/91	15.45	482.02	
03/13/91	14.17	483.30	
04/03/91	12.22	485.25	
05/06/91	14.15	483.32	
06/19/91	14.86	482.61	
07/17/91	14.94	482.53	
08/05/91	14.79	482.68	
09/05/91	14.33	483.14	
10/02/91	13.92	483.55	
11/11/91	13.29	484.18	
12/09/91	13.38	484.09	
01/08/92	13.17	484.30	
02/05/92	13.77	483.70	
03/02/92	10.59	486.88	
04/02/92	9.12	488.35	
05/05/92	8.62	488.85	
06/02/92	8.54	488.93	
07/08/92	9.07	488.40	
08/06/92	10.13	487.34	
09/02/92	10.98	486.49	
10/05/92	11.64	485.83	
11/03/92	12.25	485.22	
12/02/92	12.67	484.80	
01/05/93	11.98	485.49	
02/02/93	7.29	490.18	
03/01/93	6.17	491.30	
04/05/93	6.72	490.75	
05/10/93	7.02	490.45	
06/08/93	7.11	490.36	
07/13/93	7.59	489.88	
08/10/93	8.56	488.91	
09/14/93	9.93	487.54	
10/12/93	10.58	486.89	
11/03/93	11.05	486.42	
12/02/93	11.52	485.95	
01/07/94	12.04	485.43	
02/07/94	12.29	485.18	
04/06/94	12.69	484.78	
07/08/94	13.40	484.07	
10/10/94	13.70	483.77	

W-25N-06

Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
01/12/89	17.59	479.23	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-25N-06 (continued)			
02/07/89	17.62	479.20	
02/21/89	17.63	479.19	
04/04/89	17.98	478.84	
05/09/89	18.43	478.39	
06/06/89	18.82	478.00	
07/06/89	19.06	477.76	
08/08/89	19.53	477.29	
09/06/89	19.45	477.37	
10/06/89	19.47	477.35	
11/08/89	18.05	478.77	
12/05/89	17.71	479.11	
01/09/90	17.77	479.05	
01/31/90	17.60	479.20	
03/08/90	17.16	479.66	
04/04/90	17.69	479.13	
05/02/90	17.93	478.89	
06/06/90	18.02	478.80	
07/03/90	18.27	478.55	
08/06/90	18.66	478.16	
09/11/90	18.86	477.96	
10/11/90	18.92	477.90	
11/15/90	18.74	478.08	
12/04/90	18.77	478.05	
01/25/91	18.74	478.08	
02/08/91	18.71	478.11	
03/13/91	17.10	479.72	
04/03/91	14.72	482.10	
05/06/91	17.16	479.66	
06/19/91	18.09	478.73	
07/17/91	18.26	478.56	
08/05/91	18.19	478.63	
09/05/91	17.82	479.00	
10/02/91	17.37	479.45	
11/11/91	16.36	480.46	
12/09/91	16.40	480.42	
01/08/92	15.94	480.88	
04/02/92	11.84	484.98	
07/08/92	11.65	485.17	
10/05/92	14.41	482.41	
01/05/93	14.61	482.21	
04/05/93	9.29	487.53	
07/13/93	10.40	486.42	
10/12/93	13.32	483.50	
01/07/94	14.77	482.05	
04/06/94	15.44	481.38	
07/08/94	16.37	480.45	
10/10/94	16.75	480.07	
W-25N-07			
05/08/89	19.03	486.37	
06/06/89	19.43	485.97	
07/06/89	19.72	485.68	
08/08/89	20.20	485.20	
09/06/89	20.00	485.40	
10/06/89	20.11	485.29	
11/07/89	18.61	486.79	
12/05/89	18.10	487.30	
01/09/90	18.08	487.32	
01/31/90	17.90	487.50	
03/06/90	17.48	487.92	
04/04/90	18.05	487.35	
05/02/90	18.29	487.11	
06/06/90	18.07	487.33	
07/03/90	18.45	486.95	
08/06/90	18.75	486.65	
09/10/90	18.93	486.47	
W-25N-07 (continued)			
10/11/90	19.13	486.27	
11/15/90	19.00	486.40	
12/04/90	19.07	486.33	
01/25/91	19.22	486.18	
02/08/91			NA
03/12/91			NA
04/03/91			NA
05/06/91	16.97	488.43	
06/17/91	17.19	488.21	
07/03/91	18.01	487.39	
08/05/91	17.76	487.64	
09/05/91	17.12	488.28	
10/02/91	16.68	488.72	
11/12/91	16.47	488.93	
12/04/91	16.82	488.58	
01/08/92	16.69	488.71	
02/05/92	16.91	488.49	
03/02/92	13.26	492.14	
04/02/92	11.46	493.94	
05/05/92	10.76	494.64	
06/02/92	10.75	494.65	
07/08/92	11.80	493.60	
08/06/92	12.65	492.75	
09/02/92	13.66	491.74	
10/05/92	14.48	490.92	
11/03/92	15.22	490.18	
12/02/92	15.70	489.70	
01/05/93	15.24	490.16	
02/02/93	9.59	495.81	
03/01/93	7.78	497.62	
04/05/93	8.29	497.11	
05/10/93	8.77	496.63	
06/08/93	9.02	496.38	
07/13/93	9.94	495.46	
08/10/93	11.32	494.08	
09/14/93	12.86	492.54	
10/12/93	13.58	491.82	
11/03/93	14.20	491.20	
12/02/93	14.74	490.66	
01/07/94	15.08	490.32	
02/07/94	15.38	490.02	
04/06/94	16.68	488.72	
07/08/94	16.28	489.12	
10/10/94	16.81	488.59	
W-25N-08			
11/08/89	26.00	484.80	
12/05/89	25.40	485.40	
01/10/90	25.34	485.48	
01/31/90	25.20	485.60	
03/08/90	25.07	485.75	
04/04/90	25.29	485.53	
05/02/90	25.86	484.96	
06/06/90	25.46	485.36	
07/03/90	26.18	484.64	
08/06/90	26.13	484.69	
09/13/90	26.37	484.45	
10/11/90	26.63	484.19	
11/15/90	26.39	484.43	
12/04/90	26.41	484.41	
01/25/91	26.45	484.37	
02/08/91	26.18	484.64	
03/12/91	24.96	485.86	
04/03/91	23.17	487.65	
05/03/91	24.67	486.15	
06/19/91	26.11	484.71	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

W-25N-08 (continued)

Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
07/18/91	25.64	485.18	
08/02/91	25.65	485.17	
09/05/91	25.07	485.75	
10/02/91	24.95	485.87	
11/12/91	24.08	486.74	
12/04/91	24.13	486.69	
01/07/92	24.01	486.81	
02/04/92	24.52	486.30	
03/04/92	21.53	489.29	
04/02/92	20.04	490.78	
05/05/92	19.51	491.31	
06/02/92	19.41	491.41	
07/13/92	20.20	490.62	
08/06/92	21.04	489.78	
09/02/92	22.15	488.67	
10/08/92	22.50	488.32	
11/04/92	23.47	487.35	
12/03/92	23.45	487.37	
01/05/93	22.73	488.09	
02/02/93	18.34	492.48	
03/02/93	17.12	493.70	
04/05/93	17.75	493.07	
05/10/93	17.77	493.05	
06/08/93	17.95	492.87	
07/13/93	19.11	491.71	
08/10/93	19.46	491.36	
09/14/93	20.93	489.89	
10/12/93	21.44	489.38	
11/03/93	21.91	488.91	
12/01/93	22.50	488.32	
01/07/94	23.97	486.85	
02/07/94	23.11	487.71	
04/07/94	22.39	488.43	
07/05/94	24.15	486.67	
10/11/94	24.44	486.38	

W-25N-09

Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
11/08/89	24.40	486.10	
12/05/89	23.80	486.70	
01/10/90	22.27	488.19	
01/31/90	22.50	488.00	
03/08/90	22.24	488.22	
04/04/90	22.44	488.02	
05/02/90	23.18	487.28	
06/06/90	22.64	487.82	
07/03/90	23.49	486.97	
08/06/90	23.41	487.05	
09/13/90	23.71	486.75	
10/11/90	24.35	486.11	
11/15/90	23.59	486.87	
12/04/90	23.53	486.93	
01/25/91	23.44	487.02	
02/08/91	23.32	487.14	
03/12/91	22.52	487.94	
04/03/91	21.45	489.01	
05/03/91	22.07	488.39	
06/19/91	23.61	486.85	
07/18/91	23.00	487.46	
08/02/91	23.06	487.40	
09/05/91	22.46	488.00	
10/02/91	22.91	487.55	
11/12/91	21.81	488.65	
12/04/91	21.68	488.78	
01/07/92	21.52	488.94	
02/04/92	21.49	488.97	
03/04/92	19.63	490.83	

W-25N-09 (continued)

Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
04/02/92	18.04	492.42	
05/05/92	17.50	492.96	
06/02/92	17.15	493.31	
07/13/92	17.71	492.75	
08/06/92	18.20	492.26	
09/02/92	19.82	490.64	
10/08/92	19.55	490.91	
11/04/92	20.80	489.66	
12/03/92	20.12	490.34	
01/05/93	19.90	490.56	
02/02/93	16.31	494.15	
03/02/93	14.62	495.84	
04/05/93	14.70	495.76	
05/10/93	14.83	495.63	
06/08/93	15.13	495.33	
07/14/93	15.95	494.51	
08/10/93	16.85	493.61	
09/14/93	17.93	492.53	
10/12/93	18.41	492.05	
11/03/93	18.90	491.56	
12/01/93	19.50	490.96	
01/07/94	19.55	490.91	
02/07/94	19.49	490.97	
04/07/94	19.98	490.48	
07/05/94	20.81	489.65	
10/11/94	21.19	489.27	

W-25N-10

Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
03/13/91	16.31	489.55	
04/03/91	16.31	489.55	
05/03/91	17.33	488.53	
06/19/91	23.19	482.67	
07/03/91	21.63	484.23	
07/18/91	21.63	484.23	
08/02/91	18.35	487.51	
09/05/91	17.86	488.00	
10/02/91	21.34	484.52	
11/12/91	17.17	488.69	
12/04/91	17.08	488.78	
01/08/92	16.92	488.94	
04/02/92	13.58	492.28	
07/08/92	16.63	489.23	
10/05/92	15.37	490.49	
01/05/93	15.90	489.96	
04/05/93	14.80	491.06	
07/13/93	17.73	488.13	
10/12/93	14.30	491.56	
01/07/94	16.23	489.63	
04/06/94	15.81	490.05	
07/08/94	22.29	483.57	
10/10/94	16.95	488.91	

W-25N-11

Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
03/13/91			NA
04/03/91			NA
05/03/91			NA
06/17/91	18.10	487.76	
07/03/91	23.72	482.05	
08/05/91	18.12	487.65	
09/05/91	17.62	488.15	
10/02/91	20.73	485.04	
11/12/91	16.93	488.84	
12/04/91	16.80	488.97	
01/08/92	16.65	489.12	
04/02/92	13.10	492.67	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-25N-11 (continued)			
07/08/92	17.90	487.87	
10/05/92	15.25	490.52	
01/05/93	15.65	490.12	
04/05/93	15.83	489.94	
07/13/93	18.59	487.18	
10/12/93	13.96	491.81	
01/07/94	17.53	488.24	
04/06/94	15.42	490.35	
07/08/94	22.44	483.33	
10/10/94	16.70	489.07	
W-25N-12			
03/13/91	17.99	487.53	
04/03/91	16.38	489.14	
05/03/91	17.59	487.93	
06/17/91	18.33	487.19	
07/03/91	21.34	484.18	
08/05/91	18.63	486.89	
09/05/91	18.10	487.42	
10/02/91	21.90	483.62	
11/12/91	17.30	488.22	
12/04/91	17.25	488.27	
01/08/92	17.15	488.37	
04/02/92	13.55	491.97	
07/08/92	15.69	489.83	
10/05/92	15.55	489.97	
01/05/93	16.05	489.47	
04/05/93	13.87	491.65	
07/13/93	17.16	488.36	
10/12/93	14.50	491.02	
01/07/94	16.22	489.30	
04/06/94	16.11	489.41	
07/08/94	22.02	483.50	
10/10/94	17.25	488.27	
W-25N-13			
03/13/91			NA
04/03/91			NA
05/03/91	17.71	487.67	
06/17/91	18.72	486.66	
07/03/91	19.00	486.38	
08/05/91	18.56	486.82	
09/05/91	17.96	487.42	
10/02/91	17.75	487.63	
11/12/91	17.18	488.20	
12/04/91	17.46	487.92	
01/08/92	17.41	487.97	
04/02/92	12.60	492.78	
07/08/92	12.93	492.45	
10/05/92	15.45	489.93	
01/05/93	16.02	489.36	
04/05/93	9.80	495.58	
07/13/93	11.25	494.13	
10/12/93	14.44	490.94	
01/07/94	16.26	489.12	
04/06/94	16.40	488.98	
07/08/94	17.47	487.91	
10/10/94	17.49	487.89	
W-25N-15			
03/13/91			NA
04/03/91			NA
05/03/91	14.86	486.51	
06/19/91	15.95	485.42	
W-25N-15 (continued)			
07/17/91	15.97	485.40	
08/05/91	15.72	485.65	
09/05/91	15.11	486.26	
10/02/91	14.66	486.71	
11/12/91	14.25	487.12	
12/09/91	14.35	487.02	
01/08/92	14.42	486.95	
02/05/92	14.81	486.56	
03/02/92	11.59	489.78	
04/02/92	10.05	491.32	
05/05/92	9.50	491.87	
06/02/92	9.47	491.90	
07/08/92	10.21	491.16	
08/06/92	11.10	490.27	
09/02/92	12.00	489.37	
10/05/92	12.64	488.73	
11/03/92	13.25	488.12	
12/02/92	13.62	487.75	
01/05/93	13.13	488.24	
02/02/93	8.29	493.08	
03/01/93	6.91	494.46	
04/05/93	7.45	493.92	
05/10/93	7.77	493.60	
06/08/93	7.92	493.45	
07/13/93	8.61	492.76	
08/10/93	9.63	491.74	
09/14/93	11.07	490.30	
10/12/93	11.68	489.69	
11/03/93	12.20	489.17	
12/02/93	12.70	488.67	
01/07/94	13.04	488.33	
02/07/94	13.35	488.02	
04/06/94	13.69	487.68	
07/08/94	14.29	487.08	
10/10/94	14.66	486.71	
W-25N-18			
04/02/92			NA
07/08/92	11.44	490.38	
10/05/92	13.50	488.32	
01/05/93	13.99	487.83	
04/05/93	8.98	492.84	
07/13/93	10.08	491.74	
10/12/93	12.53	489.29	
01/07/94	13.99	487.83	
04/06/94	14.44	487.38	
07/08/94	15.65	486.17	
10/10/94	15.54	486.28	
W-25N-20			
01/08/92			NA
04/02/92	11.14	493.80	
07/13/92	11.76	493.18	
10/08/92	14.34	490.60	
01/08/93	14.82	490.12	
04/05/93	8.04	496.90	
07/14/93	9.64	495.30	
10/12/93	13.35	491.59	
01/07/94	14.87	490.07	
04/07/94	15.46	489.48	
07/12/94	16.16	488.78	
10/11/94	16.59	488.35	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

Location	Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-25N-21				
	04/02/92	20.80	492.38	
	07/13/92	20.49	492.69	
	10/08/92	22.26	490.92	
	01/08/93	22.59	490.59	
	04/05/93	17.45	495.73	
	07/13/93	19.43	493.75	
	10/12/93	21.12	492.06	
	01/07/94	22.25	490.93	
	04/07/94	22.65	490.53	
	07/05/94	23.70	489.48	
	10/11/94	23.95	489.23	
W-25N-22				
	01/08/92			NA
	04/02/92	21.80	491.25	
	07/13/92	21.62	491.43	
	10/08/92	23.67	489.38	
	01/08/93	24.28	488.77	
	04/05/93	18.41	494.64	
	07/13/93	19.64	493.41	
	10/12/93	22.56	490.49	
	01/07/94	23.86	489.19	
	04/07/94	21.83	491.22	
	07/05/94	23.40	489.65	
	10/11/94	25.56	487.49	
W-25N-23				
	01/08/92			NA
	04/02/92	18.48	491.90	
	07/13/92	18.82	491.56	
	10/08/92	21.08	489.30	
	01/08/93	21.52	488.86	
	04/05/93	15.67	494.71	
	07/13/93	16.94	493.44	
	10/12/93	20.00	490.38	
	01/07/94	21.51	488.87	
	04/07/94	21.58	488.80	
	07/05/94	22.51	487.87	
	10/11/94	23.20	487.18	
W-25N-24				
	04/02/92	16.10	493.34	
	07/13/92	16.70	492.74	
	10/08/92	19.20	490.24	
	01/08/93	19.66	489.78	
	04/05/93	15.73	493.71	
	07/13/93	14.78	494.66	
	10/12/93	18.50	490.94	
	01/07/94	20.21	489.23	
	04/07/94	20.94	488.50	
	07/05/94	21.35	488.09	
	10/11/94	21.84	487.60	
W-25N-25				
	07/05/94			NA
	10/10/94	13.58	487.89	
W-25N-26				
	07/05/94			NA
	10/10/94	13.08	486.29	
W-25N-28				
	07/05/94			NA
	10/10/94	19.01	478.14	
W-26R-01				
	01/10/89			DRY
	02/07/89			DRY
	02/22/89	22.05	487.66	
	04/03/89	22.25	487.46	
	05/08/89	22.66	487.05	
	06/07/89	23.13	486.58	
	07/06/89	23.30	486.41	
	08/08/89	23.82	485.89	
	09/06/89	23.64	486.07	
	10/06/89	23.82	485.89	
	11/08/89	22.67	487.04	
	12/05/89	22.14	487.57	
	01/10/90	22.09	487.62	
	01/31/90	21.90	487.80	
	03/06/90	21.95	487.76	
	04/03/90	22.08	487.63	
	05/02/90	22.24	487.47	
	06/07/90	22.23	487.48	
	07/03/90	22.43	487.28	
	08/06/90	22.76	486.95	
	09/11/90	22.99	486.72	
	10/11/90	23.12	486.59	
	11/15/90	23.36	486.35	
	12/04/90	23.16	486.55	
	01/28/91	23.29	486.42	
	02/06/91	23.02	486.69	
	03/12/91	21.67	488.04	
	04/02/91	19.67	490.04	
	05/02/91	21.16	488.55	
	06/19/91	22.12	487.59	
	07/02/91	22.23	487.48	
	08/05/91	22.19	487.52	
	09/05/91	21.43	488.28	
	10/03/91	20.88	488.83	
	10/30/91	20.87	488.84	
	12/04/91	21.15	488.56	
	01/08/92	21.03	488.68	
	02/04/92	21.22	488.49	
	03/04/92	17.37	492.34	
	04/02/92	15.49	494.22	
	05/05/92	14.77	494.94	
	06/02/92	14.78	494.93	
	07/13/92	16.11	493.60	
	08/06/92	16.80	492.91	
	09/02/92	17.87	491.84	
	10/08/92	18.87	490.84	
	11/03/92	19.61	490.10	
	12/03/92	20.15	489.56	
	01/08/93	19.43	490.28	
	02/02/93	13.61	496.10	
	03/02/93	11.79	497.92	
	04/05/93	12.19	497.52	
	05/10/93	12.76	496.95	
	06/08/93	13.04	496.67	
	07/14/93	13.95	495.76	
	08/10/93	15.38	494.33	
	09/14/93	16.93	492.78	
	10/12/93	17.76	491.95	
	11/03/93	18.41	491.30	
	12/01/93	19.06	490.65	
	01/07/94	19.40	490.31	
	02/07/94	19.71	490.00	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
General Services Area (GSA) (continued)			
W-26R-01 (continued)			
04/07/94	20.03	489.68	
07/05/94	19.87	489.84	
10/11/94	21.22	488.49	
W-26R-02			
05/08/89			NA
06/07/89	34.75	493.45	
07/06/89	44.09	484.11	
08/08/89	44.02	484.18	
09/06/89	43.08	485.12	
10/06/89	43.00	485.20	
11/08/89	42.00	486.20	
12/05/89	40.98	487.22	
01/10/90	40.43	487.77	
01/31/90	41.10	487.10	
03/06/90	39.89	488.31	
04/03/90	40.17	488.03	
05/03/90	40.09	488.11	
06/07/90	40.19	488.01	
07/03/90	40.95	487.25	
08/06/90	41.09	487.11	
09/11/90	41.31	486.89	
10/11/90	41.62	486.58	
11/15/90	41.03	487.17	
12/04/90	40.87	487.33	
01/28/91	41.37	486.83	
02/06/91	40.74	487.46	
03/12/91	40.19	488.01	
04/02/91	39.12	489.08	
05/02/91	39.86	488.34	
06/19/91	41.30	486.90	
07/02/91	40.55	487.65	
08/01/91	41.71	486.49	
09/05/91	40.14	488.06	
10/03/91	40.60	487.60	
10/30/91	40.17	488.03	
12/04/91	39.41	488.79	
01/08/92	39.24	488.96	
02/04/92	39.22	488.98	
03/04/92	37.42	490.78	
04/02/92	35.86	492.34	
05/05/92	35.32	492.88	
06/02/92	34.98	493.22	
07/13/92	35.50	492.70	
08/06/92	35.92	492.28	
09/02/92	37.62	490.58	
10/08/92	37.26	490.94	
11/03/92	38.54	489.66	
12/03/92	37.80	490.40	
01/08/93	37.54	490.66	
02/02/93	34.15	494.05	
03/02/93	32.42	495.78	
04/05/93	32.47	495.73	
05/10/93	32.50	495.70	
06/08/93	32.79	495.41	
07/13/93	34.57	493.63	
08/10/93	34.52	493.68	
09/14/93	35.56	492.64	
10/12/93	36.09	492.11	
11/03/93	36.50	491.70	
12/01/93	37.02	491.18	
01/07/94	37.24	490.96	
02/07/94	37.15	491.05	
04/07/94	37.66	490.54	
07/05/94	37.87	490.33	
10/10/94	38.95	489.25	

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-26R-03			
10/06/89	23.45	485.74	
11/08/89	22.28	486.91	
12/05/89	21.77	487.42	
01/10/90	21.75	487.44	
01/31/90	21.60	487.60	
03/06/90	21.42	487.77	
04/03/90	21.75	487.44	
05/02/90	21.91	487.28	
06/07/90	21.90	487.29	
07/03/90	22.14	487.05	
08/06/90	22.44	486.75	
09/11/90	22.67	486.52	
10/11/90	22.84	486.35	
11/15/90	22.73	486.46	
12/04/90	22.83	486.36	
01/28/91	22.97	486.22	
02/06/91	22.66	486.53	
03/12/91	21.30	487.89	
04/02/91			NA
05/02/91	20.82	488.37	
06/19/91	21.85	487.34	
07/02/91	22.33	486.86	
08/01/91	22.16	487.03	
09/05/91	20.99	488.20	
10/03/91	20.54	488.65	
10/30/91			NA
12/04/91	21.11	488.08	
01/08/92	20.90	488.29	
02/04/92	20.82	488.37	
03/04/92	17.12	492.07	
04/02/92	15.37	493.82	
05/05/92	14.70	494.49	
06/02/92	14.70	494.49	
07/13/92	16.29	492.90	
08/06/92	16.64	492.55	
09/02/92	17.96	491.23	
10/08/92	18.85	490.34	
11/04/92	19.57	489.62	
12/03/92	20.12	489.07	
01/08/93	19.40	489.79	
02/02/93	13.90	495.29	
03/02/93	12.15	497.04	
04/05/93	12.29	496.90	
05/10/93	13.13	496.06	
06/08/93	13.38	495.81	
07/13/93	14.39	494.80	
08/10/93	15.63	493.56	
09/14/93	17.17	492.02	
10/12/93	17.74	491.45	
11/03/93	18.37	490.82	
12/01/93	18.98	490.21	
01/07/94	19.26	489.93	
02/07/94	19.58	489.61	
04/07/94	19.91	489.28	
07/05/94	20.42	488.77	
10/11/94	21.00	488.19	
W-26R-04			
01/08/92			NA
04/02/92	14.55	494.41	
07/13/92	15.17	493.79	
10/08/92			DRY
01/08/93	18.45	490.51	
04/05/93	11.22	497.74	
07/14/93	13.00	495.96	
10/12/93	16.85	492.11	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
General Services Area (GSA) (continued)			
W-26R-04 (continued)			
01/07/94	18.46	490.50	
04/07/94	19.10	489.86	
07/05/94	19.68	489.28	
10/10/94	20.25	488.71	
W-26R-05			
01/08/92			NA
04/02/92	19.33	493.78	
07/13/92			NA
10/08/92			NA
01/08/93	23.00	490.11	
04/05/93	16.20	496.91	
07/20/93	17.99	495.12	
10/12/93	21.31	491.80	
01/07/94	22.84	490.27	
04/07/94	23.46	489.65	
07/05/94	23.87	489.24	
10/11/94	24.50	488.61	
W-26R-06			
04/02/92	20.70	494.43	
07/13/92	21.36	493.77	
10/08/92	24.14	490.99	
01/08/93	24.71	490.42	
04/05/93	17.45	497.68	
07/13/93	19.26	495.87	
10/12/93	23.07	492.06	
01/07/94	24.70	490.43	
04/07/94	25.32	489.81	
07/05/94	25.38	489.75	
10/10/94	26.51	488.62	
W-26R-07			
01/08/92			NA
04/02/92	28.26	492.33	
07/13/92	27.85	492.74	
10/08/92	29.66	490.93	
01/08/93	29.93	490.66	
04/05/93	24.89	495.70	
07/13/93	26.89	493.70	
10/12/93	28.49	492.10	
01/07/94	29.64	490.95	
04/07/94	30.01	490.58	
07/05/94	30.84	489.75	
10/11/94	31.29	489.30	
W-26R-08			
04/02/92	30.70	492.41	
07/13/92	30.35	492.76	
10/08/92	32.16	490.95	
01/08/93	32.40	490.71	
04/05/93	27.33	495.78	
07/13/93	29.50	493.61	
10/12/93	30.89	492.22	
01/07/94	32.00	491.11	
04/07/94	32.46	490.65	
07/05/94	32.60	490.51	
10/10/94	33.80	489.31	
W-26R-11			
04/02/92	12.68	494.53	
07/13/92	13.30	493.91	
W-26R-11 (continued)			
10/08/92	16.09	491.12	
01/08/93	16.58	490.63	
04/05/93	9.35	497.86	
07/14/93	11.12	496.09	
10/12/93	14.97	492.24	
01/07/94	16.64	490.57	
04/07/94	17.24	489.97	
07/08/94	17.69	489.52	
10/10/94	18.40	488.81	
W-35A-01			
05/09/89	21.34	489.84	
06/06/89	21.54	489.64	
07/06/89	21.76	489.42	
08/09/89	22.25	488.93	
09/06/89	22.13	489.05	
10/06/89	22.28	488.90	
11/07/89	21.41	489.77	
12/05/89	20.81	490.37	
01/09/90	20.77	490.41	
01/31/90	20.60	490.60	
03/06/90	20.18	491.00	
04/04/90	20.77	490.41	
05/02/90	20.97	490.21	
06/06/90	20.71	490.47	
07/03/90	21.10	490.08	
08/06/90	21.42	489.76	
09/10/90	21.69	489.49	
10/11/90	21.85	489.33	
11/15/90	21.87	489.31	
12/04/90	21.98	489.20	
01/25/91	22.13	489.05	
02/08/91	21.71	489.47	
03/12/91	20.31	490.87	
04/03/91	18.52	492.66	
05/06/91	19.88	491.30	
06/17/91	20.62	490.56	
07/17/91	20.56	490.62	
08/05/91	20.32	490.86	
09/06/91	19.69	491.49	
10/02/91	19.21	491.97	
11/12/91	18.95	492.23	
12/09/91	19.15	492.03	
01/08/92	19.07	492.11	
04/02/92	13.00	498.18	
07/08/92	13.43	497.75	
10/05/92	16.92	494.26	
01/05/93	17.79	493.39	
04/05/93	8.40	502.78	
07/13/93	11.11	500.07	
10/12/93	15.78	495.40	
01/07/94	17.71	493.47	
04/06/94	18.34	492.84	
07/08/94	18.97	492.21	
10/10/94	19.57	491.61	
W-35A-02			
05/09/89	19.99	492.78	
06/06/89	20.06	492.71	
07/06/89	20.06	492.71	
08/09/89	20.38	492.39	
09/06/89	20.31	492.46	
10/06/89	20.39	492.38	
11/07/89	19.98	492.79	
12/05/89	19.69	493.08	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
General Services Area (GSA) (continued)			
W-35A-02 (continued)			
01/09/90	19.72	493.05	
01/31/90	19.70	493.10	
03/06/90	19.51	493.26	
04/04/90	19.86	492.91	
05/02/90	19.96	492.81	
06/06/90	19.74	493.03	
07/03/90	19.99	492.78	
08/06/90	20.15	492.62	
09/10/90	20.25	492.52	
10/11/90	20.28	492.49	
11/15/90	20.37	492.40	
12/04/90	20.42	492.35	
01/25/91	20.49	492.28	
02/08/91	20.29	492.48	
03/12/91	19.57	493.20	
04/03/91	18.03	494.74	
05/06/91	19.21	493.56	
06/17/91	19.39	493.38	
07/17/91	19.52	493.25	
08/05/91	19.26	493.51	
09/06/91	18.58	494.19	
10/02/91	18.12	494.65	
11/12/91	17.93	494.84	
12/09/91	18.22	494.55	
01/08/92	18.23	494.54	
02/05/92	18.80	493.97	
03/02/92	14.35	498.42	
04/02/92	11.68	501.09	
05/05/92	10.66	502.11	
06/02/92	10.90	501.87	
07/08/92	12.21	500.56	
08/06/92	13.54	499.23	
09/02/92	14.79	497.98	
10/05/92	16.03	496.74	
11/03/92	16.90	495.87	
12/02/92	17.62	495.15	
01/05/93	17.11	495.66	
02/02/93	8.19	504.58	
03/02/93	6.04	506.73	
04/05/93	6.46	506.31	
05/10/93	7.26	505.51	
06/08/93	8.05	504.72	
07/13/93	9.74	503.03	
08/10/93	11.59	501.18	
09/14/93	13.63	499.14	
10/12/93	14.87	497.90	
11/03/93	15.68	497.09	
12/02/93	16.48	496.29	
01/07/94	17.08	495.69	
02/07/94	17.47	495.30	
04/06/94	17.72	495.05	
07/08/94	17.98	494.79	
10/10/94	18.72	494.05	
W-35A-03			
05/09/89	20.69	489.36	
06/06/89	21.00	489.05	
07/06/89	21.19	488.86	
08/09/89	21.60	488.45	
09/06/89	21.51	488.54	
10/06/89	21.65	488.40	
11/07/89	20.75	489.30	
12/05/89	20.20	489.85	
01/09/90	20.16	489.89	
01/31/90	20.00	490.10	
03/05/90	19.62	490.43	
W-35A-03 (continued)			
04/04/90	20.15	489.90	
05/02/90	20.35	489.70	
06/06/90	20.13	489.92	
07/03/90	20.49	489.56	
08/06/90	20.85	489.20	
09/10/90	21.00	489.05	
10/11/90	21.28	488.77	
11/15/90	21.20	488.85	
12/04/90	21.31	488.74	
01/25/91	21.41	488.64	
02/08/91	21.04	489.01	
03/12/91	19.76	490.29	
04/03/91	17.83	492.22	
05/06/91	19.27	490.78	
06/17/91	20.05	490.00	
07/17/91	20.03	490.02	
08/05/91	19.81	490.24	
09/06/91	19.15	490.90	
10/02/91	18.62	491.43	
11/12/91	18.36	491.69	
12/09/91	18.55	491.50	
01/08/92	18.53	491.52	
02/05/92	19.00	491.05	
03/02/92	14.83	495.22	
04/02/92	12.50	497.55	
05/05/92	11.63	498.42	
06/02/92	11.73	498.32	
07/08/92	12.94	497.11	
08/06/92	14.04	496.01	
09/02/92	15.24	494.81	
10/05/92	16.36	493.69	
11/03/92	17.19	492.86	
12/02/92	17.78	492.27	
01/05/93	17.22	492.83	
02/02/93	9.86	500.19	
03/01/93	7.94	502.11	
04/05/93	8.40	501.65	
05/10/93	8.88	501.17	
06/08/93	9.45	500.60	
07/13/93	10.74	499.31	
08/10/93	12.37	497.68	
09/14/93	14.19	495.86	
10/12/93	15.20	494.85	
11/03/93	15.99	494.06	
12/02/93	16.72	493.33	
01/07/94	17.13	492.92	
02/07/94	17.48	492.57	
04/06/94	17.73	492.32	
07/08/94	18.10	491.95	
10/10/94	18.92	491.13	
W-35A-04			
11/07/89	19.40	487.70	
12/05/89	18.80	488.30	
01/09/90	18.77	488.27	
01/31/90	18.50	488.50	
03/05/90	18.10	488.90	
04/04/90	18.69	488.35	
05/03/90	18.88	488.16	
06/06/90	18.72	488.32	
07/03/90	19.07	487.97	
08/06/90	19.42	487.62	
09/10/90	19.66	487.38	
10/11/90	19.87	487.17	
11/15/90	19.76	487.28	
12/04/90	19.90	487.14	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-35A-04 (continued)			
01/25/91	19.97	487.07	
02/08/91	19.60	487.44	
03/08/91	18.24	488.80	
04/03/91	13.29	493.75	
05/06/91	17.81	489.23	
06/17/91	18.63	488.41	
07/17/91	18.70	488.34	
08/05/91	18.50	488.54	
09/06/91	17.89	489.15	
10/02/91	17.91	489.13	
11/12/91	17.13	489.91	
12/09/91	17.19	489.85	
01/08/92	17.31	489.73	
04/02/92	11.54	495.50	
07/08/92	11.90	495.14	
10/05/92	15.02	492.02	
01/05/93	15.86	491.18	
04/05/93	7.89	499.15	
07/13/93	9.84	497.20	
10/12/93	13.91	493.13	
01/07/94	15.67	491.37	
04/06/94	16.29	490.75	
07/07/94	16.90	490.14	
10/10/94	17.46	489.58	
W-35A-05			
12/05/89	21.10	490.20	
01/09/90	21.08	490.20	
01/31/90	20.90	490.40	
03/06/90	20.43	490.85	
04/04/90	21.10	490.18	
05/02/90	21.32	489.96	
06/06/90	21.05	490.23	
07/03/90	21.43	489.85	
08/06/90	21.82	489.46	
09/10/90	22.09	489.19	
10/11/90	22.24	489.04	
11/15/90	22.28	489.00	
12/04/90	22.35	488.93	
01/25/91	22.55	488.73	
02/08/91	22.08	489.20	
03/12/91	20.68	490.60	
04/03/91	18.80	492.48	
05/06/91	20.28	491.00	
06/17/91	20.95	490.33	
07/17/91	20.95	490.33	
08/05/91	20.74	490.54	
09/06/91	20.19	491.09	
10/02/91	19.51	491.77	
11/12/91	19.23	492.05	
12/09/91	19.47	491.81	
04/02/92	13.44	497.84	
07/08/92	13.83	497.45	
10/05/92	17.21	494.07	
01/05/93	18.08	493.20	
04/05/93	8.96	502.32	
07/13/93	11.50	499.78	
10/12/93	16.08	495.20	
01/07/94	17.98	493.30	
04/06/94	18.74	492.54	
07/08/94	19.37	491.91	
10/10/94	19.90	491.38	
W-35A-06			
01/31/90	16.70	487.70	
W-35A-06 (continued)			
03/08/90	15.26	489.06	
04/04/90	15.79	488.53	
05/02/90	16.00	488.32	
06/06/90	15.79	488.53	
07/03/90	16.19	488.13	
08/06/90	16.55	487.77	
09/10/90	16.78	487.54	
10/11/90	17.00	487.32	
11/15/90	16.86	487.46	
12/04/90	17.00	487.32	
01/25/91	17.01	487.31	
02/08/91	16.70	487.62	
03/08/91	15.33	488.99	
04/03/91	13.39	490.93	
05/06/91	14.89	489.43	
06/17/91	15.75	488.57	
07/17/91	15.78	488.54	
08/05/91	15.56	488.76	
09/06/91	14.94	489.38	
10/02/91	14.45	489.87	
11/12/91	14.20	490.12	
12/09/91	14.30	490.02	
01/08/92	14.35	489.97	
02/05/92	14.76	489.56	
03/02/92	10.65	493.67	
04/02/92	8.49	495.83	
05/05/92	7.65	496.67	
06/02/92	7.74	496.58	
07/08/92	8.89	495.43	
08/06/92	9.90	494.42	
09/02/92	11.00	493.32	
10/05/92	12.06	492.26	
11/03/92	12.90	491.42	
12/02/92	13.52	490.80	
01/05/93	12.91	491.41	
02/02/93	6.24	498.08	
03/01/93	4.40	499.92	
04/05/93	4.86	499.46	
05/10/93	5.37	498.95	
06/08/93	5.71	498.61	
07/13/93	6.82	497.50	
08/10/93	8.33	495.99	
09/14/93	10.05	494.27	
10/12/93	10.96	493.36	
11/03/93	11.70	492.62	
12/02/93	12.38	491.94	
01/07/94	12.70	491.62	
02/07/94	13.11	491.21	
04/06/94	13.33	490.99	
07/08/94	13.93	490.39	
10/10/94	14.51	489.81	
W-35A-07			
07/05/94	5.81	506.89	
10/10/94	7.19	505.51	
W-35A-08			
07/08/94	17.63	500.23	
10/10/94	17.90	499.96	
W-35A-09			
07/08/94	18.58	496.97	
10/10/94	19.05	496.50	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

Location	Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-35A-10				
	07/08/94	19.03	492.99	
	10/10/94	16.19	495.83	
W-35A-11				
	07/08/94			NA
	10/10/94	11.20	495.90	
W-35A-12				
	10/10/94	19.55	487.77	
W-35A-13				
	10/10/94	15.35	490.39	
W-35A-14				
	10/10/94	18.80	496.13	
W-7A				
	06/01/88	15.28	510.33	
	07/06/88	16.38	509.23	
	08/01/88	17.67	507.94	
	09/06/88	18.73	506.88	
	10/06/88	18.62	506.99	
	11/01/88	18.94	506.67	
	11/29/88	18.93	506.68	
	01/10/89	18.04	507.57	
	02/07/89	17.90	507.71	
	02/21/89	18.30	507.31	
	04/04/89	18.14	507.47	
	05/08/89	19.22	506.39	
	06/07/89	19.23	506.38	
	07/07/89	19.87	505.74	
	08/08/89	20.70	504.91	
	09/06/89	20.51	505.10	
	10/06/89	20.45	505.16	
	11/08/89	21.88	503.73	
	12/05/89	22.28	503.33	
	01/10/90	21.23	504.38	
	01/22/90	20.70	504.90	
	03/06/90	20.02	505.59	
	04/03/90	20.27	505.34	
	05/02/90	20.02	505.59	
	06/07/90	20.22	505.39	
	07/03/90	20.18	505.43	
	08/07/90	20.65	504.96	
	09/12/90	21.04	504.57	
	10/12/90	22.81	502.80	
	11/15/90	22.88	502.73	
	12/07/90	22.33	503.28	
	01/25/91	21.54	504.07	
	02/11/91	21.64	503.97	
	03/07/91	21.56	504.05	
	04/03/91			NA
	05/06/91	19.86	505.75	
	06/19/91	20.18	505.43	
	07/17/91	20.31	505.30	
	08/01/91	20.84	504.77	
	09/06/91	20.54	505.07	
	10/03/91	20.65	504.96	
	11/12/91	20.55	505.06	
	12/09/91	20.25	505.36	
	01/08/92	19.39	506.22	
	04/02/92	16.65	508.96	
W-7A (continued)				
	07/13/92	16.23	509.38	
	10/05/92	18.54	507.07	
	01/05/93	18.13	507.48	
	04/06/93	12.87	512.74	
	07/13/93	13.25	512.36	
	10/12/93	15.59	510.02	
	01/07/94	16.24	509.37	
	04/07/94	16.55	509.06	
	07/05/94	16.72	508.89	
	10/11/94	18.72	506.89	
W-7B				
	07/06/88	20.11	491.33	
	08/03/88	21.75	489.69	
	09/02/88	22.27	489.17	
	10/10/88	22.37	489.07	
	11/03/88	22.56	488.88	
	11/29/88	22.56	488.88	
	01/10/89	22.39	489.05	
	02/07/89	22.47	488.97	
	02/21/89	22.50	488.94	
	04/04/89	22.71	488.73	
	05/08/89	23.40	488.04	
	06/07/89	23.94	487.50	
	07/06/89	24.17	487.27	
	08/08/89	24.70	486.74	
	09/06/89	24.37	487.07	
	10/06/89	24.49	486.95	
	11/08/89	23.18	488.26	
	12/05/89	22.65	488.79	
	01/10/90	22.66	488.78	
	01/22/90	22.30	489.10	
	03/06/90	21.85	489.59	
	04/03/90	22.36	489.08	
	05/02/90	22.47	488.97	
	06/07/90	22.49	488.95	
	07/03/90	22.70	488.74	
	08/06/90	23.10	488.34	
	09/11/90	23.28	488.16	
	10/11/90	23.70	487.74	
	11/15/90	23.35	488.09	
	12/04/90	23.43	488.01	
	01/28/91	23.43	488.01	
	02/08/91	23.02	488.42	
	03/12/91	21.91	489.53	
	04/02/91	19.96	491.48	
	05/02/91	21.26	490.18	
	06/19/91	22.27	489.17	
	07/02/91	22.21	489.23	
	08/01/91	22.18	489.26	
	09/05/91	21.50	489.94	
	10/03/91	20.98	490.46	
	11/12/91			NA
	12/04/91	21.03	490.41	
	01/08/92	20.84	490.60	
	04/02/92	15.42	496.02	
	07/13/92	15.96	495.48	
	10/08/92	18.87	492.57	
	01/08/93	19.24	492.20	
	04/05/93	11.73	499.71	
	07/14/93	13.80	497.64	
	10/12/93	17.64	493.80	
	01/07/94	19.27	492.17	
	04/07/94	19.80	491.64	
	07/05/94	19.91	491.53	
	10/10/94	21.00	490.44	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
General Services Area (GSA) (continued)			
W-7C			
06/01/88	12.76	505.11	
07/06/88	12.37	505.50	
08/03/88	14.75	503.12	
09/02/88	15.45	502.42	
10/10/88	15.43	502.44	
11/03/88	14.14	503.73	
11/29/88	15.21	502.66	
01/10/89	15.20	502.67	
02/07/89	13.14	504.73	
02/21/89	14.14	503.73	
04/04/89	14.51	503.36	
05/08/89	15.63	502.24	
06/07/89	16.55	501.32	
07/06/89	16.87	501.00	
08/08/89	16.79	501.08	
09/06/89	17.48	500.39	
10/06/89	17.53	500.34	
11/08/89	18.45	499.42	
12/05/89	19.09	498.78	
01/10/90	18.18	499.69	
01/22/90	17.50	500.40	
03/06/90	16.71	501.16	
04/03/90	17.00	500.87	
05/02/90	16.75	501.12	
06/07/90	17.02	500.85	
07/03/90	16.81	501.06	
08/06/90	17.23	500.64	
09/11/90	17.30	500.57	
10/11/90	19.23	498.64	
11/15/90	18.80	499.07	
12/04/90	18.88	498.99	
01/28/91	18.10	499.77	
02/06/91	18.02	499.85	
03/12/91	17.23	500.64	
04/02/91	16.31	501.56	
05/02/91	15.34	502.53	
06/19/91	16.93	500.94	
07/02/91	17.08	500.79	
08/01/91	15.86	502.01	
09/05/91	16.82	501.05	
10/03/91	16.97	500.90	
11/12/91			NA
12/04/91	16.28	501.59	
01/08/92	16.01	501.86	
04/02/92	12.75	505.12	
07/13/92	11.75	506.12	
10/08/92	14.61	503.26	
01/08/93	14.13	503.74	
04/05/93	8.05	509.82	
07/14/93	9.21	508.66	
10/12/93	12.23	505.64	
01/07/94	12.49	505.38	
04/07/94	13.21	504.66	
07/05/94	13.53	504.34	
10/10/94	14.85	503.02	
W-7D			
06/01/88	18.97	488.15	
07/06/88	19.79	487.33	
08/03/88	21.56	485.56	
09/02/88	21.60	485.52	
10/10/88	20.68	486.44	
11/03/88	20.87	486.25	
11/29/88	20.08	487.04	
01/10/89	19.61	487.51	
02/07/89	20.71	486.41	
W-7D (continued)			
02/21/89	19.60	487.52	
04/04/89	20.28	486.84	
05/08/89	20.96	486.16	
06/07/89	22.78	484.34	
07/06/89	23.87	483.25	
08/08/89	22.82	484.30	
09/06/89	21.49	485.63	
10/06/89	21.88	485.24	
11/08/89	20.91	486.21	
12/05/89	19.75	487.37	
01/10/90	19.33	487.79	
01/22/90	19.00	488.10	
03/06/90	18.66	488.46	
04/03/90	19.06	488.06	
05/02/90	19.37	487.75	
06/07/90	18.95	488.17	
07/03/90	20.11	487.01	
08/06/90	19.60	487.52	
09/11/90	20.47	486.65	
10/11/90	20.44	486.68	
11/15/90	19.88	487.24	
12/04/90	19.80	487.32	
01/28/91	20.27	486.85	
02/07/91	19.58	487.54	
03/12/91	18.99	488.13	
04/02/91	17.89	489.23	
05/02/91	18.72	488.40	
06/19/91	20.43	486.69	
07/02/91	19.51	487.61	
08/01/91	20.79	486.33	
09/05/91	18.96	488.16	
10/03/91	19.53	487.59	
10/30/91	18.35	488.77	
12/04/91	18.25	488.87	
01/08/92	18.06	489.06	
02/04/92	18.02	489.10	
03/04/92	16.25	490.87	
04/02/92	14.65	492.47	
05/05/92	14.17	492.95	
06/02/92	13.85	493.27	
07/13/92	14.35	492.77	
08/06/92	14.83	492.29	
09/02/92	16.74	490.38	
10/08/92	16.15	490.97	
11/04/92	17.60	489.52	
12/03/92	16.68	490.44	
01/08/93	16.38	490.74	
02/02/93	12.98	494.14	
03/02/93	11.32	495.80	
04/05/93	11.55	495.57	
05/10/93	11.40	495.72	
06/08/93	11.73	495.39	
07/14/93	12.61	494.51	
08/10/93	13.38	493.74	
09/14/93	14.36	492.76	
10/12/93	14.92	492.20	
11/03/93	15.41	491.71	
12/01/93	15.80	491.32	
01/07/94	16.41	490.71	
02/07/94	15.93	491.19	
04/07/94	16.39	490.73	
07/05/94	17.67	489.45	
10/10/94	17.80	489.32	
W-7DS			
06/01/88	17.06	489.54	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

Location	Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-7DS (continued)				
	07/06/88	17.48	489.12	
	08/03/88	17.80	488.80	
	09/02/88	18.12	488.48	
	10/10/88	18.32	488.28	
	11/03/88	18.55	488.05	
	11/29/88	18.60	488.00	
	01/10/89	18.49	488.11	
	02/07/89	18.58	488.02	
	02/21/89	18.58	488.02	
	04/04/89	18.87	487.73	
	05/08/89	19.29	487.31	
	06/07/89	19.78	486.82	
	07/06/89	19.98	486.62	
	08/08/89	20.50	486.10	
	09/06/89	20.31	486.29	
	10/06/89	20.49	486.11	
	11/08/89	19.29	487.31	
	12/05/89	18.79	487.81	
	01/10/90	18.75	487.85	
	01/22/90	18.60	488.00	
	03/06/90	18.18	488.42	
	04/03/90	18.72	487.88	
	05/02/90	18.89	487.71	
	06/07/90	18.89	487.71	
	07/03/90	19.08	487.52	
	08/06/90	19.45	487.15	
	09/11/90	19.64	486.96	
	10/11/90	19.84	486.76	
	11/15/90	19.72	486.88	
	12/04/90	19.84	486.76	
	01/28/91	19.96	486.64	
	02/07/91	19.60	487.00	
	03/12/91	18.28	488.32	
	04/02/91	16.26	490.34	
	05/02/91	17.76	488.84	
	06/19/91	18.70	487.90	
	07/02/91	18.80	487.80	
	08/01/91	18.76	487.84	
	09/05/91	17.94	488.66	
	10/03/91	17.45	489.15	
	10/30/91	17.37	489.23	
	12/04/91	17.67	488.93	
	01/08/92	17.53	489.07	
	02/04/92	17.80	488.80	
	03/04/92	13.89	492.71	
	04/02/92	12.02	494.58	
	05/05/92	11.25	495.35	
	06/02/92	11.29	495.31	
	07/13/92	12.57	494.03	
	08/06/92	13.30	493.30	
	09/02/92	14.35	492.25	
	10/08/92	15.32	491.28	
	11/04/92	16.14	490.46	
	12/03/92	16.67	489.93	
	01/08/93	15.87	490.73	
	02/02/93	10.01	496.59	
	03/02/93	8.22	498.38	
	04/05/93	8.60	498.00	
	05/10/93	9.15	497.45	
	06/08/93	9.44	497.16	
	07/14/93	10.42	496.18	
	08/10/93	11.85	494.75	
	09/14/93	13.47	493.13	
	10/12/93	14.28	492.32	
	11/03/93	14.93	491.67	
	12/01/93	15.57	491.03	
	01/07/94	15.90	490.70	
W-7DS (continued)				
	02/07/94	16.23	490.37	
	04/07/94	16.51	490.09	
	07/05/94	16.83	489.77	
	10/10/94	17.68	488.92	
W-7E				
	06/01/88	19.41	490.59	
	07/06/88	19.73	490.27	
	08/03/88	20.27	489.73	
	09/02/88	20.72	489.28	
	10/10/88	20.85	489.15	
	11/03/88	21.04	488.96	
	11/29/88	21.04	488.96	
	01/10/89	20.85	489.15	
	02/07/89	20.92	489.08	
	02/21/89	20.97	489.03	
	04/04/89	21.26	488.74	
	05/08/89	21.86	488.14	
	06/07/89	22.45	487.55	
	07/06/89	22.66	487.34	
	08/08/89	23.20	486.80	
	09/06/89	22.87	487.13	
	10/06/89	23.01	486.99	
	11/08/89	21.65	488.35	
	12/05/89	21.16	488.84	
	01/10/90	21.33	488.67	
	01/22/90	20.90	489.10	
	03/06/90	20.31	489.69	
	04/03/90	20.83	489.17	
	05/02/90	20.89	489.11	
	06/07/90	21.00	489.00	
	07/03/90	21.15	488.85	
	08/06/90	21.67	488.33	
	09/11/90	21.85	488.15	
	10/11/90	22.10	487.90	
	11/15/90	21.85	488.15	
	12/04/90	21.93	488.07	
	01/28/91	21.99	488.01	
	02/06/91	21.73	488.27	
	03/12/91	20.39	489.61	
	04/03/91			NA
	05/02/91	19.29	490.71	
	06/19/91	20.32	489.68	
	07/02/91	20.31	489.69	
	08/01/91	20.21	489.79	
	09/05/91	19.52	490.48	
	10/03/91	19.02	490.98	
	10/30/91	18.92	491.08	
	12/04/91	19.06	490.94	
	01/08/92	18.86	491.14	
	04/02/92	13.45	496.55	
	07/13/92	13.91	496.09	
	10/08/92	16.90	493.10	
	01/08/93	17.28	492.72	
	04/05/93	9.84	500.16	
	07/14/93	11.83	498.17	
	10/12/93	15.72	494.28	
	01/07/94	17.28	492.72	
	04/07/94	18.83	491.17	
	07/12/94	18.46	491.54	
	10/10/94	19.02	490.98	
W-7ES				
	06/01/88	18.45	491.26	
	07/06/88	18.86	490.85	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-7ES (continued)			
08/03/88	19.23	490.48	
09/02/88	19.60	490.11	
10/10/88	19.88	489.83	
11/03/88	20.14	489.57	
11/29/88	20.22	489.49	
01/10/89	20.10	489.61	
02/07/89	20.17	489.54	
02/21/89	20.17	489.54	
04/04/89	20.44	489.27	
05/08/89	20.98	488.73	
06/07/89	21.38	488.33	
07/06/89	21.62	488.09	
08/08/89	22.18	487.53	
09/06/89	22.03	487.68	
10/06/89	22.18	487.53	
11/08/89	21.11	488.60	
12/05/89	20.62	489.09	
01/10/90	20.45	489.26	
01/22/90	20.30	489.40	
03/06/90	19.81	489.90	
04/03/90	20.37	489.34	
05/02/90	20.52	489.19	
06/07/90	20.50	489.21	
07/03/90	20.79	488.92	
08/06/90	21.18	488.53	
09/11/90	21.39	488.32	
10/11/90	21.60	488.11	
11/15/90	21.53	488.18	
12/04/90	21.67	488.04	
01/28/91	21.78	487.93	
02/08/91	21.37	487.98	
03/12/91	19.98	489.73	
04/02/91	17.91	491.80	
05/02/91	19.28	490.43	
06/19/91	20.27	489.44	
07/02/91	20.28	489.43	
08/01/91	20.15	489.56	
09/05/91	19.40	490.31	
10/03/91	18.83	490.88	
10/30/91	18.66	491.05	
12/04/91	18.90	490.81	
01/08/92	18.68	491.03	
02/04/92	19.21	490.50	
03/04/92	15.05	494.66	
04/02/92	12.85	496.86	
05/05/92	12.05	497.66	
06/02/92	12.12	497.59	
07/13/92	13.48	496.23	
08/06/92	14.38	495.33	
09/02/92	15.43	494.28	
10/08/92	16.62	493.09	
11/04/92	17.35	492.36	
12/03/92	17.94	491.77	
01/08/93	17.10	492.61	
02/02/93	10.45	499.26	
03/02/93	8.62	501.09	
04/05/93	8.96	500.75	
05/10/93	9.55	500.16	
06/08/93	9.99	499.72	
07/14/93	11.19	498.52	
08/10/93	12.71	497.00	
09/14/93	14.45	495.26	
10/12/93	15.41	494.30	
11/03/93	16.41	493.30	
12/01/93	16.90	492.81	
01/07/94	17.26	492.45	
02/07/94	17.57	492.14	

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-7ES (continued)			
04/07/94	18.81	490.90	
07/12/94	18.43	491.28	
10/10/94	19.03	490.68	
W-7F			
06/01/88	28.62	498.46	
07/06/88	30.13	496.95	
08/01/88	28.25	498.83	
09/06/88	28.59	498.49	
10/06/88	28.57	498.51	
11/01/88	28.59	498.49	
11/29/88	29.19	497.89	
01/10/89	28.85	498.23	
02/07/89	28.36	498.72	
02/21/89	28.25	498.83	
04/04/89	27.37	499.71	
05/08/89	27.53	499.55	
06/07/89	28.25	498.83	
07/06/89	28.66	498.42	
08/08/89	29.13	497.95	
09/06/89	28.81	498.27	
10/06/89	28.73	498.35	
11/08/89	29.42	497.66	
12/05/89	26.39	500.69	
01/10/90	27.19	499.89	
01/22/90	27.50	499.60	
03/06/90	27.43	499.65	
04/03/90	27.71	499.37	
05/02/90	27.88	499.20	
06/06/90	27.74	499.34	
07/03/90	28.11	498.97	
08/06/90	28.35	498.73	
09/13/90	28.72	498.36	
10/11/90	28.82	498.26	
11/15/90	28.90	498.18	
12/10/90	28.99	498.09	
01/25/91	28.86	498.22	
02/08/91	28.61	498.47	
03/07/91	27.96	499.12	
04/03/91	26.51	500.57	
05/06/91	26.41	500.67	
06/19/91	27.02	500.06	
07/17/91	27.42	499.66	
08/01/91	27.52	499.56	
09/06/91	27.64	499.44	
10/03/91	27.75	499.33	
11/12/91	27.87	499.21	
12/09/91	27.87	499.21	
01/08/92	27.38	499.70	
04/02/92	25.15	501.93	
07/13/92	25.29	501.79	
10/08/92	27.44	499.64	
01/07/93	26.90	500.18	
04/06/93	20.84	506.24	
07/13/93	23.37	503.71	
10/12/93	23.12	501.94	VE
11/02/93	26.50	500.58	VE
12/01/93	27.60	499.48	VE
01/07/94	26.55	500.53	VE
02/07/94	28.81	498.27	VE
04/07/94	42.55	484.53	VE
07/05/94	48.01	479.07	VE
10/11/94	42.41	484.67	VE

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

Location	Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-7G				
	06/07/89			PT
	07/07/89	31.05	481.84	
	08/08/89	29.38	483.51	
	09/06/89	27.09	485.80	
	10/06/89	26.16	486.73	
	11/08/89	24.22	488.67	
	12/05/89	23.97	488.92	
	01/10/90	22.43	490.46	
	01/22/90	22.00	490.90	
	03/06/90	22.27	490.62	
	04/03/90	21.04	491.85	
	05/02/90	20.75	492.14	
	06/07/90	20.79	492.10	
	07/03/90	21.15	491.74	
	08/06/90	21.63	491.26	
	09/12/90	22.05	490.84	
	10/11/90	22.63	490.26	
	11/15/90	22.23	490.66	
	12/04/90	22.11	490.78	
	01/25/91	21.84	491.05	
	02/11/91	21.70	491.19	
	03/07/91	21.25	491.64	
	04/03/91	19.96	492.93	
	05/06/91	20.35	492.54	
	06/19/91	20.79	492.10	
	07/17/91	21.11	491.78	
	08/01/91	21.28	491.61	
	09/06/91	20.94	491.95	
	10/03/91	20.70	492.19	
	11/12/91	21.47	491.42	
	12/09/91	20.25	492.64	
	01/08/92	19.93	492.96	
	04/02/92	16.44	496.45	
	07/13/92	16.15	496.74	
	10/08/92	18.82	494.07	
	01/07/93	18.37	494.52	
	04/06/93	12.86	500.03	
	07/13/93	13.64	499.25	
	10/12/93	16.45	496.44	
	01/07/94	17.05	495.84	
	04/07/94	17.37	495.52	
	07/05/94	17.99	494.90	
	10/11/94	19.62	493.27	
W-7H				
	10/06/89	6.20	505.20	
	11/08/89	5.90	505.50	
	12/05/89	4.80	506.60	
	01/10/90	4.00	507.44	
	01/22/90	4.50	506.90	
	03/08/90	4.65	506.79	
	04/03/90	5.27	506.17	
	05/02/90	5.34	506.10	
	06/07/90	5.72	505.72	
	07/03/90	6.74	504.70	
	08/06/90	6.56	504.88	
	09/13/90	6.49	504.95	
	10/11/90	6.60	504.84	
	11/15/90	6.14	505.30	
	12/12/90	6.26	505.18	
	01/29/91	6.50	504.94	
	02/11/91	6.47	504.97	
	03/13/91	5.69	505.75	
	04/04/91	5.32	506.12	
	05/06/91	5.44	506.00	
	06/20/91	5.57	505.87	
W-7H (continued)				
	07/03/91	5.53	505.91	
	08/01/91	5.53	505.91	
	09/06/91			NA
	10/03/91	4.89	506.55	
	11/12/91	4.77	506.67	
	12/09/91	4.87	506.57	
	01/08/92	5.01	506.43	
	02/05/92	4.88	506.56	
	03/02/92	3.11	508.33	
	04/02/92	3.26	508.18	
	05/05/92	3.13	508.31	
	06/02/92	3.72	507.72	
	07/13/92	3.15	508.29	
	08/06/92	3.78	507.66	
	09/02/92	4.47	506.97	
	10/08/92	4.88	506.56	
	11/04/92	5.00	506.44	
	12/03/92	5.00	506.44	
	01/07/93	4.27	507.17	
	02/02/93	2.15	509.29	
	03/02/93	1.59	509.85	
	04/06/93	1.30	510.14	
	05/10/93	1.90	509.54	
	06/08/93	2.62	508.82	
	07/13/93	3.72	507.72	
	08/10/93	4.23	507.21	
	09/14/93	5.20	506.24	
	10/12/93	5.43	506.01	
	11/03/93	5.93	505.51	
	12/06/93	5.84	505.60	
	01/07/94	4.64	506.80	
	02/07/94			NA
	04/07/94			NA
	06/03/94	4.79	506.65	
	07/05/94	5.41	506.03	
	10/11/94	5.85	505.59	
W-7I				
	10/06/89	25.95	498.34	
	11/08/89	26.62	497.67	
	12/05/89	23.55	500.74	
	01/10/90	24.44	499.85	
	01/22/90	24.70	499.60	
	03/06/90	24.51	499.78	
	04/03/90	24.90	499.39	
	05/02/90	25.10	499.19	
	06/07/90	25.06	499.23	
	07/05/90	25.35	498.94	
	08/07/90	25.54	498.75	
	09/12/90	25.92	498.37	
	10/11/90	26.03	498.26	
	11/15/90	26.12	498.17	
	12/07/90	26.23	498.06	
	01/25/91	26.17	498.12	
	02/11/91	25.74	498.55	
	03/08/91	25.02	499.27	
	04/04/91	23.69	500.60	
	05/06/91	23.62	500.67	
	06/20/91	24.21	500.08	
	07/03/91	24.33	499.96	
	08/01/91	24.72	504.30	
	09/06/91	24.85	504.17	
	10/03/91	24.95	504.07	
	11/12/91			NA
	12/09/91	29.81	499.21	
	01/08/92	29.35	499.67	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location	Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
General Services Area (GSA) (continued)				
W-7I (continued)	04/02/92	27.15	501.87	
	07/08/92	27.19	501.83	
	10/08/92			NA
	01/07/93			NA
	04/06/93	22.96	506.22	
	07/14/93	25.50	503.68	
	08/26/93	26.41	502.77	
	10/12/93	27.25	501.93	VE
	11/03/93	28.11	501.07	VE
	12/06/93	28.65	500.53	VE
	01/07/94	28.67	500.51	VE
	02/07/94	30.97	498.21	VE
	04/07/94	46.44	482.74	VE
	07/05/94	44.78	484.40	VE
	10/11/94			VE DRY
W-7J	10/06/89	28.93	499.23	
	11/08/89	30.00	498.20	
	12/05/89	26.90	501.30	
	01/10/90	27.79	500.37	
	01/22/90	28.00	500.20	
	03/06/90	27.90	500.26	
	04/03/90	28.52	499.64	
	05/02/90	28.79	499.37	
	06/07/90	28.75	499.41	
	07/05/90	28.91	499.25	
	08/07/90	29.08	499.08	
	09/12/90	29.56	498.60	
	10/11/90	29.56	498.60	
	11/15/90	29.86	498.30	
	12/07/90	29.94	498.22	
	01/25/91	29.83	498.33	
	02/11/91	29.50	498.66	
	03/08/91	28.76	499.40	
	04/04/91	27.42	500.74	
	05/02/91	27.34	500.82	
	06/20/91	27.90	500.26	
	07/03/91	28.08	500.08	
	08/01/91	28.41	499.75	
	09/06/91	28.54	499.62	
	10/03/91	28.65	499.51	
	11/12/91	29.95	498.21	
	12/09/91	28.75	499.41	
	01/08/92	28.29	499.87	
	04/02/92	26.15	502.01	
	07/13/92	26.18	501.98	
	10/05/92	28.33	499.83	
	01/07/93	27.64	500.52	
	04/06/93	24.83	503.33	
	07/14/93	24.35	503.81	
	08/26/93	25.20	502.96	
	10/12/93	25.92	502.24	VE
	11/02/93	27.25	500.91	VE
	12/01/93	27.52	500.64	VE
	01/07/94	27.31	500.85	VE
	02/07/94	29.88	498.28	VE
	04/07/94	44.25	483.91	VE
	07/05/94	43.86	484.30	VE
	10/11/94	44.54	483.62	VE
W-7K	03/06/90			NA
	04/03/90	19.06	491.87	
	05/02/90			NA
W-7K (continued)	06/06/90	18.89	492.04	
	07/05/90	18.79	492.14	
	08/06/90	19.36	491.57	
	09/11/90	19.68	491.25	
	10/11/90	20.37	490.56	
	11/15/90	19.96	490.97	
	12/04/90	19.86	491.07	
	01/28/91	19.55	491.38	
	02/11/91	19.56	491.37	
	03/12/91	18.72	492.21	
	04/02/91	17.69	493.24	
	05/02/91			NA
	06/20/91	18.65	492.28	
	07/02/91	18.56	492.37	
	08/01/91	18.99	491.94	
	09/05/91	18.54	492.39	
	10/03/91	18.38	492.55	
	11/12/91	18.57	492.36	
	12/04/91	18.00	492.93	
	01/08/92	17.79	493.14	
	04/02/92	14.15	496.78	
	07/13/92	13.84	497.09	
	10/08/92	16.61	494.32	
	01/07/93	16.06	494.87	
	04/05/93	10.53	500.40	
	07/14/93	11.41	499.52	
	10/12/93	14.15	496.78	
	01/07/94	14.76	496.17	
	04/07/94	15.11	495.82	
	07/05/94	15.76	495.17	
	10/10/94	17.30	493.63	
W-7L	12/04/90	21.67	491.09	
	01/28/91	21.36	491.40	
	02/07/91	22.78	489.98	
	03/12/91	20.63	492.13	
	04/02/91	19.53	493.23	
	05/02/91	19.86	492.90	
	06/19/91	20.45	492.31	
	07/02/91	20.38	492.38	
	08/01/91	20.85	491.91	
	09/05/91	20.40	492.36	
	10/03/91	20.24	492.52	
	10/29/91	20.27	492.49	
	12/04/91	19.86	492.90	
	01/08/92	19.64	493.12	
	04/02/92	16.00	496.76	
	07/13/92	15.68	497.08	
	10/08/92	18.43	494.33	
	01/08/93	17.92	494.84	
	04/05/93	12.33	500.43	
	07/14/93	13.26	499.50	
	10/12/93	16.00	496.76	
	01/07/94	16.64	496.12	
	04/07/94	16.97	495.79	
	07/05/94	17.60	495.16	
	10/10/94	19.18	493.58	
W-7M	12/04/90	18.85	488.90	
	01/28/91	18.72	489.03	
	02/07/91	18.41	489.34	
	03/12/91	17.43	490.32	
	04/02/91	15.75	492.00	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location	Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
General Services Area (GSA) (continued)				
W-7M (continued)				
	05/02/91	16.83	490.92	
	06/19/91	17.22	490.53	
	07/03/91	17.66	490.09	
	08/01/91	17.83	489.92	
	09/05/91	17.03	490.72	
	10/03/91	16.75	491.00	
	10/29/91	18.80	488.95	
	12/04/91	16.58	491.17	
	01/08/92	16.32	491.43	
	04/02/92	11.70	496.05	
	07/13/92	12.03	495.72	
	10/08/92	14.60	493.15	
	01/08/93	14.79	492.96	
	04/05/93	8.07	499.68	
	07/14/93	9.85	497.90	
	10/12/93	13.17	494.58	
	01/07/94	14.49	493.26	
	04/07/94	14.93	492.82	
	07/05/94	15.53	492.22	
	10/10/94	16.25	491.50	
W-7N				
	12/04/90	20.19	487.99	
	01/28/91	20.26	487.92	
	02/07/91	20.04	488.14	
	03/12/91	18.64	489.54	
	04/02/91	16.71	491.47	
	05/02/91	18.02	490.16	
	06/19/91	19.05	489.13	
	07/03/91	18.97	489.21	
	08/01/91	18.93	489.25	
	09/05/91	18.22	489.96	
	10/03/91	17.72	490.46	
	10/29/91	17.78	490.40	
	12/04/91	17.77	490.41	
	01/08/92	17.69	490.49	
	04/02/92	12.15	496.03	
	07/13/92	12.70	495.48	
	10/08/92	15.61	492.57	
	01/08/93	16.00	492.18	
	04/05/93	8.54	499.64	
	07/14/93	10.54	497.64	
	10/12/93	14.40	493.78	
	01/07/94	16.00	492.18	
	04/07/94	16.54	491.64	
	07/05/94	17.11	491.07	
	10/10/94	17.74	490.44	
W-7O				
	04/02/92	18.55	497.54	
	07/13/92	19.19	496.90	
	10/08/92	22.46	493.63	
	01/08/93	23.25	492.84	
	04/05/93	14.32	501.77	
	07/13/93	16.70	499.39	
	08/26/93	19.31	496.78	
	10/12/93	21.22	494.87	VE
	11/01/93	21.97	494.12	VE
	12/01/93	23.73	492.36	VE
	01/07/94	23.12	492.97	VE
	02/07/94	23.48	492.61	VE
	04/07/94	23.78	492.31	VE
	07/05/94	24.02	492.07	VE
	10/11/94	24.90	491.19	VE
W-7P				
	07/05/94	19.11	490.53	
	10/10/94	19.80	489.84	
W-7PS				
	07/05/94	18.06	496.87	
	10/10/94	18.65	496.28	
W-843-01				
	03/06/90			NA
	04/03/90	127.46	496.30	
	05/03/90	127.65	496.11	
	06/07/90	127.02	496.74	
	07/05/90	127.33	496.43	
	08/07/90	127.76	496.00	
	09/11/90	127.99	495.77	
	10/12/90	128.25	495.51	
	11/16/90	128.06	495.70	
	12/10/90	127.46	496.30	
	01/28/91	127.05	496.71	
	02/07/91	126.87	496.89	
	03/07/91	126.79	496.97	
	04/02/91	126.07	497.69	
	05/03/91	125.66	498.10	
	06/19/91	125.88	497.88	
	07/03/91	125.83	497.93	
	08/01/91	126.68	497.08	
	09/06/91	126.71	497.05	
	10/02/91	126.76	497.00	
	11/12/91	126.36	497.40	
	12/09/91	125.86	497.90	
	01/08/92	125.38	498.38	
	04/02/92	123.47	500.29	
	07/09/92	123.15	500.61	
	10/05/92	126.39	497.37	
	01/07/93	123.52	500.24	
	04/06/93	120.09	503.67	
	07/14/93	120.00	503.76	
	10/12/93	121.45	502.31	
	01/07/94	120.67	503.09	
	04/08/94	120.66	503.10	
	07/05/94	120.66	611.10	
	10/11/94	124.96	498.80	
W-843-02				
	03/06/90			NA
	04/03/90	109.14	513.45	
	05/02/90	109.84	512.75	
	06/07/90	109.37	513.22	
	07/05/90	109.38	513.21	
	08/07/90	109.62	512.97	
	09/11/90	109.89	512.70	
	10/12/90	110.38	512.21	
	11/16/90	111.05	511.54	
	12/10/90	110.57	512.02	
	01/28/91	110.10	512.49	
	02/07/91	110.05	512.54	
	03/07/91	109.96	512.63	
	04/02/91	109.36	513.23	
	05/03/91	108.91	513.68	
	06/19/91	109.11	513.48	
	07/03/91	109.10	513.49	
	08/01/91	109.47	513.12	
	09/06/91	109.61	512.98	
	10/02/91	109.61	512.98	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
General Services Area (GSA) (continued)			
W-843-02 (continued)			
11/12/91	109.55	513.04	
12/09/91	109.26	513.33	
01/08/92	108.89	513.70	
04/02/92	107.38	515.21	
07/09/92	107.12	515.47	
10/05/92	107.94	514.65	
01/07/93	107.88	514.71	
04/06/93	104.36	518.23	
07/14/93	103.24	519.35	
10/12/93	104.65	517.94	
01/07/94	105.25	517.34	
04/08/94	105.62	516.97	
07/05/94	105.60	516.99	
10/11/94	107.34	515.25	
W-872-01			
01/10/90	29.77	500.87	
01/22/90	29.80	500.80	
03/09/90	29.70	500.94	
04/03/90	29.84	500.80	
05/02/90	30.44	500.20	
06/07/90	30.22	500.42	
07/05/90	30.03	500.61	
08/07/90	30.30	500.34	
09/13/90	30.69	499.95	
10/11/90	30.65	499.99	
11/16/90	31.44	499.20	
12/12/90	30.96	499.68	
01/25/91	30.85	499.79	
02/11/91	31.12	499.52	
03/07/91	33.80	496.84	
04/04/91	28.56	502.08	
05/03/91	28.38	502.26	
06/20/91	29.11	501.53	
07/17/91	29.26	501.38	
08/01/91	29.37	501.27	
09/06/91	29.99	500.65	
10/03/91	29.79	500.85	
11/12/91	30.54	500.10	
12/09/91	30.06	500.58	
01/08/92	29.67	500.97	
02/04/92	29.94	500.70	
03/02/92	28.00	502.64	
04/01/92	28.11	502.53	
05/05/92	27.87	502.77	
06/02/92	27.38	503.26	
07/09/92	27.95	502.69	
08/06/92	28.33	502.31	
09/02/92	28.49	502.15	
10/05/92	29.74	500.90	
11/04/92	29.80	500.84	
12/03/92	29.83	500.81	
01/07/93	29.00	501.64	
02/02/93	26.24	504.40	
03/02/93	24.16	506.48	
04/06/93	23.32	507.32	
05/10/93	24.51	506.13	
06/08/93	27.16	503.48	
07/14/93	25.82	504.82	
08/10/93	28.44	502.20	
09/14/93	26.58	504.06	
10/12/93	27.09	503.55	
11/03/93	28.06	502.58	
12/02/93	28.16	502.48	
01/07/94	28.17	502.47	
02/07/94	29.81	500.83	
W-872-01 (continued)			
04/08/94	31.45	499.19	
07/05/94	31.13	499.51	
10/10/94	33.38	497.26	
W-872-02			
09/12/90	32.40	499.37	
10/11/90	34.23	497.54	
11/16/90	34.44	497.33	
12/10/90	34.65	497.12	
01/25/91	34.64	497.13	
02/11/91	34.68	497.09	
04/03/91	31.93	499.84	
05/03/91	31.81	499.96	
06/20/91	32.37	499.40	
07/17/91	32.81	498.96	
08/01/91	33.07	498.70	
09/06/91	33.51	498.26	
10/03/91	33.77	498.00	
11/12/91	33.87	497.90	
12/09/91	34.03	497.74	
01/08/92	33.55	498.22	
04/01/92	30.08	501.69	
07/08/92	30.05	501.72	
10/05/92	31.75	500.02	
01/07/93	31.38	500.39	
04/06/93	25.30	506.47	
07/14/93	27.01	504.76	
10/12/93	28.99	502.78	
11/03/93	28.63	503.14	
12/02/93	30.34	501.43	
01/07/94	30.23	501.54	
02/07/94	30.84	500.93	
04/08/94	31.52	500.25	
07/05/94	31.49	500.28	
10/10/94	34.34	497.43	
W-873-01			
06/06/88	51.24	482.69	
07/06/88	54.39	479.54	
08/02/88	60.42	473.51	
09/06/88	58.16	475.77	
10/06/88	56.37	477.56	
11/01/88	53.53	480.40	
11/29/88	48.41	485.52	
01/10/89	45.39	488.54	
02/07/89	45.80	488.13	
02/21/89	45.18	488.75	
04/04/89	44.12	489.81	
05/08/89	51.72	482.21	
06/07/89	52.58	481.35	
07/07/89	56.12	477.81	
08/08/89	53.29	480.64	
09/06/89	47.74	486.19	
10/06/89	45.16	488.77	
11/08/89	42.63	491.30	
12/05/89	42.82	491.11	
01/10/90	38.85	495.08	
01/22/90	38.10	495.80	
03/06/90	36.55	497.38	
04/03/90	35.77	498.16	
05/02/90	35.76	498.17	
06/07/90	35.45	498.48	
07/05/90	32.10	501.03	
08/07/90	37.14	496.79	
09/12/90	37.44	496.49	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-873-01 (continued)			
10/12/90	37.45	496.48	
11/16/90	37.02	496.91	
12/10/90	36.03	497.90	
01/28/91	35.27	498.66	
02/11/91	34.99	498.94	
03/07/91	34.91	499.02	
04/03/91	34.13	499.80	
05/03/91	33.97	499.96	
06/20/91	34.57	499.36	
07/17/91	35.80	498.13	
08/01/91	36.41	497.52	
09/06/91	36.11	497.82	
10/03/91	36.24	497.69	
11/12/91	35.27	498.66	
12/09/91	34.31	499.62	
01/08/92	33.13	500.80	
04/01/92	31.39	502.54	
07/08/92	32.71	501.22	
10/05/92	37.55	496.38	
01/07/93	31.85	502.08	
04/06/93	27.95	505.98	
07/14/93	29.53	504.40	
10/12/93	30.56	503.37	
01/07/94	28.27	505.66	
04/08/94	28.77	505.16	
07/05/94	30.54	503.39	
10/10/94	34.73	499.20	
W-873-02			
07/06/88	31.54	501.59	
08/04/88	31.96	501.17	
09/06/88	32.35	500.78	
10/06/88	32.68	500.45	
11/01/88	32.95	500.18	
11/29/88	33.26	499.87	
01/10/89	32.83	500.30	
02/06/89	32.65	500.48	
02/21/89	32.21	500.92	
04/04/89	31.26	501.87	
05/08/89	31.40	501.73	
06/07/89	31.74	501.39	
07/07/89	32.17	500.96	
08/08/89	32.55	500.58	
09/06/89	32.67	500.46	
10/06/89	32.69	500.44	
11/08/89	32.22	500.91	
12/08/89	32.36	500.77	
01/10/90	32.57	500.56	
01/22/90	32.30	500.80	
03/06/90	31.57	501.56	
04/03/90	31.55	501.58	
05/02/90	31.88	501.25	
06/07/90	31.90	501.23	
07/05/90	32.10	501.03	
08/07/90	32.71	500.42	
09/12/90	33.26	499.87	
10/11/90	33.53	499.60	
11/16/90	33.84	499.29	
12/10/90	34.05	499.08	
01/25/91	33.90	499.23	
02/11/91	33.86	499.27	
03/07/91	33.28	499.85	
04/03/91	31.53	501.60	
05/03/91	31.34	501.79	
06/20/91	31.64	501.49	
07/17/91	32.15	500.98	
W-873-02 (continued)			
08/01/91	32.38	500.75	
09/06/91	32.83	500.30	
10/03/91	33.04	500.09	
11/12/91	33.24	499.89	
12/09/91	33.26	499.87	
01/08/92	32.93	500.20	
02/04/92	32.72	500.41	
03/02/92	30.86	502.27	
04/01/92	29.20	503.93	
05/05/92	28.48	504.65	
06/02/92	28.22	504.91	
07/08/92	28.54	504.59	
08/06/92	28.37	504.76	
09/02/92	28.78	504.35	
10/05/92	30.23	502.90	
11/04/92	30.90	502.23	
12/03/92	31.44	501.69	
01/07/93	30.41	502.72	
02/02/93	27.45	505.68	
03/02/93	24.61	508.52	
04/06/93	23.20	509.93	
05/10/93	23.15	509.98	
06/08/93	23.71	509.42	
07/14/93	24.67	508.46	
10/12/93	27.46	505.67	
01/07/94	29.14	503.99	
04/08/94	29.54	503.59	
07/05/94	30.38	502.75	
10/10/94	32.28	500.85	
W-873-03			
07/06/88	28.52	505.27	
08/01/88	29.08	504.71	
09/06/88	29.74	504.05	
10/06/88	29.97	503.82	
11/01/88	29.48	504.31	
11/29/88	30.13	503.66	
01/10/89	29.45	504.34	
02/07/89	28.69	505.10	
02/21/89	28.51	505.28	
04/04/89	28.14	505.65	
05/08/89	28.05	505.74	
06/07/89	28.41	505.38	
07/07/89	28.59	505.20	
08/08/89	28.41	505.38	
09/06/89	28.48	505.31	
10/06/89	24.64	509.15	
11/08/89	28.43	505.36	
12/08/89	29.03	504.76	
01/10/90	29.21	504.58	
01/22/90	29.10	504.60	
03/06/90	28.40	505.39	
04/03/90	29.08	504.71	
05/02/90	28.89	504.90	
06/07/90	28.86	504.93	
07/05/90	29.37	504.42	
08/07/90	29.72	504.07	
09/12/90	29.89	503.90	
10/12/90	30.25	503.54	
11/16/90	30.05	503.74	
12/10/90	30.30	503.49	
01/28/91	29.74	504.05	
02/11/91	29.52	504.27	
03/07/91	28.99	504.80	
04/03/91	28.47	505.32	
05/03/91	28.61	505.18	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location	Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
General Services Area (GSA) (continued)				
W-873-03 (continued)				
	06/20/91	29.01	504.78	
	07/17/91	29.46	504.33	
	08/01/91	29.63	504.16	
	09/06/91	29.82	503.97	
	10/03/91	30.18	503.61	
	11/12/91	29.95	503.84	
	12/09/91	30.29	503.50	
	01/08/92	29.96	503.83	
	04/01/92	27.76	506.03	
	07/08/92	27.81	505.98	
	10/05/92	29.35	504.44	
	01/07/93	28.95	504.84	
	04/06/93	21.32	512.47	
	07/14/93	23.95	509.84	
	10/12/93	27.23	506.56	
	01/07/94	28.40	505.39	
	04/08/94	28.51	505.28	
	07/05/94	29.21	504.58	
	10/10/94	30.17	503.62	
W-873-04				
	10/12/90	19.53	511.88	
	11/16/90	19.47	511.94	
	12/12/90	19.45	511.96	
	01/28/91	19.16	512.25	
	02/11/91	19.54	511.87	
	03/07/91	19.43	511.98	
	04/03/91	19.31	512.10	
	05/03/91	19.34	512.07	
	06/20/91	19.53	511.88	
	07/17/91	19.35	512.06	
	08/01/91	19.39	512.02	
	09/06/91	19.53	511.88	
	10/04/91	19.58	511.83	
	11/12/91			NA
	12/09/91	19.33	512.08	
	01/08/92	19.43	511.98	
	04/01/92	19.25	512.16	
	07/08/92	19.25	512.16	
	10/05/92	19.05	512.36	
	01/07/93	18.68	512.73	
	04/06/93	18.00	513.41	
	07/14/93	17.95	513.46	
	10/12/93	18.60	512.81	
	01/07/94	18.98	512.43	
	04/08/94	18.40	513.01	
	07/05/94	18.81	512.60	
	10/11/94	19.32	512.09	
W-873-06				
	09/12/90	31.49	500.34	
	10/11/90	33.28	498.55	
	11/16/90	33.69	498.14	
	12/10/90	33.80	498.03	
	01/28/91	33.61	498.22	
	02/11/91	33.58	498.25	
	03/07/91	33.19	498.64	
	04/03/91	31.45	500.38	
	05/03/91	31.10	500.73	
	06/20/91	31.47	500.36	
	07/17/91	31.84	499.99	
	08/01/91	32.16	499.67	
	09/06/91	32.60	499.23	
	10/03/91	32.83	499.00	
	11/12/91	33.13	498.70	

Location	Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
W-873-06 (continued)				
	12/09/91	33.08	498.75	
	01/08/92	32.78	499.05	
	04/01/92	29.18	502.65	
	07/08/92	28.54	503.29	
	10/05/92	30.22	501.61	
	01/07/93	30.56	501.27	
	04/06/93	22.92	508.91	
	07/14/93	24.55	507.28	
	10/12/93	27.48	504.35	
	01/07/94	29.21	502.62	
	04/08/94	29.54	502.29	
	07/05/94	30.03	501.80	
	10/10/94	32.19	499.64	
W-873-07				
	09/12/90	31.86	499.90	
	10/11/90	33.53	498.23	
	11/16/90	33.92	497.84	
	12/10/90	34.10	497.66	
	01/25/91	33.97	497.79	
	02/11/91	34.03	497.73	
	03/07/91	33.61	498.15	
	04/03/91	31.83	499.93	
	05/03/91	31.35	500.41	
	06/20/91	31.56	500.20	
	07/17/91	32.06	499.70	
	08/01/91	32.34	499.42	
	09/06/91	32.85	498.91	
	10/03/91	33.07	498.69	
	11/12/91	33.23	498.53	
	12/09/91	33.25	498.51	
	01/08/92	33.03	498.73	
	04/01/92	29.60	502.16	
	07/08/92	28.82	502.94	
	10/05/92	30.24	501.52	
	01/07/93	30.59	501.17	
	04/06/93	24.19	507.57	
	07/14/93	24.87	506.89	
	10/12/93	27.26	504.50	
	01/07/94	28.85	502.91	
	04/08/94	29.24	502.52	
	07/05/94	30.48	501.28	
	10/10/94	32.16	499.60	
W-875-01				
	07/08/88	21.83	510.57	
	08/04/88	21.90	510.50	
	09/06/88	22.15	510.25	
	10/17/88	22.16	510.24	
	11/07/88	22.29	510.11	
	11/29/88	22.32	510.08	
	01/12/89	20.27	512.13	
	02/10/89	21.36	511.04	
	02/28/89	21.08	511.32	
	04/04/89	21.02	511.38	
	05/09/89	21.82	510.58	
	06/07/89	21.90	510.50	
	07/07/89	21.97	510.43	
	08/08/89	22.08	510.32	
	09/06/89	22.14	510.26	
	10/06/89	22.11	510.29	
	11/09/89	21.97	510.43	
	12/08/89	21.87	510.53	
	01/10/90	21.65	510.75	
	01/22/90	21.60	510.80	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
General Services Area (GSA) (continued)			
W-875-01 (continued)			
03/08/90	21.70	510.70	
04/03/90	21.54	510.86	
05/03/90	21.62	510.78	
06/07/90	20.78	511.62	
07/05/90	21.19	511.21	
08/07/90	21.67	510.73	
09/13/90	21.70	510.70	
10/11/90	21.85	510.55	
11/16/90	21.93	510.47	
12/12/90	21.97	510.43	
01/28/91	22.00	510.40	
02/11/91	22.05	510.35	
03/08/91	24.62	507.78	
04/02/91	20.25	512.15	
05/03/91	20.85	511.55	
06/20/91	21.63	510.77	
07/17/91			NA
08/01/91	21.62	510.78	
09/06/91	21.82	510.58	
10/03/91	21.85	510.55	
11/11/91	22.11	510.29	
12/09/91	21.92	510.48	
01/08/92	21.94	510.46	
04/01/92	21.12	511.28	
07/08/92			NA
10/05/92	21.91	510.49	
01/07/93	20.53	511.87	
04/06/93	20.43	511.97	
07/13/93	21.36	511.04	
10/12/93	21.38	511.02	
01/07/94	21.32	511.08	
04/08/94	21.05	511.35	
07/05/94	21.79	510.61	
10/11/94	21.92	510.48	
W-875-02			
01/10/90	31.30	500.00	
01/22/90	22.30	509.10	
03/08/90	22.58	508.78	
04/03/90	21.79	509.57	
05/02/90	31.62	499.74	
06/07/90	22.00	509.36	
07/05/90	21.45	509.91	
08/07/90	21.49	509.87	
09/13/90	21.60	509.76	
10/11/90	21.70	509.66	
11/16/90	24.97	506.39	
12/12/90	22.12	509.24	
01/28/91	21.96	509.40	
02/11/91	22.03	509.33	
03/07/91	23.03	508.33	
04/03/91	21.75	509.61	
05/03/91	21.13	510.23	
06/20/91	21.79	509.57	
07/17/91	21.55	509.81	
08/01/91	21.51	509.85	
09/06/91	22.44	508.92	
10/03/91	21.67	509.69	
11/12/91	24.01	507.35	
12/09/91	22.03	509.33	
01/08/92	21.96	509.40	
02/04/92	21.85	509.51	
03/02/92	21.35	510.01	
04/01/92	21.27	510.09	
05/05/92	21.23	510.13	
06/02/92	21.40	509.96	
W-875-02 (continued)			
07/08/92	22.19	509.17	
08/06/92	21.62	509.74	
09/02/92	21.68	509.68	
10/05/92	21.73	509.63	
11/04/92	21.93	509.43	
12/03/92	21.70	509.66	
01/07/93	21.52	509.84	
02/02/93	20.75	510.61	
03/02/93	20.83	510.53	
04/06/93	21.52	509.84	
05/10/93	20.88	510.48	
06/09/93	21.97	509.39	
07/13/93	21.36	510.00	
08/10/93	22.17	509.19	
09/14/93	21.43	509.93	
10/12/93	21.56	509.80	
11/03/93	21.67	509.69	
12/06/93	23.34	508.02	
01/07/94	21.96	509.40	
02/07/94	23.15	508.21	
04/08/94	21.39	509.97	
07/05/94	21.47	509.89	
10/11/94	21.84	509.52	
W-875-03			
01/10/90	30.20	498.40	
01/22/90	28.50	500.10	
03/08/90	28.48	500.16	
04/03/90	28.66	499.98	
05/02/90	29.13	499.51	
06/07/90	28.96	499.68	
07/05/90	29.00	499.64	
08/07/90	29.19	499.45	
09/13/90	29.51	499.13	
10/11/90	29.61	499.03	
11/16/90	30.07	498.57	
12/12/90	29.85	498.79	
01/25/91	29.79	498.85	
02/11/91	29.88	498.76	
03/07/91	29.24	499.40	
04/03/91	28.47	500.17	
05/03/91	27.34	501.30	
06/20/91	28.01	500.63	
07/17/91	28.21	500.43	
08/01/91	28.32	500.32	
09/06/91	28.62	500.02	
10/03/91	28.57	500.07	
11/06/91	28.50	500.14	
12/09/91	28.82	499.82	
01/08/92	28.35	500.29	
04/01/92	23.58	505.06	
07/08/92	26.61	502.03	
10/05/92	28.72	499.92	
01/07/93	28.33	500.31	
04/06/93	22.22	506.42	
07/14/93	24.73	503.91	
10/12/93	26.52	502.12	
01/07/94	27.84	500.80	
04/08/94	33.95	494.69	
07/05/94	33.56	495.08	
10/11/94	34.08	494.56	
W-875-04			
01/10/90	24.94	507.29	
01/22/90	21.10	511.10	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
General Services Area (GSA) (continued)			
W-875-04 (continued)			
03/08/90	21.00	511.23	
04/03/90	21.00	511.23	
05/02/90	21.17	511.06	
06/07/90	20.92	511.31	
07/05/90	21.00	511.23	
08/07/90	21.14	511.09	
09/13/90	21.25	510.98	
10/11/90	21.31	510.92	
11/16/90	22.13	510.10	
12/12/90	20.88	511.35	
01/27/91	21.38	510.85	
02/11/91	21.33	510.90	
03/13/91	20.83	511.40	
04/03/91	20.33	511.90	
05/03/91	20.63	511.60	
06/20/91	21.02	511.21	
07/17/91	21.08	511.15	
08/01/91	21.12	511.11	
09/06/91	21.16	511.07	
10/03/91	21.27	510.96	
11/12/91	21.39	510.84	
12/09/91	21.40	510.83	
01/08/92	21.50	510.73	
04/01/92	21.02	511.21	
07/13/92	21.20	511.03	
10/05/92	21.48	510.75	
01/07/93	20.13	512.10	
04/06/93	20.58	511.65	
07/13/93	21.24	510.99	
10/12/93	21.95	510.28	
01/07/94	21.48	510.75	
04/08/94	21.21	511.02	
07/05/94	20.73	511.50	
10/11/94	21.61	510.62	
W-875-05			
01/22/90	22.90	513.80	
03/06/90	22.73	513.97	
04/03/90	22.71	513.99	
05/02/90	22.71	513.99	
06/07/90	22.65	514.05	
07/05/90	22.68	514.02	
08/07/90	22.74	513.96	
09/12/90	22.84	513.86	
10/11/90	22.86	513.84	
11/16/90	22.85	513.85	
12/10/90	22.83	513.87	
01/28/91	22.96	513.74	
02/11/91	23.03	513.67	
03/07/91	23.00	513.70	
04/03/91	22.83	513.87	
05/03/91	22.80	513.90	
06/20/91	22.24	514.46	
07/17/91	22.78	513.92	
08/01/91	22.81	513.89	
09/06/91	22.81	513.89	
10/02/91	22.82	513.88	
11/11/91	22.93	513.77	
12/09/91	22.96	513.74	
01/08/92	22.91	513.79	
02/04/92	23.00	513.70	
03/11/92	22.85	513.85	
04/01/92	22.81	513.89	
05/05/92			NA
06/02/92			NA
07/08/92	22.95	513.75	
W-875-05 (continued)			
08/06/92			NA
09/02/92	23.04	513.66	
10/05/92	23.13	513.57	
11/04/92	23.20	513.50	
12/03/92	23.12	513.58	
01/07/93	22.72	513.98	
02/02/93	22.70	514.00	
03/02/93	22.75	513.95	
04/06/93	22.60	514.10	
05/10/93	22.55	514.15	
06/08/93	22.50	514.20	
07/13/93	21.24	515.46	
08/10/93	22.67	514.03	
09/14/93	22.74	513.96	
10/12/93	22.82	513.88	
11/03/93	22.86	513.84	
01/07/94	22.72	513.98	
04/08/94	22.66	514.04	
07/05/94	22.81	513.89	
10/11/94	22.82	513.88	
W-875-06			
04/01/92			NA
07/09/92			NA
10/05/92	24.76	504.66	
01/07/93			NA
04/06/93	21.26	508.16	
07/13/93	23.50	505.92	
10/12/93	24.37	505.05	
01/07/94	24.76	504.66	
04/08/94	24.62	504.80	
07/05/94	24.61	504.81	
10/11/94	25.42	504.00	
W-875-07			
07/09/92	26.34	501.81	
10/05/92			NA
01/07/93			NA
04/06/93	22.21	506.23	
07/14/93	24.76	503.68	
08/26/93	25.63	502.81	
10/12/93	26.57	501.87	VE
11/03/93	27.27	501.17	VE
12/02/93	28.08	500.36	VE
01/07/94	28.10	500.34	VE
02/07/94	29.08	499.36	VE
04/07/94	30.01	498.43	VE
07/05/94	30.56	497.88	VE
10/11/94			VE DRY
W-875-08			
07/09/92	26.12	502.03	
10/05/92			NA
01/07/93			NA
04/06/93	21.88	506.27	
07/14/93	24.57	503.58	
08/26/93	25.42	502.73	
10/12/93	26.30	501.85	VE
11/01/93	26.62	501.53	VE
12/02/93	27.74	500.41	VE
01/07/94	27.71	500.44	VE
02/07/94	30.05	498.10	VE
04/07/94			VE DRY
07/05/94			VE DRY

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
General Services Area (GSA) (continued)			
W-875-08 (continued)			
10/11/94			VE DRY
W-875-09			
07/09/92	26.30	503.25	
10/05/92			NA
01/07/93			NA
04/06/93	23.29	506.26	
07/14/93	25.81	503.74	
08/26/93	26.69	502.86	
10/12/93	27.58	501.97	VE
11/01/93	27.90	501.65	VE
12/02/93	29.04	500.51	VE
01/07/94	28.99	500.56	VE
02/07/94	31.32	498.23	VE
04/07/94			VE DRY
07/05/94			VE DRY
10/11/94			VE DRY
W-875-10			
07/09/92	26.22	503.10	
10/05/92			NA
01/07/93			NA
04/06/93	23.07	506.25	
07/14/93	25.62	503.70	
08/26/93	26.42	502.90	
10/12/93	27.31	502.01	VE
11/02/93	27.65	501.67	VE
12/02/93	28.71	500.61	
01/07/94	28.80	500.52	VE
02/07/94	31.12	498.20	VE
04/07/94			VE
07/05/94			VE DRY
10/11/94			VE DRY
W-875-11			
10/05/92			NA
01/07/93			NA
04/06/93	22.85	506.31	
07/14/93	25.42	503.74	
08/26/93	26.30	502.86	
10/12/93	27.20	501.96	VE
11/03/93	27.96	501.20	VE
12/02/93	28.64	500.52	VE
01/07/94	28.60	500.56	VE
02/07/94	30.92	498.24	VE
04/07/94			VE DRY
07/05/94			VE DRY
10/11/94			VE DRY
W-875-12			
10/05/92			NA
01/07/93			NA
04/06/93			NA
W-875-13			
10/05/92			NA
01/07/93			NA
04/06/93			NA
W-875-15			
07/09/92	26.18	502.16	
W-875-15 (continued)			
10/05/92			NA
01/07/93			NA
04/06/93	22.11	506.23	
07/14/93	24.65	503.69	
08/26/93	25.73	502.61	
10/12/93	26.43	501.91	VE
11/03/93	27.18	501.16	VE
12/02/93	27.84	500.50	VE
01/07/94	28.71	499.63	VE
02/07/94	30.16	498.18	VE
04/07/94			VE DRY
07/05/94			VE DRY
10/11/94			VE DRY
W-876-01			
01/22/90	25.20	514.10	
03/06/90	24.82	514.46	
04/03/90	24.69	514.59	
05/02/90	24.80	514.48	
06/07/90	24.24	515.04	
07/05/90	24.29	514.99	
08/07/90	24.45	514.83	
09/12/90	24.72	514.56	
10/11/90	24.71	514.57	
11/16/90	24.96	514.32	
12/10/90	24.93	514.35	
01/28/91	25.01	514.27	
02/11/91	25.07	514.21	
03/07/91	24.20	515.08	
04/03/91	24.03	515.25	
05/03/91	23.92	515.36	
06/20/91	24.04	515.24	
07/17/91	24.14	515.14	
08/01/91	24.16	515.12	
09/06/91	24.32	514.96	
10/02/91	24.71	514.57	
11/11/91	24.72	514.56	
12/09/91	24.86	514.42	
01/08/92	25.00	514.28	
04/01/92	24.20	515.08	
07/08/92	24.72	514.56	
10/05/92	25.13	514.15	
01/07/93	23.97	515.31	
04/06/93	23.86	515.42	
07/13/93	24.26	515.02	
10/12/93	24.80	514.48	
01/07/94	24.59	514.69	
04/08/94	14.11	525.17	
07/05/94	23.92	515.36	
10/11/94	24.83	514.45	
W-879-01			
03/08/90	45.42	506.90	
04/03/90	45.55	506.77	
05/03/90	44.27	508.05	
06/07/90	45.33	506.99	
07/05/90	45.39	506.93	
08/07/90	45.69	506.63	
09/12/90	46.12	506.20	
10/15/90	47.72	504.60	
11/16/90	47.73	504.59	
12/07/90	47.20	505.12	
01/25/91	46.57	505.75	
02/11/91	46.59	505.73	
03/07/91	46.49	505.83	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

General Services Area (GSA) (continued)

W-879-01 (continued)

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
04/03/91	45.35	506.97	
05/03/91	45.36	506.96	
06/20/91	45.66	506.66	
07/03/91	45.52	506.80	
08/01/91	46.19	506.13	
09/06/91	46.00	506.32	
10/02/91	46.11	506.21	
11/12/91	46.04	506.28	
12/09/91	45.70	506.62	
01/08/92	45.15	507.17	
02/04/92	45.22	507.10	
03/02/92	44.00	508.32	
04/01/92	42.62	509.70	
05/05/92	41.71	510.61	
06/02/92	41.60	510.72	
07/09/92	42.16	510.16	
08/06/92	42.70	509.62	
09/02/92	43.60	508.72	
10/05/92	44.08	508.24	
11/04/92	44.32	508.00	
12/03/92	44.16	508.16	
01/07/93	43.70	508.62	
02/02/93	41.73	510.59	
03/02/93	39.74	512.58	
04/06/93	38.55	513.77	
05/10/93	38.20	514.12	
06/08/93	38.27	514.05	
07/14/93	38.71	513.61	
08/10/93	39.36	512.96	
09/14/93	40.30	512.02	
10/12/93	40.75	511.57	
11/03/93	40.87	511.45	
12/01/93	41.10	511.22	
01/07/94	41.42	510.90	
02/07/94	41.33	510.99	
04/08/94	41.45	510.87	
07/05/94	41.81	510.51	
10/10/94	43.04	509.28	

W-889-01

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
07/08/88	39.08	514.55	
08/01/88	39.17	514.46	
09/06/88	39.30	514.33	
10/06/88	39.26	514.37	
11/03/88	39.21	514.42	
11/29/88	39.22	514.41	
01/10/89	39.16	514.47	
02/07/89	39.20	514.43	
02/21/89	39.14	514.49	
04/04/89	39.09	514.54	
05/08/89	39.19	514.44	
06/08/89	39.24	514.39	
07/07/89	39.30	514.30	
08/08/89	39.30	514.33	
09/06/89	39.18	514.45	
10/06/89	39.17	514.46	
11/08/89	39.02	514.61	
12/08/89	39.00	514.63	
01/10/90	38.97	514.66	
01/22/90	39.00	514.60	
03/06/90	38.90	514.70	
04/03/90	39.08	514.55	
05/03/90	39.07	514.56	
06/07/90	39.20	514.43	
07/05/90	39.15	514.48	
08/07/90	39.14	514.49	

W-889-01 (continued)

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
09/12/90	39.14	514.49	
10/15/90	39.22	514.41	
11/16/90	39.20	514.43	
12/07/90	39.19	514.44	
01/25/91	39.24	514.39	
02/11/91	39.20	514.43	
03/07/91	39.22	514.41	
04/03/91	39.17	514.46	
05/03/91	39.14	514.49	
06/20/91	39.22	514.41	
07/03/91	39.18	514.45	
08/01/91	39.28	514.35	
09/06/91	39.30	514.33	
10/02/91	39.30	514.33	
11/12/91	39.28	514.35	
12/09/91	39.25	514.38	
01/08/92	39.23	514.40	
02/04/92	39.20	514.43	
03/02/92	39.15	514.48	
04/01/92	39.05	514.58	
05/05/92	39.08	514.55	
06/02/92	39.07	514.56	
07/09/92	39.15	514.48	
08/06/92	39.20	514.43	
09/02/92	39.37	514.26	
10/05/92	39.34	514.29	
11/04/92	39.33	514.30	
12/03/92	39.24	514.39	
01/07/93	39.15	514.48	
02/02/93	38.92	514.71	
03/02/93	38.83	514.80	
04/06/93	38.78	514.85	
05/10/93	38.81	514.82	
06/08/93	38.88	514.75	
07/14/93	38.97	514.66	
08/10/93	39.05	514.58	
09/14/93	39.10	514.53	
10/12/93	39.06	514.57	
11/03/93	39.04	514.59	
12/01/93	39.06	514.57	
01/07/94	39.07	514.56	
02/07/94	38.99	514.64	
04/08/94	39.02	514.61	
07/05/94	39.18	514.45	
10/11/94	39.22	514.41	

WELL07

Location / Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes
08/07/56			FL
10/21/81	19.00	492.02	
11/23/81	18.30	492.72	
12/01/81	17.80	493.22	
12/29/81	18.00	493.02	
02/02/82	14.00	497.02	
02/23/82	13.70	497.32	
04/08/82	9.00	502.02	
05/02/82	2.80	508.22	
05/28/82	9.70	501.32	
07/07/82	10.00	501.02	
10/06/82	12.10	498.92	

Ground Water Elevations for Monitor Wells in the General Services Area (GSA) at Site 300, LLNL, through 1994.

Location Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes	Location Date of Measurement	Depth to Water (ft)	Water Elevation (ft/MSL)	Notes

Notes:

- DRY Well dry at time of time of measurement.
- FL Flowing artesian aquifer.
- NA Information not available.
- PF Pump not running at time of measurement.
- PT Pump test interfered with measurement.
- VE Vacuum Extraction Well.

Appendix B

Air Sampling and Modeling Protocol

Appendix B

Air Sampling and Modeling Protocol

Measurements of volatile organic compound (VOC) soil flux were made in the General Services Area (GSA) operable unit (OU) using the emission isolation flux chamber methodology with samples collected in SUMMA™ canisters as recommended by the U.S. Environmental Protection Agency (EPA) (1986). To estimate outdoor exposure-point concentrations of VOCs in air, an exposure model must be applied that utilizes the measured VOC soil flux. The modeled ambient outdoor concentrations may then be used to estimate the potential hazard and risk from inhalation of these compounds. This appendix provides a detailed description of the following:

- Emission isolation flux chamber methodology.
- Field and laboratory quality assurance/quality control (QA/QC) data.
- GSA OU sampling protocol.
- Calculation methods and pertinent field data.
- Values for VOC soil flux measured at individual sample locations.
- Estimation of exposure-point concentrations in ambient air.

B-1. Emission Isolation Flux Chamber Methodology and Results

The emission isolation flux chamber technique is applicable to the measurement of air emission rates at the ground surface from the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 waste sites where contaminants have been released to the surface or subsurface (U.S. EPA, 1986). The emission isolation flux chamber technique is listed as the preferred testing technique for the direct measurement of VOC vapor emission by the U.S. EPA in the *Air/Superfund Technical Guidance Series* (U.S. EPA, 1990).

B-1.1. Description of VOC Soil Flux Measurement Protocol

The emission isolation flux chamber methodology used at Lawrence Livermore National Laboratory (LLNL) is based on U.S. EPA guidance (U.S. EPA, 1986). The emission isolation flux chamber is placed on the ground surface, and VOC soil flux emissions enter the open bottom of the chamber. Clean dry sweep air is added into the chamber at a metered rate. Within the chamber a fan mixes the sweep air with emitted VOC vapors. When the concentration of the VOC soil flux emissions and the sweep air reaches equilibrium, a sample is collected in a SUMMA™ canister for analysis. VOC flux (emission/area-time) from the soil surface is then calculated from the VOC vapor concentration using the following formula:

$$F = \frac{Q_{sweep} \bullet C_{SUMMA^{TM}}}{A_{chamber}} \qquad \text{(B-1)}$$

where

F = VOC soil flux, $\mu g/(m^2 \bullet sec)$,

Q_{sweep} = Sweep flow rate, m^3/sec,

$C_{SUMMA^{TM}}$ = VOC vapor concentration in SUMMA™ canister sample, $\mu g/m^3$, and

$A_{chamber}$ = Surface area enclosed by the chamber, m^2.

B-1.1.1. Flux Chamber Operation

The emission isolation flux chamber system is composed of three parts: the chamber, the sweep air controller and data logger, and the sampling system. The flux chamber contains a fan to circulate air and a thermistor to measure the chamber temperature. Three emission isolation flux chambers have been constructed by LLNL (Martins, 1993). Each chamber encloses a surface area of approximately 0.122 m^2 and a total volume of about 27 L (0.027 m^3).

The sweep air controller and data logger contains a metering pump, two rotometers used to measure air flow in and out of the chamber, a battery, and the associated electronics required for chamber control and data acquisition. The metering pump and two rotometers are used to control air flow in and out of the chamber to maintain a negligible pressure differential across the chamber. The chamber controller is connected to an external data logger that acquires temperature and pressure data.

When the flux chamber is in operation, ultra-pure "zero air" is metered into the chamber using a pressure regulator and the first rotometers. At approximately the same rate, air is pulled from the chamber through the second rotometer using the pump in the chamber controller. Both rotometers are adjusted to achieve a net pressure drop of zero (±0.1 in. H_2O) between the inside and the outside of the chamber. An air flow rate of about 3 L/min is used to achieve a chamber air residence time of approximately 10 min. A minimum of 30 min. is required for the sweep air to reach a steady state concentration with the VOC soil flux emissions. At that time, the effluent sweep air pump is turned off and an evacuated SUMMA™ canister is used to withdraw a vapor sample at approximately the same air flow rate (3 L/min).

B-1.1.2. Equipment Calibration

The emission isolation flux chamber sampling equipment was calibrated according to the U.S. EPA methodology (1986).

1. Each emission isolation flux chamber system was calibrated by manual injections of a standard gas of tetrachloroethene (PCE) at a known rate with concurrent metered-flow of ultra-pure sweep air into the chamber. The measured recovery efficiencies for emission chambers 1, 2, and 3 were 101%, 106%, and 80%, respectively. The measured recovery efficiency should be within 10% of the true concentration, although recovery efficiencies for halogenated compounds within more than 10% of the true concentration are acceptable (U.S. EPA, 1986).

2. The thermistor in each of the flux chambers and the portable thermocouple device used for temperature measurements were calibrated against a mercury thermometer. In each case, the internal temperature of the chamber was maintained at three different temperatures for at least 15 min. Thermistor data were recorded continuously over this period using a data logger. The temperature of the mercury thermometer and the portable thermocouple were recorded manually over these periods. All thermistors and the thermocouple proved to have an accuracy of within ±0.5°C. The thermistors and thermocouple should have an accuracy of ±1°C (U.S. EPA, 1986).

3. A calibration consisting of four observations at two set points was performed on each of the rotometers used for flux measurements. A Gilian Instrument Corporation Gilibator bubble flow meter was used to measure the actual air flow when the rotometers were set at 3 and 2.8 L/min. In the table below, the numbers listed to the right of the associated chamber are the air flow rate set points on the respective rotometer required to produce the desired flow rate. These data are used to correct sweep air flow rates recorded in the field before flux rates are calculated from SUMMA™ canister analyses.

Rotometer	Sweep air effluent		Sweep air influent	
Desired flow	3 L/min	2.8 L/min	3 L/min	2.8 L/min
Set point for				
Chamber 1	3.13	2.99	2.91	2.67
Chamber 2	3.29	3.13	3.11	2.97
Chamber 3	3.49	3.28	2.96	2.79

4. All SUMMA™ canisters (6-L size) were precleaned at the analytical laboratory. The initial and final canister pressures were recorded on the field log sheets.

B-1.1.3. Field and Laboratory QA/QC

The VOC soil flux measurement protocol we developed for the GSA survey meets or exceeds all the data quality objectives recommended by the U.S. EPA (1986).

1. Field blank samples were collected at a frequency of at least one per day. Collection of field blank samples for emission isolation flux chambers consisted of placing the chamber over a clean surface and running a test using ultra-pure sweep air under routine operating conditions. Over the course of the GSA field sampling, two field blank samples were taken for each of chamber 1 and chamber 2, and one field blank sample was taken for chamber 3. Subsequent to field sampling, one blank sample was taken for each chamber in the laboratory.

2. Field duplicate samples were collected at a frequency of at least 20%. The two samples were taken using the same flux chamber over as brief a time span as feasible to minimize any temporal variations. Most locations for duplicate samples were selected in the field. However, for each of the three sampling zones, one duplicate sample was collected at the

location where we expected to measure the highest VOC soil vapor flux. These locations were based upon passive SVS data collected in January and February 1994 (Fig. 1-41).

3. In each sampling zone, one control point location was sampled at two different times during the diurnal cycle. These times were chosen near the maximum and minimum diurnal temperatures. The control point samples were also collected from those locations where we expected to measure the highest VOC soil vapor flux. The control point sample locations correspond to the following passive SVS sample locations (see Fig. 1-45):

Sampling zone	Passive SVS ID	Control point ID
Building 875 dry well area	SVX-GSA-242	3SF-WGSA-CONTROL
Central GSA	SVX-GSA-230	3SF-CGSA-016 (see note)
Eastern GSA	SVX-GSA-241	3SF-EGSA-CONTROL

Note: The central GSA control point sample was collected at sample location 3SF-CGSA-016, which is near the passive SVS sample location SVX-GSA-230. The sample labeled 3SF-CGSA-CONTROL in data tables presented in Appendix A and B is in actuality a duplicate sample taken at SVS sample location SVX-GSA-240.

4. A field sample log sheet was completed for each sample collected. All relevant parameters were recorded on the sample log sheet: sample location and number, chamber number, sweep flow rate, ambient and chamber air temperature, and sample start and stop time. A daily field log was also completed, noting field conditions of interest.

5. For each sample collected, proper sample labeling was completed using indelible ink. Sample ID, SUMMA™ canister number, and date were recorded on the sample label. Formal chain-of-custody procedures, as described in our standard operating procedures (Carlsen et al., 1993), were followed by all field personnel. SUMMA™ canister samples were delivered to a certified analytical laboratory within 48 h of the time collected, and were analyzed for VOCs using EPA method TO-14. The range of detection limits for individual VOC compounds in field vapor samples was 0.7 to 0.8 ppb_V.

6. The laboratory reported full QA/QC results, including results from lab blanks, spike, and duplicate analyses. The laboratory performed about 20% laboratory blanks, 7% lab spikes, and 10% duplicate analyses in accordance with U.S. EPA criteria for acceptability.

B-1.1.4. Sampling Strategy

The VOC soil vapor flux sampling methodology was taken from the Air/Superfund Technical Guidance Series, Volume II (U.S. EPA, 1990). A stratified-random sampling approach was used, in which the initial sampling zones were delineated using SVS and soil/rock concentration data collected during and subsequent to characterization efforts described in the SWRI report (Webster-Scholten, 1994). The number of sample units (which are potential sample locations) within each sampling zone was calculated from the area of the zone based upon standard data quality objectives for a risk assessment (U.S. EPA, 1990). Sample locations were then selected randomly from among the sample units in accordance with U.S. EPA guidance (U.S. EPA, 1986).

B-1.2. GSA Sampling Zones and Sample Locations

Three discrete sampling zones were delineated using both passive SVS analytical data collected in January and February 1994 (Fig. 1-41) and available soil/rock analytical data. Figure 1-45 shows these VOC soil flux sampling zones and the individual emission isolation flux chamber sample locations. The three sampling zones are:

- Building 875 dry well area (unpaved area approximately 50 ft south of Building 875).
- Central GSA (area west of sewage treatment pond).
- Eastern GSA (area east of sewage treatment pond).

The Air/Superfund Technical Guidance Series, Volume II (U.S. EPA, 1990), provides a methodology for dividing the sampling zone into an imaginary grid with unit areas that depend on the sampling zone area size (Z) as follows:

- $Z < 500\ m^2$, divide the sampling zone into units with areas equal to 5% of the total sampling zone area.
- $500\ m^2 < Z < 4{,}000\ m^2$, divide the sampling zone into units of $25\ m^2$.
- $4{,}000\ m^2 < Z < 32{,}000\ m^2$, divide the sampling zone into 160 units.

The number of units to be sampled in each sampling zone was determined based upon the area of the sampling zone using the following equation (U.S. EPA, 1990):

$$\text{Number of samples} = 6 + 0.15 \bullet \left[\text{sampling zone area}\left(m^2\right)\right]^{0.5}. \qquad \text{(B-2)}$$

Equation B-2 determines the number of samples necessary to provide an estimated average emission rate within 20% of the true mean with 95% confidence. The units sampled in each sampling zone were selected using a table of random numbers. VOC soil vapor flux measurements were then obtained for each of the randomly selected units.

B-1.2.1. Building 875 Dry Well Area Sampling Zone

The Building 875 dry well area sampling zone is defined as the unpaved strip between the parking lot south of Building 875 and Corral Hollow Road, in the vicinity of the former dry wells at Building 875. The area encompasses an unpaved strip approximately 35 ft wide and 300 ft long (Fig. 1-45).

A random approach for selecting sample locations could not be reasonably applied to this sampling zone. This is because the Building 875 dry well area has many obstacles (such as trees and a soil vapor extraction platform), making location of random samples difficult.

Flux chamber sample locations were, therefore, chosen in the field to best characterize expected VOC soil vapor flux in the Building 875 dry well area. The sampling zone parameters for the Building 875 dry well area were:

$$\text{Area} = 10{,}500\ \text{ft}^2\left(975\ \text{m}^2\right).$$

$$\text{Number of samples} = 6 + 0.15 \bullet \left(975\ \text{m}^2\right)^{0.5} = 11\ \text{samples}.$$

B-1.2.2. Central GSA Sampling Zone

The central GSA sampling zone is defined as the area directly west of the sewage treatment pond, bounded by the existing fence line to the west and south. The eastern boundary is defined as an imaginary north-south line approximately 40 ft to the east of well W-7PS, extending approximately 160 ft north of well W-7PS to the northeast vertex of the sample zone. The northern boundary is then defined as an imaginary line that runs from the northeast vertex of the sample zone, approximately 20 ft to the north of well W-7C, to the fence line west of the sampling zone (Fig. 1-45).

$$\text{Area} = 83{,}742\ \text{ft}^2\left(7{,}780\ \text{m}^2\right).$$

Sampling zone = 173 units.

The area of the sampling zone was divided into 160 units of 523.4 ft^2 each. This corresponded to a 22.9-ft square grid. A square grid was then created which was 22 ft on a side with 19 × 13 units, for a total of 247 units. The central GSA quadrangular boundary (Fig. 1-45) was then laid out on top of the 19 × 13 unit grid. The central GSA sampling zone covered 70% of this grid area or 173 units.

$$\text{Number of samples} = 6 + 0.15 \bullet \left(7{,}780\ \text{m}^2\right)^{0.5} = 20\ \text{samples}.$$

Random numbers between 0 and 247 were generated, and the first 20 randomly selected units that fell onto or within the central GSA sampling zone boundary were chosen as sampling locations.

B-1.2.3. Eastern GSA Sampling Zone

The eastern GSA sampling zone is defined as the area northeast of the sewage treatment pond. This zone is bounded by an imaginary triangle with a southwest corner located at the inside junction of two dirt roads approximately 100 ft west of SVS point SVX-GSA-227. The southeast corner is located at well W-25N-20, and the northern corner is located approximately 100 ft due north of well W-26R-07.

$$\text{Area} = 43{,}745\ \text{ft}^2\left(4{,}064\ \text{m}^2\right).$$

Sampling zone = 158 units.

The sampling zone area was divided into 160 units of 273.4 ft^2 each. This corresponds to a 16.5 ft square grid. A grid 16.4 ft on a side with 21 × 15 units (315 units total), was then developed. The eastern GSA triangular boundary (Fig. 1-45) was then laid out on this 21 × 15 unit grid. The eastern GSA sampling zone covered 50% of this grid or 158 units.

$$\text{Number of samples} = 6 + 0.15 \bullet \left(4{,}064\ \text{m}^2\right)^{0.5} = 16 \text{ samples.}$$

Random numbers between 0 and 315 were generated, and the first 16 randomly selected units that fell onto or within the eastern GSA sampling zone boundary were chosen as sampling locations.

B-1.3. Field Data and VOC Soil Flux Calculations

Field data from sample log sheets are presented in Table B-1. Rotometer settings recorded in the field are noted together with their corrected values, based upon rotometer calibration data described above.

VOC soil vapor flux calculations for each sample location are presented in Tables B-2 and B-3. VOC soil vapor flux was calculated using Equation B-1, with the following parameters:

Q_{sweep} = Sample specific, corrected sweep flow rate from Table B-1, converted to units of (m^3/sec).

$C_{SUMMA^{TM}}$ = Sample specific VOC SUMMA™ canister vapor concentration from Table A-1 and Table A-2, converted to units of ($\mu g/m^3$).

$A_{chamber}$ = Surface area enclosed by the chamber, 0.122 m^2.

Blank samples provide a measure of contamination that may have been introduced to the data set by the emission isolation flux chamber system. To prevent the inclusion of non-site-related contaminants in the risk assessment, the concentration of chemicals detected in blank samples must be compared with concentrations of the same chemicals detected in site samples (U.S. EPA, 1989). In accordance with U.S. EPA guidance (1989), soil vapor flux measurements from individual VOC analyses were included in the risk assessment only if the VOC concentration exceeded five times the maximum VOC concentration detected in any blank sample. VOC concentrations less than five times the maximum VOC concentration detected in any blank sample were treated as non-detections. Contaminants detected in soil flux samples at less than five times those detected in method blank samples are qualified with an "M" in Tables B-2 and B-3. The more significant contaminants detected in blank samples as well as in VOC soil vapor flux samples were methylene chloride, benzene, and toluene.

Forty-three out of 53 soil vapor flux samples had a methylene chloride concentration less than five times the maximum concentration detected in the respective emission isolation flux chamber blank. Forty-three out of 44 soil vapor flux samples had a benzene concentration less than five times the maximum concentration detected in the respective emission isolation flux chamber blank vapor sample. Thirteen out of 37 soil vapor flux samples had toluene concentrations exceeding five times the maximum concentration detected in the respective emission isolation flux chamber blank vapor sample. Based on these data, we suspect that, at least for methylene chloride and benzene, the source of these analytes in soil vapor flux samples may be the emission isolation flux chamber system itself.

Samples with VOC concentrations less than five times the maximum VOC concentration detected in any blank sample were treated as nondetections in the calculation of 95% Upper Confidence Limits (UCLs) for VOC soil vapor flux presented in Table 1-16. The 95% UCLs for each source area are used as inputs for air exposure-point calculations in a risk assessment.

B-2. Outdoor Air Exposure-Point Concentration Model and Parameters

To estimate exposure-point concentrations of VOCs in air, an exposure model must be applied that uses measured values of VOC soil vapor flux to estimate ambient outdoor air concentrations. To estimate maximum plausible ambient outdoor air concentrations in the vicinity of the Building 875 dry well area and in the central and eastern GSA, we used calculated 95% UCLs of the measured VOC soil vapor flux from each sampling zone as model inputs. The three source area boundaries are the same as the sampling zone boundaries described in Section B-1.2.

We applied a simple box model to estimate local exposure-point concentrations. This approach is applicable to the prediction of local short- and long-term exposure-point concentrations resulting from any area source. Because estimated exposure-point concentrations in outdoor air are intended only for receptors in the immediate vicinity and directly over the GSA, standard air dispersion modeling methods cannot be used because these methods are intended to estimate exposure concentrations at larger distances from the source.

The box model used to estimate VOC exposure point concentrations in outdoor air was taken from the recent American Society for Testing and Materials (ASTM) *Emergency Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites* (ASTM, 1994) and recommended by the U.S. EPA (1992).

$$C_{outdoor} = \frac{F \bullet L}{U_w \bullet H_m}, \qquad \text{(B-3)}$$

where

$C_{outdoor}$ = VOC concentration resulting from the GSA area vapor source, $\mu g/m^3$,

F = VOC soil flux from the GSA area source, $\mu g/(m^2 \bullet sec)$,

L = Downwind length of the GSA VOC emission source (site specific), m,

U_w = Average wind speed within the mixing zone, 2.25 m/sec (ASTM default parameter), and

H_m = Ambient air mixing zone height, 2 m (ASTM default parameter).

Although the ASTM box model is simple to apply, it is also very conservative. As a result, it is used as a screening method only. Actual air concentrations corresponding to measured VOC soil vapor flux emissions are expected to be lower than those estimated by application of this model. The downwind length of the vapor emission source was estimated based upon the prevailing wind direction at Site 300 and the source area boundaries. The downwind length of the vapor emission sources was estimated to be 65 m, 110 m, and 90 m, for the Building 875 dry well area, the central GSA, and the eastern GSA, respectively. To be conservative, the wind speed and the mixing height used in the model are the default parameters cited in the ASTM guidance. The annual average wind speed reported for Site 300 in the *Environmental Report 1993, LLNL* is approximately 5.25 m/sec (Gallegos et al., 1994).

Estimated air exposure-point screening concentrations for outdoor air, based upon 95% UCLs for VOC soil vapor flux, are presented in Table 1-22.

B-3. References

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Table B-1. VOC soil flux survey field data.

Sample number	Chamber No.[a]	Date sampled	Sample start time	Sample stop time	Sample time (min)	Temperatures: Ambient (deg C)	Temperatures: Chamber (deg C)	Rotometer setting: Sweep in (L/min)	Rotometer setting: Sweep out (L/min)	Corrected flow rates: Sweep in (L/min)	Corrected flow rates: Sweep out (L/min)
Building dry well area sampling zone											
3SF-WGSA-001-001	3	9/22/94	14:16:55	14:19:00	2.08	32.70	33.70	2.80	2.40	2.81	2.06
3SF-WGSA-002-001	2	9/22/94	16:45:05	16:46:40	1.58	29.70	37.80	2.60	2.40	2.28	1.96
3SF-WGSA-003-001	1	9/22/94	13:44:00	13:46:10	2.17	36.50	54.70	2.90	2.55	2.99	2.23
3SF-WGSA-004-001	2	9/22/94	15:40:00	15:41:50	1.83	NA[b]	NA	2.60	2.40	2.28	1.96
3SF-WGSA-005-001	3	9/22/94	13:30:45	13:32:00	1.25	34.50	46.50	2.80	2.40	2.81	2.06
3SF-WGSA-006-001	1	9/22/94	16:34:15	16:36:15	2.00	NA	39.10	2.90	2.60	2.99	2.30
3SF-WGSA-006-002	1	9/22/94	16:38:00	16:39:55	1.92	NA	NA	2.90	2.60	2.99	2.30
3SF-WGSA-007-001	2	9/22/94	11:58:15	12:00:10	1.92	33.00	51.30	2.60	2.40	2.28	1.96
3SF-WGSA-008-001	1	9/22/94	17:31:25	17:32:35	1.17	30.60	30.60	2.90	2.60	2.99	2.30
3SF-WGSA-009-001	3	9/22/94	12:09:50	12:12:00	2.17	35.60	46.52	2.80	2.40	2.81	2.06
3SF-WGSA-010-001	1	9/22/94	12:17:00	12:19:00	2.00	31.30	34.90	2.90	2.60	2.99	2.30
3SF-WGSA-011-001	2	9/22/94	13:08:45	13:11:00	2.25	33.40	55.00	2.60	2.40	2.28	1.96
3SF-WGSA-012-001	2	9/22/94	17:37:00	17:39:00	2.00	NA	NA	2.60	2.40	2.28	1.96
3SF-WGSA-CONTROL-1	2	9/22/94	9:50:20	9:52:35	2.25	27.70	32.00	2.60	2.40	2.28	1.96
3SF-WGSA-CONTROL-2	2	9/22/94	13:56:50	13:58:50	2.00	33.00	34.70	2.60	2.40	2.28	1.96
3SF-WGSA-CONTROL-3	2	9/22/94	14:01:30	14:03:50	2.33	33.00	34.70	2.60	2.40	2.28	1.96
Central GSA sampling zone											
3SF-CGSA-001-001	1	9/20/94	9:23:55	9:24:15	0.33			2.90	2.60	2.99	2.30
3SF-CGSA-002-001	3	9/20/94	9:04:48	9:07:20	2.53	28.00	32.84	3.8	3.4	4.03	2.85
3SF-CGSA-003-001	3	9/20/94	9:43:39	9:45:02	1.38	26.37	38.80	2.80	2.40	2.81	2.06
3SF-CGSA-004-001	3	9/19/94	13:09:00	13:12:15	3.25	33.10	48.20	2.80	2.40	2.81	2.06
3SF-CGSA-005-001	2	9/19/94	14:14:46	14:16:41	1.92	36	47.6	2.60	2.40	2.28	1.96
3SF-CGSA-006-001	1	9/19/94	14:30:00	14:32:05	2.08	37.30	50.20	2.90	2.60	2.99	2.30
3SF-CGSA-007-001	3	9/20/94	12:09:00	12:11:10	2.17	35.20	55.60	2.80	2.40	2.81	2.06
3SF-CGSA-008-001	1	9/19/94	13:45:00	13:48:00	3.00	35.40	49.30	2.90	2.55	2.99	2.23
3SF-CGSA-009-001	1	9/20/94	12:26:35	12:28:45	2.17	33.90	50.80	2.90	2.60	2.99	2.30
3SF-CGSA-010-001	2	9/20/94	11:20:00	11:23:00	3.00	32.50	51.00	2.60	2.40	2.28	1.96
3SF-CGSA-011-001	3	9/20/94	10:30:45	10:32:45	2.00	NA	NA	2.80	2.40	2.81	2.06
3SF-CGSA-012-001	3	9/20/94	12:59:25	13:01:54	2.48	35.00	52.10	2.80	2.40	2.81	2.06
3SF-CGSA-012-002	3	9/20/94	13:10:15	13:13:05	2.83	35.00	55.00	2.80	2.40	2.81	2.06
3SF-CGSA-013-001	1	9/20/94	10:12:00	10:14:10	2.17	28.20	42.30	2.90	2.60	2.99	2.30
3SF-CGSA-014-001	1	9/20/94	11:46:10	11:48:25	2.25	28.94	41.60	2.90	2.60	2.99	2.30
3SF-CGSA-015-001	2	9/20/94	12:35:40	12:38:10	2.50	37.50	53.70	2.60	2.40	2.28	1.96

Table B-1. (Continued)

Sample number	Chamber No.[a]	Date sampled	Sample start time	Sample stop time	Sample time (min)	Temperatures: Ambient (deg C)	Temperatures: Chamber (deg C)	Rotometer setting: Sweep in (L/min)	Rotometer setting: Sweep out (L/min)	Corrected flow rates: Sweep in (L/min)	Corrected flow rates: Sweep out (L/min)
3SF-CGSA-016-001	2	9/20/94	9:35:30	9:37:30	2.00	32.00	48.60	2.80	2.80	2.56	2.42
3SF-CGSA-016-004	2	9/20/94	14:51:05	14:53:00	1.92	38.00	56.50	2.60	2.50	2.28	2.08
3SF-CGSA-017-001	3	9/20/94	11:25:00	11:26:50	1.83	33.00	48.70	2.80	2.40	2.81	2.06
3SF-CGSA-018-001	2	9/20/94	13:29:45	13:31:10	1.42	35.50	47.20	2.60	2.40	2.28	1.96
3SF-CGSA-019-001	3	9/20/94	14:00:30	14:02:26	1.93	35.70	49.40	2.81	2.38	2.82	2.05
3SF-CGSA-020-001	1	9/20/94	13:42:00	13:44:45	2.75	36.00	52.90	2.90	2.60	2.99	2.30
3SF-CGSA-020-002	1	9/20/94	13:52:00	13:54:00	2.00	36.00	51.50	2.40	2.60	2.00	2.19
3SF-CGSA-CONTROL-1	3	9/22/94	15:30:20	15:33:00	2.67	30.40	43.00	2.80	2.40	2.81	2.06
3SF-CGSA-CONTROL-2	3	9/22/94	15:36:22	15:38:35	2.22	30.40	42.90	2.80	2.40	2.81	2.06
Eastern GSA sampling zone											
3SF-EGSA-001-001	1	9/21/94	10:11:30	10:13:30	2.00	31.20	49.20	2.90	2.60	2.99	2.30
3SF-EGSA-002-001	3	9/21/94	9:56:10	9:58:05	1.92	32.10	48.20	2.80	2.40	2.81	2.06
3SF-EGSA-003-001	3	9/21/94	10:33:00	10:35:05	2.08	31.30	45.70	2.80	2.40	2.81	2.06
3SF-EGSA-004-001	2	9/21/94	9:31:55	9:33:10	1.25	34.00	47.30	2.60	2.80	2.28	2.42
3SF-EGSA-004-002	2	9/21/94	9:43:40	9:45:45	2.08	34.00	49.00	2.60	2.80	2.28	2.42
3SF-EGSA-005-001	2	9/21/94	10:27:30	10:28:55	1.42	32.80	38.40	2.60	2.40	2.28	1.96
3SF-EGSA-006-001	3	9/21/94	12:06:10	12:08:15	2.08	51.76	34.50	2.80	2.40	2.81	2.06
3SF-EGSA-007-001	3	9/21/94	12:53:45	12:55:45	2.00	34.80	51.40	2.80	2.40	2.81	2.06
3SF-EGSA-007-002	3	9/21/94	12:57:15	12:59:15	2.00	34.80	51.40	2.80	2.40	2.81	2.06
3SF-EGSA-008-001	1	9/21/94	10:58:10	11:00:10	2.00	46.80	51.60	2.90	2.60	2.99	2.30
3SF-EGSA-009-001	1	9/21/94	12:31:30	12:34:00	2.50	NA	36.5	3.00	2.60	3.06	2.30
3SF-EGSA-010-001	2	9/21/94	13:23:00	13:25:00	2.00	39.00	51.40	2.60	2.40	2.28	1.96
3SF-EGSA-011-001	2	9/21/94	12:16:30	12:18:30	2.00	43.00	54.90	2.60	2.40	2.28	1.96
3SF-EGSA-012-001	2	9/21/94	14:14:00	14:16:16	2.27	38.00	51.80	2.60	2.40	2.28	1.96
3SF-EGSA-013-001	1	9/21/94	13:37:00	13:39:10	2.17	40.40	61.50	3.00	2.60	3.06	2.30
3SF-EGSA-014-001	1	9/21/94	14:28:30	14:30:40	2.17	38.40	55.30	3.00	2.60	3.06	2.30
3SF-EGSA-015-001	1	9/22/94	9:14:20	9:16:15	1.92	30.6	32.9	2.90	2.60	2.99	2.30
3SF-EGSA-015-002	1	9/22/94	9:19:20	9:21:40	2.33	30.6	32.9	2.90	2.60	2.99	2.30
3SF-EGSA-016-001	3	9/22/94	9:05:00	9:07:20	2.33	26.50	39.20	2.60	2.40	2.56	2.06
3SF-EGSA-017-001	3	9/21/94	13:50:45	13:52:55	2.17	37.40	47.60	2.80	2.40	2.81	2.06
3SF-EGSA-017-002	3	9/21/94	13:57:10	13:59:10	2.00	37.40	47.40	2.60	2.40	2.56	2.06
3SF-EGSA-CONTROL-1	3	9/21/94	9:19:06	9:21:20	2.23	30.11	42.97	2.80	2.40	2.81	2.06
3SF-EGSA-CONTROL-2	3	9/21/94	15:12:00	15:14:00	2.00	35.60	37.20	2.80	2.40	2.81	2.06
3SF-EGSA-CONTROL-3	3	9/21/94	15:15:00	15:17:05	2.08	37.60	37.10	2.80	2.40	2.81	2.06

Table B-1. (Continued)

Sample number	Chamber No.[a]	Date sampled	Sample start time	Sample stop time	Sample time (min)	Temperatures: Ambient (deg C)	Temperatures: Chamber (deg C)	Rotometer setting: Sweep in (L/min)	Rotometer setting: Sweep out (L/min)	Corrected flow rates: Sweep in (L/min)	Corrected flow rates: Sweep out (L/min)
Method blanks											
3SF-WGSA-METHOD-1	3	9/19/94	11:39:00	11:40:35	1.58	30.00	30.70	2.80	2.40	2.81	2.06
3SF-WGSA-METHOD-2	1	9/19/94	12:39:25	12:41:30	2.08	30.60	31.40	2.90	2.50	2.99	2.17
3SF-WGSA-METHOD-3	2	9/19/94	13:13:36	13:18:00	4.40	31.50	35.00	2.60	2.40	2.28	1.96
3SF-CGSA-METHOD-2	2	9/20/94	15:37:00	15:39:25	2.42	33.70	36.50	2.60	2.40	2.28	1.96
3SF-EGSA-METHOD-1	1	9/21/94	15:23:00	15:25:05	2.08	35.70	37.00	2.90	2.60	2.99	2.30
3SF-LAB-METHOD-1	1	9/29/94	15:20:00	15:23:00	3.00	21.50	21.50	2.92	2.55	3.01	2.23
3SF-LAB-METHOD-2	2	9/29/94	15:59:00	16:01:00	2.00	21.50	21.50	2.60	2.40	2.28	1.96
3SF-LAB-METHOD-3	3	9/29/94	16:33:00	16:36:35	3.58	21.50	21.50	2.80	2.40	2.81	2.06

[a] Chamber number (one through three) signifies the chamber with which the individual sample was collected.

[b] NA = Not available.

Table B-2. Measured soil vapor flux rates ($\mu g/[m^2 \bullet sec]$) for VOCs.

Sample label	Location	Chamber No.[a]	Sample date	1,1,1-TCA	Chloromethane	Dichloro-difluoromethane	Methylene chloride	Concentration[b]	Styrene	PCE	TCE	Freon 113	
Building 875 dry well sampling zone													
3SF-WGSA-001-001	3SF-WGSA-001	3	22-Sep-94	< 1.45E-03	< 5.70E-04	< 1.34E-03	1.10E-03	M[b]	< 1.12E-03	< 1.90E-03	< 1.45E-03	8.06E-02	
3SF-WGSA-002-001	3SF-WGSA-002	2	22-Sep-94	< 1.26E-03	< 4.96E-04	< 1.17E-03	3.63E-03	M	< 9.72E-04	< 1.65E-03	< 1.26E-03	2.66E-02	M
3SF-WGSA-003-001	3SF-WGSA-003	1	22-Sep-94	< 1.66E-03	< 6.50E-04	< 1.53E-03	2.02E-02		< 1.28E-03	< 2.17E-03	1.15E-02	4.77E-02	M
3SF-WGSA-004-001	3SF-WGSA-004	2	22-Sep-94	< 1.26E-03	< 4.96E-04	< 1.17E-03	8.81E-03	M	< 9.72E-04	< 1.65E-03	< 1.26E-03	1.82E-03	
3SF-WGSA-005-001	3SF-WGSA-005	3	22-Sep-94	< 1.45E-03	< 5.70E-04	< 1.34E-03	< 9.50E-04		< 1.12E-03	< 1.90E-03	2.07E-03	4.48E-02	
3SF-WGSA-006-001	3SF-WGSA-006	1	22-Sep-94	< 1.66E-03	< 6.50E-04	< 1.53E-03	2.31E-03	M	< 1.28E-03	< 2.17E-03	< 1.66E-03	3.50E-02	M
3SF-WGSA-006-002	3SF-WGSA-006	1	22-Sep-94	< 1.55E-03	< 6.07E-04	< 1.43E-03	1.36E-03	M	< 1.19E-03	< 2.02E-03	< 1.55E-03	3.82E-02	M
3SF-WGSA-007-001	3SF-WGSA-007	2	22-Sep-94	< 1.18E-03	1.12E-03	< 1.09E-03	5.18E-02	M	< 9.07E-04	2.20E-03	1.68E-02	6.06E-02	M
3SF-WGSA-008-001	3SF-WGSA-008	1	22-Sep-94	< 1.55E-03	< 6.07E-04	< 1.43E-03	1.59E-03	M	< 1.19E-03	< 2.02E-03	< 1.55E-03	2.86E-02	M
3SF-WGSA-009-001	3SF-WGSA-009	3	22-Sep-94	< 1.45E-03	< 5.70E-04	< 1.34E-03	2.44E-03	M	< 1.12E-03	< 1.90E-03	< 1.45E-03	6.27E-02	
3SF-WGSA-010-001	3SF-WGSA-010	1	22-Sep-94	< 1.55E-03	< 6.07E-04	< 1.43E-03	1.21E-03	M	< 1.19E-03	< 2.02E-03	< 1.55E-03	6.68E-02	M
3SF-WGSA-011-001	3SF-WGSA-011	2	22-Sep-94	< 1.18E-03	< 4.63E-04	< 1.09E-03	5.07E-02	M	< 9.07E-04	< 1.54E-03	1.47E-03	4.60E-02	M
3SF-WGSA-012-001	3SF-WGSA-012	2	22-Sep-94	< 1.18E-03	< 4.63E-04	< 1.09E-03	< 7.71E-04		< 9.07E-04	< 1.54E-03	< 1.18E-03	2.20E-02	M
3SF-WGSA-CONTROL-001	SVX-GSA-242	2	22-Sep-94	< 1.18E-03	< 4.63E-04	1.10E-03	< 7.71E-04		< 9.07E-04	< 1.54E-03	< 1.18E-03	3.15E-02	M
3SF-WGSA-CONTROL-002	SVX-GSA-242	2	22-Sep-94	< 1.18E-03	< 4.63E-04	< 1.09E-03	2.53E-03	M	< 9.07E-04	< 1.54E-03	< 1.18E-03	3.88E-02	M
3SF-WGSA-CONTROL-003	SVX-GSA-242	2	22-Sep-94	< 1.18E-03	< 4.63E-04	< 1.09E-03	3.19E-03	M	< 9.07E-04	< 1.54E-03	< 1.18E-03	4.36E-02	M
Central GSA sampling zone													
3SF-CGSA-001-001	3SF-CGSA-001	1	20-Sep-94	< 1.66E-03	< 6.50E-04	< 1.53E-03	< 1.08E-03		< 1.28E-03	< 2.17E-03	< 1.66E-03	1.18E-01	M
3SF-CGSA-002-001	3SF-CGSA-002	3	20-Sep-94	< 2.09E-03	< 8.18E-04	< 1.93E-03	< 1.36E-03		< 1.60E-03	< 2.73E-03	< 2.09E-03	3.00E-03	
3SF-CGSA-003-001	3SF-CGSA-003	3	20-Sep-94	< 1.45E-03	< 5.70E-04	< 1.34E-03	< 9.50E-04		< 1.12E-03	< 1.90E-03	< 1.45E-03	3.88E-01	
3SF-CGSA-004-001	3SF-CGSA-004	3	19-Sep-94	< 1.45E-03	< 5.70E-04	< 1.34E-03	2.98E-03	M	< 1.12E-03	< 1.90E-03	< 1.45E-03	2.09E-03	
3SF-CGSA-005-001	3SF-CGSA-005	2	19-Sep-94	< 1.18E-03	< 4.63E-04	< 1.09E-03	9.58E-03	M	< 9.07E-04	< 1.54E-03	< 1.18E-03	1.70E-03	
3SF-CGSA-006-001	3SF-CGSA-006	1	19-Sep-94	< 1.55E-03	< 6.07E-04	< 1.43E-03	2.89E-02		< 1.19E-03	< 2.02E-03	< 1.55E-03	2.23E-03	
3SF-CGSA-007-001	3SF-CGSA-007	3	20-Sep-94	< 1.56E-03	< 6.10E-04	< 1.44E-03	8.82E-03	M	< 1.20E-03	< 2.03E-03	< 1.56E-03	3.28E-01	
3SF-CGSA-008-001	3SF-CGSA-008	1	19-Sep-94	< 1.55E-03	< 6.07E-04	< 1.43E-03	2.02E-03	M	< 1.19E-03	< 2.02E-03	< 1.55E-03	2.23E-03	
3SF-CGSA-009-001	3SF-CGSA-009	1	20-Sep-94	< 1.55E-03	< 6.07E-04	< 1.43E-03	1.73E-03	M	< 1.19E-03	< 2.02E-03	< 1.55E-03	2.10E-01	M
3SF-CGSA-010-001	3SF-CGSA-010	2	20-Sep-94	< 1.18E-03	< 4.63E-04	< 1.09E-03	2.64E-03	M	< 9.07E-04	< 1.54E-03	< 1.18E-03	2.42E-01	M
3SF-CGSA-011-001	3SF-CGSA-011	3	20-Sep-94	< 1.56E-03	< 6.10E-04	< 1.44E-03	< 1.02E-03		< 1.20E-03	< 2.03E-03	< 1.56E-03	2.60E-01	
3SF-CGSA-012-001	3SF-CGSA-012	3	20-Sep-94	< 1.56E-03	< 6.10E-04	< 1.44E-03	1.49E-03	M	< 1.20E-03	< 2.03E-03	< 1.56E-03	1.55E-01	
3SF-CGSA-012-002	3SF-CGSA-012	3	20-Sep-94	< 1.56E-03	< 6.10E-04	< 1.44E-03	1.90E-03	M	< 1.20E-03	< 2.03E-03	< 1.56E-03	1.61E-01	
3SF-CGSA-013-001	3SF-CGSA-013	1	20-Sep-94	< 1.55E-03	< 6.07E-04	< 1.43E-03	< 1.01E-03		< 1.19E-03	< 2.02E-03	< 1.55E-03	3.82E-01	M
3SF-CGSA-014-001	3SF-CGSA-014	1	20-Sep-94	< 1.55E-03	< 6.07E-04	< 1.43E-03	< 1.01E-03		< 1.19E-03	< 2.02E-03	< 1.55E-03	2.86E-01	M
3SF-CGSA-015-001	3SF-CGSA-015	2	20-Sep-94	< 1.18E-03	< 4.63E-04	< 1.09E-03	2.20E-03	M	< 9.07E-04	< 1.54E-03	< 1.18E-03	7.51E-02	M
3SF-CGSA-016-001	3SF-CGSA-016	2	20-Sep-94	< 1.33E-03	< 5.20E-04	< 1.22E-03	2.48E-03	M	< 1.02E-03	< 1.73E-03	< 1.33E-03	3.54E-01	M

Table B-2. (Continued)

Sample label	Location	Chamber No.[a]	Sample date	1,1,1-TCA	Chloromethane	Dichloro-difluoromethane	Methylene chloride	Concentration[b]	Styrene	PCE	TCE	Freon 113	
3SF-CGSA-016-004	3SF-CGSA-016	2	20-Sep-94	< 1.26E-03	< 4.96E-04	< 1.17E-03	8.15E-03	M	< 9.72E-04	< 1.65E-03	< 1.26E-03	4.85E-02	M
3SF-CGSA-017-001	3SF-CGSA-017	3	20-Sep-94	< 1.45E-03	< 5.70E-04	< 1.34E-03	8.14E-03		< 1.12E-03	< 1.90E-03	< 1.45E-03	2.57E-01	
3SF-CGSA-018-001	3SF-CGSA-018	2	20-Sep-94	< 1.18E-03	< 4.63E-04	< 1.09E-03	1.43E-03	M	< 9.07E-04	< 1.54E-03	< 1.18E-03	6.06E-02	M
3SF-CGSA-019-001	3SF-CGSA-019	3	20-Sep-94	< 1.56E-03	< 6.13E-04	< 1.44E-03	1.77E-03	M	< 1.20E-03	< 2.04E-03	< 1.56E-03	7.19E-02	
3SF-CGSA-020-001	3SF-CGSA-020	1	20-Sep-94	< 1.66E-03	< 6.50E-04	< 1.53E-03	5.20E-02		< 1.28E-03	< 2.17E-03	< 1.66E-03	8.90E-02	M
3SF-CGSA-020-002	3SF-CGSA-020	1	20-Sep-94	< 1.13E-03	< 4.44E-04	< 1.05E-03	3.81E-02		< 8.71E-04	< 1.48E-03	< 1.13E-03	5.82E-02	M
3SF-CGSA-CONTROL-001	SVX-GSA-240	3	22-Sep-94	< 1.56E-03	< 6.10E-04	< 1.44E-03	5.97E-03	M	< 1.20E-03	< 2.03E-03	< 1.56E-03	2.98E-02	
3SF-CGSA-CONTROL-002	SVX-GSA-240	3	22-Sep-94	< 1.56E-03	< 6.10E-04	< 1.44E-03	5.29E-03	M	< 1.20E-03	< 2.03E-03	3.73E-03	5.37E-02	
Eastern GSA sampling zone													
3SF-EGSA-001-001	3SF-EGSA-001	1	21-Sep-94	< 1.55E-03	< 6.07E-04	< 1.43E-03	1.59E-02	M	< 1.19E-03	< 2.02E-03	1.77E-03	4.45E-02	M
3SF-EGSA-002-001	3SF-EGSA-002	3	21-Sep-94	< 1.45E-03	< 5.70E-04	< 1.34E-03	9.09E-03		< 1.12E-03	< 1.90E-03	< 1.45E-03	3.58E-02	
3SF-EGSA-003-001	3SF-EGSA-003	3	21-Sep-94	< 1.56E-03	< 6.10E-04	< 1.44E-03	7.73E-03		1.42E-03	< 2.03E-03	< 1.56E-03	4.18E-02	
3SF-EGSA-004-001	3SF-EGSA-004	2	21-Sep-94	< 1.43E-03	< 5.61E-04	< 1.32E-03	1.63E-03	M	< 1.10E-03	< 1.87E-03	< 1.43E-03	1.77E-02	M
3SF-EGSA-004-002	3SF-EGSA-004	2	21-Sep-94	1.32E-03	< 4.90E-04	< 1.15E-03	7.36E-03	M	< 9.62E-04	< 1.63E-03	< 1.25E-03	4.37E-02	M
3SF-EGSA-005-001	3SF-EGSA-005	2	21-Sep-94	< 1.18E-03	< 4.63E-04	< 1.09E-03	1.43E-03	M	< 9.07E-04	< 1.54E-03	< 1.18E-03	2.66E-02	M
3SF-EGSA-006-001	3SF-EGSA-006	3	21-Sep-94	< 1.56E-03	< 6.10E-04	< 1.44E-03	4.07E-03	M	< 1.20E-03	< 2.03E-03	< 1.56E-03	4.78E-02	
3SF-EGSA-007-001	3SF-EGSA-007	3	21-Sep-94	< 1.45E-03	< 5.70E-04	< 1.34E-03	1.04E-02		< 1.12E-03	< 1.90E-03	< 1.45E-03	3.58E-02	
3SF-EGSA-007-002	3SF-EGSA-007	3	21-Sep-94	< 1.56E-03	< 6.10E-04	< 1.44E-03	1.49E-02		< 1.20E-03	< 2.03E-03	< 1.56E-03	4.18E-02	
3SF-EGSA-008-001	3SF-EGSA-008	1	21-Sep-94	< 1.66E-03	< 6.50E-04	< 1.53E-03	1.73E-03	M	< 1.28E-03	< 2.17E-03	< 1.66E-03	5.09E-02	M
3SF-EGSA-009-001	3SF-EGSA-009	1	21-Sep-94	< 1.58E-03	< 6.21E-04	< 1.46E-03	2.96E-03	M	< 1.22E-03	< 2.07E-03	< 1.58E-03	4.88E-02	M
3SF-EGSA-010-001	3SF-EGSA-010	2	21-Sep-94	< 1.26E-03	< 4.96E-04	< 1.17E-03	1.32E-03	M	< 9.72E-04	< 1.65E-03	< 1.26E-03	5.33E-02	M
3SF-EGSA-011-001	3SF-EGSA-011	2	21-Sep-94	< 1.26E-03	< 4.96E-04	< 1.17E-03	2.64E-02	M	< 9.72E-04	< 1.65E-03	< 1.26E-03	4.12E-02	M
3SF-EGSA-012-001	3SF-EGSA-012	2	21-Sep-94	< 1.18E-03	< 4.63E-04	< 1.09E-03	3.52E-02	M	< 9.07E-04	< 1.54E-03	< 1.18E-03	3.63E-02	M
3SF-EGSA-013-001	3SF-EGSA-013	1	21-Sep-94	< 1.58E-03	< 6.21E-04	< 1.46E-03	6.06E-02		< 1.22E-03	< 2.07E-03	< 1.58E-03	4.56E-02	M
3SF-EGSA-014-001	3SF-EGSA-014	1	21-Sep-94	< 1.58E-03	< 6.21E-04	< 1.46E-03	2.07E-02		< 1.22E-03	< 2.07E-03	< 1.58E-03	7.16E-02	M
3SF-EGSA-015-001	3SF-EGSA-015	1	22-Sep-94	< 1.55E-03	< 6.07E-04	1.96E-03	< 1.01E-03		< 1.19E-03	< 2.02E-03	< 1.55E-03	6.68E-02	M
3SF-EGSA-015-002	3SF-EGSA-015	1	22-Sep-94	< 1.55E-03	< 6.07E-04	1.65E-03	< 1.01E-03		< 1.19E-03	< 2.02E-03	< 1.55E-03	4.45E-02	M
3SF-EGSA-016-001	3SF-EGSA-016	3	22-Sep-94	< 1.33E-03	< 5.20E-04	2.45E-03	< 8.67E-04		< 1.02E-03	< 1.73E-03	< 1.33E-03	3.27E-02	
3SF-EGSA-017-001	3SF-EGSA-017	3	21-Sep-94	< 1.45E-03	< 5.70E-04	< 1.34E-03	1.90E-02		< 1.12E-03	< 1.90E-03	< 1.45E-03	3.58E-02	
3SF-EGSA-017-002	3SF-EGSA-017	3	21-Sep-94	< 1.33E-03	< 5.20E-04	< 1.22E-03	2.72E-02		< 1.02E-03	< 1.73E-03	< 1.33E-03	5.18E-02	
3SF-EGSA-CONTROL-001	SVX-GSA-241	3	21-Sep-94	< 1.45E-03	< 5.70E-04	< 1.34E-03	1.76E-03	M	< 1.12E-03	< 1.90E-03	< 1.45E-03	5.37E-02	
3SF-EGSA-CONTROL-002	SVX-GSA-241	3	21-Sep-94	< 1.45E-03	< 5.70E-04	< 1.34E-03	2.31E-03	M	< 1.12E-03	< 1.90E-03	< 1.45E-03	4.78E-02	
3SF-EGSA-CONTROL-003	SVX-GSA-241	3	21-Sep-94	< 1.45E-03	< 5.70E-04	< 1.34E-03	2.03E-03	M	< 1.12E-03	< 1.90E-03	< 1.45E-03	5.67E-02	
Method blank													
3SF-WGSA-METHOD-001	GSA field	3	19-Sep-94	< 1.45E-03	< 5.70E-04	< 1.34E-03	1.15E-03		< 1.12E-03	< 1.90E-03	< 1.45E-03	2.09E-03	
3SF-WGSA-METHOD-002	GSA field	1	19-Sep-94	< 1.55E-03	< 6.07E-04	< 1.43E-03	1.37E-03		< 1.19E-03	< 2.02E-03	< 1.55E-03	2.23E-03	
3SF-WGSA-METHOD-003	GSA field	2	19-Sep-94	< 1.18E-03	< 4.63E-04	< 1.09E-03	9.47E-03		< 9.07E-04	< 1.54E-03	< 1.18E-03	1.70E-03	

Table B-2. (Continued)

Sample label	Location	Chamber No.[a]	Sample date	1,1,1-TCA	Chloromethane	Dichloro-difluoromethane	Methylene chloride	Concentration[b]	Styrene	PCE	TCE	Freon 113
3SF-CGSA-METHOD-002	GSA field	2	20-Sep-94	< 1.18E-03	< 4.63E-04	< 1.09E-03	2.75E-02		< 9.07E-04	< 1.54E-03	< 1.18E-03	1.04E-01
3SF-EGSA-METHOD-001	GSA field	1	21-Sep-94	< 1.55E-03	< 6.07E-04	< 1.43E-03	3.61E-03		< 1.19E-03	< 2.02E-03	< 1.55E-03	7.63E-02
3SF-LAB-METHOD-001	LLNL laboratory	1	29-Sep-94	< 6.00E-04	< 2.35E-04	9.02E-04	1.60E-03		< 4.61E-04	< 7.84E-04	< 6.00E-04	2.20E-02
3SF-LAB-METHOD-002	LLNL laboratory	2	29-Sep-94	< 4.72E-04	< 1.85E-04	1.26E-03	1.65E-03		< 3.63E-04	< 6.17E-04	< 4.72E-04	5.57E-02
3SF-LAB-METHOD-003	LLNL laboratory	3	29-Sep-94	< 5.60E-04	< 2.20E-04	1.03E-03	1.02E-03		< 4.31E-04	< 7.33E-04	< 5.60E-04	2.36E-01

[a] Chamber number (one through three) signifies the chamber with which the individual sample was collected.

[b] "M" qualifier in column to the right of sample result indicates concentration was less than five times the maximum VOC flux detected in any method blank using the same chamber. Results from "M" qualified samples are treated as nondetections.

Table B-3. Measured soil vapor flux rates (μg/[m^2•sec]) for aromatics and fuel hydrocarbons.

Sample label	Location	Chamber No.[a]	Sample date	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Benzene		Ethylbenzene	Toluene		m- and p-xylenes	o- xylene
Building 875 dry well sampling zone												
3SF-WGSA-001-001	3SF-WGSA-001	3	22-Sep-94	< 1.34E-03	< 1.34E-03	8.84E-04	M[b]	< 1.23E-03	1.28E-03		< 1.23E-03	< 1.23E-03
3SF-WGSA-002-001	3SF-WGSA-002	2	22-Sep-94	< 1.17E-03	< 1.17E-03	1.41E-03	M	< 1.07E-03	< 8.94E-04		< 1.07E-03	< 1.07E-03
3SF-WGSA-003-001	3SF-WGSA-003	1	22-Sep-94	< 1.53E-03	< 1.53E-03	1.46E-03	M	< 1.40E-03	1.88E-03	M	2.99E-03	< 1.40E-03
3SF-WGSA-004-001	3SF-WGSA-004	2	22-Sep-94	< 1.17E-03	< 1.17E-03	1.52E-03	M	< 1.07E-03	< 8.94E-04		< 1.07E-03	< 1.07E-03
3SF-WGSA-005-001	3SF-WGSA-005	3	22-Sep-94	2.49E-03	< 1.34E-03	2.12E-03	M	< 1.23E-03	2.50E-03		< 1.23E-03	< 1.23E-03
3SF-WGSA-006-001	3SF-WGSA-006	1	22-Sep-94	< 1.53E-03	< 1.53E-03	2.65E-03	M	< 1.40E-03	1.27E-03	M	< 1.40E-03	< 1.40E-03
3SF-WGSA-006-002	3SF-WGSA-006	1	22-Sep-94	< 1.43E-03	< 1.43E-03	2.52E-03	M	< 1.31E-03	1.72E-03	M	1.38E-03	< 1.31E-03
3SF-WGSA-007-001	3SF-WGSA-007	2	22-Sep-94	3.89E-03	< 1.09E-03	1.11E-03	M	< 9.98E-04	1.05E-02		7.13E-03	1.85E-03
3SF-WGSA-008-001	3SF-WGSA-008	1	22-Sep-94	< 1.43E-03	< 1.43E-03	1.99E-03	M	< 1.31E-03	< 1.09E-03		< 1.31E-03	< 1.31E-03
3SF-WGSA-009-001	3SF-WGSA-009	3	22-Sep-94	2.49E-03	< 1.34E-03	< 8.71E-04		< 1.23E-03	< 1.03E-03		< 1.23E-03	< 1.23E-03
3SF-WGSA-010-001	3SF-WGSA-010	1	22-Sep-94	< 1.43E-03	< 1.43E-03	1.46E-03	M	4.49E-03	< 1.09E-03		1.83E-02	3.37E-03
3SF-WGSA-011-001	3SF-WGSA-011	2	22-Sep-94	< 1.09E-03	< 1.09E-03	8.39E-04	M	< 9.98E-04	2.15E-03		< 9.98E-04	< 9.98E-04
3SF-WGSA-012-001	3SF-WGSA-012	2	22-Sep-94	< 1.09E-03	< 1.09E-03	1.11E-03	M	< 9.98E-04	< 8.34E-04		< 9.98E-04	< 9.98E-04
3SF-WGSA-CONTROL-001	SVX-GSA-242	2	22-Sep-94	< 1.09E-03	< 1.09E-03	< 7.07E-04		< 9.98E-04	1.08E-03		< 9.98E-04	< 9.98E-04
3SF-WGSA-CONTROL-002	SVX-GSA-242	2	22-Sep-94	< 1.09E-03	< 1.09E-03	< 7.07E-04		< 9.98E-04	1.19E-03		< 9.98E-04	< 9.98E-04
3SF-WGSA-CONTROL-003	SVX-GSA-242	2	22-Sep-94	< 1.09E-03	< 1.09E-03	7.48E-04	M	< 9.98E-04	1.19E-03		< 9.98E-04	< 9.98E-04
Central GSA sampling zone												
3SF-CGSA-001-001	3SF-CGSA-001	1	20-Sep-94	< 1.53E-03	< 1.53E-03	1.72E-03	M	< 1.40E-03	2.03E-03	M	1.65E-03	< 1.40E-03
3SF-CGSA-002-001	3SF-CGSA-002	3	20-Sep-94	< 1.93E-03	< 1.93E-03	2.86E-03	M	< 1.77E-03	3.59E-03		3.53E-03	< 1.77E-03
3SF-CGSA-003-001	3SF-CGSA-003	3	20-Sep-94	< 1.34E-03	< 1.34E-03	1.12E-03	M	< 1.23E-03	1.76E-03		< 1.23E-03	< 1.23E-03
3SF-CGSA-004-001	3SF-CGSA-004	3	19-Sep-94	< 1.34E-03	< 1.34E-03	1.24E-03	M	< 1.23E-03	< 1.03E-03		< 1.23E-03	< 1.23E-03
3SF-CGSA-005-001	3SF-CGSA-005	2	19-Sep-94	< 1.09E-03	< 1.09E-03	1.31E-03	M	< 9.98E-04	1.67E-03		< 9.98E-04	< 9.98E-04
3SF-CGSA-006-001	3SF-CGSA-006	1	19-Sep-94	4.28E-03	< 1.43E-03	< 9.28E-04		< 1.31E-03	1.44E-03	M	3.37E-03	2.43E-03
3SF-CGSA-007-001	3SF-CGSA-007	3	20-Sep-94	< 1.44E-03	< 1.44E-03	1.06E-03	M	< 1.32E-03	< 1.10E-03		< 1.32E-03	< 1.32E-03
3SF-CGSA-008-001	3SF-CGSA-008	1	19-Sep-94	< 1.43E-03	< 1.43E-03	1.23E-03	M	< 1.31E-03	1.16E-03	M	< 1.31E-03	< 1.31E-03
3SF-CGSA-009-001	3SF-CGSA-009	1	20-Sep-94	< 1.43E-03	< 1.43E-03	2.39E-02		< 1.31E-03	< 1.09E-03		< 1.31E-03	< 1.31E-03
3SF-CGSA-010-001	3SF-CGSA-010	2	20-Sep-94	< 1.09E-03	< 1.09E-03	7.98E-04	M	< 9.98E-04	< 8.34E-04		< 9.98E-04	< 9.98E-04
3SF-CGSA-011-001	3SF-CGSA-011	3	20-Sep-94	< 1.44E-03	< 1.44E-03	1.87E-03	M	< 1.32E-03	1.91E-03		1.76E-03	< 1.32E-03
3SF-CGSA-012-001	3SF-CGSA-012	3	20-Sep-94	< 1.44E-03	< 1.44E-03	2.49E-03	M	< 1.32E-03	< 1.10E-03		< 1.32E-03	< 1.32E-03
3SF-CGSA-012-002	3SF-CGSA-012	3	20-Sep-94	< 1.44E-03	< 1.44E-03	1.74E-03	M	< 1.32E-03	1.37E-03		< 1.32E-03	< 1.32E-03
3SF-CGSA-013-001	3SF-CGSA-013	1	20-Sep-94	< 1.43E-03	< 1.43E-03	1.46E-03	M	< 1.31E-03	1.41E-03	M	< 1.31E-03	< 1.31E-03
3SF-CGSA-014-001	3SF-CGSA-014	1	20-Sep-94	< 1.43E-03	< 1.43E-03	< 9.28E-04		< 1.31E-03	< 1.09E-03		< 1.31E-03	< 1.31E-03
3SF-CGSA-015-001	3SF-CGSA-015	2	20-Sep-94	< 1.09E-03	< 1.09E-03	< 7.07E-04		< 9.98E-04	< 8.34E-04		< 9.98E-04	< 9.98E-04
3SF-CGSA-016-001	3SF-CGSA-016	2	20-Sep-94	< 1.22E-03	< 1.22E-03	1.48E-03	M	< 1.12E-03	1.33E-03		< 1.12E-03	< 1.12E-03

Table B-3. (Continued)

Sample label	Location	Chamber No.[a]	Sample date	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Benzene		Ethylbenzene	Toluene		m- and p-xylenes	o- xylene
3SF-CGSA-016-004	3SF-CGSA-016	2	20-Sep-94	< 1.17E-03	< 1.17E-03	7.78E-04	M	< 1.07E-03	< 8.94E-04		< 1.07E-03	< 1.07E-03
3SF-CGSA-017-001	3SF-CGSA-017	3	20-Sep-94	< 1.34E-03	< 1.34E-03	1.49E-03	M	< 1.23E-03	< 1.03E-03		< 1.23E-03	< 1.23E-03
3SF-CGSA-018-001	3SF-CGSA-018	2	20-Sep-94	< 1.09E-03	< 1.09E-03	8.08E-04	M	< 9.98E-04	< 8.34E-04		< 9.98E-04	< 9.98E-04
3SF-CGSA-019-001	3SF-CGSA-019	3	20-Sep-94	< 1.44E-03	< 1.44E-03	< 9.38E-04		< 1.32E-03	< 1.11E-03		< 1.32E-03	< 1.32E-03
3SF-CGSA-020-001	3SF-CGSA-020	1	20-Sep-94	< 1.53E-03	< 1.53E-03	< 9.95E-04		< 1.40E-03	< 1.17E-03		< 1.40E-03	< 1.40E-03
3SF-CGSA-020-002	3SF-CGSA-020	1	20-Sep-94	< 1.05E-03	< 1.05E-03	< 6.79E-04		< 9.58E-04	< 8.01E-04		< 9.58E-04	< 9.58E-04
3SF-CGSA-CONTROL-001	SVX-GSA-240	3	22-Sep-94	1.76E-03	< 1.44E-03	1.37E-03	M	< 1.32E-03	< 1.10E-03		< 1.32E-03	< 1.32E-03
3SF-CGSA-CONTROL-002	SVX-GSA-240	3	22-Sep-94	9.19E-03	2.11E-03	1.08E-03	M	< 1.32E-03	1.62E-03		5.27E-03	2.11E-03
Eastern GSA sampling zone												
3SF-EGSA-001-001	3SF-EGSA-001	1	21-Sep-94	< 1.43E-03	< 1.43E-03	< 9.28E-04		< 1.31E-03	1.72E-03	M	1.87E-03	< 1.31E-03
3SF-EGSA-002-001	3SF-EGSA-002	3	21-Sep-94	1.59E-03	< 1.34E-03	1.08E-03	M	< 1.23E-03	1.47E-03		1.76E-03	< 1.23E-03
3SF-EGSA-003-001	3SF-EGSA-003	3	21-Sep-94	< 1.44E-03	< 1.44E-03	1.05E-03	M	< 1.32E-03	1.15E-03		< 1.32E-03	< 1.32E-03
3SF-EGSA-004-001	3SF-EGSA-004	2	21-Sep-94	< 1.32E-03	< 1.32E-03	1.50E-03	M	< 1.21E-03	1.39E-03		< 1.21E-03	< 1.21E-03
3SF-EGSA-004-002	3SF-EGSA-004	2	21-Sep-94	< 1.15E-03	< 1.15E-03	8.57E-04	M	< 1.06E-03	1.64E-03		< 1.06E-03	< 1.06E-03
3SF-EGSA-005-001	3SF-EGSA-005	2	21-Sep-94	1.29E-03	< 1.09E-03	1.11E-03	M	< 9.98E-04	1.67E-03		1.71E-03	< 9.98E-04
3SF-EGSA-006-001	3SF-EGSA-006	3	21-Sep-94	2.11E-03	< 1.44E-03	< 9.34E-04		< 1.32E-03	< 1.10E-03		< 1.32E-03	< 1.32E-03
3SF-EGSA-007-001	3SF-EGSA-007	3	21-Sep-94	< 1.34E-03	< 1.34E-03	9.21E-04	M	< 1.23E-03	< 1.03E-03		< 1.23E-03	< 1.23E-03
3SF-EGSA-007-002	3SF-EGSA-007	3	21-Sep-94	< 1.44E-03	< 1.44E-03	< 9.34E-04		< 1.32E-03	< 1.10E-03		< 1.32E-03	< 1.32E-03
3SF-EGSA-008-001	3SF-EGSA-008	1	21-Sep-94	< 1.53E-03	< 1.53E-03	1.33E-03	M	< 1.40E-03	1.88E-03	M	1.57E-03	< 1.40E-03
3SF-EGSA-009-001	3SF-EGSA-009	1	21-Sep-94	2.03E-03	< 1.46E-03	< 9.50E-04		< 1.34E-03	< 1.12E-03		< 1.34E-03	< 1.34E-03
3SF-EGSA-010-001	3SF-EGSA-010	2	21-Sep-94	< 1.17E-03	< 1.17E-03	9.30E-04	M	< 1.07E-03	< 8.94E-04		< 1.07E-03	< 1.07E-03
3SF-EGSA-011-001	3SF-EGSA-011	2	21-Sep-94	1.34E-03	< 1.17E-03	< 7.58E-04		< 1.07E-03	9.89E-04		1.57E-03	< 1.07E-03
3SF-EGSA-012-001	3SF-EGSA-012	2	21-Sep-94	< 1.09E-03	< 1.09E-03	< 7.07E-04		< 9.98E-04	< 8.34E-04		< 9.98E-04	< 9.98E-04
3SF-EGSA-013-001	3SF-EGSA-013	1	21-Sep-94	< 1.46E-03	< 1.46E-03	< 9.50E-04		< 1.34E-03	1.20E-03	M	1.59E-03	1.45E-03
3SF-EGSA-014-001	3SF-EGSA-014	1	21-Sep-94	< 1.46E-03	< 1.46E-03	< 9.50E-04		< 1.34E-03	1.76E-03	M	2.87E-03	< 1.34E-03
3SF-EGSA-015-001	3SF-EGSA-015	1	22-Sep-94	< 1.43E-03	< 1.43E-03	1.72E-03	M	< 1.31E-03	1.56E-03	M	< 1.31E-03	< 1.31E-03
3SF-EGSA-015-002	3SF-EGSA-015	1	22-Sep-94	< 1.43E-03	< 1.43E-03	1.18E-03	M	< 1.31E-03	1.14E-03	M	< 1.31E-03	< 1.31E-03
3SF-EGSA-016-001	3SF-EGSA-016	3	22-Sep-94	< 1.22E-03	< 1.22E-03	1.36E-03	M	< 1.12E-03	1.19E-03		< 1.12E-03	< 1.12E-03
3SF-EGSA-017-001	3SF-EGSA-017	3	21-Sep-94	< 1.34E-03	< 1.34E-03	< 8.71E-04		< 1.23E-03	< 1.03E-03		< 1.23E-03	< 1.23E-03
3SF-EGSA-017-002	3SF-EGSA-017	3	21-Sep-94	< 1.22E-03	< 1.22E-03	< 7.95E-04		< 1.12E-03	1.18E-03		2.56E-03	< 1.12E-03
3SF-EGSA-CONTROL-001	SVX-GSA-241	3	21-Sep-94	< 1.34E-03	< 1.34E-03	1.49E-03	M	< 1.23E-03	1.62E-03		< 1.23E-03	< 1.23E-03
3SF-EGSA-CONTROL-002	SVX-GSA-241	3	21-Sep-94	< 1.34E-03	< 1.34E-03	< 8.71E-04		< 1.23E-03	1.19E-03		< 1.23E-03	< 1.23E-03
3SF-EGSA-CONTROL-003	SVX-GSA-241	3	21-Sep-94	< 1.34E-03	< 1.34E-03	< 8.71E-04		< 1.23E-03	< 1.03E-03		< 1.23E-03	< 1.23E-03
Method blanks												
3SF-WGSA-METHOD-001	GSA field	3	19-Sep-94	< 1.34E-03	< 1.34E-03	1.08E-03		< 1.23E-03	< 1.03E-03		< 1.23E-03	< 1.23E-03
3SF-WGSA-METHOD-002	GSA field	1	19-Sep-94	< 1.43E-03	< 1.43E-03	1.11E-03		< 1.31E-03	< 1.09E-03		< 1.31E-03	< 1.31E-03

Table B-3. (Continued)

Sample label	Location	Chamber No.[a]	Sample date	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Benzene	Ethylbenzene	Toluene	m- and p-xylenes	o- xylene
3SF-WGSA-METHOD-003	GSA field	2	19-Sep-94	< 1.09E-03	< 1.09E-03	< 7.07E-04	< 9.98E-04	< 8.34E-04	< 9.98E-04	< 9.98E-04
3SF-CGSA-METHOD-002	GSA field	2	20-Sep-94	< 1.09E-03	< 1.09E-03	1.11E-03	< 9.98E-04	< 8.34E-04	< 9.98E-04	< 9.98E-0 4
3SF-EGSA-METHOD-001	GSA field	1	21-Sep-94	< 1.43E-03	< 1.43E-03	< 9.28E-04	< 1.31E-03	1.16E-03	< 1.31E-03	< 1.31E-03
3SF-LAB-METHOD-001	LLNL laboratory	1	29-Sep-94	< 5.53E-04	< 5.53E-04	3.86E-04	< 5.07E-04	4.24E-04	< 5.07E-04	< 5.07E-04
3SF-LAB-METHOD-002	LLNL laboratory	2	29-Sep-94	< 4.35E-04	< 4.35E-04	4.04E-04	< 3.99E-04	5.48E-04	4.99E-04	< 3.99E-04
3SF-LAB-METHOD-003	LLNL laboratory	3	29-Sep-94	< 5.17E-04	< 5.17E-04	3.61E-04	< 4.74E-04	5.58E-04	5.09E-04	< 4.74E-04

a Chamber number (one through three) signifies the chamber with which the individual sample was collected.

b "M" qualifier in column to the right of sample result indicates concentration was less than five times the maximum VOC flux detected in any method blank using the same chamber. Results from "M" qualified samples are treated as nondetections.

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Appendix C

Evaluation of Cumulative Data on Ground Water Contamination in the GSA

Appendix C

Evaluation of Cumulative Data on Ground Water Contamination in the General Services Area Operable Unit

This appendix presents summary statistics for contaminants detected in ground water in the General Services Area (GSA) operable unit (OU). The primary purpose of this appendix is to provide an overview of contaminant concentrations in ground water, based on data collected through September 30, 1994.

In the Site-Wide Remedial Investigation (SWRI) report (Webster-Scholten, 1994), we presented summary statistics for contaminants detected in ground water in the vicinity of the Building 875 dry wells and the eastern GSA debris burial trenches. These calculated values were based on data collected through March 31, 1992, for the Building 875 dry well area, and through December 31, 1991, for the eastern GSA. Since that time, acquisition and analysis of additional site characterization data have changed our understanding of the number and location of release areas in the GSA. On the basis of data acquired since completion of the SWRI report, we have identified six locations as primary release sites for ground water contamination in the GSA. The release areas are the Building 875 dry wells; Building 872/873 dry wells; central GSA debris trenches; a solvent drum rack; eastern GSA debris trenches (alluvial); and the eastern GSA debris trenches ($Tnbs_1$). Ground water monitor wells that characterize contamination in the vicinity of each release site are listed in Table C-1.

We used data from each of the ground water monitor well groups listed in Table C-1 to calculate the 95% Upper Confidence Limit (95% UCL) of the mean concentration of VOCs in ground water. Table C-2 presents the 95% UCLs for contaminants detected in ground water near the Building 875 dry wells. Table C-3 provides the 95% UCLs for this release site originally presented in the SWRI report. Tables C-4 through C-8 provide the 95% UCLs for VOCs detected in ground water for all other monitor well groups listed in Table C-1. Tables C-2 through C-8 also give data on the number of samples, frequency of detection, and maximum and mean concentrations. A discussion of the statistical methods used to calculate the 95% UCLs is presented in Appendix P of the SWRI report (Webster-Scholten, 1994).

C-1. Building 875 Dry Wells

The group of ground water monitor wells that characterize contamination in the vicinity of the Building 875 dry wells is the only monitor well set retained from the SWRI report. We examined data obtained between March 31, 1992, and September 30, 1994, to determine if any substances have been detected in ground water in this area other than those previously identified as contaminants of potential concern. This comparison indicates that there have been multiple detections of 1,1,2-trichloroethane, 1,1-dichloroethane, 1,2-dichloroethane, chlorobenzene, chloroform, cis-1,2-dichloroethylene, and trans-1,2-dichloroethylene; none of these substances had been detected in ground water in this area at the time of the SWRI. In addition, 1,2-dichloroethylene (total isomers) and toluene have been detected at concentrations higher than had been observed at the time of the SWRI. These new maxima resulted in higher 95% UCLs for the 1,2-dichloroethylene analyses relative to values presented in the SWRI report. The 95% UCL for toluene has decreased, however. In addition, the 95% UCLs for 1,1-dichloroethylene and trichloroethylene have increased compared to values calculated for the SWRI at the same time that those for tetrachloroethylene, xylenes (total isomers), and 1,1,-trichloroethane have decreased. The 95% UCLs were not calculated previously for benzene and ethylbenzene, rather maximum concentrations were reported. Summary statistics for all contaminants in this area are given in Table C-2. Table C-3 provides the baseline statistics for contaminants in this area which were originally presented in Chapter 4 of the SWRI report.

C-2. Building 872/873 Dry Wells

For the Building 872/873 dry well release area, trichlorofluoromethane (Freon 11) is the primary ground water contaminant, based both on the frequency of detection (88.7%) and a maximum measured concentration of 1.6×10^2 µg/L in representative wells (Table C-1). The 95% UCL of trichlorofluoromethane is 4.66×10^1 µg/L. Trichloroethylene has been detected in nearly 100% of the samples, but this contaminant has both a lower maximum concentration and lower 95% UCL than trichlorofluoromethane (6.3×10^1 µg/L and 2.58×10^1 µg/L, respectively). Statistical data for these and other VOCs detected in this release area are provided in Table C-4.

C-3. Central GSA Debris Trenches

The central GSA debris trenches have contaminated the $Tnbs_1$ aquifer with a number of VOCs. Trichloroethylene, the principal contaminant, has been detected in 83.6% of the samples from representative wells (Table C-1), at a maximum concentration of 3.1×10^1 µg/L (Table C-5). The corresponding 95% UCL for trichloroethylene is 8.14×10^0 µg/L. Cis-1,2-dichloroethylene and 1,2-dichloroethylene (total isomers) have been detected with approximately equal frequency (33.3 and 27.3%, respectively) in ground water from this area. The maximum measured concentration for these two analytes are identical (1.9×10^0 µg/L), indicating the analyses for the total isomers are probably simply reflecting the presence of cis-1,2-dichloroethylene. However, the trans-isomer has not been specifically analyzed for. Other than trichloroethylene, none of the VOCs in ground water in this release area yielded 95% UCLs greater than 1.0 µg/L (Table C-5).

C-4. Solvent Drum Rack

Trichloroethylene is the primary ground water contaminant in wells that characterize the solvent drum rack release area and has been detected in 100% of samples from representative wells (Table C-1). The maximum measured concentration of trichloroethylene from this area is 1.9×10^2 µg/L; the 95% UCL is 9.87×10^1 µg/L (Table C-6). Cis-1,2-dichloroethylene and 1,2-dichloroethylene (total isomers) have also been commonly detected (38.5 and 39.3% frequency-of-detection, respectively). The maximum measured concentration of 1,2-dichloroethylene (total isomers) is 8.8×10^1 µg/L; that of cis-1,2-dichloroethylene is 1.2×10^1 µg/L, indicating that trans-1,2-dichloroethylene may be responsible for the higher concentrations reflected in the analyses of total isomers (specific analyses of the trans-isomer are not available). Summary information for all ground water contaminants in this release area are presented in Table C-6.

C-5. Eastern GSA Debris Trenches (Alluvial Aquifer)

Trichloroethylene, tetrachloroethylene, and xylenes (total isomers) are the only substances that have been detected in ground water samples from monitor wells that characterize the alluvial aquifer contaminated by the eastern GSA debris trenches (Table C-1). As is typical of most of the ground water in the GSA OU, trichloroethylene is the principal contaminant, having been detected in 96.0% of samples. The maximum concentration of trichloroethylene in this area is 6.9×10^1 µg/L; the 95% UCL is 2.51×10^1 µg/L. Table C-7 presents these values as well as summary statistics for tetrachloroethylene and xylenes (total isomers) in this area.

C-6. Eastern GSA Debris Trenches ($Tnbs_1$ Aquifer)

Releases from the eastern GSA debris burial trenches have also contaminated the $Tnbs_1$ regional aquifer. Contaminants include trichloroethylene, tetrachloroethylene, and the trihalomethanes—bromoform, bromodichloromethane, chloroform, and dibromochloromethane. Again, trichloroethylene is the main contaminant with a 95.5% frequency-of-detection. The maximum concentration of trichloroethylene is 7.1×10^1 µg/L, and the 95% UCL is 5.59×10^1 µg/L. Tetrachloroethylene has been detected in 53.0% of samples but is present at very low concentrations (maximum concentration, 4.4×10^0 µg/L, 95% UCL, 2.35×10^0 µg/L). Of the trihalomethanes, chloroform is the only one that has been detected with any consistency (15.2% of the samples). The maximum measured concentration of chloroform is 4.2×10^1 µg/L, and the 95% UCL is 3.10×10^0 µg/L. Summary statistics for all ground water contaminants in wells representative of this area are given in Table C-8.

C-7. Reference

Webster-Scholten, C. P., Ed. (1994), *Final Site-Wide Remedial Investigation Report, Lawrence Livermore National Laboratory Site 300*, Lawrence Livermore National Laboratory, Livermore, Calif. (UCRL-AR-108131).

Table C-1. Representative wells that delineate sources of ground water contamination in the GSA operable unit.

Release site	Representative wells
Building 875 dry wells	W-875-07
	W-875-08
	W-875-09
	W-875-11
	W-7I
Building 872/873 dry wells	W-872-02
	W-873-02
	W-873-06
	W-873-07
	W-35A-10
Central GSA debris trenches ($Tnbs_1$)	W-7P
	W-7N
	W-7B
	W-7L
Solvent drum rack	W-875-01
	W-875-06
	W-876-01
	W-889-01
Eastern GSA debris trenches (alluvial)	W-25D-02
	W-25M-02
	W-25M-03
	W-25N-01
	W-25N-05
	W-25N-06
	W-25N-15
	W-26R-03
Eastern GSA debris trenches ($Tnbs_1$)	W-26R-01
	W-26R-06
	W-26R-07
	W-25N-09
	W-26N-21

Table C-2. Summary statistics for contaminants in ground water in the GSA operable unit: Building 875 dry wells.

Contaminant	Frequency of detection (%)	No. of detections/no. of samples	Maximum concentration (µg/L)	Mean concentration (µg/L)[a]	95% UCL (µg/L)
1,1,1-Trichloroethane	26.0	13/50	2.0×10^3	1.07×10^2	1.98×10^2
1,1,2-Trichloroethane	10.0	5/50	7.9×10^1	1.48×10^1	2.72×10^1
1,1-Dichloroethane	10.0	5/50	3.8×10^1	1.08×10^1	1.73×10^1
1,1-Dichloroethylene	34.0	17/50	4.0×10^3	3.35×10^2	1.01×10^3
1,2-Dichloroethane	10.0	5/50	3.9×10^1	9.63×10^0	1.44×10^1
1,2-Dichloroethylene (t)	34.0	17/50	1.6×10^3	2.69×10^2	6.90×10^2
Benzene	21.9	7/32	5.0×10^1	1.13×10^1	1.90×10^1
Chlorobenzene	10.0	5/50	4.8×10^1	8.90×10^0	1.38×10^1
Chloroform	10.0	5/50	3.8×10^1	1.04×10^1	1.57×10^1
Ethylbenzene	9.4	3/32	6.0×10^1	7.84×10^0	4.32×10^1
Tetrachloroethylene	100.0	50/50	2.5×10^4	2.37×10^3	3.28×10^3
Toluene	18.8	6/32	5.0×10^2	1.71×10^1	5.41×10^1
Trichloroethylene	100.0	50/50	2.4×10^5	2.47×10^4	3.61×10^4
Xylenes (total isomers)	12.5	4/32	2.7×10^2	2.16×10^1	1.44×10^2
cis-1,2-Dichloroethylene	44.1	15/34	1.6×10^3	3.74×10^2	1.22×10^3
trans-1,2-Dichloroethylene	11.8	4/34	3.2×10^1	8.00×10^0	1.25×10^1

[a] Estimate of the arithmetic mean of the log-normal distribution.

Table C-3. Summary statistics for ground water contaminants in the vicinity of the Building 875 dry wells, baseline data set[a].

Contaminant	Units	Maximum concentration	Mean concentration[a]	95% UCL
1,1,1-Trichloroethane	µg/L	2.0×10^3	1.58×10^2	1.22×10^3
1,1-Dichloroethylene	µg/L	4.0×10^3	2.99×10^2	8.03×10^2
1,2-Dichloroethylene (total)	µg/L	1.0×10^3	1.21×10^2	7.16×10^2
Benzene	µg/L	5.0×10^1	NA	5.00×10^1[b]
Ethylbenzene	µg/L	6.0×10^1	NA	6.00×10^1[b]
Tetrachloroethylene	µg/L	2.5×10^4	1.97×10^3	8.11×10^3
Toluene	µg/L	2.2×10^2	5.08×10^1	1.41×10^2
Trichloroethylene	µg/L	2.4×10^5	9.04×10^3	3.58×10^4
Xylenes (total isomers)	µg/L	2.7×10^2	6.51×10^1	1.75×10^2

[a] Values include data collected through March 31, 1992, and originally presented in SWRI, Chapter 4 (Webster-Scholten, 1994).

[b] These values represent the maximum measured concentration. A 95% UCL was not calculated.

Table C-4. Summary statistics for contaminants in ground water in the GSA operable unit: Building 872/873 dry wells.

Contaminant	Frequency of detection (%)	No. of detections/no. of samples	Maximum concentration (μg/L)	Mean concentration (μg/L)[a]	95% UCL (μg/L)
1,1-Dichloroethylene	37.7	20/53	5.9×10^{0}	8.60×10^{-1}	1.27×10^{0}
Acetone	16.7	1/6	8.2×10^{0}	3.24×10^{0}	6.08×10^{0}
Chloroform	20.8	11/53	7.4×10^{0}	4.57×10^{-1}	7.33×10^{-1}
Tetrachloroethylene	5.7	3/53	1.3×10^{0}	1.76×10^{-1}	3.02×10^{-1}
Toluene	10.3	3/29	1.0×10^{0}	1.93×10^{-1}	3.16×10^{-1}
Trichloroethylene	98.1	52/53	6.3×10^{1}	1.94×10^{1}	2.58×10^{1}
Trichlorofluoromethane	88.7	47/53	1.6×10^{2}	3.68×10^{1}	4.66×10^{1}
Trichlorotrifluoroethane	9.4	5/53	5.1×10^{0}	4.94×10^{-1}	2.07×10^{0}
Xylenes (total isomers)	6.9	2/29	1.0×10^{0}	2.02×10^{-1}	3.72×10^{-1}

[a] Estimate of the arithmetic mean of the log-normal distribution.

Table C-5. Summary statistics for contaminants in ground water in the GSA operable unit: central GSA debris trenches ($Tnbs_1$).

Contaminant	Frequency of detection (%)	No. of detections/no. of samples	Maximum concentration (μg/L)	Mean concentration (μg/L)[a]	95% UCL (μg/L)
1,2-Dichloroethylene (t)	27.3	18/66	1.9×10^{0}	4.43×10^{-1}	5.39×10^{-1}
Tetrachloroethylene	16.7	11/66	1.7×10^{0}	3.26×10^{-1}	6.44×10^{-1}
Toluene	4.5	1/22	1.0×10^{0}	9.35×10^{-2}	2.62×10^{-1}
Trichloroethylene	83.6	56/67	3.1×10^{1}	6.36×10^{0}	8.14×10^{0}
Trichlorotrifluoroethane	3.1	2/65	2.3×10^{0}	2.01×10^{-1}	2.60×10^{-1}
Xylenes (total isomers)	4.8	1/21	9.6×10^{-1}	1.41×10^{-1}	3.38×10^{-1}
cis-1,2-Dichloroethylene	33.3	12/36	1.9×10^{0}	5.40×10^{-1}	7.14×10^{-1}

[a] Estimate of the arithmetic mean of the log-normal distribution.

Table C-6. Summary statistics for contaminants in ground water in the GSA operable unit: solvent drum rack.

Contaminant	Frequency of detection (%)	No. of detections/no. of samples	Maximum concentration (μg/L)	Mean concentration (μg/L)[a]	95% UCL (μg/L)
1,1-Dichloroethylene	3.3	2/61	1.5×10^{0}	9.85×10^{-2}	1.98×10^{-1}
1,2-Dichloroethylene (t)	39.3	24/61	8.8×10^{1}	4.45×10^{0}	1.13×10^{1}
Chloroform	8.2	5/61	1.4×10^{0}	2.01×10^{-1}	3.05×10^{-1}
Tetrachloroethylene	29.5	18/61	6.5×10^{0}	1.16×10^{0}	1.64×10^{0}
Trichloroethylene	100.0	61/61	1.9×10^{2}	6.38×10^{1}	9.87×10^{1}
Trichlorotrifluoroethane	3.3	2/61	7.9×10^{0}	1.42×10^{-1}	1.49×10^{0}
cis-1,2-Dichloroethylene	38.5	15/39	1.2×10^{1}	3.20×10^{0}	8.52×10^{0}

[a] Estimate of the arithmetic mean of the log-normal distribution.

Table C-7. Summary statistics for contaminants in ground water in the GSA operable unit: eastern GSA debris trenches (alluvial).

Contaminant	Frequency of detection (%)	No. of detections/no. of samples	Maximum concentration (μg/L)	Mean concentration (μg/L)[a]	95% UCL (μg/L)
Tetrachloroethylene	50.7	102/201	5.3×10^{0}	8.63×10^{-1}	9.81×10^{-1}
Trichloroethylene	96.0	193/201	6.9×10^{1}	2.00×10^{1}	2.51×10^{1}
Xylenes (total isomers)	4.5	4/89	1.4×10^{0}	1.23×10^{-1}	2.04×10^{-1}

[a] Estimate of the arithmetic mean of the log-normal distribution.

Table C-8. Summary statistics for contaminants in ground water in the GSA operable unit: eastern GSA debris trenches ($Tnbs_1$).

Contaminant	Frequency of detection (%)	No. of detections/no. of samples	Maximum concentration (µg/L)	Mean concentration (µg/L)[a]	95% UCL (µg/L)
Bromodichloromethane	6.1	4/66	3.3×10^{0}	1.62×10^{-1}	3.32×10^{-1}
Bromoform	4.5	3/66	2.5×10^{1}	3.80×10^{-1}	3.69×10^{0}
Carbon disulfide	16.7	1/6	1.0×10^{0}	3.89×10^{-1}	7.49×10^{-1}
Chloroform	15.2	10/66	4.2×10^{1}	1.01×10^{0}	3.10×10^{0}
Dibromochloromethane	4.5	3/66	1.6×10^{1}	2.49×10^{-1}	1.84×10^{0}
Tetrachloroethylene	53.0	35/66	4.4×10^{0}	1.66×10^{0}	2.35×10^{0}
Trichloroethylene	95.5	63/66	7.1×10^{1}	3.10×10^{1}	5.59×10^{1}
Trichlorotrifluoroethane	3.1	2/65	1.5×10^{1}	2.46×10^{-1}	5.17×10^{0}
Xylenes (total isomers)	4.2	1/24	6.0×10^{-1}	3.00×10^{-1}	5.34×10^{-1}

[a] Estimate of the arithmetic mean of the log-normal distribution.

Appendix D

Remedial Technologies and Process Options

Appendix D

Remedial Technologies and Process Options

This appendix presents detailed descriptions of the remedial technologies and process options presented in Chapter 3. Sources for these descriptions are referenced at the end of appropriate sections. Several of the remedial technologies described in this appendix have already been tested and used at Lawrence Livermore National Laboratory (LLNL) Site 300. These remedial technologies already being used in ongoing removal activities or prototype remedial actions at the General Services Area (GSA) are identified in the following discussion.

D-1. Slurry Walls

Slurry walls are often utilized in combination with hydraulic controls or pump-and-treat technologies to focus ground water recovery on a particular area or to enhance containment measures. This results in an optimal concentration of treated water, decreased treatment costs, and shortened cleanup times. Slurry walls are also used with capping technologies to fully confine a waste area and to prevent clean water from leaching through the wastes.

A slurry wall is constructed by excavating a narrow vertical trench, typically 2 to 4 ft wide, and backfilling with a low hydraulic conductivity material to contain a waste source and to prevent contamination from migrating off site. As excavation proceeds, the trench is filled with a bentonite-water slurry that stabilizes the walls of the trench, thereby preventing collapse. The slurry penetrates into the permeable soils and creates a filter cake on the trench walls that seals the soil formations, prevents slurry loss, and also contributes to the low permeability of the completed slurry wall. This narrow trench is then backfilled with a second slurry mixture. Slurry walls are differentiated by the materials used to backfill the slurry trench. If a mixture of soil and bentonite is used, then the wall is known as a soil-bentonite (SB) slurry wall. In some cases, the trench is excavated under a slurry of portland cement, bentonite, and water, and this mixture is left in the trench to harden into a cement-bentonite (CB) slurry wall. This technique is used at sites where there is adequate open area for the mixing and placement of the soil-bentonite backfill, where increased wall strength may be necessary, or where extreme topography changes make it impractical to grade a site level (U.S. Environmental Protection Department [EPA], 1991).

D-2. Grout Curtain

Grouting is a process by which a fluid material is pressure injected into soil or rock to reduce fluid movement and/or impart increased strength. Grouts accomplish this through their ability to permeate voids and gel or set in place. Grouting can be used to control the movement of ground water and to solidify or stabilize a soil mass. Grout injected into a soil mass reduces the permeability of the deposit. Grout curtains can be created in unconsolidated materials by pressure injection.

Grout types are divided into two general classifications: particulate or suspended grout and cement grout. Particulate grouts are fluids that consist of a suspension of solid material, such as cement, clay, bentonite, or a combination of these materials. These materials are usually the more viscous of the available grouting materials and have the largest particle size. Chemical grouts are frequently classified into two major groups: silica- or aluminum-based solutions and polymers. Chemical grouts rely on polymerization reactions to form hardened gels. They have initially low viscosities and can therefore be used in finer grained soils. Types of grouts include portland cement grouts, CB grouts, silicate grouts, and organic polymer grouts (U.S. EPA, 1991).

D-3. Reinjection

Reinjection wells can function as a means to discharge treated ground water, hydraulically control plume movement, and reduce cleanup times. The reinjection of treated ground water can be an efficient cost-saving measure. However, the quality of the reinjected water is important because of potential for recontamination and/or scaling from precipitates, such as carbonate. Scaling and/or microbially-induced fouling can reduce the efficiency of the injection well and require periodic maintenance. For purposes of flow control, ground water reinjection would need to take place within the capture zones of ground water extraction wells (U.S. EPA, 1991).

D-4. Interceptor Trenches

Interceptor trenches function like drains. Trenches and drains can be either active (pumped) or passive (gravity flow). Trenches and drains may be used in the containment mode for collection of second-phase pollutants that flow on the water table (e.g., light nonaqueous-phase liquids [LNAPLs]). Passive systems are usually left open with an installed skimming pump or settlement tank for removal of the pollutant.

The benefits of using interceptor trenches or drains are: 1) they have a relatively simple construction, 2) they are relatively inexpensive to install, 3) they are useful for collecting contaminants in poorly permeable soils, 4) they are useful for intercepting landfill seepage and runoff, 5) their large wetted perimeter allows for high rates of flow, and 6) they can be monitored to recover pollutants.

The limitations of interceptor trenches or drains are: 1) they are open systems and therefore require safety precautions to prevent fires and explosions, 2) they are not useful for sites where contamination is deep, and 3) they may interfere with other operations at a facility (U.S. EPA, 1991).

D-5. Ground Water Extraction from Wells

Ground water extraction wells may be either well points, naturally developed wells, or gravel-packed wells. Well points applied to shallow ground water (<30 ft) typically are manifolded to a header pipe and pumped with a suction system. Larger diameter wells are pumped most commonly with submersible electric pumps, although vertical turbine or pneumatic positive displacement pumps may also be used. Extraction wells that are to be used in a ground water recirculation system would most likely be constructed near the leading edge of a plume and coupled with injection wells located upgradient of the source. Extraction wells to be used for hydraulic gradient control would probably be installed upgradient of the plume (U.S. EPA, 1991). Extraction wells can also be used for plume containment, and are often used in combination with ground water treatment systems.

D-6. Air Sparging

Air sparging consists of forcing air through coarse air bubble diffusers into large tanks filled with contaminated water. The agitation of the water and contact with forced air promotes the volatilization of VOCs. This technology would be used in conjunction with vapor-phase GAC (LLNL, 1991). High calcium and magnesium hardness, which occurs at Site 300, can clog the sparging tank components, reduce efficiency, and increase operating costs. Generally, air sparging has lower energy efficiency than air stripping; however, it is often better suited for low flow, batch treatment systems.

Air sparging can also be used *in situ*. It requires either trenching to lay a shallow network of air injection and extraction piping and then backfilling, or vertical and/or horizontal drilling to construct a deep subsurface network of piping. The difficulty in using the *in situ* method is plume control. The air may diffuse away from collection points and mobilize the contaminants in an undesirable direction. Also, the effectiveness of *in situ* air sparging can be significantly reduced by the vertical channeling of the injected air along vertical preferential flow paths. This method is also expensive when horizontal drilling is used, because of the specialized nature of horizontal drilling. Generally, aboveground air sparging is cost effective for low flow rates and high VOC concentrations, unless mineral content causes operating problems.

D-7. Bioremediation

Bioremediation involves the use of microbes to degrade organic compounds in contaminated ground water and/or soils. Under favorable conditions, microorganisms may be capable of completely degrading many organic compounds into carbon dioxide and water, or organic acids and methane.

The applicability of bioremediation depends on the nature of site contaminants. Petroleum compounds, such as gasoline and diesel fuel, are known to be readily biodegradable. Other biodegradable contaminants include alcohols, phenols, esters, and ketones. Chlorinated compounds are more difficult to biodegrade, especially as the number of chlorine molecules increases. Bioremediation of large, heavily chlorinated compounds such as PCBs is slow and therefore impractical.

Bioremediation of contaminated soils is accomplished by the degradation of specific organic constituents, or "parent" compounds, to a number of intermediate compounds. It is a process that may involve many enzymes, many species of organisms, and many intermediate compounds before the parent compound is mineralized.

Mineralization is the complete degradation of organic compounds under aerobic conditions to carbon dioxide, water, inorganic compounds, and cell proteins or, under anaerobic conditions, to organic acids, methane, and/or hydrogen gas. Under normal degradation conditions, a constituent may not be completely mineralized but may be transformed into intermediate products, which may be just as hazardous as the parent compound. The goal of controlled on-site bioremediation is degradation of the parent compound to products that are not hazardous to human health or the environment.

Both aerobic and anaerobic processes are applicable to the degradation of hazardous materials. Aerobic biodegradation, which relies on the presence of oxygen, is applicable to the remediation of soils contaminated with nonchlorinated organics, such as fuel oil components, and some chlorinated materials.

Many chlorinated solvents, such as tetrachloroethylene (PCE), trichloroethylene (TCE), and trichloroethane (TCA), are resistant to aerobic biodegradation. These compounds may, however, be degraded under anaerobic conditions. The degradation of these compounds involves reductive dehalogenation, in which chlorine is replaced with hydrogen, to form new compounds that may be more mobile and toxic than the original compound. Chlorinated alkenes have been mineralized by co-metabolism or methane-utilizing bacteria (methanotrophs). In other contaminated soil systems, some chlorinated compounds can be reductively dehalogenated to produce intermediate products that can then be degraded further using aerobic processes.

Enhanced *in situ* bioremediation of subsurface materials generally involves the stimulation of naturally occurring or indigenous microorganisms to degrade organic contaminants. The microorganisms are stimulated by the addition of agricultural fertilizers such as manure, aqueous solutions of nutrients, such as ammonia and orthophosphate, and possibly an oxygen source, such as hydrogen peroxide. This is typically done by pumping ground water from the aquifer, treating it to remove contaminants, adding nutrients and an oxygen source, and then reinjecting it into the aquifer. Ground water is withdrawn faster than it is reinjected, creating a pressure sink at the withdrawal point. The pressure sink hydraulically contains the ground water contamination and increases the flow rate of nutrients through the aquifer. In some cases, other environmental parameters, such as pH and temperature, can be optimized to stimulate biological activity.

Landfarming or enhanced soil bioremediation (ESB), a type of surface bioremediation, involves the surface aeration of soil and sludges containing oil and/or other hazardous materials by tilling or other cultivation methods, with the addition of nutrients. This method has been used by the oil refining industry for many years for the disposal of oily sludges. The method can also be applied *in situ*, where soil contamination is relatively shallow. Addition of microbial cultures can be used to augment the indigenous microbial population and speed up the rate of biodegradation. We are presently using ESB to reduce concentrations of diesel fuel in soil excavated during underground storage tank closure activities in the GSA. An ESB pilot study was conducted in 1990, and full-scale ESB, started in 1991, continues (Carlsen, 1991).

Bioremediation is often combined with other technologies, either by design, as with pump-and-treat and *in situ* bioremediation, or as part of a treatment train, following soil flushing or vacuum extraction (U.S. EPA, 1991).

A plan for a comprehensive field demonstration of an *in situ* microbial filter project has been developed for testing on the eastern GSA TCE ground water plume. The *in situ* microbial filter strategy consists of enhancing microbial activity at the expanding boundaries of a contaminant plume migrating downstream from a near-surface source region. Microbial activity is enhanced by injecting a naturally occurring methanotroph, via two horizontal wells, to form a porous curtain. Ground water contaminated with TCE naturally flows through this region where it is bioremediated to carbon dioxide and chloride ions; ground water enters the microbial filter contaminated and exits clean. Methanotrophs sporulate or lyse into harmless compounds after they have finished degrading TCE. Ground water monitor wells are downstream from the microbial filter to serve as guard wells and monitor the effectiveness of the filter.

Due to lack of funding at present, this project has not advanced beyond a proposal stage (Duba et al., no date). Cost effectiveness is also in question due to the decreased concentrations of VOCs in ground water.

Effectiveness and implementability of this technology are limited by subsurface heterogeneities and delivery problems such as proper injection schemes and problematic trenching and shoring of unconsolidated and bedrock materials.

D-8. Surfactant Injection

Surfactant injection is an innovative, *in situ* technique for remediation of dense nonaqueous-phase liquids (DNAPLs). The technique is applied by pumping water, mixed with surfactants, into the ground water zone via injection wells. The surfactants cause a significant increase in the solubility of the DNAPLs by forming colloidal clusters (called micelles) in which the DNAPLs are solubilized. The DNAPLs go into solution to concentrations several orders of magnitude greater than their normal water solubility. The resulting water/DNAPL mixture can be pumped to extraction wells without DNAPL becoming sorbed by soil particles, and treated with conventional ground water treatment systems (NETAC, 1992).

This technology is limited by subsurface heterogeneities and the ability to control plume migration through injection/extraction schemes.

D-9. Granular Activated Carbon—Ground Water Treatment

Aqueous-phase granular activated carbon (GAC) adsorption is a well established ground water treatment technology that is generally effective for removing high molecular weight compounds and chlorinated solvents. Activated carbon removes contaminants from water by adsorbing them onto its surface. A GAC adsorption system consists of a packed column with an internal/diffusion system to distribute the water evenly through the carbon bed. Organic compounds adsorb onto the surface of the GAC as the water flows through the fixed bed. The spent GAC may be either disposed of as hazardous waste or thermally regenerated by heating the carbon in a natural gas-fired furnace, thereby completely desorbing the organic compounds from the surface of the GAC. Desorbed compounds can then be thermally oxidized or driven off and collected for reuse. After regeneration, the GAC is no longer considered a hazardous waste and may be reused. However, regeneration reduces the adsorptive capacity of GAC and the used material eventually must be disposed of and replaced. GAC consumption is dependent upon flow rates and contaminant concentrations. GAC can be subject to clogging from carbonate precipitation or biofouling; therefore, pretreatment of the influent water stream may be required. Generally, GAC is cost effective for low flow and low concentration applications (LLNL, 1991).

D-10. Air Stripping

Air stripping is a process in which VOCs are removed from water by bringing VOC-contaminated water into contact with air. This is commonly achieved with air stripping towers or trays. In conventional air strippers, ground water is sprayed into the top of an air stripping column. Water cascades down through packing material within the column, thereby increasing the surface area of the water. A blower forces an upward air stream through the water, transferring VOCs from water to air.

Tray aeration is achieved by spraying extracted ground water into an inlet chamber. The water flows along baffled aeration trays and air is blown up through small-diameter holes in the trays. A froth forms, creating a large mass transfer surface. The high air-to-water ratio causes the organic contaminants to volatilize into air, leaving substantially reduced concentrations of VOCs in the water.

Air stripper design operation and maintenance must be tailored to the general water quality at the site. High calcium and magnesium hardness, which exists at Site 300, can clog the packed columns, reduce efficiency, and increase operating costs. This technology is usually used in conjunction with vapor-phase GAC to eliminate VOC discharge to the atmosphere.

The cost is dependent upon flow rates and VOC concentrations. Generally, air stripping is cost effective for high flow rates and high VOC concentrations, unless water hardness causes operating problems (LLNL, 1991).

D-11. Electron Acceleration

Electron acceleration is an innovative technology used for the radiolytic remediation of VOCs. In this process, a contaminated vapor stream is irradiated with a small electron accelerator, thereby reducing the concentration of the VOC. The level of contaminant irradiation in vapor is primarily a function of the power of the electron beam. In this process, organic by-products, such as chloromethane, dichloromethane, chloroform, acetone, and trimethylbenzene, may be formed at very low concentrations (Matthews et al., 1992).

This technology was tested at the Building 834 Complex in November and December 1991 to destroy TCE. In this experiment, 90% of the ingoing TCE was destroyed at a cost of approximately $15/kg (Webster-Scholten, 1994).

A similar technology is now being developed elsewhere for liquid phase contaminant destruction using electron acceleration. This technology is also considered innovative, and its cost effectiveness is also based on contaminant concentration levels.

D-12. UV/Oxidation—Ground Water Treatment

UV/oxidation uses an oxidizing agent, such as hydrogen peroxide or ozone, and ultraviolet (UV) light as an agent to augment the dissociation of the oxidizing agent to a hydroxyl radical. By destroying the VOCs, UV/oxidation processes minimize the amount of waste that requires further treatment or disposal (LLNL, 1991).

A type of UV/oxidation technology is Perox-Pure™, a chemical oxidation technology that was demonstrated under EPA's Superfund Innovative Technology Evaluation (SITE) program at the GSA operable unit. Over a three-week period in September 1992, about 40,000 gallons of VOC-contaminated ground water was treated in the Perox-Pure™ system. For the SITE demonstration, the Perox-Pure™ system achieved TCE and PCE removal efficiencies of about 99.7 and 97.1%, respectively. In general, the system produced an effluent that contained no detectable TCE, PCE, and 1,1-dichloroethane (DCA), and chloroform and 1,1,1-trichloroethane (1,1,1-TCA) slightly above detection limits. The system also achieved chloroform, DCA, and TCA removal efficiencies of 93.1, 98.3, and 81.8%, respectively. The treatment system effluent met California drinking water action levels and federal drinking water MCLs for TCE, PCE, chloroform, dichloroethane (DCA), and TCA at the 95% confidence level (U.S. EPA, 1993).

D-13. GAC—Vapor Treatment

The use of vapor-phase GAC is a well established technology for the removal of VOCs from air streams. With few exceptions, most VOCs can be effectively removed from the vapor exhaust of a soil vapor extraction system or a ground water air sparging/stripping treatment system using a GAC system. GAC is effective over a broad range of constituent concentrations in the air stream, although the mass of organic compounds that will be adsorbed per unit mass of GAC increases as the concentration of the compounds in the air to be treated increases. High moisture content in the vapor and elevated temperatures can limit the sorptive capacity of carbon, thereby necessitating additional vapor treatment, such as a moisture accumulator installed upstream of the GAC canisters. Spent GAC can be disposed of as hazardous waste, regenerated on site using steam, regenerated in an off-site kiln, or incinerated in an off-site furnace. However, regeneration reduces the adsorptive capacity of GAC, and the used material eventually must be disposed of and replaced. Annual treatment costs associated with GAC can be quite high initially; costs decrease as VOC concentrations in the soil vapor decrease over time (LLNL, 1991).

D-14. Permitted Discharge to Surface Water

We are presently discharging ground water from the eastern GSA ground water treatment system (GWTS) under a National Pollution Discharge Elimination System (NPDES) permit as part of the interim eastern GSA CERCLA Removal Action. This permit allows a maximum 30-day-average daily dry weather discharge of 86,400 gallons (60 gpm) from the GWTS. The permit dictates daily testing of influent and effluent for VOCs and total dissolved solids (TDS) the first week of operation, weekly testing for the first month, and bimonthly testing thereafter. VOCs are not to exceed 0.5 ppb (μg/L) (monthly median), and 5 ppb (μg/L) (maximum for total VOCs in a single sample). These limits apply to 1,1-DCE, 1,2-dichloroethylene (1,2-DCE), TCE, PCE, 1,1-DCA, 1,2-DCA, 1,1,1-TCA, and chloroform. All other VOCs in excess of 0.5 ppb (μg/L) are prohibited. The permit also limits discharge to a pH between 6.5 and 8.5, and increased turbidity of receiving waters to no more than 10% of background levels.

D-15. On-Site Surface Discharge

We are presently discharging treated ground water from the central GSA GWTS to an on-site surface location, under Substantive Requirements issued by the California Regional Water Quality Control Board as part of a CERCLA Removal Action. The treated water is collected in a storage tank until 10,000 to 20,000 gallons have accumulated, then it is sprayed into a remote canyon over an area of approximately 16,000 ft^2. This recharge rapidly infiltrates the exposed $Tnbs_1$ regional aquifer sandstone in the canyon. The Substantive Requirements allow a maximum 30-day-average daily dry weather discharge of 72,000 gallons (50 gpm). The permit requires monthly testing of influent and effluent for VOCs, electrical conductivity, TDS, and pH. VOCs are not to exceed 0.5 ppb (µg/L) (monthly median), and 5 ppb (µg/L) (maximum for total VOCs in a single sample). These limits apply to TCE, PCE, 1,1-DCE, 1,2-DCE, 1,1-DCA, 1,1,1-TCA, 1,1,2-TCA, chlorobenzene, chloroform, carbon tetrachloride, and xylenes.

D-16. Air Misting

Air misting is a method of discharging treated ground water by forcing it through spray heads that separate the water into fine droplets (i.e., atomization) as it is expelled into the air. This process allows maximum areal dispersion of discharge. This discharge process eliminates problems associated with surface discharge (e.g., erosion). Misting is applicable for low flow rates. This process is being applied as part of the Site 300 Building 834 CERCLA Removal Action and is being used to discharge treated well development and sample purge water at Building 833.

D-17. Surface Cover

A surface cover placed over buried waste or a contaminant plume limits or precludes surface water infiltration and minimizes the generation of a leachate. A surface cover also controls the emission of gases and odors, reduces erosion, and can improve aesthetics. It provides a stable surface that prevents human exposure to wastes, and may be necessary when contaminated materials are left in place at a site. In situations where the waste is entirely above the ground water table, a properly designed cover can prevent the entry of water into the landfill or surface impoundment. Under CERCLA, capping is performed when extensive subsurface contamination at a site precludes excavation and removal of wastes due to potential hazards and/or high costs. Capping is often performed in connection with ground water extraction or containment technologies (i.e., physical barriers or hydraulic barriers) (U.S. EPA, 1991).

D-18. Induced Soil Vapor Extraction

Induced soil vapor extraction consists of applying a vacuum to one or more vadose zone extraction wells to enhance volatilization and removal of high-volatility contaminants. Industry experience indicates that this process is very effective for remediating most chlorinated solvents and volatile fuel hydrocarbons. Induced soil vapor extraction can be used in conjunction with ground water extraction.

The properties of vadose zone sediments, such as permeability and moisture content, and the areal extent and depth of contamination determine the design of a soil vapor well field. This technology is typically used in conjunction with vapor phase GAC treatment to prevent the release of VOCs to the atmosphere. Induced soil vapor extraction can also be used to extract VOCs released in conjunction with ground water remediation using innovative *in situ* air sparging.

Drawbacks to this extraction technology include the uncertainty in predicting the time required to achieve the remedial objectives and difficulties in extracting all hazardous materials from a heterogeneous subsurface environment. The treatment of air emissions can also be a significant operational expense (LLNL, 1991).

D-19. Steam Flooding

Steam flooding is an adaptation of oil-field technology that uses steam injection to enhance the recovery of contaminants from the subsurface. Steam injected through multiple wells on the perimeter of a plume volatilizes the contaminants, thermally desorbs the contaminants in permeable zones, and displaces them toward one or more central recovering wells (Siegel et al., 1992). This technology has been combined with Joule heating at the LLNL Main Site to enhance volatilization in the low-permeability zones not penetrated by steam.

This technology is limited by subsurface heterogeneities, the ability to control plume migration through injection/extraction schemes, and energy consumption.

D-20. Joule Heating

Joule heating is an experimental remediation technology developed by LLNL to enhance the removal of VOCs from soil. An experiment using this method to remove TCE was conducted at the Building 834 operable unit in the summer of 1992. Six electrodes were buried in shallow boreholes heating an area approximately 7 m in diameter and 4 m deep. Large electrical alternating currents were passed through the soil, resulting in a decrease in TCE soil vapor concentrations from 130 $ppm_{v/v}$ to about 5 $ppm_{v/v}$ over a period of 25 days (Buettner, 1993).

This technology is limited by subsurface heterogeneities, the ability to control vapor capture, and energy consumption.

D-21. Hot Air Injection

Hot air injection is an innovative technology that can raise soil temperatures and drive off VOCs; however, due to the very low heat capacity of gases, it has limited application. Generally, with the airflow rates used in soil venting, air must be warmed to several hundred degrees centigrade to add sufficient heat to warm soils at a rate sufficiently high to be usable. The low heat capacity of air requires very high airflow and/or high air temperature to give effective soil heating. High airflow is typically not practical or compatible with the overall treatment process, and well construction to allow very hot air injection may be difficult and expensive.

Hot air injection could reduce the effectiveness of *in situ* biodegradation. A temperature rise of more than 20 to 30°C (36 to 54°F) above ambient temperatures could inhibit growth of or kill off microorganisms near the injection point .

High soil temperatures help offset the low heat capacity of the air, but create other problems. To carry significant amounts of heat in air, temperatures need to be above 300°C (570°F). These temperatures can require substantial insulation to control heat losses in the piping connecting the inlet well. Also, the high temperatures needed will damage the materials used in typical monitor wells. For long-term use of high-temperature air injection, new and much more costly injection well designs are likely to be required.

Another heat source that has been used to generate hot air is solar heating. Air is drawn through a flat plate solar collector by a blower, which then discharges to an air injection well. The air temperature increase available from the collectors is limited. This system is reportedly used to enhance biodegradation rates by increasing the soil temperature (Billings, 1991).

Hot air injection has also been used in conjunction with steam heating to ensure that the stripped organics remain in the vapor stream. However, air injection in these systems follows steam injection, and its purpose is to maintain organics in the vapor state; hot air is not injected for bulk soil heating (Smith and Hinchee, 1993).

D-22. Soil Removal/Excavation

Excavation is a common method of removing near-surface contaminated earth materials by using conventional earth-moving equipment. In some cases, excavation is the only practical technology, particularly for small volumes of soil that contain contaminants such as PCBs or metals that cannot be treated *in situ*. Excavated materials can be treated on site or transported to an appropriate waste disposal facility.

Depending on the quantity of material to be excavated and the depth of excavation, different types of equipment can be used. The methods used for excavation are not greatly affected by the types of contaminants present. Determination of the extent of material to be excavated is one of the most difficult aspects of this technology. In most cases, collection and analysis of sediment samples are required during the excavation, adding considerably to the cost. In addition, the more indurated or cemented the sediment, the more difficult it is to excavate. Transport and disposal of excavated material can be very costly if large volumes are involved (LLNL, 1991).

D-23. Thermal Oxidation

The vapor emissions produced by soil vapor extraction or extracted ground water treatment containing VOCs or fuel hydrocarbons can be controlled by passing the vapor through a thermal oxidation unit. There the air containing the organic vapors is heated to a temperature sufficient to completely oxidize the compounds. This technique is most easily applied to mixtures of air and fuel hydrocarbons in which the oxidation products consist of water and carbon dioxide. Chlorinated solvents, such as TCE, may also be thermally oxidized, although additional treatment of the exhaust gas from the thermal oxidation unit may be required to remove the hydrogen chloride produced. In most cases, the concentrations of organic compounds in the emissions from the soil vapor extraction operations will not be sufficient to maintain combustion, so an auxiliary source of fuel, such as propane or natural gas, must be supplied to produce enough heat. The major advantage of this system is that almost complete destruction (often over 99%) of the VOCs or FHCs is achieved on site. In addition, this technology may be more economical than GAC treatment of the vapor phase for high concentrations in vapor vented over extended periods. The disadvantages are the capital cost for the thermal oxidation system and the expense associated with the need for an auxiliary fuel supply (LLNL, 1991).

D-24. Catalytic Oxidation

Catalytic oxidation is similar to the thermal oxidation process except that the oxidation occurs in the presence of a catalyst, commonly platinum or palladium metal, that allows the oxidation to occur at much lower temperatures. This set of conditions has the advantage of reducing the quantity of auxiliary fuel required for the oxidation unit. However, the catalyst is susceptible to fouling and poisoning, particularly in the presence of chlorinated solvents. The capital cost for installation can be weighed against the lower operational costs for thermal oxidation. Close operator attention or automated protection is generally required to prevent catalyst damage.

Catalytic oxidation is commonly used for the destruction of fuel hydrocarbon vapors. This method is not applicable to chlorinated solvents because toxic daughter products are created in the process (LLNL, 1991).

D-25. Resin Sorption

Resin adsorption-regeneration is an innovative vapor treatment system that traps VOC vapors on an adsorbent resin bed. The advantage of this system is its on-site regenerative capacity. Typically, a resin adsorption-regeneration system consists of one or more resin beds that are on line while another bed is being regenerated in a desorption cycle. The resin beds are automatically switched between adsorption and desorption cycles. Desorption is accomplished using a combination of temperature, pressure, and a carrier gas. During the desorption cycle, the VOCs trapped in the adsorbent resin material are removed, condensed, and transferred in liquid phase to a storage tank.

The resin adsorption-regeneration system has two advantages over the conventional carbon treatment system. Because the adsorbent material can be regenerated on site, the cost is much lower than GAC, which typically must be transported off site as hazardous waste for disposal or treatment. Although on-site carbon regeneration is feasible, the carbon has limited reuse capacity before replacement. Carbon regeneration also produces acids when treated for VOCs, thus causing corrosion problems. The claim for the resin adsorption-regeneration system is that the adsorbent beds may be recycled in excess of 2,000 times with no measurable loss of adsorption capacity (Purus, 1993). In addition, activated carbon's capacity to adsorb VOCs is significantly affected by moisture. The resin adsorption-regeneration system adsorbent resin beds have a high tolerance to water vapor, thereby allowing treatment of vapor streams that have relative humidity greater than 90% with minimal impact on adsorption efficiency. These two factors would lower the operation and maintenance treatment costs and could make the resin resorption-regeneration system more cost effective and efficient for long-term treatment.

D-26. UV/Oxidation—Vapor Treatment

A new UV/oxidation process has been developed for the photo-oxidation of VOCs in air using an advanced ultraviolet source, a Purus xenon flashlamp. The flashlamps have greater output at 200–250 nm than medium-pressure mercury lamps at the same power and therefore cause much more rapid direct photolysis of VOCs, including methylene chloride, chloroform, carbon tetrachloride (CCl_4), 1,2-dichloroethane (1,2-DCA), TCA, Freon 113, and benzene. The observation of quantum yields greater than unity indicate the involvement of chain reactions for TCE, PCE, 1,1-DCE, chloroform, and methylene chloride.

TCE was examined more closely because of its widespread occurrence and very high destruction rate. Two full-scale air emissions control systems for TCE were constructed by Purus and tested at a LLNL. The systems were operated at flash frequencies of 1–30 Hz, temperatures of 33–60° Celsius, flows up to 300 scfm (260 ppmv TCE) and concentrations up to 10,600 ppmv (100 scfm). Residence times ranged from 5 to 75 seconds. In all cases, except at the lowest flash frequency, greater than 99% removal of TCE was observed. Careful attention was paid to product formation and mass balances. The main initial photo-oxidation product of TCE was dichloroacetyl chloride, which upon further photolysis was converted in part to dichlorocarbonyl (phosgene or DCC) and ultimately to hydrochloric acid, carbon dioxide, and possibly carbon monoxide. Further treatment of photo-oxidation products was recommended for full-scale operation (Johnson et al., 1992).

D-27. Permitted Discharge to Air

We are presently discharging treated vapor at both the central and eastern GSA GWTS under permit by the San Joaquin Valley Unified Air Pollution Control District. The treatment consists of the following steps: (1) an air sparging tank enhances the volatilization of organic compounds in extracted ground water; (2) the VOC-enhanced air is fed into two sets of two GAC canisters, in series; and (3) the treated air is then released into the atmosphere. Treated vapor from the central GSA soil vapor extraction and treatment system is also discharged under permit by the San Joaquin Valley Unified Air Pollution Control District. The central GSA soil vapor treatment system also consists of two GAC canisters in series. We monitored emissions from the GAC canisters for TCE on a daily basis for the first month of operation and have monitored them weekly since then. Upon breakthrough of the first GAC canisters, that canister is replaced with the second GAC canister and a new canister is added.

D-28. References

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Appendix E

Soil and Ground Water Modeling Analysis

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E-1. Soil Vapor Modeling

E-1.1. Objective

To estimate Trichloroethylene (TCE) mass recovery from the central General Services Area (GSA) vadose zone by soil vapor extraction (SVE), we used the numerical code VENTING (Environmental Systems & Technologies, 1993), which estimates rates of contaminant removal by vapor extraction.

E-1.2. Conceptual Model

Alternatives 3a and 3b propose conducting SVE at seven wells in the central GSA to extract VOCs, primarily TCE. These wells are screened at various intervals in the vadose zone and extend into the saturated zone. For modeling purposes, the total VOC mass was assumed to consist entirely of TCE. The volume of vadose zone soil to be remediated was estimated to lie within the 0.1 mg/kg TCE isoconcentration contour, based on maximum observed concentrations in soil borings (Fig. E-1). This area is roughly equivalent to the area assumed to be influenced by the central GSA SVE system. The thickness of affected vadose zone soil was estimated as 37 ft in the area with newly unsaturated soil resulting from the dewatering of the Building 875 dry well pad, and 30 ft outside of that area. The 490-ft ground water surface elevation contour was used to define the newly dewatered area. Figures E-1 and E-2 display the geometries we used to estimate the volume of soil. The SVE system was also assumed to operate continuously.

E-1.3. Model Description—VENTING

VENTING is an interactive PC-based program used to estimate rates of contaminant recovery from the unsaturated zone by vacuum extraction; the model is based on methods described by Johnson et al. (1990a and b). VENTING estimates contaminant recovery in soil vapor versus extraction time during steady vapor flow at a specified total flow rate and a given temperature. It assumes local equilibrium partitioning between gas, water, nonaqueous liquid, and solid phases. The program allows evaluation of the effects of soil properties, spill composition, temperature, and pumping rate on contaminant recovery.

VENTING performs a mass balance calculation for TCE in the system at discrete time steps. The rate of TCE mass removal during the process of vapor extraction is given by:

$$\frac{dN}{dt} = \eta Q C^{eq} \qquad \text{(E-1)}$$

where

N = total number of moles of TCE in the soil [moles],

t = time [T],

Q = total gas flow rate through the contaminated zone [$L^3 \cdot T^{-1}$],

C^{eq} = equilibrium molar gas phase concentration of TCE [$mole \cdot L^{-3}$], and

η = an efficiency factor to account for nonequilibrium effects [dimensionless].

The balance equation can be solved if the relationship between N and C^{eq} is known. The required relations can be derived by partitioning relationships between the gas, nonaqueous liquid, water, and solid (i.e., adsorbed) phases. The total number of moles of TCE at equilibrium is given by:

$$N = z\,\frac{\theta_a PV}{RT} + xN^{TCE} + y\,\frac{\rho_w \theta_w V}{W_{H_2O}} + yk\,\frac{\rho_b V}{W_{H_2O}} \qquad \text{(E-2)}$$

where

N = moles of TCE in all phases [mole],

N^{TCE} = total moles of TCE in the free nonaqueous liquid phase [mole],

V = total volume of the contaminated zone [L^3],

z_i = mole fraction of TCE in the gas phase [$mole \cdot mole^{-1}$],

x_i = mole fraction of TCE in the nonaqueous liquid phase [$mole \cdot mole^{-1}$],

y_i = mole fraction of TCE in the aqueous phase [$mole \cdot mole^{-1}$],

ρ_w = density of water [$M \cdot L^{-3}$],

ρ_b = dry soil bulk density [$M \cdot L^{-3}$],

θ_a = air-filled porosity [$L^3 \cdot L^{-3}$],

θ_w = volumetric water content [$L^3 \cdot L^{-3}$],

P = absolute total gas pressure (atm) [$T^2 \cdot L^{-1}$],

R = ideal gas constant (82.06 cm^3 atm $mole^{-1}$ deg^{-1}) [$L^2 \cdot T^2 \cdot mole^{-1} \cdot deg^{-1}$],

T = absolute temperature in the soil-water system (degrees Kelvin) [deg],

k = sorption coefficient for TCE [$M \cdot M^{-1}$], and

W_{H_2O} = molecular weight of water [$M \cdot mole^{-1}$].

Assuming the vapor phase behaves as an ideal gas, the free nonaqueous liquid phase acts as an ideal liquid mixture, and the aqueous phase is a non-ideal mixture, then the phase mole fractions may be related as:

$$zP = xP_{TCE} = \alpha y P_{TCE} = C^{eq}RT \qquad \text{(E-3)}$$

where

P_{TCE}= vapor phase pressure of TCE at the ambient temperature,

α = aqueous-phase activity coefficient of TCE.

The vapor phase pressure P_{TCE} at ambient temperature T is computed from the vapor pressure P^R_{TCE} at reference temperature T_R (i.e., 20°C = 293°K) via the Clausius-Clapeyron equation as:

$$P_{TCE}(T) = P^R_{TCE} \exp\left\{\frac{T_B T_R}{T_B - T_R}\left(\frac{1}{T} - \frac{1}{T_R}\right)\ln\frac{P^R_{TCE}}{P_{atm}}\right\} \tag{E-4}$$

where

T_B = is the absolute temperature at the boiling point when the total pressure is P_{atm} (i.e., 1 atm).

Aqueous activity coefficients are estimated from tabulated solubility values. For species which are liquids or solids at the ambient temperature ($P_{TCE} \leq P_{atm}$), the relationship is:

$$\alpha = \frac{V_{mw} W}{S} \tag{E-5}$$

where

V_{mw} = molar volume of water [55.55 mole • L^{-1}],

W = molecular weight of TCE [M • $mole^{-1}$],

S = solubility of pure TCE in water.

For species which occur as gases at ambient temperature ($P_{TCE} > P_{atm}$), the activity coefficient is computed as:

$$\alpha = \frac{V_{mw} W P_{atm}}{SP} \tag{E-6}$$

The adsorption coefficient is assumed to be a linear function of the soil organic carbon content given by the empirical relation (Lyman et al., 1982):

$$k = 0.63 k_{ow} f_{oc} \tag{E-7}$$

where

k_{ow} = octanol-water partition coefficient [M • M^{-1}],

f_{oc} = mass fraction of organic carbon in the soil [M • M^{-1}].

Soil bulk density is related to the fluid content by:

$$\rho_b = \rho_s\left(1 - \theta_w - \theta_a\right) \tag{E-8}$$

where

ρ_s = particle density, assumed to be 2.65 g • cm^{-3}.

Integration of the mole balance equation E-1 using a variable time-weighting scheme yields:

$$N^{t+\Delta t} = N^t \frac{1 - (1-\mu)\eta Q \dfrac{P}{RTN}\Delta t}{1 + \mu\eta Q \dfrac{P}{RTN}\Delta t} \tag{E-9}$$

where

Q = air flow rate [L^3 • T^{-1}],

t = previous time [T],

t + Δt = new time [T],

N = total moles of TCE in the soil during the current timestep, which is approximated as the average of the corresponding values at the previous time t and at the end of the previous iteration [mole], and

μ = time-weighting factor [dimensionless].

For μ = 0, an explicit differencing scheme is obtained; μ = 0.5 corresponds to the Crank-Nicholson differencing scheme method, and μ = 1 gives a fully implicit differencing scheme. Values of μ between 0.5 and 1.0 are generally recommended by the authors of VENTING (Environmental Systems & Technologies, 1993).

The relationship between the equilibrium gas concentration and the actual well bore gas concentration is given by:

$$C^{well} = \eta C^{eq} \tag{E-10}$$

where

η = "venting efficiency factor."

If field data exists, efficiency factors may be estimated from field data by matching observed and predicted well concentrations or mass recovery rates. Care should be taken to ensure that at least one pore volume of gas has been displaced prior to matching data, to overcome initial condition effects. The equilibrium concentration C^{eq} represents the value that would occur if the venting system is temporarily shut down and allowed to re-equilibrate under nonpumping conditions. The overall efficiency factor is given by the ratio of concentration observed in the well prior to shutdown after pumping for an extended period to the concentration observed after shutdown, measured under near zero-flow conditions (i.e., $\eta = C^{well}/C^{eq}$) (Environmental Systems & Technologies, 1993).

E-1.4. Parameter Selection

Table E-1 displays the VENTING input parameters we used to simulate contaminant removal from the central GSA. We calibrated the model by adjusting the initial spill quantity parameter until the mass removed in the first three months of simulation matched the estimated mass of TCE removed by the SVE in its first three months of operation (11 gal). The result was an initial spill quantity of approximately 40 gal. For a conservative mass removal rate estimate, we used a low temperature of 16°C. We used an organic carbon content of 0.001, obtained from Chapter 14 of Webster-Scholten (1994), which is within the range presented in Bishop (1991). We used a designed airflow rate of 20 scfm; field operational and test information indicate a range of 20 to 50 scfm for the existing system. We assumed a volumetric water content of 0.10. Although VENTING offers a biodecay calculation, we conservatively eliminated this feature by using a biodecay efficiency factor of zero. We also assumed an order-of-magnitude venting efficiency factor of 0.10 based on a similar scenario described in Johnson et al. (1990a).

At present, the only evidence of NAPL is one field observation noted during the bailing of a water sample from an open borehole, prior to the installation of well casing (Chapter 1). Additional field observations or more quantitative data are needed to justify incorporating NAPL into the model. We would also need to quantify the extent of NAPL in the subsurface to properly calibrate the model. This calibration could affect the time required to reach 2 µg/L TCE in soil vapor (assumed modeling endpoint).

E-1.5. Results

We assumed a soil vapor TCE concentration of 2 µg/L (equivalent to 0.36 $mg/kg_{v/v}$) as the modeling endpoint. This value is the soil vapor TCE concentration that would exist if the vapor phase is in equilibrium with ground water containing a concentration of 5 µg/L TCE. This value was calculated using Henry's Law (Cohen, 1993), and describes equilibrium at the vadose zone-saturated zone contact; this value is protective of ground water, but conservative when applied to the shallower parts of the vadose zone.

The predicted removal time necessary to achieve this goal is 2,300 days. Figure E-3 displays the simulated removal rates.

We use the decline curve of the soil vapor concentrations to estimate the SVE time required to reach a TCE soil vapor concentration of 0.2 µg/L (equivalent to 0.036 $mg/kg_{v/v}$). This value is the soil vapor TCE concentration when in equilibrium with a ground water TCE concentration of 0.05 µg/L. Using an exponential curve fit program with an R^2 correlation of one (1.0), the decline curve is defined as follows:

$$C = 10.253 \times 10^{-1612.8\,t}$$

where,

t = time [T], and

C = concentration at time t $[M \cdot L^{-3}]$.

The predicted removal time to achieve this goal is 2,920 days.

E-1.6. Sensitivity Analysis

In this section we present our analysis of VENTING's sensitivity to various parameters by varying parameters within a reasonable range of values.

E-1.6.1. TCE Mass

To evaluate the sensitivity to the initial TCE mass estimate, we varied the initial mass of TCE in the soil while keeping the contaminated soil volume constant. Figure E-4 displays the results. Venting periods of approximately 2,200, 2,300, and 2,350 days were predicted to reach 2 µg/L of TCE in soil vapor for initial TCE masses of 110 kg (20 gal), 221 kg (40 gal), and 442 kg (80 gal), respectively. As seen in Figure E-4, the initial TCE mass has more effect on rates of mass removal early in the venting period. The effect of initial TCE mass diminishes as concentrations approach the 2 µg/L TCE concentration in soil vapor.

E-1.6.2. Soil Volume

To determine the model's sensitivity to soil volume, we varied the target soil volume while keeping the initial TCE mass constant at 221 kg (40 gal). Figure E-5 displays the results. The soil volume sensitivity analysis indicates that venting periods of approximately 1,300, 2,300, and 4,200 days were predicted to reach 2 µg/L of TCE in soil vapor for soil volumes of 12,600, 25,200, and 50,400 m^3, respectively. Recovery rates have an approximately linear relationship to this parameter.

E-1.6.3. Gas Extraction Rate

We used several gas extraction rates to evaluate the sensitivity of the model to this parameter. Figure E-6 displays the results. The sensitivity analysis indicates that venting periods of 4,500, 2,300, and 1,200 days were predicted to reach 2 µg/L of TCE in soil vapor for gas extraction rates of 10, 20, and 40 scfm, respectively. Recovery rates appear to have a linear relationship to the gas extraction rate.

E-1.6.4. Venting Efficiency Factor

Several venting efficiency factors were used to evaluate the model's sensitivity to this parameter. This sensitivity analysis showed that venting periods of approximately 24,000, 2,300, and 270 days were predicted to reach 2 µg/L of TCE in soil vapor for the venting efficiency factors of 0.01, 0.10, and 1.00, respectively (Fig. E-7). Recovery rates are linear proportional to this parameter. This effect is evident by equation E-2, where an order-of-magnitude increase or decrease of the venting efficiency factor gives a corresponding order of magnitude increase or decrease in venting time.

E-1.7. Conclusions

The modeling results predict that the SVE system presented in Alternatives 3a and 3b reduces concentrations to 2 µg/L of TCE in soil vapor in 6.3 years. To account for model uncertainty, we used a conservative duration of 10 years for cleanup for cost estimates in Chapter 4 and Appendix G, and alternative evaluation in Chapter 5.

E-2. Ground Water Flow and TCE Fate and Transport Modeling

E-2.1. Objective

Our objective was to develop a generalized, two-dimensional (2D) model of the GSA alluvial aquifer to simulate ground water flux and TCE plume transport, based on field data, including present and past plume configurations. We simulated the remediation pumping scenarios presented in this report using the numerical flow model, MODFLOW, and its fate-and-transport companion code, MT3D. We used the simulation results to develop a relative cost comparison between different remedial alternatives, by providing an estimate of time required to meet remedial objectives. The conclusions presented here support the alternative development discussed in Chapter 4. For comparison, we also included a no-action scenario, wherein all current ground water extraction would cease.

This appendix discusses our latest efforts to better characterize the ground water transport mechanisms present in the GSA, as well as efforts to simulate possible remediation scenarios, using a more detailed numerical model. This more detailed approach allows for a potential increase in prediction precision, and it provides the flexibility to simulate and compare a range of remediation scenarios. We assumed that for the purposes of the FS, a generalized 2D model of the alluvial aquifer will provide a reasonably accurate assessment of alternatives for long-term planning purposes. The additional time, expense, and data needs of a more detailed model than the 2D numerical model used here are not justified at this time because we do not foresee such a model significantly changing the predicted performance of the alternatives presented in this report.

E-2.2. Conceptual Model

The central and eastern GSA TCE ground water plumes reside primarily in the composite Qt/Qal/$Tnbs_2$/$Tnsc_1$ aquifer (referred to in this report as the alluvial aquifer). The main sources for these plumes are:

- The Building 875 facilities and dry well pad, where intermittent TCE and waste water disposal have taken place in the past.
- The eastern GSA debris burial trench.
- The Building 872/873 dry well areas.

The Building 875 TCE ground water source exists in the $Tnbs_2$ unit and the upper, fractured part of the $Tnsc_1$ unit. Approximately 150 ft east of Building 875, the TCE-contaminated ground water is in hydraulic communication with the alluvial channel (Qt/Qal). The hydraulic characteristics of this Qt/Qal alluvial channel dominate the downgradient transport of the TCE ground water plume from this point.

Ground water flow through the alluvial aquifer is approximately northwest to southeast in the vicinity of Building 875. East of Building 875, the predominant flow direction is approximately west to east, until the alluvial channel makes an almost 90 degree turn, beyond which the flow is approximately south to north. The bend in the channel is a narrow zone of higher ground water flow velocity. Within the Qt/Qal, there are various zones of lower conductivity, which have a strong influence on the local flow direction and magnitude. The alluvial aquifer is under unconfined conditions and has a range of thicknesses from about 5 to 50 ft.

We based the hydrogeology for the alluvial aquifer on the data and interpretations presented in the SWRI and subsequent characterization efforts. We assumed the primary solute to be TCE, used here as an indicator chemical for total VOCs, as discussed in Chapter 1. Within the alluvial aquifer, which consists mostly of unconsolidated sands and gravels, we assumed that dissolved TCE in ground water can migrate by advection and hydrodynamic dispersion. We further assumed that the migration of TCE may be retarded by adsorption and that TCE may be degraded by a first-order transformation process.

E-2.3. Model Description

E-2.3.1. Code Selection

E-2.3.1.1. MODFLOW. MODFLOW is a three-dimensional, finite difference, computer flow model developed by the USGS (McDonald, 1988). In the GSA we applied MODFLOW to a single-layer (2D) scenario. This model incorporates factors such as aquifer type (i.e., confined, unconfined, combination), ground water wells (i.e., extraction or injection), areal recharge, evapotranspiration, drains, and streams.

E-2.3.1.2. MT3D. MT3D is a MODFLOW companion model that simulates fate and transport of contaminants in ground water. In particular, MT3D simulates advection, dispersion, and chemical reactions of contaminants in a ground water flow system in either two or three dimensions (Papadopulos & Associates, Inc., 1992). As stated previously, we considered TCE to be the primary indicator chemical; therefore, we only simulated the transport of TCE.

E-2.3.2. Governing Equations

E.2.3.2.1. Flow. The three-dimensional movement of ground water of constant density through porous media is described by the partial differential equation

$$\frac{\partial}{\partial x}\left(K_{xx}\frac{\partial h}{\partial x}\right)+\frac{\partial}{\partial y}\left(K_{yy}\frac{\partial h}{\partial y}\right)+\frac{\partial}{\partial z}\left(K_{zz}\frac{\partial h}{\partial z}\right)-W=S_s\frac{\partial h}{\partial t} \qquad \text{[E-11]}$$

where

K_{xx}, K_{yy}, and K_{zz} = values of hydraulic conductivity along the x, y, and z coordinate axes, which are assumed to be parallel to the principal axes of hydraulic conductivity $[L \cdot T^{-1}]$,

h = potentiometric head [L],

W = volumetric flux of fluid per unit volume, which represents internal sources and/or sinks of water $[T^{-1}]$,

S_s = specific storage of the porous material $[L^{-1}]$, and

t = time [T].

In general, S_s, K_{xx}, K_{yy}, and K_{zz} are functions of space [$S_s = S_s(x, y, z)$, $K_{xx} = K_{xx}(x, y, z)$, etc.], and W is a function of space and time [W (x, y, z, t)]. Equation E-11 describes ground water flow under nonequilibrium conditions in a heterogeneous and anisotropic medium, provided the principal axes of hydraulic conductivity are aligned with the coordinate directions.

Equation E-11, together with specification of flow and/or head conditions at the boundaries of an aquifer system and specification of initial-head conditions, constitutes a complete mathematical representation of a ground water flow system (McDonald, 1988).

We applied equation E-11 to a 2D, isotropic, homogeneous scenario; and thus, equation E-11 was simplified to:

$$K\left[\frac{\partial^2 h}{\partial x^2} + \frac{\partial^2 h}{\partial y^2}\right] - W = S_s \frac{\partial h}{\partial t}$$

[E-12]

E.2.3.2.2. Solute Transport. The three-dimensional transport of contaminants in ground water is described by the partial differential equation

$$R\frac{\partial C}{\partial t} = D_x\frac{\partial^2 C}{\partial x^2} + D_y\frac{\partial^2 C}{\partial y^2} - \frac{\partial}{\partial x}(V_x C) - \frac{\partial}{\partial y}(V_y C) + \frac{q_s}{\theta}C_s - \lambda\left[C + \frac{\rho_b}{\theta}\overline{C}\right]$$

[E-13]

where

C = concentration of contaminants dissolved in ground water [$M \cdot L^{-3}$],

V_i = seepage velocity of ground water in the i direction (i = x,y) [$L \cdot T^{-1}$],

D_i = hydrodynamic dispersion coefficient in the i direction (i = x,y) [$L^2 \cdot T^{-1}$],

q_s = volumetric flux of water per unit volume of aquifer representing sources (positive) and sinks (negative) [T^{-1}],

C_s = concentration of sources or sinks [$M \cdot L^{-3}$],

θ = porosity of the porous media [dimensionless],

ρ_b = bulk density of the porous medium [$M \cdot L^{-3}$],

$\overline{C}$ = concentration of contaminants sorbed on the porous medium [$M \cdot M^{-1}$],

λ = rate constant of a first-order transformation reaction [T^{-1}], and

R = retardation factor [dimensionless].

The first and second terms on the right-hand side of equation E-13 describe dispersive transport in the x and y directions; the third and fourth terms describe advective transport in the x and y directions; the fifth term describes internal sinks and sources of contaminant mass due to recharge, evapotranspiration, wells, drains, rivers, or other internal boundary conditions; and the final term describes first-order transformation, such as biodegradation. The term on the left-hand side of equation E-13 represents overall accumulation or depletion of contaminant mass due to the physical processes described above.

The transport equation is linked to the flow equation through the relationship:

$$V_i = -\frac{K_{ii}}{\theta}\frac{\partial h}{\partial x_i}\ (i = x,y) \qquad [E\text{-}14]$$

MT3D calculates fluid velocity using equation E-14 by obtaining hydraulic conductivity from the input parameters for MODFLOW, and hydraulic head from the solution to the MODFLOW flow equation (Zheng, 1992).

E-2.4. Domain of Interest

We modeled the GSA alluvial aquifer starting approximately 1,200 ft west of Building 875. We followed the alluvial channel east of Building 875 approximately 5,500 ft downgradient. Figure E-8 displays the areal extent of the model. We limited ourselves vertically to the Qt/Qal/$Tnbs_2$/$Tnsc_1$ aquifer and treated it as a single vertically homogeneous layer with varying thicknesses. Figure E-9 displays the defined thicknesses of our domain.

The simulation grid was a uniform 25-ft by 25-ft mesh, with a total of 31,104 nodes and 6,771 active grid cells. This resolution helped to more accurately simulate flow through the narrow neck of the alluvial aquifer east of the sewage treatment pond.

E-2.5. Model Parameters

Numerical models, such as MODFLOW and MT3D, require that values for each input parameter be assigned to each active grid cell. For some parameters, a uniform value may be applied to the entire active model domain, whereas for other parameters the modeling objectives may require values to vary among grid cells. For higher resolution grids such as the one we used for the GSA operable unit, computer software is employed to assign parameter values to each grid cell. Two general parameter assignment techniques were used: one technique assigned a single value over a discrete block of cells, and the second technique used an interpolation procedure to uniformly vary the values across a selected region. The type of procedure used depended on the parameter and the type of data available. Below is a description of the input parameters we selected for the 2D ground water flow and transport model of the GSA operable unit.

E-2.6. MODFLOW Input Parameters

As discussed previously, the MODFLOW code solves the flow equation. The input parameters for MODFLOW describe the boundary conditions and aquifer properties that govern ground water flow.

E-2.6.1. Grid Size

A uniform 25-ft by 25-ft grid was developed to model the GSA area, as shown on Figure E-10. To meet the model objectives, a high-resolution grid was considered necessary to:

- Adequately resolve flow gradients around extraction wells.
- Adequately define the varied hydrogeology of the domain.
- Adequately resolve steep natural ground water gradients near Building 875.
- Adequately resolve steep concentration gradients near the Building 875 dry well pad area.
- Adequately resolve the narrow alluvial model domain.

The disadvantages of a more highly refined grid are primarily related to increased data handling and computational time.

E-2.6.2. Boundary Conditions

The boundary conditions describe the inflow and outflow of ground water through the model domain. In the case of the GSA, constant-head boundaries were specified at the up- and downgradient limits of the model domain. Although we lacked measurements of ground water flux through the alluvium, constant-head boundary conditions were considered appropriate for the GSA model primarily because we had sufficient water level data for the site. The placement of the constant-head cells was based on interpretation of hydrogeologically significant features and on ground water potentiometric maps, which indicated sources or sinks of ground water. The constant-head boundaries were set far enough away from the extraction wells that they did not result in any unrealistic flow rates into the domain. Constant head cells were also placed in areas where lateral drainages empty into the modeled area. Model domain boundaries that were not assigned as constant-head cells were treated as no-flow boundaries. Figure E-10 displays the cell designations.

E-2.6.3. Hydraulic Conductivity

Figure E-11 shows the distribution of the hydraulic conductivities specified within the domain. The distribution was first developed by the GSA operable unit hydrogeologist and is based on a combination of aquifer testing and field data interpretation. These data are discussed in more detail in the SWRI. Because this distribution is considered to be controlled by distinct lithologic variations within the domain, hydraulic conductivities were assigned uniform values within specific regions. The operable unit hydrogeologist provided an initial estimate that was used as trial input. This initial parameter estimate was selected as the primary variable for calibrating the model and was adjusted during the calibration steps.

E-2.6.4. Aquifer Type, Bottom, and Thickness

The model domain simulated a shallow, unconfined alluvial aquifer. The sole geometrical input requirement for this condition was the aquifer bottom elevation. The thickness was calculated by the model using the aquifer bottom and the simulated top of the saturated zone. The saturated thicknesses used in the model are presented in Figure E-9. The aquifer bottom elevations were specified by interpolating the bottom of the Qal/Qt-$Tnsc_1$ aquifer identified in borehole data. We adjusted the interpolated elevations in areas where the computer interpolation did not match the conceptual model. Typically, this occurred for areas where borehole data were sparse, but where additional site knowledge provided a guideline.

E-2.6.5. Surficial Recharge

We assumed that precipitation supplied surficial recharge to the modeled domain. No measurements for surficial recharge were available for the site; therefore, we assumed that 10% of annual average rainfall was applied uniformly as recharge over the active domain (SWRI). During calibration, we varied this slightly from 8% to 12% of the annual rainfall, based on the hydraulic conductivity of the underlying sediments. This change is considered reasonable based on the physical observation that more highly conductive soils will infiltrate a greater percentage of precipitation.

E-2.6.6. Corral Hollow Creek

We did not consider interactions between surface water in the Corral Hollow Creek and the ground water in the alluvial aquifer in this model, primarily because the creek does not flow for the entire year and the creek-aquifer interactions are not well understood. Because the creek could act as either a source of clean water or as a discharge point for the alluvial aquifer, not modeling the creek-aquifer interaction resulted in more conservative chemical concentrations.

E-2.7. MT3D Transport Parameters

As discussed in the mathematical model section (E-2.3.1.2), MT3D solves the advection-dispersion equation for solute transport. MT3D provides the user with several options in solving this equation, which include three variations of particle tracking methods and a finite difference method. We selected the finite difference method for use in the GSA operable unit, because it provides a more accurate prediction of concentrations in the vicinity of extraction wells.

For many of the parameters important to transport, little measured data exists. Therefore, some general simplifying assumptions were required. To maintain accuracy and consistency, we used many of the same assumptions that were made for the SWRI analytical ground water modeling.

E-2.7.1. Initial Concentrations

The TCE concentrations in ground water shown in Figure E-12 were assigned to the grid cells of the model domain as initial conditions. Figure E-12 is based on third quarter 1994 TCE data. Figure E-13 shows the MT3D input of these concentrations. The maximum initial concentration in a grid cell was 25,000 µg/L.

E-2.7.2. Dispersion

Dispersion is simulated by specifying a longitudinal and transverse dispersivity. The dispersivity multiplied by the velocity yields the dispersion coefficient shown in the advection-dispersion equation E-13. Dispersivity has units of length, and it is commonly estimated as 10% of the distance of concern. In this case, we used the value from the analytical modeling for the SWRI, which specified the distance of interest as the distance from the central GSA to the CDF-1 water-supply well. To better account for the narrow restricted nature of the alluvial aquifer, we assumed the transverse dispersivity to be equal to 5% of the longitudinal dispersivity, rather than the 10% value that is typically assumed for a wider hydraulic system. Lateral dispersion occurs within the alluvial aquifer domain, but does not occur outside of it. Because dispersion is a function of the change in concentration gradient, dispersion will occur within the plume as long as this change exists within the plume.

E-2.7.3. Natural Attenuation

Because a precise attenuation rate for TCE is difficult to measure in the field, TCE attenuation was assumed to occur as a first-order reaction with a 50-y half-life. This value was also used in the analytical modeling for the GSA in the SWRI. The attenuation coefficient was assumed to account for all losses of TCE from ground water, such as degradation, volatilization, and irreversible sorption. Because of the limitations in quantifying these processes, it is difficult to predict with great accuracy the effects of these processes through time.

E-2.7.4. Retardation

The retardation factor accounts for adsorption and other chemical partitioning processes that cause the contaminant plume front to move at a slower velocity than ground water. We selected a value of 1.8 for the retardation factor, which is the value used in the analytical modeling performed for the SWRI report (Webster-Scholten, 1994). MT3D provides the option to vary this parameter from cell to cell. While varying the retardation factor may be justifiable where there is variability in soil types, a single retardation factor was applied uniformly over the domain due to a lack of adequate data.

E-2.7.5. Source Terms

We assumed that the source of the contaminant is from TCE already in the ground water or sorbed onto soil. To account for the possibility that DNAPLs may be present beneath the Building 875 dry well pad area, we set our initial TCE concentration at 25,000 µg/L, over an area four times the size of the dry well pad area. No new or additional sources of contaminants were included in the model. In addition, the model assumed that source control remedial measures, such as the soil vapor extraction Removal Action in the central GSA dry well pad area, adequately addressed contaminants in the vadose zone.

E-2.8. Calibration

Calibration of the MODFLOW ground water flow model was performed by comparing the simulated potentiometric maps with maps interpreted from field data. The model was considered sufficiently calibrated if, by visual inspection, the general ground water elevations and gradients between the two data sets closely matched. Figures E-14 through E-17 show the comparison between the simulated and observed ground water elevations. As shown on these figures, the overall ground water elevations and gradients were very similar. During calibration, changes to the input parameters were made until the discrepancies between the two data sets were reduced to the point where the overall flow conditions were very similar. The ground water flow directions and gradients were the primary characteristics to match during calibration.

We calibrated the simulated flow field to two different situations. The first compared simulation results to the field data when there was no active ground water pumping at the site. For the second case, the existing ground water extraction wells were simulated in the model using the field-measured extraction rates for these wells. Calibration in this case was achieved by matching the observed drawdowns and interpreted capture zones. By calibrating the model to stressed (pumping) and unstressed (nonpumping) conditions, the simulation results were considered to be more reliable, especially under similar conditions, such as the proposed ground water extraction scenarios.

Calibration of the MT3D transport model was performed by comparing the results to previous results obtained from the analytical transport model used for the SWRI. Existing historical field data and source term information were considered inadequate to perform more rigorous transport calibrations. By comparing the results of the current numerical model to the SWRI analytical model, we ensured consistency with these previous efforts. As shown on Figure E-18, the concentrations at receptor points modeled for the SWRI and the MODFLOW/MT3D no-action case show good agreement. The differences are due to fundamental differences between the two models. The analytical model assumed a homogeneous, isotropic, and infinite aquifer, whereas the MODFLOW/MT3D model used a finite domain that includes much of the field-observed heterogeneity. The analytical model assumed a constant strength source through time, whereas the MODFLOW/MT3D model assumed no continuing source. Despite these differences between the models, there was a general agreement between them regarding the concentration and timing of the plumes. The lower concentrations in the MODFLOW/MT3D simulation indicated that the heterogeneity affected the transport of the plumes and that the analytical modeling, which was used for a risk assessment, tended to be more conservative.

As a second calibration check of the transport model, we compared the transport patterns generated by the model by visual inspection to those expected based on the conceptual model. Adjustments in the flow and transport input parameters were made to the model until a sufficient match was achieved.

E-2.9. Results

Four different scenarios were chosen for evaluation. The first scenario was a no-action case. The remaining three scenarios modeled various remediation alternatives. The objective of this modeling effort was not to fully optimize the well field, but rather to provide a relative comparison of general remediation options.

E-2.9.1. No-Action Scenario

Figures E-19 through E-22 show isoconcentration maps of the simulation results for the no-action case for 10, 30, 55, and 85 years, respectively. The initial concentrations were based on third quarter 1994 data. This scenario is evaluated as part of Alternatives 1 and 2, described in Chapter 4, but also was used to further calibrate the transport model.

The simulation results show that after 10 years, TCE ground water concentrations in the vicinity of the central GSA remain above 1,000 µg/L. The 100 µg/L TCE isoconcentration contour extends downgradient to the vicinity of the sewage treatment pond. The eastern GSA ground water plume shows TCE concentrations between 10 and 100 µg/L near the source area, and a low TCE concentration plume of about 1 to 5 µg/L extends the length of the alluvium and beyond the model domain. For the eastern GSA, this is consistent with field observations made prior to the start up of the Removal Action ground water extraction and treatment system. The similarity between the predicted and previously observed ground water TCE distributions enhanced our confidence in the model flow and transport calibration.

The time progression shown in Figures E-19, E-20, and E-21 indicates that the plume reaches a steady state condition and then begins to diminish as the TCE mass in the source area is depleted. Simulated TCE concentrations drop below 5 μg/L (MCL for TCE) at about 85 years and below 0.5 μg/L at about 115 years.

E-2.9.2. Remediation Scenarios

To simplify the comparisons between the remediation alternatives for the purpose of estimating costs as presented in this FS report, we evaluated two well field configurations: an initial extraction well field, which is most effective in controlling and removing contaminants in ground water during the early phases of cleanup, and a second extraction well field, which was designed to be most effective after the initial extraction well field had operated for 10 years. Three ground water extraction scenarios used the same two extraction well fields and pumping rates, switching from well field 1 to well field 2 after 10 years of pumping. The duration of ground water extraction was the primary difference between the remediation scenarios. A summary of the two extraction well fields is presented in Table E-2.

The locations of this initial extraction well field were determined by the GSA operable unit hydrogeologist. As a further check of the calibration of the model, we made some minor adjustments to the well locations based on simulation results, to further optimize the well field. Because the four extraction wells in the dry well pad area are so closely spaced, they were simulated as a single extraction point. We checked the maximum flow rates for the simulated extraction wells against measured pumping rates for wells in the same vicinity. In all cases, the simulated maximum extraction rates were similar to the observed well rates.

Figure E-23 presents the potentiometric surface simulated by extraction well field 1. Significant drawdown is shown in the Building 875 dry well pad area. Figure E-24 presents the potentiometric surface simulated by extraction well field 2. The primary difference is several extraction wells are turned off in the Building 872 and eastern GSA areas. Near the Building 875 dry well pad, significant drawdown is still maintained.

For all three remediation scenarios, the extraction well locations and pumping rates during the first 10 years are the same. As shown on Figure E-25, TCE concentrations in the vicinity of the eastern GSA were predicted to decrease to below 5 μg/L. In the central GSA area, the simulation predicted that ground water extraction will reduce the maximum TCE concentration of the ground water plume to below 1,000 μg/L. In addition, ground water extraction prevents concentrations above 5 μg/L from reaching the $Tnbs_1$ window area. TCE concentrations in the Building 872/873 dry well areas also drop to 5 μg/L or less.

The simulation shows part of the ground water plume separating and migrating further downgradient. This simulation result does not match observed data over the past two years of ground water extraction, which show that TCE concentrations have diminished with time. The diminishing TCE concentrations suggest that additional influx of clean water from interactions with Corral Hollow Creek or seepage from side drainages is probably occurring in these areas. Because the hydrology of this phenomenon is not well understood, it was not incorporated in the model.

After 10 years of pumping, the model is switched to extraction well field 2, five ground water extraction wells are shut down, and only eight of the initial 13 ground water extraction wells continue to pump. Of the five ground water extraction wells shut down, two wells are near Building 873 and three wells are in the eastern GSA where simulated TCE concentrations have dropped below 5 µg/L. A summary of the different pumping rates is provided in Table E-2.

E-2.9.2.1. Remediation Scenario A. In remediation scenario A, active pumping is discontinued after 30 years once TCE concentrations in the central GSA area fall below 100 µg/L, and the TCE plume is allowed to further diminish in concentration by natural attenuation. The model results indicate that when pumping is discontinued at this point, TCE concentrations at the $Tnbs_1$ window area do not exceed 5 µg/L, thereby protecting the regional aquifer. Remediation scenario A correlates with Alternative 3a (Chapter 4).

A time series of maps is presented for this scenario in Figures E-26, E-27, and E-28 for 30, 50, and 90 years, respectively. This series of maps shows that the TCE ground water plume attenuates over time. The higher hydraulic conductivities found in the eastern GSA as compared to the central GSA cause a dilution effect. This effect is shown in Figure E-27 where the downgradient end of the plume appears detached. The detachment results from the higher hydraulic conductivities, which cause higher dispersion rates resulting in slightly lower concentrations within the plume. The TCE plume in the central GSA continues to diminish with time due to natural attenuation processes.

E-2.9.2.2. Remediation Scenario B. In remediation scenario B, active pumping is discontinued after 55 years of active extraction. At that time, all simulated TCE concentrations are near or below 5 µg/L everywhere within the model domain. Remediation scenario B correlates with Alternative 3b (Chapter 4).

The time series for this scenario is presented in Figures E-25, E-26, E-29, and E-30. Figures E-25 and E-26 are discussed above. As seen on Figure E-29, only a small area above 5 µg/L TCE remains in the model domain. TCE concentrations in the remainder are below 5 µg/L. Figure E-30 shows the distribution of TCE at 90 years. The TCE ground water plume is reduced to a small area in the central GSA area, with peak concentrations of 0.5 µg/L.

E-2.9.2.3. Remediation Scenario C. In remediation scenario C, active pumping is discontinued after 95 years when TCE concentrations in the model domain have dropped to below background. For the purposes of this document, background is considered to be the limit of detection for TCE, 0.5 µg/L. The time series for this scenario is presented in Figures E-25, E-26, E-29, and E-31. Figures E-25 and E-26 are discussed above. Figure E-31 shows the TCE ground water plume at 90 years, with only a small area near the central GSA containing concentrations above 0.5 µg/L TCE. Remediation scenario C correlates with discussions in Appendix H regarding pumping until background levels are achieved.

E-2.9.3. Comparison of Scenarios

Table E-3 shows a comparison of the predicted remediation times necessary to reach several remedial goals. The predicted time differences in scenarios A, B, and C to achieve 5 µg/L and 0.5 µg/L are not very significant. This indicates that after an initial reduction of concentration during the first years of pumping, natural attenuation is the dominant mechanism for reducing the TCE concentrations. A very aggressive pumping strategy would be needed to significantly reduce these cleanup times. It was considered economically infeasible to pursue more aggressive cleanup strategies.

Figures E-32, E-33, E-34, and E-35 show the cumulative mass removal for the different remediation scenarios by indicating the percentage of TCE mass that is removed by ground water extraction, by natural attenuation, or by migration out of the model domain. For the no-action case, the majority of the contaminant mass migrates beyond the model domain and the remainder is removed by natural attenuation.

In the three remediation scenarios, the majority of the contaminant mass is removed by the ground water extraction in the first 30 years. Figures E-36, E-37, E-38, and E-39 show the contaminant mass removal for different time periods of the model. After 30 years, very little mass remains in the subsurface, and is eventually removed by ground water extraction or through natural attenuation. Overall, little TCE migrates beyond the model domain in any of the remediation alternatives.

Figures E-40 through E-44 show TCE concentration-versus-time plots for various locations in the model domain. The remediation scenarios show identical TCE concentrations during the first 30 years. Afterwards there are some variations due to the extraction wells being turned off at different times. In the no-action scenario, TCE concentrations remain much higher for a longer time period than observed during the remediation scenarios.

Based on these simulation results, the primary factor controlling high TCE concentrations in the central GSA area is the low hydraulic conductivity of soils. Simulated ground water velocities through this area are low, less than 1 ft/y. In addition, low ground water extraction rates limit the rate at which TCE mass can be removed.

E-2.10. Sensitivity Analysis

Although an exhaustive sensitivity analysis for the model is not presented in this report, the sensitivities of many input parameters were observed during calibration and are discussed below. Because the model allows many of the input parameters to vary from cell to cell, not only was the variation of the magnitude of the input parameters important but also the distribution of these parameters. This provided a very large number of possibilities to evaluate in an exhaustive sensitivity analysis. We consider it appropriate for the objectives of the modeling presented in this report to discuss qualitatively the sensitivities of this model as observed during calibration.

The distribution of hydraulic conductivity had a significant effect on both the flow and transport components of the model. To match the complex hydrogeology found in this area, large variations in the hydraulic conductivities were necessary. Changes in the magnitude and spatial distribution of these values could have had a significant impact on the simulation results. The distributions used in the model were based on observed field data. In addition, modifications were made to the hydraulic conductivities to better match the potentiometric surface and the interpreted transport directions for the site. For ground water flow, other parameters were found to be less sensitive to changes performed for calibration. These changes were used to fine-tune the model and to make the model more representative of field-observed conditions. During calibration, we found that varying the hydraulic conductivity produced the most significant changes in simulation results.

E-2.11. Conclusions

Based on an evaluation of the simulation results of the remediation scenarios, the following conclusions can be made:

- The presence and distribution of low hydraulic conductivity material controls the cleanup time.
- The highest concentrations of contaminants in ground water can be reduced relatively quickly, compared to the lower concentrations.
- The model shows good calibration to field data with respect to water levels, ground water gradients, pumping rates, and plume migration patterns.
- Further extraction well field optimization could reduce the simulated cleanup times.

The model was set up and calibrated to meet the objectives of the FS. Should Alternative 3a or 3b be selected as the preferred alternatives, this model could be used in the future for more detailed well field design and optimization, which will require additional field data. Although additional calibration and fine-tuning of the input parameters can be performed in the future, these changes are not expected to alter the general character of the flow and transport, or significantly alter the results provided in this report.

E-3. Estimates of Ground Water Extraction System Capture Zones

In this section we discuss the estimation of predicted capture zones for ground water extraction in the GSA.

E-3.1. Capture Zones for the Alluvial Aquifer

We used MODFLOW modeling output to delineate the capture zones for each extraction well in the alluvial aquifer extraction system. We accomplished this by analyzing the simulated potentiometric surface and the resulting ground water flow gradients. The configuration of these capture areas includes the interference patterns developed between nearby wells. We manually interpreted the streamlines, using the potentiometric surface produced by the simulated well field. Figure 4-2 displays the estimated capture zones for the GSA alluvial aquifer produced by modeling ground water extraction at the eastern GSA and central GSA treatment facilities.

E-3.2. Capture Zones for the Central GSA $Tnbs_1$ Aquifer

We used the following simple calculations based on Darcy's Law,

$$Q = KiA \quad \text{(E-15)}$$

to estimate maximum capture zone width and the stagnation point resulting from the proposed ground water extraction of well W-7P. If

$$A = wb \quad \text{(E-16)}$$

where

A = through-flow cross-sectional area of the saturated aquifer $[L^2]$,

b = saturated thickness [L], and

w = maximum capture zone width [L],

then the following also applies:

$$Q = Kiwb \qquad \text{(E-17)}$$

where

Q = flow rate through the cross-sectional area, which is also equal to the pumping rate $[L^3 \cdot T^{-1}]$,

K = hydraulic conductivity $[L \cdot T^{-1}]$, and

i = hydraulic gradient $[L \cdot L^{-1}]$.

To calculate the maximum capture zone width, we rewrote equation E-17 as

$$w = Q/Kib. \qquad \text{(E-18)}$$

The stagnation point is described in Strack (1989) as

$$S = w/2\pi \qquad \text{(E-19)}$$

where

S = distance directly down stream from the well point where ground water velocity is zero [L], and

π = 3.14 [dimensionless].

This approach assumed a homogeneous, isotropic aquifer with constant thickness, a uniform gradient and horizontal flow, and a constant pumping rate of Q. We obtained Q from well W-7P development tests; K from a hydraulic test using the nearest well completed in the $Tnbs_1$ aquifer, W-7A; i from potentiometric surface contours developed from third quarter 1994 water level data (Rueth, 1994); and b from the screen length for well W-7P, which is completed in only part of the aquifer. The available pumping information for well W-7P is a development test result, 4.5 gpm, and two subsequent sampling tests that indicate >1 gpm and >2 gpm. The value for K that we used, 1.14×10^{-3} cm/sec, is consistent with local K values measured for the $Tnbs_1$ aquifer in the Building 834 and HE Process Area operable units. The potentiometric surface contours we used to calculate i were developed by the GSA hydrogeologist, using her best professional judgment and experience. The screen length we used for saturated thickness is a constant.

The calculations indicated a maximum capture zone width of 350 ft and a stagnation point 56 ft directly down stream (i.e., downgradient) of well W-7P. Input values and results are displayed in Table E-4, and the resulting capture zone is displayed in Figure 4-2.

By inspection of the above equations, we can see that the influence of each parameter is either proportional or inversely proportional, depending on whether the parameter is in the numerator or the denominator. For example, if the pumping rate were to increase by 50%, the maximum capture width would also increase by 50%, and if K were to increase by 100%, the maximum capture width would decrease by 50%.

E-4. References

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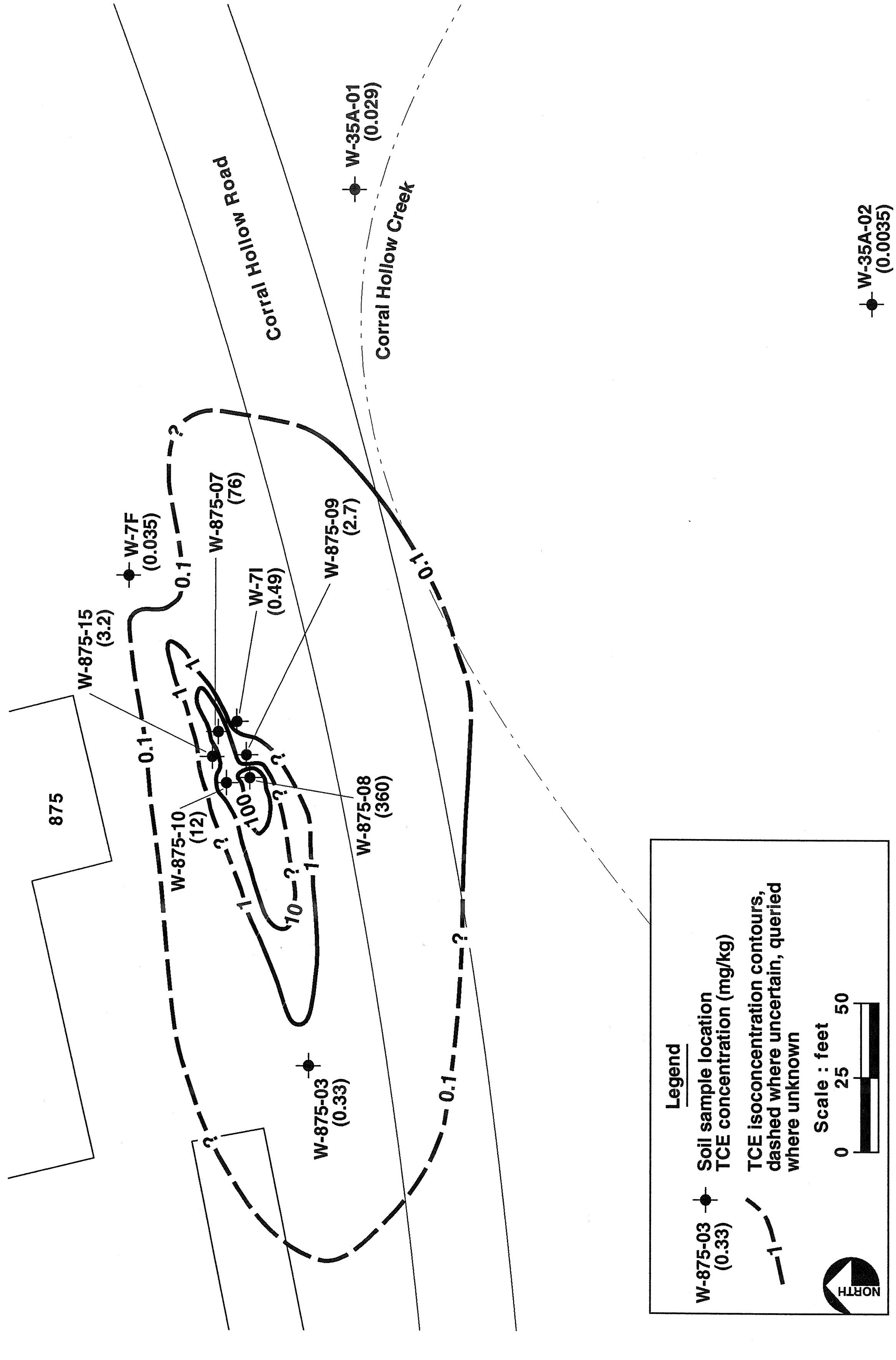

Figure E-1. Isoconcentration map of maximum TCE concentrations in borehole soil samples in the central GSA.

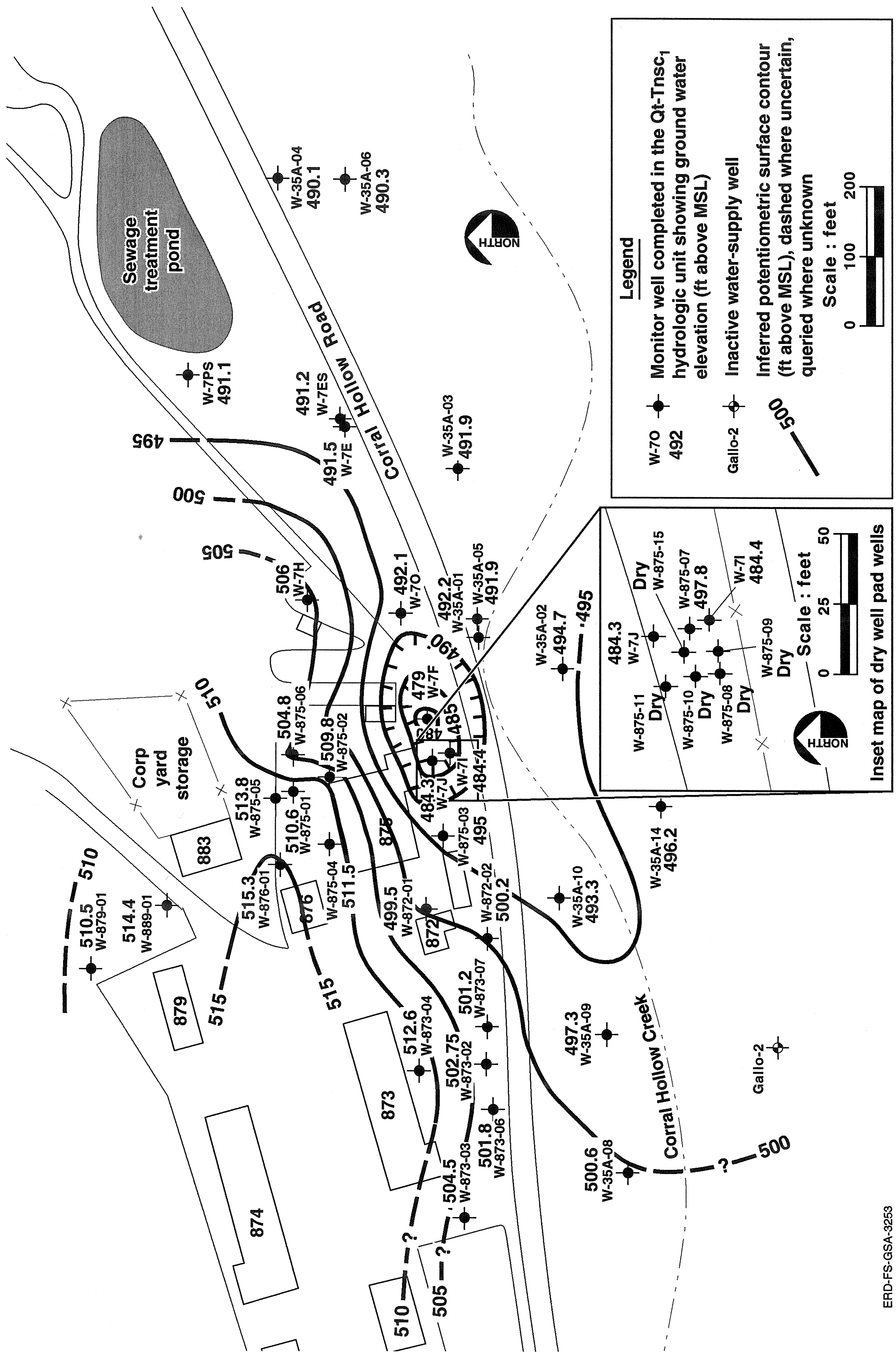

Figure E-2. Potentiometric surface map of the Qt-Tnsc$_1$ hydrologic unit in the central GSA (3rd quarter 1994 data).

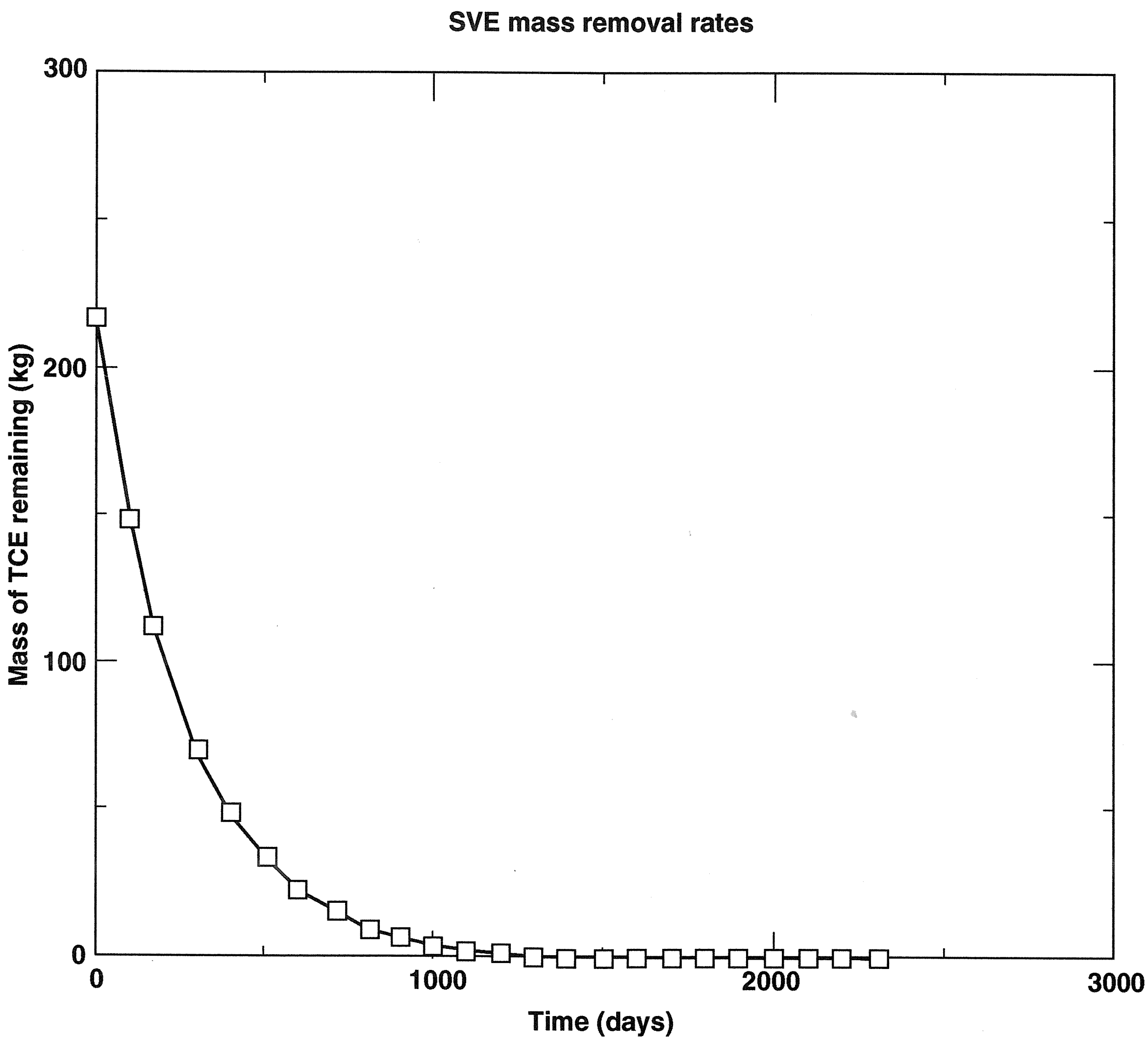

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Figure E-3. TCE recovery rates for central GSA SVE.

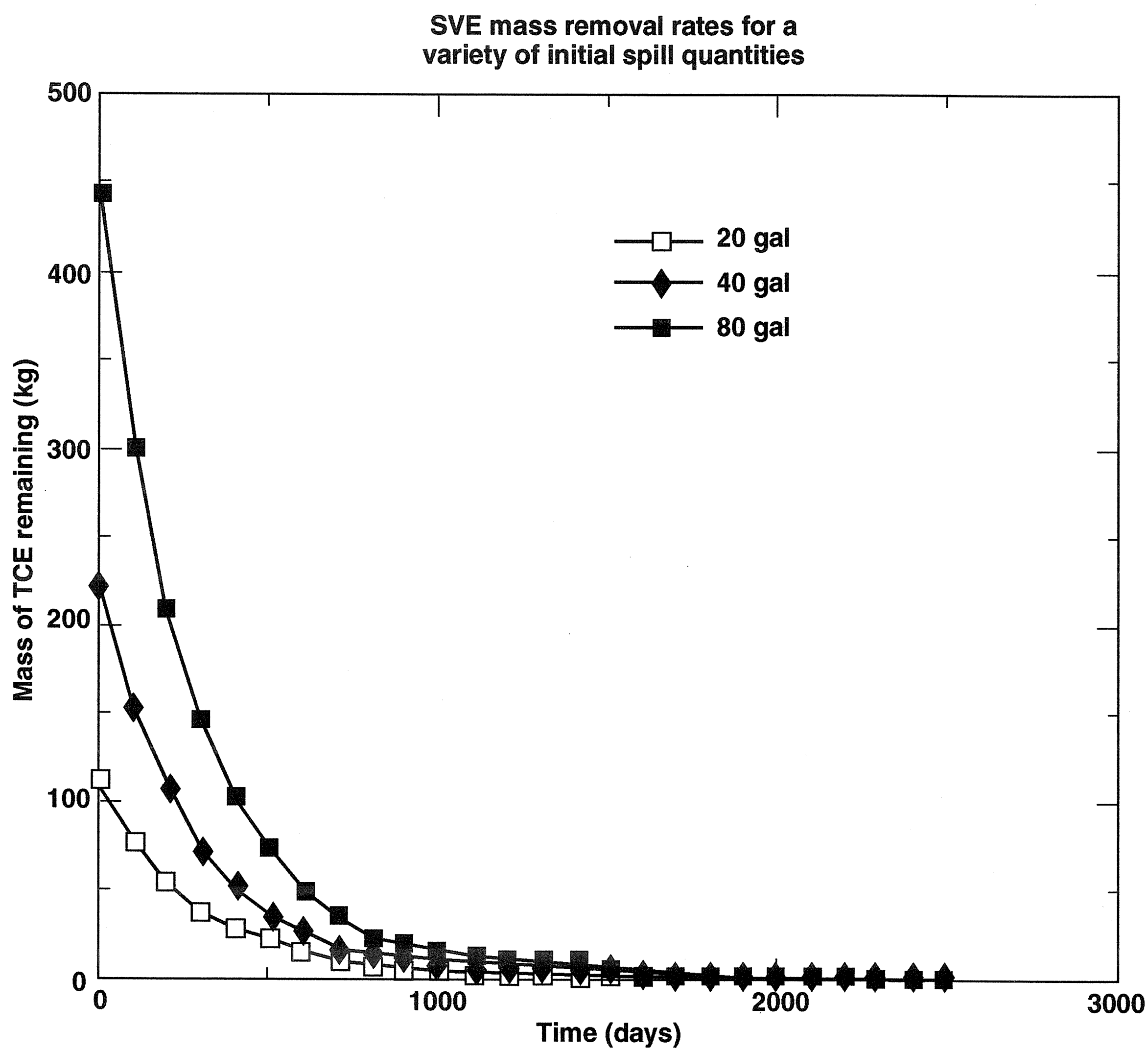

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Figure E-4. Effect of initial TCE mass on TCE recovery rates.

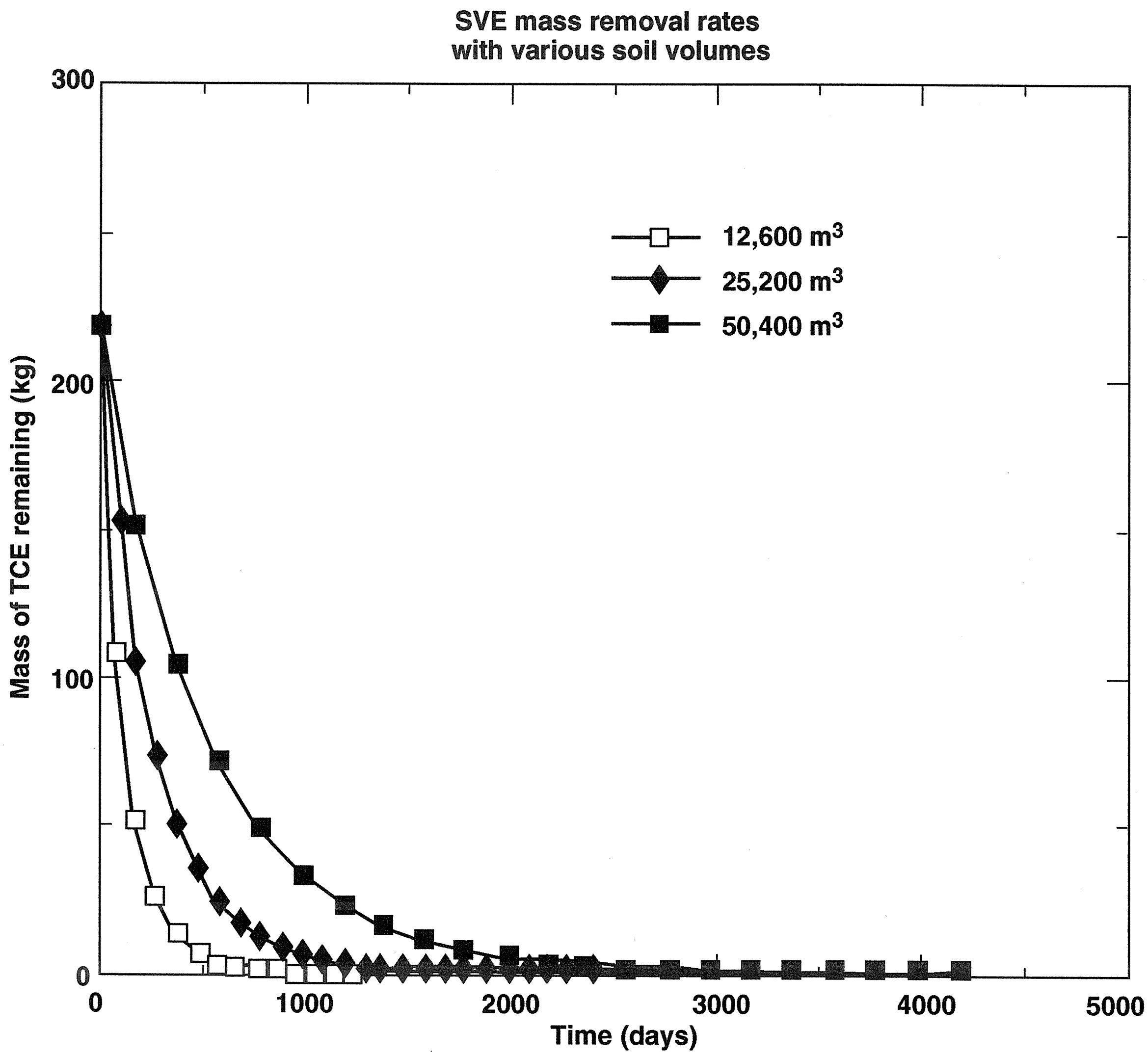

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Figure E-5. Effect of contaminated soil volume on TCE recovery rates.

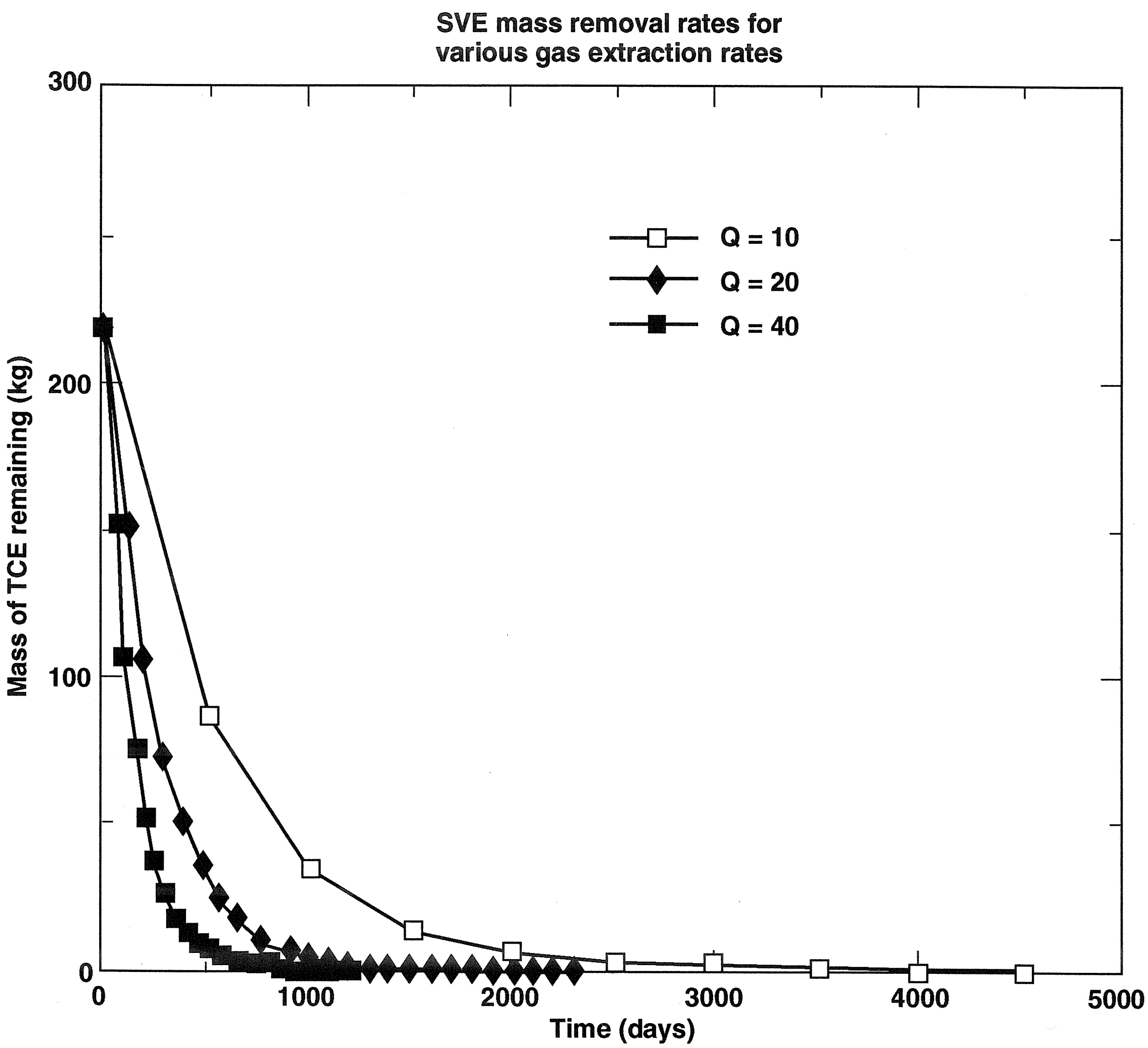

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Figure E-6. Effect of gas extraction rate on TCE recovery rates.

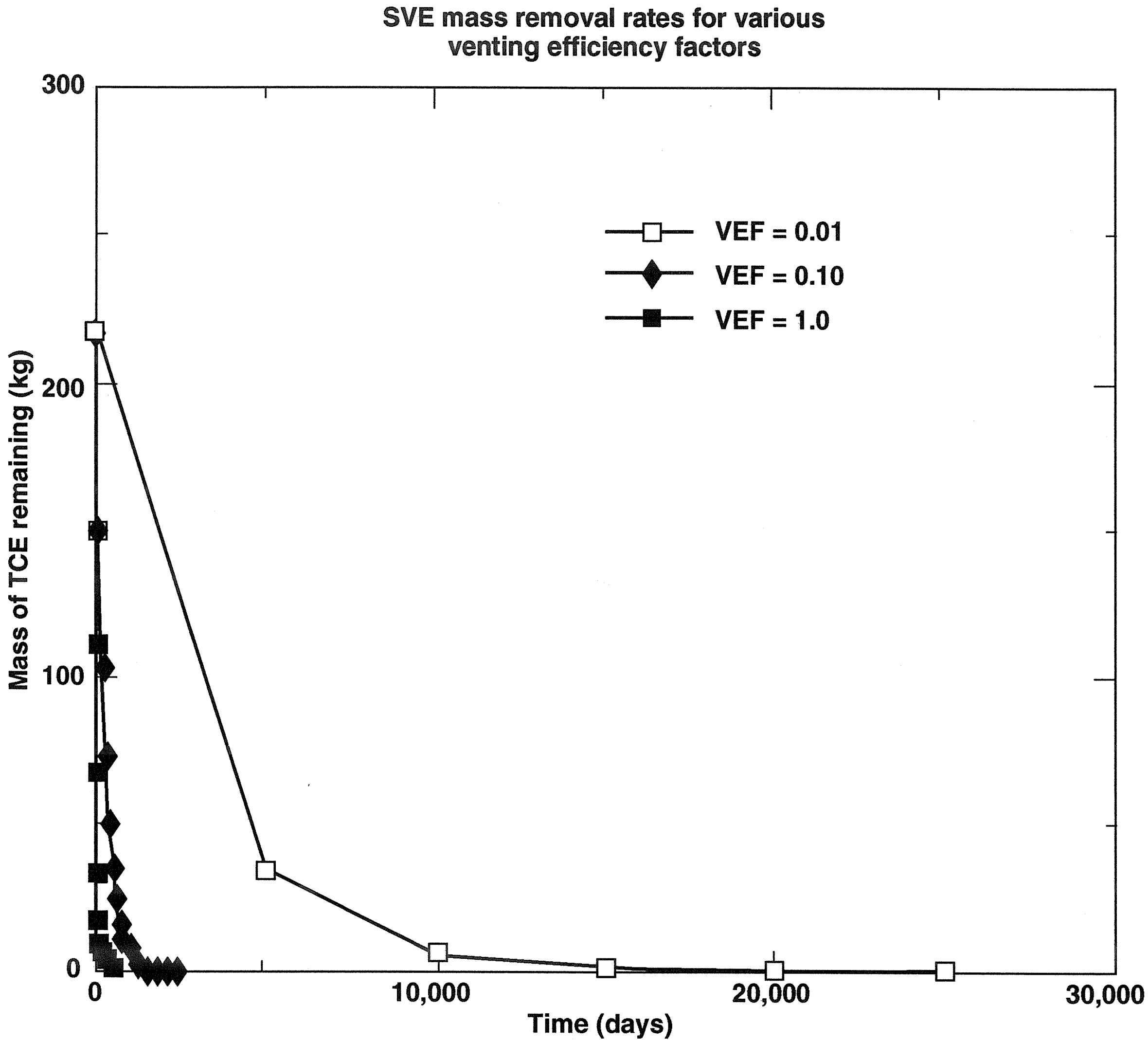

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Figure E-7. Effect of the venting efficiency factor on TCE recovery rates.

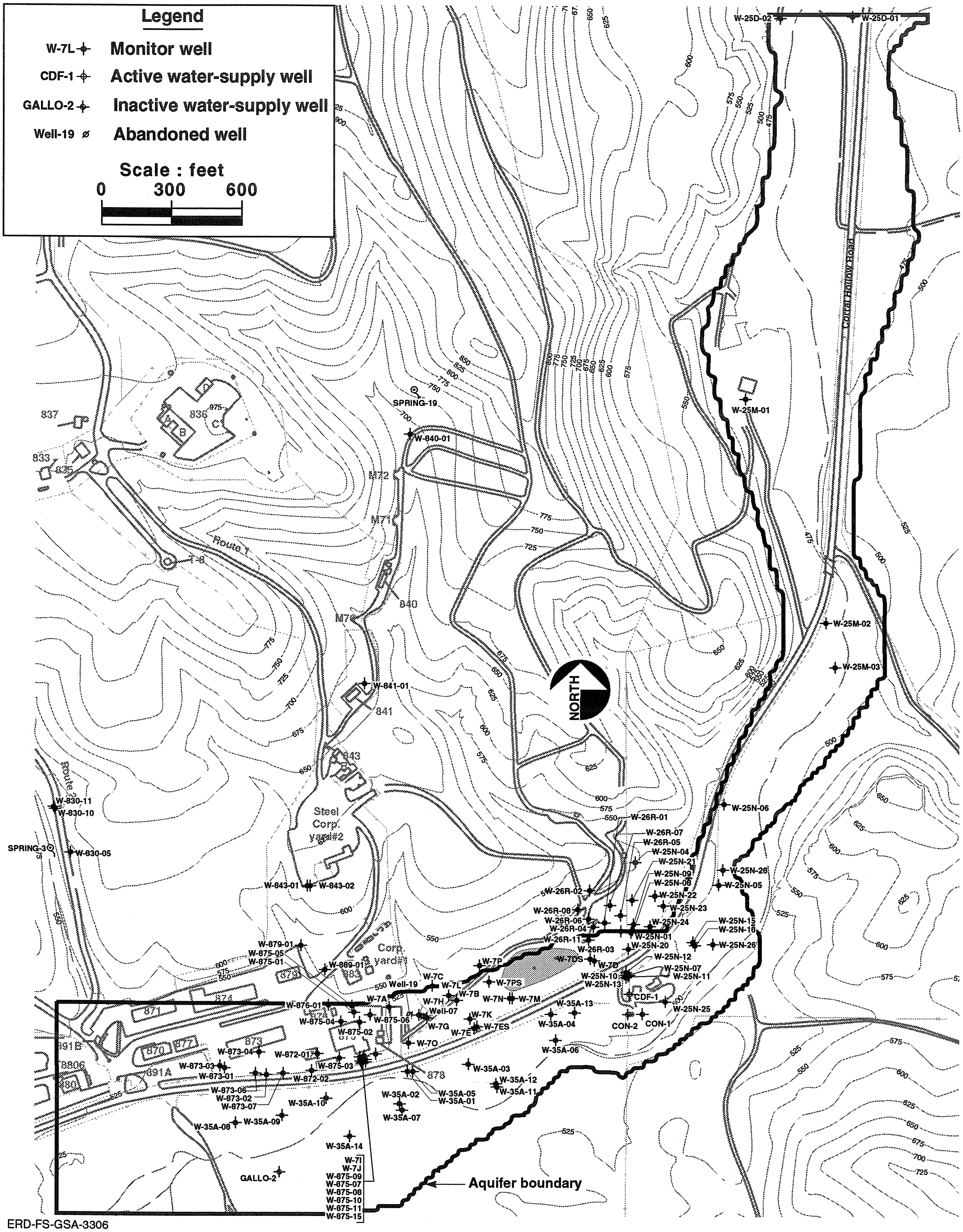

Figure E-8. MODFLOW/MT3D modeling domain for the GSA.

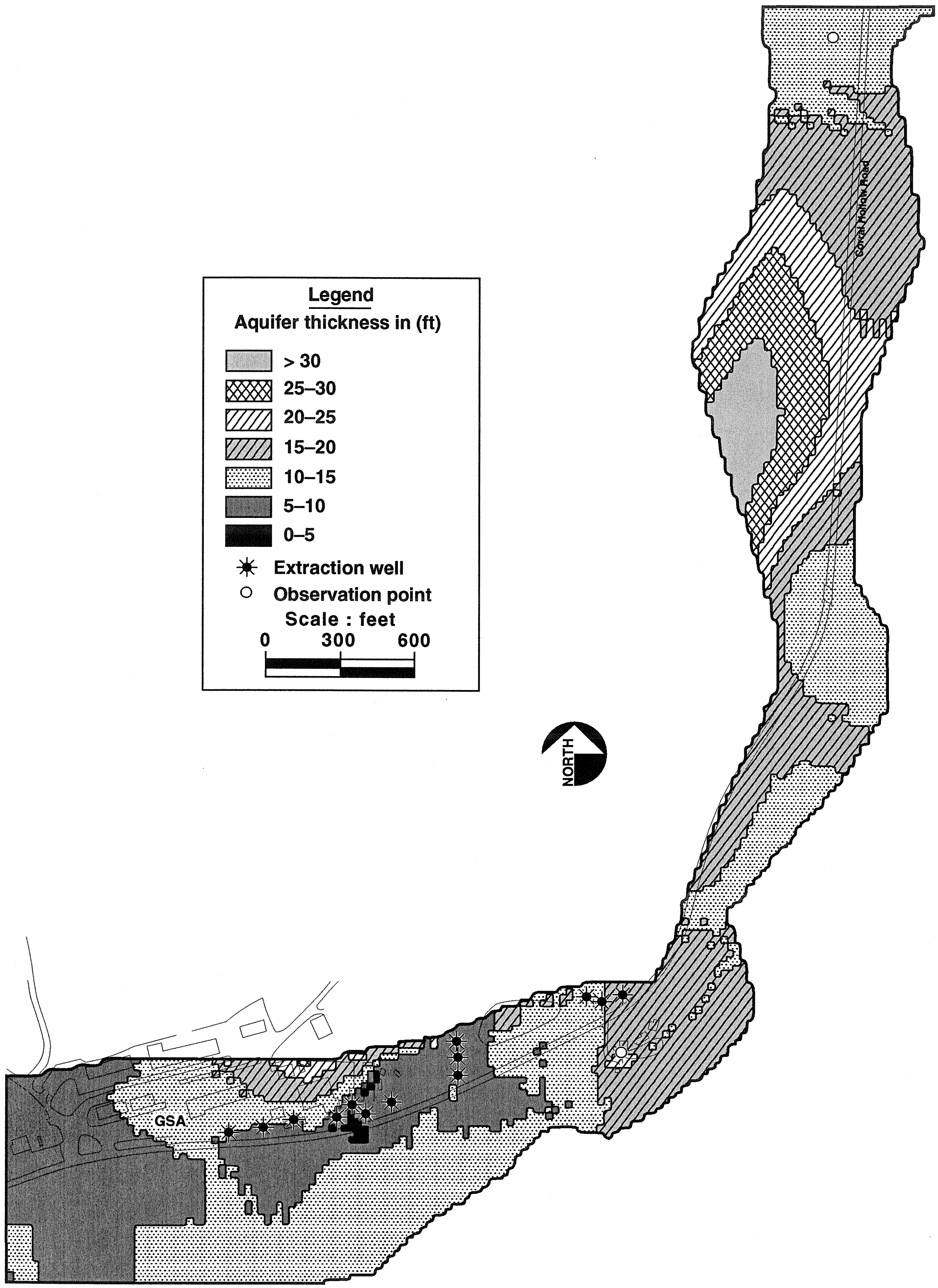

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Figure E-9. Distribution of aquifer thicknesses for the MODFLOW/MT3D model of the Qt-Tnsc$_1$ hydrologic unit in the GSA.

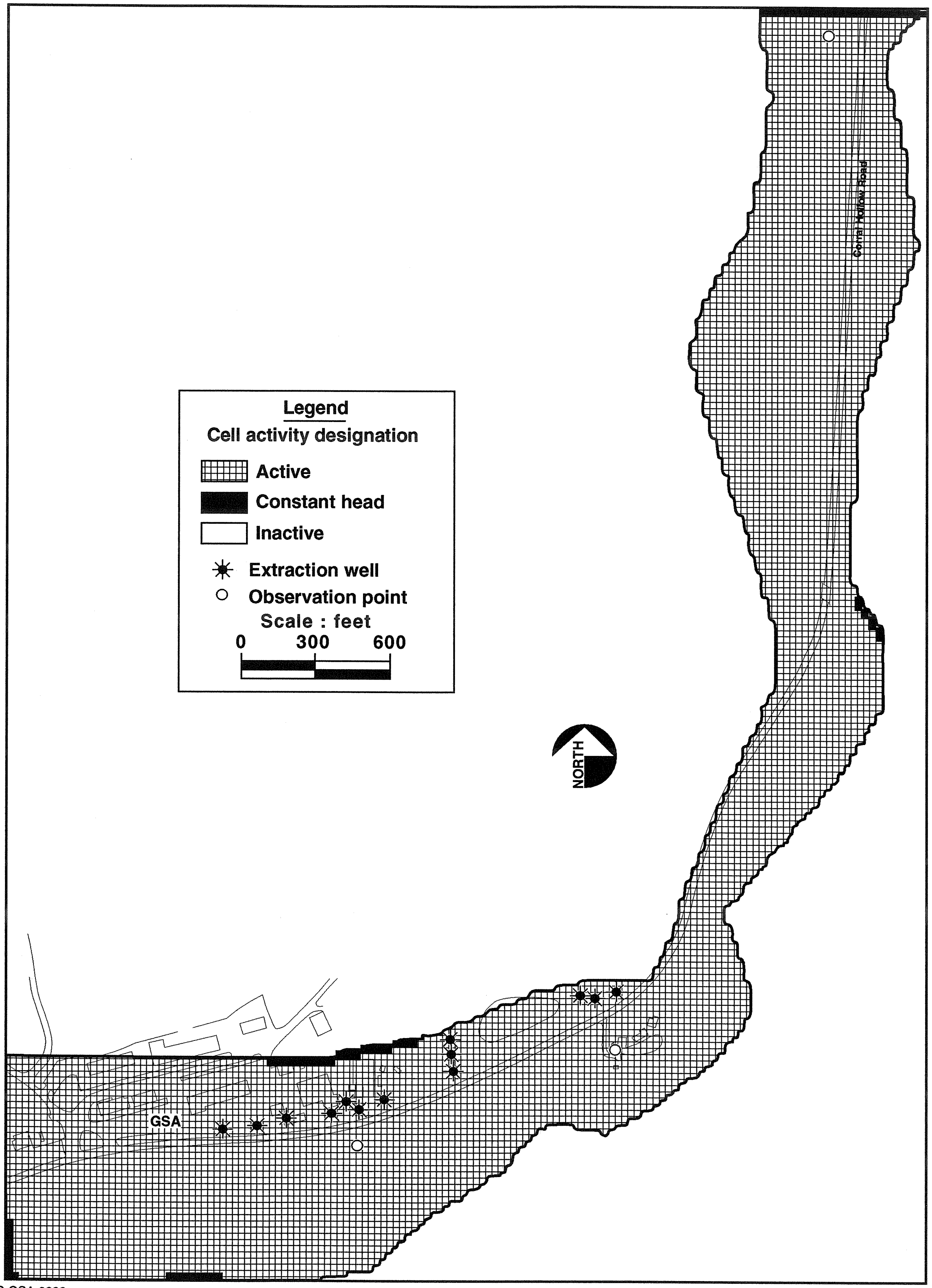

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Figure E-10. Active, inactive, and constant head cells.

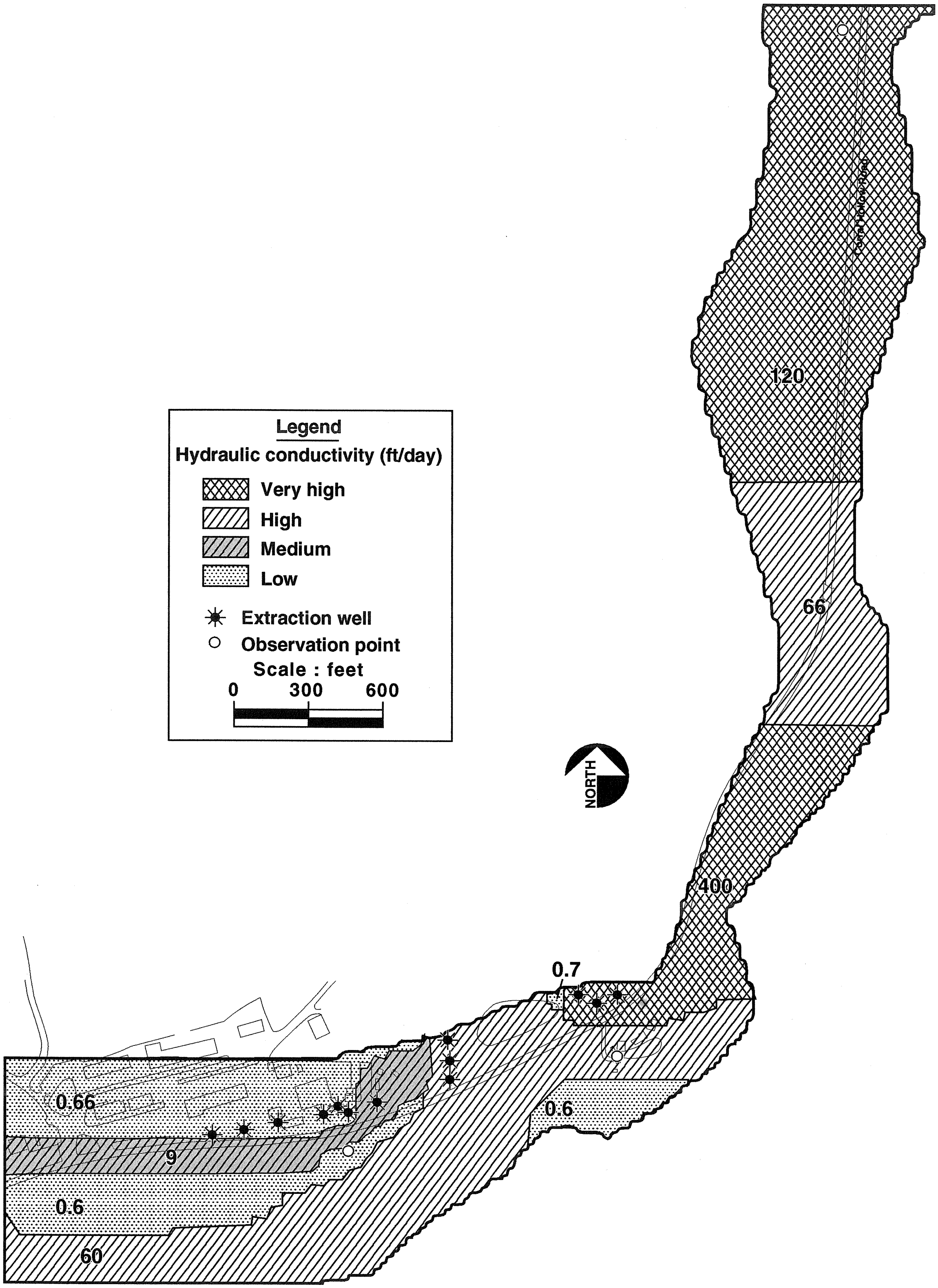

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Figure E-11. Distribution of hydraulic conductivities for the MODFLOW/MT3D model of the Qt-Tnsc$_1$ hydrologic unit in the GSA.

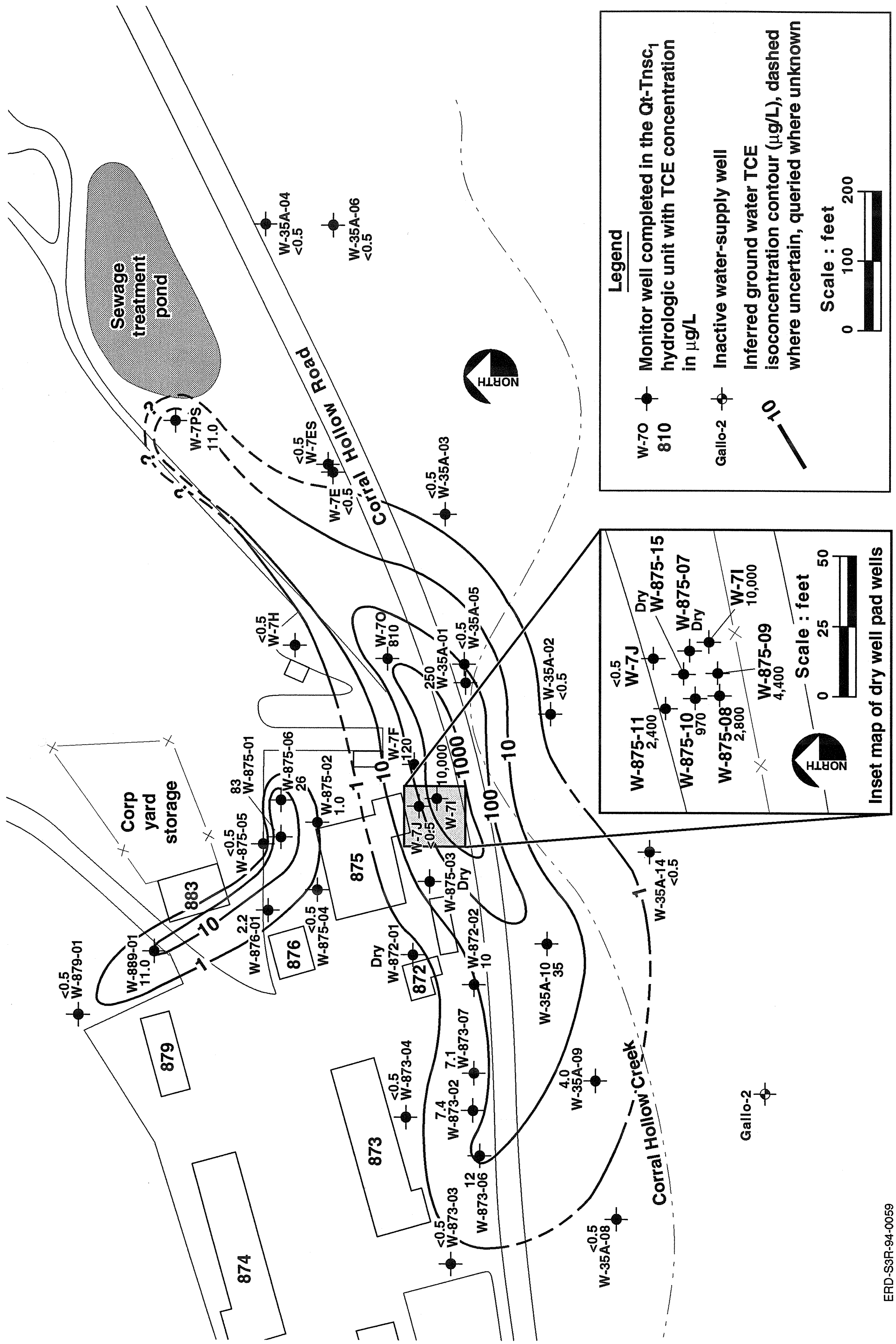

Figure E-12. TCE concentrations in ground water from the Qt-Tnsc$_1$ hydrologic unit in the central GSA (3rd quarter 1994 data).

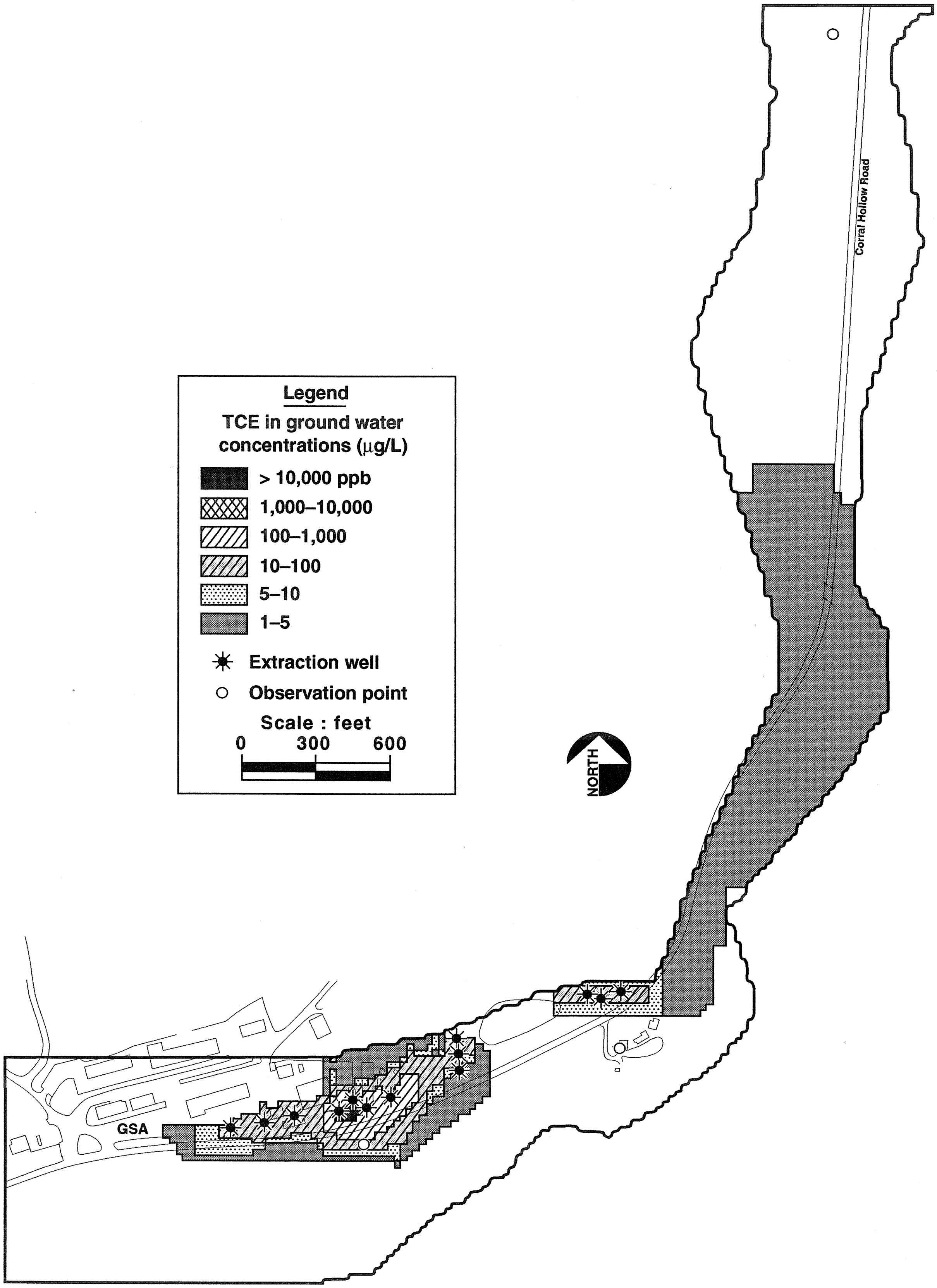

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Figure E-13. Initial concentration of TCE in ground water used in the MODFLOW/MT3D model of the Qt/Qal hydrologic unit in the GSA.

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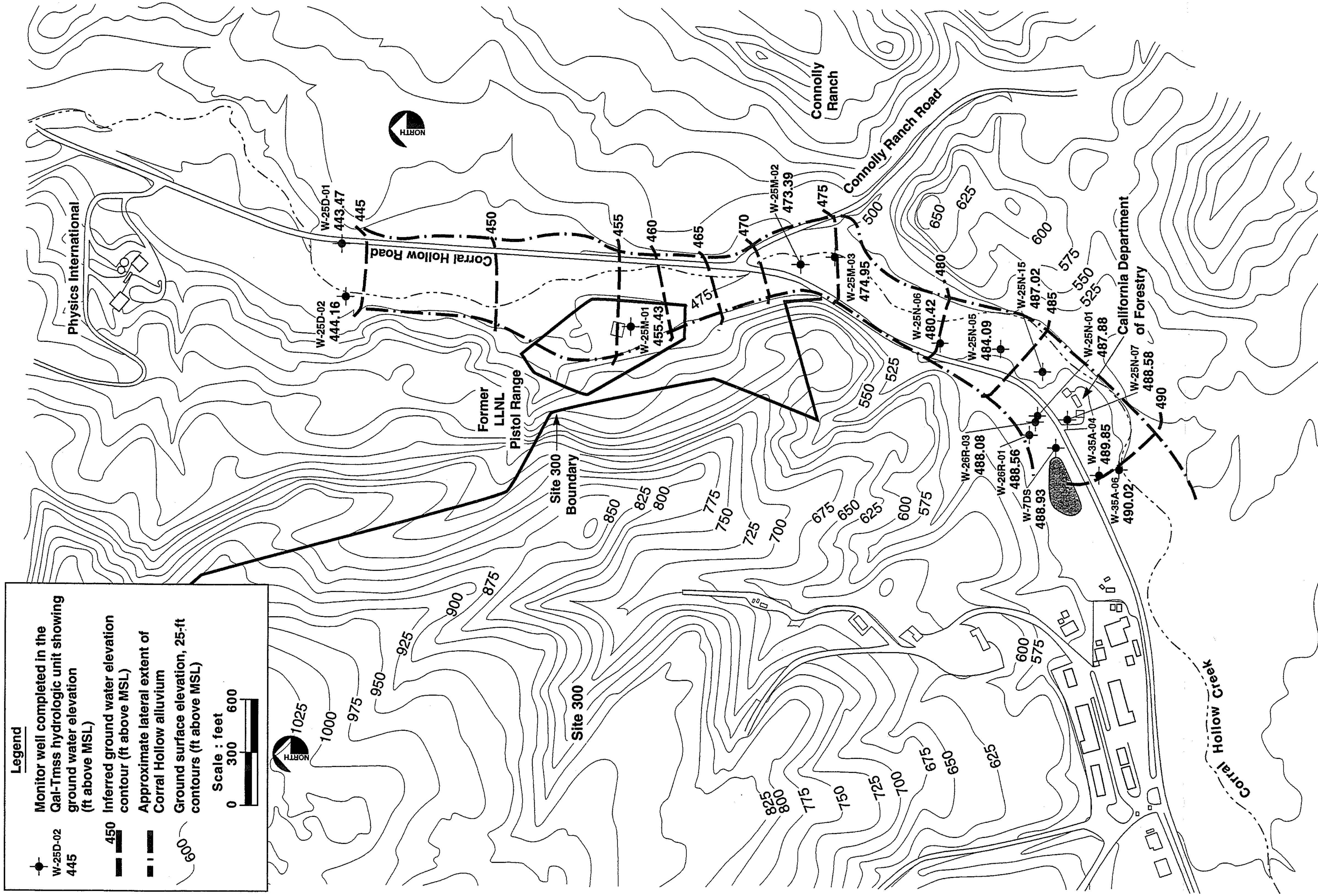

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Figure E-14. Potentiometric surface of the alluvial/shallow bedrock aquifer in the eastern GSA and off site, January 1990.

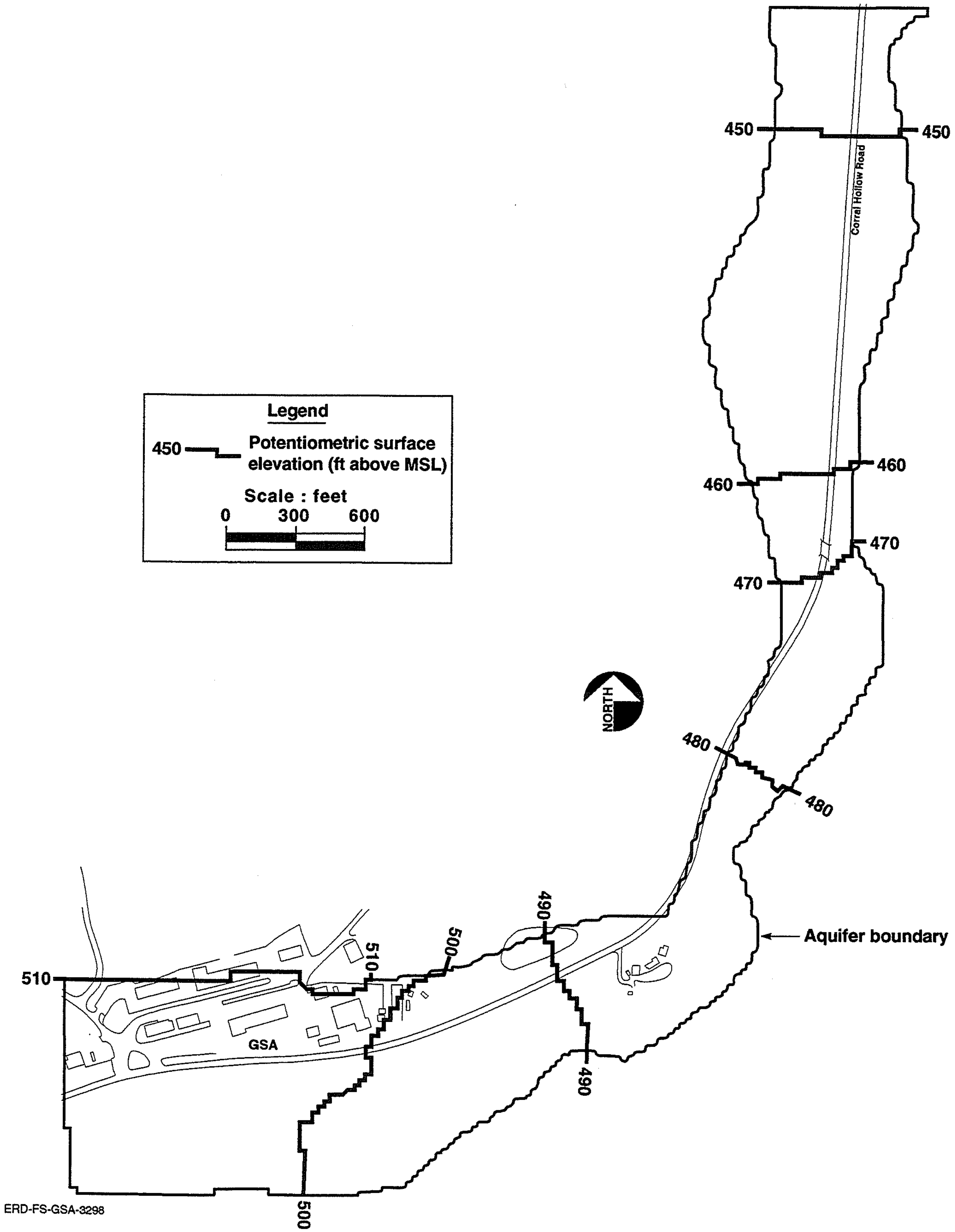

Figure E-15. Simulated potentiometric surface. MODFLOW results for scenario with no wells pumping.

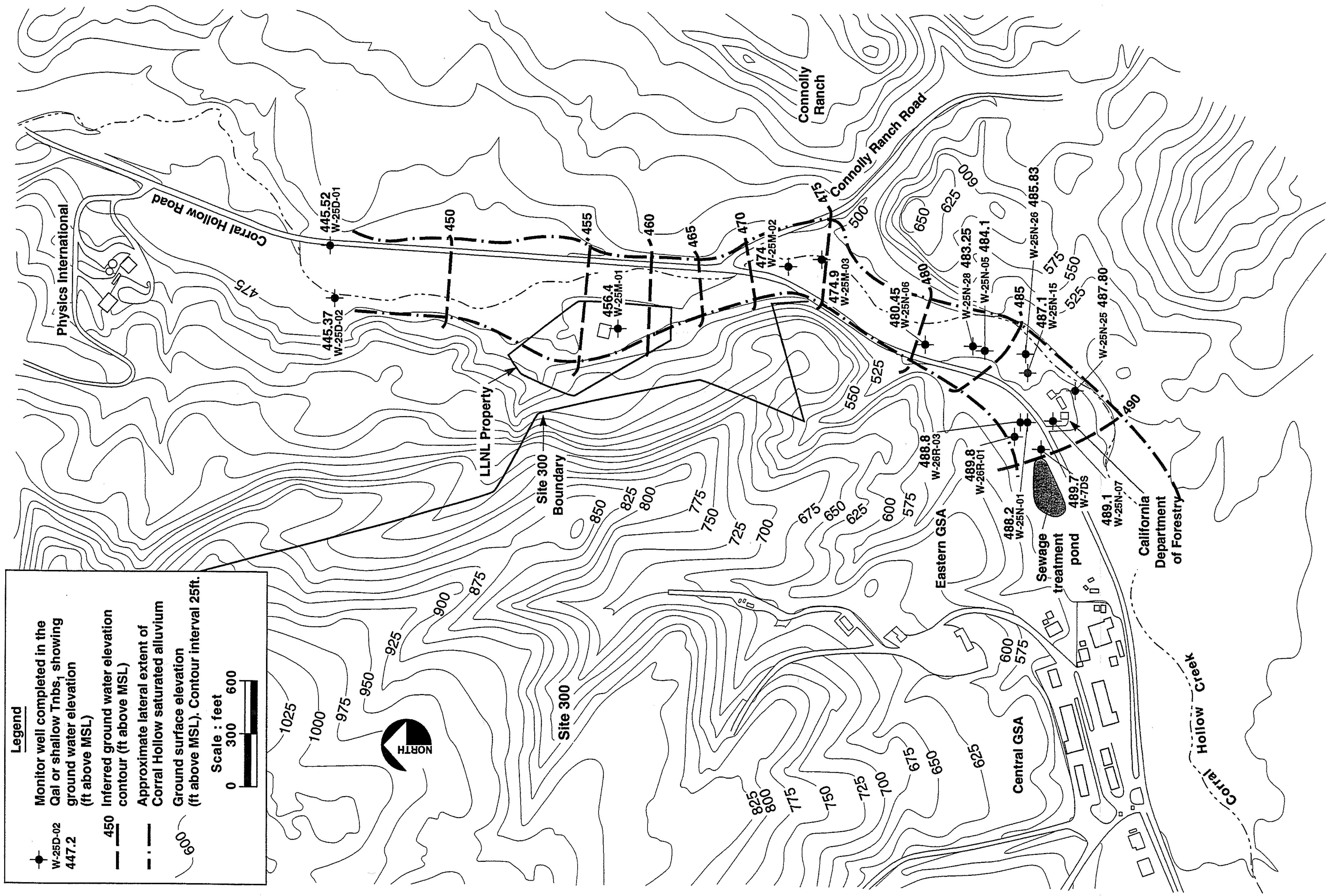

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Figure E-16. Potentiometric surface map of the alluvium (Qal) and shallow bedrock (Tnbs1) in the eastern GSA (3rd quarter 1994 data).

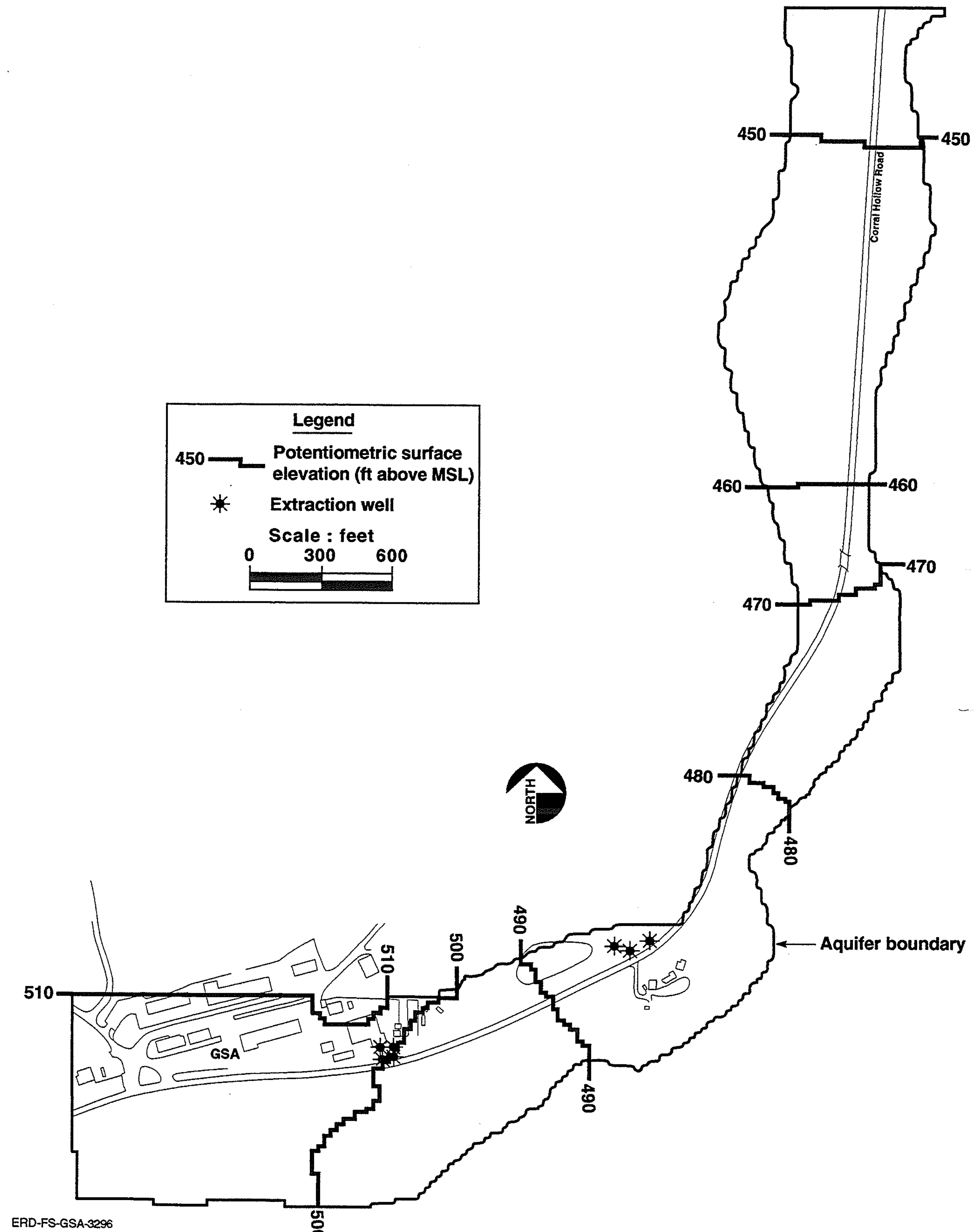
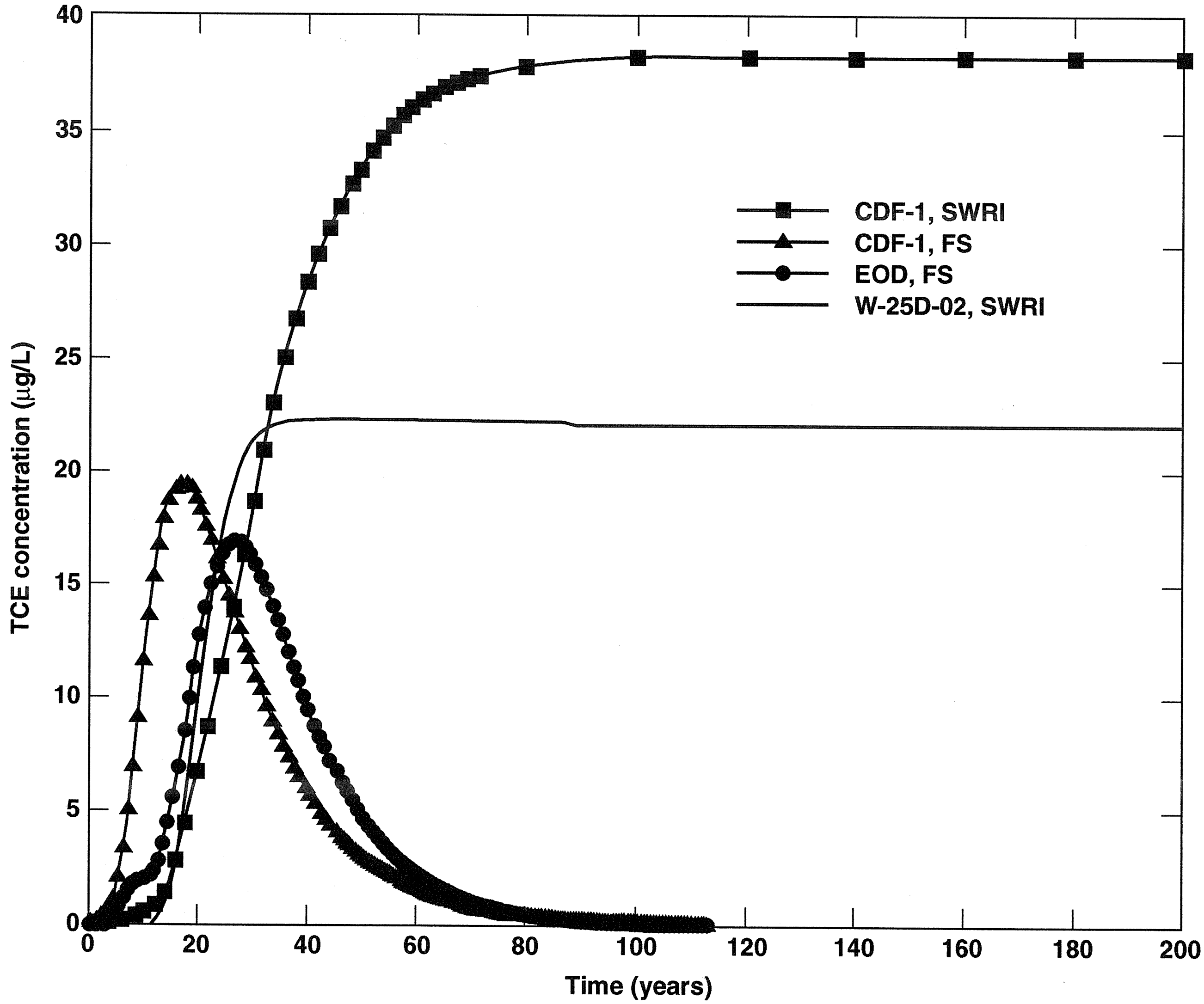


Figure E-17. Simulated potentiometric surface. MODFLOW results for ground water extraction occurring in the 3rd quarter 1994.



ERD-FS-GSA-3308

Figure E-18. Comparison of SWRI and GSA FS fate and transport modeling results of TCE in ground water.

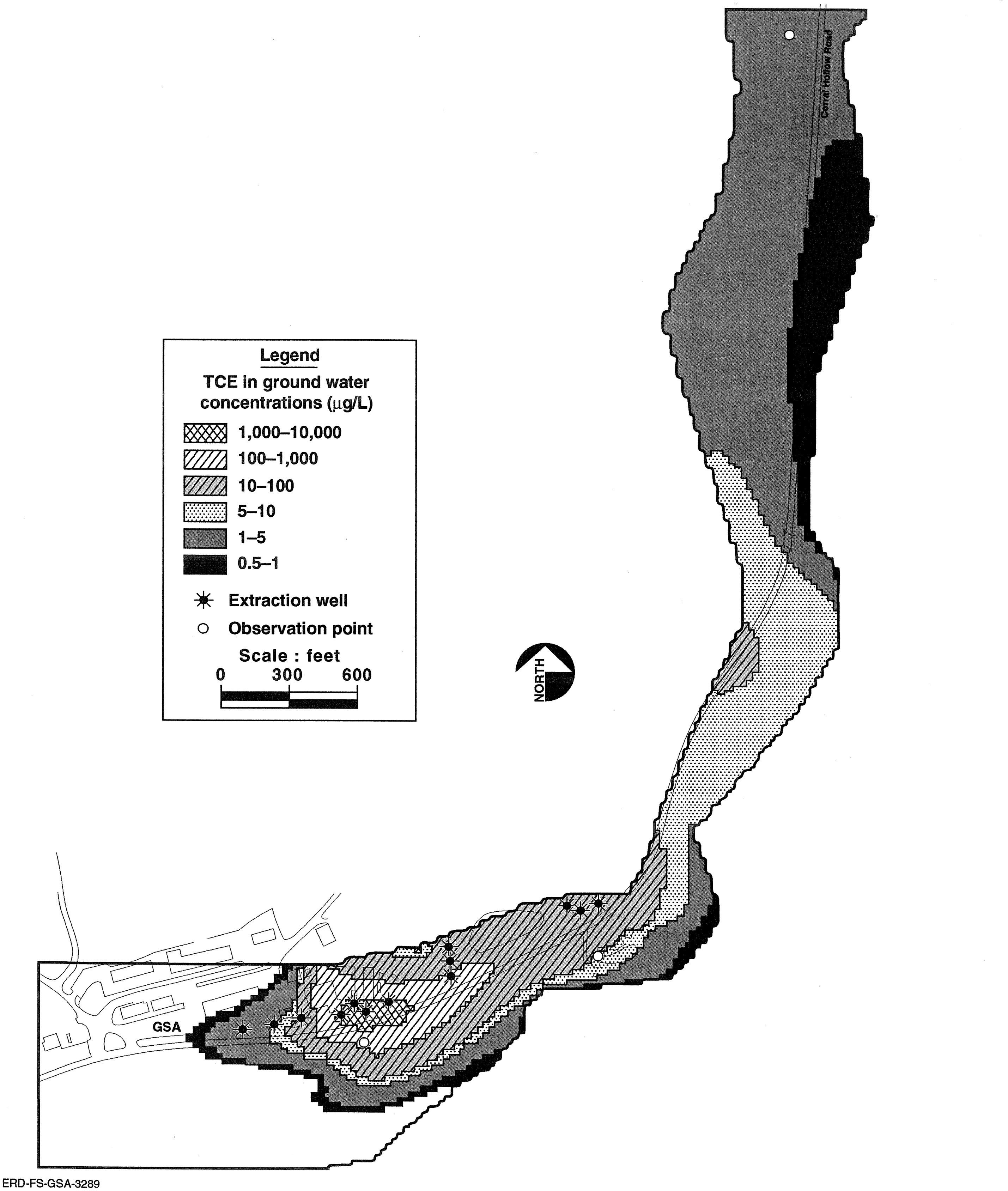


Figure E-19. Simulated concentrations from the MT3D model after 10 years: no-action case.

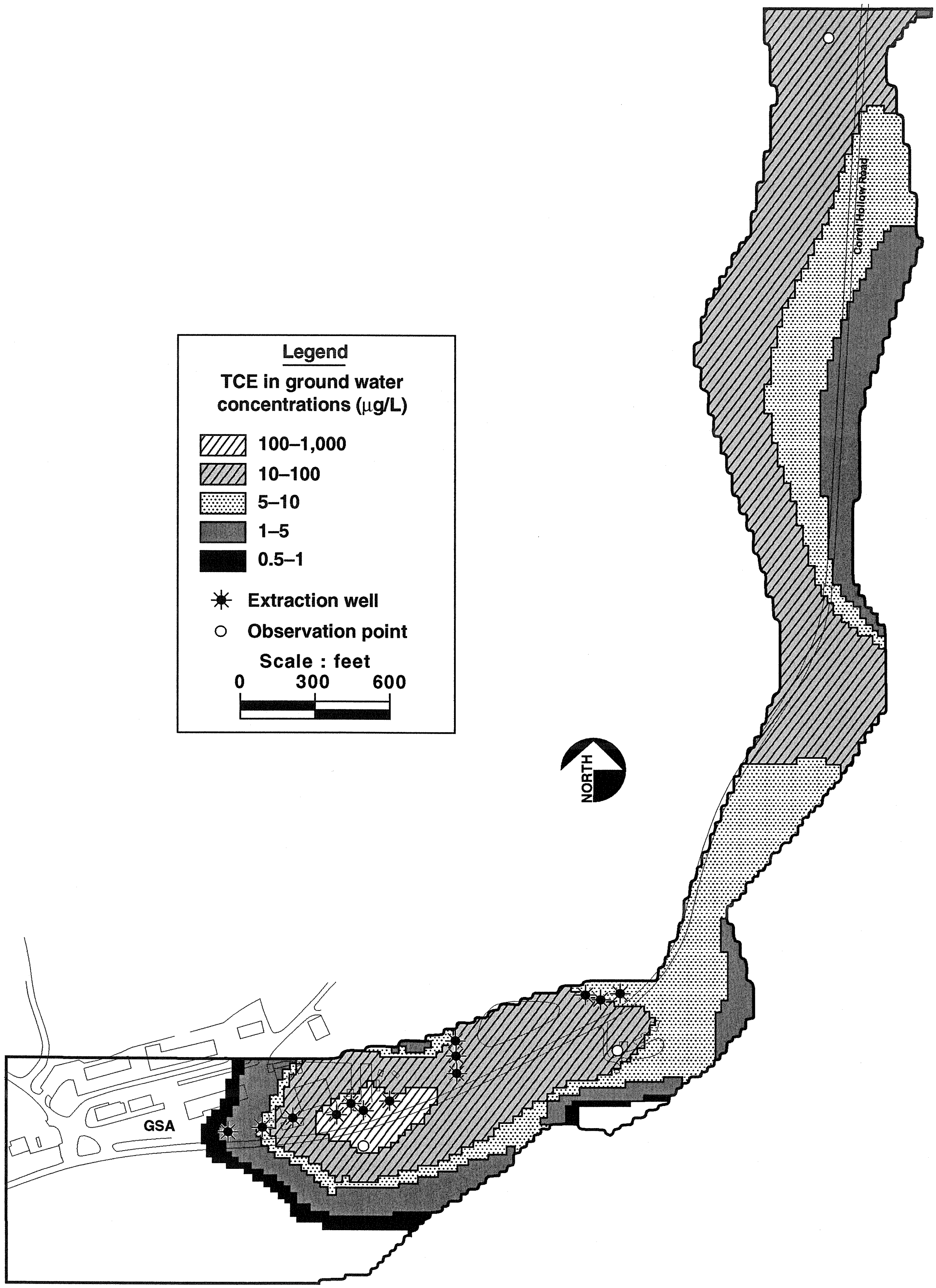


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Figure E-20. Simulated concentrations from the MT3D model after 30 years: no-action case.

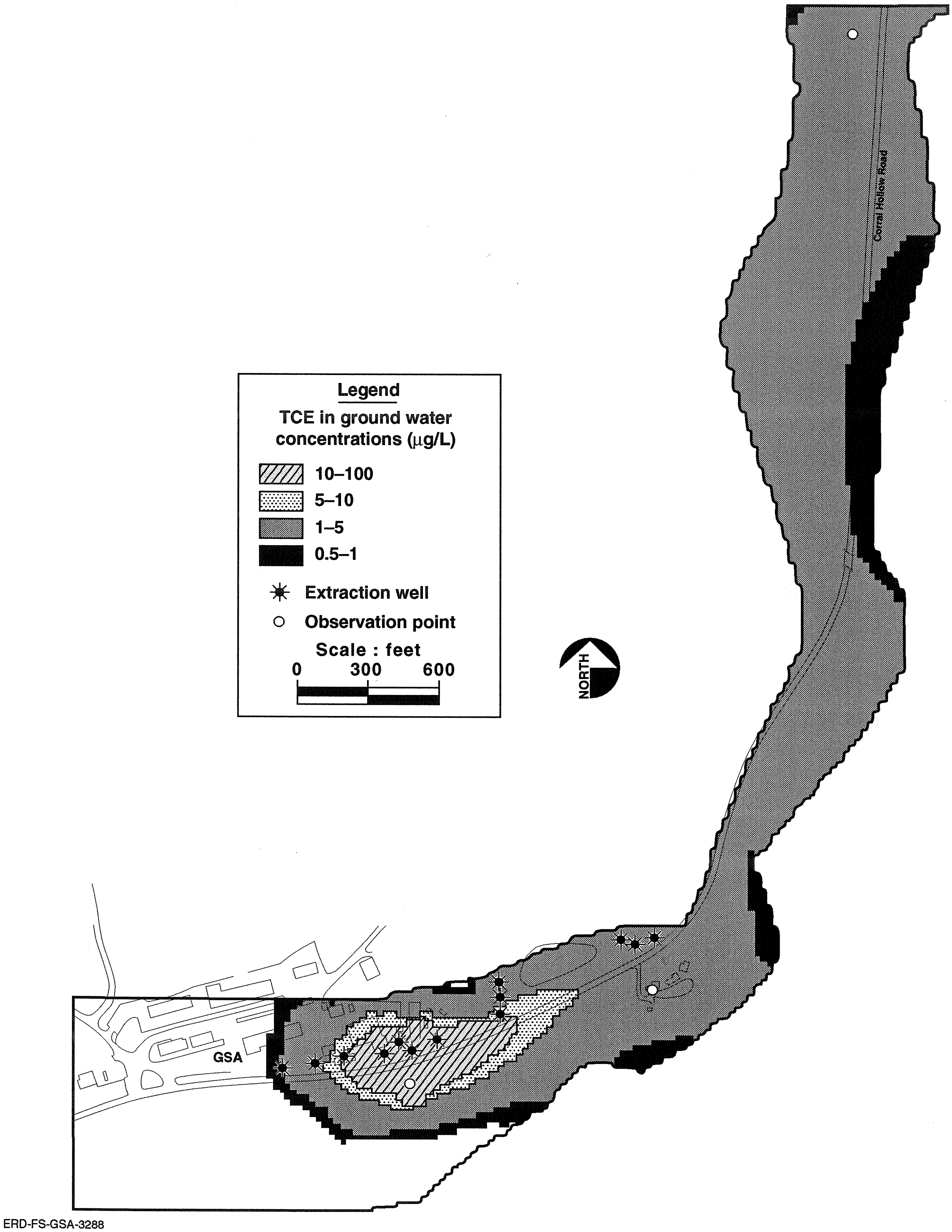

Figure E-21. Simulated concentrations from the MT3D model after 55 years: no-action case.

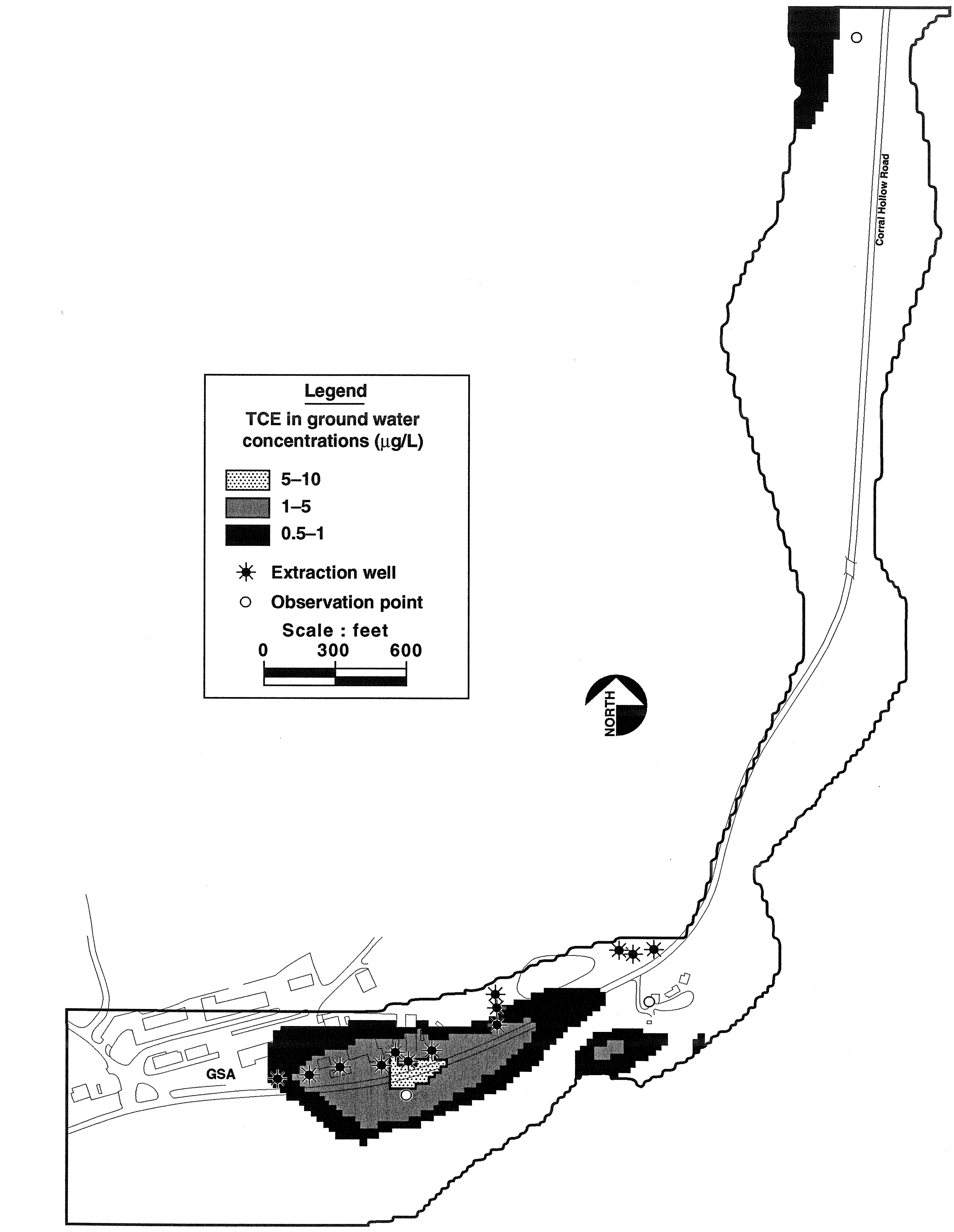

Figure E-22. Simulated concentrations from the MT3D model after 85 years: no-action case.

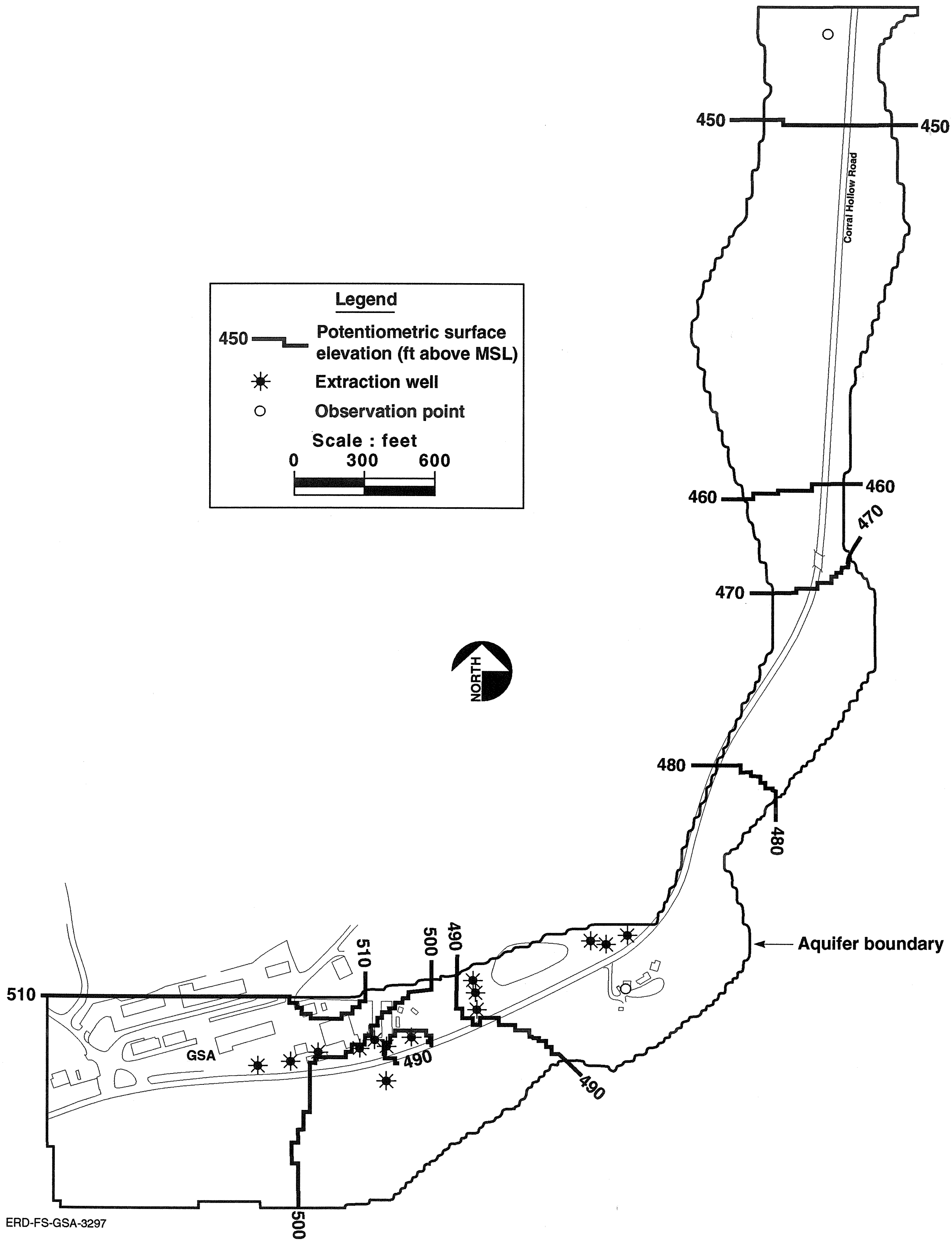

Figure E-23. Simulated potentiometric surface. MODFLOW results for first ground water extraction scenario, which is 0 to 10 years for all remediation cases.

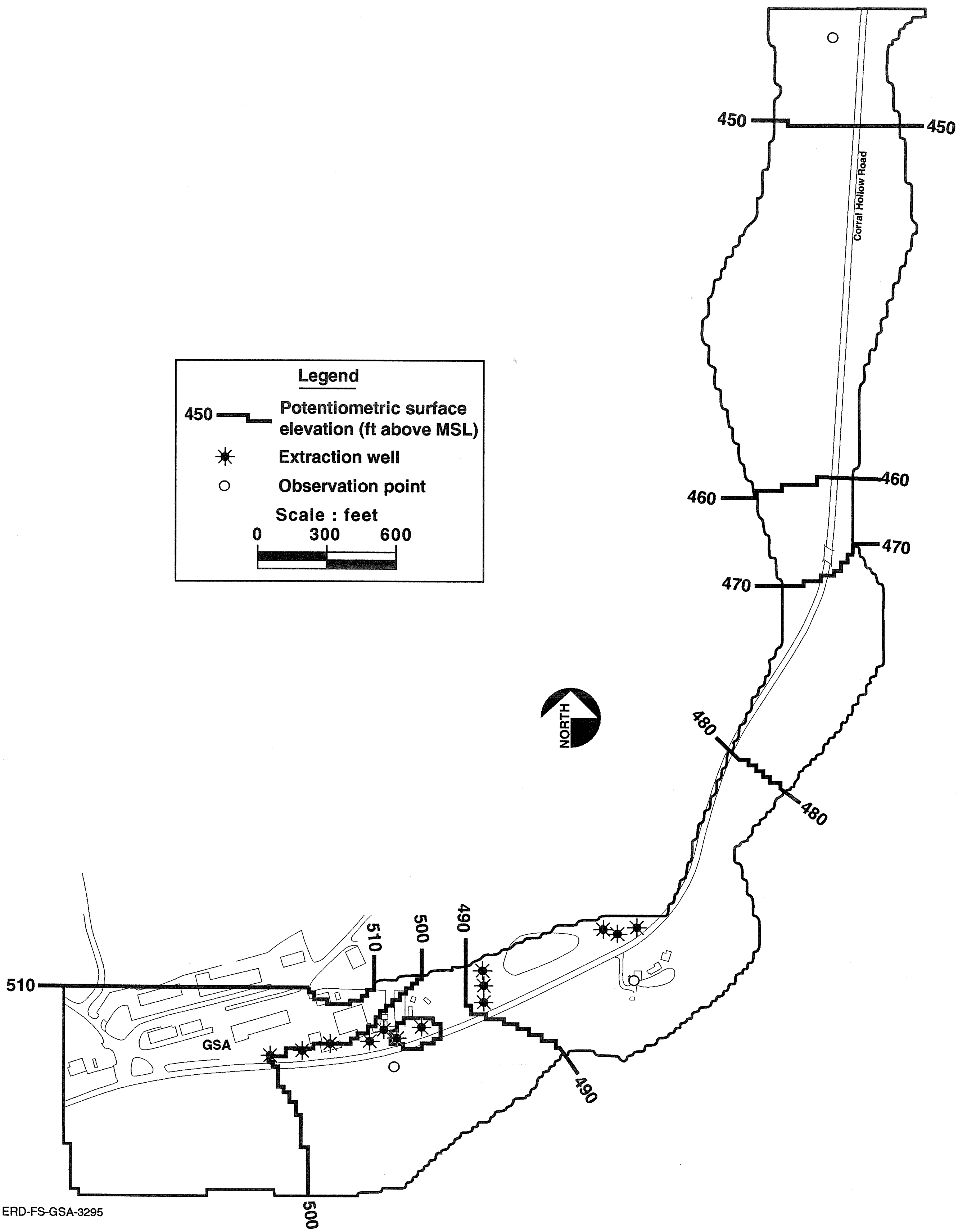

Figure E-24. Simulated potentiometric surface. MODFLOW results for second ground water extraction scenario.

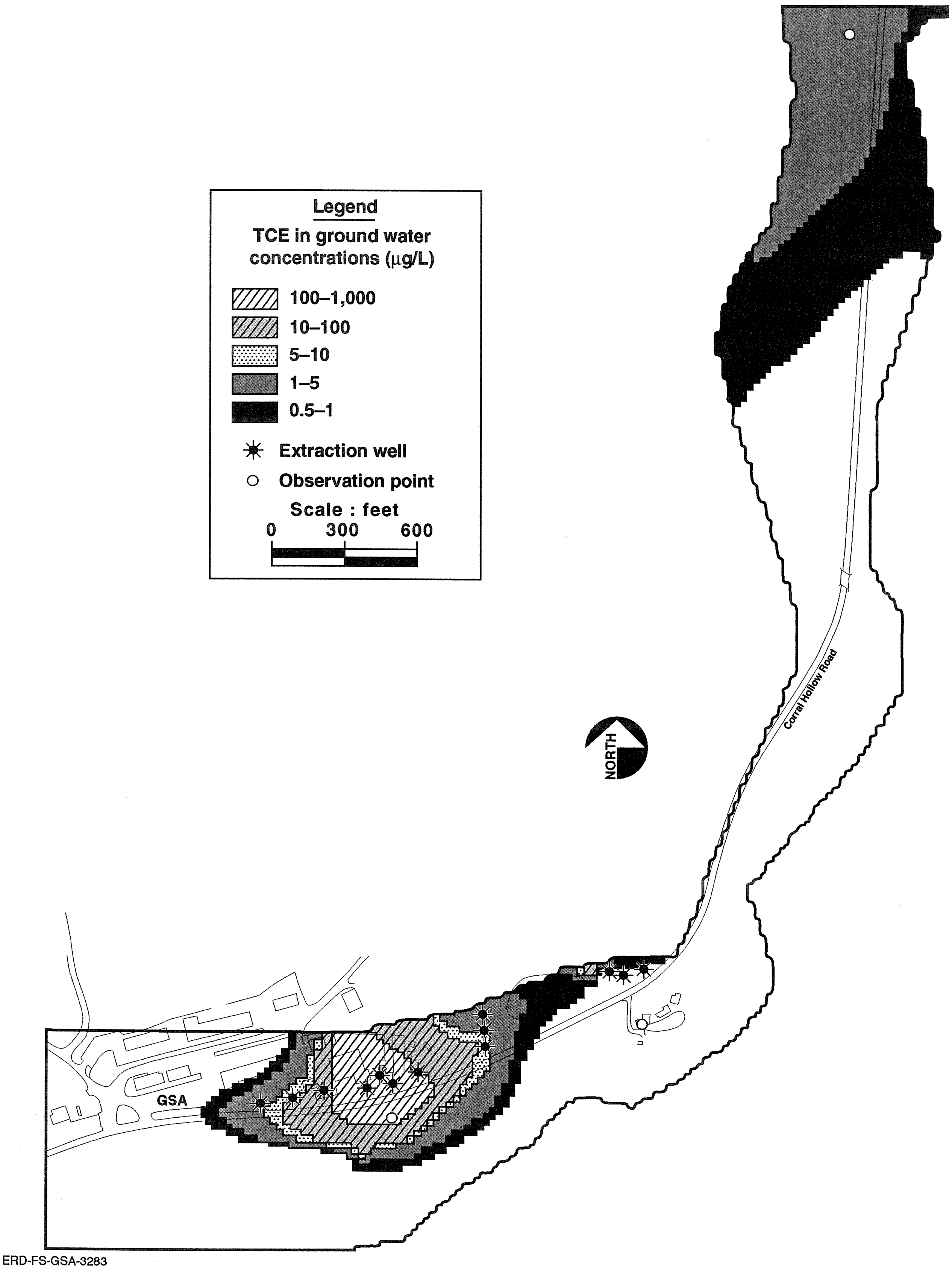

Figure E-25. Simulated concentrations from the MT3D model after 10 years of pumping well set 1.

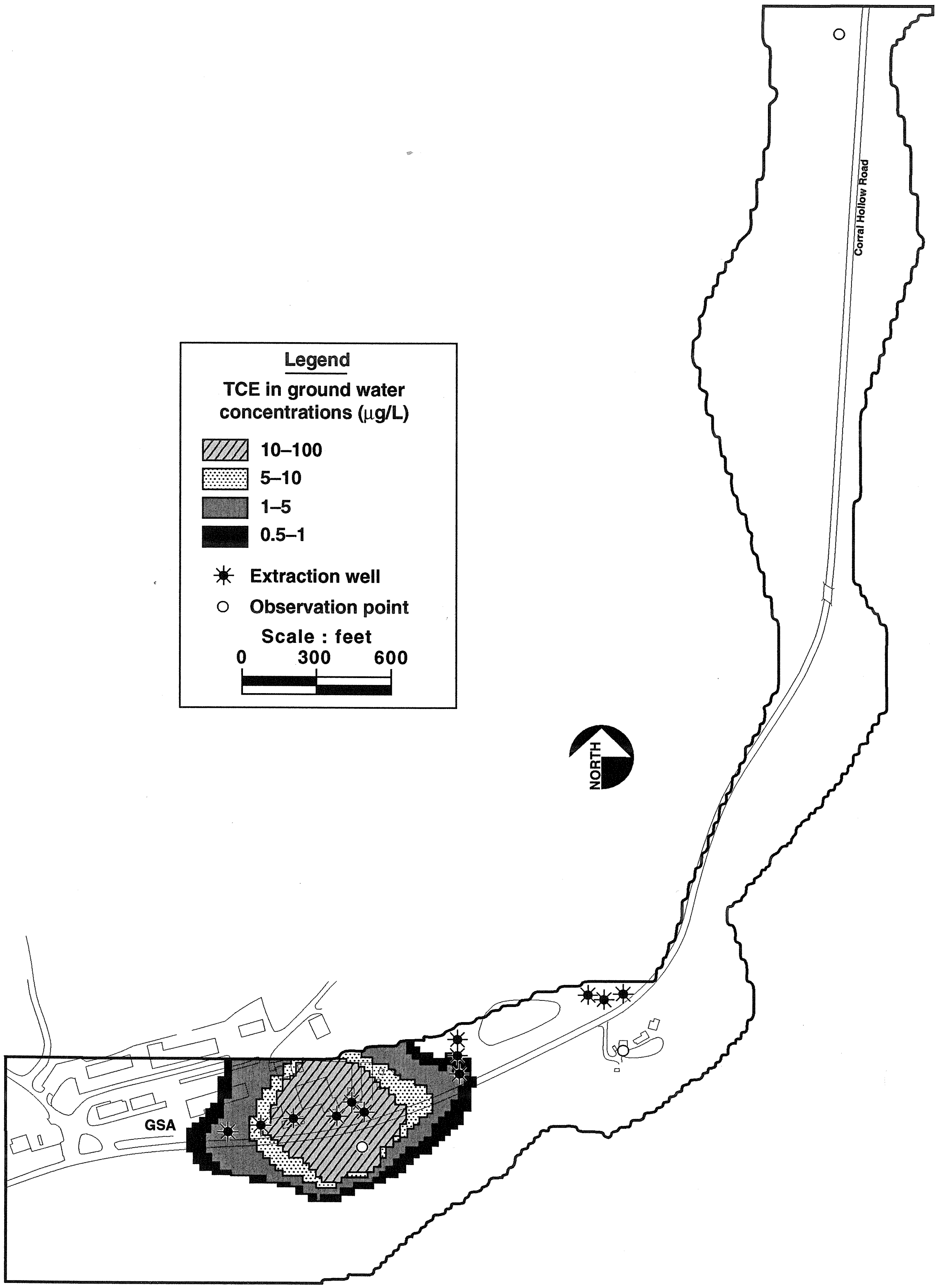

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Figure E-26. Simulated concentrations from the MT3D model after 30 years: 0–10 years pumping well set 1 and 10–30 years pumping well set 2.

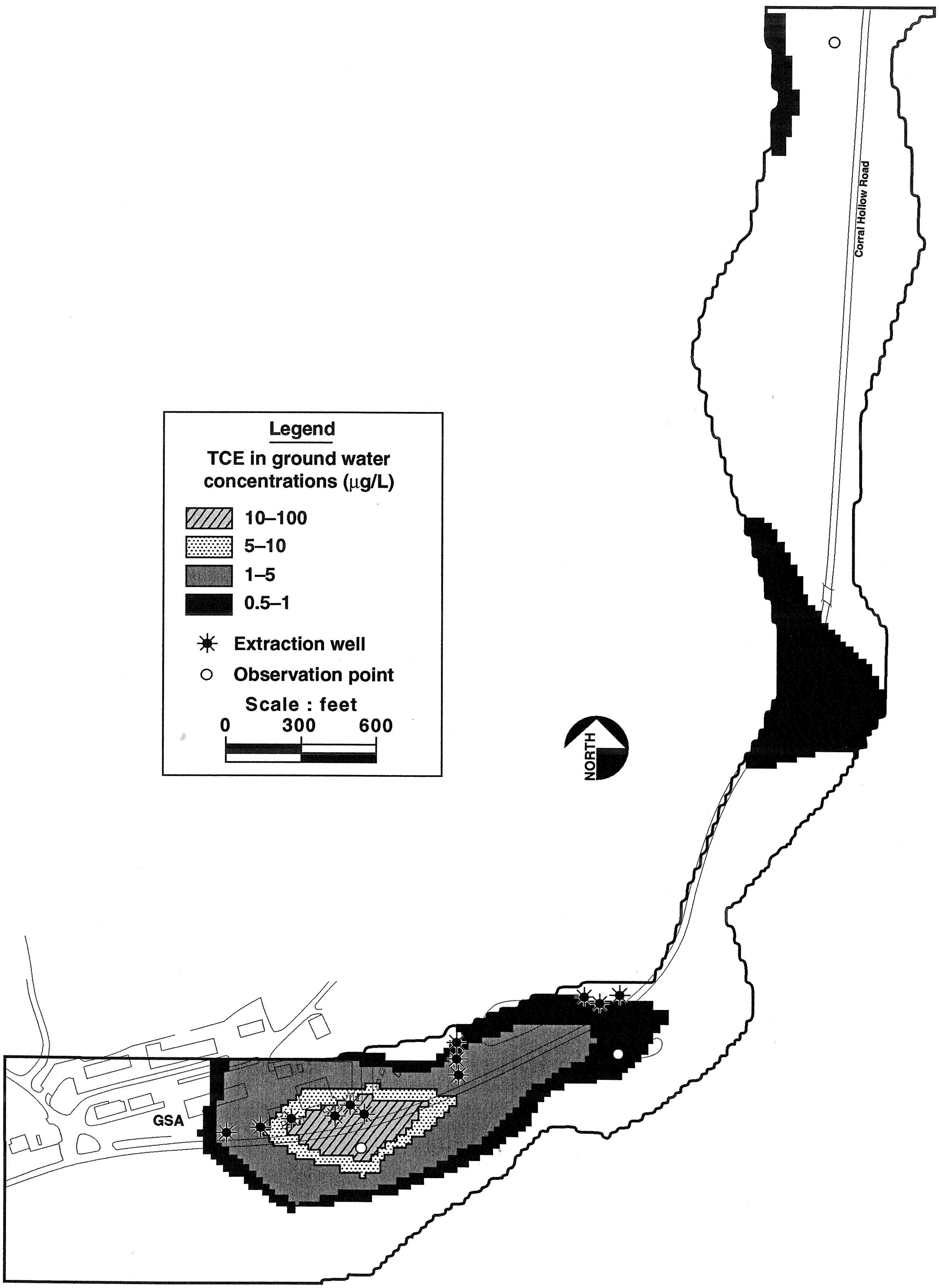

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Figure E-27. Simulated concentrations from the MT3D model after 50 years: 0–10 years pumping well set 1, 10–30 years pumping well set 2, 30–50 years with no extraction wells.

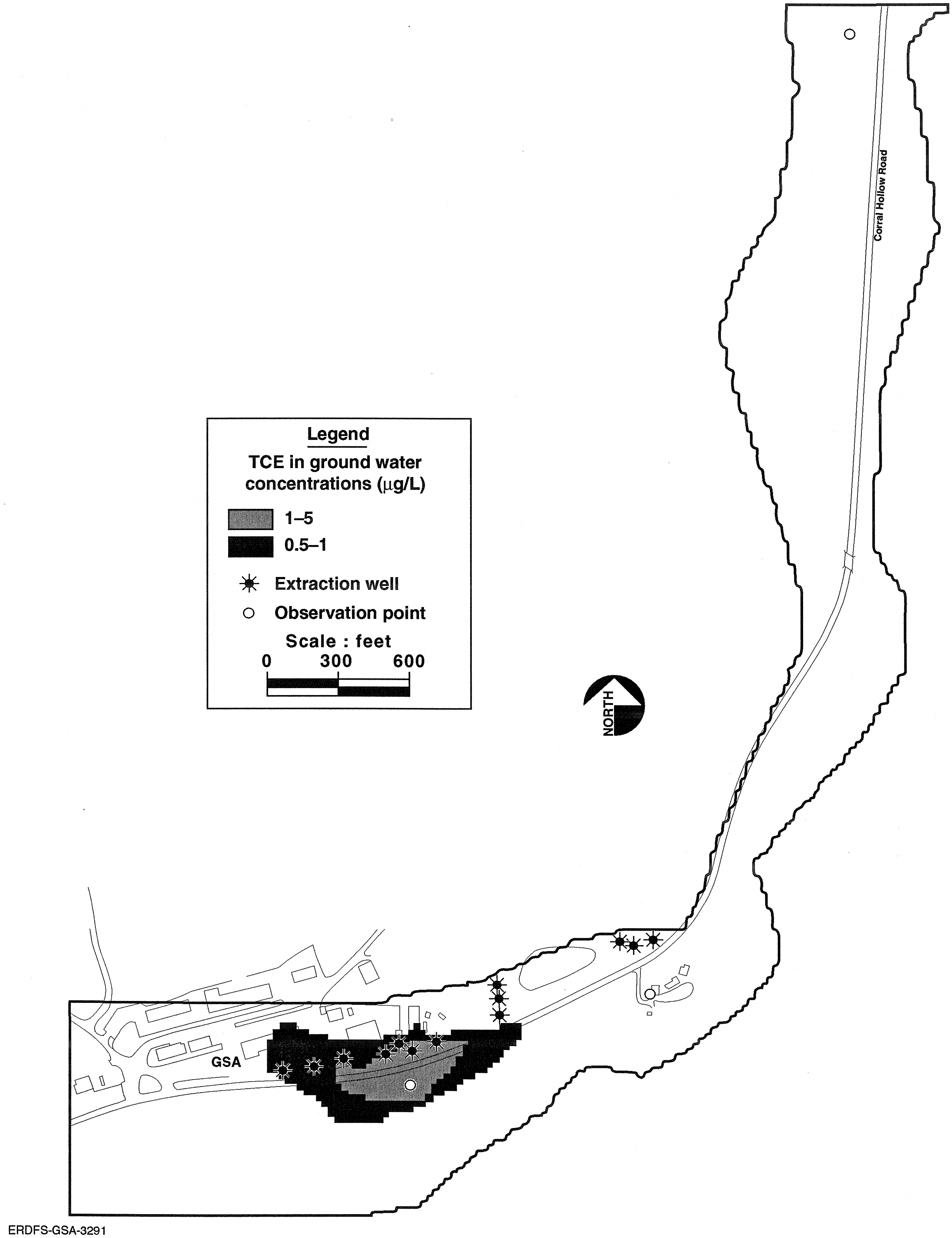
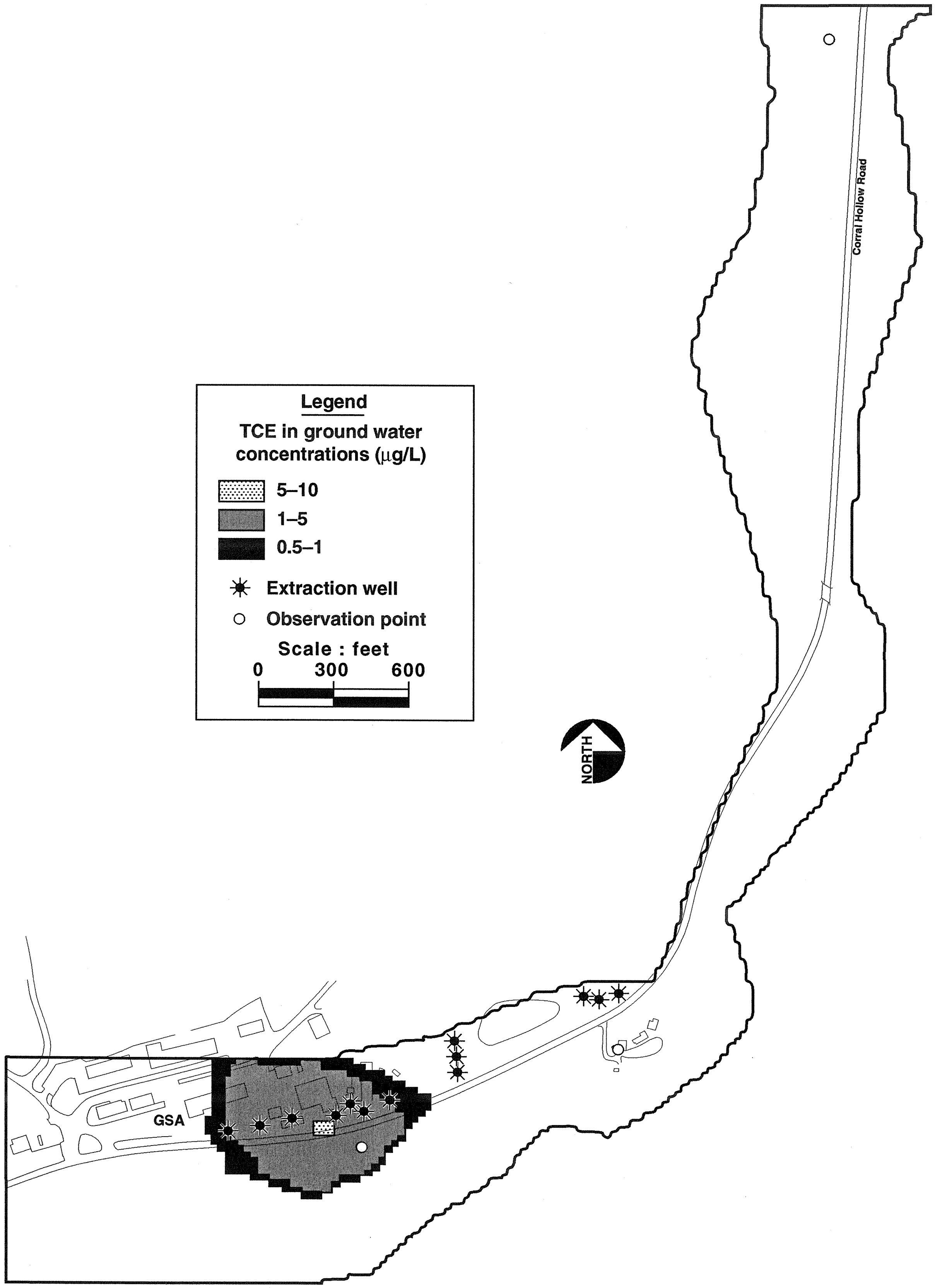


Figure E-28. Simulated concentrations from the MT3D model after 90 years: 0–10 years pumping well set 1, 10–30 years pumping well set 2, 30–90 years with no extraction wells.



ERD-FS-GSA-3284

Figure E-29. Simulated concentrations from the MT3D model after 55 years: 0–10 years pumping well set 1 and 10–55 years pumping well set 2.

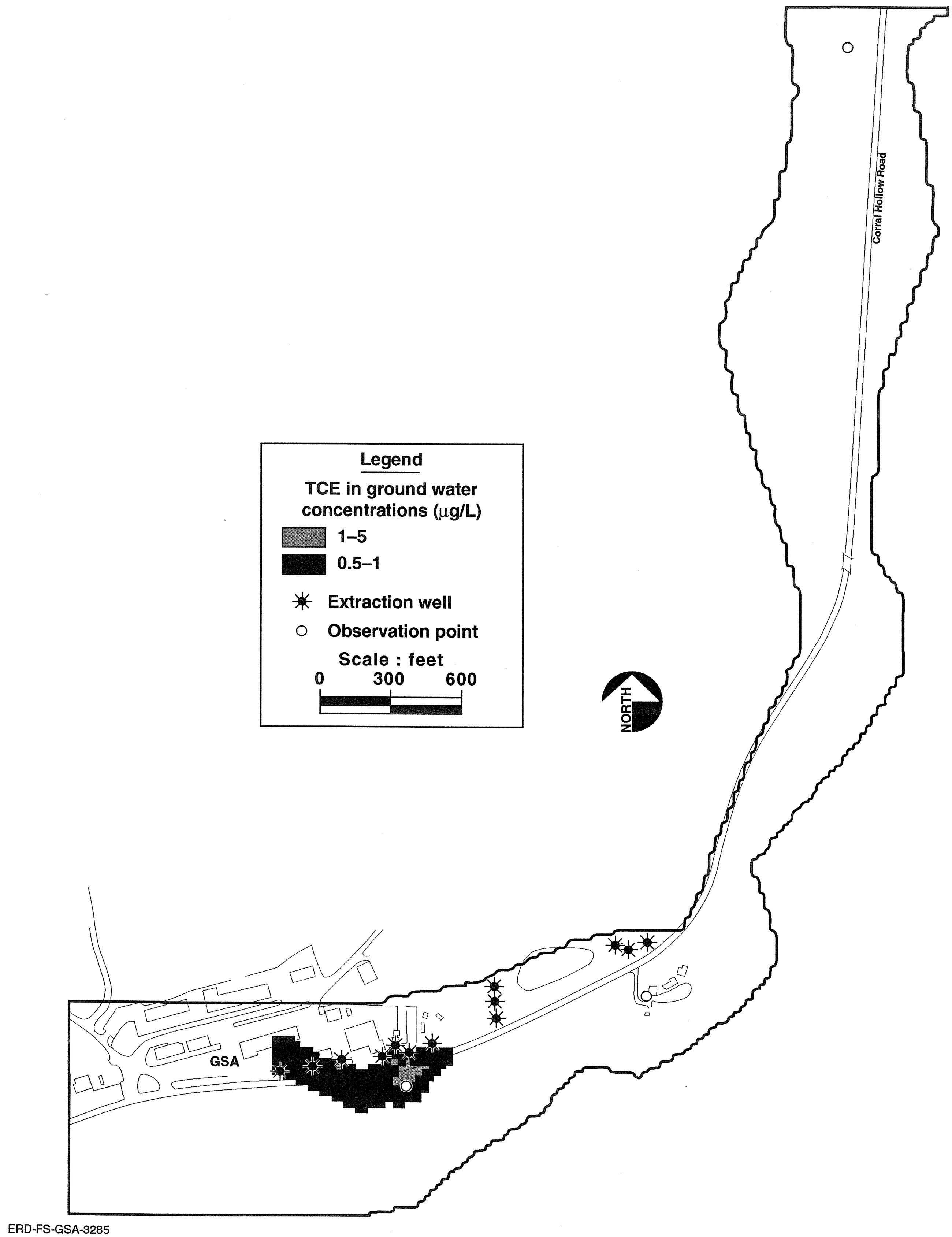
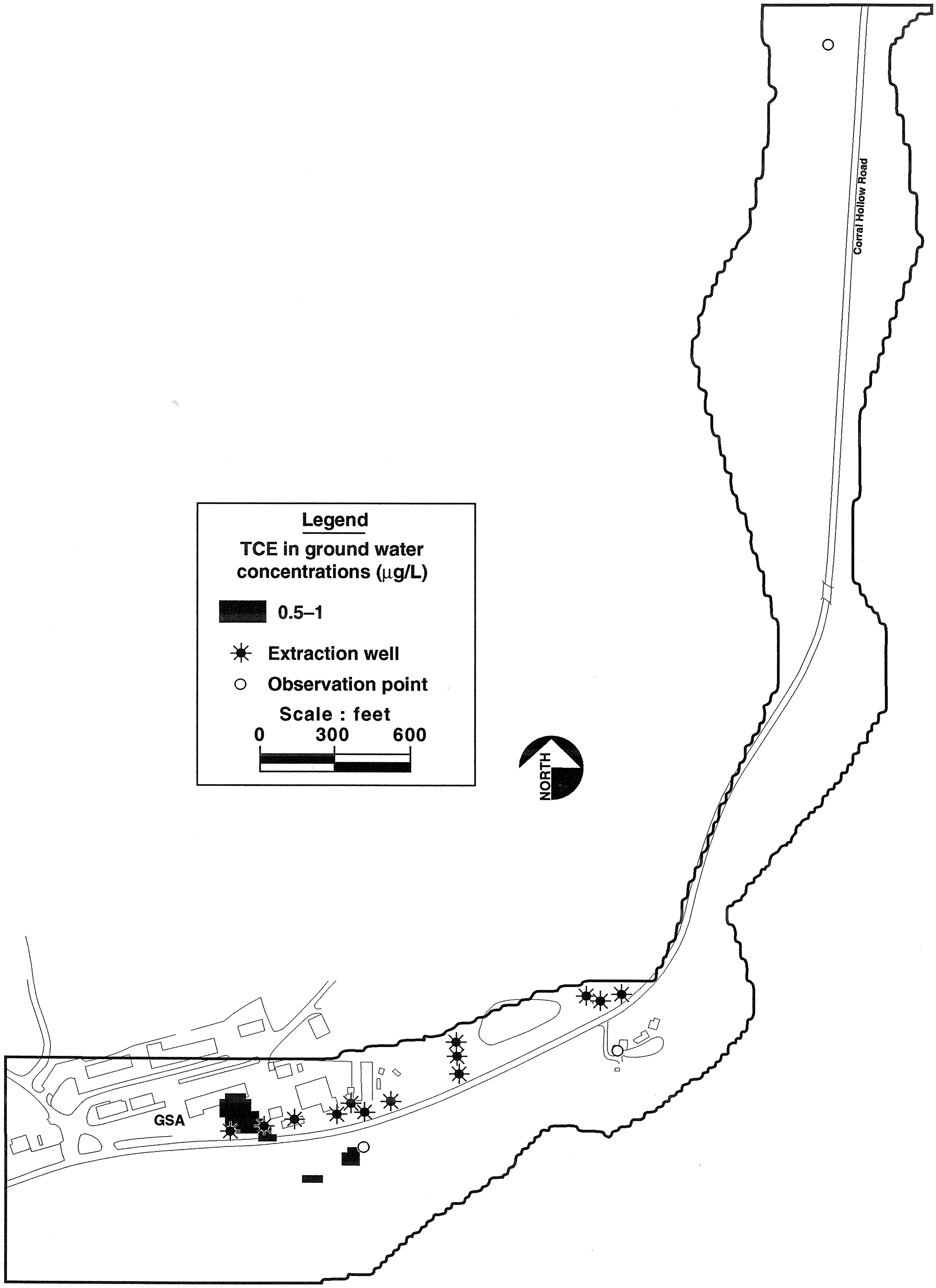
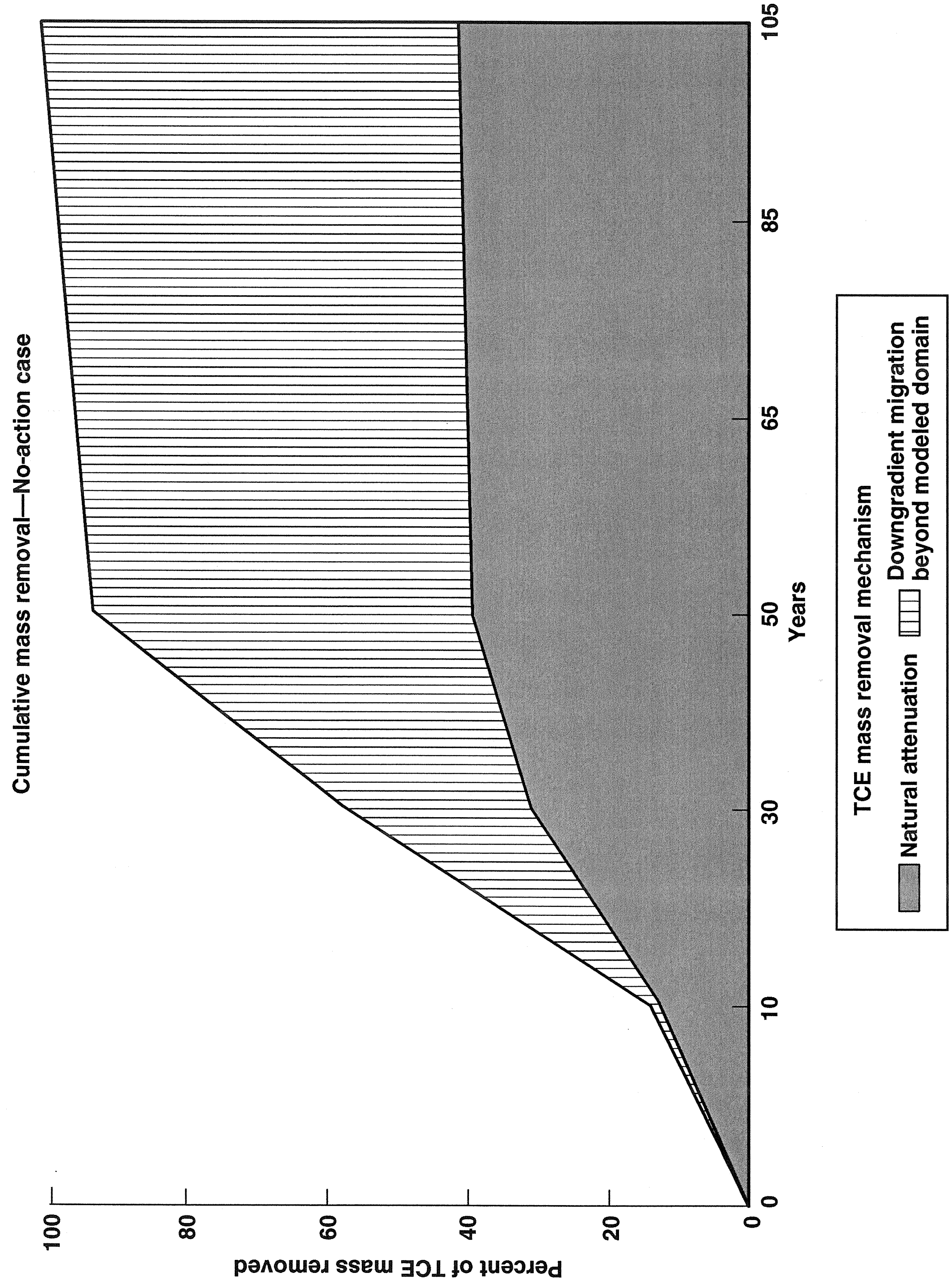


Figure E-30. Simulated concentrations from the MT3D model after 90 years: 0–10 years pumping well set 1, 10–55 years pumping well set 2 and 55–90 years with no extraction wells.



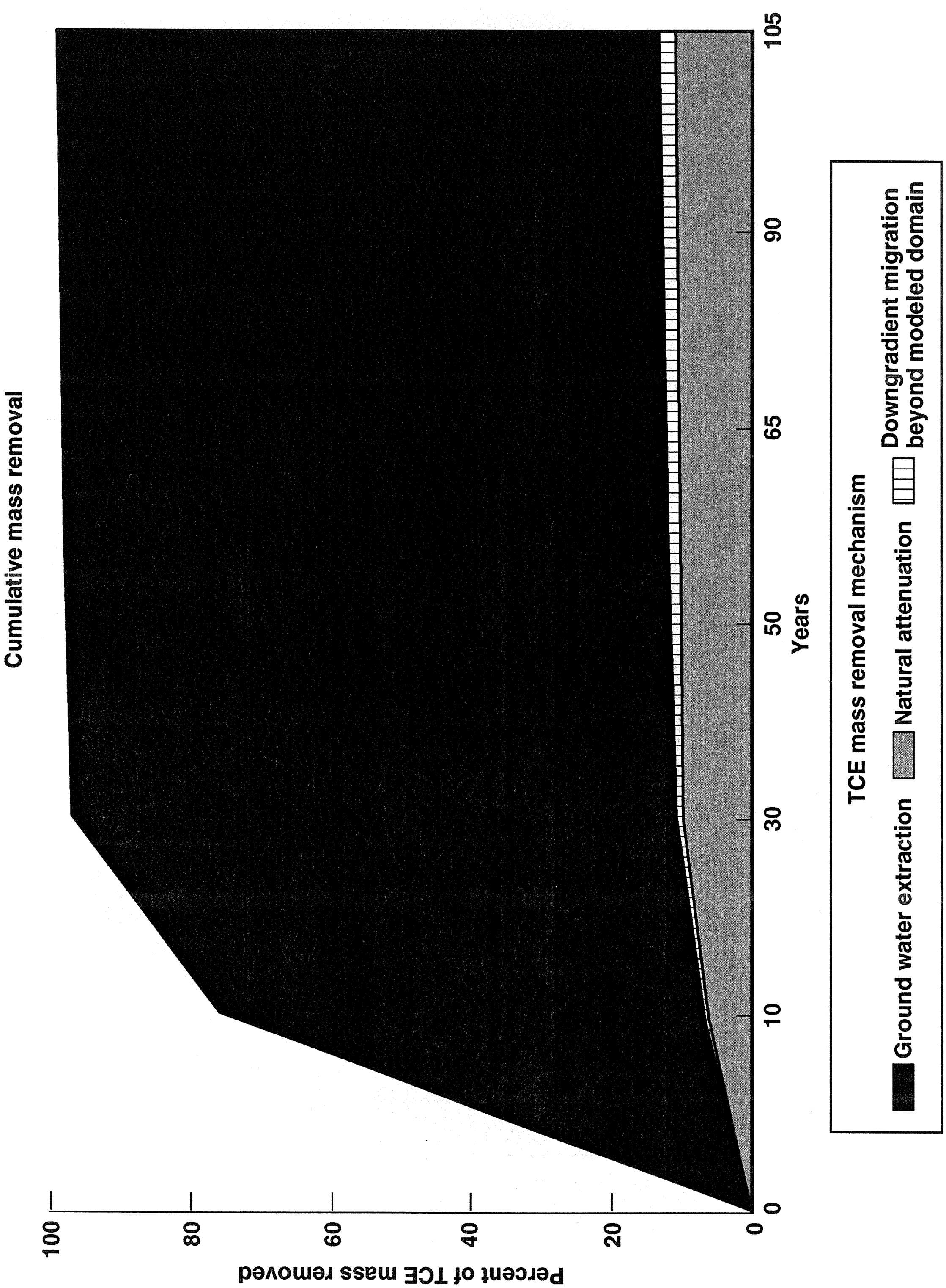
ERD-FS-GSA-3282

Figure E-31. Simulated concentrations from the MT3D model after 90 years: 0–10 years pumping well set 1 and 10–90 years pumping well set 2.



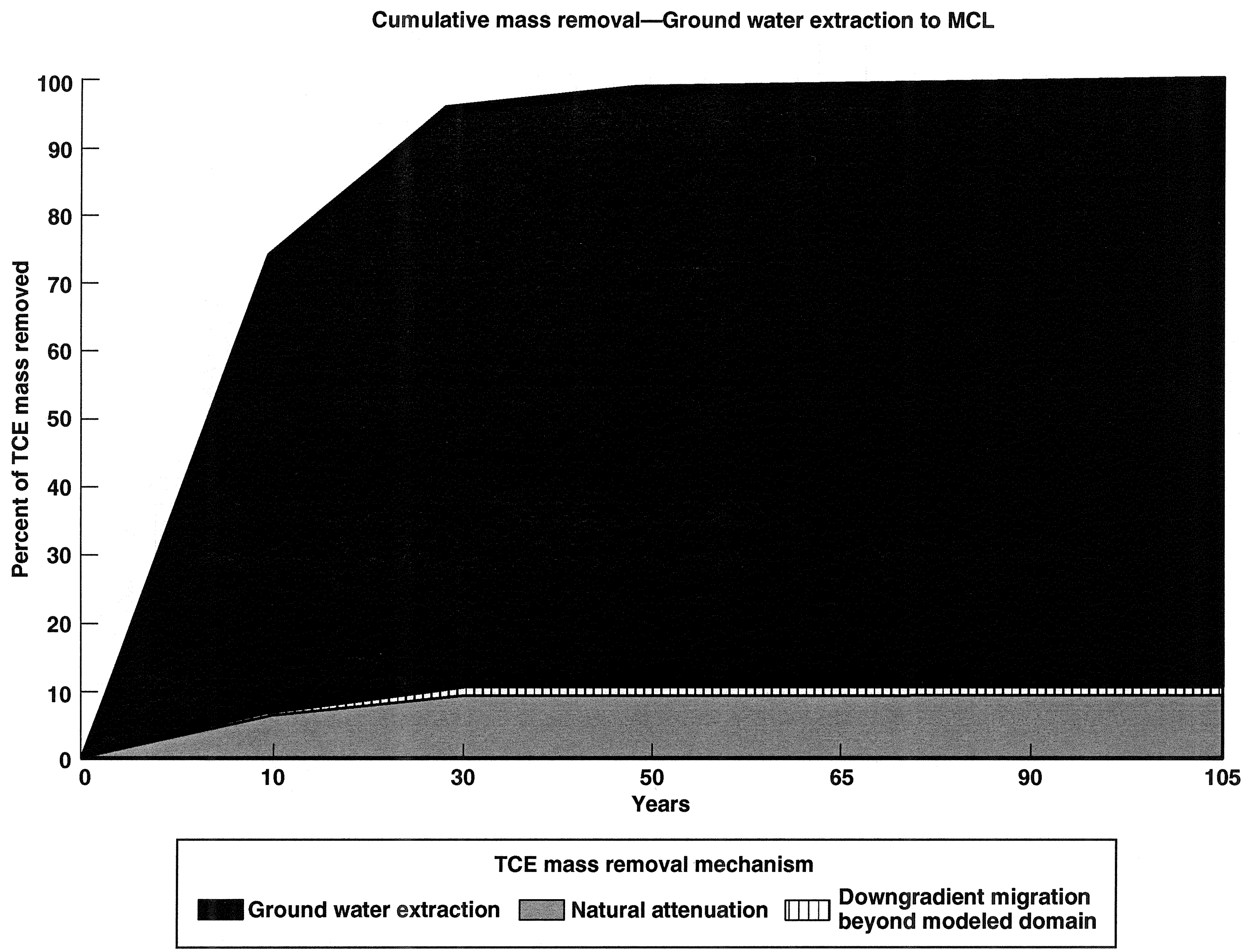
ERD-FS-GSA-3275

Figure E-32. Cumulative TCE mass removal curve for no-action case.



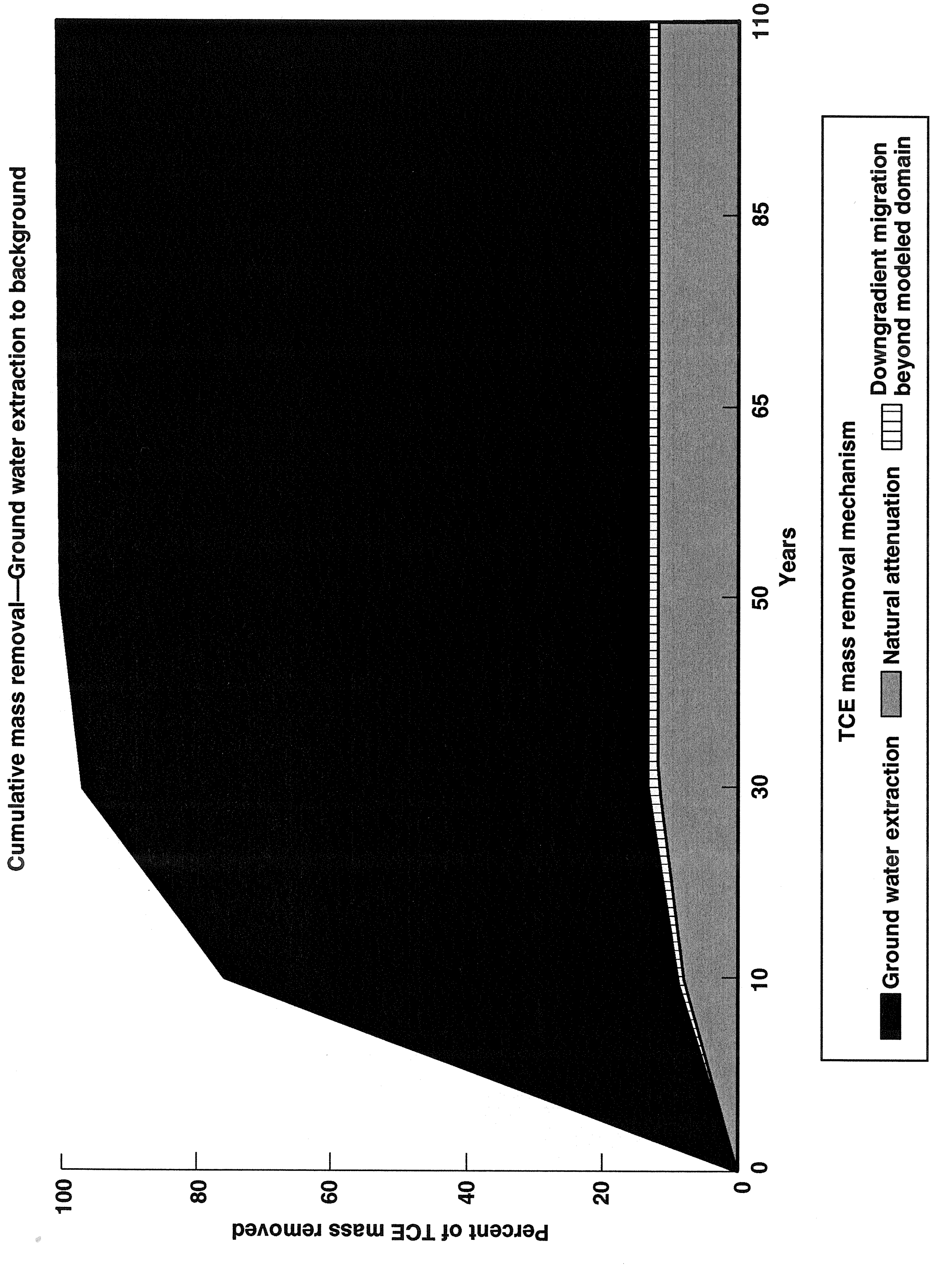
ERD-FS-GSA-3273

Figure E-33. Cumulative TCE mass removal curve for case with pumping ground water extraction well set 1 years 1–10, pumping ground water extraction well set 2 years 11–30, and no ground water extraction years 31–105.



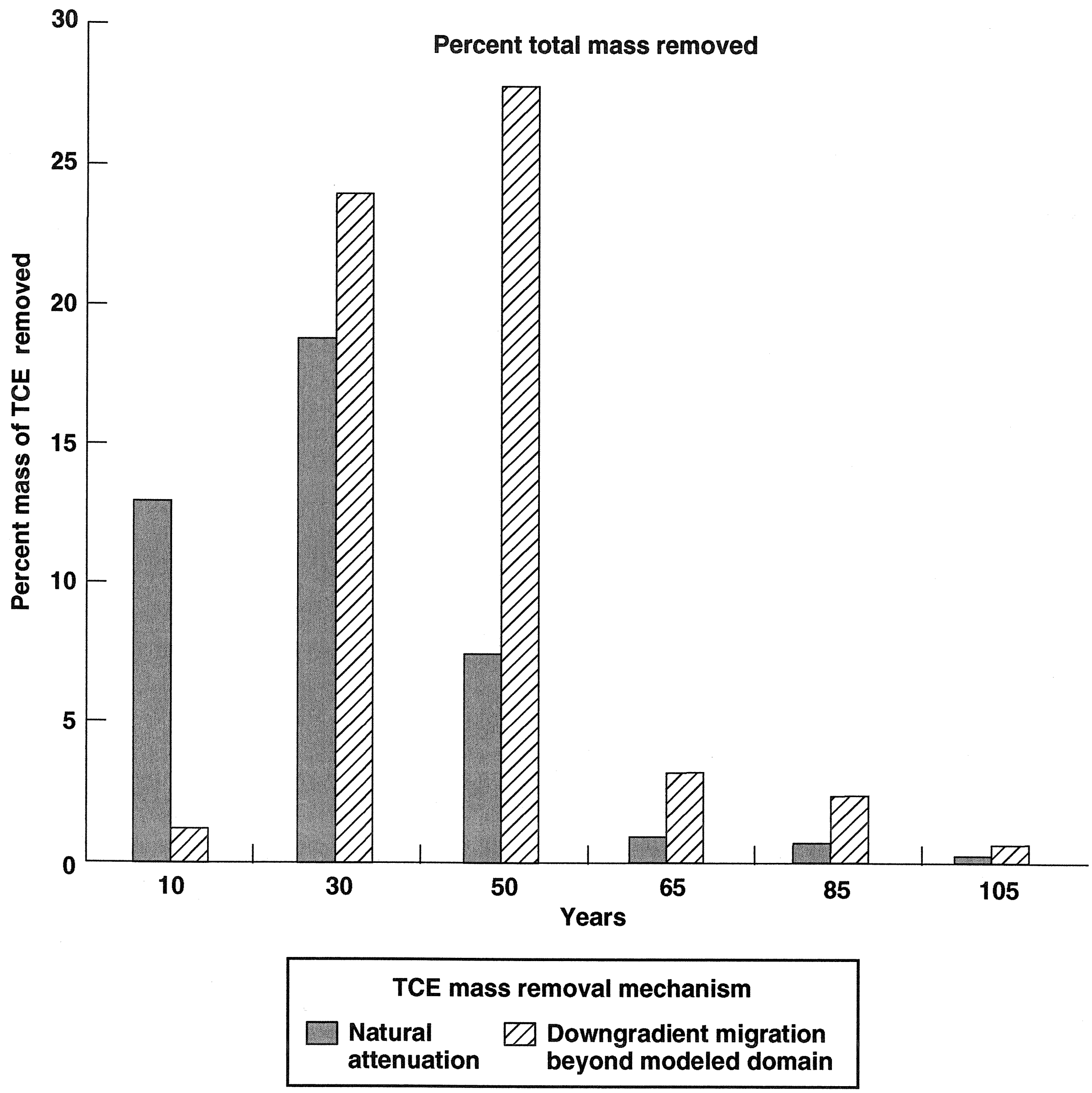
ERD-FS-GSA-3272

Figure E-34. Cumulative TCE mass removal curve for case with pumping ground water extraction well set 1 years 0–10, pumping ground water extraction well set 2 years 10–55, and no ground water extraction years 55–105.



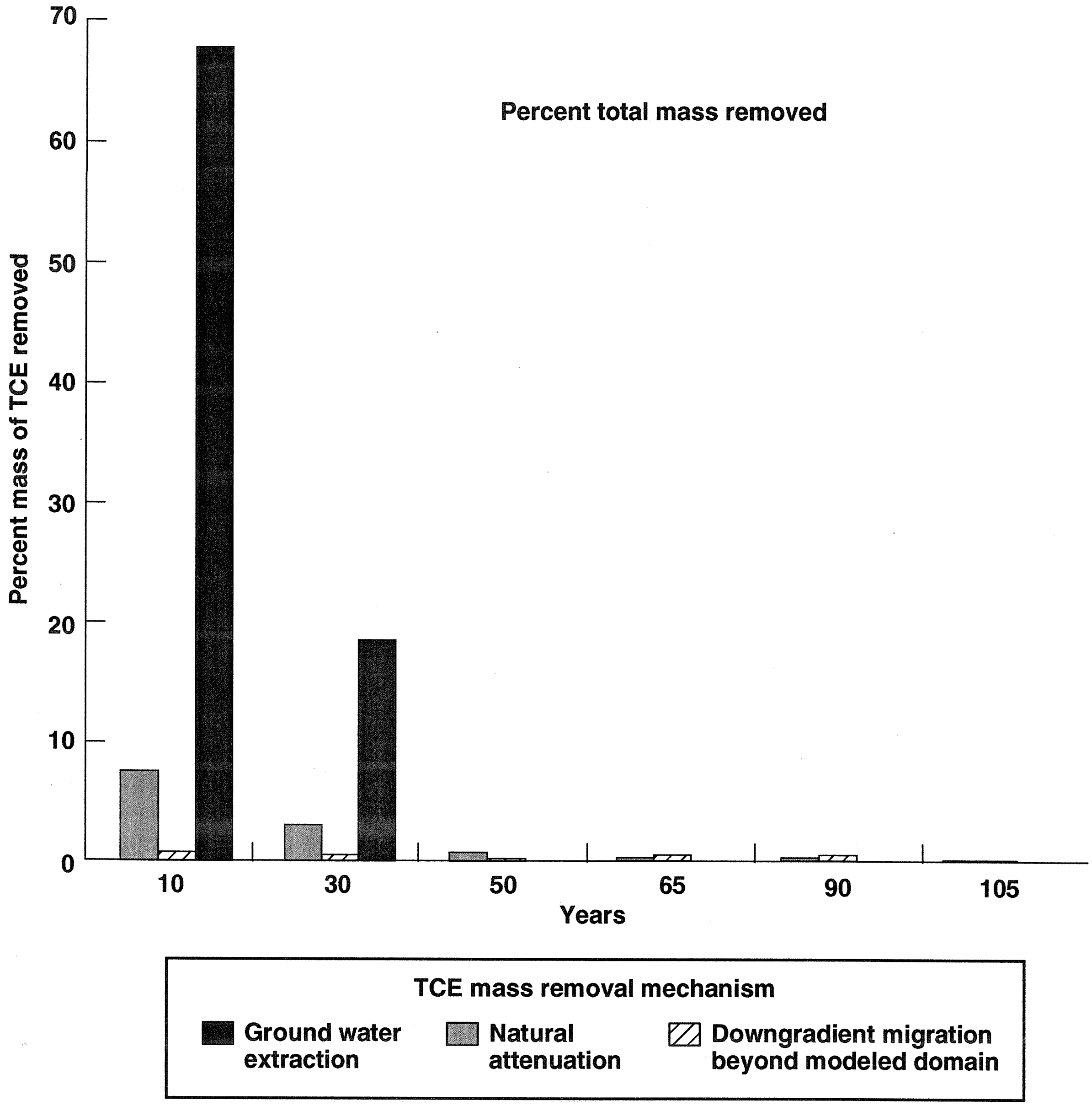
ERD-FS-GSA-3269

Figure E-35. Cumulative TCE mass removal curve for case with pumping ground water extraction well set 1 years 0–10, and pumping ground water extraction well set 2 years 10–110.



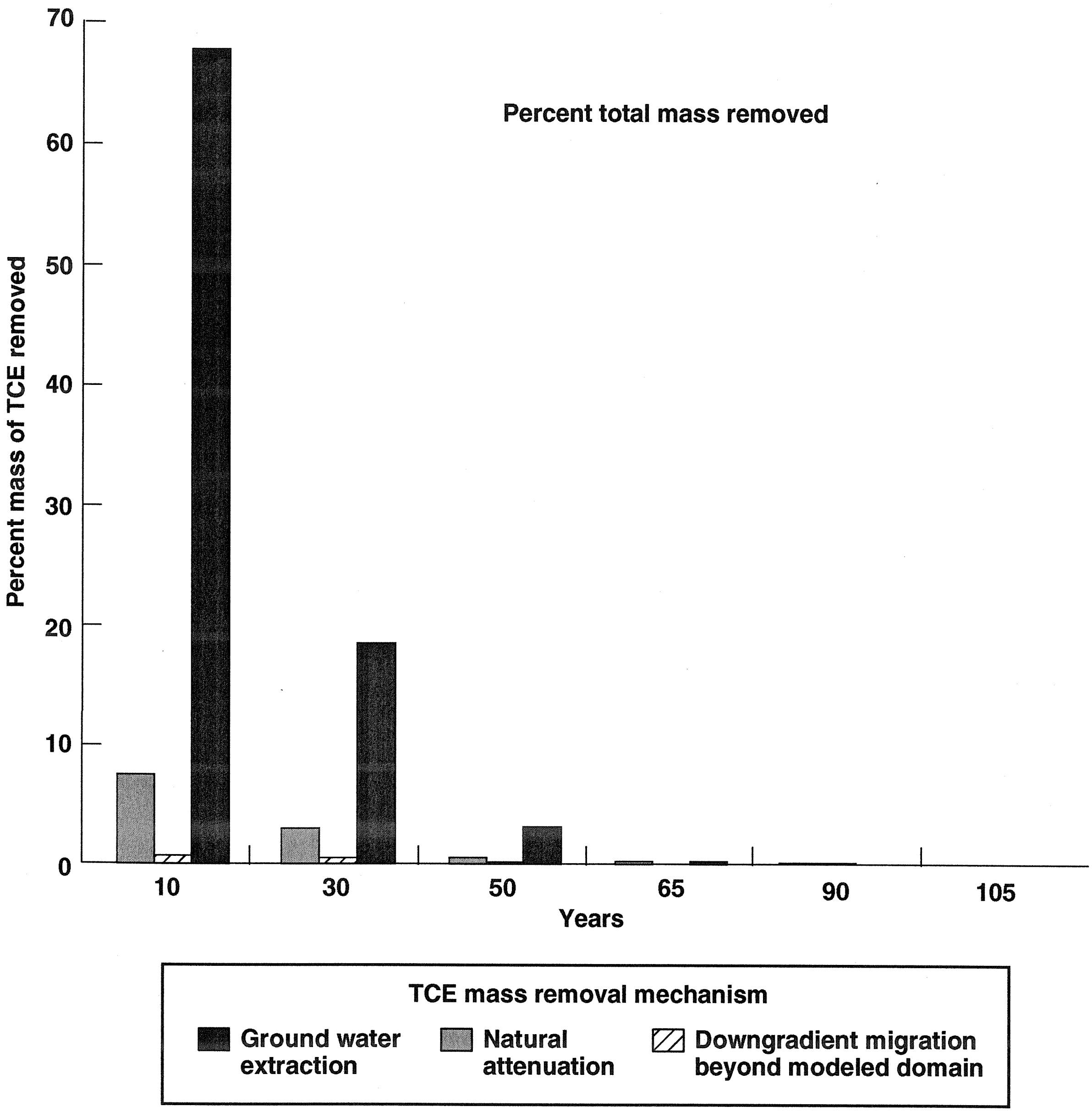
ERD-FS-GSA-3276

Figure E-36. Percent mass of TCE removed for no-action case.



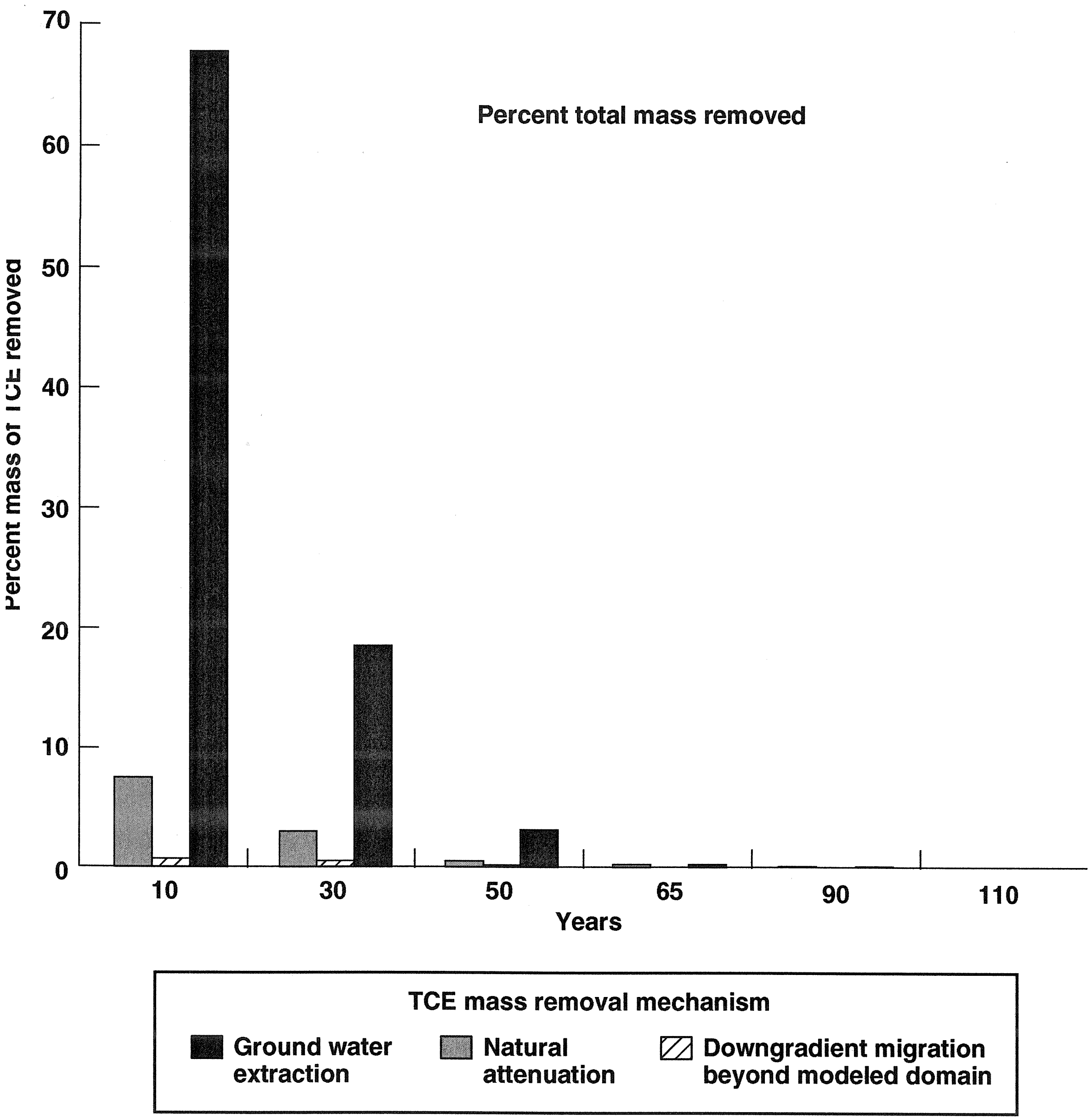
ERD-FS-GSA-3274

Figure E-37. Percent mass of TCE removed for case with pumping ground water extraction well set 1 years 0–10, pumping ground water extraction well set 2 years 10–30, and no ground water extraction years 30–105.



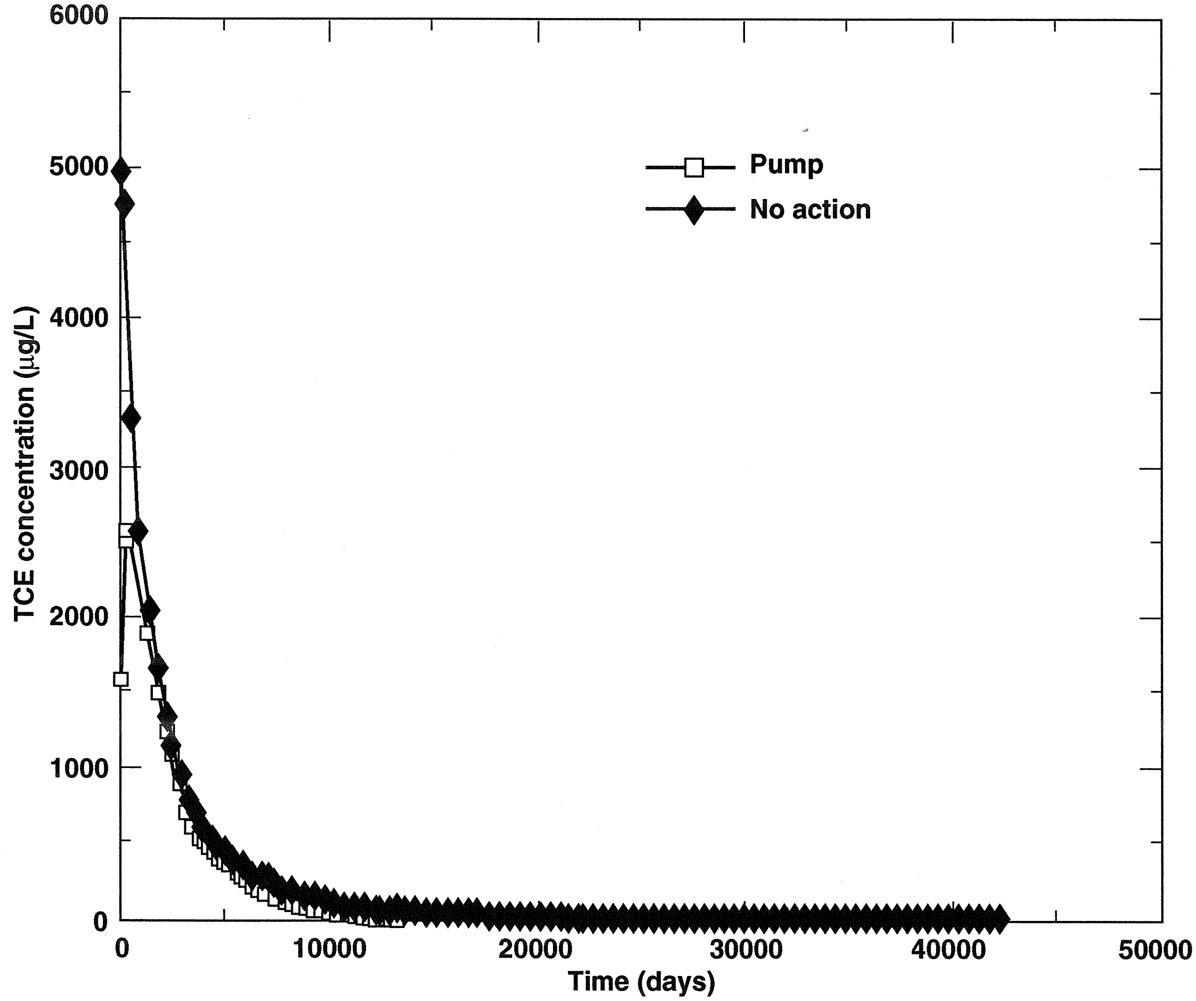
ERD-FS-GSA-3271

Figure E-38. Percent mass of TCE removed for case with pumping ground water extraction well set 1 years 0–10, pumping ground water extraction well set 2 years 10–55, and no ground water extraction years 55–105.



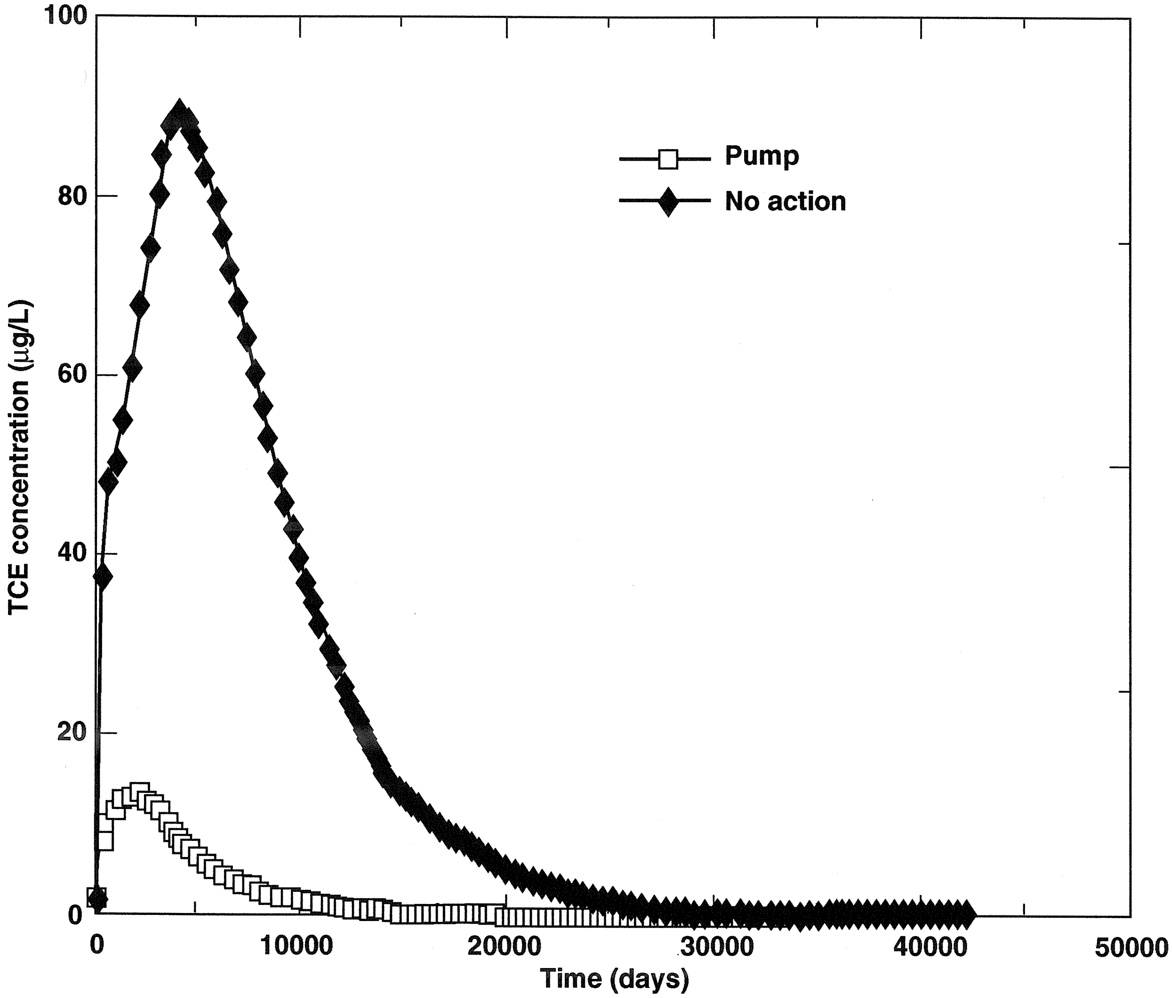
ERD-FS-GSA-3270

Figure E-39. Percent mass of TCE removed for case with pumping ground water extraction well set 1 years 0–10, and pumping ground water extraction well set 2 years 10–110.



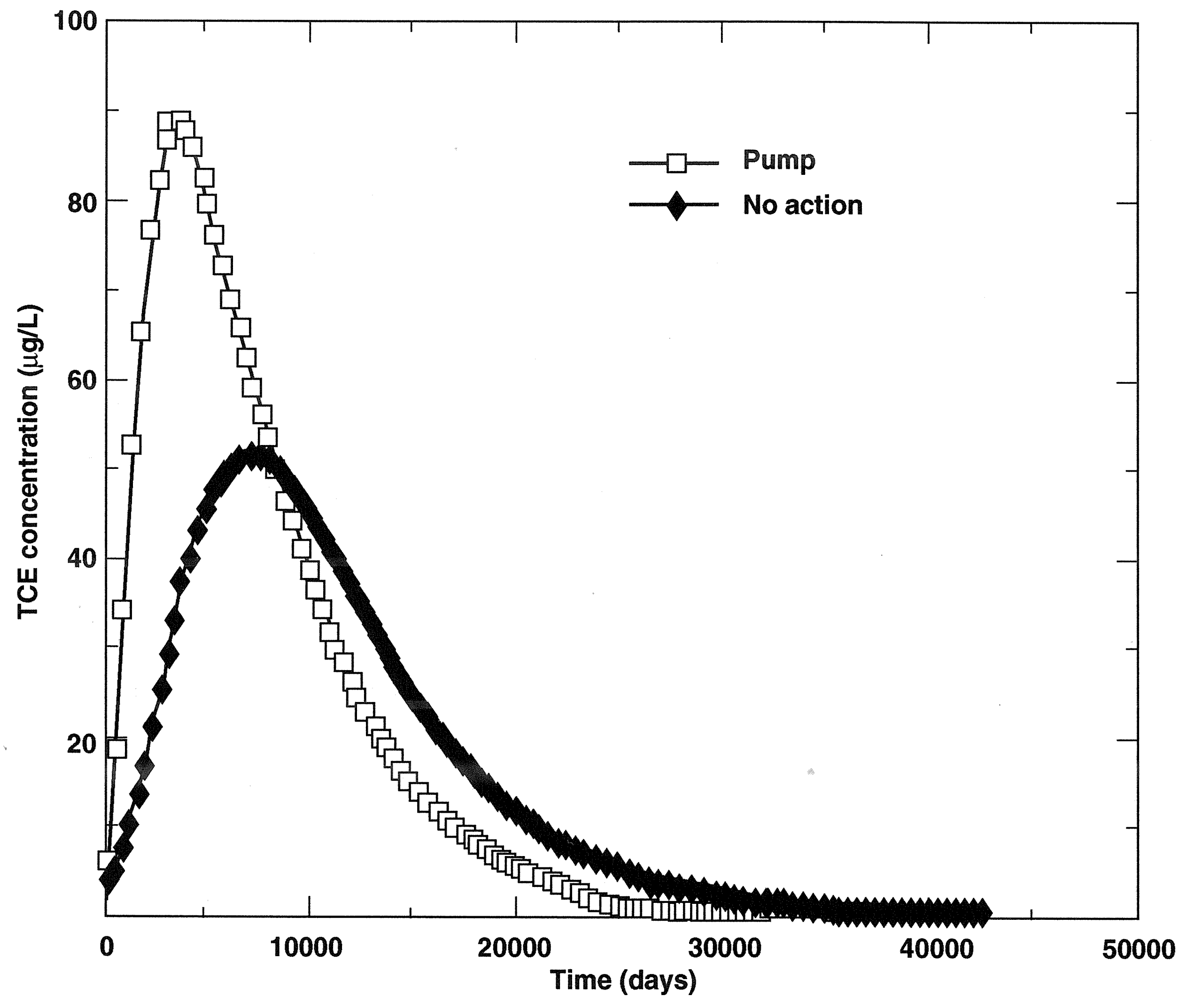
ERD-FS-GSA-3300

Figure E-40. Predicted TCE concentrations at well W-875-08 for pump and no-action scenarios.



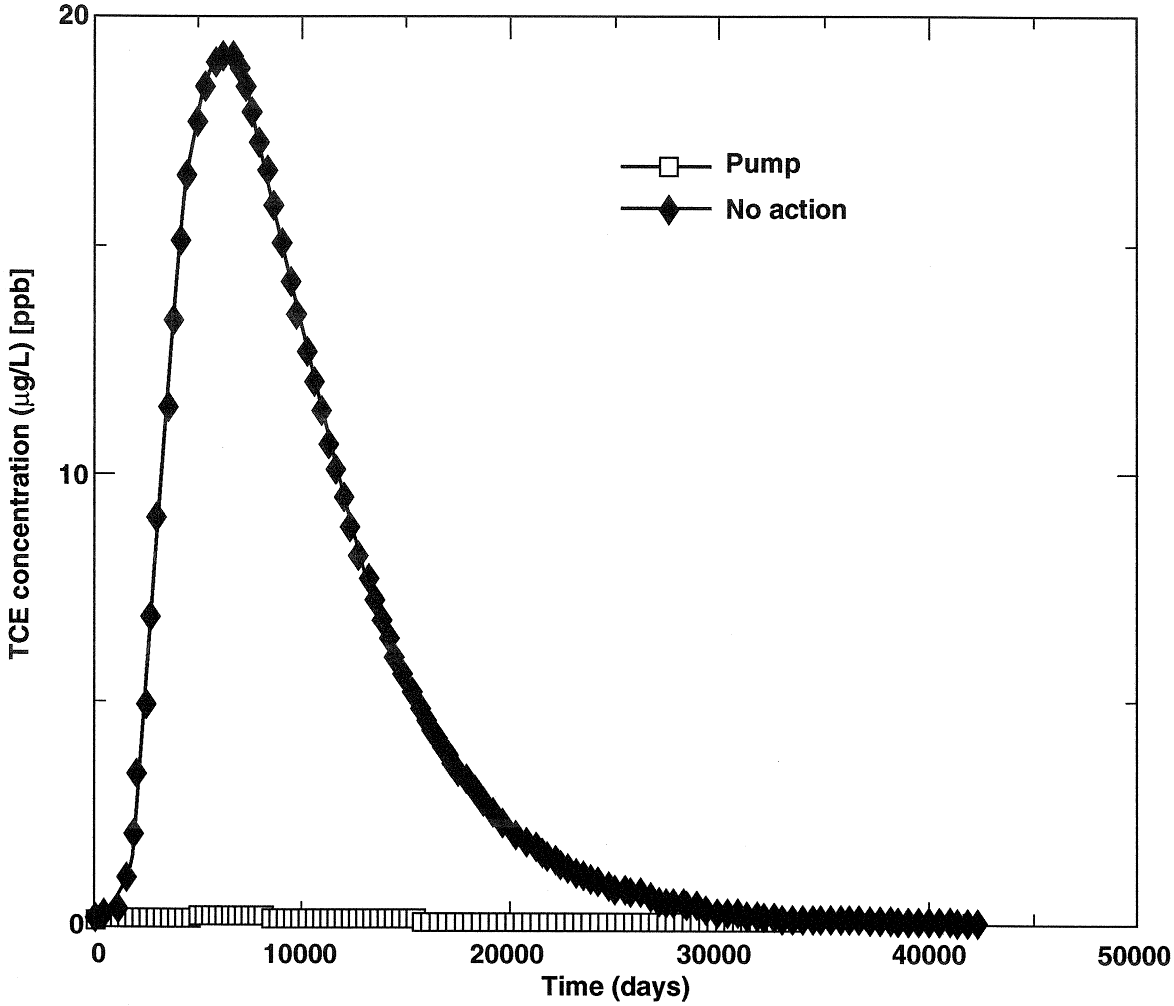
ERD-FS-GSA-3301

Figure E-41. Predicted TCE concentrations at well W-7T for pump and no-action scenarios.



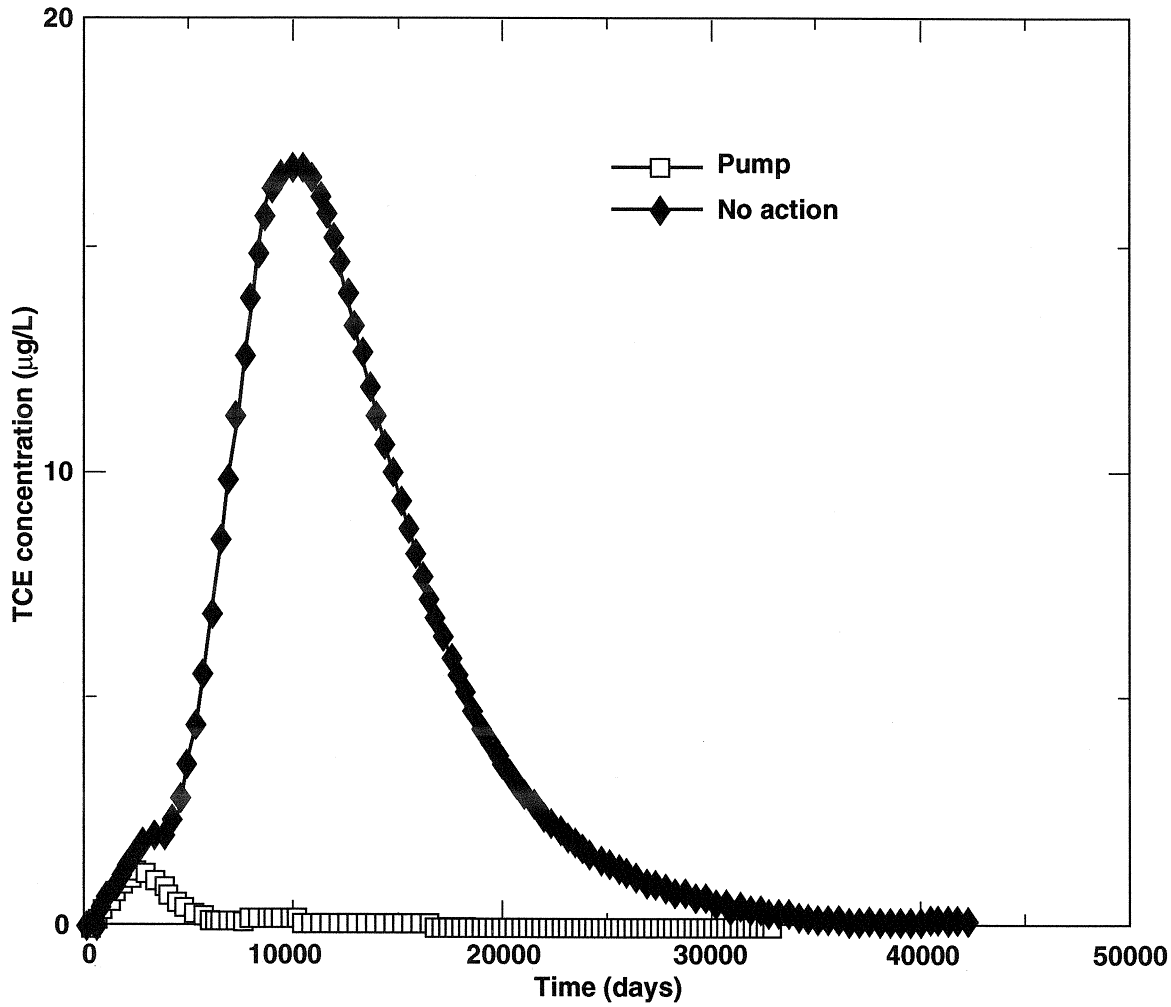
ERD-FS-GSA-3302

Figure E-42. Predicted TCE concentrations at the model observation point located in area of last remaining TCE for pump and no-action scenarios.



ERD-FS-GSA-3303

Figure E-43. Predicted TCE concentrations at CDF–1 for pump and no-action scenarios.



ERD-FS-GSA-3304

Figure E-44. Predicted TCE concentrations at the model observation point located at downgradient model boundary for pump and no-action scenarios.

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Table E-1. VENTING input parameters for the central GSA.

Parameter	Value
Gas extraction rate (L/day)	820,000
Temperature (°C)	16
Soil volume (m^3)	25,200
Organic carbon content	0.0010
TCE octanol-water partitioning coefficient (ml/g)	98
Volumetric water content	0.10
Air-filled porosity	0.15
Venting efficiency factor	0.10
Biodecay efficiency factor	0.0

Table E-2. Flow rates for modeled wells.

Extraction area	No action	Well field 1	Well field 2
Building 873 area	No wells	3 wells at 1.1 gpm	1 well at 0.4 gpm
Building 875 area	No wells	4 wells at 4.5 gpm	4 wells at 4.7 gpm
$Tnbs_1$ window area	No wells	3 wells at 5 gpm	3 wells at 6.6 gpm
Eastern GSA area	No wells	3 wells at 46 gpm	No wells

Table E-3. Remediation scenarios.

Pumping scenario	Ground water extraction at well field 1 (years)	Ground water extraction at well field 2 (years)	Natural attenuation (years)[a]	Total time to reach 100 µg/L (years)	Total time to reach MCL (years)	Total time to reach background (years)
Pump to 100 µg/L	10	20	80	30	65	110
Pump to MCL	10	40	45	30	50	95
Pump to background	10	80	0	30	50	90
No action	0	0	115	55	75	115

[a] Total time after active ground water extraction cessation for natural attenuation and dispersion to reduce TCE to background.

Table E-4. Capture zone parameters and results for well W-7P, completed in the $Tnbs_1$ aquifer.

Pumping rate (ft^3/day) [gpm]	Hydraulic conductivity (ft/day) [cm/sec]	Hydraulic gradient (ft/ft)	Saturated thickness (ft)	Maximum capture width (ft)	Stagnation point distance from well W-7P (ft)
870 [4.5]	3.2 [1.14×10^{-3}]	0.077	10	350	56

Appendix F

Cost Estimates and Design Assumptions for the GSA Remedial Alternatives

Appendix F

Cost Estimates and Design Assumptions for the Remedial Alternatives

Cost estimates have been prepared for the remedial alternatives described in Chapter 4 (Alternatives 1, 2, 3a, and 3b). These estimates and the assumptions we made in preparing them are presented in this appendix. The assumptions discussed here are based on the conceptual remedial designs presented in Chapter 4.

We prepared comparative cost estimates for the purpose of analyzing and selecting the preferred remedial action alternative. These costs may be subject to:

- Changes in Applicable or Relevant and Appropriate Requirements (ARARs).
- Variations in specific assumptions, such as alternative implementation, construction, effectiveness, and system life.
- Changes in dollar value at the time of construction.
- Changes in available equipment and technology at the time of construction.
- Changes in assumed discount rate used in present-worth calculations.
- Changes in applicable Lawrence Livermore National Laboratory (LLNL) taxes such as General and Administrative taxes (G&A), Lab-Directed Research and Development tax (LDRD), and applicable LLNL charges such as Material Procurement Charge (MPC), etc.
- Uncertainties associated with the hydrogeologic characteristics, subsurface heterogeneities, estimated contaminant mass and volume, and estimated life-cycle of remediation.
- Estimated cost accuracy of –30% to +50%.

Cost estimates were developed in accordance with U.S. EPA guidelines (1987 and 1988) and are intended for evaluation of relative costs of remedial alternatives. Because detailed design is beyond the scope of this document and is required for actual cost analysis, costs presented here should not be used for budgetary purposes. A more detailed cost analysis of the selected remedial action alternative will be presented in the Remedial Design (RD) report, following the Record of Decision report.

Present-worth cost estimates assume that the entire funding for a project occurs as a lump sum investment at the beginning of the project life, that funds are initially invested, and that the return on the investment exceeds inflation. Therefore, a discount rate is applied to account for the projected net interest income generated over time. The discount rate is based on the anticipated difference in investment return (i.e., net interest income) and inflation. For this document, we have assumed an interest rate of 6.5% and an inflation rate of 3%, resulting in a discount rate of 3.5%.

Project funding is more likely to occur incrementally (i.e., annually) as the project proceeds rather than as a lump sum investment at the beginning of the project. Therefore, we also present total costs for each alternative with no discount rate (0.0%) and with inflation only (assuming 3.0% inflation).

F-1. Assumptions Used for Development of Remedial Alternative Cost Estimates

Assumptions about different kinds of costs are presented in the same order as costs are presented in Tables F-1 through F-4: capital costs, operation and maintenance cost, monitoring costs, and overhead and contingency costs.

F-1.1. Capital Cost Assumptions and Design Considerations

The following assumptions apply to the estimation of capital costs for all remedial alternatives:

1. Vendor/contractor quotes, vendor catalog prices, and/or LLNL cost experience are used to develop the costs for major construction work and purchase of equipment. Temporary treatment facilities are currently operating at the central and eastern GSA. Where appropriate, existing equipment is listed as "previously installed" and no additional capital cost is incurred.

2. Installation costs for the remediation systems are estimated by applying a percentage, or factor, to the capital cost of major items of equipment. This technique is commonly used in industry to develop conceptual cost estimates. These factors are used to determine the cost of labor and material for installation (58% of major equipment costs), and the cost of instrumentation and electrical components (20% of major equipment costs). Experience with the construction of similar remediation facilities is used to develop these factors. This procedure is considered adequate for comparing costs of the various remedial alternatives because it was applied in the same way to each alternative.

3. Full-time LLNL employees (FTEs) are included as required at a rate of $180,000/year to cover potential additional work during start-up and initial operation of each alternative (such as extra reporting, system evaluation, modeling, etc.). The FTE rate is based upon LLNL fiscal year 1995 resource estimates and includes all applicable LLNL taxes (G&A, LDRD, etc.). We assume 0.1 FTE for Alternative 2, and 3 FTEs for Alternatives 3a and 3b for start-up and initial operation cost estimates.

4. LLNL Plant Engineering planning and Title I, II, and III services are assumed to be 33% of total field costs, which include materials and construction. Included in these charges are the G&A tax (56%) and the LDRD tax (6.38%). Based upon these assumptions, costs are expressed in FTEs. We estimate 0.5 FTEs will be needed to complete Title I, II, and III design for Alternative 2, and 5 FTEs will be needed for Alternatives 3a and 3b at a rate of $180,000/FTE.

5. We assume LLNL taxes on material and outside services to be 11%. This cost includes the MPC on major equipment costs and professional contract services (estimated to be 7%), with G&A taxes applied to the procurement cost (56% of MPC).

6. Drill cuttings produced from ground water well installation are assumed to be either clean or to contain low VOC concentrations that can be aerated on site. Cuttings will be disposed of at a Class III landfill at an estimated cost of $\$20/yd^3$ (including transportation). We assume that 2.5 yd^3 of cuttings will be generated per well.

7. The cost for preparing the required RD report is estimated to be $300,000 for Alternatives 3a and 3b (ground water extraction and treatment systems at central and eastern GSA, and soil vapor extraction system at central GSA). The cost of preparing the RD report is assumed to include all applicable LLNL taxes (GSA, LDRD, etc.)

   The RD report includes engineering design specifications for remediation construction, construction specifications, treatment system drawings and descriptions, well designs, monitoring and construction schedules, costs estimates, and a Remedial Action Work Plan, which contains QA/QC plans, health and safety plans, and project close-out requirements. Costs for treatability studies and reports are also included.

   An RD report would not be required for Alternative 1 or 2.

9. LLNL Protective Service escorts are not required in the central and eastern GSA during normal operating hours and are, therefore, not included in these cost estimates.

F-1.1.1. Ground Water and Soil Vapor Extraction Wells

1. The cost to install a ground water extraction well or piezometer up to 50 ft deep is estimated to be $10,000. This estimate includes labor and materials for soil boring, well construction, and well development. Disposal costs for drill cuttings are presented as a separate line item.

2. An additional $1,500 is estimated for soil boring samples and initial ground water samples to be analyzed for VOCs.

3. Each new ground water extraction well will be fitted with a dedicated pump for either sample collection or extraction. We assume that extraction wells will be fitted with electric submersible pumps. Because prices vary between size and type of pump, we assume an average pump cost of $800 per well and average pump size of 1/2 hp. Each new extraction well will be fitted with a well-head vault, valves, sampling ports, and gauges at an estimated cost of $1,500, including wiring, controller, and installation. Piezometers will not be outfitted with pumps.

4. Hydraulic tests are estimated to cost $3,000 for each ground water extraction well not currently connected to the systems. A cost of $5,000 is estimated for hydraulic testing of the proposed injection well W-7G. A cost of $1,500 is estimated for hydraulic testing of piezometers.

F-1.1.2. Structures

1. The ground water and soil vapor extraction treatment systems in Alternatives 3a and 3b will each be housed in one-story buildings approximately 30 ft by 30 ft. The estimated cost for construction of each building is $300,000. About one-half of this cost estimate is to provide additional required utilities such as electrical, HVAC, water, etc.

2. The estimated cost for geotechnical studies required prior to the construction of each building is $20,000.

F-1.1.3. Off-site Water-Supply Well Replacement

1. The cost to destroy the existing water-supply wells (CDF-1 and CON-1) is estimated to be $10,000 each. This includes labor, materials, expenses for drilling out the well casing and borehole materials, sealing with cement, and waste disposal.
2. The cost to install a new water-supply well, up to 400 ft deep, is estimated to be $60,000. This includes labor and materials for soil boring, well construction, disposal of drill cuttings, and well development.
3. We assume that the electrical supply line will be routed overhead from existing facilities on site less than 500 ft away. The cost of electrical connections, extraction pump and wiring, and associated water system plumbing is estimated at $25,000.
4. Hydraulic testing and start-up is estimated to cost $10,000 for the new water-supply well.

F-1.1.4. POU Treatment Systems

1. One portable point-of-use (POU) treatment system, designed to treat up to 50 gpm, is included as a capital cost only.
2. Operational and installation costs are not included because the system would only be installed and used in the unlikely event that the ground water plume reaches off-site water-supply well SR-1.

F-1.1.5. Soil Vapor Extraction and Treatment System

1. As described in Chapter 4, the conceptual design for the soil vapor extraction system for the central GSA is based on upgrading the existing extraction and treatment system. Extraction well piping, manifold piping, flow and vacuum gauges, electrical connections, and the moisture accumulation assembly are already installed and are designated as "previously installed" in the cost tables.
2. Upgrades to the soil vapor extraction and treatment system consist of a 5-hp blower and three 1,000-lb vapor-phase GAC vessels connected in series.

F-1.1.6. Ground Water Extraction and Treatment System

1. We assume that locations for extraction wells and the treatment systems are as shown in Figure 4-2. Ground water extraction and treatment systems are currently operating at the central and eastern GSA. Seven extraction wells are currently operating at the central GSA and ten additional extraction wells are planned as part of Alternatives 3a and 3b. Three extraction wells are currently operating at the eastern GSA and no additional extraction wells are planned.
2. Upgraded ground water treatment systems proposed for the central and eastern GSA, as described in Chapter 4, consist of a particulate filter assembly, a low-profile tray air stripper (including a blower and transfer pump), a moisture accumulation assembly, an air

heater, two 140-lb vapor-phase GAC vessels connected in series, a discharge storage tank (central GSA only), a discharge pump and associated piping, and instrumentation.

3. We assume that the electrical supply line currently installed for the two ground water treatment facilities will be sufficient for the proposed upgrades. Additional electrical supply lines will be run above ground to each new ground water extraction well in conduit supported with unistrut, adjacent to the extraction system ground water piping.
4. Two-in.-diam Schedule 80 polyvinyl chloride (PVC) piping is specified for conveyance of extracted ground water. The piping will be run above ground, supported with unistrut, from the extraction wells to the appropriate treatment facility. Similar piping will be used to convey a portion of treated water to proposed injection well W-7C.
5. Costs include piping, fittings, valves, totalizing flow meters, gauges, and hardware for installation.
6. The low-profile tray air strippers specified for the central and eastern GSA are designed to handle a flow of up to 50 gpm. Under expected flow and contaminant concentrations, the treatment will reduce VOCs to concentrations at or below 0.5 µg/L.
7. CO_2 will be injected into the treated water stream at the low-profile air stripper effluent to prevent scaling by adequately lowering the effluent pH. The cost of CO_2 injection equipment is estimated to be $1,500.
8. Discharge equipment and materials have been previously installed for all GSA treatment facilities except for connections to proposed injection well W-7C.

F-1.1.7. Professional Environmental Services

1. Consultant design and plan review costs for each alternative are estimated as follows:
   - Alternative 2 = $10,000.
   - Alternatives 3a and 3b = $50,000 (includes ground water and soil vapor extraction/treatment system upgrades).
2. Total permitting costs for treated water and air discharges are estimated at $50,000. The cost for modifying/renewing the existing Substantive Requirement discharge agreement for the central GSA ground water treatment system and obtaining the appropriate permit for reinjection into well W-7G is estimated at $20,000. The cost for modifying/renewing the existing eastern GSA NPDES permit is estimated at $10,000. The cost for modifying/renewing the existing air discharge permit, which covers both the central and eastern GSA ground water treatment systems (vapor treatment), is estimated at $10,000. An additional $10,000 is included to cover miscellaneous permitting expenses associated with the treatment systems (these may included seismic safety inspections, electrical inspections, etc.). We assume no other permits are required for construction and operation of any of the remedial actions.
3. Ground water extraction/treatment system start-up for Alternatives 3a and 3b is estimated at $60,000 and includes coordination, field work, and initial sampling and analyses.
4. Soil vapor extraction system performance evaluation and optimization design is estimated at $25,000 and includes coordination, field work, sampling, and analyses.

F-1.2. Operation and Maintenance Cost Assumptions

Operation and maintenance (O&M) costs include annual maintenance of the ground water and soil vapor extraction and treatment systems in Alternatives 3a and 3b. Maintenance of the ground water monitoring wells/pumps is included in monitoring costs.

A 3.5% discount rate was applied to calculate present-worth costs. This discount rate is based on the Office of Management and Budget (OMB) estimate of government's long-term opportunity costs (OMB, 1992). Operating cost estimates are discounted to 1995 present-worth costs following procedures described in U.S. EPA (1987).

F-1.2.1. Ground Water and Soil Vapor Extraction and Treatment

1. An operating factor of 90% is assumed for the ground water and soil vapor extraction and treatment system in Alternatives 3a and 3b.
2. The cost for electricity is estimated at the rate of $0.07 per kW•h, plus an annual connection fee of $36 per kW. Power consumption for each treatment system is based on the horsepower rating for treatment system components and ground water extraction well pumps.
3. The following annual labor estimations and FTE rates, including indirect labor costs, apply to operation of the ground water and soil vapor extraction and treatment systems in Alternatives 3a and 3b (FTE rates are based upon LLNL fiscal year 1995 resource estimates and include all applicable LLNL taxes):
    - Project management labor: 0.15 FTE at $238,500/y for the soil vapor extraction and treatment system and 0.1 FTE at $238,500/y for each ground water extraction and treatment system in the central and eastern GSA.
    - Engineering labor (for system optimization): 0.2 FTE at $173,500/y for the soil vapor extraction and treatment system and 0.15 FTE at $173,500/y for each ground water extraction and treatment system in the central and eastern GSA.
    - Hydrogeologist labor (for system optimization): 0.1 FTE at $173,500/y for the soil vapor extraction and treatment system and 0.15 FTE at $173,500/y for each ground water extraction and treatment system in the central and eastern GSA.
    - Operating labor: 0.3 FTE at $129,800/y for the soil vapor extraction and treatment system and for each ground water extraction and treatment system in the central and eastern GSA.
    - Clerical labor: 0.1 FTE at $92,600/y for the soil vapor extraction and treatment system and for each ground water extraction and treatment system in the central and eastern GSA.
4. CO_2 will be injected into the treated water stream at the low-profile air stripper effluent to prevent scaling by adequately lowering the effluent pH. The estimated volume of CO_2 required to control scaling is 4,000 lb/y in the central GSA and 12,000 lb/y in the eastern GSA, at $0.60/lb.

5. We assume that discharge permits will require monthly water sample collection at the ground water treatment system influent and effluent ports. An additional sample will be collected during each sampling event for QA/QC. We assume that samples will be analyzed for VOCs by EPA Method 8010 at $50/sample.

6. We assume that the air discharge permit will require monthly samples collected at the treatment system influent, carbon midpoint, and effluent ports. An additional sample will be collected during each sampling event for QA/QC. We assume that samples will be analyzed on site for VOCs at $140/sample for four samples.

   We assume that monthly reporting of system analytic results and flow measurements for each extraction and treatment system will not be required by discharge permits. Monitoring and reporting costs are discussed in Section F-1.3.

7. About 10% of the installed major equipment cost is included in the annual operating cost to cover materials and replacement parts for equipment maintenance for the ground water and soil vapor extraction and treatment system in Alternatives 3a and 3b. About 15% of the total installation cost (58% of installed major equipment cost) is included for routine equipment maintenance labor. The installed major equipment cost includes previously installed equipment not added into the capital costs for Alternatives 3a and 3b. We assume the total installed major equipment cost for the three treatment facilities to be:

   - Central GSA soil vapor treatment: $82,000.
   - Central GSA ground water treatment: $163,000.
   - Central GSA soil vapor treatment: $100,000.

8. Costs for soil vapor extraction and treatment O&M are included for years 1 through 10 in the central GSA for Alternatives 3a and 3b. Costs for central GSA ground water extraction and treatment O&M are included for years 1 through 30 for Alternatives 3a and 3b and for additional years 31 through 55 for Alternative 3b. Costs for eastern GSA ground water extraction and treatment O&M are included for years 1 through 10 in Alternatives 3a and 3b.

9. The cost for replacement of spent GAC is based on vendor quotes applicable to servicing the specific GAC treatment units used in the conceptual design. The cost estimate of $2.30/lb of GAC includes removal of spent unit, off-site thermal regeneration, and replacement with fresh GAC as well as all freight and outside labor costs.

   Vapor-phase GAC consumption rates for soil vapor treatment are based on conservatively modeled soil vapor extraction of TCE vapor concentrations. As discussed in detail in Appendix D, we assumed the initial mass of TCE in the vadose zone is about 221 kg and a total vapor extraction rate of 20 scfm from the seven extraction wells. To calculate carbon consumption, the initial TCE concentration was assumed to be 200 $ppm_{v/v}$ for the first year of operation. These assumptions are based upon modeling results presented in Appendix E, with the conservative assumption that the TCE well gas concentrations predicted at the beginning of each year are the average concentrations at the carbon influent for the duration of the year. Each subsequent year, the extracted vapor TCE concentration is assumed to drop to 25% of the concentration from the previous year, consistent with modeling predictions presented in Appendix E. Consumption rates are based on a 20% adsorption capacity for the first two years of operation, a 10% adsorption capacity for the third and fourth years of operation, and a 5% adsorption capacity for the following years because of reduced carbon adsorption efficiency with declining VOC concentrations. We assumed carbon consumption was 20% higher than calculated to account for extraction of other VOC vapors present in the vadose zone.

For vapor-phase GAC consumption from ground water stripping vapor effluent in the central and eastern GSA, we conservatively assumed 100% volatilization from the ground water passing through the low-profile tray air stripper and a vapor flow rate of 600 cfm (as specified by the air stripper manufacturer). The total mass of TCE removed for the duration of ground water extraction and treatment is assumed to be about 117 kg and 0.7 kg at the central and eastern GSA, respectively. The carbon consumption rate is based on the design flow rate and average inlet concentrations listed in Table F-5, with a decline in concentrations assumed to occur in step fashion. For years 1 to 5, we estimated the carbon consumption rate will be based upon the flow weighted average concentration and flow rates listed in Table F-5 for the central and eastern GSA. For years 6 to 10, inlet concentrations at the central and eastern treatment facilities are assumed to be half of that during years 1 to 5, declining by half every five years for the duration of extraction, consistent with modeling predictions presented in Appendix E. Calculated consumption rates are based on a 5% adsorption capacity due to low predicted VOC concentrations in the air stripper effluent. We assume carbon consumption is 20% higher than calculated to account for extraction of other VOCs (such as PCE) present in the ground water.

F-1.3. Monitoring Program Cost Assumptions

All three alternatives include a ground water monitoring program. The ground water monitoring program is different for each alternative because of varying numbers of new wells and the implementation of ground water extraction in Alternatives 3a and 3b only. The ground water monitoring program for each alternative is summarized in Chapter 4 and presented in detail in Table F-6.

A 3.5% discount rate was applied to calculate present-worth costs. The discount rate is based on the OMB estimate of government's long-term opportunity costs (OMB, 1992). Monitoring cost estimates are discounted to 1995 present-worth costs following procedures described in U.S. EPA (1987).

F-1.3.1. Soil Vapor Monitoring

The vapor monitoring program for Alternatives 3a and 3b includes costs for sample collection and analysis. Soil vapor samples will generally be taken monthly at each of the seven soil vapor extraction wells. The unit price for soil vapor monitoring includes on-site measurement of vapor concentrations for total VOCs using a gas chromatograph. The analytical cost per sample is estimated to be $110/sample for seven samples. We assumed 0.5 h labor at $62.50/h for collection of each sample (for an annual cost per well of $375).

F-1.3.2. Ground Water Monitoring

The ground water monitoring program for each alternative includes water level measurements, sample collection and analysis, well and sampling pump maintenance, reporting, and project management. The ground water sampling program is presented in Table F-6. Other assumptions include:

1. Water level measurements will generally be taken quarterly. They may occasionally need to be taken more frequently to evaluate changing hydraulic conditions, such as during the initiation of ground water extraction. However, this does not significantly affect estimated costs. The labor cost for water level measurements is estimated to be 0.5 h/well/quarter at $62.50/h (1 h/y).
2. Ground water samples will be collected using dedicated pumps installed in each well. The labor cost for sample collection is estimated to be 2 h/sample at $62.50/h. Ground water monitoring costs also include labor for sample collection, purge water disposal, and QA/QC. Maintenance of monitoring systems includes labor for pump repair and pump replacement. We assume that ground water samples would not be collected from proposed piezometers.
3. Sampling frequency and analyses depend on well locations as presented in Table F-6.
4. Analytic costs are based on rates in existing contracts LLNL has with commercial analytical laboratories:
   - VOCs by EPA Method 8010 = $50.
   - Inorganics = $35.
   - General minerals = $100.
   - Other analyses = $930 (includes analyses for PCBs, radionuclides, dissolved drinking water metals, and beryllium).
5. Off-site spring water samples will be taken annually from springs 1, 2, and GEOCRK. The labor cost for sample collection is estimated to be 2 h/suite of samples at $62.50/h. Analytic costs are based on rates in existing contracts LLNL has with commercial analytical laboratories. The following analyses will be included:
   - VOCs by EPA Method 8010 = $50.
   - Drinking water metals = $80.
   - General minerals = $100.
   - High explosives = $220 (HMX/RDX and TNT).
   - Tritium = $55.
   - Gross alpha/gross beta = $40.
6. To account for QA/QC, such as field blanks and duplicate samples, 10% is added to the total analytical cost per alternative.
7. We have assumed that quarterly reports will be submitted to regulatory agencies for the first five years for Alternatives 1 and 2 and annually thereafter. For Alternatives 3a and

3b, quarterly reports will be submitted to regulatory agencies for the first 10 years and annually thereafter. We estimate a cost of $15,000 per report for Alternatives 1, 2, 3a, and 3b. Costs include analytic and water level data entry, interpretation, reporting, and all applicable LLNL taxes.

8. Well and pump maintenance is estimated at $430/y and includes labor, periodic pump replacement, and all applicable LLNL taxes.

9. 0.35 FTE of project management at $238,500/y is allotted for additional interpretation, meetings, and other tasks. When all sampling is reduced to annual frequency, we allot 0.15 FTE for project management.

F-1.4. Contingency Cost Assumptions

A contingency of 20% is applied to the total cost estimate for each alternative.

F-2. Cost Summary

Costs for each alternative are summarized below and are presented in detail in Tables F-1 through F-4. Additional cost information is presented in Chapter 5, Figure 5-1, and Table 5-2.

F-2.1. Alternative 1: No Action

The estimated costs for this alternative are presented in Table F-1. The present-worth cost of monitoring is $3,557,958. The total present-worth cost of the alternative, including contingency, is $4,269,550 for an 80-year project life, which would continue five years past the time when modeling predicts that MCLs are reached. The total nondiscounted worth of Alternative 1 is $11,161,958.

F-2.2. Alternative 2: Risk Mitigation and Natural Attenuation and Dispersion

The estimated costs for this alternative are presented in Table F-2. The capital requirement is $270,060, and the present-worth monitoring cost is $3,539,229. The total present-worth cost of the alternative, including contingency, is $4,571,147 for an 80-year project life, which would continue five years past the time when modeling predicts that MCLs are reached. The total nondiscounted worth of Alternative 2 is $11,420,121.

F-2.3. Alternative 3a: Remediation and Protection of the $Tnbs_1$ Regional Aquifer

The estimated costs for Alternative 3a are presented in Table F-3. The capital requirement is $3,640,908, and the present worth of the O&M cost is $6,123,100. The present-worth monitoring cost is $5,271,434. The total present-worth cost of the alternative, including contingency, is $18,054,532 for a 70-year project life, which would continue five years past the time when modeling predicts that MCLs are reached. The total nondiscounted worth of Alternative 3a is $28,841,714.

F-2.4. Alternative 3b: Ground Water Plume Remediation

The estimated costs for Alternative 3b are presented in Table F-4. The capital requirement is $3,640,908, the present worth of the O&M cost is $7,209,105, and the present-worth monitoring cost is $5,609,953. The total present-worth cost of the alternative, including overhead and contingency, is $19,751,960 for a 60-year project life, which would continue five years past the time when modeling predicts that MCLs are reached. The total nondiscounted worth of Alternative 3b is $35,285,983.

F-3. References

Office of Management and Budget (OMB) (1992), *Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs,* Office of Management and Budget, Washington, D.C. (OMB Circular A-94).

U.S. EPA (1987), *Remedial Action Costing Procedures Manual,* U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Washington, D.C. (EPA-600/8-87-049).

U.S. EPA (1988), *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA,* Interim Final, U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Washington, D.C. (EPA/540/G-89/004, OSWER Directive 9355.3-01).

Table F-1. Alternative 1: No action.

	Quantity	Unit type	Unit price (1995 $)	Total (1995 $)
Ground water monitoring				
Annual costs, years 1–5				
VOC analysis (EPA Method 8010)	288	each	50	14,400
VOC analysis (EPA Method 8020)	158	each	50	7,900
Annual spring water sample analyses	3	suite	545	1,635
QA/QC analyses (10% of analytic costs)				2,394
Quarterly monitoring reports	4	report	15,000	60,000
LLNL tax (11% of outside charges)				9,496
Quarterly water level measurements (including 10 piezometers)	98	well	62.50	6,125
Quarterly ground water sample collection	60	well	500	30,000
Semiannual ground water sample collection	10	well	250	2,500
Annual ground water sample collection	28	well	125	3,500
Annual spring water sample collection	3	spring	125	375
Maintenance of ground water sampling system	98	well	430	42,140
Project management	0.35	FTE	238,500	83,475
Total annual costs, years 1–5				**263,940**
Total present worth, years 1–5 years (factor = 4.515)				**1,191,687**
Annual costs, years 6–80				
VOC analysis (EPA Method 8010)	70	each	50	3,500
VOC analysis (EPA Method 8020)	39	each	50	1,950
Annual spring water sample analyses	3	suite	545	1,635
QA/QC analyses (10% of analytic costs)				709
Annual monitoring report	1	report	15,000	15,000
LLNL tax (11% of outside charges)				2,507
Quarterly water level measurements (including 10 piezometers)	98	well	62.50	6,125
Annual ground water sample collection	70	well	125	8,750
Annual spring water sample collection	3	spring	125	375
Maintenance of ground water sampling system	70	well	430	30,100
Project management	0.15	FTE	238,500	35,775

Table F-1. Alternative 1: No action.

	Quantity	Unit type	Unit price (1995 $)	Total (1995 $)
Total annual costs, years 6–80				**106,426**
Total present worth, years 6–80 years (factor = 22.234)				**2,366,271**
Total present worth of ground water monitoring for 80 years (5 years after reaching MCLs)				**3,557,958**
Contingency costs and totals				
Subtotal present worth of Alternative 1				**3,557,958**
Contingency (20%)				711,592
Total present worth of Alternative 1				**4,269,550**
Total nondiscounted worth of Alternative 1				***11,161,958***

Table F-2. Alternative 2: Exposure control.

	Quantity	Unit type	Unit price (1995 $)	Total (1995 $)
Capital costs				
Off-site water-supply well replacement				
Seal and abandon water-supply wells (CDF-1 and CON-1)	2	well	10,000	20,000
Install new water-supply well (400' deep)	1	well	60,000	60,000
Plumbing, electrical connection, pump	1	lot	25,000	25,000
Hydraulic testing	1	each	10,000	10,000
POU ground water treatment system for off-site water-supply well SR-1				
Wellhead modification	1	each	1,000	1,000
Particulate filter	1	each	2,000	2,000
Aqueous-phase carbon beds (1,000 lb)	2	each	6,000	12,000
Double-containment skid (8' x 15')	1	each	4,000	4,000
System plumbing, totalizer, fittings	1	lot	2,000	2,000
Total field costs (TFC)				**136,000**
Professional environmental services				
Design/assist with project management				10,000
Subtotal professional environmental servives				**10,000**
LLNL tax (11% of total field costs and professional environmental services)				16,060
LLNL ERD team				
Full-time employee	0.10	FTE	180,000	18,000
Total LLNL ERD team				**18,000**
LLNL technical support services				
LLNL Plant Engineering planning and Title I, II, and III services	0.5	FTE	180,000	90,000
Total LLNL support services				**90,000**
Total capital costs				**270,060**

Table F-2. Alternative 2: Exposure control.

	Quantity	Unit type	Unit price (1995 $)	Total (1995 $)
Ground water monitoring				
Annual costs, years 1–5				
VOC analysis (EPA Method 8010)	284	each	50	14,200
VOC analysis (EPA Method 8020)	158	each	50	7,900
	3	suite	545	1,635
QA/QC analyses (10% of analytic costs)				2,374
Quarterly monitoring reports	4	report	15,000	60,000
LLNL tax (11% of outside charges)				9,472
Quarterly water level measurements (including 10 piezometers)	97	well	62.50	6,063
Quarterly ground water sample collection	59	well	500	29,500
Semiannual ground water sample collection	10	well	250	2,500
Annual ground water sample collection	28	well	125	3,500
Annual spring water sample collection	3	spring	125	375
Maintenance of ground water sampling system	98	well	430	42,140
Project management	0.35	FTE	238,500	83,475
Total annual costs, years 1–5				**263,133**
Total present worth, years 1–5 years (factor = 4.515)				**1,188,045**
Annual costs, years 6–80				
VOC analysis (EPA Method 8010)	69	each	50	3,450
VOC analysis (EPA Method 8020)	39	each	50	1,950
Annual spring water sample analyses	3	suite	545	1,635
QA/QC analyses (10% of analytic costs)				704
Annual monitoring report	1	report	15,000	15,000
LLNL Tax (11% of outside charges)				2,501
Quarterly water level measurements (including 10 piezometers)	97	well	62.50	6,063
Annual ground water sample collection	69	well	125	8,625
Annual spring water sample collection	3	spring	125	375
Maintenance of ground water sampling system	69	well	430	29,670
Project management	0.15	FTE	238,500	35,775
Total annual costs, years 6–80				**105,747**
Total present worth, years 6–80 years (factor = 22.234)				**2,351,184**
Total present worth of ground water monitoring for 80 years (5 years after reaching MCLs)				**3,539,229**

Table F-2. Alternative 2: Exposure control.

	Quantity	Unit type	Unit price (1995 $)	Total (1995 $)
Contingency costs and totals				
Subtotal present worth of Alternative 2				**3,809,289**
Contingency (20%)				761,858
Total present worth of Alternative 2				**4,571,147**
Total nondiscounted worth of Alternative 2				***11,420,121***

Table F-3. Alternative 3a: Remediation and protection of Tnbs1 regional aquifer.

	Quantity	Unit type	Unit price (1995 $)	Total (1995 $)
Capital costs				
Central GSA				
Ground water and soil vapor extraction system major equipment costs (MEC)				
Wellhead vaults, valves, sampling ports, gauges	7 previously installed			
Additional wellhead vaults, valves, sampling ports, gauges	10	each	1,500	15,000
Electrical line and conduit	1,200	foot	1.75	2,100
2-in. PVC piping	1,200	foot	1.50	1,800
Electric submersible pumps (1/2 hp)	10 previously installed			
Additional electric submersible pumps (1/2 hp)	10	each	800	8,000
PVC pipe fittings, unistrut	1	lot	10,000	10,000
SVE blower system (5 hp)	1	each	2,000	2,000
SVE pitot tubes, vacuum gauges, sampling ports	Previously installed			
SVE treatment MEC				
Moisture accumulation assembly, carbon canister hookup	Previously installed			
Vapor-phase carbon canisters (1,000 lb)	3	each	6,000	18,000
SVE manifold, piping	Previously installed			
Ground water treatment MEC				
Particulate filter assembly	1	each	3,700	3,700
Low-profile tray air stripper (includes blower and transfer pumps, total of 7 hp)	1	each	20,000	20,000
CO2 injection equipment	1	each	1,500	1,500
Discharge storage tank (20,000 gal.)	Previously installed			
Discharge pump (15 hp)	Previously installed			
Moisture accumulation assembly, carbon canister hookup	1	each	1,100	1,100
Air heater (700 W)	1	each	500	500
Vapor-phase carbon canisters (140 lb)	Previously installed			
Manifold, piping, valves, gauges, sampling ports, totalizer, controllers	1	lot	15,000	15,000
Discharge piping and fittings	Previously installed			
Total MEC for central GSA ground water and SVE treatment system				**98,700**

Table F-3. Alternative 3a: Remediation and protection of Tnbs1 regional aquifer.

	Quantity	Unit type	Unit price (1995 $)	Total (1995 $)
Eastern GSA				
Ground water extraction and treatment system MEC				
Wellhead vaults, valves, sampling ports, gauges	3 previously installed			
Electrical line and conduit	Previously installed			
Electric submersible pumps (1/2 hp)	3 previously installed			
2-in. PVC piping	Previously installed			
PVC pipe fittings, unistrut	Previously installed			
Particulate filter assembly	1	each	3,700	3,700
Low-profile tray air stripper (includes blower and transfer pumps, total of 7 hp)	1	each	20,000	20,000
Moisture accumulation assembly, carbon canister hookup	1	each	1,100	1,100
Vapor-phase carbon canisters (140 lb)	Previously installed			
Manifold, piping, valves, gauges, sampling ports, totalizer, controllers	Previously installed			
Discharge piping and fittings	Previously installed			
Total MEC for eastern GSA ground water treatment system				**24,800**
Total MEC for GSA ground water extraction and SVE treatment systems				**123,500**
Electrical components (20% of MEC)				24,700
Installation cost (58% of MEC)				71,630
Major equipment installed cost (MEIC)				**219,830**
Other capital costs				
Wells/borings				
Ground water extraction well installation and development	4	well	10,000	40,000
Piezometer installation and development	10	well	10,000	100,000
Soil boring and initial water sample analyses	14	well	1,500	21,000
Soil disposal (Class III)	35	cu yard	20	700
Hydraulic test for ground water extraction wells	10	well	3,000	30,000
Hydraulic test for reinjection well	1	well	5,000	5,000

Table F-3. Alternative 3a: Remediation and protection of Tnbs1 regional aquifer.

	Quantity	Unit type	Unit price (1995 $)	Total (1995 $)
Hydraulic test for piezometers	10	well	1,500	15,000
Structures				
Equipment building for central GSA SVE treatment system	1	each	300,000	300,000
Equipment building for central GSA ground water treatment system	1	each	300,000	300,000
Equipment building for eastern GSA ground water treatment system	1	each	300,000	300,000
Geotechnical testing	3	each	20,000	60,000
Off-site water-supply well replacement				
Seal and abandon water-supply wells (CDF-1 and CON-1)	2	well	10,000	20,000
Install new water-supply well (400' deep)	1	well	60,000	60,000
Plumbing, electrical connection, pump	1	lot	25,000	25,000
Hydraulic and start-up testing	1	each	10,000	10,000
POU ground water treatment system for offsite water-supply well SR-1				
Wellhead modification	1	each	1,000	1,000
Particulate filter	1	each	2,000	2,000
Aqueous-phase carbon beds (1,000 lb)	2	each	6,000	12,000
Double-containment skid (8' x 15')	1	each	4,000	4,000
System plumbing, totalizer, fittings	1	lot	2,000	2,000
Total field costs (TFC)				**1,527,530**
Professional environmental services				
Design/assist with project management				50,000
Permitting				50,000
Start-up labor and analyses				60,000
SVE performance evaluation				25,000
Total professional environmental services				**185,000**
LLNL tax (11% of total field costs and professional environmental services)				188,378

Table F-3. Alternative 3a: Remediation and protection of Tnbs1 regional aquifer.

	Quantity	Unit type	Unit price (1995 $)	Total (1995 $)
LLNL ERD team				
Full-time employee	3	FTE	180,000	540,000
Remedial Design Report				300,000
Total LLNL ERD team				**840,000**
LLNL technical support services				
LLNL Plant Engineering planning and Title I, II, and III services	5	FTE	180,000	900,000
Total LLNL support services				**900,000**
Total capital costs				**3,640,908**

Operation and maintenance costs

Fixed O&M costs for soil vapor and ground water extraction and treatment

	Quantity	Unit type	Unit price (1995 $)	Total (1995 $)
Fixed annual O&M costs for SVE				
Electricity	30,000	kw•h	0.07	2,100
Electrical capacity charge	3.7	kw	36	133
SVE air sampling analysis	12	event	560	6,720
Maintenance materials (10% of total installed MEC)				8,200
LLNL tax (11% of outside charges)				1,887
Project management	0.15	FTE	238,500	35,775
System optimization, engineer	0.20	FTE	173,500	34,700
Well field optimization, hydrogeologist	0.10	FTE	173,500	17,350
Operating labor	0.30	FTE	129,800	38,940
Clerical	0.10	FTE	92,600	9,260
Maintenance labor (15% of total installation cost)				7,134
Total fixed annual SVE O&M costs				**162,199**
Total present worth of fixed O&M for soil vapor extraction, years 1–10 (factor = 8.317)				**1,349,010**

Table F-3. Alternative 3a: Remediation and protection of Tnbs1 regional aquifer.

	Quantity	Unit type	Unit price (1995 $)	Total (1995 $)
Fixed annual ground water extraction and treatment O&M for central GSA				
Electricity	170,000	kw•h	0.07	11,900
Electrical capacity charge	21.6	kw	36	776
Scale prevention/recarbonation	4,000	lb CO2	0.60	2,400
Ground water treatment system air sampling analysis	12	event	560	6,720
Ground water treatment system analyses (water only)	12	event	200	2,400
Maintenance materials (10% of total installed MEC)				16,300
LLNL tax (11% of outside charges)				4,455
Project management	0.10	FTE	238,500	23,850
System optimization, engineer	0.15	FTE	173,500	26,025
Well field optimization, hydrogeologist	0.15	FTE	173,500	26,025
Operating labor	0.30	FTE	129,800	38,940
Clerical	0.10	FTE	92,600	9,260
Maintenance labor (15% of total installation cost)				14,181
Total fixed annual ground water extraction and treatment O&M for central GSA				**183,232**
Total present worth of annual ground water treatment O&M for central GSA, years 1–30 (factor = 18.392)				**3,370,000**
Fixed annual ground water extraction and treatment O&M for eastern GSA				
Electricity	60,000	kw•h	0.07	4,200
Electrical capacity charge	7.6	kw	36	274
Scale prevention/recarbonation	12,000	lb CO2	0.60	7,200
Ground water treatment system air sampling analysis	12	event	560	6,720
Ground water treatment system analyses (water only)	12	event	200	2,400
Maintenance materials (10% of total installed MEC)				10,000
LLNL tax (11% of outside charges)				3,387
Project management	0.10	FTE	238,500	23,850
System optimization, engineer	0.15	FTE	173,500	26,025
Well field optimization, hydrogeologist	0.15	FTE	173,500	26,025
Operating labor	0.30	FTE	129,800	38,940
Clerical	0.10	FTE	92,600	9,260
Maintenance labor (15% of total installation cost)				8,700

Table F-3. Alternative 3a: Remediation and protection of Tnbs1 regional aquifer.

	Quantity	Unit type	Unit price (1995 $)	Total (1995 $)
Total fixed annual ground water extraction and treatment O&M for eastern GSA				**166,981**
Total present worth of annual ground water treatment O&M for eastern GSA, years 1–10 (factor = 8.327)				**1,390,453**
Total present worth of fixed O&M costs for 30 years				6,109,463
Variable operating costs for soil vapor and ground water extraction and treatment				
Annual costs, year 1				
SVE replacement of GAC	3,950	lb	2.30	9,085
Ground water treatment system replacement of vapor phase GAC	650	lb	2.30	1,495
Total annual costs, year 1				**10,580**
Total present worth, year 1 (factor = 0.966)				**10,220**
Annual costs, year 2				
SVE replacement of GAC	980	lb	2.30	2,254
Ground water treatment system replacement of vapor phase GAC	650	lb	2.30	1,495
Total annual costs, year 2				**3,749**
Total present worth, year 2 (factor = 0.934)				**3,502**
Annual costs, year 3				
SVE replacement of GAC	490	lb	2.30	1,127
Ground water treatment system replacement of vapor phase GAC	650	lb	2.30	1,495
Total annual costs, year 3				**2,622**
Total present worth, year 3 (factor = 0.902)				**2,365**

Table F-3. Alternative 3a: Remediation and protection of Tnbs1 regional aquifer.

	Quantity	Unit type	Unit price (1995 $)	Total (1995 $)
Annual costs, year 4				
SVE replacement of GAC	125	lb	2.30	288
Ground water treatment system replacement of vapor phase GAC	650	lb	2.30	1,495
Total annual costs, year 4				**1,783**
Total present worth, year 4 (factor = 0.871)				**1,553**
Annual costs, year 5				
SVE replacement of GAC	60	lb	2.30	138
Ground water treatment system replacement of vapor phase GAC	650	lb	2.30	1,495
Total annual costs, year 5				**1,633**
Total present worth, year 5 (factor = 0.842)				**1,375**
Annual costs, years 6–10				
SVE replacement of GAC	5	lb	2.30	12
Ground water treatment system replacement of vapor phase GAC	325	lb	2.30	748
Total annual costs, years 6–10				**759**
Total present worth, years 6–10 (factor = 3.801)				**2,885**
Annual costs, years 11–30				
Ground water treatment system replacement of vapor phase GAC	75	lb	2.30	173
Total annual costs, years 11–30				**173**
Total present worth, years 11–30 (factor = 10.075)				**1,738**
Total present worth of variable operating costs for soil vapor and ground water extraction and treatment				**23,637**

Table F-3. Alternative 3a: Remediation and protection of Tnbs1 regional aquifer.

	Quantity	Unit type	Unit price (1995 $)	Total (1995 $)
Ground water and soil vapor monitoring				
Annual costs, years 1–10				
SVE vapor VOC analysis	84	each	110	9,240
VOC analysis (EPA Method 8010)	305	each	50	15,250
VOC analysis (EPA Method 8020)	179	each	50	8,950
Annual spring water sample analyses	3	suite	545	1,635
QA/QC analyses (10% of analytic costs)				3,508
Quarterly monitoring reports	4	report	15,000	60,000
LLNL tax (11% of outside charges)				10,844
Monthly SVE vapor sample collection	7	well	375	2,625
Quarterly water level measurements (including 10 piezometers)	111	well	62.50	6,938
Quarterly ground water sample collection	65	well	500	32,500
Semiannual ground water sample collection	9	well	250	2,250
Annual ground water sample collection	27	well	125	3,375
Annual spring water sample collection	3	spring	125	375
Maintenance of ground water sampling system	101	well	430	43,430
Project management	0.35	FTE	238,500	83,475
Total annual costs, years 1–10				**284,394**
Total present worth, years 1–10 years (factor = 8.317)				**2,365,306**
Annual costs, years 11–30				
VOC analysis (EPA Method 8010)	209	each	50	10,450
VOC analysis (EPA Method 8020)	179	each	50	8,950
Annual spring water sample analyses	3	suite	545	1,635
QA/QC analyses (10% of analytic costs)				2,104
Annual monitoring report	1	report	15,000	15,000
LLNL tax (11% of outside charges)				4,195
Quarterly water level measurements (including 10 piezometers)	111	well	62.50	6,938
Quarterly ground water sample collection	37	well	500	18,500
Semiannual ground water sample collection	7	well	250	1,750
Annual ground water sample collection	47	well	125	5,875

Table F-3. Alternative 3a: Remediation and protection of Tnbs1 regional aquifer.

	Quantity	Unit type	Unit price (1995 $)	Total (1995 $)
Annual spring water sample collection	3	spring	125	375
Maintenance of ground water sampling system	91	well	430	39,130
Project management	0.35	FTE	238,500	83,475
Total annual costs, years 11–30				**198,376**
Total present worth, years 11–30 years (factor = 10.08)				**1,999,632**
Annual costs, years 31–70				
VOC analysis (EPA Method 8010)	111	each	50	5,550
VOC analysis (EPA Method 8020)	81	each	50	4,050
Annual spring water sample analyses	3	suite	545	1,635
QA/QC analyses (10% of analytic costs)				1,124
Annual monitoring report	1	report	15,000	15,000
LLNL tax (11% of outside charges)				3,009
Quarterly water level measurements (including 10 piezometers)	111	well	62.50	6,938
Semiannual ground water sample collection	37	well	250	9,250
Annual ground water sample collection	37	well	125	4,625
Annual spring water sample collection	3	spring	125	375
Maintenance of ground water sampling system	74	well	430	31,820
Project management	0.15	FTE	238,500	35,775
Total annual costs, years 31–70				**119,150**
Total present worth, years 31–70 years (factor = 7.608)				**906,497**
Total present worth of ground water and soil vapor monitoring for 70 years (5 years after reaching MCLs)				**5,271,434**

Contingency costs and totals

Subtotal present worth of Alternative 3a	**15,045,443**
Contingency (20%)	3,009,089
Total present worth of Alternatie 3a	**18,054,532**
Total nondiscounted worth of Alternative 3a	***28,841,714***

Table F-4. Alternative 3b: Ground water plume remediation.

	Quantity	Unit type	Unit price (1995 $)	Total (1995 $)
Capital costs				
Central GSA				
Ground water and soil vapor extraction system major equipment costs (MEC)				
Wellhead vaults, valves, sampling ports, gauges	7 previously installed			
Additional wellhead vaults, valves, sampling ports, gauges	10	each	1,500	15,000
Electrical line and conduit	1,200	foot	1.75	2,100
2-in. PVC piping	1,200	foot	1.50	1,800
Electric submersible pumps (1/2 hp)	10 previously installed			
Additional electric submersible pumps (1/2 hp)	10	each	800	8,000
PVC pipe fittings, unistrut	1	lot	10,000	10,000
SVE blower system (5 hp)	1	each	2,000	2,000
SVE pitot tubes, vacuum gauges, sampling ports	Previously installed			
SVE treatment MEC				
Moisture accumulation assembly, carbon canister hookup	Previously installed			
Vapor-phase carbon canisters (1,000 lb)	3	each	6,000	18,000
SVE manifold, piping	Previously installed			
Ground water treatment MEC				
Particulate filter assembly	1	each	3,700	3,700
Low-profile tray air stripper (includes blower and transfer pumps, total of 7 hp)	1	each	20,000	20,000
CO2 injection equipment	1	each	1,500	1,500
Discharge storage tank (20,000 gal.)	Previously installed			
Discharge pump (15 hp)	Previously installed			
Moisture accumulation assembly, carbon canister hookup	1	each	1,100	1,100
Air heater (700 W)	1	each	500	500
Vapor-phase carbon canisters (140 lb)	Previously installed			
Manifold, piping, valves, gauges, sampling ports, totalizer, controllers	1	lot	15,000	15,000
Discharge piping and fittings	Previously installed			
Total MEC for central GSA ground water and SVE treatment system				**98,700**

Table F-4. Alternative 3b: Ground water plume remediation.

	Quantity	Unit type	Unit price (1995 $)	Total (1995 $)
		Eastern GSA		
Ground water extraction and treatment system MEC				
Wellhead vaults, valves, sampling ports, gauges	3 previously installed			
Electrical line and conduit	Previously installed			
Electric submersible pumps (1/2 hp)	3 previously installed			
2-in. PVC piping	Previously installed			
PVC pipe fittings, unistrut	Previously installed			
Particulate filter assembly	1	each	3,700	3,700
Low-profile tray air stripper (includes blower and transfer pumps, total of 7 hp)	1	each	20,000	20,000
Moisture accumulation assembly, carbon canister hookup	1	each	1,100	1,100
Vapor-phase carbon canisters (140 lb)	Previously installed			
Manifold, piping, valves, gauges, sampling ports, totalizer, controllers	Previously installed			
Discharge piping and fittings	Previously installed			
Total MEC for eastern GSA ground water treatment system				**24,800**
Total MEC for GSA ground water extraction and SVE treatment systems				**123,500**
Electrical components (20% of MEC)				24,700
Installation cost (58% of MEC)				71,630
Major equipment installed cost (MEIC)				**219,830**
		Other capital costs		
Wells/borings				
Ground water extraction well installation and development	4	well	10,000	40,000
Piezometer installation and development	10	well	10,000	100,000
Soil boring and initial water sample analyses	14	well	1,500	21,000
Soil disposal (Class III)	35	cu yard	20	700
Hydraulic test for ground water extraction wells	10	well	3,000	30,000

Table F-4. Alternative 3b: Ground water plume remediation.

	Quantity	Unit type	Unit price (1995 $)	Total (1995 $)
Hydraulic test for reinjection well	1	well	5,000	5,000
Hydraulic test for piezometers	10	well	1,500	15,000
Structures				
Equipment building for central GSA SVE treatment system	1	each	300,000	300,000
Equipment building for central GSA ground water treatment system	1	each	300,000	300,000
Equipment building for eastern GSA ground water treatment system	1	each	300,000	300,000
Geotechnical testing	3	each	20,000	60,000
Off-site water-supply well replacement				
Seal and abandon water-supply wells (CDF-1 and CON-1)	2	well	10,000	20,000
Install new water-supply well (400' deep)	1	well	60,000	60,000
Plumbing, electrical connection, pump	1	lot	25,000	25,000
Hydraulic and start-up testing	1	each	10,000	10,000
POU ground water treatment system for off-site water-supply well SR-1				
Wellhead modification	1	each	1,000	1,000
Particulate filter	1	each	2,000	2,000
Aqueous-phase carbon beds (1,000 lb)	2	each	6,000	12,000
Double-containment skid (8' x 15')	1	each	4,000	4,000
System plumbing, totalizer, fittings	1	lot	2,000	2,000
Total field costs (TFC)				**1,527,530**
Professional environmental services				
Design/assist with project management				50,000
Permitting				50,000
Start-up labor and analyses				60,000
SVE performance evaluation				25,000
Total professional environmental services				**185,000**
LLNL tax (11% of total field costs and professional environmental services)				188,378

Table F-4. Alternative 3b: Ground water plume remediation.

	Quantity	Unit type	Unit price (1995 $)	Total (1995 $)
LLNL ERD team				
Full-time employee	3	FTE	180,000	540,000
Remedial Design Report				300,000
Total LLNL ERD team				**840,000**
LLNL technical support services				
LLNL Plant Engineering planning and Title I, II, and III services	5	FTE	180,000	900,000
Total LLNL support services				**900,000**
Total capital costs				**3,640,908**

Operation and maintenance costs

Fixed O&M costs for soil vapor and ground water extraction and treatment

	Quantity	Unit type	Unit price (1995 $)	Total (1995 $)
Fixed annual O&M costs for SVE				
Electricity	30,000	kw•h	0.07	2,100
Electrical capacity charge	3.7	kw	36	133
SVE air sampling analysis	12	event	560	6,720
Maintenance materials (10% of total installed MEC)				8,200
LLNL tax (11% of outside charges)				1,887
Project management	0.15	FTE	238,500	35,775
System optimization, engineer	0.20	FTE	173,500	34,700
Well field optimization, hydrogeologist	0.10	FTE	173,500	17,350
Operating labor	0.30	FTE	129,800	38,940
Clerical	0.10	FTE	92,600	9,260
Maintenance labor (15% of total installation cost)				7,134
Total fixed annual SVE O&M costs				**162,199**
Total present worth of fixed O&M for soil vapor extraction, years 1–10 (factor = 8.317)				**1,349,010**

Table F-4. Alternative 3b: Ground water plume remediation.

	Quantity	Unit type	Unit price (1995 $)	Total (1995 $)
Fixed annual ground water extraction and treatment O&M for central GSA				
Electricity	170,000	kw•h	0.07	11,900
Electrical capacity charge	21.6	kw	36	776
Scale prevention/recarbonation	4,000	lb CO2	0.60	2,400
Ground water treatment system air sampling analysis	12	event	560	6,720
Ground water treatment system analyses (water only)	12	event	200	2,400
Maintenance materials (10% of total installed MEC)				16,300
LLNL tax (11% of outside charges)				4,455
Project management	0.10	FTE	238,500	23,850
System optimization, engineer	0.15	FTE	173,500	26,025
Well field optimization, hydrogeologist	0.15	FTE	173,500	26,025
Operating labor	0.30	FTE	129,800	38,940
Clerical	0.10	FTE	92,600	9,260
Maintenance labor (15% of total installation cost)				14,181
Total fixed annual ground water extraction and treatment O&M for central GSA				**183,232**
Total present worth of annual ground water treatment O&M for central GSA, years 1–55 (factor = 24.264)				**4,445,937**
Fixed annual ground water extraction and treatment O&M for eastern GSA				
Electricity	60,000	kw•h	0.07	4,200
Electrical capacity charge	7.6	kw	36	274
Scale prevention/recarbonation	12,000	lb CO2	0.60	7,200
Ground water treatment system air sampling analysis	12	event	560	6,720
Ground water treatment system analyses (water only)	12	event	200	2,400
Maintenance materials (10% of total installed MEC)				10,000
LLNL tax (11% of outside charges)				3,387
Project management	0.10	FTE	238,500	23,850
System optimization, engineer	0.15	FTE	173,500	26,025
Well field optimization, hydrogeologist	0.15	FTE	173,500	26,025
Operating labor	0.30	FTE	129,800	38,940
Clerical	0.10	FTE	92,600	9,260
Maintenance labor (15% of total installation cost)				8,700
Total fixed annual ground water extraction and treatment O&M for eastern GSA				**166,981**

Table F-4. Alternative 3b: Ground water plume remediation.

	Quantity	Unit type	Unit price (1995 $)	Total (1995 $)
Total present worth of annual ground water treatment O&M for eastern GSA, years 1–10 (factor = 8.327)				**1,390,453**
Total present worth of fixed O&M costs for 55 years				**7,185,400**
Variable operating costs for soil vapor and ground water extraction and treatment				
Annual costs, year 1				
SVE replacement of GAC	3,950	lb	2.30	9,085
Ground water treatment system replacement of vapor phase GAC	650	lb	2.30	1,495
Total annual costs, year 1				**10,580**
Total present worth, year 1 (factor = 0.966)				**10,220**
Annual costs, year 2				
SVE replacement of GAC	980	lb	2.30	2,254
Ground water treatment system replacement of vapor phase GAC	650	lb	2.30	1,495
Total annual costs, year 2				**3,749**
Total present worth, year 2 (factor = 0.934)				**3,502**
Annual costs, year 3				
SVE replacement of GAC	490	lb	2.30	1,127
Ground water treatment system replacement of vapor phase GAC	650	lb	2.30	1,495
Total annual costs, year 3				**2,622**
Total present worth, year 3 (factor = 0.902)				**2,365**
Annual costs, year 4				
SVE replacement of GAC	125	lb	2.30	288
Ground water treatment system replacement of vapor phase GAC	650	lb	2.30	1,495
Total annual costs, year 4				**1,783**
Total present worth, year 4 (factor = 0.871)				**1,553**

Table F-4. Alternative 3b: Ground water plume remediation.

	Quantity	Unit type	Unit price (1995 $)	Total (1995 $)
Annual costs, year 5				
SVE replacement of GAC	60	lb	2.30	138
Ground water treatment system replacement of vapor GAC	650	lb	2.30	1,495
Total annual costs, year 5				**1,633**
Total present worth, year 5 (factor = 0.842)				**1,375**
Annual costs, years 6–10				
SVE replacement of GAC	5	lb	2.30	12
Ground water treatment system replacement of vapor phase GAC	325	lb	2.30	748
Total annual costs, years 6–10				**759**
Total present worth, years 6–10 (factor = 3.801)				**2,885**
Annual costs, years 11–30				
Ground water treatment system replacement of vapor phase GAC	75	lb	2.30	173
Total annual costs, years 11–30				**173**
Total present worth, years 11–30 (factor = 10.075)				**1,738**
Annual costs, years 31–55				
Ground water treatment system replacement of vapor phase GAC	5	lb	2.30	12
Total annual costs, years 31–55				**12**
Total present worth, years 31–55 (factor = 5.872)				**68**
Total present worth of variable operating costs for soil vapor and ground water extraction and treatment				**23,705**

Ground water and soil vapor monitoring

	Quantity	Unit type	Unit price (1995 $)	Total (1995 $)
Annual costs, years 1–10				
SVE vapor VOC analysis	84	each	110	9,240
VOC analysis (EPA Method 8010)	305	each	50	15,250
VOC analysis (EPA Method 8020)	179	each	50	8,950

Table F-4. Alternative 3b: Ground water plume remediation.

	Quantity	Unit type	Unit price (1995 $)	Total (1995 $)
Annual spring water sample analyses	3	suite	545	1,635
QA/QC analyses (10% of analytic costs)				3,508
Quarterly monitoring reports	4	report	15,000	60,000
LLNL tax (11% of outside charges)				10,844
Monthly SVE vapor sample collection	7	well	375	2,625
Quarterly water level measurements (including 10 piezometers)	111	well	62.50	6,938
Quarterly ground water sample collection	65	well	500	32,500
Semiannual ground water sample collection	9	well	250	2,250
Annual ground water sample collection	27	well	125	3,375
Annual spring water sample collection	3	spring	125	375
Maintenance of ground water sampling system	101	well	430	43,430
Project management	0.35	FTE	238,500	83,475
Total annual costs, years 1–10				**284,394**
Total present worth, years 1–10 years (factor = 8.317)				**2,365,306**
Annual costs, years 11–55				
VOC analysis (EPA Method 8010)	209	each	50	10,450
VOC analysis (EPA Method 8020)	179	each	50	8,950
Annual spring water sample analyses	3	suite	545	1,635
QA/QC analyses (10% of analytic costs)				2,104
Annual monitoring report	1	report	15,000	15,000
LLNL tax (11% of outside charges)				4,195
Quarterly water level measurements (including 10 piezometers)	111	well	62.50	6,938
Quarterly ground water sample collection	37	well	500	18,500
Semiannual ground water sample collection	7	well	250	1,750
Annual ground water sample collection	47	well	125	5,875
Annual spring water sample collection	3	spring	125	375
Maintenance of ground water sampling system	91	well	430	39,130
Project management	0.35	FTE	238,500	83,475
Total annual costs, years 11–55				**198,376**
Total present worth, years 11–55 years (factor=15.947)				**3,163,506**

Table F-4. Alternative 3b: Ground water plume remediation.

	Quantity	Unit type	Unit price (1995 $)	Total (1995 $)
Annual costs, years 56–60				
VOC analysis (EPA Method 8010)	111	each	50	5,550
VOC analysis (EPA Method 8020)	81	each	50	4,050
Annual spring water sample analyses	3	suite	545	1,635
QA/QC analyses (10% of analytic costs)				1,124
Annual monitoring report	1	report	15,000	15,000
LLNL tax (11% of outside charges)				3,009
Quarterly water level measurements (including 10 piezometers)	111	well	62.50	6,938
Semiannual ground water sample collection	37	well	250	9,250
Annual ground water sample collection	37	well	125	4,625
Annual spring water sample collection	3	spring	125	375
Maintenance of ground water sampling system	74	well	430	31,820
Project management	0.15	FTE	238,500	35,775
Total annual costs, years 56–60				**119,150**
Total present worth, years 56–60 years (factor = 0.681)				**81,141**
Total present worth of ground water and soil vapor monitoring for 60 years (5 years after reaching MCLs)				**5,609,953**

Contingency costs and totals

Subtotal present worth of Alternative 3b	**16,459,966**
Contingency (20%)	3,291,993
Total present worth of Alternative 3b	**19,751,960**
Total nondiscounted worth of Alternative 3b	*35,285,983*

Table F-5. Ground water treatment system design criteria (Alternatives 3a and 3b).

Proposed extraction well	Recent average TCE concentrations in ground water[a] (µg/L)	Recent average PCE concentrations in ground water[a] (µg/L)	Modeled extraction flow rate (gpm)	Flow weighted average TCE concentrations in ground water (µg/L)	Flow weighted average PCE concentrations in ground water (µg/L)
Central GSA[b]					
W-7F	233	127.1	0.3		
W-7O	710	43.1	3.6		
W-7P	44.5	<0.5	4.5		
W-7Q[c]	10,000	1,000	0.3		
W-7R[c]	10	1	1		
W-7S[c]	10	1	1		
W-7T[c]	5	0.5	3		
W-872-02	13	0.5	0.3		
W-873-06	17.5	<0.5	0.5		
W-873-07	6.1	<0.5	0.3		
W-875-08	2,770	380	0.3		
			15.1 gpm	TCE = 444	PCE = 41
Eastern GSA					
W-25N-01	4.2	<0.5	12.5		
W-25N-24	12	0.8	12.5		
W-26R03	9.7	0.7	21		
			46.0 gpm	TCE = 8.8	PCE = 0.7

[a] Average concentrations based on monitoring data collected between fourth quarter 1993 and third quarter 1994.

[b] Wells W-7I, W-875-07, W-875-09, W-875-10, W-875-11, and W-875-15 are also currently connected to the central GSA ground water extraction system, but are dry and will only be operated if water levels rise.

[c] Because these wells are not yet installed, average TCE concentrations are based on interpretation of isoconcentration contour maps for data collected for third quarter 1994. PCE concentrations are estimated at 10% of TCE concentrations.

Table F-6. Proposed ground water monitoring programs for the GSA operable unit.

Alternative	1				2				3a						3b						
Analysis	EPA Method 8010		EPA Method 8020		EPA Method 8010		EPA Method 8020		EPA Method 8010			EPA Method 8020			EPA Method 8010			EPA Method 8020			
Monitoring period (years)	1–5	6–80	1–5	6–80	1–5	6–80	1–5	6–80	1–10	11–30	31–70	1–10	11–30	31–70	1–10	11–55	56–60	1–10	11–55	56–60	Comments
CGSA Well ID																					
W-7A	S	A	S	A	S	A	S	A	S	S	A	S	S	A	S	S	A	S	S	A	Cross-gradient plume boundary well ($Tnbs_1$)
W-7B	A	—	A	—	A	—	A	—	A	A	—	A	A	—	A	A	—	A	A	—	Plume interior well ($Tnbs_1$)
W-7C	A	—	A	—	A	—	A	—	A	A	—	A	A	—	A	A	—	A	A	—	Upgradient clean well ($Tnbs_1$)
W-7E	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Downgradient plume boundary well (shallow)
W-7ES	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Downgradient plume boundary well (shallow)
W-7F	S	A	S	A	S	A	S	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Cross-gradient plume boundary/extraction well (shallow)
W-7G	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Plume boundary/injection well ($Tnbs_1$)
W-7H	A	—	A	—	A	—	A	—	A	A	—	A	A	—	A	A	—	A	A	—	Upgradient clean well (shallow)
W-7I	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Source/extraction well (shallow)
W-7J	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Source well (shallow)
W-7K	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Downgradient plume boundary well ($Tnbs_1$)
W-7L	S	A	S	A	S	A	S	A	S	S	A	S	S	A	S	S	A	S	S	A	Cross-gradient plume boundary well ($Tnbs_1$)
W-7M	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Downgradient plume boundary well ($Tnbs_1$)
W-7N	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Downgradient plume boundary well ($Tnbs_1$)
W-7O	A	—	A	—	A	—	A	—	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Plume interior/extraction well (shallow)
W-7P	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Source/extraction well ($Tnbs_1$)
W-7PS	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Downgradient plume boundary well (shallow)
W-7Q	NA	NA	NA	NA	NA	NA	NA	NA	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Plume interior extraction well (shallow)
W-7R	NA	NA	NA	NA	NA	NA	NA	NA	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Downgradient plume boundary extraction well (shallow)
W-7S	NA	NA	NA	NA	NA	NA	NA	NA	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Downgradient plume boundary extraction well (shallow)
W-7T	NA	NA	NA	NA	NA	NA	NA	NA	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Downgradient plume boundary extraction well (shallow)
W-35A-01	A	—	A	—	A	—	A	—	A	A	—	A	A	—	A	A	—	A	A	—	Plume interior well (shallow)
W-35A-02	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Downgradient plume boundary well (shallow)
W-35A-03	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Downgradient guard well (shallow)
W-35A-04	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Downgradient guard well (shallow)
W-35A-05	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Plume interior well (shallow)
W-35A-06	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Downgradient guard well (shallow)
W-35A-07	A	—	A	—	A	—	A	—	A	A	—	A	A	—	A	A	—	A	A	—	Upgradient clean well ($Tnbs_1$)
W-35A-08	A	—	A	—	A	—	A	—	A	A	—	A	A	—	A	A	—	A	A	—	Upgradient clean well (shallow)
W-35A-09	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Downgradient plume boundary well (shallow)
W-35A-10	A	—	A	—	A	—	A	—	A	A	—	A	A	—	A	A	—	A	A	—	Plume interior well (shallow)
W-35A-11	S	A	S	A	S	A	S	A	S	S	A	S	S	A	S	S	A	S	S	A	Cross-gradient plume boundary well ($Tnbs_1$)

Table F-6. (Continued)

Alternative	1				2				3a						3b						
Analysis	EPA Method 8010		EPA Method 8020		EPA Method 8010		EPA Method 8020		EPA Method 8010			EPA Method 8020			EPA Method 8010			EPA Method 8020			
Monitoring period (years)	1–5	6–80	1–5	6–80	1–5	6–80	1–5	6–80	1–10	11–30	31–70	1–10	11–30	31–70	1–10	11–55	56–60	1–10	11–55	56–60	Comments
W-35A-12	S	A	S	A	S	A	S	A	S	S	A	S	S	A	S	S	A	S	S	A	Cross-gradient plume boundary well ($Tnbs_1$)
W-35A-13	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Downgradient guard well ($Tnbs_1$)
W-35A-14	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Downgradient plume boundary well (shallow)
W-843-01	A	—	A	—	A	—	A	—	A	A	—	A	A	—	A	A	—	A	A	—	Upgradient clean well (shallow)
W-843-02	A	—	A	—	A	—	A	—	A	A	—	A	A	—	A	A	—	A	A	—	Upgradient clean well ($Tnbs_1$)
W-872-01	A	—	A	—	A	—	A	—	A	A	—	A	A	—	A	A	—	A	A	—	Upgradient clean well (shallow)
W-872-02	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Source/extraction well (shallow)
W-873-01	A	—	A	—	A	—	A	—	A	A	—	A	A	—	A	A	—	A	A	—	Upgradient clean well ($Tnbs_1$)
W-873-02	A	—	A	—	A	—	A	—	A	A	—	A	A	—	A	A	—	A	A	—	Plume interior well (shallow)
W-873-03	S	A	S	A	S	A	S	A	S	S	A	S	S	A	S	S	A	S	S	A	Cross-gradient plume boundary well (shallow)
W-873-04	A	—	A	—	A	—	A	—	A	A	—	A	A	—	A	A	—	A	A	—	Upgradient clean well (shallow)
W-873-05	A	—	A	—	A	—	A	—	A	A	—	A	A	—	A	A	—	A	A	—	Plume interior well (shallow)
W-873-06	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Source/extraction well (shallow)
W-873-07	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Source/extraction well (shallow)
W-875-01	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Source well (shallow)
W-875-02	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Downgradient plume boundary well (shallow)
W-875-03	A	—	A	—	A	—	A	—	A	A	—	A	A	—	A	A	—	A	A	—	Plume interior well (shallow)
W-875-04	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Downgradient plume boundary well (shallow)
W-875-05	A	—	A	—	A	—	A	—	A	A	—	A	A	—	A	A	—	A	A	—	Upgradient clean well (shallow)
W-875-06	S	A	S	A	S	A	S	A	S	S	A	S	S	A	S	S	A	S	S	A	Cross-gradient plume boundary well (shallow)
W-875-07	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Source/extraction well (shallow)
W-875-08	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Source/extraction well (shallow)
W-875-09	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Source/extraction well (shallow)
W-875-10	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Source/extraction well (shallow)
W-875-11	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Source/extraction well (shallow)
W-875-15	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Source/extraction well (shallow)
W-876-01	S	A	S	A	S	A	S	A	S	S	A	S	S	A	S	S	A	S	S	A	Cross-gradient plume boundary well (shallow)
W-879-01	A	—	A	—	A	—	A	—	A	A	—	A	A	—	A	A	—	A	A	—	Upgradient clean well (shallow)
W-889-01	Q	A	Q	A	Q	A	Q	A	Q	Q	S	Q	Q	S	Q	Q	S	Q	Q	S	Source well (shallow)
EGSA Well ID																					
CDF-1	Q	A	—	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Water-supply well ($Tnbs_1$)
CON1	Q	A	—	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Water-supply well ($Tnbs_1$)

Table F-6. (Continued)

Alternative	1				2				3a						3b						
Analysis	EPA Method 8010		EPA Method 8020		EPA Method 8010		EPA Method 8020		EPA Method 8010			EPA Method 8020			EPA Method 8010			EPA Method 8020			
Monitoring period (years)	1–5	6–80	1–5	6–80	1–5	6–80	1–5	6–80	1–10	11–30	31–70	1–10	11–30	31–70	1–10	11–55	56–60	1–10	11–55	56–60	Comments
CON2	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Water-supply well ($Tnbs_1$)
New supply well	NA	NA	NA	NA	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Water-supply well ($Tnbs_1$)
W-7D	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Downgradient plume boundary well ($Tnbs_1$)
W-7DS	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Downgradient plume boundary well (shallow)
W-24P-03	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Downgradient guard well (shallow)
W-25D-01	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Downgradient plume boundary well (shallow)
W-25D-02	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Downgradient plume boundary well (shallow)
W-25M-01	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Downgradient plume boundary well (shallow)
W-25M-02	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Downgradient plume boundary well (shallow)
W-25M-03	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Downgradient plume boundary well (shallow)
W-25N-01	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Source/extraction well (shallow)
W-25N-04	A	—	—	—	A	—	—	—	A	—	—	—	—	—	A	—	—	—	—	—	Ugradient clean well (Tmss)
W-25N-05	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Downgradient plume boundary well ($Tnbs_1$)
W-25N-06	A	—	—	—	A	—	—	—	A	—	—	—	—	—	A	—	—	—	—	—	Plume interior well (shallow)
W-25N-07	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Downgradient guard well (shallow)
W-25N-08	A	—	—	—	A	—	—	—	A	—	—	—	—	—	A	—	—	—	—	—	Plume interior well (shallow)
W-25N-09	A	—	—	—	A	—	—	—	A	—	—	—	—	—	A	—	—	—	—	—	Plume interior well ($Tnbs_1$)
W-25N-10	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Downgradient guard well ($Tnbs_1$)
W-25N-11	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Downgradient guard well ($Tnbs_1$)
W-25N-12	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Downgradient guard well ($Tnbs_1$)
W-25N-13	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Downgradient guard well ($Tnbs_1$)
W-25N-15	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Downgradient plume boundary well (shallow)
W-25N-18	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Downgradient plume boundary well ($Tnbs_1$)
W-25N-20	A	—	—	—	A	—	—	—	A	—	—	—	—	—	A	—	—	—	—	—	Plume interior well ($Tnbs_1$)
W-25N-21	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Downgradient plume boundary well ($Tnbs_1$)
W-25N-22	S	A	—	—	S	A	—	—	S	A	A	—	—	—	S	A	A	—	—	—	Cross-gradient plume boundary well ($Tnbs_1$)
W-25N-23	S	A	—	—	S	A	—	—	S	A	A	—	—	—	S	A	A	—	—	—	Cross-gradient plume boundary well ($Tnbs_1$)
W-25N-24	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Source/extraction well (shallow)
W-25N-25	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Downgradient plume boundary well ($Tnbs_1$)
W-25N-26	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Downgradient plume boundary well ($Tnbs_1$)
W-25N-28	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Downgradient plume boundary well ($Tnbs_1$)
W-26R-01	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Source well ($Tnbs_1$)

Table F-6. (Continued)

Alternative	1				2				3a						3b						
Analysis	EPA Method 8010		EPA Method 8020		EPA Method 8010		EPA Method 8020		EPA Method 8010			EPA Method 8020			EPA Method 8010			EPA Method 8020			
Monitoring period (years)	1–5	6–80	1–5	6–80	1–5	6–80	1–5	6–80	1–10	11–30	31–70	1–10	11–30	31–70	1–10	11–55	56–60	1–10	11–55	56–60	Comments
W-26R-02	A	—	—	—	A	—	—	—	A	—	—	—	—	—	A	—	—	—	—	—	Upgradient clean well ($Tnbs_1$)
W-26R-03	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Source/extraction well (shallow)
W-26R-04	A	—	—	—	A	—	—	—	A	—	—	—	—	—	A	—	—	—	—	—	Plume interior well (shallow)
W-26R-05	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Downgradient plume boundary well (shallow/$Tnbs_1$)
W-26R-06	A	—	—	—	A	—	—	—	A	—	—	—	—	—	A	—	—	—	—	—	Plume interior well ($Tnbs_1$)
W-26R-07	Q	A	—	—	Q	A	—	—	Q	A	A	—	—	—	Q	A	A	—	—	—	Downgradient plume boundary well ($Tnbs_1$)
W-26R-08	A	—	—	—	A	—	—	—	A	—	—	—	—	—	A	—	—	—	—	—	Upgradient clean well ($Tnbs_1$)
W-26R-11	A	—	—	—	A	—	—	—	A	—	—	—	—	—	A	—	—	—	—	—	Plume interior well (shallow)
Total samples																					
Quarterly	60	0	31	0	59	1	31	0	65	37	0	37	37	0	65	37	0	37	37	0	
Semiannually	10	0	8	0	10	0	8	0	9	7	37	7	7	37	9	7	37	7	7	37	
Annually	28	70	18	39	28	69	18	39	27	47	37	17	17	7	27	47	37	17	17	7	

Legend: Q = quarterly, S = semiannually, A = annually, — = no sampling, NA = not applicable (well not installed or sealed and abandoned).

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Appendix G

Estimates of Area, Volume, and Mass of Contamination

Appendix G

Estimates of Area, Volume, and Mass of Contamination

G-1. Estimates of Area, Volume, and Mass

This appendix presents estimates of area, volume, and mass of subsurface trichloroethylene (TCE) contamination in the General Services Area (GSA) and shows how these estimates were derived.

As discussed in Chapter 1, TCE is the primary indicator chemical; therefore, we used TCE to delineate the extent, volume, and mass of releases in the central and eastern GSA. Although we did not address other chemicals of potential concern in this appendix, they were considered in the design of alternatives discussed in Chapter 4.

G-1.1. Estimates of Area, Volume, and Mass in the $Tnbs_1$Regional Aquifer

In calculating our estimates of area, volume, and mass of TCE in the $Tnbs_1$ regional aquifer, we used a porosity of 0.25 (dimensionless), which is from the conservative end of the range of porosities for sandstone (5 to 30%) presented in Freeze and Cherry (1979) and a TCE density of 1.46 (g/mL) (Windholz, 1983). The concentration data we used in our estimates were derived from our most recent and complete sampling data (third quarter 1994). We used isoconcentration contours for TCE in the central GSA and eastern GSA $Tnbs_1$ aquifer ground water to define the affected areas (Figs. 1-65 and 1-69). These contours represent the site hydrogeologist's best professional judgment based on available data and experience. We assumed complete vertical mixing of contaminants in ground water. We used water level measurements and well logs to determine the saturated thickness of the aquifer in conjunction with recent ground water analysis to determine an average vertical extent of ground water contamination. We conservatively assumed linear tapering with depth instead of exponential tapering due to the limited data available to characterize the plume shape. We also assumed total saturation for the $Tnbs_1$ aquifer. To calculate total volume of TCE in ground water, we used the geometric mean TCE concentration to represent the bulk concentration of the contaminated volume between adjacent contours. For example, the volume of contaminated ground water between the 10 µg/L and 1.0 µg/L TCE isoconcentration contours was assigned a geometric mean TCE concentration value of 3.16 µg/L. We calculated the volume of contaminated ground water, the mass of TCE, and the liquid equivalent of TCE corresponding to the mass of contaminated ground water for each of the contour intervals shown in Figures 1-65 and 1-69. The corresponding masses/volumes calculated for each interval were summed to estimate the total quantity of contaminated ground water and the corresponding volume/mass of TCE contained within the central GSA and eastern GSA $Tnbs_1$ ground water plumes.

We used the following equation to calculate the total volume (in gallons) of ground water contaminated with TCE ($V_{C\text{-}GW}$):

$$V_{C\text{-}GW} = A \times b \times n \times 7.48 \quad \text{(G-1)}$$

where

A = area between TCE contour intervals (ft^2),

b = contaminated saturated thickness (ft),

n = porosity (dimensionless), and

7.48 = conversion factor (gal/ft^3).

We used the following equation to calculate mass of TCE (M_{TCE}) dissolved in ground water:

$$M_{TCE} = A \times b \times n \times (C_{TCE}/10^6) \times 28.32 \quad \text{(G-2)}$$

where

A = area between contour intervals (ft^2),

b = contaminated saturated thickness (ft),

n = porosity (dimensionless),

C_{TCE} = geometric-mean TCE ground water concentrations (µg/L), and

10^6 and 28.32 = conversion factors (µg/g and L/ft^3, respectively).

We used the following equations to convert the mass of TCE into an equivalent liquid volume of TCE (V_{TCE}):

$$V_{TCE} = M_{TCE} / (1.46 \times 1{,}000 \times 3.785) \quad \text{(G-3)}$$

where

M_{TCE} = mass of TCE (g) from equation G-2 and

$(1.46 \times 1{,}000 \times 3.785)$ = conversion factors for the density of TCE (ml/L and L/gal, respectively).

Table G-2 presents our estimates. These estimates include dissolved phase TCE only. Although nonaqueous-phase liquid (NAPL) is possibly present, these estimates do not include that phase.

G-1.2. Estimates of Area, Volume, and Mass in the Alluvial Aquifer

We used MODFLOW/MT3D results (Appendix E) for mass estimates of TCE in the composite Qt/Qal/$Tnbs_2$/$Tnsc_1$ aquifer (referred to in this report as the Qt/Qal-$Tnsc_1$ alluvial aquifer). These mass estimates include sorbed as well as dissolved TCE and are discussed in Appendix E. Table G-2 presents our TCE mass and volume estimates for the alluvial aquifer.

We used VENTING modeling results to back-calculate the initial TCE mass in central GSA vadose zone soil. We describe this process in Appendix E. Table G-2 displays our TCE mass in soil estimate.

G-2. Sensitivity Study for Estimates of TCE in the Central GSA and Eastern GSA $Tnbs_1$ Regional Aquifer

We have four variables for each of our mass and volume estimates for TCE in ground water for the $Tnbs_1$: area, saturated thickness, porosity, and TCE concentration. By inspection of equations G-1 and G-2, we can see a linear relationship between all four of these parameters and the resulting mass or volume estimates. Therefore, if one of these parameters is adjusted, the result will be adjusted by the same factor. For example, if the saturated thicknesses were decreased by 50%, the resulting TCE mass and volume would also decrease by 50%.

We discuss sensitivities for MODFLOW/MT3D and VENTING modeling parameters in Appendix E. These sensitivities apply to the volume and mass calculations for TCE in the GSA alluvial aquifer ground water and TCE in the central GSA vadose zone.

G-3. References

Freeze, R. A., and J. A. Cherry (1979), *Groundwater*, Prentice-Hall, Englewood Cliffs, NJ.

Windholz, M., Ed. (1983), *The Merck Index*, 10th Edition, Merck & Co., Rahway, NJ.

Table G-1. Estimated TCE in GSA Tnbs$_1$ aquifer ground water.

Location	Total affected area (ft^2)	Average contaminated saturated thickness (ft)	Volume of TCE contaminated water (ft^3)	TCE volume (gal)	TCE mass (kg)
Central GSA	64,000	90	1,400,000	0.040	0.22
Eastern GSA	130,000	50	1,600,000	0.020	0.11
GSA total	194,000	—	3,000,000	0.060	0.33

Table G-2. Estimated TCE in the GSA based on modeling input and results.

Location	TCE volume (gal)	TCE mass (kg)
Central GSA vadose zone soil[a]	40	221
GSA alluvial aquifer ground water[b]	24	134

[a] Based on VENTING modeling.

[b] Based on MODFLOW/MT3D modeling.

Appendix H

Evaluation of Remediation to Background VOC Concentration in Ground Water

Appendix H

Evaluation of Remediation to Background VOC Concentrations in Ground Water

State Water Resources Control Board Resolutions 68-16 and 92-49 require that remediation of ground water must be continued until background conditions are restored, unless a waiver is granted or reaching this goal is technically or economically infeasable. This appendix presents estimated costs and predicted increased project lifetimes for reaching and maintaining "background" volatile organic compound (VOC) concentrations in ground water over and above costs and time required to reach maximum contaminant levels (MCLs). For purposes of this document, we assume that "background" equals the level of analytical laboratory detection for trichloroethylene (TCE) (<0.5 µg/L), the predominant chemical of concern in the General Services Area (GSA) operable unit (OU).

As presented in Appendix E, the increase in project lives was modeled using natural attenuation and dispersion, ground water extraction, and/or soil vapor extraction (SVE) with ground water extraction to reach background levels under five scenarios:

- Reduction of VOC concentrations to background solely by natural attenuation and dispersion (Alternatives 1 and 2).
- Ground water extraction to reduce VOC concentrations to MCLs in the eastern GSA and to about 100 µg/L in the central GSA, followed by natural attenuation and dispersion to reduce VOC concentrations to background (Alternative 3a).
- Ground water extraction to reduce VOC concentrations to MCLs throughout the GSA OU, followed by natural attenuation and dispersion (Alternative 3b).
- Continuous ground water extraction as configured in Alternatives 3a and 3b to reduce ground water VOC concentrations to background in the GSA OU.
- Continuous ground water extraction to reduce ground water VOC concentrations to background, coupled with SVE to reduce soil vapor concentrations to levels protective of ground water at background.

The fifth scenario consists of operating ground water extraction as configured in Alternatives 3a and 3b until VOC concentrations are reduced to background (i.e. <0.5 µg/L) concentrations. Additionally, SVE would be continued until soil vapor VOC concentrations are reduced to the point where ground water would not be impacted above background concentrations. In Appendix E, we calculated the preliminary remediation goal for this scenario to be 0.036 $ppm_{v/v}$ TCE. We also calculated the amount of operational time needed for SVE to achieve this goal to be about 8 years. We conservatively assume 15 years of operation to be consistent with our conservative assumption for SVE discussed in Alternative 3 (Section 4.3.1.1).

In addition to added length of time required for SVE, we made the following design assumptions for expansion of the SVE system to account for an increased area that would need to be remediated to meet the remediation goal:

- Install an additional 10 shallow SVE wells to be located in areas of minor sources such as northeast of Building 875 and near former dry wells in the vicinity of Building 873.

- Install two additional blowers to extract vapor from these additional wells.
- Install associated subsurface piping, fittings, and measurement equipment.
- Increase proportionately the requirements for project management and other operations labor to account for additional sampling, system optimization, and reporting.
- Increase operational expenses such as electricity, sample analysis, and GAC consumption in accordance with increased well field needs.

Table H-1 compares the additional costs required for each of these five scenarios and their respective project lives. Costs are presented using three different discount rates:

- A 3.5% discount rate to reflect 1995 present-worth dollars.
- A 0% discount rate to reflect 1995 dollars based on the assumption that funding will be provided incrementally over the life of the project.
- A negative 3.0% discount rate to reflect total dollars spent accounting for an annual inflation rate of 3%.

Figures H-1 through H-6 present this comparative cost information over time for the various scenarios.

As shown in Table H-1, modeling predicts that remediation projects must continue for an additional 35 to 45 years to reach background concentrations. The increased monitoring and/or ground water extraction required over this period of time would increase total project costs significantly. By showing costs based on discount rates of 0% and negative 3.0%, the potential impact of extending project lives is more clearly shown. If funding is provided at the onset of the project, invested, then disbursed throughout the project (assuming a 3.5% discount rate), the additional costs for reaching background range from $0.17 million to $4.10 million, an increase of about 4–21% of total cost (see also Fig. H-7). However, if funding is provided incrementally throughout the project life (typical of government funding), the additional costs become much more significant: $5.08 million to $19.52 million in 1995 dollars (a 0% discount rate), or $70.59 million to $168.02 million assuming a conservative annual inflation rate of 3% (a negative 3.0% discount rate). See Figures H-8 and H-9.

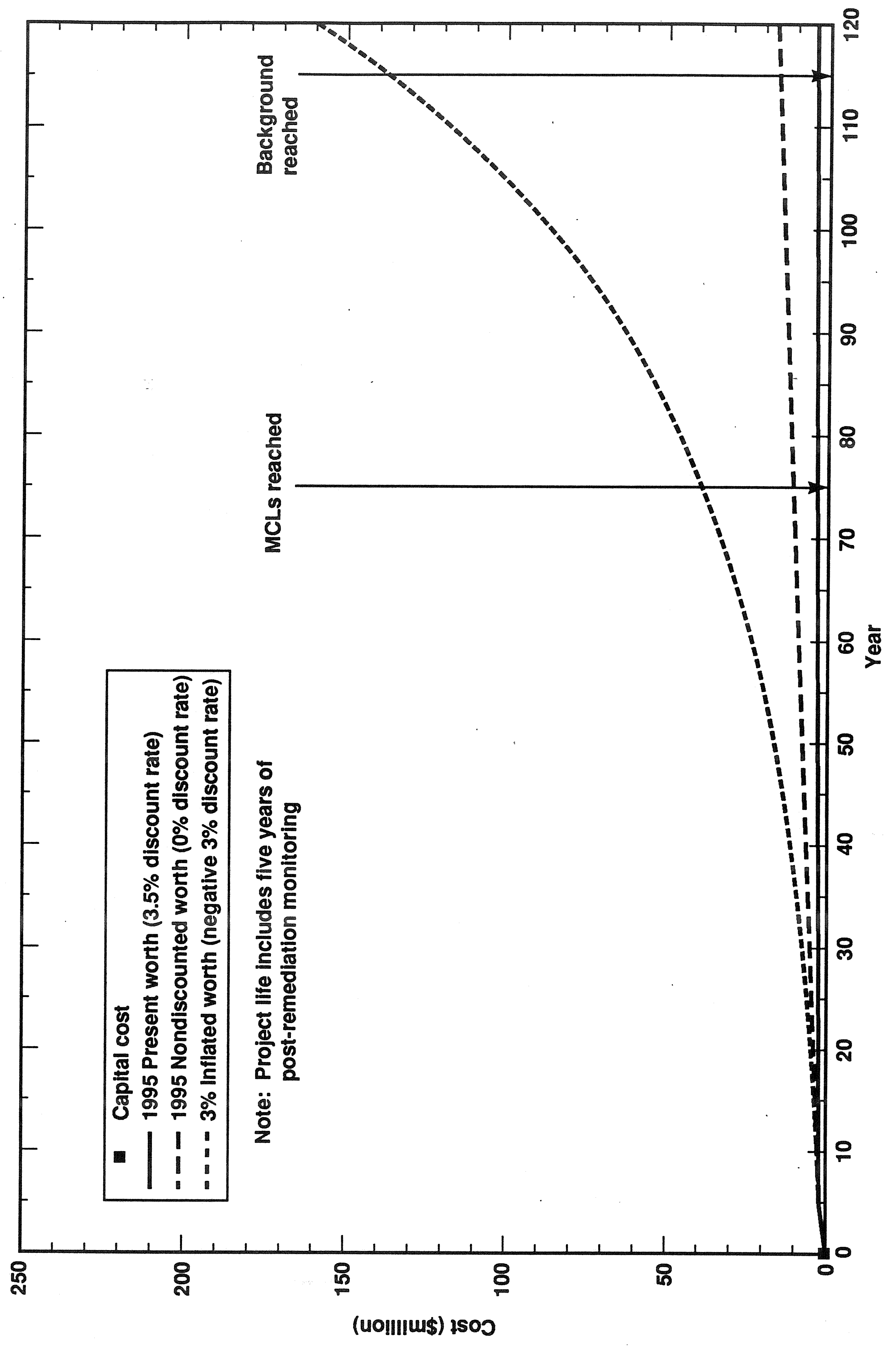
Although modeling predicts that the total project life of ground water extraction would be 5 years less than that of Alternative 3b (which relies on natural attenuation and dispersion to reduce VOC concentrations from MCLs to background), the biggest increase in costs would be incurred by continuing ground water and SVE and treatment until background concentrations are reached. The most significant factors of this increase are the greater frequency of monitoring assumed during active remediation, and the added capitol costs associated with expanding the SVE system. Also, active remediation would need to continue 35 more years than presented in Alternative 3b, including additional costs for ground water extraction and SVE treatment system operation, maintenance, and reporting. Figure H-10 presents the costs per mass of VOCs removed over time for Alternative 3B, if ground water extraction and treatment are continued until background concentrations are reached. As seen in Figure H-10, remediation costs to reach MCLs peak at $1.5 million per pound of VOCs removed and $16 million per pound of VOCs removed to reach background. As such, remediation costs ($million per lb. of VOCs removed) substantially increase after MCLs are reached.

To evaluate the potential economic feasibility of achieving "background" VOC concentrations, we analyzed the predicted costs associated with monitoring natural attenuation and dispersion as well as with active ground water and SVE and treatment and compared them to the costs associated with reaching MCLs. Although present-worth cost analysis, as presented in the EPA Remedial Action Costing Procedures Manual, may be useful in evaluating the economic feasibility of lump-sum funded projects (such as one-time capital cost purchases), it significantly underestimates the economic costs for long-term projects that are incrementally funded. As indicated in Table H-1, remediation to "background" requires an additional 35 to 45 years beyond the minimum 60- to 80-year time frame of Alternatives 1, 2, 3a, and 3b based on our modeling. By discounting costs with the 1995 present-worth discount factor (3.5% discount rate), present-worth cost analysis tends to underestimate the economic impact of remediating from MCLs (5.0 µg/L) to "background" (<0.5 µg/L), especially as projects exceed a life span of 30 years. Therefore, we evaluated and compared the costs associated with monitoring natural attenuation and dispersion or actively remediating ground water until "background" VOC concentrations are reached, based on flat (i.e., no inflation or discounting) 1995 dollars (0% discount rate) as well as on a 3% rate of inflation (negative 3% discount rate). This latter rate is more appropriate for long-term government projects, which are funded annually rather than funded in a lump sum.

Under the annual funding scenario with a 3% rate of inflation, this analysis shows that the additional expense of remediating/monitoring ground water from health protective MCLs (5.0 µg/L) to "background" (<0.5 µg/L) ranges from $70.59 million to $168.02 million. This analysis clearly shows the economic impracticability and extremely low cost benefit of continuing natural attenuation and dispersion monitoring or active ground water and/or SVE and treatment until "background" ground water VOC concentrations are reached.

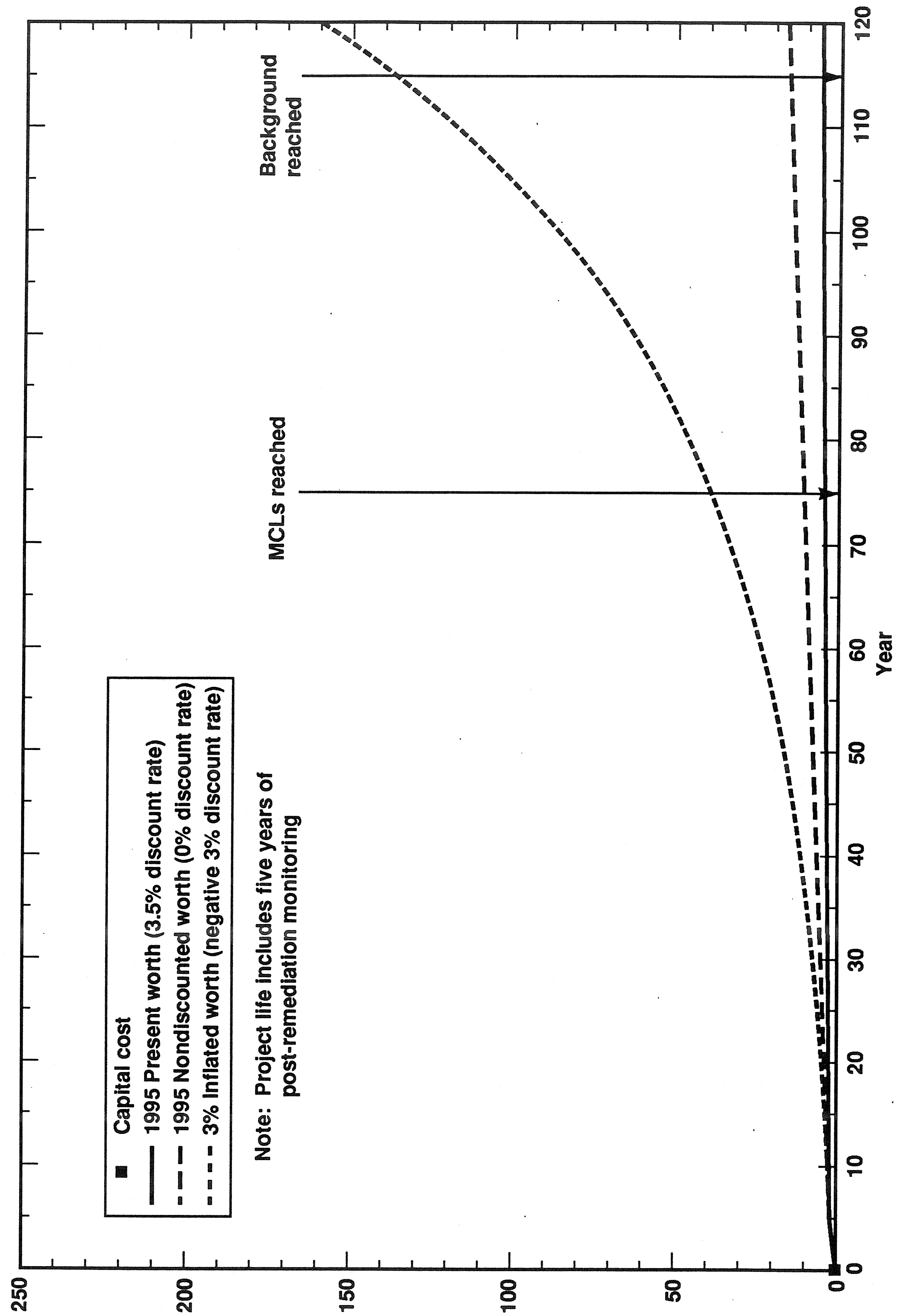
Reference

U.S. EPA (1987), *Remedial Action Costing Procedures Manual*, U.S. Environmental Protection Agency, Washington, D.C. (EPA/600/8-87/049).



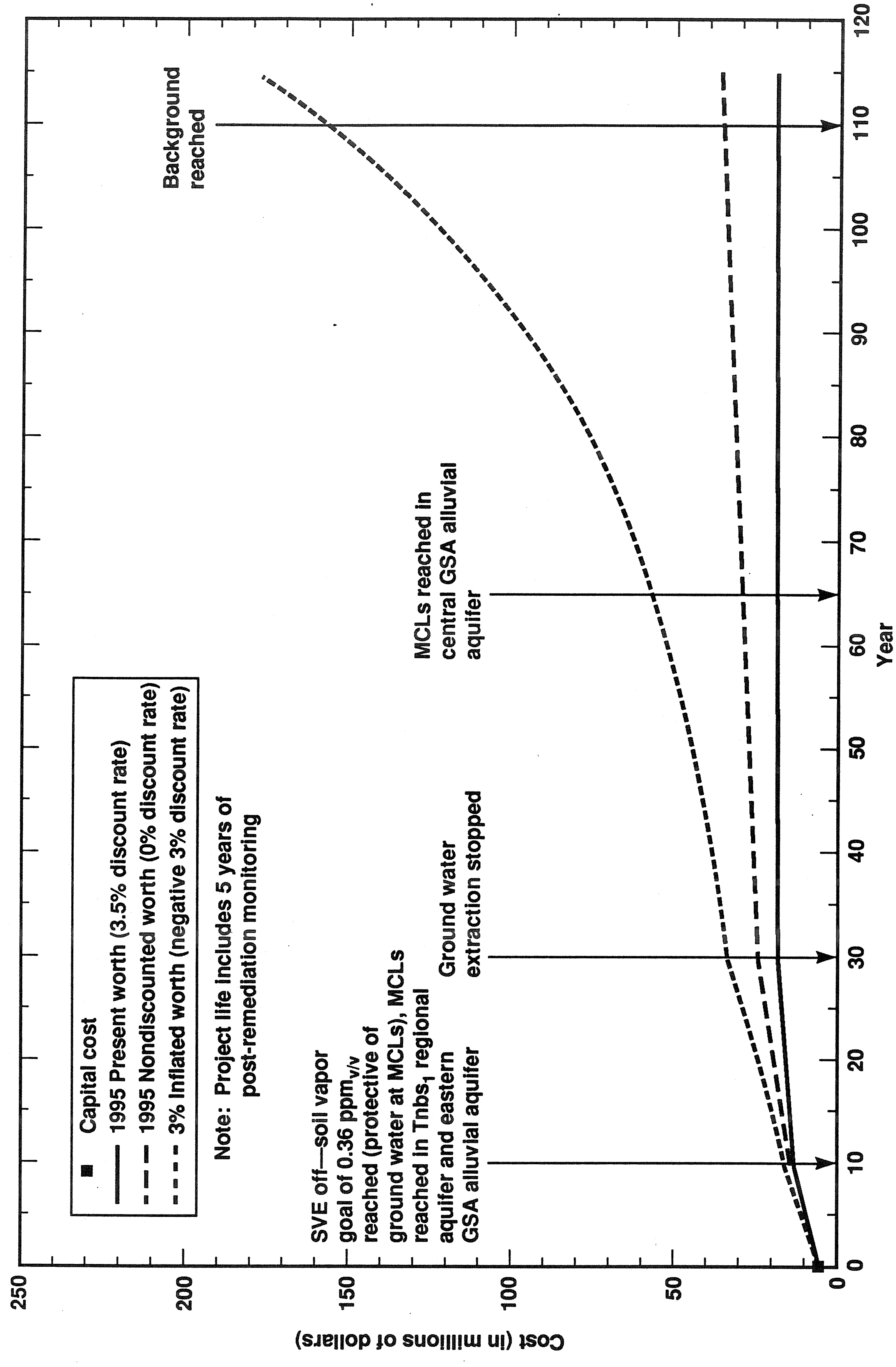
ERD-FS-GSA-3310

Figure H-1. Comparison of cumulative cost at three discount rates—Alternative 1.



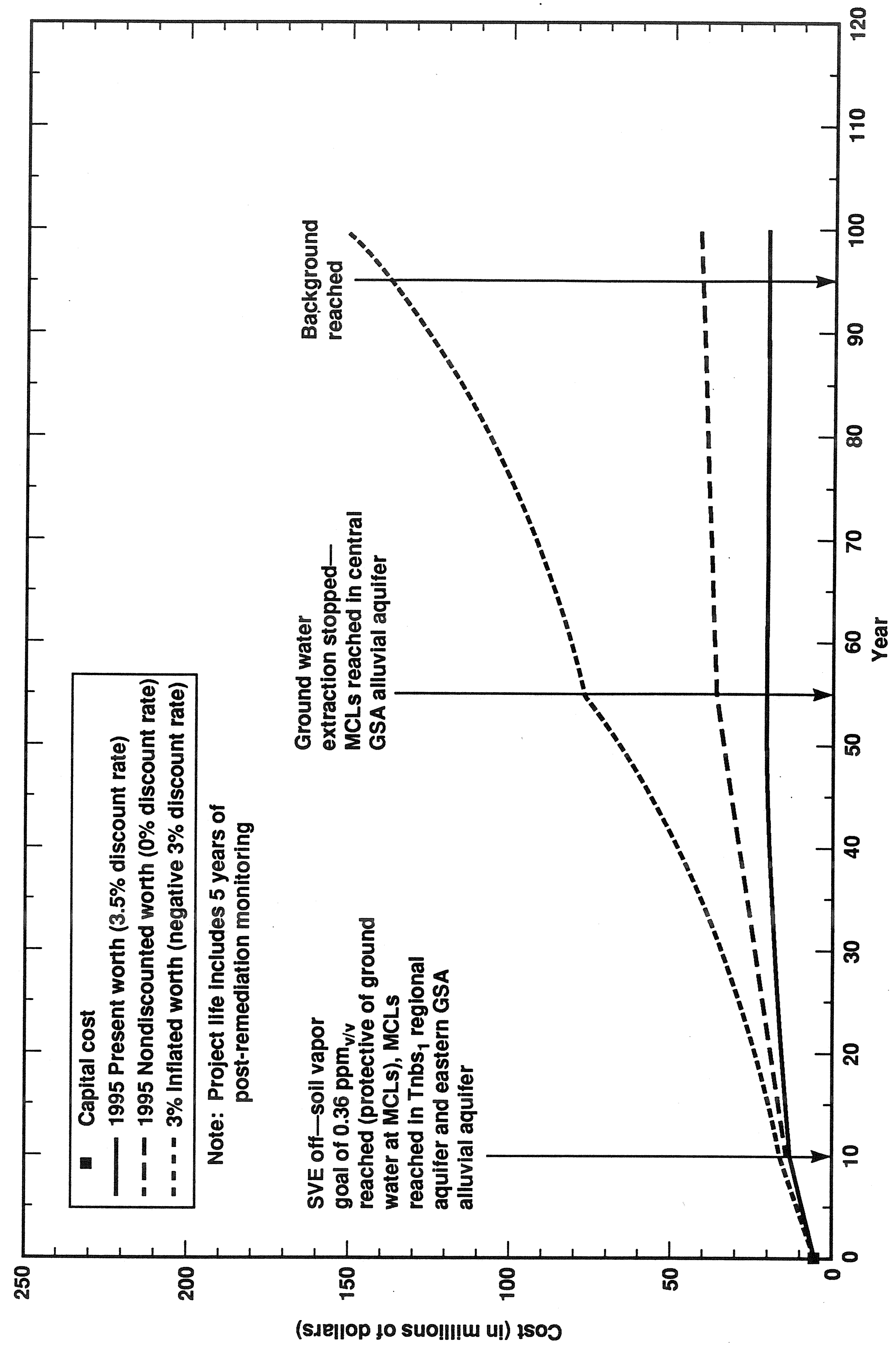
ERD-FS-GSA-3311

Figure H-2. Comparison of cumulative cost at three discount rates—Alternative 2.



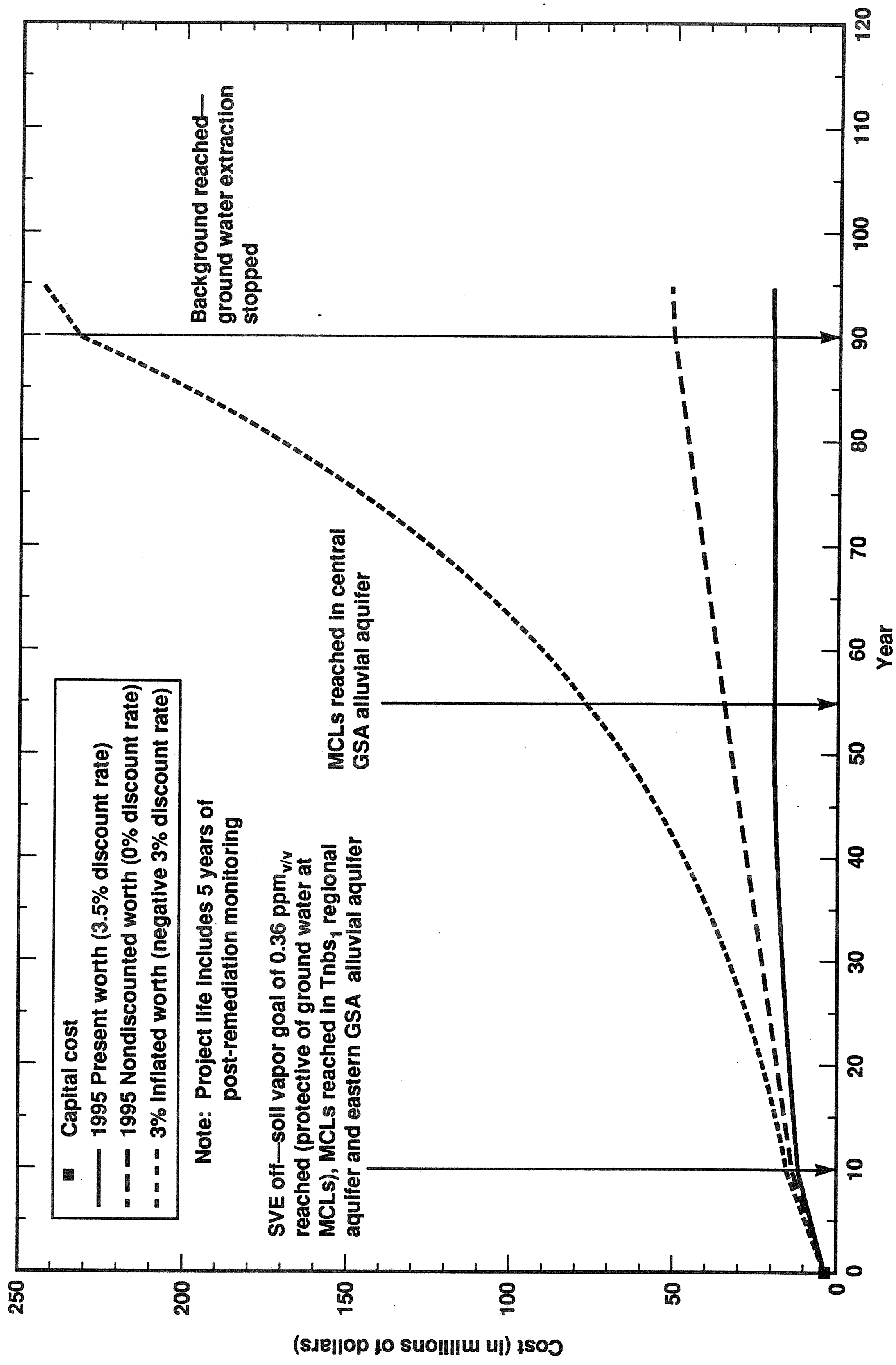
ERD-FS-GSA-3312

Figure H-3. Comparison of cumulative cost at three discount rates—Alternative 3a.



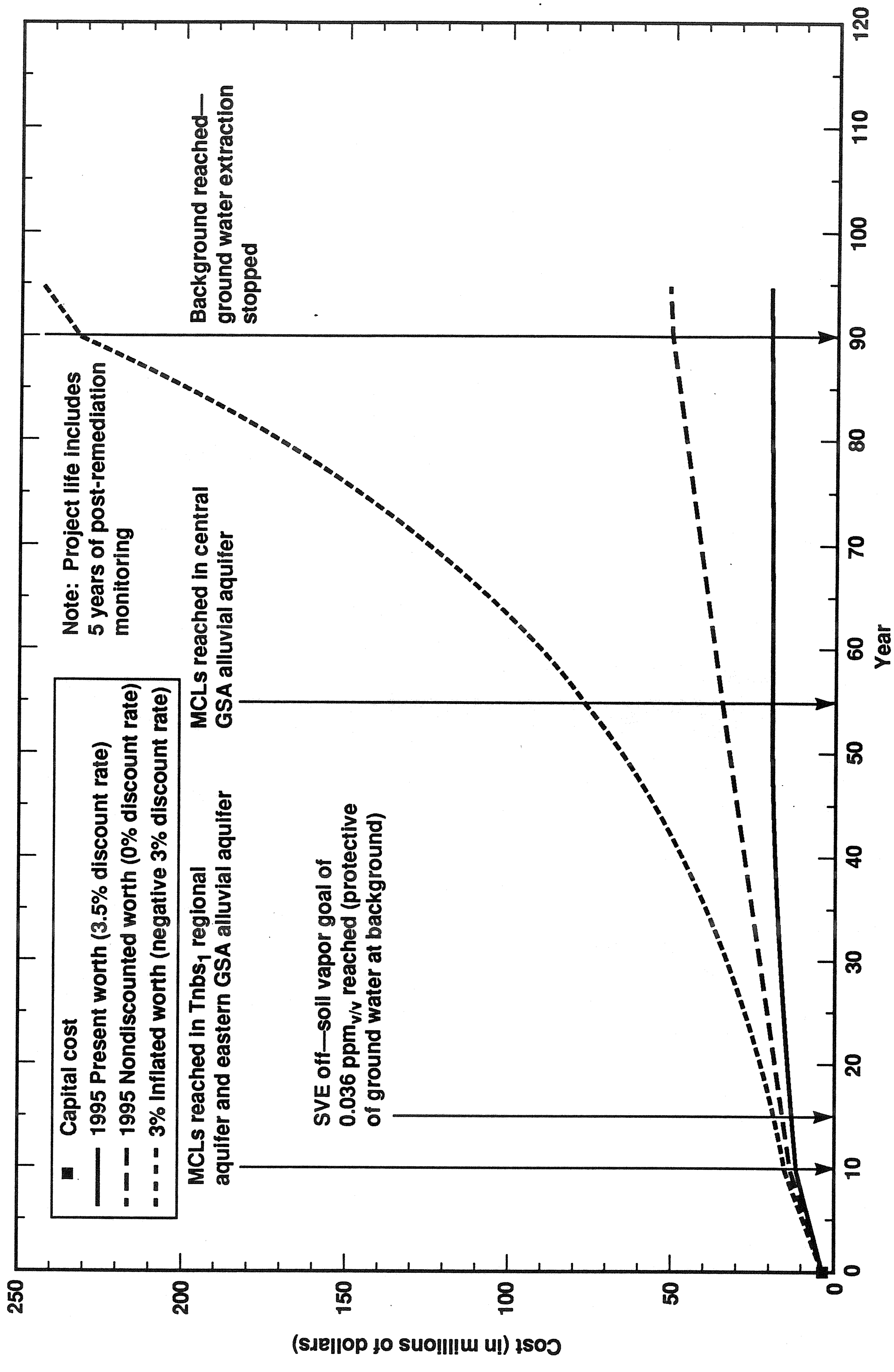
ERD-FS-GSA-3313

Figure H-4. Comparison of cumulative cost at three discount rates—Alternative 3b.



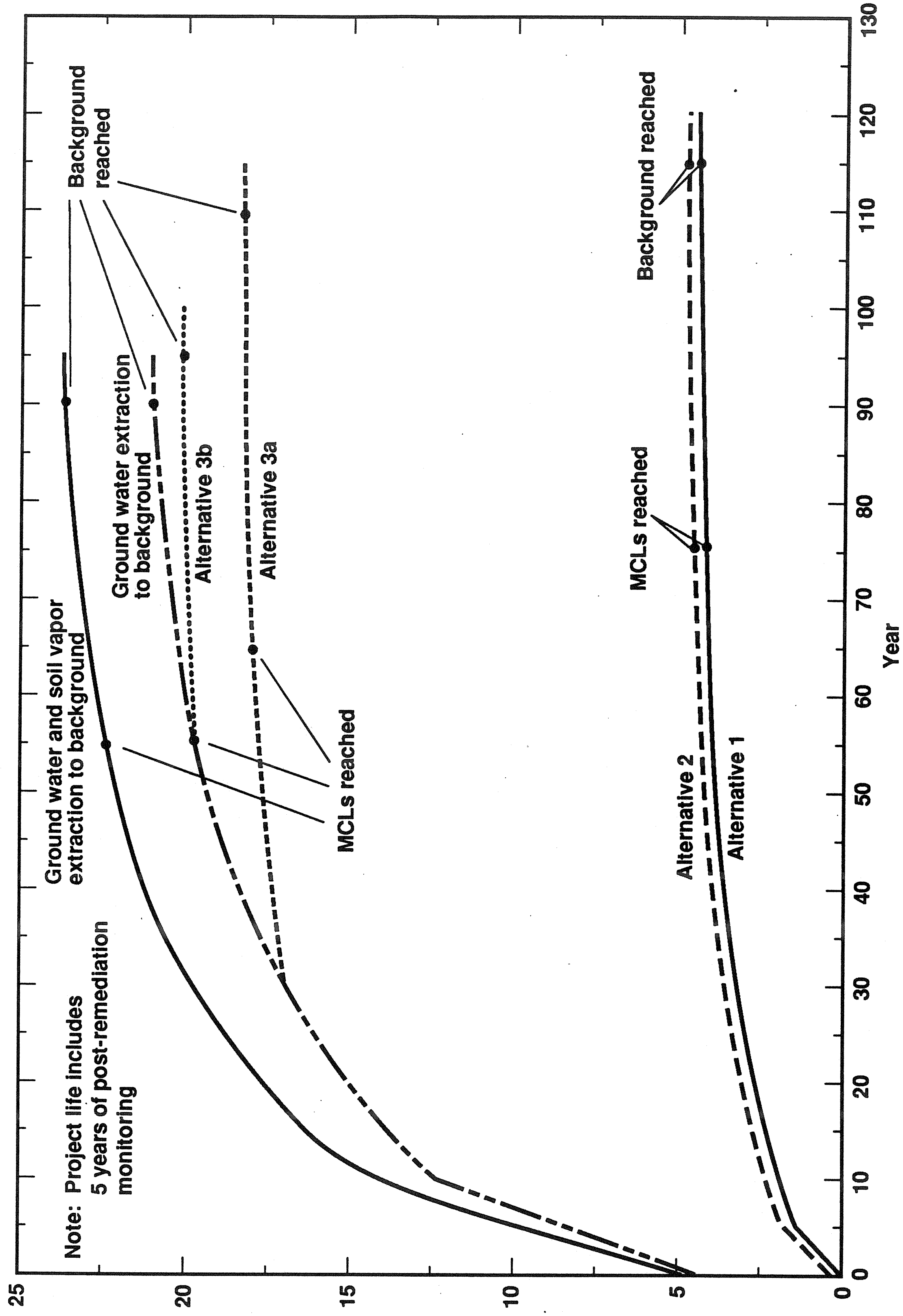
ERD-FS-GSA-3314

Figure H-5. Comparison of cumulative cost at three discount rates—ground water extraction continued until background is reached.



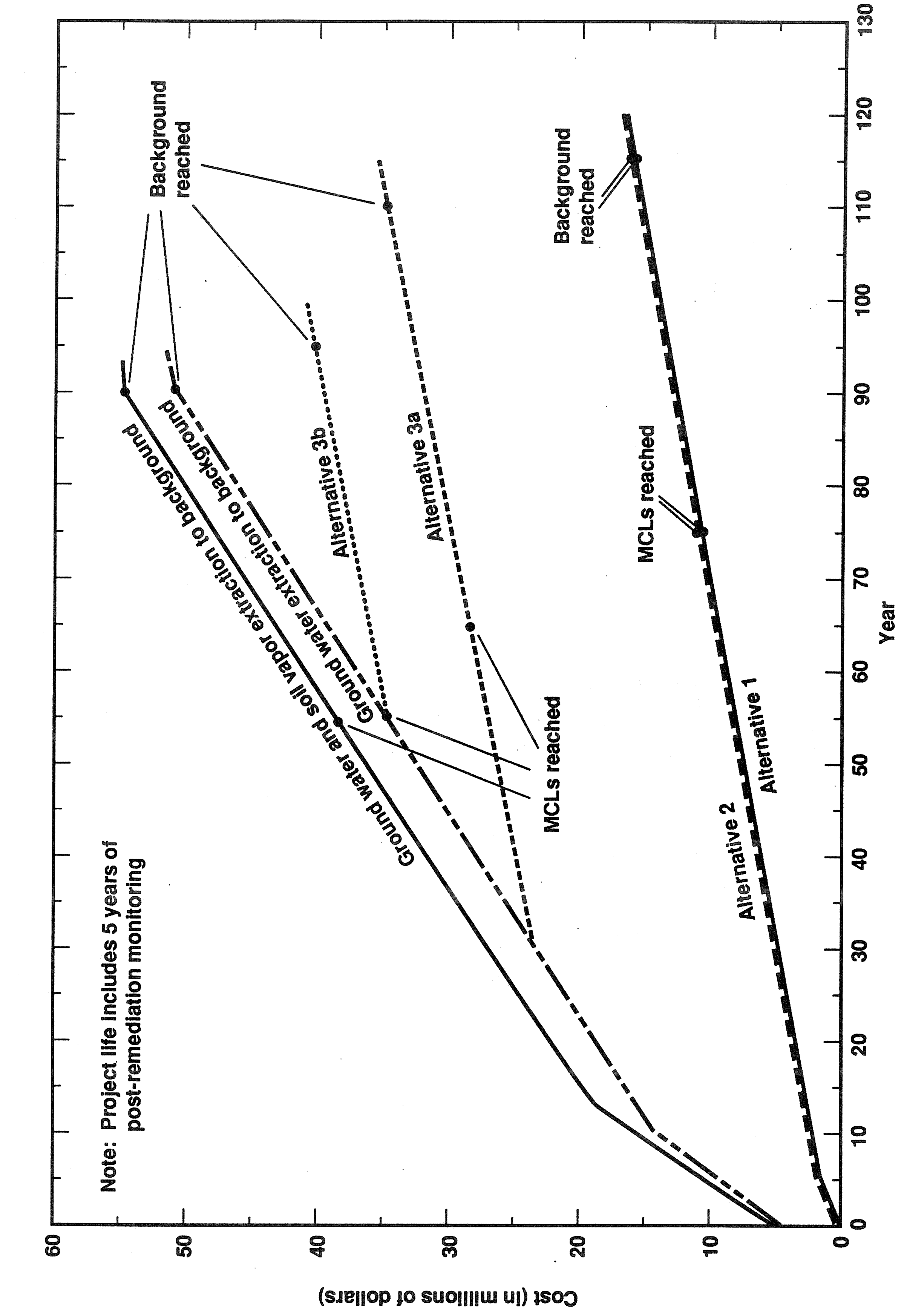
ERD-FS-GSA-3314.1]

Figure H-6. Comparison of cumulative cost at three discount rates—ground water and soil vapor extraction continued until background is reached.



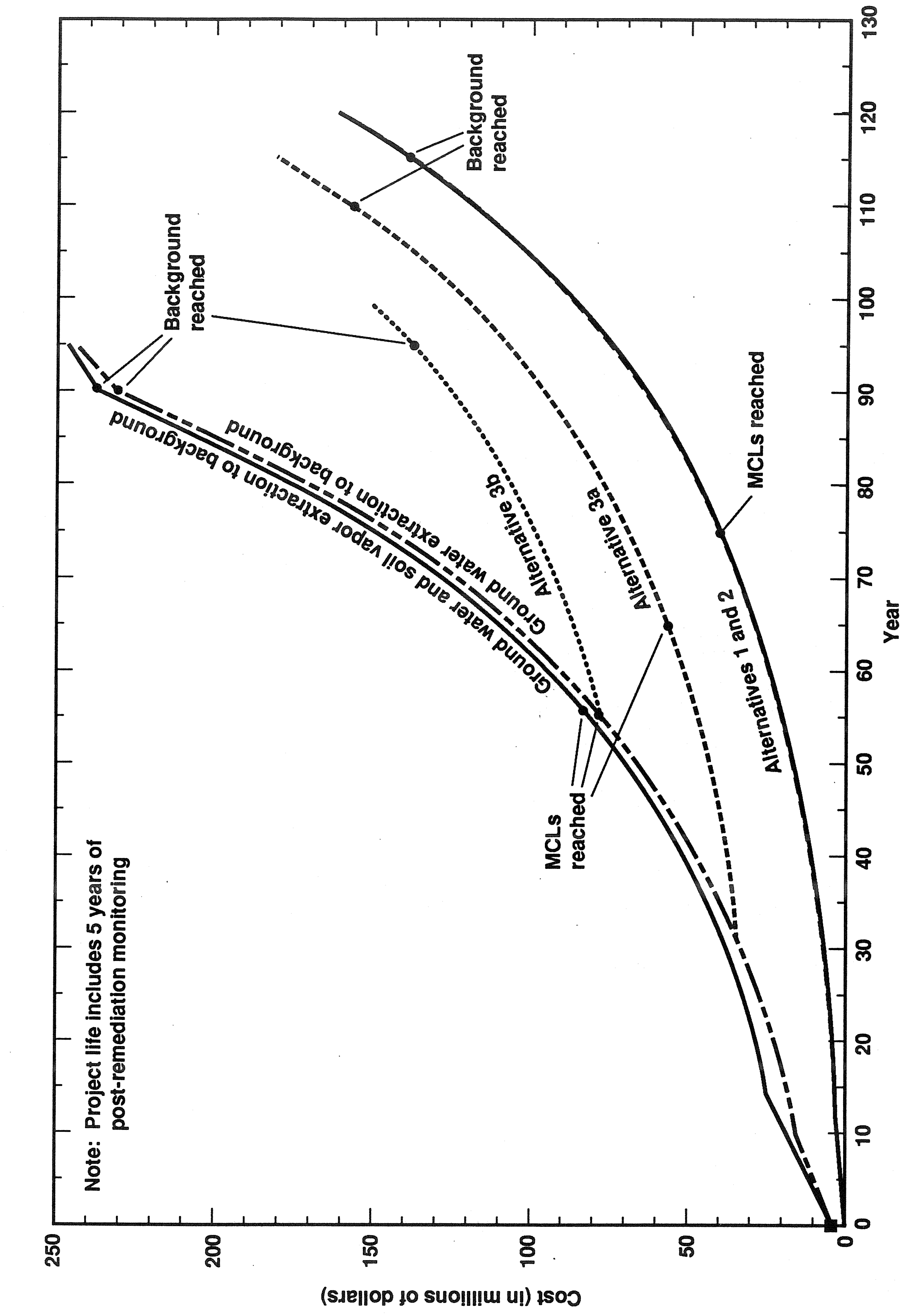
ERD-FS-GSA-3315

Figure H-7. 1995 Present worth (3.5% discount rate).



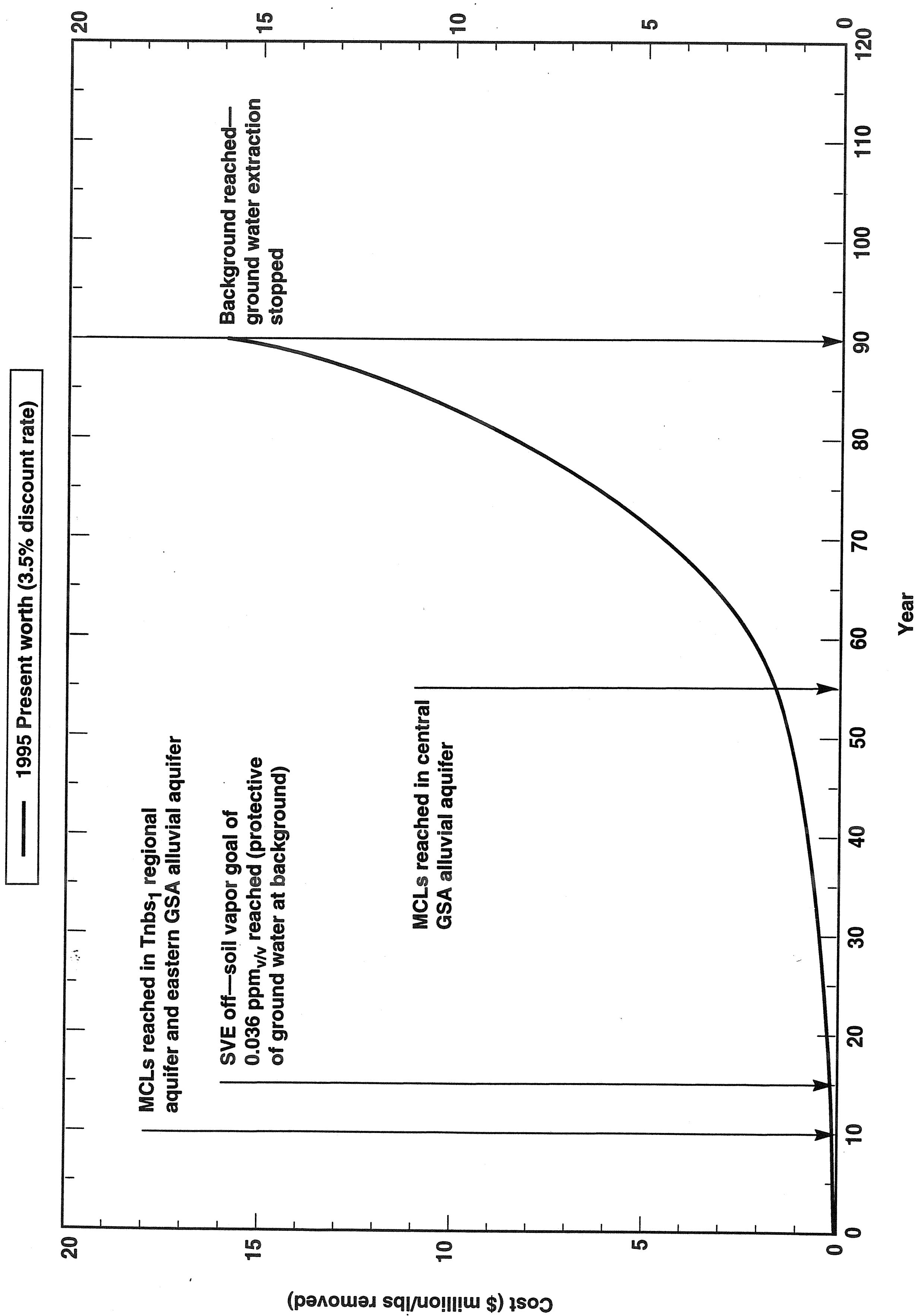
ERD-FS-GSA-3316

Figure H-8. 1995 Nondiscounted worth (0% discount rate).



ERD-FS-GSA-3317

Figure H-9. 3% Inflated worth (negative 3% discount rate).



ERD-FS-GSA-3318j

Figure H-10. Cost per mass of VOCs removed for Alternative 3b—Ground water and soil vapor extraction until background is reached.

Table H-1. Summary of additional time and costs required to reach background VOC concentrations in ground water.

Alternatives presented in Feasibility Study	Discount rate[a]	Total project costs for reaching MCLs plus 5-year monitoring	Screening of additional costs/time to reach background[b]		
			Additional cost to achieve background	Additional time to achieve background	Total project cost for reaching background plus 5-year monitoring
Alternative 1: No action	3.5%	$4.27M	$0.17M	40 years	$4.44M
(80 years)	0%	$11.16M	$5.11M		$16.27M
	-3.0%	$45.46M	$115.95M		$161.41M
Alternative 2: Exposure control	3.5%	$4.57M	$0.17M	40 years	$4.74M
(80 years)	0%	$11.42M	$5.08M		$16.50M
	-3.0%	$45.50M	$115.21M		$160.71M
Alternative 3a: Remediation and protection	3.5%	$18.05M	$0.29M	45 years	$18.34M
of the $Tnbs_1$ *aquifer*	0%	$28.84M	$6.44M		$35.28M
(70 years)	-3.0%	$61.43M	$118.08M		$179.51M
Alternative 3b: Remediation of the $Tnbs_1$	3.5%	$19.75M	$0.39M	40 years	$20.14M
and alluvial ground water plumes	0%	$35.29M	$5.71M		$41.00M
(60 years)	-3.0%	$80.76M	$70.59M		$151.35M
	3.5%	$19.75M	$1.31M[c]	35 years[c]	$21.06M[c]
	0%	$35.29M	$16.02M[c]		$51.31M[c]
	-3.0%	$80.76M	$163.18M[c]		$243.94M[c]
	3.5%	$19.75M	$4.10M[d]	5 years[SVE]	$23.85M[d]
	0%	$35.29M	$19.52M[d]	35 years[GWE]	$54.81M[d]
	-3.0%	$80.76M	$168.02M[d]		$248.78M[d]

a A discount rate of 3.5% is used to calculate the 1995 present worth.
A discount rate of 0% is used to calculate the nondiscounted 1995 present worth.
A discount rate of -3.0% is used to calculate cost of projects including inflation.

b Remediation to background achieved by natural attenuation and dispersion.

c Remediation of the $Tnbs_1$ aquifer and alluvial ground water plumes to background assumed to be achieved by ground water extraction and treatment.

d Remediation of the $Tnbs_1$ aquifer and alluvial ground water plumes to background assumed to be achieved by ground water extraction and treatment. SVE operated until soil vapor concentrations will not impact ground water above background concentrations.

GWE = Ground water extraction.
M = Millions of dollars
SVE = Soil vapor extraction

Acronyms

Acronyms

AAL	Applied Action Levels
ACGIH	American Conference of Governmental Industrial Hygienists
AOS	Adult On Site
APE	Area of Potential Effect
ARARs	Applicable or Relevant and Appropriate Requirements
ASTM	American Society for Testing and Materials
AVI SVS	Active Vacuum-Induced Soil Vapor Survey
AWQC	Ambient Water Quality Criteria
BMP	Best Management Practice
BTEX	Benzene, toluene, ethylbenzene, xylene(s)
CB	Cement-bentonite
CCR	Code of California Regulations
CDF	California Department of Forestry
CDFG	California Department of Fish and Game
CFR	Code of Federal Regulations
CEQ	Council of Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CMB	Claystone Marker Bed
COC	Chemical of Concern
dB	Decibels
DCA	Dichloroethane
DCC	Dichlorocarbonyl (phosgene)
DCE	Dichloroethylene
DNAPLs	Dense Nonaqueous Phase Liquids
DOE	Department of Energy
DTSC	California Department of Toxic Substances Control
EFA	East Firing Area
EIR	Environmental Impact Report
EIS	Environmental Impact Statement

EPA	U.S. Environmental Protection Agency
ESB	Enhanced Soil Bioremediation
FFA	Federal Facility Agreement
FHC	Fuel Hydrocarbons
FS	Feasibility Study
FTEs	Full Time Employees
G&A	General and Administration
GAC	Granular Activated Carbon
GSA	General Services Area
GWTS	Ground Water Treatment System
HE	High Explosives
HE-OBTF	High Explosives Open Burn Treatment Facility
HI	Hazard Index
HMX	A high explosive, also known as octogen or homocyclonite
HQ	Hazard Quotient
HVAC	Heating, Ventilation, and Air Conditioning (system)
IC	Concentration that causes sublethal or inhibitory effects
ICp	Concentration that causes sublethal or inhibitory effects on p% of the test population
ID	Identification
Kgv	Cretaceous Great Valley sequence
LLNL	Lawrence Livermore National Laboratory
LDRD	Lab-Directed Research and Development
LNAPLs	Light Nonaqueous Phase Liquids
Ls	Landslide
MCLs	Maximum Contaminant Levels
MPC	Material Procurement Charge
NAAQS	National Ambient Air Quality Standards
NAPL	Nonaqueous Phase Liquid
NCP	National Contingency Plan
ND	Not detected at concentrations at or above analytical method detection limit
NEPA	National Environmental Policy Act
NERI	Northeast Research Institute

NHPA	National Historic Preservation Act
NOEC	No Observable Effects Concentration
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
O&M	Operation and Maintenance
PCB	Polychlorinated Biphenyl
PCE	Tetrachloroethylene
PEFs	Pathway Exposure Factors
POU	Point of Use
PVC	Polyvinyl Chloride
QA	Quality Assurance
Qal	Quaternary alluvial deposits
QC	Quality Control
Qls	Quaternary landslide deposits
Qt	Quaternary terrace deposits
RAOs	Remedial Action Objectives
RCRA	Resource Conservation and Recovery Act
RDX	A high explosive, also known as cyclonite or hexogen. The common meaning for the acronym RDX is Research Department Explosive
RES	Residential Exposure
RfD	Reference Dose
RD	Remedial Design
RI	Remedial Investigation
ROD	Record of Decision
RQD	Rock Quality Designation
RWQCB	California Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act of 1986
SB	Soil-bentonite
SDWA	Safe Drinking Water Act
SITE	Superfund Innovative Technology Evaluation
SVE	Soil Vapor Extraction
SVRA	State Vehicular Recreation Area
SVS	Soil Vapor Surveys

SWRCB	State Water Resources Control Board
SWRI	Site Wide Remedial Investigation
TBC	To Be Considered
TCA	Trichloroethane
TCE	Trichloroethylene
TDS	Total Dissolved Solids
TEPH	Total extractable petroleum hydrocarbons
Tmss	Miocene Cierbo Formation
Tn	Miocene Neroly Formation
TNT	High explosive compound, trinitrotoluene
Tps	Pliocene Nonmarine Unit
TQs	Toxicity Quotients
TSD	Treatment, Storage or Disposal
TUc	100% NOEC
Tts	Eocene Tesla Formation
UCRL	University of California Radiation Laboratory
UCL	Upper Confidence Limit
UST	Underground Storage Tank
UV	Ultraviolet
VOCs	Volatile Organic Compounds
WDR	Waste Discharge Requirement
WFA	West Firing Area