CALENDAR YEAR 1993 GROUNDWATER QUALITY REPORT
FOR THE UPPER EAST FORK POPLAR CREEK
HYDROGEOLOGIC REGIME,
Y-12 PLANT, OAK RIDGE, TENNESSEE

1993 Groundwater Quality Data and Calculated Rate
of Contaminant Migration

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Prepared by

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Oak Ridge Y-12 Plant
Oak Ridge, Tennessee 37831

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ACRONYMS

ARAR	Appropriate Relevant Applicable Requirement
BCV	Bear Creek Valley
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CY	Calendar Year
DOE	U.S. Department of Energy
EMD	Environmental Monitoring Database
EPA	U.S. Environmental Protection Agency
FFA	Federal Facility Agreement
GWPP	Groundwater Protection Program
ORNL	Oak Ridge National Laboratory
ORR	Oak Ridge Reservation
OU	Operable Unit
PCB	Polychlorinated biphenyl
PCPA	Post-Closure Permit Application
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
SWMU	Solid Waste Management Unit
TDEC	Tennessee Department of Environment and Conservation
TSD	Treatment, Storage, or Disposal (Unit)
UEFPC	Upper East Fork Poplar Creek
UST	Underground Storage Tank
VOC	Volatile Organic Compound
WCPF	Waste Coolant Processing Facility
WMCBF	Waste Machine Coolant Biodegradation Facility

1.0 INTRODUCTION

This report contains groundwater quality data obtained during the 1993 calendar year (CY) at several waste management facilities and petroleum fuel underground storage tank (UST) sites associated with the U.S. Department of Energy (DOE) Y-12 Plant located on the DOE Oak Ridge Reservation (ORR) southeast of Oak Ridge, Tennessee (Figure 1). These sites are within the Upper East Fork Poplar Creek Hydrogeologic Regime (East Fork Regime), which is one of three regimes defined for the purposes of groundwater and surface-water quality monitoring at the Y-12 Plant. The Environmental Management Department of the Y-12 Plant Health, Safety, Environment, and Accountability Organization manages the groundwater monitoring activities in each regime as part of the Y-12 Plant Groundwater Protection Program (GWPP).

The annual groundwater report for the East Fork Regime is completed in two-parts; Part 1 (this report) containing the groundwater quality data and Part 2 containing a detailed evaluation of the data. The primary purpose of this report is to serve as a reference for the groundwater data obtained each year under the lead of the Y-12 Plant GWPP. However, because it contains information needed to comply with the Resource Conservation and Recovery Act (RCRA) interim status assessment monitoring reporting requirements, this report is submitted to the Tennessee Department of Health and Environment (TDEC) by the RCRA reporting deadline (March 1 of the following CY). Part 2 of the annual groundwater report, to be issued mid-year, will contain a regime-wide evaluation of groundwater quality, present the findings and status of ongoing hydrogeologic studies, describe changes in monitoring priorities, and present planned modifications to the groundwater sampling and analysis activities.

2.0 BACKGROUND INFORMATION

The Y-12 Plant is located in Bear Creek Valley (BCV), which is flanked on the north by Pine Ridge and on the south by Chestnut Ridge (directions in this report are in reference to the Y-12 Plant grid system). The East Fork Regime encompasses the Y-12 Plant complex, extending west from New Hope Pond to a topographic and hydrologic divide located near the west end of the plant that separates the East Fork Regime from the Bear Creek Hydrogeologic Regime (Bear Creek Regime) (Figure 2).

Groundwater quality monitoring in the East fork Regime during CY 1993 was performed at:

- sites scheduled for investigation under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA);
- a RCRA treatment, storage, and disposal (TSD) facility (New Hope Pond); and
- petroleum fuel underground storage tanks (USTs).

A brief description of each of the sites, including waste inventories and disposal/operational histories, and a discussion of the regulatory status and groundwater monitoring history of each site are provided in the following sections.

2.1 CERCLA Operable Units

In 1984, the U.S. Environmental Protection Agency (EPA) and the TDEC determined that several of the waste-management sites at the Y-12 Plant were hazardous waste TSD units subject to regulation under RCRA. One of these TSD units, New Hope Pond, is located in the East Fork Regime and was granted RCRA interim status in 1986. Between 1987 and 1989, several other waste-management sites in the regime were identified as solid waste management units (SWMUs) subject to regulation under section 3004(u) of RCRA (Welch 1987; Welch *et al.* 1987; Wiggins and Welch 1988a and 1988b; and Murphy 1989). A RCRA Facility Investigation was planned for each of these sites to determine if contaminant releases to the environment had occurred.

In November 1989, the ORR was added to the National Priority List and in January 1992, the DOE, the EPA, and the TDEC negotiated a Federal Facility Agreement (FFA) regarding environmental restoration at the ORR under CERCLA. This agreement changed the regulatory status several of the RCRA regulated SWMUs in the East Fork Regime to CERCLA Operable Units (OUs). As such, the DOE appealed the applicability of RCRA permitting, post-closure care, corrective action, and groundwater monitoring requirements to CERCLA OUs.

In April 1993, the DOE, TDEC, and Martin Marietta Energy Systems, Inc. signed an Agreed Order regarding a RCRA post-closure permit for the S-3 Site (a RCRA TSD unit/CERCLA OU located in the Bear Creek Regime), thereby resolving the appeal and formally agreeing to proceed with CERCLA as a lead regulatory program with RCRA as an appropriate, relevant, and applicable requirement (ARAR). Under this agreement, RCRA will be applied as an ARAR to the extent that post-closure maintenance and care of former TSD facilities will be conducted in compliance with the terms of RCRA post-closure permits. Groundwater monitoring is to be integrated with the CERCLA remedial investigation/feasibility study (RI/FS) programs with RCRA corrective action deferred to CERCLA. Groundwater monitoring data reporting will comply with RCRA post-closure permit conditions as well as RI/FS requirements.

Two types of OUs were established under the FFA; source control OUs and integrator OUs. Source control OUs are individual or groups of waste sites for which a RI/FS will be performed, including any interim actions and/or remedial actions. Integrator OUs encompass groundwater and surface water, and are considered separate from source control OUs that contribute to the contamination of these media. Integrator OUs were established because available data showed that contaminants from multiple sources had intermingled in the groundwater system and migrated through a common exit-pathway (U.S. Department of Energy 1992). One integrator OU and two source control OUs established under the FFA lie within the East Fork Regime (Table 1).

2.1.1 East Fork Poplar Creek OU 01

East Fork Poplar Creek OU 01 is the integrator OU established by the FFA and includes groundwater in the regime and areas within the Y-12 Plant where elemental mercury was routinely handled during the extraction process for lithium isotopes at the Y-12 Plant between

1955 and 1962 (U.S. Department of Energy 1992). The integrator OU was established because monitoring results obtained since the mid-1980s indicated that groundwater contamination in the regime resulted from releases from several separate sources, possibly including the mercury process spill areas.

Since 1990, efforts to characterize the extent of the groundwater contamination have been performed in accordance with the technical approach contained in the *Comprehensive Groundwater Monitoring Plan for the Department of Energy Y-12 Plant* (Comprehensive Monitoring Plan; Geraghty & Miller, Inc. 1990). This plan defined the following objectives for an integrated groundwater contamination assessment program for the East Fork Regime:

- determine the horizontal and vertical extent of groundwater contamination in the regime through phased installation of monitoring wells along a pre-defined grid pattern;
- install additional monitoring wells in the Maynardville Limestone - the primary avenue for contaminant migration in groundwater;
- define and coordinate studies to determine the hydrogeologic characteristics of the flow system in the East Fork Regime;
- perform all sampling activities in accordance with RCRA assessment monitoring protocols (i.e., quarterly sampling frequency) to ensure continued regulatory compliance; and
- report all the monitoring results in a single regime-wide groundwater quality assessment report.

Implementation of the grid-network approach to groundwater contamination assessment in the East Fork Regime began in 1991. The grid network proposed in the Comprehensive Monitoring Plan incorporated many of the existing monitoring wells located at New Hope Pond and several SWMUs and USTs, but also included new monitoring wells proposed for installation in areas of the Y-12 Plant that lacked monitoring coverage. Most of the wells originally included in the grid network, and new wells added to the network between 1991 and 1993, have been incorporated into the ongoing quarterly sampling program.

The RI for East Fork Poplar Creek OU 01 is not scheduled to begin until the late-1990s. Nevertheless, continued implementation of the technical approach established in the Comprehensive Monitoring Plan is expected to provide a substantial portion of the groundwater

quality data needed to effectively characterize the extent of contamination for the purposes of the RI. However, some objectives of the technical approach, such as following RCRA assessment monitoring protocols, are less applicable because of changing regulatory developments. Additionally, future monitoring priorities may be modified to support particular aspects of the RIs for the source control OUs in the regime.

2.1.2 East Fork Poplar Creek OU 02

The 1992 FFA designated the Abandoned Nitric Acid Pipeline as East Fork Poplar Creek OU 02 (Table 1). The pipeline is located in the northwestern portion of the East Fork Regime within the Y-12 Plant compound (Figure 3). Used between 1951 and 1983, the pipeline originally transported effluent, derived from operations in Buildings 9212 and 9206, to the S-3 Ponds. Subsequently, the pipeline was connected to the uranium recovery process lines from the H-1 Foundry (Building 9998). During its operation, an estimated 5,500 gallons per day of effluent, which generally consisted of nitric acid with uranium in solution, was pumped through the pipeline to the S-3 Ponds (Geraghty & Miller, Inc. 1989a).

Available construction drawings indicate that the pipeline was constructed of 1.5 to 3-inch diameter No. 347 stainless-steel pipe. Some sections of the pipeline may have been constructed of 6-inch diameter stainless steel. The pipeline was buried up to 14 feet (ft) below ground level and sections that passed over water or sewer lines were encased in concrete. According to drawings generated during the construction of the Y-12 Plant Perimeter Intrusion Detection and Alarm System, sections of the pipeline may have been abandoned and rerouted during its operational period (Geraghty & Miller, Inc. 1989a).

2.1.3 East Fork Poplar Creek OU 03

East Fork Poplar Creek OU 03 is a source control OU comprised of several former RCRA SWMUs within the Y-12 Salvage Yard, the S-2 Site, and the Waste Coolant Processing Facility (Table 1). A RI work plan for this OU was reviewed by the EPA and TDEC and is currently being finalized (U.S. Department of Energy 1993a). Field work for the RI is scheduled to begin in the Spring of 1994.

2.1.3.1 Y-12 Salvage Yard

The Y-12 Salvage Yard is in the northwestern portion of the East Fork Regime (Figure 3). Waste-management sites in the Y-12 Salvage Yard include the Scrap Metal Storage Area, the Oil/Solvent Drum Storage Area, the Oil Storage Tanks, the Drum Deheader, and three concrete sumps designated as tanks 2063-U, 2328-U, and 2329-U (Figure 3).

The Salvage Yard Scrap Metal Storage Area has been used from 1950 to the present for the storage of scrap metal, some of which contains low levels of depleted or enriched uranium. Some minor contamination of surficial soils at the site has been reported (Welch *et al.* 1987).

Before being closed, the Salvage Yard Oil/Solvent Drum Storage Area consisted of two storage areas: the east drum storage area and the west drum storage area. Each area was closed as described in respective closure plans (Welch 1986; Lind and Welch 1989). The combined total storage capacity of both areas was approximately 175,000 gallons. Waste oils containing chlorinated organics, uranium and/or beryllium, chlorinated organic solvents, and non-chlorinated flammable solvents were stored in drums, and leaking drums and spills have been documented on the site. Although a dike is present around the downslope side of the site, the gravel/soil base of the dike may have permitted infiltration of spilled material into the subsurface (Welch *et al.* 1987).

Operation of the Salvage Yard Oil Storage Tanks began in 1978 when a 6,000 gallon tank was installed to store polychlorinated biphenyls (PCB)-contaminated oil. A 5,000 gallon tank was added to the site in 1980. Both tanks were surrounded by an earthen dike and were emptied in 1986 (Welch 1986). Spills and leaks have occurred, but were contained within the diked area (Welch *et al.* 1987).

The Salvage Yard Drum Deheader operated from 1959 to 1989, and was used to cut off the tops and crush empty drums collected from various locations throughout the Y-12 Plant. The deheader is in a small shed with a concrete floor. Before deheading, the drum contents were emptied into other drums contained within a small sump (Tank 2063-U). Tank 2063-U was about 4 ft long, 2 ft wide, 2 ft deep, and had a total capacity of about 130 gallons. Spills and overflows that occurred when the liquids were poured into the storage drums were contained in Tank 2063-U, and transferred through a connecting drain pipe to other sumps designated Tanks

2328-U and 2329-U. Liquids still present when the drums were deheaded flowed into a floor drain connected to Tanks 2328-U and 2329-U (Stone 1989a).

A leak test was performed for Tank 2063-U in March 1989 and leak rate of 0.46 gallons per hour (gal/hr) was determined. This rate exceeded the maximum allowable rate established under the TDEC UST regulations and the tank was subsequently excavated. Soils near the tank contained elevated concentrations of cadmium, lead, and mercury, and detectable levels of volatile organic compounds (VOCs) and PCBs (Stone 1989a).

2.1.3.2 S-2 Site

The S-2 Site is in the southwestern portion of the East Fork Regime on the northern flank of Chestnut Ridge (Figure 3). The site was an unlined, earthen reservoir used from 1945 to 1951 for percolation, evaporation, or neutralization of an unknown quantity of liquid wastes. Waste materials reportedly included nitrates of copper, nickel, and chromium; diethyl ether and pentaethers; nitric, hydrochloric, and sulfuric acids; sulfates; dibutyl carbinol and tributyl phosphates; aluminum nitrate; hydrogen fluoride; cadmium; natural and enriched uranium; and cyanide compounds (Kimbrough 1986). The site was closed in 1951, the remaining liquids were neutralized, and the reservoir was filled with soil and seeded with grass (Haase 1987).

2.1.3.3 Waste Coolant Processing Area

The Waste Coolant Processing Area, located in the west-central portion of the Y-12 Plant (Figure 3), is an area used to treat waste coolants collected from various shops within the plant complex. The site originally consisted of the Waste Machine Coolant Biodegradation Facility (WMCBF), an unloading/storage area, and a treatment basin/effluent drain field (Murphy 1989). Operation of the WMCBF ceased in 1985 when it was replaced with a new treatment unit, the Waste Coolant Processing Facility (WCPF) (Murphy 1989). The original unloading/storage area was retained as part of the WCPF, but the WMCBF and the treatment basin/effluent drain field were closed in accordance with a TDEC-approved closure plan (Stone and McMahon 1988). The TDEC certified final closure of the WMCBF on November 23, 1988.

2.2 Y-12 Study Areas

Several sites that were not included in the source control OUs established for the East Fork Regime were designated in the FFA as Y-12 Study Areas and represent lower priority units that will be investigated under preliminary assessments/site investigations (U.S. Department of Energy 1992). New OUs or additions to established OUs may be necessary if results of these preliminary investigations indicate that a complete RI/FS is warranted.

2.2.1 Tanks 2328-U and 2329-U

As noted in Section 2.1.3.1, Tanks 2328-U and 2329-U are located in the Y-12 Plant Salvage Yard and were used in conjunction with operation of the Salvage Yard Drum Deheader and Tank 2063-U. Located adjacent to each other, Tanks 2328-U and 2329-U were separated by a rubber baffle. Each tank was about 8 ft long, 4 ft wide, 4 ft deep, and had a total capacity of about 950 gallons. The tops of the tanks were open at the ground surface. Consequently, rainwater and surface runoff would occasionally collect in the tanks. The baffle between the tanks helped to separate the oils and solvents from the rainwater and runoff. Once separated, the water was released through a drainpipe to the Y-12 Plant stormwater drainage system. The remaining oils and solvents were periodically pumped out, as necessary, and treated or disposed in the Bear Creek Burial Grounds Waste-Management Area (Stone 1989a).

Leak tests were performed on Tanks 2328-U and 2329-U in March 1989 and showed a respective leak rate of 0.14 gal/hr for each tank. This rate exceeded TDEC standards and the two tanks were subsequently excavated along with Tank 2063-U. Soils near the tanks contained elevated concentrations of cadmium, lead, and mercury, and detectable levels of VOCs and PCBs (Stone 1989a).

2.2.2 Interim Drum Yard

The Interim Drum Yard is located in the southwestern portion of the East Fork Regime (Figure 3). The site is currently a graveled, covered, and diked outdoor storage area that formerly was used to store drums containing various hazardous, mixed, and non-hazardous wastes

including sludge containing chromium, mercury-contaminated wastes, chlorinated and non-chlorinated organics, and plating solutions. Materials contaminated with PCBs are not currently stored at the site but have been in the past. The site presently contains approximately 700 drums of waste, all in over packs. The southern portion of the site has been closed in accordance with a TDEC-approved closure plan (Willoughby *et al.* 1988).

2.2.3 Beta-4 Security Pits

The Beta-4 Security Pits are near the northwestern boundary of the East Fork Regime (Figure 3). The site was used from 1968 to 1972 for classified disposals of uranium and uranium alloys, scrap metal containing depleted and enriched uranium, organic compounds, acids, and miscellaneous debris (Welch *et al.* 1987).

2.3 New Hope Pond

New Hope Pond is a closed RCRA TSD unit located at the east end of the Y-12 Plant (Figure 3). Constructed in 1963, New Hope Pond regulated the flow and quality of water in Upper East Fork Poplar Creek (UEFPC) before exiting the Y-12 Plant, and provided a contingency for control of accidental spills of oils or other substances (PEER Consultants 1989). While in operation, discharge from the pond averaged approximately 8 million gallons per day (mgd). Water-quality sampling was performed in accordance with the conditions set forth in a National Pollutant Discharge Elimination System permit (Permit No. TN002968). Operation of New Hope Pond ceased on November 8, 1988.

In 1973, sediment removed from New Hope Pond was placed in the Chestnut Ridge Sediment Disposal Basin (Sediment Disposal Basin). Additionally, sediments from the inlet diversion ditch were periodically removed and disposed in the Sediment Disposal Basin. These sediments contained PCBs, mercury, and uranium, but Extraction Procedure Toxicity analyses indicated that they did not exhibit the characteristics of a hazardous waste (Saunders 1983; Kimbrough and McMahon 1988a and 1988b). Approximately 25,000 cubic yards of sediment remained in New Hope Pond when it was closed in 1988. Closure of New Hope Pond began in 1988 and was certified by the TDEC in December 1990. Closure involved stabilizing sediments

left in the pond with coarse aggregate, and covering the pond with a multi-layer, low-permeability cap (Martin Marietta Energy Systems, Inc. 1988).

A RCRA post-closure permit application (PCPA) for the site was initially submitted to the TDEC in 1989 (Lee Wan & Associates, Inc. 1989). Pertinent aspects of the PCPA are currently being revised to reflect integrated RCRA/CERCLA requirements contained in the Agreed Order signed in April 1993. Additional changes to the PCPA for New Hope Pond also may be necessary pending the outcome of ongoing negotiations over modifications to the post-closure permit issued for the S-3 Site by the TDEC in April 1993.

Lake Reality was constructed immediately downstream of New Hope Pond (Figure 3) and began operation on November 8, 1988. Water in UEFPC enters Lake Reality from an extension of the New Hope Pond inlet diversion ditch and exits through a weir in the west berm. The total surface area of Lake Reality is about 2.5 acres, and the average water depth is approximately 7 ft. During normal operations, Lake Reality contains approximately 6 million gallons of water (Lee Wan & Associates 1989).

In October 1992, the Y-12 Plant GWPP Manager was informed that a pump had been installed in a 6-ft diameter, 20-ft deep dewatering sump installed near Lake Reality in 1990 (Turner 1992). Groundwater removal from the sump (the sump pump is automatically controlled via a pressure switch) relieved the hydrostatic pressure that tended to float the flexible liner on the bottom of Lake Reality (Turner 1992). Groundwater enters the sump from regolith and weathered bedrock, as well as from a french drain constructed beneath the concrete-lined diversion channel located on the southern and eastern boundary of New Hope Pond (Turner 1992). The french drain was reportedly constructed to capture water from one or more springs that had been intersected by the excavation for the diversion channel (Turner 1992). Except for brief periods (less than 1 hour), pumping ceased between September 1991 and October 1993, after which the sump pump was returned to automatic control. Operation of the sump pump may affect groundwater levels in nearby monitoring wells (Turner 1992).

2.4 Underground Storage Tanks

Several investigations of product releases from petroleum USTs in the East Fork Regime were initiated in 1989. The objectives of the investigations were to detect and recover any free

product and determine the extent of petroleum hydrocarbons in soil and groundwater. These investigations have been performed in accordance with requirements specified in *Rules of the Tennessee Department of Environment and Conservation, Division of Underground Storage Tanks, Chapter 1200-1-15, Underground Storage Tanks*.

2.4.1 9754-2 Fuel Facility

The Building 9754-2 Fuel Facility, located in the eastern portion of the East Fork Regime (Figure 3), was used from 1978 to 1989 to dispense gasoline and diesel fuel. The site had two USTs: a 20,000-gallon unleaded gasoline tank (Tank 0439-U) and a 10,000-gallon diesel tank (Tank 0440-U). Both tanks were in an unlined, gravel-filled pit about 12 ft deep. The top of the tank pit was open to precipitation, and water that entered the pit was drained to a nearby collection basin through a 12-inch diameter concrete pipe (Welch 1989a).

In June 1989, free product was observed in the collection basin connected to the tank pit. A sump was subsequently excavated adjacent to the tank pit to facilitate free product recovery and removal of contaminated groundwater. Free product and contaminated water were regularly pumped from the sump for several weeks (Stone 1989b). A recovery well was then installed downgradient of the tank pit, but no free product was observed in the well (Stone 1989c).

Gasoline and diesel fuel spills and leaks at the site have been documented. Spills typically occurred when the tanks were overfilled. Gasoline leaks from the fill pipe and the discharge line for Tank 0439-U were confirmed during leak testing and subsequent tank excavation. During excavation of Tank 0440-U, it was noted that leaks from an associated discharge line had occurred (Welch 1989a). Both tanks were excavated in September 1989. Two additional monitoring wells were installed in September 1990 as part of an ongoing UST site investigation (Eaton and Ingram 1991).

2.4.2 Garage Underground Tanks

The Garage Underground Tanks were located about 100 ft north of the old Building 9754 Fuel Facility (Figure 3), which went into service in 1944. The site originally contained a 10,000-gallon diesel fuel tank and a 10,000-gallon leaded gasoline tank. A 20,000-gallon

unleaded gasoline tank was installed at the site in 1975. The tanks gravity-fed three 1,000-gallon tanks at dispenser islands in front of former Building 9754. Individual diesel fuel and gasoline dispensers were installed west of Building 9754 for emergency purposes. Product releases from overfilling the gravity-feed system have occurred.

The three large USTs at the site were converted to waste oil storage in 1978. These tanks were subsequently removed in October 1989 and the tank site is currently undergoing RCRA closure. Also in 1978, the three 1,000-gallon dispenser tanks were emptied and the emergency dispensers were removed. The dispenser tanks are being closed under UST regulations in conjunction with closure of the Building 9754-2 Fuel Facility (Stone 1989b).

2.4.3 Tank 2331-U

Tank 2331-U was a 560-gallon steel tank used to store gasoline. The tank and its associated piping were installed in 1973 to serve gasoline-powered equipment in Building 9201-1 (Figure 3). A leak test performed in September 1988 indicated that the tank was leaking. The tank was subsequently emptied and service was discontinued until its removal in December 1988. Soils near the tank pit reportedly contain detectable levels of toluene and xylenes (Welch 1989b). In August 1989, a monitoring well was installed downgradient of the tank pit to facilitate detection and recovery of free product. Although petroleum odors in the well were noted, no free product was observed (Stone 1989d).

2.4.4 Tank 0134-U

Tank 0134-U was a steel tank with a capacity of 117 gallons that was used to store gasoline for emergency electrical power generation at Building 9204-2 (Figure 3). The tank was installed in the mid-1960s and was removed from service in 1982. When the tank was excavated in August 1989, several holes were observed in the sides of the tank. Follow-up investigations at the site indicated that VOCs were present in soils and groundwater in the area (Stone 1989e). A monitoring well was subsequently installed within the tank pit to facilitate free product detection and recovery. No free product was observed, but petroleum odors in the well were noted (Stone 1989f).

2.4.5 Rust Garage Area

The Rust Garage Area is located in the northwestern portion of the East Fork Regime about 650 ft east of the S-3 Site (Figure 3). Building 9720-15, which houses the Rust Garage, was used as a vehicle and equipment maintenance shop and is currently used as a paint shop. Industrial products containing hazardous constituents that are stored on the site include lubricating oil, gasoline, diesel fuel, hydraulic fluid, anti-freeze, battery acid, and mineral spirits. A bulk-oil storage platform and an elevated gasoline tank are located south of the garage, and a wash pad is located on the east side of the building.

Building 9754-1 at the Rust Garage Area was originally a fueling station for DOE fleet vehicles. Four petroleum fuel USTs with associated piping were located at the site: a 12,000-gallon gasoline tank (Tank 1222-U), an 8,000-gallon gasoline tank (Tank 2082-U), a 12,000-gallon diesel fuel tank (Tank 1219-U), and a 1,000-gallon gasoline tank (Tank 2068-U). Tank 2068-U was connected to tanks 1222-U and 2082-U via a transfer line encased in concrete. All four tanks at the site were excavated in December 1989.

Gasoline and diesel fuel releases associated with operation of the USTs have been reported. Because of their proximity and similar operational history, product releases have been evaluated under a single investigation for the site, which started in September 1987. Temporary piezometers were installed during early-1988 to facilitate detection of the leaks, and free product was observed in at least one of these piezometers (Geraghty & Miller, Inc. 1988). Monitoring wells were installed at the site in 1990 as part of a UST site investigation (Eaton and Van Ryn 1991).

3.0 1993 GROUNDWATER PROTECTION PROGRAM

The following sections describe the groundwater sampling activities performed during CY 1993 under the lead of the Y-12 Plant GWPP. Included are brief descriptions of the monitoring programs for which the sampling was performed, as well as details regarding sampling locations and frequencies, sample collection procedures, analytical parameters, and data management.

3.1 Monitoring Programs

Groundwater sampling activities during CY 1993 addressed the purposes of four monitoring programs: (1) RCRA Assessment Monitoring, (2) UST Monitoring, (3) Exit-Pathway Monitoring, and (4) Grid Well Monitoring. Each of these monitoring programs is implemented within the context of the technical approach contained in the Comprehensive Monitoring Plan. However, in light of the increase in regulatory requirements, an increasing number of wells are sampled to meet multiple programmatic goals.

3.1.1 RCRA Assessment Monitoring

Quarterly RCRA Assessment Monitoring was continued during 1993, but included only 12 monitoring wells located at New Hope Pond (Table 2). Assessment monitoring at the site is will be discontinued when a RCRA post-closure permit (which is expected to require RCRA compliance monitoring) is issued for the site by the TDEC.

3.1.2 UST Monitoring

Groundwater monitoring at petroleum USTs in the East Fork Regime was continued during 1993 and involved 20 wells, most located near the Building 9754-2 Fuel Facility and the Rust Garage Area (Table 2). Monitoring objectives have been achieved for the purposes of the TDEC UST regulations, and additional monitoring of most of these wells as part of the Y-12 Plant GWPP will be discontinued in 1995; sampling of selected wells at the Rust Garage Area will be continued.

3.1.3 Exit Pathway Monitoring

In June 1990, the DOE revised Order 5400.1 regarding environmental protection standards for DOE facilities. This order required monitoring of groundwater that is, or could be, affected by operations at DOE facilities to demonstrate compliance with DOE requirements and applicable Federal, State, and local laws and regulations. Compliance with most of the DOE Order 5400.1 requirements was achieved through continued implementation of ongoing monitoring programs required under TDEC and EPA regulations. However, the order did impose additional requirements for monitoring groundwater quality where contamination was most likely to be transported beyond the ORR boundaries.

Exit Pathway Monitoring is implemented under the Y-12 Plant GWPP to comply with the requirements contained in DOE Order 5400.1. In 1993, Exit Pathway Monitoring involved quarterly sampling of groundwater from 10 monitoring wells completed in the Maynardville Limestone and 3 wells located near UEFPC where it passes through a gap in Pine Ridge northeast of the Y-12 Plant (Table 2).

3.1.4 Grid Well Monitoring

In 1993, 48 wells were sampled as part of the Grid Well Monitoring program (Table 2). Approximately 20 new and existing wells remain to be incorporated into the program. These wells likely will be added to the active monitoring network during CY 1994 pending project prioritization decisions in conjunction with the Y-12 Plant Environmental Restoration Program.

3.2 Sampling and Analysis Program

The following sections describe the groundwater sampling and analyses activities performed during CY 1993. Included are descriptions of the groundwater sampling locations, frequency, and procedures, analytical parameters, quality assurance/quality control (QA/QC) sampling, and data management.

3.2.1 Sampling Locations

Groundwater monitoring during 1993 involved the collection of groundwater samples from 93 monitoring wells (Table 2). Locations of these monitoring wells are shown on Figure 4, and data regarding the elevation of the screened or open hole interval, the aquifer zone, and the bedrock formation monitored by the wells are provided in Table 3. Detailed well construction information is contained in Appendix C.

3.2.2 Sampling Frequency

Groundwater samples were collected during each quarter of 1993 from all but two of the monitoring wells. Samples were not collected as planned from wells GW-152 and GW-167 at New Hope Pond because both wells were dry during each sampling event. First through fourth quarter sampling events were performed from January 8 to March 11, April 7 to May 24, July 1 to September 27, and October 12 to December 9, respectively.

3.2.3 Sample Collection

Groundwater samples were collected by personnel from the Oak Ridge K-25 Site Sampling and Environmental Support Department. Pre-defined sampling sequences were followed to minimize the potential for cross-contamination, with each quarterly sequence reflecting sampling from least contaminated wells to the most contaminated wells at a site or in a sampling group (a series of monitoring wells grouped for sampling and data-tracking purposes) (Appendix D).

Groundwater sampling was performed in accordance with the most recent version of the Standard Operating Procedure 8102 approved by the Y-12 Plant GWPP Manager. Descriptions of the field methods and procedures used to collect the groundwater samples are contained in *Environmental Surveillance Procedures Quality Control Program, Martin Marietta Energy Systems, Inc.* (Kimbrough et al. 1987). The EPA (Region IV) and the TDEC have approved these methods and procedures (U.S. Environmental Protection Agency 1988a).

3.2.4 Quality Assurance/Quality Control Sampling

Quality assurance/quality control samples included laboratory blanks, trip blanks, equipment rinsates, and duplicate groundwater samples. A total of 143 laboratory blanks, 197 trip blanks, 47 equipment rinsate samples, and 45 duplicate samples were analyzed during 1993. Similar numbers of QA/QC samples were analyzed during each quarterly sampling event: 32 to 42 laboratory blanks, 46 to 51 trip blanks, 11 to 14 equipment rinsates, and 10 to 14 duplicate samples.

Laboratory blanks were prepared using deionized water and analyzed along with the groundwater samples. Trip blanks were prepared in the laboratory using deionized water and transported unopened in coolers containing groundwater samples for VOC analyses. Equipment rinsates were obtained from the deionized water used to decontaminate the groundwater sampling equipment. These samples were collected after a sampling team had completed sampling at a site or finished a sampling group (typically no more than 10 wells grouped for sampling and data-tracking purposes). If more than one team collected samples at a site or within a sampling group, each collected an equipment rinsate sample. Duplicate groundwater samples were collected at a frequency of at least one per sampling group, or one for every 10 monitoring wells, whichever was greater.

3.3 Analytical Parameters

Groundwater samples were analyzed for the suite of parameters and constituents listed in Table 4. The analytical parameters and constituents included:

- trace metals and principal ions (total and dissolved concentrations);
- VOCs;
- gross alpha activity and gross beta activity;
- total suspended solids, total dissolved solids, and turbidity;
- field and laboratory determinations of pH and specific conductance; and
- field determinations of temperature, dissolved oxygen, and oxidation-reduction potential.

Samples from monitoring wells included in the UST Monitoring program also were analyzed for total petroleum hydrocarbons. The K-25 Analytical Chemistry Department performed most of

the laboratory analyses; radiochemical analyses were performed by the Oak Ridge National Laboratory (ORNL) Chemistry Division.

All of the laboratory blanks, trip blanks, and equipment rinsate samples were analyzed for the suite of VOCs listed on Table 4. Selected equipment rinsate samples also were analyzed for trace metals (Inductively Coupled Plasma analyses), nitrate (as N), and gross alpha and gross beta activity. Duplicate groundwater samples were analyzed for the constituents and parameters specified for the well from which the duplicate sample was collected.

Groundwater quality data obtained during 1993 are contained in Appendices E through L. Appendix E contains the analytical results for each groundwater sample; results for duplicate groundwater samples are presented in Appendix F. Ion-charge balances for each groundwater sample are presented in Appendix G. Appendix H contains trace metal results that exceed Maximum Contaminant Levels or background screening levels. Analytical results for the QA/QC samples are summarized in Appendix I. A summary of the validated analytical results for VOCs is provided in Appendix J, and radiochemical data are summarized in Appendix K. Annual average concentrations of nitrate (as N) (a primary groundwater contaminant in the western part of the regime) determined for each well are provided in Appendix L.

3.4 Data Management

Analytical results obtained by the K-25 and ORNL laboratories were verified, entered into the Y-12 Plant Environmental Monitoring Database (EMD), and electronically processed through several data evaluation procedures. Brief descriptions of the data verification/entry/evaluation procedures follow; details are provided in *Data Verification and Evaluation Techniques for Groundwater Monitoring Programs* (Mercier and Turner 1990).

Analytical results obtained from each quarterly sampling event were either downloaded directly into the EMD from data files provided by the analytical laboratory or were manually input from hardcopy documentation (laboratory reports and field data sheets). For manually input data, a double-entry procedure was followed whereby the hardcopy data were input twice into separate data files. A computer program then compared the two input data files and identified discrepancies, which were then accounted for and corrected. When all data from the quarterly sampling event were in the EMD, a computer program then verified that the parameter names

were correct, correct units were reported, and that the results reported for each parameter were within an expected range or were valid numeric values. As a final step in the data entry/verification process, printouts of the data were visually checked against the laboratory reports and field data sheets for completeness and obvious data outliers. The appropriate laboratory was contacted to resolve incomplete data transfers, discrepancies between electronic and hardcopy versions of the data, and questions regarding data outliers.

Upon completion of data verification and entry into the EMD, a computer program was used to scan the monitoring data, flag questionable or suspect data based on pre-defined criteria, and prepare a report for transmittal to the appropriate laboratory. This data evaluation program calculated ion-charge balances for each sample, identified changes in analytical detection limits, and validated analytical results for VOCs using the QA/QC sample data in accordance with an EPA validation procedure (U.S. Environmental Protection Agency 1988b). Questionable or suspect data were reported to the appropriate analytical laboratory. Errors in the data were corrected, and questionable results unresolved by the appropriate laboratory were flagged.

4.0 HYDROLOGIC FRAMEWORK

This section contains a general description of the complex hydrogeologic system in the East Fork Regime. It provides sufficient descriptive detail needed for the purposes of RCRA reporting requirements regarding evaluation of groundwater flow directions, and determination of representative rates of groundwater flow and contaminant transport. The description is based on the conceptual framework and associated nomenclature presented in: *Status Report - A Hydrologic Framework for the Oak Ridge Reservation* (Solomon et al. 1992).

Groundwater in the East Fork Regime occurs in two broad units with fundamentally different hydrologic characteristics: the Knox Aquifer and the ORR Aquitards. The Knox Aquifer is comprised of the Knox Group and the underlying Maynardville Limestone formation of the Conasauga Group. The bulk permeability in the Knox Aquifer, which is due primarily to solution conduits, is ten times greater than that of the ORR Aquitards. The Maynardville Limestone is believed to be a drain for the groundwater flow system in the East Fork Regime and provides the primary pathway for migration of contaminants in groundwater.

The remaining Conasauga Group formations, the underlying Rome Formation, and the Chickamauga Group form the ORR Aquitards. In this report, the term "ORR Aquitards" refers only to the Conasauga Group (excluding the Maynardville Limestone), and the Rome Formation. Flow in the ORR Aquitards is controlled by short, intersecting fractures in a relatively impermeable matrix, and most groundwater flows through a thin zone near the water table. Most of the waste-management sites in the East Fork Regime are underlain by the ORR Aquitards, in which contaminant migration rates relative to groundwater flow velocities are reduced by diffusive exchange between matrix and fractures (Solomon et al. 1992).

Pine Ridge and Chestnut Ridge are the primary recharge areas for the groundwater system in the East Fork Regime. Annual recharge is greater for the Knox Aquifer (about 2.6 inches) than for the ORR Aquitards (about 0.8 inches), and it is possible that a portion of the recharge to each unit results from delayed unsaturated flow (Solomon et al. 1992). Groundwater in the ORR Aquitards generally flows from the recharge areas toward the Maynardville Limestone, which subcrops in BCV along the base of Chestnut Ridge and underlies UEFPC in much of the regime. Groundwater in the Maynardville Limestone generally flows to the east along geologic strike.

4.1 Geology

The geology in the area of the Y-12 Plant is generally characterized by sequences of southeast-dipping, fractured clastic (primarily shale and siltstone) and carbonate (limestone and dolostone) strata of Lower Cambrian to Lower Ordovician age (Figure 5). Bear Creek Valley is underlain by the interbedded limestone and shale formations of the Conasauga Group. Shale and siltstone beds of the underlying Rome Formation form Pine Ridge to the north and the primarily dolostone strata of the overlying Knox Group form Chestnut Ridge to the south. Strike and dip of bedding in the East Fork Regime are generally N 55°E and 45°SE, respectively.

Bedrock in the East Fork Regime is overlain by alluvium, colluvium, man-made fill, fine-grained residuum from the weathering of the bedrock, saprolite (a transitional mixture of fine-grained residuum and bedrock remnants), and weathered bedrock. The overall thickness of these materials in the East Fork Regime is typically less than 40 ft. In undeveloped areas, the saprolite retains primary textural features of the unweathered bedrock, including fractures (Solomon *et al.* 1992).

Several areas of the East Fork Regime contain varying amounts of man-made fill emplaced during construction of the Y-12 Plant and the re-routing of the original channel of UEFPC. Investigations conducted by the U.S. Army Corps of Engineers (1954) showed that two different layers of fill were emplaced during two episodes of plant construction, and that the fill contains many voids and is largely composed of building debris. The non-uniform properties and varying thickness of the fill probably create widely varying hydraulic conditions in the near-surface.

The Maynardville Limestone subcrops along the axis of BCV at the base of Chestnut Ridge and the underlying formations of the ORR Aquitards subcrop successively to the north toward Pine Ridge (Figure 5). The Maynardville Limestone consists of fine- to coarse-grained, thin-bedded to massive limestone and dolostone (King and Haase 1987). Information obtained during 1992 indicates that the thickness of the Maynardville Limestone varies from about 300 to 620 ft and averages about 490 ft (Shevenell *et al.* 1993). Additionally, Shevenell *et al.* (1993) report, based on lithologic information obtained during installation of several exit-pathway monitoring wells, that most of the basal portion of the Maynardville Limestone (the Low Hollow member) is not present in the Bear Creek Regime about 5 miles west of the East Fork Regime.

This loss of stratigraphic section may reflect a facies change in the Maynardville, as suggested by Shevenell *et al.* (1993), or may be the result of structural displacement. Further investigation to explain the substantial thinning of the Maynardville Limestone in this area is ongoing.

Underlying formations of the Conasauga Group that comprise the ORR Aquitards are, from youngest to oldest, the Nolichucky Shale, Maryville Limestone, Rogersville Shale, Rutledge Limestone, and Pumpkin Valley Shale (Figure 5). The lithologic compositions of the Nolichucky Shale and Maryville Limestone are similar in the East Fork Regime. These formations consist primarily of between 350 and 550 ft of massive to thin-bedded mudstone with interbedded limestone (King and Haase 1987). Beneath the Maryville Limestone are the massive mudstones of the Rogersville Shale and the interbedded limestone and shale of the Rutledge Limestone. The thickness of each of these formations ranges from 90 to 120 ft (King and Haase 1987). The Pumpkin Valley Shale consists of 260 to 320 ft of massive shale and mudstone with thin beds of siltstone and sandstone (King and Haase 1987).

The most pervasive structural features in the East Fork Regime are extensional, hybrid, and shear fractures (Solomon *et al.* 1992). Three major joint sets are evident in the East Fork Regime, one that roughly parallels bedding, one steeply dipping set that parallels geologic strike, and one steeply dipping set that trends perpendicular to strike (Drier *et al.* 1987). Fracture densities ranging from about 1 to 60 per foot have been observed in rock outcrops near the ORNL (Dreier *et al.* 1987; Sledz and Huff 1981). Most fractures are short, ranging from tenths of inches to a few feet in length (Solomon *et al.* 1992). Within a fracture, groundwater may flow either down dip, laterally, or in both directions. Changes in flow direction may occur at fracture splits and intersections and groundwater flow paths may locally resemble stairsteps in both plan and sectional views (Moore 1989).

Dissolution of carbonates along fractures, particularly in the Maynardville Limestone, has produced solution-enlarged features ranging from less than an inch to tens of feet in thickness. Shevenell *et al.* (1993) report that solution cavities occur throughout the Maynardville Limestone, but occur most frequently in the uppermost and lowermost of six stratigraphic zones defined by gamma-log signatures and core data. All water-bearing intervals in the uppermost zone occur at less than 235 ft below the ground surface, and 22% of these intervals were identified as cavities. Water-bearing intervals in the lowermost zone occur at depths up to about 450 ft below the ground surface, and 19% of these intervals were identified as cavities (Shevenell *et al.* 1993).

An exceptionally large (>40 ft) dissolution feature in the Maynardville Limestone was encountered at a depth of about 60 ft during installation of exit-pathway well GW-734 located about 900 ft southeast of New Hope Pond (Shevenell *et al.* 1993). Preliminary results of a microgravity survey suggest that this feature is elongated parallel to geologic strike and that the center is west of the well (Shevenell *et al.* 1993). A pressure transducer was temporarily installed in the well in CY 1993 to continuously monitor water levels. Preliminary data indicate that water levels respond very rapidly to precipitation events, with water level elevation changes of up to 6 ft (Shevenell *et al.* 1993). Such response patterns indicate that the feature is locally connected to the ground surface, possibly with UEFPC. A 25-ft dissolution feature encountered at a depth of about 100 ft in exit-pathway well GW-722 may be hydraulically connected with the feature in well GW-734 (Shevenell *et al.* 1993).

4.2 Groundwater System

Solomon *et al.* (1992) divide the groundwater flow system in both the Knox Aquifer and the ORR Aquitards into four subsystems: (1) the stormflow zone, (2) the vadose zone, (3) the groundwater zone (subdivided into water-table, intermediate, and deep intervals), and (4) the aquiclude (Figure 6). The divisions are based on the amount of water transmitted by each subsystem (i.e., flux), which decreases with depth; the largest water flux occurs in the stormflow zone and the smallest in the aquiclude.

The groundwater flow system is vertically gradational with no discrete boundaries separating the subsystems. The stormflow zone occurs in regolith as does much of the vadose zone, although in some areas the vadose zone includes weathered and fresh rock. About 90% of subsurface flow occurs in the stormflow zone. In the groundwater zone, flow volumes decrease and solute residence times increase sharply with depth. The bulk (98%) of groundwater flow occurs at shallow depths (<100 ft below ground surface), and most (80%) of this flow occurs in the water-table interval. Below the water-table interval, groundwater flow occurs along permeable fractures (or possibly fractured regions) within a relatively impermeable matrix. Variations in the number and aperture of the fractures within these regions occur along flow paths, and these differences determine lateral and vertical flow directions. Additionally, the

vertical spacing between the permeable regions increases with depth, and permeable regions at depth are poorly connected in three dimensions (Solomon *et al.* 1992).

4.2.1 Stormflow Zone

Investigations in Bethel Valley and Melton Valley near ORNL show that groundwater occurs intermittently above the water table in the ORR Aquitards in a shallow "stormflow zone" that extends from ground surface to a depth of about 6 ft (Moore 1989). Construction of the Y-12 Plant probably destroyed the stormflow zone in developed areas of the East Fork Regime. Channels for lateral flow in the stormflow zone include macropores and mesopores, which are connected voids created by various processes, including biochanneling, cracking, and soil particle aggregation (Moore 1989). This zone is thicker and more permeable in forested areas than in grassy or brushy areas, and is more permeable near the land surface than at deeper levels (Moore 1989).

Water is present in the stormflow zone during, and for short periods after, significant rainfall events; some of the water is lost to evapotranspiration and recharge to the water table, and the remaining water discharges at nearby seeps, springs, and streams. Analysis of infiltrometer test results from Bethel Valley and Melton Valley suggest that the hydraulic conductivity of the stormflow zone averages about 29 feet per day (ft/day) near the top and 0.1 ft/day near the base (Moore 1989). Lateral flow in the stormflow zone is intermittent, lasting a few days to a few weeks after precipitation. Flow is fairly rapid when the zone is full of water but relatively slow when nearly drained (Moore 1989).

4.2.2 Vadose Zone

The vadose zone occurs between the stormflow zone and the water table. The geometric mean depth to the water table in the ORR Aquitards is about 13 ft (Moore 1989). The vadose zone in undeveloped areas is primarily composed of regolith, but in much of the East Fork Regime the vadose zone may consist of man-made fill material. Moore (1989) estimates effective porosity (the porosity through which significant advective transport can occur) for regolith of 0.01 to 0.15, but porosity may be higher in the man-made fill.

Water is added to the vadose zone by percolation from the stormflow zone and is removed by transpiration and recharge to the water table. The vadose zone is unsaturated except in the capillary fringe above the water table and within wetting fronts during periods of vertical percolation from the stormflow zone (Moore 1989). A geometric mean hydraulic conductivity of about 0.006 ft/day was determined from analysis of infiltrometer tests in the vadose zone in Bethel Valley and Melton Valley (Moore 1989).

4.2.3 Groundwater Zone

Solomon *et al.* (1992) divide the saturated zone in the Knox Aquifer and ORR Aquitards into water-table, intermediate, and deep intervals based on observed changes in hydrologic characteristics and groundwater geochemistry with depth (Figure 6). For the purposes of this report, the above subdivisions have been modified for the East Fork Regime to include a shallow interval between the water-table and intermediate intervals. The boundary between the shallow and intermediate intervals is set at 100 ft below ground surface, which generally corresponds with an aquifer subdivision noted by Moore (1989) in an evaluation of groundwater flow parameters, and is the depth at which a fairly abrupt change from calcium-magnesium-bicarbonate groundwater to sodium-bicarbonate groundwater typically occurs in the ORR Aquitards. Additionally, solution cavities in the Maynardville Limestone occur most frequently at depths less than 100 ft below the ground surface, suggesting that the active karst flow system in the Maynardville Limestone is relatively shallow (Shevenell *et al.* 1993).

4.2.3.1 Water-Table Interval

A permeable interval 3 to 15 ft thick usually occurs in the transitional horizon between regolith and unweathered bedrock, and the water table often occurs within this permeable interval (Solomon *et al.* 1992). The saturated thickness of this interval changes with cyclic fluctuations in the water table elevation, and the interval may be nearly drained during seasonal water table declines. It is postulated that in the ORR Aquitards, the water-table interval transmits more than 80% of the flow that occurs below the stormflow zone. Estimates of the permeability of the water-table zone are provided by results of hydraulic conductivity tests performed in wells

completed in regolith below the water table. Analysis of these test results indicated a range of hydraulic conductivity of 0.03 to 3.25 ft/day (Connell and Bailey 1989).

Results of geochemical dating studies of groundwater in the ORR Aquitards in Melton Valley generally support the concept of a groundwater zone that is most active near the water table and becomes increasingly sluggish with depth (Solomon *et al.* 1992). Analyses of ^3H : ^3He ratios in groundwater samples collected from 1 to 6 ft below the water table showed ages ranging from 0.09 to 7.23 years, and the presence of large amounts of ^4He in groundwater samples from greater depths (45 to 165 ft below ground surface) suggest much greater residence times (Poreda *et al.* 1988).

4.2.3.2 Shallow Interval

The shallow interval of the groundwater zone extends from the bottom of the water-table interval to depths of about 100 ft in the ORR Aquitards (Figure 6), and from 160 to 325 ft in the Knox Aquifer (Moore 1989). Groundwater in this zone is typically encountered under unconfined conditions in fractures and solution cavities. Enlarged fractures and cavities are the primary water-producing features and solute-transport pathways, and are supplied by seepage through fractures in the rock matrix. Fractures outnumber the cavities, are interconnected, and provide the continuity for groundwater flow paths (Moore 1989).

Analysis of hydraulic conductivity test results for wells completed at shallow depths in the ORR Aquitards and the Knox Aquifer generally shows two populations; an upper population with a geometric mean hydraulic conductivity of about 0.15 ft/day and a lower population with a geometric mean hydraulic conductivity of about 0.0008 ft/day (Moore 1989). The upper population represents more permeable, water-producing intervals and the lower population represents less permeable matrix intervals.

The hydraulic conductivity of the water-producing intervals at shallow depths in the Knox Aquifer is much greater owing to an interconnected network of solution cavities and solution-enlarged fractures. For instance, results of hydraulic conductivity tests for wells less than 100 ft deep in the Maynardville Limestone, as summarized in Geraghty & Miller, Inc. (1989b), range from 0.13 to 99 ft/day and average about 22 ft/day. Additionally, Shevenell *et al.* (1993) report that fractures and solution cavities in the Maynardville Limestone encountered

during installation of several exit-pathway wells yield as much as 200 to 300 gallons per minute (gpm), which is several orders-of-magnitude greater than the typical yield (0.25 gpm; Solomon *et al.* 1992) of wells completed in the ORR Aquitards. Results of a dye tracer test in the Maynardville Limestone in the Bear Creek Regime suggested (qualitatively) a conduit flow rate of about 25 ft/day (Geraghty & Miller, Inc. 1989c).

Results of tracer tests performed in the Bear Creek Regime and calculations of the fracture porosity in bedrock provide estimates of the effective porosity of the ORR Aquitards and the Maynardville Limestone. Tracer tests have yielded effective porosity values ranging from 0.002 to 0.004 (Law Engineering Testing Company 1983; Lozier *et al.* 1987). Moore (1989) calculated a fracture porosity ranging from 0.001 to 0.002, based on estimates of fracture density and average fracture aperture for water-producing intervals at shallow depths in the Conasauga Group.

4.2.3.3 Intermediate Interval

Groundwater in the intermediate bedrock interval occurs in relatively permeable fractures (or possibly fractured intervals) within a relatively impermeable matrix. Review of data obtained with an electromagnetic borehole flowmeter suggest that the permeable regions commonly develop within a single layer of rock, and the average thickness of a permeable region (assuming an average dip of 35°) is less than 2 ft. The vertical spacing between permeable regions in the intermediate interval is believed to be more than 100 ft (Solomon *et al.* 1992); a vertical spacing of 150 ft is supported by results of matrix diffusion modeling of measured ¹⁴C and ³H activities (Toran *et al.* 1991). Results of straddle packer tests in wells completed in the intermediate interval of the ORR Aquitards at several locations in BCV and Melton Valley show a range of mean hydraulic conductivity of 0.006 to 0.016 ft/day (Solomon *et al.* 1992).

4.2.3.4 Deep Interval

Identification of the deep bedrock interval is based on hydraulic and geochemical data for several deep (greater than 500 ft) monitoring wells and coreholes. Solomon *et al.* (1992) report that the boundary between the intermediate interval and the deep interval in BCV occurs at

depths of about 325 ft in the ORR Aquitards and 650 ft in the Knox Aquifer. The boundary is based on lower hydraulic conductivity and unusually high hydraulic heads (estimated from packer tests), although use of hydraulic conductivity may not always be a reliable indicator (Solomon *et al.* 1992).

The transition from the intermediate interval to the deep interval in the ORR Aquitards is often indicated by a change from sodium-bicarbonate groundwater to sodium-chloride groundwater accompanied by a general increase in specific conductance and total dissolved solids. This change in groundwater geochemistry probably reflects longer residence times in the deep interval, and usually occurs at depths of more than 400 ft below the ground surface (Solomon *et al.* 1992). However, no such change in groundwater geochemistry has been observed in the Knox Aquifer; calcium-magnesium-bicarbonate or calcium-sulfate groundwater occurs to depths of 1,000 ft below the ground surface (Dreier *et al.* 1993).

Evaluation of data obtained from straddle packer tests and slug tests, and slow-recovery analyses, indicates that the geometric mean hydraulic conductivity of the deep interval in BCV is about 0.001 ft/day (Solomon *et al.* 1992). Although the mean hydraulic conductivity is comparable to that of the intermediate interval, measured conductivities in the deep interval are as low as 2.83×10^{-6} ft/day (Solomon *et al.* 1992). The low conductivities may reflect reduced fracture apertures or increased fracture spacings (Solomon *et al.* 1992).

4.2.4 Aquiclude

The aquiclude occurs below the deep groundwater interval and is generally marked by the presence of saline water with total dissolved solids of 40,000 to 300,000 milligrams per liter (mg/L) (Solomon *et al.* 1992). The water in the aquiclude is a sodium-, calcium-, and chloride-rich brine that is chemically similar to brines associated with major sedimentary basins (Solomon *et al.* 1992). In Melton Valley, saline water typically occurs at depths of about 600 to 700 ft below the ground surface (Solomon *et al.* 1992).

Saline groundwater has not been encountered at depth in the East Fork Regime. However, several wells in BCV completed at depths of about 500 to 1,000 ft below the ground surface monitor groundwater with total dissolved solids concentrations of several thousand mg/L to several tens of thousand mg/L. The presence of water with relatively high total dissolved solids

(as well as increased sodium and chloride concentrations) in the deep groundwater interval in BCV may represent a mixing zone or diffusion zone between the fresh and saline groundwater suggesting that the aquiclude is most likely present at greater depth in the BCV than in Melton Valley (Solomon *et al.* 1992).

4.2.5 Groundwater Flow Directions

Directions of groundwater flow in the East Fork Regime were evaluated from static water level measurements obtained in January and August/September 1993. Water levels were determined in 98 monitoring wells during January 1993 (the seasonally high water table) and in 90 wells in August/September 1993 (the seasonally low water table); depths to water and water-level elevations for each well are tabulated in Appendix M. Review of these data show that water level declines averaged about 3 ft in most of the wells, with the largest decreases occurring in shallow wells completed in the water-table interval. Additionally, the pattern of water level decrease was the same in all wells such that there were no significant changes in groundwater flow directions (i.e., no reversal of horizontal hydraulic gradients).

Groundwater elevations in the water-table interval and bedrock (shallow and intermediate) intervals during the seasonally high and seasonally low groundwater flow conditions are illustrated on Figures 7 and 8, respectively. As shown, the water table is a subdued replica of surface topography, with steep gradients along the flanks of Pine Ridge and Chestnut Ridge and a gentle slope northeast down the axis of BCV. The horizontal hydraulic gradient averages about 0.046 across BCV (strike-normal) and about 0.012 along the axis of BCV (strike-parallel).

The pattern of groundwater flow in the ORR Aquitards is toward the Maynardville Limestone, suggesting that this formation is a hydrologic drain for the groundwater flow system in the regime. Flow in the Maynardville is generally along strike toward the east end of the Y-12 Plant. At the east end of the regime, flow directions apparently diverge with one component of flow to the north following UEFPC through a water gap in Pine Ridge, and another flow component to the east along strike in the Maynardville Limestone.

4.2.6 Contaminant Transport

Quantitative and qualitative methods were used to estimate contaminant migration rates. Quantitative rates were estimated only for the water-table and shallow bedrock intervals in the groundwater zone. Migration rates in the stormflow zone were not estimated because this zone has probably been destroyed or substantially altered throughout most of the East Fork Regime. Estimates of migration rates in the intermediate and deep intervals also were not performed, but representative rates are probably as low as a few centimeters per year (Solomon *et al* 1992). Qualitative transport rates were determined based on the extent of nitrate in the Bear Creek Regime assuming a constant input rate from a single source area. These qualitative rates were assumed to be applicable to the East Fork Regime because of similar geologic and hydrologic conditions.

The wide range of potential contaminant migration rates reported in the following sections demonstrate the uncertainty in determining a representative rate of solute transport for this groundwater flow system. Long term transport of solutes in dual porosity and/or highly heterogeneous media is a complex physical and chemical process that is not fully explained by calculations using the modified Darcy equation or qualitative estimates based on distances from source areas to plume boundaries. It is probable that at various times and under various conditions, migration rates throughout the given range occur; some contaminants such as nitrate move relatively rapidly through the flow system, while other more highly attenuated constituents move much more slowly. Moreover, even the highly mobile compounds will diffuse into smaller pores from the large conduits and later, under a reverse concentration gradient, will slowly diffuse back out. Thus, although the actual transport rates may vary over several orders of magnitude, the relatively limited extent of the contaminant plumes in the East Fork Regime suggests that slower transport rates may dominate and that attenuation processes such as matrix diffusion are an important controlling factor.

4.2.6.1 Quantitative Estimates

Quantitative estimates of contaminant transport were based on the assumption that contaminants move with the groundwater unimpeded by various retardation processes. Factors

which would reduce transport rates, such as matrix diffusion, degradation, sorption, and chemical precipitation, or factors which may increase transport, such as dispersion, were not explicitly considered. Free product migration, which may occur independent of groundwater flow rates and directions, also was not considered.

Assuming that saturated regolith and fractured bedrock can be treated as an equivalent porous medium, average groundwater flow rates can be estimated using the modified Darcy equation:

$$v = Ki/n$$

where v is the average linear velocity of the groundwater, K is the hydraulic conductivity of the medium, i is the hydraulic gradient, and n is the effective porosity. Although the modified Darcy equation can be used to calculate average flow velocities in fractured rock, the velocities in individual fractures may vary over orders of magnitude, depending on the fracture aperture and wall roughness (Freeze and Cherry 1979).

Using the range of hydraulic conductivities for regolith (0.03 to 3.25 ft/day), effective porosities ranging from 0.001 to 0.15, an average strike-parallel (down-valley) gradient of 0.011, and an average strike-normal (cross-valley) gradient of 0.045, calculated rates of solute transport in the water-table interval range from 0.002 to 146.2 ft/day. However, the bulk of the water mass in the water-table interval resides within porous matrix zones between fractures, and diffusive exchange between matrix and fractures would reduce contaminant migration rates relative to calculated flow rates (Solomon *et al.* 1992).

Contaminant transport rates for the shallow interval in the ORR Aquitards were calculated using a geometric mean hydraulic conductivity of 0.0008 ft/day for matrix intervals and 0.15 ft/day for water-producing intervals, effective porosity values ranging from 0.001 to 0.004, and an average strike-normal hydraulic gradient of 0.046. Using these values, the rate of contaminant migration in the ORR Aquitards ranges from 0.009 to 6.7 ft/day.

Contaminant transport rates for the shallow interval in the Maynardville Limestone were calculated using the average hydraulic conductivity (22 ft/day) obtained from well tests, effective porosity values ranging from 0.001 to 0.004, and an average strike-parallel hydraulic gradient of 0.012. Using these values, the rate of contaminant migration in the Maynardville Limestone

ranges from about 66 to 264 ft/day. Relatively high transport rates in the Maynardville Limestone also are indicated by results of a dye-tracer study performed in the Bear Creek Regime which yielded a transport rate of about 200 ft/day (Geraghty & Miller, Inc. 1989c).

4.2.6.2 Qualitative Estimates

Qualitative estimates of contaminant migration rates in the East Fork Regime were based on the extent of the nitrate plume originating from the S-3 Site observed in the Bear Creek Regime during CY 1990 (HSW Environmental Consultants, Inc. 1991). Unlike most of the other groundwater contaminants in the Bear Creek Regime, many of which have multiple source areas, the S-3 Site is the only significant nitrate source in the regime. Moreover, nitrate salts are highly soluble and generally move with no significant sorption or decay during transport (Geraghty & Miller, Inc. 1989d).

The nitrate plume originating from the S-3 Site extends westward (along strike) about 3,650 ft in the water-table interval, approximately 2,000 ft at shallow depths in the ORR Aquitards, and about 9,500 ft at shallow depths in the Maynardville Limestone (HSW Environmental Consultants, Inc. 1991). Given the 39 years between initial waste disposal at the S-3 Site in 1951 and the horizontal extent of the nitrate plume observed in 1990, the rate of nitrate transport ($v = \text{distance/time}$) is about 0.3 ft/day in the water-table interval, about 0.1 ft/day in the ORR Aquitards, and about 0.7 ft/day in the Maynardville Limestone.

4.3 Surface-Water System

Upper East Fork Poplar Creek originates near the western edge of the Y-12 Plant as a surface water drainage system. The headwaters are contained in a network of underground collection pipes that extend to near the central area of the Plant, where the above-ground portion of the creek emerges. The creek then flows along the southern boundary of the Plant complex and enters Lake Reality. From the outfall at Lake Reality, UEFPC passes north through a gap in Pine Ridge and enters the City of Oak Ridge.

During construction of the Y-12 Plant, all the north-south tributaries to UEFPC were backfilled or replaced with storm drains. Additionally, UEFPC was altered by construction of

the storm sewer system at its headwaters and straightening of the original channel along the southeastern portion of the Plant complex (PEER Consultants 1989).

Surface-water runoff from the Y-12 Plant is discharged to UEFPC through an extensive array of storm drains. Flow monitoring data indicate that over 78% of dry weather flow in UEFPC is attributable to once-through noncontact cooling water, condensate, and cooling tower blowdown, and over 21% can be attributed to groundwater infiltration (Camp, Dresser & McKee 1987). Surface-water quality in UEFPC is monitored at Station 17 located downstream of Lake Reality (Figure 3) as part of the ORR Environmental Monitoring Program (U.S. Department of Energy 1993b).

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APPENDIX A
FIGURES

FIGURE 1

REGIONAL LOCATION OF THE Y-12 PLANT

LOCATION:

Y-12 PLANT
OAK RIDGE, TN.

DATE:

2-15-94

DWG ID.:

OR250-HC

FIGURE 2

HYDROGEOLOGIC REGIMES
AT THE Y-12 PLANT

LOCATION:

Y-12 PLANT
OAK RIDGE, TENN.

DATE:

2-19-94

DWG. ID.:

OR 521-H

FIGURE 3

LOCATION:	E-12 PLANT OAK RIDGE, TN.	FIGURE 3
DATE:	2-19-94	WASTE-MANAGEMENT SITES, CERCLA OPERABLE UNITS, AND USTs LOCATED IN THE UPPER EAST FORK POPLAR CREEK HYDROGEOLOGIC REGIME
DWG. NO.:	GP171-HC

EXPLANATION

- GW-152 ■ Water-Table Zone Monitor
- GW-240 ● Bedrock Zone Monitoring
- Boundary of Site

I Well

II

LOCATION:	Y-12 PLANT OAK RIDGE, TN.	FIGURE 4 LOCATION OF MONITORING WELLS SAMPLED DURING 1993
DATE:	2-19-94	
DWG ID.:	OR306-HC

SOURCE: KING AND THORPE, 1987

SCALE (ft)

SYSTEM GROUP	WELL	FORMATION	WELL	FORMATION
LOWER	ADULTER	ADULTER	ADULTER	ADULTER
MODERATE	ADULTER	ADULTER	ADULTER	ADULTER
MODERATE	ADULTER	ADULTER	ADULTER	ADULTER
MODERATE	ADULTER	ADULTER	ADULTER	ADULTER
MODERATE	ADULTER	ADULTER	ADULTER	ADULTER
MODERATE	ADULTER	ADULTER	ADULTER	ADULTER
MODERATE	ADULTER	ADULTER	ADULTER	ADULTER
MODERATE	ADULTER	ADULTER	ADULTER	ADULTER
MODERATE	ADULTER	ADULTER	ADULTER	ADULTER
MODERATE	ADULTER	ADULTER	ADULTER	ADULTER

SCALE (ft)

LOCATION:	E-12 PLANT OAK RIDGE, TN.
DATE:	2-19-24
DWG. ID:	OR172-HC

FIGURE 5
TOPOGRAPHY AND BEDROCK GEOLOGY
IN THE UPPER EAST FORK POPLAR CREEK
HYDROGEOLOGIC REGIME

LOCATION:
DATE:
DWG. ID.:

F-12 PLANT
OAR RIDGE, TN.
1-24-94
OR007-HIC

SCHEMATIC PROFILE
OF HYDROSTRATIGRAPHIC UNITS IN THE
UPPER EAST FORK POPLAR CREEK HYDROGEOLOGIC REGIME

FIGURE 6

HYDROSTRATIGRAPHIC UNITS
PROPOSED BY
SOLOMON et al. (1992)

HYDROSTRATIGRAPHIC UNITS
EVALUATED BY
MOORE (1989)

HYDROSTRATIGRAPHIC UNITS
FOR THE GROUNDWATER QUALITY
ASSESSMENT REPORT

- NOTE: 1. Approximate depths are for ORR Aquitards; depths in the Knox Aquifer will be greater.
2. Drawing is not to scale.
3. Modified from Solomon et al. (1992).

LOCATION:	Y-12 PLANT OAK RIDGE, TN.	FIGURE 7 GROUNDWATER ELEVATIONS IN THE WATER-TABLE INTERVAL
DATE:	2-19-94	
DWG ID.:	OR313-HC

3, 1993

BER 7, 1993

LOCATION:	Y-12 PLANT OAK RIDGE, TN.	FIGURE 8
DATE:	2-19-94	GROUNDWATER ELEVATIONS IN THE SHALLOW AND INTERMEDIATE BEDROCK INTERVALS
DWG ID.:	OR315-HC	

APPENDIX B

TABLES

Table 1. Waste-Management Sites, CERCLA Operable Units, and Underground Storage Tanks Included in the 1993 Groundwater Protection Program

Site Name	Regulatory Classification	
	Historical ¹	Current ²
New Hope Pond	TSD Unit	TSD Unit
Mercury Process Spill Areas	SWMU	EFPC OU 01
Abandoned Nitric Acid Pipeline	SWMU	EFPC OU 02
Salvage Yard Scrap Metal Storage Area	SWMU	EFPC OU 03
Salvage Yard Oil/Solvent Drum Storage Area	SWMU	EFPC OU 03
Salvage Yard Oil Storage	SWMU	EFPC OU 03
Salvage Yard Drum Deheader	SWMU	EFPC OU 03
Tank 2063-U	SWMU	EFPC OU 03
S-2 Site	SWMU	EFPC OU 03
Waste Coolant Processing Area	SWMU	EFPC OU 03
Tank 2328-U	SWMU	Y-12 SA
Tank 2329-U	SWMU	Y-12 SA
Interim Drum Yard	SWMU	Y-12 SA
Beta-4 Security Pits	SWMU	Y-12 SA
Tank 2331-U	UST	UST
Tank 0134-U	UST	UST
Building 9754-2 Fuel Facility	UST	UST
Garage Underground Tanks	SWMU/UST	Y-12 SA/UST
Rust Garage Area	SWMU/UST	Y-12 SA/UST

Notes:

1 Regulatory status before 1992 Federal Facility Agreement.

TSD Unit - RCRA regulated land-based treatment, storage, or disposal unit
SWMU - RCRA regulated Solid Waste Management Unit
UST - Non-RCRA Underground Storage Tank

2 Modified from: *Oak Ridge Reservation Site Management Plan for the Environmental Restoration Program*. (U.S. Department of Energy 1992)

EFPC OU 01 - East Fork Poplar Creek Operable Unit 01 (Integrator)
EFPC OU 02 - East Fork Poplar Creek Operable Unit 02 (Source Control)
EFPC OU 03 - East Fork Poplar Creek Operable Unit 03 (Source Control)
Y-12 SA - Y-12 Plant Study Area

Table 2. Monitoring Wells Sampled During 1993

Monitoring Program	Well No.	Location¹	Quarters Sampled²	Analytical Parameters
RCRA Assessment Monitoring				
	GW-151	NHP	4	STD ³
	GW-168	NHP	4	STD
	GW-220	NHP	4	STD
	GW-239	NHP	4	STD
	GW-240	NHP	4	STD
	GW-380	NHP	4	STD
	GW-381	NHP	4	STD
	GW-382	NHP	4	STD
	GW-383	NHP	4	STD
	GW-384	NHP	4	STD
	GW-385	NHP	4	STD
	GW-735	NHP	4	STD
Exit Pathway Monitoring				
	GW-169	CMN	4	STD
	GW-170	CMN	4	STD
	GW-206	EXP	4	STD
	GW-207	EXP	4	STD
	GW-208	EXP	4	STD
	GW-232	CMN	4	STD
	GW-603	CMN	4	STD
	GW-604	CMN	4	STD
	GW-605	CMN	4	STD
	GW-606	CMN	4	STD
	GW-617	CMN	4	STD
	GW-618	CMN	4	STD

Table 2 (cont'd)

Monitoring Program	Well No.	Location¹	Quarters Sampled²	Analytical Parameters
Exit Pathway Monitoring (cont'd)				
	GW-733	CMN	4	STD
Grid Well Monitoring				
	GW-191 ^a	B4	4	STD
	GW-192 ^a	B4	4	STD
	GW-194	B4	4	STD
	GW-195	B4	4	STD
	GW-199	GRID I1	4	STD
	GW-251	S2	4	STD
	GW-252	S2	4	STD
	GW-255	S2	4	STD
	GW-261 ^a	SY	4	STD
	GW-262 ^a	SY	4	STD
	GW-263 ^a	SY	4	STD
	GW-264 ^a	SY	4	STD
	GW-337	WCPA	4	STD
	GW-338	WCPA	4	STD
	GW-619	FTF	4	STD
	GW-620	FTF	4	STD
	GW-744	GRID K1	4	STD
	GW-745	GRID K1	4	STD
	GW-746	GRID K1	4	STD
	GW-747	GRID K2	4	STD
	GW-748	GRID K2	4	STD
	GW-749	GRID K2	4	STD
	GW-750	GRID K2	4	STD

Table 2 (cont'd)

Monitoring Program	Well No.	Location ¹	Quarters Sampled ²	Analytical Parameters
Grid Well Monitoring (cont'd)				
	GW-751	GRID J3	4	STD
	GW-752	GRID J3	4	STD
	GW-753	GRID J2	4	STD
	GW-754	GRID J2	4	STD
	GW-755	GRID J1	4	STD
	GW-756	GRID J1	4	STD
	GW-758	GRID G1	4	STD
	GW-759	GRID G1	4	STD
	GW-760	GRID G2	4	STD
	GW-761	GRID G2	4	STD
	GW-762	GRID J3	4	STD
	GW-763	GRID J3	4	STD
	GW-764	GRID E1	4	STD
	GW-765	GRID E1	4	STD
	GW-766	GRID I2	4	STD, TPH ⁴
	GW-767	GRID I2	4	STD, TPH
	GW-768	GRID I1	4	STD
	GW-769	GRID G3	4	STD
	GW-770	GRID G3	4	STD
	CW-771	GRID C1	4	STD
	GW-772	GRID C1	4	STD
	GW-773	GRID H2	4	STD
	GW-774	GRID H2	4	STD
	GW-775	GRID H3	4	STD
	GW-776	GRID H3	4	STD

Table 2 (cont'd)

Monitoring Program	Well No.	Location¹	Quarters Sampled²	Analytical Parameters
UST Monitoring				
	GW-183	FF	4	STD
	GW-190	RG	4	STD
	GW-193	T2331	4	STD
	GW-204	T0134	4	STD
	GW-281 ^a	FF	4	STD
	GW-283	FF	4	STD
	GW-284	FF	4	STD
	GW-285	FF	4	STD
	GW-505	RG	4	STD
	GW-508	RG	4	STD
	GW-631	RG	4	STD
	GW-632	RG	4	STD
	GW-633	RG	4	STD, TPH
	GW-634	RG	4	STD, TPH
	GW-656	T0134	4	STD, TPH
	GW-657	T2331	4	STD, TPH
	GW-658	FF	4	STD, TPH
	GW-659	FF	4	STD, TPH
	GW-707	T2331	4	STD, TPH
	GW-708	T2331	4	STD, TPH

Notes:

- 1 B4 - Beta-4 Security Pits
 CMN - Maynardville Limestone
 EXP - Exit Pathway

Table 2 (cont'd)

1 (cont'd)

FF	-	Building 9754-2 Fuel Facility
GRID	-	Comprehensive Groundwater Monitoring Plan Grid Location
FTF	-	Fire Training Facility
NHP	-	New Hope Pond
RG	-	Rust Garage Area
S2	-	S-2 Site
SY	-	Y-12 Salvage Yard
T0134	-	Tank 0134-U
T2331	-	Tank 2331-U
WCPA	-	Waste Coolant Processing Area

2 The number of quarterly sampling events in which samples were collected during 1993.

3 STD - Standard suite of analytical parameters; includes the following:

· Inductively Coupled Plasma (ICP) Metals

Aluminum	Chromium	Potassium
Antimony	Cobalt	Selenium
Arsenic	Copper	Silver
Barium	Iron	Sodium
Beryllium	Magnesium	Strontium
Boron	Manganese	Thorium
Cadmium	Molybdenum	Vanadium
Calcium	Nickel	Zinc

· Atomic Absorption Spectroscopy Metals

Cadmium
Chromium
Lead

· Other Metals

Mercury (Cold Vapor Atomic Absorption Spectroscopy)
Uranium (Fluorimetric Analysis)

· Volatile Organic Compounds

Acetone	1,2-Dichloropropane
Benzene	cis-1,3-Dichloropropene
Bromodichloromethane	trans-1,3-Dichloropropene
Bromoform	Ethylbenzene
Bromomethane	2-Hexanone
2-Butanone	4-Methyl-2-pentanone
Carbon disulfide	Methylene chloride
Carbon tetrachloride	Styrene
Chlorobenzene	1,1,2,2-Tetrachloroethane

Table 2 (cont'd)

3 STD - Standard suite of analytical parameters (cont'd)

Chlorodibromomethane	Tetrachloroethene
Chloroethane	Toluene
Chloroform	1,1,1-Trichloroethane
Chloromethane	1,1,2-Trichloroethane
1,1-Dichloroethane	Trichloroethene
1,2-Dichloroethane	Vinyl acetate
1,1-Dichloroethene	Vinyl chloride
1,2-Dichloroethene	Xylenes

• **Anions**

Alkalinity - Carbonate	Nitrate (as N)
Alkalinity - Bicarbonate	Fluoride
Chloride	Sulfate

• **Radiological Parameters**

Gross Alpha Activity
Gross Beta Activity

• **Miscellaneous Parameters**

pH
Specific Conductance
Total Suspended Solids (TSS)
Total Dissolved Solids (TDS)
Turbidity

• **Field Measurements**

Static Water Level
pH
Temperature
Dissolved Oxygen
Specific Conductance
Oxidation - Reduction Potential (REDOX)

4 TPH - Total Petroleum Hydrocarbons

a Background/Upgradient monitoring well

Table 3. General Construction Information for Monitoring Wells Sampled During 1993

Well No. ¹	Location ²	Aquifer ³		Monitored Interval ⁴				
		Zone	Unit	Depths		Elevations		
GW-151	NHP	BDR	Cmn	85.0	- 96.5	828.1	- 816.6	
GW-152	NHP	WT	Cmn	10.8	- 17.3	907.6	- 901.1	
GW-167	NHP	WT	Cmn	25.0	- 30.1	904.7	- 899.6	
GW-168 ^a	NHP	BDR	Cn	104.0	- 135.4	825.5	- 794.1	
GW-169	EXP	WT	Cmn	28.7	- 34.7	901.3	- 895.3	
GW-170 ^a	EXP	BDR	Cmn	104.0	- 156.9	826.7	- 773.8	
GW-183	FF	WT	CON	5.0	- 30.6	938.0	- 912.4	
GW-190	RG	WT	CON	8.0	- 26.2	1,022.2	- 1,004.0	
GW-191 ^a	B4	WT	Cm	45.0	- 60.5	962.1	- 946.6	
GW-192 ^a	B4	WT	Cm	6.5	- 17.5	999.5	- 988.5	
GW-193	T2331	WT	CON	5.5	- 18.4	925.6	- 912.7	
GW-194	B4	WT	Cm	6.5	- 12.6	986.0	- 979.9	
GW-195	B4	WT	Cm	17.0	- 23.0	983.2	- 977.2	
GW-199	GRID11	WT	Crg	16.5	- 22.5	941.6	- 935.6	
GW-204	T0134	WT	CON	6.5	- 17.3	949.0	- 938.2	
GW-206	EXP	WT	Cr	10.0	- 16.9	884.7	- 877.8	
GW-207 ^a	EXP	BDR	Cr	100.0	- 109.6	794.7	- 785.1	
GW-208 ^a	EXP	BDR	Cr	404.0	- 412.8	490.5	- 481.7	
GW-220	NHP	BDR	Cmn	31.0	- 45.2	881.7	- 867.5	
GW-232 ^a	EXP	BDR	Cmn	401.0	- 411.7	528.5	- 517.8	
GW-239 ^a	NHP	BDR	Cn	404.0	- 433.3	524.5	- 495.2	
GW-240	NHP	BDR	Cmn	21.0	- 29.5	898.5	- 890.0	
GW-251	S2	BDR	Cmn	35.0	- 51.0	966.6	- 950.6	
GW-252	S2	WT	Cmn	40.2	- 49.0	982.5	- 973.7	
GW-255	S2	WT	Cmn	66.3	- 81.5	958.0	- 942.8	

Table 3 (cont'd)

Well No. ¹	Location ²	Aquifer ³		Monitored Interval ⁴				
		Zone	Unit	Depths		Elevations		
GW-261 ^a	SY	WT	Cm	16.7	- 23.7	1,030.9	-	1,023.9
GW-262 ^a	SY	BDR	Cm	57.7	- 70.6	989.6	-	976.7
GW-263 ^a	SY	WT	Cm	23.0	- 30.8	1,032.1	-	1,024.3
GW-264 ^a	SY	BDR	Cm	58.5	- 71.0	997.0	-	984.5
GW-281 ^a	FF	WT	Cn	4.0	- 15.0	942.5	-	931.5
GW-283	FF	WT	Cn	4.0	- 20.0	935.2	-	919.2
GW-284	FF	WT	Cn	2.0	- 18.0	940.3	-	924.3
GW-285	FF	WT	Cn	3.5	- 21.0	939.4	-	921.9
GW-337	WCPA	WT	Cn	15.0	- 22.1	969.1	-	962.0
GW-338	WCPA	WT	Cn	11.2	- 17.6	972.8	-	966.4
GW-380	NHP	WT	Cmn	2.8	- 15.5	910.9	-	898.2
GW-381	NHP	BDR	Cmn	49.3	- 60.4	864.1	-	853.0
GW-382	NHP	BDR	Cmn	125.0	- 173.0	788.2	-	740.2
GW-383	NHP	WT	Cn	16.6	- 23.6	889.4	-	882.4
GW-384	NHP	WT	Cn	35.5	- 55.7	869.9	-	849.7
GW-385	NHP	BDR	Cn	123.7	- 178.7	782.2	-	727.2
GW-505	RG	WT	Cn	1.5	- 13.5	1,010.1	-	998.1
GW-508	RG	WT	Cn	1.3	- 15.0	1,008.3	-	994.6
GW-603	EXP	BDR	Cmn	63.4	- 75.2	896.0	-	884.2
GW-604	EXP	BDR	Cmn	100.2	- 112.4	859.3	-	847.1
GW-605	EXP	BDR	Cmn	28.2	- 39.9	888.8	-	877.1
GW-606	EXP	BDR	Cmn	155.0	- 171.7	762.0	-	745.3
GW-617	EXP	WT	Cmn	6.8	- 18.0	975.8	-	964.6
GW-618	EXP	WT	Cmn	26.0	- 37.0	956.6	-	945.6
GW-619	FTF	WT	Cmn	26.8	- 40.8	985.9	-	971.9

Table 3 (cont'd)

Well No. ¹	Location ²	Aquifer ³		Monitored Interval ⁴				
		Zone	Unit	Depths		Elevations		
GW-620	FTF	WT	Cmn	61.7	- 75.0	951.1	- 937.8	
GW-631	RG	WT	Cn	4.0	- 16.0	1,000.1	- 988.1	
GW-632	RG	WT	Cn	3.5	- 15.0	1,002.5	- 991.0	
GW-633	RG	WT	Cn	3.5	- 15.0	993.0	- 981.5	
GW-634	RG	WT	Cn	3.5	- 15.0	1,003.8	- 992.3	
GW-656	T0134	WT	Cn	8.3	- 21.5	946.6	- 933.4	
GW-657	T2331	WT	Cmn	4.0	- 17.1	926.8	- 913.7	
GW-658	FF	WT	Cn	6.9	- 19.1	935.1	- 922.9	
GW-659	FF	WT	Cn	4.6	- 16.7	937.2	- 925.1	
GW-707	T2331	WT	Cmn	5.5	- 26.0	925.7	- 905.2	
GW-708	T2331	WT	Cmn	2.7	- 13.7	928.3	- 917.3	
GW-733	EXP	BDR	Cmn	240.1	- 256.5	715.6	- 699.2	
GW-735	NHP	WT	Cn	67.5	- 79.2	853.8	- 842.1	
GW-744	GRIDK1	BDR	Cpv	55.0	- 69.5	850.1	- 835.6	
GW-745	GRIDK1	BDR	Cpv	21.2	- 32.8	883.1	- 871.5	
GW-746	GRIDK1	WT	Cpv	3.2	- 15.2	901.1	- 889.1	
GW-747	GRIDK2	BDR	Cm	67.4	- 79.6	850.9	- 838.7	
GW-748	GRIDK2	BDR	Cm	14.8	- 27.2	904.1	- 891.7	
GW-749	GRIDK2	WT	Cm	4.8	- 16.4	913.9	- 902.3	
GW-750	GRIDK2	BDR	Cn	61.2	- 72.7	854.8	- 843.3	
GW-751	GRIDJ3	BDR	Cn	49.0	- 60.6	860.4	- 848.8	
GW-752	GRIDJ3	WT	Cn	4.8	- 15.9	905.0	- 893.9	
GW-753	GRIDJ2	BDR	Cm	59.6	- 70.7	865.1	- 854.0	
GW-754	GRIDJ2	WT	Cn	13.0	- 24.1	912.6	- 901.5	
GW-755	GRIDJ1	BDR	Crg	49.2	- 60.5	878.2	- 866.9	

Table 3 (cont'd)

Well No. ¹	Location ²	Aquifer ³		Monitored Interval ⁴					
		Zone	Unit	Depths			Elevations		
GW-756	GRIDJ1	WT	Cm	5.3	-	16.6	919.6	-	908.3
GW-758	GRIDG1	BDR	Crt	38.4	-	50.2	951.2	-	939.5
GW-759	GRIDG1	WT	Crg	18.0	-	30.2	973.0	-	960.8
GW-760	GRIDG2	BDR	Cm	48.3	-	60.1	918.2	-	906.4
GW-761	GRIDG2	WT	Cm	3.6	-	15.3	961.3	-	949.6
GW-762	GRIDJ3	BDR	Cn	46.4	-	58.7	865.5	-	853.2
GW-763	GRIDJ3	WT	Cn	4.0	-	16.0	907.4	-	895.4
GW-764	GRIDE1	BDR	Crg	53.9	-	65.0	952.8	-	941.7
GW-765	GRIDE1	WT	Crg	19.9	-	32.4	985.6	-	973.1
GW-766	GRIDI2	BDR	Cm	34.0	-	47.6	910.7	-	897.1
GW-767	GRIDI2	WT	Cm	6.7	-	18.0	938.5	-	927.2
GW-768	GRIDI1	BDR	Crg	53.3	-	65.0	903.4	-	891.7
GW-769	GRIDG3	BDR	Cn	48.2	-	60.3	893.3	-	881.2
GW-770	GRIDG3	WT	Cn	7.5	-	19.0	934.2	-	922.7
GW-771	GRIDC1	BDR	Crg	42.2	-	54.4	966.1	-	953.9
GW-772	GRIDC1	WT	Crt	3.8	-	17.0	1,005.8	-	992.6
GW-773	GRIDH2	BDR	Cm	46.1	-	59.6	914.6	-	901.1
GW-774	GRIDH2	WT	Cm	12.5	-	26.6	947.6	-	933.5
GW-775	GRIDH3	BDR	Cn	45.0	-	56.4	886.5	-	875.1
GW-776	GRIDH3	WT	Cn	10.6	-	23.0	920.8	-	908.4

Notes:

- 1 Well construction information compiled from: *Updated Subsurface Data Base for Bear Creek Valley, Chestnut Ridge, and Parts of Bethel Valley on the U.S. Department of Energy Oak Ridge Reservation* (Jones et al. 1993).

Table 3 (cont'd)

2	B4	-	Beta-4 Security Pits
	EXP	-	Exit-Pathway Monitoring Well
	FF	-	Building 9754-2 Fuel Facility
	GRID	-	Comprehensive Groundwater Monitoring Plan Grid Location
	FTF	-	Fire Training Facility
	NHP	-	New Hope Pond
	RG	-	Rust Garage Area
	S2	-	S-2 Site
	SY	-	Y-12 Salvage Yard
	T0134	-	Tank 0134-U
	T2331	-	Tank 2331-U
	WCPA	-	Waste Coolant Processing Area
3	BDR	-	Bedrock (Shallow, Intermediate, and Deep Intervals)
	WT	-	Water-Table Interval
	CON	-	Conasauga Group (undifferentiated)
	Cmn	-	Maynardville Limestone
	Cn	-	Nolichucky Shale
	Cm	-	Maryville Limestone
	Crg	-	Rogersville Shale
	Crt	-	Rutledge Limestone
	Cpv	-	Pumpkin Valley Shale
	Cr	-	Rome Formation
4	Depth in feet from the ground surface.		
	Elevation in feet above mean sea level.		
a	Background/Upgradient monitoring well		

APPENDIX C

MONITORING-WELL CONSTRUCTION DETAILS

EXPLANATION

LOCATION:

B4	-	Beta-4 Security Pits
EXP	-	Exit-Pathway Monitoring Well
FF	-	Building 9754-2 Fuel Facility
FTF	-	Fire Training Facility
GRID	-	Comprehensive Groundwater Monitoring Plan Grid Location
NHP	-	New Hope Pond
RG	-	Rust Garage Area
S2	-	S-2 Site
SY	-	Y-12 Salvage Yard
T0134	-	Underground Storage Tank 0134-U
T2331	-	Underground Storage Tank 2331-U
WC	-	Waste Coolant Processing Area

CASING MATERIAL:

PVC	-	Polyvinyl chloride
SS	-	Stainless Steel

MONITORED INTERVAL:

BDR	-	Bedrock Interval
WT	-	Water-Table Interval
CON	-	Conasauga Group (undifferentiated)
Cmn	-	Maynardville Limestone
Cn	-	Nolichucky Shale
Cm	-	Maryville Limestone
Crg	-	Rogersville Shale
Crt	-	Rutledge Limestone
Cpv	-	Pumpkin Valley Shale
Cr	-	Rome Formation
Top	-	Depth to top of filter pack or open-hole
Bottom	-	Depth to bottom of filter pack or open-hole
PVC/sl	-	Slotted
PVC/sl/.01	-	Slotted, 0.01-inch slot size
PVC/sw/.01	-	Spiral wound, 0.01-inch slot size
SS/sl/.01	-	Slotted, 0.01-inch slot size
SS/sw/.01	-	Spiral wound, 0.01-inch slot size

NOTES:

Coordinates	-	Y-12 Plant grid system
Elevations	-	Feet above mean sea level
Depths	-	Feet below ground surface
Casing Diameter	-	Outside diameter, in inches
Borehole Diameter	-	Nominal diameter, in inches
Length	-	Feet
.	-	Not Applicable or not available

APPENDIX C
Monitoring-Well Construction Details

1

Well No.	GW-151	GW-152	GW-167	GW-168	GW-169	GW-170	GW-183
Location	NHP	NHP	NHP	NHP	EXP	EXP	FF
East Coordinate	64232	63718	65146	65167	66855	66843	61954.52
North Coordinate	28958	28614	28661	28699	28545	28545	29658.59
ELEVATIONS	.	.	.	.	.	.	.
Measuring Point	915.97	921.18	931.38	930.95	931.87	932.44	946.02
Surface	913.06	918.36	929.67	929.45	929.95	930.7	943.01
Weathered Rock	901.06	901.06	.	.	.	.	941.51
Fresh Rock	901.06	.	.	900.45	.	900.7	.
Top Monitored Interval	828.06	907.56	904.67	825.45	901.25	826.7	938.01
Bottom Monitored Interval	816.56	901.06	899.57	794.05	895.25	773.8	912.41
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	12	.	0.1	30	.	30	.
Casing Diameter	12.5	.	8.625	8.625	.	8.625	.
Casing Material	PVC/#40	.	PVC/#40	PVC/#40	.	PVC/#40	.
WELL CASING BOREHOLE	.	.	.	.	.	.	.
Borehole Depth	96.5	17.3	30.1	104	42	104	30.6
Borehole Diameter	11	8	6.62	6.62	8	6.62	8
Weathered Rock - Depth	12	17.3	.	.	.	.	1.5
Fresh Rock - Depth	12	.	.	29	.	30	.
WELL CASING	.	.	.	.	.	.	.
Well Casing Depth	96.5	17.3	30.1	104	34.8	104	29.8
Well Casing Diameter	4.5	4.5	2.37	4.38	2.37	4.38	4.5
Well Casing Material	PVC/#40	PVC/#40	PVC/#40	Steel	PVC/#40	Steel	SS/#304
MONITORED INTERVAL	.	.	.	.	.	.	.
Aquifer Zone	BDR	WT	WT	BDR	WT	BDR	WT
Geologic Formation	Cmn	Cmn	Cmn	Cn	Cmn	Cmn	CON
Screened or Open	Screen	Screen	Screen	Open	Screen	Open	Screen
Top - Depth	85	10.8	25	104	28.7	104	5
Bottom - Depth	96.5	17.3	30.1	135.4	34.7	156.9	30.6
Screen Material	PVC/sw/.01	PVC/sw/.01	PVC/sl	.	PVC/sl	.	SS/sw/.01
Screen Length	10.0	5.0	4.1	.	5.0	.	20.0
Open-Hole Length	.	.	.	31.4	.	52.9	.
Open-Hole Diameter	.	.	.	3.875	.	3.875	.

(CONTINUED)

APPENDIX C
Monitoring-Well Construction Details

2

Well No.	GW-190	GW-191	GW-192	GW-193	GW-194	GW-195	GW-199
Location	RG	B4	B4	T2331	B4	B4	GRID11
East Coordinate	53254.42	54279	54277	59536.17	54218	54089	62464
North Coordinate	30776.49	30780	30772	29343.93	30583	30573	30283
ELEVATIONS	.	.	.	.	.	.	.
Measuring Point	1033.69	1011.14	1008.63	934	995.36	1002.94	961.08
Surface	1030.19	1007.1	1006.04	931.11	992.47	1000.23	958.06
Weathered Rock	1022.19	.	988.54	928.61	979.87	977.23	957.26
Fresh Rock	.	.	.	.	.	.	940.06
Top Monitored Interval	1022.19	962.1	999.54	925.61	985.97	983.23	941.56
Bottom Monitored Interval	1003.99	946.6	988.54	912.71	979.87	977.23	935.56
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	.	17	.	.	.	.	.
Casing Diameter	.	12.5	.	.	.	.	.
Casing Material	.	PVC/#40	.	.	.	.	.
WELL CASING BOREHOLE	.	.	.	.	.	.	.
Borehole Depth	26.2	60.5	17.5	18.4	12.6	23	22.5
Borehole Diameter	8.5	11	6	8	8	6	8
Weathered Rock - Depth	8	.	17.5	2.5	12.6	23	WT
Fresh Rock - Depth	.	.	.	.	.	.	18
WELL CASING	.	.	.	.	.	.	.
Well Casing Depth	26.2	60	17.5	18.4	12.5	23	22.5
Well Casing Diameter	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Well Casing Material	SS/#304	PVC/#40	PVC/#40	SS/#304	PVC/#40	PVC/#40	PVC/#40
MONITORED INTERVAL	.	.	.	.	.	.	.
Aquifer Zone	WT	WT	WT	WT	WT	WT	WT
Geologic Formation	CON	Cm	Cm	CON	Cm	Cm	Crg
Screened or Open	Screen	Screen	Screen	Screen	Screen	Screen	Screen
Top - Depth	8	45	6.5	5.5	6.5	17	16.5
Bottom - Depth	26.2	60.5	17.5	18.4	12.6	23	22.5
Screen Material	SS/sw/.01	PVC/sw/.01	PVC/sw/.01	SS/sw/.01	PVC/sw/.01	PVC/sw/.01	PVC/sw/.01
Screen Length	16.1	10.0	10.0	10.2	5.0	6.0	5.0
Open-Hole Length	.	.	.	.	.	.	.
Open-Hole Diameter	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX C
Monitoring-Well Construction Details

3

Well No.	GW-204	GW-206	GW-207	GW-208	GW-220	GW-232	GW-239
Location	T0134	EXP	EXP	EXP	NHP	EXP	NHP
East Coordinate	57410.93	64019	64023	64007	64225	66863	65088.59
North Coordinate	29955.91	31603	31596	31612	28949	28546	28714.85
ELEVATIONS	.	.	.	.	.	.	.
Measuring Point	958.57	984.97	901.81	901.3	915.64	931.22	931.5
Surface	955.47	894.65	894.66	894.52	912.74	929.52	928.51
Weathered Rock	945.47	.	.	.	.	.	.
Fresh Rock	.	.	.	882.52	901.74	.	.
Top Monitored Interval	948.97	884.65	794.66	490.52	881.74	528.52	524.51
Bottom Monitored Interval	938.17	877.75	785.06	481.72	867.54	517.82	495.21
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	.	.	17	24	13	33	33.5
Casing Diameter	.	.	8.625	8.626	12.5	8.625	8.5
Casing Material	.	.	PVC/#40	PVC/#40	PVC/#40	PVC/#40	PVC/#40
WELL CASING BOREHOLE	.	.	.	.	.	.	.
Borehole Depth	17.5	16.9	100	404	45.2	401	404
Borehole Diameter	6	8	7.87	6.62	11	6.62	6.62
Weathered Rock - Depth	10	.	.	.	.	.	.
Fresh Rock - Depth	.	.	.	12	11	.	.
WELL CASING	.	.	.	.	.	.	.
Well Casing Depth	17.3	16.9	100	404	45.2	401	404
Well Casing Diameter	4.5	2.37	4.38	4.38	4.5	4.38	4.38
Well Casing Material	SS/#304	PVC/#40	PVC/#40	Steel	PVC/#40	Steel	Steel
MONITORED INTERVAL	.	.	.	.	.	.	.
Aquifer Zone	WT	WT	BDR	BDR	BDR	BDR	BDR
Geologic Formation	CON	Cr	Cr	Cr	Cmn	Cmn	Cn
Screened or Open	Screen	Screen	Open	Open	Screen	Open	Open
Top - Depth	6.5	10	100	404	31	401	404
Bottom - Depth	17.3	16.9	109.6	412.8	45.2	411.7	433.3
Screen Material	SS/sw/.01	PVC/sw/.01	.	.	PVC/sw/.01	.	.
Screen Length	10.0	5.1	.	.	10.0	.	.
Open-Hole Length	.	.	9.6	8.8	.	10.7	29.3
Open-Hole Diameter	.	.	3.875	3.625	.	3.875	3.875

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APPENDIX C
Monitoring-Well Construction Details

Well No.	GW-240	GW-251	GW-252	GW-255	GW-261	GW-262	GW-263
Location	NHP	S2	S2	S2	SY	SY	SY
East Coordinate	63726	53843	53920	53906	53094	53106	53674
North Coordinate	28604	29467	29326	29330	30914	30913	30885
ELEVATIONS	.	.	.	.	.	.	.
Measuring Point	922.9	1003.6	1024.21	1027.13	1049.99	1049.67	1057.73
Surface	919.5	1001.6	1022.66	1024.27	1047.57	1047.32	1055.13
Weathered Rock	.	.	.	.	.	.	.
Fresh Rock	905.5	969.1	.	.	1024.57	1027.32	1025.13
Top Monitored Interval	898.5	966.6	982.46	957.97	1030.87	989.62	1032.13
Bottom Monitored Interval	890	950.6	973.66	942.77	1023.87	976.72	1024.33
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	14	.	.	43	.	37.8	.
Casing Diameter	12.5	.	.	10.5	.	10.625	.
Casing Material	PVC/#40	.	.	PVC/#40	.	PVC/#40	.
WELL CASING BOREHOLE	.	.	.	.	.	.	.
Borehole Depth	29.5	51	49	81.5	23.7	70.6	30.8
Borehole Diameter	11	8.25	8.25	9.62	10	10	10
Weathered Rock - Depth	.	.	.	.	.	.	.
Fresh Rock - Depth	14	32.5	.	.	23	20	30
WELL CASING	.	.	.	.	.	.	.
Well Casing Depth	29	47.1	48.8	81.3	23.7	70.6	30.8
Well Casing Diameter	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Well Casing Material	PVC/#40	PVC/#40	PVC/#40	SS/#304	SS/#304	SS/#304	SS/#304
MONITORED INTERVAL	.	.	.	.	.	.	.
Aquifer Zone	BDR	BDR	WT	WT	WT	BDR	WT
Geologic Formation	Cmn	Cmn	Cmn	Cmn	Cm	Cm	Cm
Screened or Open	Screen	Screen	Screen	Screen	Screen	Screen	Screen
Top - Depth	21	35	40.2	66.3	16.7	57.7	23
Bottom - Depth	29.5	51	49	81.5	23.7	70.6	30.8
Screen Material	PVC/sw/.01	PVC/sw/.01	PVC/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01
Screen Length	5.0	9.6	5.0	10.0	5.4	10.4	5.3
Open-Hole Length	.	.	.	.	.	.	.
Open-Hole Diameter	.	.	.	.	.	.	.

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APPENDIX C
Monitoring-Well Construction Details

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Well No.	GW-264	GW-281	GW-283	GW-284	GW-285	GW-337	GW-338
Location	SY	FF	FF	FF	FF	WC	WC
East Coordinate	53670	61907	61990	61925	61856	54519	54430
North Coordinate	30872	29771	29570	29590	29595	30057	30134
ELEVATIONS	.	.	.	.	.	.	.
Measuring Point	1058.3	946.08	938.62	941.61	942.46	987.31	987.27
Surface	1055.54	946.51	939.22	942.3	942.88	984.12	984.02
Weathered Rock	.	929.01	919.22	924.3	921.88	.	978.02
Fresh Rock	1022.54	.	.	.	.	.	.
Top Monitored Interval	997.04	942.51	935.22	940.3	939.38	969.12	972.82
Bottom Monitored Interval	984.54	931.51	919.22	924.3	921.88	962.02	966.42
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	35	.	.	.	.	.	.
Casing Diameter	10.625	.	.	.	.	.	.
Casing Material	PVC/#40	.	.	.	.	.	.
WELL CASING BOREHOLE	.	.	.	.	.	.	.
Borehole Depth	71	17.5	20	18	21	22.1	17.6
Borehole Diameter	10	6	6	6	6	10	10
Weathered Rock - Depth	.	17.5	20	18	21	.	6
Fresh Rock - Depth	33	.	.	.	.	.	.
WELL CASING	.	.	.	.	.	.	.
Well Casing Depth	70.7	15	20	18	21	22.1	17.6
Well Casing Diameter	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304
MONITORED INTERVAL	.	.	.	.	.	.	.
Aquifer Zone	BDR	WT	WT	WT	WT	WT	WT
Geologic Formation	Cm	Cn	Cn	Cn	Cn	Cn	Cn
Screened or Open	Screen	Screen	Screen	Screen	Screen	Screen	Screen
Top - Depth	58.5	4	4	2	3.5	15	11.2
Bottom - Depth	71	15	20	18	21	22.1	17.6
Screen Material	SS/sw/.01	SS/sl/.01	SS/sl/.01	SS/sl/.01	SS/sl/.01	SS/sw/.01	SS/sw/.01
Screen Length	10.2	10.0	15.0	15.0	15.0	5.4	5.5
Open-Hole Length	.	.	.	.	.	.	.
Open-Hole Diameter	.	.	.	.	.	.	.

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APPENDIX C
Monitoring-Well Construction Details

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Well No.	GW-380	GW-381	GW-382	GW-383	GW-384	GW-385	GW-505
Location	NHP	NHP	NHP	NHP	NHP	NHP	RG
East Coordinate	62938	62947	62956	63522	63530	63526	53037
North Coordinate	28714	28715	28716	29201	29216	29208	30400
	.	.	.	.	.	.	.
ELEVATIONS	.	.	.	.	.	.	.
	.	.	.	.	.	.	.
Measuring Point	913.55	913.36	913.17	908.5	908.38	908.87	1014.78
Surface	913.66	913.4	913.16	906	905.38	905.87	1011.6
Weathered Rock	898.16	899.9	900.46	894.5	893.38	894.87	.
Fresh Rock	.	887.4	896.16	.	.	.	.
Top Monitored Interval	910.86	864.1	788.16	889.4	869.88	782.17	1010.1
Bottom Monitored Interval	898.16	853	740.16	882.4	849.68	727.17	998.1
	.	.	.	.	.	.	.
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
	.	.	.	.	.	.	.
Casing Depth	.	13.5	12.7	5	16	13	.
Casing Diameter	.	13	10.75	10.75	10.75	13	.
Casing Material	.	unknown	unknown	unknown	unknown	unknown	.
	.	.	.	.	.	.	.
WELL CASING BOREHOLE	.	.	.	.	.	.	.
	.	.	.	.	.	.	.
Borehole Depth	15.5	49.3	125	24.1	35.5	123.7	13.5
Borehole Diameter	10	9.5	9.5	8.75	9.5	9.5	7
Weathered Rock - Depth	15.5	13.5	12.7	11.5	12	11	.
Fresh Rock - Depth	.	26	17	.	.	.	.
	.	.	.	.	.	.	.
WELL CASING	.	.	.	.	.	.	.
	.	.	.	.	.	.	.
Well Casing Depth	15.5	49.3	125	23.6	35.5	123.7	13.3
Well Casing Diameter	4.5	6.62	6.62	4.5	6.62	6.62	2.37
Well Casing Material	SS/#304	Steel/F25	Steel/F25	SS/#304	Steel/F25	Steel/F25	SS/#304
	.	.	.	.	.	.	.
MONITORED INTERVAL	.	.	.	.	.	.	.
	.	.	.	.	.	.	.
Aquifer Zone	WT	BDR	BDR	WT	WT	BDR	WT
Geologic Formation	Cmn	Cmn	Cmn	Cn	Cn	Cn	Cn
Screened or Open	Screen	Open	Open	Screen	Open	Open	Screen
Top - Depth	2.8	49.3	125	16.6	35.5	123.7	1.5
Bottom - Depth	15.5	60.4	173	23.6	55.7	178.7	13.5
Screen Material	SS/sw/.01	.	.	SS/sw/.01	.	.	SS/sw/.01
Screen Length	5.4	.	.	5.0	.	.	10.4
Open-Hole Length	.	11.1	48	.	20.2	55	.
Open-Hole Diameter	.	6.1	6.13	.	6	6	.

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APPENDIX C
Monitoring-Well Construction Details

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Well No.	GW-508	GW-603	GW-604	GW-605	GW-606	GW-617	GW-618
Location	RG	EXP	EXP	EXP	EXP	EXP	EXP
East Coordinate	53148	64803.26	64836.82	62001.5	61951.42	54755.65	54738.12
North Coordinate	30281	28429.84	28436.97	28706.83	28708.32	29806.44	29798.46
ELEVATIONS	.	.	.	.	.	.	.
Measuring Point	1012.5	961.32	960.86	918.88	919.39	985.11	984.94
Surface	1009.56	959.41	959.53	916.97	916.98	982.61	982.64
Weathered Rock	.	935.41	928.53	.	.	.	955.64
Fresh Rock	.	899.41	904.53	907.47	906.18	.	.
Top Monitored Interval	1008.26	896.01	859.33	888.77	761.98	975.81	956.64
Bottom Monitored Interval	994.56	884.21	847.13	877.07	745.28	964.61	945.64
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	.	31.9	95.2	9.5	10.8	.	27.5
Casing Diameter	.	10.75	10.75	11.75	16	.	10.75
Casing Material	.	Steel	Steel	Steel	Steel	.	Steel
WELL CASING BOREHOLE	.	.	.	.	.	.	.
Borehole Depth	15	75.2	112.4	40.5	66	18	37
Borehole Diameter	7	9.5	9.5	10.6	9.63	9.5	9.5
Weathered Rock - Depth	.	24	31	.	.	.	27
Fresh Rock - Depth	.	60	55	9.5	10.8	.	.
WELL CASING	.	.	.	.	.	.	.
Well Casing Depth	13.7	75.2	112.4	39.9	64.7	18	37
Well Casing Diameter	2.37	4.5	4.5	4.25	7	4.5	4.5
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304	Steel	SS/#304	SS/#304
MONITORED INTERVAL	.	.	.	.	.	.	.
Aquifer Zone	WT	BDR	BDR	BDR	BDR	WT	WT
Geologic Formation	Cn	Cmn	Cmn	Cmn	Cmn	Cmn	Cmn
Screened or Open	Screen	Screen	Screen	Screen	Screen	Screen	Screen
Top - Depth	1.3	63.4	100.2	28.2	155	6.8	26
Bottom - Depth	15	75.2	112.4	39.9	171.7	18	37
Screen Material	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/pp/.01	SS/sw/.01	SS/sw/.01
Screen Length	10.3	10.3	9.9	10.2	10.7	10.3	10.3
Open-Hole Length	.	.	.	.	.	.	.
Open-Hole Diameter	.	.	.	.	.	.	.

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APPENDIX C
Monitoring-Well Construction Details

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Well No.	GW-619	GW-620	GW-631	GW-632	GW-633	GW-634	GW-656
Location	FTF	FTF	RG	RG	RG	RG	T0134
East Coordinate	52905.94	52894.57	53144.93	53077.9	53100.64	53256.62	57439.12
North Coordinate	29562.8	29564.54	30202.77	30236.97	30144.44	30222.38	29894.69
ELEVATIONS	.	.	.	.	.	.	.
Measuring Point	1015.24	1015.34	1003.99	1005.73	996.5	1007.15	954.79
Surface	1012.74	1012.84	1004.11	1005.95	996.52	1007.31	954.9
Weathered Rock	972.74	971.84	.	997.45	988.02	1002.31	942.9
Fresh Rock	971.94	942.84	.	.	.	.	.
Top Monitored Interval	985.94	951.14	1000.11	1002.45	993.02	1003.81	946.6
Bottom Monitored Interval	971.94	937.84	988.11	990.95	981.52	992.31	933.4
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	.	42.5	.	.	.	.	.
Casing Diameter	.	10.75	.	.	.	.	.
Casing Material	.	Steel	.	.	.	.	.
WELL CASING BOREHOLE	.	.	.	.	.	.	.
Borehole Depth	40.8	75	16	15	15	15	21.5
Borehole Diameter	9.5	9.5	10.5	10.5	10.5	10.5	9.5
Weathered Rock - Depth	40	41	.	8.5	8.5	5	12
Fresh Rock - Depth	40.8	70	.	.	.	.	.
WELL CASING	.	.	.	.	.	.	.
Well Casing Depth	40.8	75	15.5	14.5	15	15	20.9
Well Casing Diameter	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Well Casing Material	SS/#304	SS/#304	PVC	PVC	PVC	PVC	SS/#304
MONITORED INTERVAL	.	.	.	.	.	.	.
Aquifer Zone	WT	WT	WT	WT	WT	WT	WT
Geologic Formation	Cmn	Cmn	Cn	Cn	Cn	Cn	Cn
Screened or Open	Screen	Screen	Screen	Screen	Screen	Screen	Screen
Top - Depth	26.8	61.7	4	3.5	3.5	3.5	8.3
Bottom - Depth	40.8	75	16	15	15	15	21.5
Screen Material	SS/sw/.01	SS/sw/.01	PVC/sl/.01	PVC/sl/.01	PVC/sl/.01	PVC/sl/.01	SS/sw/.01
Screen Length	10.8	10.8	10.0	10.0	10.0	10.0	10.0
Open-Hole Length	.	.	.	.	.	.	.
Open-Hole Diameter	.	.	.	.	.	.	.

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APPENDIX C
Monitoring-Well Construction Details

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Well No.	GW-657	GW-658	GW-659	GW-707	GW-708	GW-733	GW-735
Location	T2331	FF	FF	T2331	T2331	EXP	NHP
East Coordinate	59598.78	62146.2	62100.46	59578.51	59529.84	65057	64872
North Coordinate	29287.13	29638.24	29614.54	29319.23	29335.42	28447	28867
ELEVATIONS	.	.	.	.	.	.	.
Measuring Point	930.53	944.81	941.16	930.91	930.87	959.04	924.28
Surface	930.8	942.04	941.79	931.16	931.03	955.69	921.34
Weathered Rock	.	938.54	938.39	911.16	.	944.59	902.34
Fresh Rock	.	.	.	.	.	913.19	843.84
Top Monitored Interval	926.8	935.14	937.19	925.66	928.33	715.59	853.84
Bottom Monitored Interval	913.7	922.94	925.09	905.16	917.33	699.19	842.14
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	3	8.8	2.9	3	3	51.8	25.5
Casing Diameter	11.75	10.75	10.75	11.75	11.75	11.75	11.75
Casing Material	Steel	Steel	Steel	Steel	Steel	.	.
WELL CASING BOREHOLE	.	.	.	.	.	.	.
Borehole Depth	17.1	19.1	16.7	26	13.9	240.1	83
Borehole Diameter	9.5	9.5	9.5	9.5	9.5	10.6	10.6
Weathered Rock - Depth	.	3.5	3.4	20	.	11.1	19
Fresh Rock - Depth	.	.	.	.	.	42.5	77.5
WELL CASING	.	.	.	.	.	.	.
Well Casing Depth	15.6	19.1	16.7	17.2	13.7	240.1	78.1
Well Casing Diameter	4.5	4.5	4.5	4.5	4.5	7	4.5
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	Steel/F25	SS/#304
MONITORED INTERVAL	.	.	.	.	.	.	.
Aquifer Zone	WT	WT	WT	WT	WT	BDR	WT
Geologic Formation	Cmn	Cn	Cn	Cmn	Cmn	Cmn	Cn
Screened or Open	Screen	Screen	Screen	Screen	Screen	Open	Screen
Top - Depth	4	6.9	4.6	5.5	2.7	240.1	67.5
Bottom - Depth	17.1	19.1	16.7	26	13.7	256.5	79.2
Screen Material	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	.	SS/sw/.01
Screen Length	10.0	10.0	11.0	10.0	10.0	.	10.2
Open-Hole Length	.	.	.	.	.	16.4	.
Open-Hole Diameter	.	.	.	.	.	6.25	.

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APPENDIX C
Monitoring-Well Construction Details

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Well No.	GW-744	GW-745	GW-746	GW-747	GW-748	GW-749	GW-750
Location	GRIDK1	GRIDK1	GRIDK1	GRIDK2	GRIDK2	GRIDK2	GRIDK2
East Coordinate	64324	64309	64312	64569.57	64579.38	64585.74	64835.48
North Coordinate	30282	30278	30291	29729.81	29740.86	29726.4	28974.53
ELEVATIONS	.	.	.	.	.	.	.
Measuring Point	907.43	907.06	906.88	920.96	921.17	921.19	918.86
Surface	905.05	904.28	904.26	918.33	918.89	918.69	915.96
Weathered Rock	895.45	894.78	895.26	907.83	910.89	909.69	897.46
Fresh Rock	890.45	891.78	893.26	906.33	907.09	907.69	891.16
Top Monitored Interval	850.05	883.08	901.06	850.93	904.09	913.89	854.76
Bottom Monitored Interval	835.55	871.48	889.06	838.73	891.69	902.29	843.26
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	27.6	.	.	23.8	.	.	21.7
Casing Diameter	10	.	.	10.75	.	.	11.75
Casing Material	.	.	.	Steel	.	.	Steel
WELL CASING BOREHOLE	.	.	.	.	.	.	.
Borehole Depth	69.5	33	15.2	23.8	27.2	16.4	72.8
Borehole Diameter	9.87	9.87	9.87	15	9.9	9.9	10.6
Weathered Rock - Depth	9.6	9.5	9	10.5	8	9	18.5
Fresh Rock - Depth	14.6	12.5	11	12	11.8	11	24.8
WELL CASING	.	.	.	.	.	.	.
Well Casing Depth	67	32.5	14.75	69.2	17	6	62.4
Well Casing Diameter	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304
MONITORED INTERVAL	.	.	.	.	.	.	.
Aquifer Zone	BDR	BDR	WT	BDR	BDR	WT	BDR
Geologic Formation	Cpv	Cpv	Cpv	Cm	Cm	Cm	Cn
Screened or Open	Screen	Screen	Screen	Screen	Screen	Screen	Screen
Top - Depth	55	21.2	3.2	67.4	14.8	4.8	61.2
Bottom - Depth	69.5	32.8	15.2	79.6	27.2	16.4	72.7
Screen Material	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01
Screen Length	10.0	10.0	10.3	9.9	9.9	9.9	9.9
Open-Hole Length	.	.	.	.	.	.	.
Open-Hole Diameter	.	.	.	.	.	.	.

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APPENDIX C
Monitoring-Well Construction Details

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Well No.	GW-751	GW-752	GW-753	GW-754	GW-755	GW-756	GW-758
Location	GRIDJ3	GRIDJ3	GRIDJ2	GRIDJ2	GRIDJ1	GRIDJ1	GRIDG1
East Coordinate	63248.8	63226.77	63208.59	63190.57	63266.73	63288.31	60331.97
North Coordinate	29310	29312.53	29638	29644.34	30203.59	30195.42	30853.74
ELEVATIONS	.	.	.	.	.	.	.
Measuring Point	912.05	912.78	927.69	928.59	930.36	927.92	992.7
Surface	909.38	909.76	924.73	925.63	927.41	924.89	989.65
Weathered Rock	899.38	898.26	923.73	924.63	912.81	911.89	973.65
Fresh Rock	897.38	897.26	902.23	908.13	905.41	908.89	970.65
Top Monitored Interval	860.38	904.96	865.13	912.63	878.21	919.59	951.25
Bottom Monitored Interval	848.78	893.86	854.03	901.53	866.91	908.29	939.45
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	22.9	.	38	.	36.1	.	.
Casing Diameter	10.75	.	10.75	.	11.75	.	.
Casing Material	Steel	.	Steel	.	Steel	.	.
WELL CASING BOREHOLE	.	.	.	.	.	.	.
Borehole Depth	60.8	16	70.7	24.1	60.7	16.7	50.2
Borehole Diameter	9.9	9.8	9.9	9.9	9.9	9.9	9.9
Weathered Rock - Depth	10	11.5	1	1	14.6	13	16
Fresh Rock - Depth	12	12.5	22.5	17.5	22	16	19
WELL CASING	.	.	.	.	.	.	.
Well Casing Depth	50.1	15.5	60.4	14	50	6	40.2
Well Casing Diameter	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304
MONITORED INTERVAL	.	.	.	.	.	.	.
Aquifer Zone	BDR	WT	BDR	WT	BDR	WT	BDR
Geologic Formation	Cn	Cn	Cm	Cn	Crg	Cm	Crt
Screened or Open	Screen	Screen	Screen	Screen	Screen	Screen	Screen
Top - Depth	49	4.8	59.6	13	49.2	5.3	38.4
Bottom - Depth	60.6	15.9	70.7	24.1	60.5	16.6	50.2
Screen Material	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01
Screen Length	9.9	9.9	9.9	9.9	9.9	9.9	9.9
Open-Hole Length	.	.	.	.	.	.	.
Open-Hole Diameter	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX C
Monitoring-Well Construction Details

12

Well No.	GW-759	GW-760	GW-761	GW-762	GW-763	GW-764	GW-765
Location	GRIDG1	GRIDG2	GRIDG2	GRIDJ3	GRIDJ3	GRIDE1	GRIDE1
East Coordinate	60312.58	60207.3	60201.31	63192.53	63219.76	58461.86	58481.71
North Coordinate	30863.89	30160.44	30133.05	29114.91	29117.17	31026.68	31025.53
ELEVATIONS	.	.	.	.	.	.	.
Measuring Point	994.01	970.02	968.23	915.34	914.85	1009.87	1008.54
Surface	991.04	966.51	964.91	911.85	911.38	1006.72	1005.53
Weathered Rock	977.04	962.51	960.11	899.85	894.38	981.82	981.03
Fresh Rock	971.04	954.01	953.41	897.35	.	972.82	.
Top Monitored Interval	973.04	918.21	961.31	865.45	907.38	952.82	985.63
Bottom Monitored Interval	960.84	906.41	949.61	853.15	895.38	941.72	973.13
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	15.4	.	.	11.5	.	38	.
Casing Diameter	10.75	.	.	16.75	.	10.75	.
Casing Material	Steel	.	.	.	.	.	.
WELL CASING BOREHOLE	.	.	.	.	.	.	.
Borehole Depth	30.2	60.1	15.3	60.2	17	65.1	32.5
Borehole Diameter	9.9	9.9	9.9	9.9	8	9.9	9.9
Weathered Rock - Depth	14	4	4.8	12	17	24.9	24.5
Fresh Rock - Depth	20	12.5	11.5	14.5	.	33.9	.
CASING	.	.	.	.	.	.	.
Well Casing Depth	18.9	49.7	5.3	58.2	15.4	64.9	32.2
Well Casing Diameter	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304
MONITORED INTERVAL	.	.	.	.	.	.	.
Aquifer Zone	WT	BDR	WT	BDR	WT	BDR	WT
Geologic Formation	Crg	Cm	Cm	Cn	Cn	Crg	Crg
Screened or Open	Screen	Screen	Screen	Screen	Screen	Screen	Screen
Top - Depth	18	48.3	3.6	46.4	4	53.9	19.9
Bottom - Depth	30.2	60.1	15.3	58.7	16	65	32.4
Screen Material	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01
Screen Length	10.1	9.9	9.6	10.0	10.3	10.0	10.3
Open-Hole Length	.	.	.	.	.	.	.
Open-Hole Diameter	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX C
Monitoring-Well Construction Details

13

Well No.	GW-766	GW-767	GW-768	GW-769	GW-770	GW-771	GW-772
Location	GRIDI2	GRIDI2	GRIDI1	GRIDG3	GRIDG3	GRIDC1	GRIDC1
East Coordinate	62312.08	62294.12	62445.04	60230.01	60255	56360.67	56356.69
North Coordinate	29717.66	29725.79	30330.21	29510.42	29504.56	31331.05	31310.43
ELEVATIONS	.	.	.	.	.	.	.
Measuring Point	948.37	948.54	959.73	944.26	944.55	1011.2	1012.66
Surface	944.67	945.17	956.65	941.53	941.67	1008.27	1009.6
Weathered Rock	.	.	.	.	.	.	.
Fresh Rock	.	.	.	.	.	.	.
Top Monitored Interval	910.67	938.47	903.35	893.33	934.17	966.07	1005.8
Bottom Monitored Interval	897.07	927.17	891.65	881.23	922.67	953.87	992.6
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	24	.	32.3	14.2	.	25.1	.
Casing Diameter	10.75	.	10.75	16.75	.	10.75	.
Casing Material	.	.	.	.	.	.	.
WELL CASING BOREHOLE	.	.	.	.	.	.	.
Borehole Depth	47.6	18	65	61.4	20	54.4	19
Borehole Diameter	9.87	9.87	9.62	10.62	10.62	9.87	8
Weathered Rock - Depth	.	.	.	.	.	.	.
Fresh Rock - Depth	.	.	.	.	.	.	.
WELL CASING	.	.	.	.	.	.	.
Well Casing Depth	44.9	17.8	64.6	59.4	18.5	53.8	15.2
Well Casing Diameter	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304
MONITORED INTERVAL	.	.	.	.	.	.	.
Aquifer Zone	BDR	WT	BDR	BDR	WT	BDR	WT
Geologic Formation	Cm	Cm	Crg	Cn	Cn	Crg	Crt
Screened or Open	Screen	Screen	Screen	Screen	Screen	Screen	Screen
Top - Depth	34	6.7	53.3	48.2	7.5	42.2	3.8
Bottom - Depth	47.6	18	65	60.3	19	54.4	17
Screen Material	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01
Screen Length	10.0	10.0	9.9	10.0	10.0	14.8	10.1
Open-Hole Length	.	.	.	.	.	.	.
Open-Hole Diameter	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX C
Monitoring-Well Construction Details

14

Well No.	GW-773	GW-774	GW-775	GW-776
Location	GRIDH2	GRIDH2	GRIDH3	GRIDH3
East Coordinate	61388.81	61408.76	61277.82	61309.06
North Coordinate	29878.95	29876.52	29272.38	29271.38
ELEVATIONS	.	.	.	.
Measuring Point	963.76	963.16	931.35	931.45
Surface	960.72	960.09	931.48	931.44
Weathered Rock	.	.	.	.
Fresh Rock	.	.	.	.
Top Monitored Interval	914.62	947.59	886.48	920.84
Bottom Monitored Interval	901.12	933.49	875.08	908.44
SURFACE/CONDUCTOR CASING	.	.	.	.
Casing Depth	25.5	.	16.7	.
Casing Diameter	10.75	.	11.75	.
Casing Material	.	.	.	.
WELL CASING BOREHOLE	.	.	.	.
Borehole Depth	59.6	26.6	60.5	24
Borehole Diameter	9.87	9.87	10.62	9.87
Weathered Rock - Depth	.	.	.	.
Fresh Rock - Depth	.	.	.	.
WELL CASING	.	.	.	.
Well Casing Depth	58.7	25.8	56.3	22.3
Well Casing Diameter	4.5	4.5	4.5	4.5
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304
MONITORED INTERVAL	.	.	.	.
Aquifer Zone	BDR	WT	BDR	WT
Geologic Formation	Cm	Cm	Cn	Cn
Screened or Open	Screen	Screen	Screen	Screen
Top - Depth	46.1	12.5	45	10.6
Bottom - Depth	59.6	26.6	56.4	23
Screen Material	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01
Screen Length	10.1	9.8	10.0	10.0
Open-Hole Length	.	.	.	.
Open-Hole Diameter	.	.	.	.

APPENDIX D
SAMPLING SEQUENCE

EXPLANATION

LOCATION:

B4	-	Beta-4 Security Pits
EXP	-	Exit-Pathway Monitoring Well
FF	-	Building 9754-2 Fuel Facility
FTF	-	Fire Training Facility
GRID	-	Comprehensive Groundwater Monitoring Plan Grid Location
NHP	-	New Hope Pond
RG	-	Rust Garage Area
S2	-	S-2 Site
SY	-	Y-12 Salvage Yard
T0134	-	Underground Storage Tank 0134-U
T2331	-	Underground Storage Tank 2331-U
WC	-	Waste Coolant Processing Area

APPENDIX D
Sampling Sequence

Sampling Point	Location	Date	Time
First Quarter 1993			
GW-252	S2	01/08/93	12:07
GW-255	S2	01/08/93	13:49
GW-261	SY	01/08/93	14:30
GW-338	WC	01/11/93	10:30
GW-751	GRIDJ3	01/11/93	10:42
GW-262	SY	01/11/93	12:12
GW-752	GRIDJ3	01/11/93	12:30
GW-263	SY	01/11/93	14:15
GW-617	EXP	01/12/93	9:30
GW-618	EXP	01/12/93	10:31
GW-264	SY	01/12/93	10:45
GW-191	B4	01/12/93	13:50
GW-385	NHP	01/12/93	14:36
GW-194	B4	01/13/93	10:30
GW-384	NHP	01/13/93	11:35
GW-195	B4	01/13/93	12:30
GW-192	B4	01/14/93	10:00
GW-755	GRIDJ1	01/14/93	11:00
GW-207	EXP	01/14/93	11:13
GW-756	GRIDJ1	01/15/93	10:10
GW-753	GRIDJ2	01/15/93	12:09
GW-754	GRIDJ2	01/18/93	11:00
GW-744	GRIDK1	01/18/93	13:17
GW-745	GRIDK1	01/19/93	9:55
GW-746	GRIDK1	01/19/93	11:40
GW-206	EXP	01/19/93	11:45
GW-208	EXP	01/19/93	12:26
GW-747	GRIDK2	01/19/93	14:36
GW-251	S2	01/20/93	10:31
GW-619	FTF	01/20/93	12:15
GW-748	GRIDK2	01/20/93	12:23
GW-620	FTF	01/20/93	15:00
GW-749	GRIDK2	01/21/93	9:40
GW-337	WC	01/21/93	11:00
GW-750	GRIDK2	01/21/93	11:50
GW-168	NHP	01/22/93	11:46
GW-771	GRIDC1	01/23/93	10:30
GW-170	EXP	01/23/93	11:28
GW-772	GRIDC1	01/23/93	11:33
GW-239	NHP	01/23/93	11:35
GW-169	EXP	01/23/93	12:15
GW-762	GRIDJ3	01/23/93	14:18
GW-764	GRIDE1	01/23/93	14:40
GW-763	GRIDJ3	01/25/93	10:10
GW-765	GRIDE1	01/25/93	10:35

APPENDIX D
Sampling Sequence

Sampling Point	Location	Date	Time
GW-380	NHP	01/25/93	12:15
GW-758	GRIDG1	01/25/93	13:10
GW-220	NHP	01/25/93	14:20
GW-759	GRIDG1	01/26/93	10:20
GW-151	NHP	01/26/93	11:17
GW-232	EXP	01/26/93	12:10
GW-383	NHP	01/26/93	13:01
GW-761	GRIDG2	01/26/93	14:30
GW-240	NHP	01/27/93	9:26
GW-769	GRIDG3	01/27/93	11:10
GW-381	NHP	01/27/93	12:28
GW-770	GRIDG3	01/27/93	12:58
GW-760	GRIDG2	01/27/93	13:40
GW-382	NHP	01/28/93	12:34
GW-199	GRIDI1	01/29/93	9:10
GW-768	GRIDI1	01/29/93	10:00
GW-603	EXP	01/29/93	12:50
GW-604	EXP	01/30/93	10:46
GW-766	GRIDI2	02/01/93	11:15
GW-767	GRIDI2	02/02/93	9:15
GW-281	FF	02/02/93	10:30
GW-605	EXP	02/02/93	10:40
GW-284	FF	02/02/93	12:00
GW-733	EXP	02/02/93	12:36
GW-285	FF	02/02/93	13:45
GW-735	NHP	02/02/93	14:43
GW-283	FF	02/03/93	11:15
GW-606	EXP	02/03/93	11:15
GW-773	GRIDH2	02/03/93	14:15
GW-774	GRIDH2	02/04/93	10:40
GW-775	GRIDH3	02/04/93	13:08
GW-776	GRIDH3	02/04/93	14:45
GW-762	GRIDJ3	02/22/93	12:20
GW-505	RG	03/01/93	10:50
GW-190	RG	03/01/93	12:49
GW-631	RG	03/02/93	11:25
GW-634	RG	03/02/93	14:45
GW-632	RG	03/03/93	10:50
GW-633	RG	03/03/93	13:45
GW-508	RG	03/05/93	9:45
GW-708	T2331	03/10/93	10:30
GW-657	T2331	03/10/93	11:30
GW-659	FF	03/10/93	13:45
GW-183	FF	03/10/93	15:15
GW-204	T0134	03/11/93	9:15
GW-656	T0134	03/11/93	11:00
GW-193	T2331	03/11/93	13:30

APPENDIX D
Sampling Sequence

Sampling Point	Location	Date	Time
GW-707	T2331	03/11/93	15:00
GW-658	FF	03/11/93	16:30
Second Quarter 1993			
GW-199	GRIDI1	04/07/93	11:45
GW-768	GRIDI1	04/07/93	12:15
GW-261	SY	04/07/93	13:20
GW-755	GRIDJ1	04/07/93	14:00
GW-756	GRIDJ1	04/08/93	10:09
GW-262	SY	04/08/93	10:35
GW-753	GRIDJ2	04/08/93	11:44
GW-263	SY	04/08/93	13:30
GW-754	GRIDJ2	04/08/93	13:30
GW-744	GRIDK1	04/12/93	9:38
GW-264	SY	04/12/93	10:25
GW-771	GRIDC1	04/12/93	11:00
GW-745	GRIDK1	04/12/93	11:20
GW-191	B4	04/12/93	13:00
GW-772	GRIDC1	04/12/93	13:00
GW-746	GRIDK1	04/12/93	13:10
GW-194	B4	04/13/93	10:50
GW-764	GRIDE1	04/13/93	11:00
GW-747	GRIDK2	04/13/93	11:05
GW-195	B4	04/13/93	12:20
GW-765	GRIDE1	04/13/93	12:30
GW-748	GRIDK2	04/13/93	12:45
GW-758	GRIDG1	04/13/93	13:48
GW-192	B4	04/13/93	13:50
GW-749	GRIDK2	04/14/93	14:00
GW-750	GRIDK2	04/15/93	9:44
GW-766	GRIDI2	04/15/93	11:00
GW-759	GRIDG1	04/15/93	11:30
GW-767	GRIDI2	04/15/93	13:10
GW-751	GRIDJ3	04/16/93	9:59
GW-281	FF	04/16/93	10:30
GW-752	GRIDJ3	04/16/93	10:36
GW-760	GRIDG2	04/16/93	11:30
GW-284	FF	04/16/93	12:15
GW-761	GRIDG2	04/16/93	13:15
GW-285	FF	04/19/93	11:00
GW-769	GRIDG3	04/19/93	11:11
GW-770	GRIDG3	04/19/93	11:41
GW-283	FF	04/19/93	13:10
GW-385	NHP	04/19/93	15:15
GW-773	GRIDH2	04/20/93	9:24
GW-774	GRIDH2	04/20/93	10:45

APPENDIX D
Sampling Sequence

Sampling Point	Location	Date	Time
GW-384	NHP	04/20/93	11:00
GW-775	GRIDH3	04/20/93	12:40
GW-762	GRIDJ3	04/20/93	13:12
GW-776	GRIDH3	04/20/93	14:00
GW-763	GRIDJ3	04/21/93	9:45
GW-380	NHP	04/21/93	11:45
GW-240	NHP	04/21/93	13:45
GW-220	NHP	04/22/93	9:49
GW-151	NHP	04/22/93	11:59
GW-383	NHP	04/22/93	12:57
GW-382	NHP	04/26/93	11:24
GW-381	NHP	04/26/93	14:11
GW-252	S2	05/03/93	12:30
GW-255	S2	05/03/93	14:00
GW-603	EXP	05/04/93	11:25
GW-338	WC	05/04/93	12:00
GW-604	EXP	05/04/93	12:58
GW-617	EXP	05/04/93	13:30
GW-207	EXP	05/04/93	14:26
GW-618	EXP	05/05/93	10:35
GW-251	S2	05/05/93	11:43
GW-619	FTF	05/05/93	13:06
GW-620	FTF	05/06/93	9:45
GW-208	EXP	05/06/93	13:36
GW-206	EXP	05/06/93	14:00
GW-733	EXP	05/06/93	14:40
GW-337	WC	05/07/93	13:45
GW-735	NHP	05/07/93	13:55
GW-605	EXP	05/10/93	11:15
GW-606	EXP	05/10/93	15:10
GW-239	NHP	05/13/93	11:15
GW-168	NHP	05/14/93	9:58
GW-169	EXP	05/21/93	10:30
GW-232	EXP	05/21/93	11:11
GW-170	EXP	05/24/93	13:15
GW-190	RG	06/17/93	13:12
GW-708	T2331	06/18/93	9:30
GW-505	RG	06/18/93	10:00
GW-657	T2331	06/18/93	10:19
GW-631	RG	06/18/93	11:30
GW-634	RG	06/18/93	13:00
GW-659	FF	06/18/93	13:14
GW-183	FF	06/21/93	12:00
GW-632	RG	06/21/93	12:30
GW-633	RG	06/21/93	14:10
GW-204	T0134	06/22/93	10:30
GW-656	T0134	06/22/93	12:30

APPENDIX D
Sampling Sequence

Sampling Point	Location	Date	Time
GW-193	T2331	06/22/93	14:00
GW-508	RG	06/23/93	8:45
GW-707	T2331	06/23/93	11:00
GW-658	FF	06/23/93	13:15
GW-183	FF	06/29/93	11:15
GW-632	RG	06/29/93	12:40
GW-508	RG	06/29/93	13:10
GW-633	RG	06/29/93	13:45
Third Quarter 1993			
GW-261	SY	07/01/93	10:35
GW-262	SY	07/01/93	12:25
GW-263	SY	07/01/93	14:45
GW-264	SY	07/02/93	10:32
GW-708	T2331	07/07/93	10:25
GW-190	RG	07/07/93	11:20
GW-659	FF	07/07/93	12:00
GW-505	RG	07/07/93	13:00
GW-631	RG	07/07/93	13:00
GW-634	RG	07/07/93	14:00
GW-191	B4	07/08/93	10:00
GW-194	B4	07/08/93	11:30
GW-195	B4	07/08/93	12:30
GW-192	B4	07/08/93	13:30
GW-751	GRIDJ3	08/02/93	11:33
GW-752	GRIDJ3	08/02/93	13:23
GW-199	GRIDI1	08/02/93	14:15
GW-755	GRIDJ1	08/03/93	11:00
GW-756	GRIDJ1	08/03/93	11:56
GW-753	GRIDJ2	08/03/93	13:58
GW-766	GRIDI2	08/03/93	14:10
GW-385	NHP	08/03/93	14:30
GW-754	GRIDJ2	08/04/93	10:00
GW-768	GRIDI1	08/04/93	10:30
GW-384	NHP	08/04/93	11:07
GW-744	GRIDK1	08/04/93	12:02
GW-767	GRIDI2	08/04/93	12:20
GW-762	GRIDJ3	08/04/93	13:12
GW-745	GRIDK1	08/04/93	13:45
GW-281	FF	08/04/93	14:15
GW-763	GRIDJ3	08/05/93	9:50
GW-380	NHP	08/05/93	11:20
GW-284	FF	08/05/93	13:00
GW-240	NHP	08/05/93	13:12
GW-747	GRIDK2	08/05/93	13:28
GW-746	GRIDK1	08/05/93	13:45

APPENDIX D
Sampling Sequence

Sampling Point	Location	Date	Time
GW-285	FF	08/05/93	14:00
GW-748	GRIDK2	08/06/93	10:00
GW-283	FF	08/06/93	10:15
GW-220	NHP	08/06/93	10:38
GW-773	GRIDH2	08/06/93	11:57
GW-749	GRIDK2	08/06/93	12:20
GW-151	NHP	08/06/93	13:32
GW-750	GRIDK2	08/06/93	14:12
GW-383	NHP	08/07/93	8:53
GW-382	NHP	08/08/93	11:00
GW-381	NHP	08/08/93	13:47
GW-774	GRIDH2	08/09/93	13:10
GW-775	GRIDH3	08/09/93	14:42
GW-776	GRIDH3	08/10/93	10:00
GW-207	EXP	08/11/93	12:21
GW-206	EXP	08/12/93	13:30
GW-208	EXP	08/13/93	13:20
GW-603	EXP	08/16/93	10:06
GW-604	EXP	08/16/93	11:28
GW-733	EXP	08/18/93	12:00
GW-239	NHP	08/18/93	13:18
GW-735	NHP	08/18/93	14:30
GW-168	NHP	08/19/93	11:13
GW-605	EXP	08/19/93	13:23
GW-169	EXP	08/19/93	13:45
GW-606	EXP	08/20/93	12:45
GW-232	EXP	08/21/93	9:56
GW-170	EXP	08/21/93	13:42
GW-771	GRIDC1	09/03/93	10:48
GW-772	GRIDC1	09/12/93	9:00
GW-764	GRIDE1	09/12/93	11:00
GW-765	GRIDE1	09/12/93	12:40
GW-758	GRIDG1	09/12/93	14:34
GW-759	GRIDG1	09/13/93	12:15
GW-761	GRIDG2	09/13/93	14:05
GW-770	GRIDG3	09/14/93	9:15
GW-760	GRIDG2	09/14/93	11:30
GW-769	GRIDG3	09/14/93	14:05
GW-505	RG	09/15/93	10:30
GW-252	S2	09/15/93	12:00
GW-190	RG	09/15/93	13:00
GW-255	S2	09/15/93	13:19
GW-631	RG	09/16/93	10:15
GW-617	EXP	09/16/93	12:00
GW-634	RG	09/16/93	12:15
GW-618	EXP	09/16/93	12:55
GW-632	RG	09/16/93	14:00

APPENDIX D
Sampling Sequence

Sampling Point	Location	Date	Time
GW-251	S2	09/17/93	9:28
GW-619	FTF	09/17/93	10:37
GW-620	FTF	09/17/93	12:10
GW-337	WC	09/17/93	14:00
GW-633	RG	09/20/93	11:50
GW-508	RG	09/21/93	9:30
GW-708	T2331	09/21/93	10:50
GW-657	T2331	09/21/93	12:10
GW-508	RG	09/22/93	9:30
GW-659	FF	09/22/93	11:06
GW-183	FF	09/22/93	12:59
GW-204	T0134	09/23/93	10:30
GW-656	T0134	09/23/93	12:20
GW-338	WC	09/23/93	12:45
GW-193	T2331	09/23/93	14:10
GW-707	T2331	09/27/93	10:05
Fourth Quarter 1993			
GW-199	GRIDI1	10/12/93	11:30
GW-768	GRIDI1	10/13/93	9:00
GW-766	GRIDI2	10/13/93	11:00
GW-767	GRIDI2	10/13/93	13:00
GW-281	FF	10/14/93	9:15
GW-284	FF	10/14/93	11:00
GW-285	FF	10/14/93	12:30
GW-283	FF	10/14/93	14:00
GW-773	GRIDH2	10/15/93	10:34
GW-774	GRIDH2	10/15/93	12:00
GW-775	GRIDH3	10/15/93	13:21
GW-776	GRIDH3	10/18/93	11:00
GW-755	GRIDJ1	10/21/93	11:00
GW-756	GRIDJ1	10/21/93	11:36
GW-753	GRIDJ2	10/21/93	14:05
GW-754	GRIDJ2	10/22/93	9:45
GW-744	GRIDK1	10/22/93	11:44
GW-745	GRIDK1	10/23/93	9:30
GW-746	GRIDK1	10/23/93	11:30
GW-47	GRIDK2	10/23/93	13:37
GW-748	GRIDK2	10/24/93	10:15
GW-749	GRIDK2	10/24/93	12:45
GW-750	GRIDK2	10/25/93	12:01
GW-751	GRIDJ3	10/26/93	10:20
GW-752	GRIDJ3	10/26/93	10:53
GW-207	EXP	10/26/93	11:55
GW-206	EXP	10/27/93	13:00
GW-385	NHP	10/27/93	14:00

APPENDIX D
Sampling Sequence

Sampling Point	Location	Date	Time
GW-208	EXP	10/28/93	10:00
GW-603	EXP	10/28/93	10:30
GW-384	NHP	10/28/93	11:02
GW-604	EXP	10/28/93	12:10
GW-762	GRIDJ3	10/28/93	12:53
GW-763	GRIDJ3	10/29/93	10:10
GW-735	NHP	10/29/93	10:58
GW-380	NHP	10/29/93	13:25
GW-239	NHP	10/30/93	12:30
GW-240	NHP	11/01/93	10:25
GW-220	NHP	11/01/93	11:36
GW-169	EXP	11/01/93	13:40
GW-232	EXP	11/01/93	14:48
GW-151	NHP	11/02/93	11:37
GW-168	NHP	11/02/93	11:38
GW-383	NHP	11/03/93	8:43
GW-170	EXP	11/04/93	11:10
GW-382	NHP	11/04/93	12:40
GW-733	EXP	11/04/93	14:30
GW-381	NHP	11/08/93	13:20
GW-605	EXP	11/10/93	10:39
GW-606	EXP	11/11/93	11:04
GW-771	GRIDC1	11/11/93	12:40
GW-708	T2331	11/12/93	9:20
GW-772	GRIDC1	11/12/93	9:30
GW-764	GRIDE1	11/12/93	11:30
GW-657	T2331	11/15/93	11:18
GW-659	FF	11/15/93	13:50
GW-505	RG	11/16/93	10:10
GW-183	FF	11/16/93	10:50
GW-190	RG	11/16/93	12:23
GW-204	T0134	11/16/93	14:05
GW-631	RG	11/17/93	10:30
GW-656	T0134	11/17/93	11:00
GW-193	T2331	11/18/93	10:45
GW-634	RG	11/18/93	11:00
GW-632	RG	11/18/93	13:45
GW-707	T2331	11/18/93	13:56
GW-633	RG	11/19/93	9:30
GW-658	FF	11/19/93	10:00
GW-765	GRIDE1	11/19/93	10:00
GW-508	RG	11/19/93	10:15
GW-758	GRIDG1	11/19/93	11:12
GW-759	GRIDG1	11/19/93	13:30
GW-761	GRIDG2	11/29/93	12:00
GW-770	GRIDG3	11/29/93	12:45
GW-760	GRIDG2	11/30/93	11:35

APPENDIX D
Sampling Sequence

Sampling Point	Location	Date	Time
GW-769	GRIDG3	11/30/93	13:33
GW-261	SY	12/07/93	10:35
GW-252	S2	12/07/93	11:30
GW-262	SY	12/07/93	13:25
GW-255	S2	12/07/93	13:34
GW-338	WC	12/07/93	15:00
GW-263	SY	12/07/93	15:30
GW-617	EXP	12/07/93	16:30
GW-618	EXP	12/08/93	9:42
GW-251	S2	12/08/93	11:53
GW-619	FTF	12/08/93	12:47
GW-264	SY	12/08/93	13:20
GW-620	FTF	12/09/93	10:30
GW-191	B4	12/09/93	11:00
GW-194	B4	12/09/93	12:25
GW-337	WC	12/09/93	12:45
GW-195	B4	12/09/93	13:40
GW-192	B4	12/09/93	14:45
GW-658	FF	09/27/04	12:15

APPENDIX E
GROUNDWATER QUALITY DATA

EXPLANATION

LOCATION:

B4	-	Beta-4 Security Pits
EXP	-	Exit-Pathway Monitoring Well
FF	-	Building 9754-2 Fuel Facility
FTF	-	Fire Training Facility
GRID	-	Comprehensive Groundwater Monitoring Plan Grid Location
NHP	-	New Hope Pond
RG	-	Rust Garage Area
S2	-	S-2 Site
SY	-	Y-12 Salvage Yard
T0134	-	Underground Storage Tank 0134-U
T2331	-	Underground Storage Tank 2331-U
WC	-	Waste Coolant Processing Area

ALL DATA:

- Not Analyzed

VOLATILE ORGANIC COMPOUNDS:

All results in micrograms per Liter (ug/L).

- U - Compound not detected at the reported minimum attainable detection limit.

METALS, MAJOR IONS, MISCELLANEOUS, AND RADIOCHEMICAL PARAMETERS:

All analyses are by Inductively Coupled Plasma (ICP) Spectroscopy unless otherwise noted.

Bicarbonate and carbonate alkalinity reported as CaCO_3 .

- < - Compound not detected at the reported minimum attainable detection limit.
- mg/L - milligrams per Liter
- AAS - Atomic Absorption Spectroscopy
- CVAA - Cold Vapor Atomic Absorption
- Fluor - Fluorometric
- DIS - Dissolved Concentration (Filtered Sample)
- TOT - Total Concentration (Unfiltered Sample)

EXPLANATION (cont'd)

TPH	-	Total Petroleum Hydrocarbons
TDS	-	Total Dissolved Solids
TSS	-	Total Suspended Solids
Sp. Cond.	-	Specific Conductance
ppm	-	parts per million
umho/cm	-	micromhos per centimeter
NTU	-	Nephelometric Turbidity Unit
mV	-	millivolts
pCi/L	-	picoCuries per liter
Bq/L	-	Becquerels per liter
CE +/-	-	Counting Error (two standard deviations)

APPENDIX E.1

TRACE METALS AND MAJOR IONS

APPENDIX E.1
Groundwater Quality Data, 1993

1

Sampling Point . Location . Date Sampled	GW-151							
	NHP							
	01/26/93		04/22/93		08/06/93		11/02/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	<0.02	<0.02	0.034	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.19	0.18	0.19	0.041	0.19	0.17	0.2	0.2
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0055	<0.0003
Boron	0.085	0.085	0.084	0.47	0.087	0.08	0.095	0.089
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.0055	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	0.0055	<0.004	<0.004	<0.004	<0.004	0.019	0.014
Iron	0.13	<0.005	<0.005	0.039	0.036	<0.005	0.029	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.53	0.52	0.52	0.069	0.53	0.48	0.58	0.58
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.007	<0.005
Zinc	0.0036	0.0057	0.0021	0.012	0.0038	0.014	0.014	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	218	.	213	.	215	.	213	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	56	54	53	0.86	53	49	56	56
Chloride	19	.	13	.	13	.	16	.
Fluoride	0.1	.	0.1	.	0.1	.	0.1	.
Magnesium	24	24	24	0.21	24	22	25	25
Manganese	<0.001	<0.001	<0.001	0.0057	0.0019	<0.001	0.0072	0.0013
Nitrate-N	0.7	.	0.86	.	0.92	.	1	.
Potassium	2.1	1.7	2.3	1.7	2.2	2	2.1	2.1
Sodium	6.8	6.9	7	270	7.1	6.6	6.9	6.9
Sulfate	20	.	21	.	22	.	17	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

2

Sampling Point . Location . Date Sampled	GW-168							
	NHP							
	01/22/93		05/14/93		08/19/93		11/02/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.029	<0.02	0.024	0.053	<0.02	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.12	0.12	0.12	0.12	0.13	0.13	0.12	0.12
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.057	0.051	0.042	0.045	0.049	0.044	0.061	0.057
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.52	0.18	0.19	0.13	0.16	0.087	0.35	0.15
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.014	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.48	0.49	0.45	0.45	0.51	0.51	0.53	0.52
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0094	0.0072	0.0083	0.0079	0.0073	0.0064	0.0091	0.0061
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	275	.	265	.	275	.	281	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	76	77	76	75	79	81	81	80
Chloride	21	.	13	.	12	.	13	.
Fluoride	<0.1	.	<0.1	.	0.1	.	0.1	.
Magnesium	21	21	20	20	22	22	21	21
Manganese	0.0051	0.0017	0.0012	0.0016	0.0014	0.0017	0.001	<0.001
Nitrate-N	0.51	.	0.42	.	0.41	.	0.5	.
Potassium	2.4	2.4	1.5	1.6	2.2	2	2	2.2
Sodium	6.4	6.5	4.5	4.5	5.9	5.9	5.7	5.8
Sulfate	12	.	11	.	8.4	.	10	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

3

Sampling Point . Location . Date Sampled	GW-169							
	EXP							
	01/23/93		05/21/93		08/19/93		11/01/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	75	0.023	14	0.041	71	<0.02	29	0.045
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	0.063	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.33	0.023	0.11	0.032	0.34	0.03	0.18	0.026
Beryllium	0.0092	<0.0003	0.0026	<0.0003	0.0092	<0.0003	0.005	<0.0003
Boron	0.036	0.022	0.05	0.028	0.036	<0.004	0.02	0.014
Cadmium (AAS)	0.0021	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	0.025	<0.003	<0.003	<0.003	0.025	<0.003	0.0035	<0.003
Chromium (AAS)	0.049	<0.01	0.024	<0.01	0.067	<0.01	0.078	<0.01
Chromium	0.085	<0.01	0.016	<0.01	0.087	<0.01	0.038	<0.01
Cobalt	0.052	<0.005	0.015	<0.005	0.054	<0.005	0.031	<0.005
Copper	0.086	<0.004	0.028	<0.004	0.083	<0.004	0.044	<0.004
Iron	79	0.014	24	<0.005	83	<0.005	45	0.11
Lead (AAS)	0.15	<0.004	0.042	<0.004	0.18	<0.004	0.091	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	0.00031	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.11	<0.01	0.032	<0.01	0.11	<0.01	0.054	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.09	0.06	0.093	0.086	0.12	0.083	0.093	0.078
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.002	<0.001	<0.001	<0.001	<0.001	0.002	0.001	<0.001
Vanadium	0.13	<0.005	0.034	<0.005	0.13	<0.005	0.064	<0.005
Zinc	0.36	0.0056	0.12	0.0054	0.36	0.0082	0.21	0.0046
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	145	.	168	.	190	.	175	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	61	50	75	72	81	67	71	63
Chloride	1.7	.	1.7	.	1.7	.	1.5	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	9.6	2.7	5.3	3.6	11	4	6.4	3.1
Manganese	3.1	0.0026	0.85	0.0017	3.3	0.0012	1.9	0.0053
Nitrate-N	1.1	.	0.79	.	0.71	.	0.91	.
Potassium	15	2.4	5.3	2.9	14	2	7.4	2.2
Sodium	1.3	1.3	1.6	1.6	1.5	1.4	1.3	1.2
Sulfate	4.9	.	7.4	.	5.7	.	5.9	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

4

Sampling Point . Location . Date Sampled	GW-170							
	EXP							
	01/23/93		05/24/93		08/21/93		11/04/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.057	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.091	0.089	0.086	0.084	0.099	0.098	0.092	0.093
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.091	0.088	0.098	0.083	0.095	0.085	0.092	0.092
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.0062	<0.004	<0.004	<0.004
Iron	0.12	<0.005	0.057	<0.005	0.1	<0.005	0.073	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.5	0.49	0.51	0.5	0.55	0.55	0.55	0.56
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	<0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0076	0.0068	0.01	0.012	0.012	0.019	<0.002	0.004
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	211	.	209	.	216	.	213	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	45	45	45	44	49	48	47	48
Chloride	16.2	.	12.1	.	14.7	.	17	.
Fluoride	0.2	.	0.2	.	0.1	.	0.2	.
Magnesium	23	23	23	23	25	25	23	24
Manganese	0.0021	0.0018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nitrate-N	0.79	.	0.66	.	0.76	.	1.1	.
Potassium	2.2	2.1	2	1.9	1.5	1.5	1.7	1.7
Sodium	17	16	14	14	17	17	16	16
Sulfate	19.8	.	17.6	.	18.2	.	20	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

5

Sampling Point . Location . Date Sampled	GW-183							
	FF							
	03/10/93		06/21/93		09/22/93		11/16/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.71	<0.02	0.27	0.037	1.2	0.059	0.23	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.23	0.22	0.22	0.22	0.24	0.23	0.21	0.22
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.038	0.045	0.053	0.053	0.051	0.05	0.082	0.043
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0047	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	1.4	0.85	1.1	0.87	2.1	0.53	0.52	0.061
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.014	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.68	0.64	0.65	0.65	0.73	0.72	0.7	0.71
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	0.002	0.002	0.002	<0.001	0.002	0.004	0.003
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0057	0.0072	0.0088	0.0046	0.0096	0.0071	0.031	0.029
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	435	.	449	.	460	.	461	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	140	140	140	140	150	150	150	150
Chloride	35.4	.	30	.	30	.	33	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	24	23	24	24	25	24	26	27
Manganese	0.49	0.51	0.31	0.35	0.18	0.17	0.23	0.25
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	2.1	2.9	1.9	1.6	2.3	2	1.9	2.2
Sodium	27	25	24	24	28	27	25	26
Sulfate	26.6	.	29	.	29	.	25	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

6

Sampling Point . Location . Date Sampled	GW-190							
	RG							
	03/01/93		06/17/93		09/15/93		11/16/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.13	0.044	0.65	<0.02	0.073	<0.02	0.6	0.034
Antimony	<0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.092	0.12	0.13	0.11	0.13	0.12	0.18	0.14
Beryllium	<0.00024	<0.0003	<0.0003	0.00031	0.0003	<0.0003	0.0045	0.0022
Boron	0.011	0.014	0.013	0.049	0.015	0.014	0.042	0.038
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.0024	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.008	<0.01	<0.01	<0.01	<0.01	<0.01	0.013	0.011
Cobalt	<0.004	<0.005	<0.005	<0.005	<0.005	<0.005	0.0054	<0.005
Copper	<0.0032	<0.004	<0.004	<0.004	0.023	0.0067	0.0081	0.0076
Iron	0.34	0.039	0.92	0.028	0.30	0.032	2.1	0.39
Lead (AAS)	<0.004	0.0049	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.008	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.008	<0.01	<0.01	<0.01	<0.01	0.01	0.012	<0.01
Selenium	<0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.0048	<0.006	<0.006	<0.006	<0.006	<0.006	0.009	<0.006
Strontium	0.063	0.095	0.11	0.11	0.14	0.12	0.12	0.12
Thorium	<0.16	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001
Vanadium	<0.004	<0.005	<0.005	<0.005	<0.005	<0.005	0.0051	<0.005
Zinc	0.016	0.043	0.037	0.021	0.036	0.021	0.018	0.014
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	14	.	112	.	112	.	121	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	17	28	36	36	44	36	32	33
Chloride	5.3	.	6.2	.	6.2	.	5.9	.
Fluoride	0.2	.	0.2	.	0.1	.	0.2	.
Magnesium	3.7	5.7	6.2	6.1	6.4	6.3	5.8	6
Manganese	0.48	0.42	0.39	0.18	0.27	0.35	1.1	0.96
Nitrate-N	<0.2	.	<0.2	.	0.26	.	<0.2	.
Potassium	0.72	1.2	0.64	0.85	1.1	1.2	1.1	0.97
Sodium	4.3	6.7	8.3	8.5	8.8	8.2	8.6	8.6
Sulfate	15.3	.	17	.	19	.	16.3	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

7

Sampling Point . Location . Date Sampled	GW-191							
	B4							
	01/12/93		04/12/93		07/08/93		12/09/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.83	0.022	42	0.051	2.1	<0.02	2.9	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.33	0.29	1.1	0.3	0.31	0.27	0.35	0.32
Beryllium	<0.0003	<0.0003	0.0021	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.015	0.011	0.076	0.058	0.01	0.011	0.049	0.021
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	0.094	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	0.079	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	0.03	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.026	<0.004	0.0062	<0.004	<0.004	<0.004
Iron	0.8	0.015	56	0.084	2.3	0.034	3.2	0.11
Lead (AAS)	<0.004	<0.004	0.026	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	0.014	0.078	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.47	0.5	0.96	0.48	0.45	0.41	0.48	0.53
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	0.001	<0.001	<0.001	0.001	<0.001	0.001
Vanadium	<0.005	<0.005	0.06	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.011	0.0056	0.2	0.0066	0.013	0.01	0.016	0.0062
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	239	.	233	.	255	.	257	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	78	83	220	73	75	69	83	84
Chloride	3.4	.	3.8	.	4.3	.	6	.
Fluoride	<0.1	.	0.1	.	0.1	.	<0.1	.
Magnesium	10	11	33	9.7	10	9	11	11
Manganese	0.042	0.047	1.4	0.041	0.069	0.016	0.095	0.027
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	2.4	3.2	13	2	3	2.6	2.9	2.6
Sodium	10	8.8	13	12	14	14	15	11
Sulfate	12	.	11.3	.	20	.	13	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

8

Sampling Point . Location . Date Sampled	GW-192							
	B4							
	01/14/93		04/13/93		07/08/93		12/09/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	5.8	<0.02	0.077	0.029	0.18	0.038	0.21	0.022
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.22	0.15	0.16	0.16	0.16	0.17	0.18	0.18
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.013	0.016	0.034	0.037	0.014	0.01	0.073	0.045
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	0.016	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.0077	<0.005	0.0068	0.0066	<0.005	<0.005	<0.005	<0.005
Copper	0.0065	<0.004	0.0042	<0.004	0.0041	<0.004	<0.004	<0.004
Iron	18	2.7	3.3	3	4.2	4.6	2.5	2.3
Lead (AAS)	0.0066	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.17	0.18	0.2	0.2	0.21	0.23	0.2	0.2
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	0.0084	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.026	0.016	0.049	0.046	0.027	0.02	0.039	0.036
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	322	.	331	.	350	.	326	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	98	110	110	110	110	110	120	110
Chloride	11	.	9.8	.	13	.	15	.
Fluoride	0.2	.	0.2	.	0.2	.	0.1	.
Magnesium	12	11	12	12	12	13	12	12
Manganese	1.8	1.9	2	2	2.1	2.2	2	2
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	2.6	0.91	1.6	1.2	1.4	1.6	1.2	1.3
Sodium	6.8	6.8	7.2	7.1	7.2	7.1	8	7.8
Sulfate	4.4	.	6.6	.	2	.	2	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

9

Sampling Point . Location . Date Sampled	GW-193							
	T2331							
	03/11/93		06/22/93		09/23/93		11/18/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.62	0.028	9.3	<0.02	0.26	0.037	0.64	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.15	0.14	0.21	0.17	0.29	0.28	0.25	0.26
Beryllium	<0.0003	<0.0003	0.00064	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.073	0.068	0.13	0.068	0.15	0.15	0.13	0.12
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	0.0032	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	0.028	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	0.023	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	0.0056	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.009	0.0099	<0.004	<0.004	<0.004	<0.004
Iron	1.4	0.36	13	0.88	1.4	0.75	2.1	0.64
Lead (AAS)	<0.004	<0.004	0.008	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.013
Nickel	0.011	<0.01	0.028	<0.01	<0.01	<0.01	0.01	0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.38	0.38	0.47	0.46	0.6	0.59	0.57	0.58
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.017	0.018	0.009	0.017	0.086	0.077	0.08	0.08
Vanadium	<0.005	<0.005	0.019	<0.005	0.0064	<0.005	<0.005	<0.005
Zinc	0.0039	0.0028	0.024	0.005	0.011	0.012	0.0069	0.0026
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	318	.	418	.	174	.	457	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	94	92	130	120	140	140	140	140
Chloride	6.7	.	15	.	6.5	.	16	.
Fluoride	0.5	.	0.49	.	0.6	.	0.5	.
Magnesium	15	15	20	19	21	21	22	23
Manganese	0.69	0.67	1	1.1	1.1	1.1	0.96	1
Nitrate-N	<0.2	.	<0.2	.	1.3	.	<0.2	.
Potassium	7.8	7.4	9.9	7.5	10	10	11	12
Sodium	7.9	7.7	11	11	9.4	9.5	15	16
Sulfate	11	.	8.2	.	11	.	4	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

10

Sampling Point . Location . Date Sampled	GW-194							
	B4							
	01/13/93		04/13/93		07/08/93		12/09/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	4.2	<0.02	1.5	0.022	1.4	<0.02	0.89	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.27	0.22	0.3	0.27	0.29	0.27	0.33	0.29
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.097	0.084	0.017	0.024	0.0092	0.0099	0.057	0.06
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.017
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.0065	<0.004	<0.004	<0.004	0.013	0.012	<0.004	<0.004
Iron	4.2	0.0064	1.8	0.017	1.9	<0.005	1.3	0.062
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.14	0.15	0.15	0.15	0.16	0.16	0.16	0.16
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.09	0.09	0.003	0.003	<0.001	<0.001	0.007	0.009
Vanadium	0.0064	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.02	0.0072	0.027	0.023	0.036	0.045	0.029	0.027
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	225	.	217	.	228	.	229	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	75	74	76	76	77	77	84	80
Chloride	2.2	.	3.3	.	3.5	.	4	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	8.4	7.2	6.2	5.9	6.3	6	6.8	6.4
Manganese	0.57	0.064	0.48	0.12	0.78	0.34	1	0.15
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	2.7	1.2	1.2	0.88	1.6	0.84	0.74	0.86
Sodium	4.7	5	6.7	6.7	6.7	7	7.1	6.9
Sulfate	14	.	14	.	12	.	11	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

11

Sampling Point . Location . Date Sampled	GW-195							
	B4							
	01/13/93		04/13/93		07/08/93		12/09/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	14	0.097	13	0.055	12	<0.02	9.3	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.49	0.18	0.45	0.18	0.46	0.17	0.37	0.19
Beryllium	0.00076	<0.0003	0.00069	<0.0003	0.0006	<0.0003	0.00042	<0.0003
Boron	0.026	0.019	0.054	0.031	0.026	0.02	0.058	0.038
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	0.0049	<0.003	0.0056	<0.003	0.0042	<0.003	<0.003	<0.003
Chromium (AAS)	0.029	<0.01	0.033	<0.01	0.041	<0.01	0.023	<0.01
Chromium	0.027	<0.01	0.024	<0.01	0.024	<0.01	0.015	<0.01
Cobalt	0.02	<0.005	0.013	0.0053	0.015	<0.005	0.0098	<0.005
Copper	0.05	<0.004	0.039	<0.004	0.041	<0.004	0.028	<0.004
Iron	24	0.12	17	0.04	18	0.014	14	0.0095
Lead (AAS)	0.011	<0.004	0.01	<0.004	0.0098	<0.004	0.0041	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.026	0.017	0.024	<0.01	0.023	<0.01	0.019	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.13	0.13	0.14	0.13	0.15	0.14	0.14	0.14
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	0.002	<0.001	<0.001	0.001	0.001	<0.001	0.001
Vanadium	0.018	<0.005	0.015	<0.005	0.018	<0.005	0.013	<0.005
Zinc	0.049	0.01	0.067	0.023	0.051	0.015	0.042	0.011
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	183	.	179	.	181	.	180	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	64	63	64	65	66	62	66	65
Chloride	3.5	.	3.5	.	3.7	.	4	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	9.4	5.7	8.5	5.7	9	5.7	8.1	5.7
Manganese	1.9	0.03	1.4	0.018	1.6	0.026	1.2	0.023
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	0.3	.
Potassium	4.9	0.75	5.4	<0.6	5	0.84	3.7	0.88
Sodium	5.4	5.5	6	6	6.2	6.2	6.3	6.2
Sulfate	14	.	15	.	14	.	12	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

12

Sampling Point . Location . Date Sampled	GW-199							
	GRID11							
	01/29/93		04/07/93		08/02/93		10/12/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.75	<0.02	0.5	0.031	0.28	<0.02	0.47	0.027
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.22	0.12	0.15	0.1	0.18	0.15	0.15	0.11
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.073	0.06	0.062	0.052	0.052	0.049	0.05	0.048
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.0063	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.0066	<0.004	0.005	<0.004
Iron	4.9	0.047	2	0.033	7.2	0.2	2.3	0.036
Lead (AAS)	0.034	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.017
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.14	0.13	0.13	0.14	0.16	0.15	0.14	0.15
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.012	0.0034	0.0074	0.0049	0.068	0.07	0.17	0.18
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	176	.	148	.	181	.	171	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	57	55	52	52	58	59	55	55
Chloride	3	.	21	.	7.6	.	21	.
Fluoride	0.2	.	0.2	.	0.2	.	0.2	.
Magnesium	12	12	12	12	15	15	14	14
Manganese	4	1.5	1.8	0.17	3.4	1.8	2	0.78
Nitrate-N	0.3	.	0.23	.	0.25	.	0.4	.
Potassium	2.5	2.4	2.2	2.2	2.9	2.9	2.6	3
Sodium	6.2	6.1	6.3	7.3	6.6	6.7	6.6	6.7
Sulfate	27	.	25	.	30	.	31	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

13

Sampling Point . Location . Date Sampled	GW-204							
	T0134							
	03/11/93		06/22/93		09/23/93		11/16/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.67	0.025	0.067	<0.02	1.1	0.023	1.5	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.12	0.12	0.12	0.14	0.16	0.15	0.12	0.11
Beryllium	0.00043	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.08	0.068	0.092	0.086	0.088	0.091	0.059	0.096
Cadmium (AAS)	<0.002	<0.002	0.0021	0.0022	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	0.0055	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.008	0.0062	0.007	0.027	0.0077	<0.004
Iron	0.74	0.12	0.28	0.11	0.86	0.011	1.7	0.01
Lead (AAS)	<0.004	<0.004	0.0057	0.0055	<0.004	<0.004	0.0043	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.013	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.16	0.15	0.16	0.16	0.22	0.21	0.18	0.17
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.075	0.068	0.21	0.185	0.126	0.12	0.094	0.108
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.021	0.017	0.072	0.086	0.03	0.082	0.035	0.0085
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	239	.	171	.	186	.	175	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	40	39	53	53	66	64	57	56
Chloride	4.4	.	3.8	.	3.6	.	3.4	.
Fluoride	1.9	.	1	.	1.3	.	1.4	.
Magnesium	6.9	6.5	7	7	9.9	9.3	9	8.5
Manganese	2	1.9	0.91	0.89	0.57	0.59	0.33	0.18
Nitrate-N	<0.2	.	<0.2	.	0.26	.	0.28	.
Potassium	2.2	1.9	3	2.9	4	3.6	3.8	3.2
Sodium	51	49	20	20	26	26	16	16
Sulfate	4.3	.	50	.	46	.	31.8	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

14

Sampling Point . Location . Date Sampled	GW-206							
	EXP							
	01/19/93		05/06/93		08/12/93		10/27/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	3.4	0.18	22	0.29	49	2.3	42	1
Antimony	<0.05	<0.05	<0.25	<0.05	<0.05	<0.05	<0.5	<0.05
Arsenic	<0.05	<0.05	<0.25	<0.05	<0.05	<0.05	<0.5	<0.05
Barium	0.18	0.18	0.48	0.28	0.88	0.6	0.59	0.25
Beryllium	<0.0003	<0.0003	0.0016	<0.0003	0.0033	0.0011	<0.003	<0.0003
Boron	0.048	0.039	0.069	0.15	0.077	0.02	0.091	0.028
Cadmium (AAS)	<0.002	<0.002	<0.002	0.004	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.015	<0.003	0.019	<0.003	<0.03	<0.003
Chromium (AAS)	0.01	<0.01	0.077	<0.01	0.11	<0.01	0.2	<0.01
Chromium	<0.01	<0.01	0.058	<0.01	0.12	<0.01	<0.1	<0.01
Cobalt	0.006	<0.005	0.058	0.0069	0.074	0.025	0.089	<0.005
Copper	0.0077	<0.004	0.058	0.015	0.11	0.017	0.05	<0.004
Iron	23	5.9	78	3.6	120	47	130	19
Lead (AAS)	0.0092	<0.004	0.14	<0.004	0.13	0.064	0.12	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.1	<0.01
Nickel	<0.01	<0.01	0.075	0.012	0.088	0.095	0.13	<0.01
Selenium	<0.05	<0.05	<0.25	<0.05	<0.05	<0.05	<0.5	<0.05
Silver	<0.006	<0.006	<0.03	<0.006	<0.006	<0.006	<0.06	<0.006
Strontium	0.071	0.065	0.12	0.097	0.18	0.15	0.15	0.091
Thorium	<0.2	<0.2	<1	<0.2	<0.2	<0.2	<2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001	<0.001
Vanadium	0.0074	<0.005	0.05	<0.005	0.1	0.021	0.087	<0.005
Zinc	0.021	0.0034	0.15	0.053	0.15	0.027	0.21	0.0067
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	175	.	213	.	216	.	251	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	45	39	99	51	150	120	120	55
Chloride	5.2	.	3.8	.	5.7	.	21	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	17	13	53	19	79	53	73	18
Manganese	1.4	0.92	4.8	1.1	7.5	5.7	7.8	1.3
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	5.9	4.4	13	7.3	19	6.1	18	6.5
Sodium	4.7	4.6	4.5	5.7	5.1	4.8	4.9	5.5
Sulfate	10.5	.	14	.	21	.	9	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

15

Sampling Point . Location . Date Sampled	GW-207							
	EXP							
	01/14/93		05/04/93		08/11/93		10/26/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.045	0.045	0.044	0.043	0.049	0.049	0.048	0.048
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.1	0.11	0.12	0.12	0.12	0.11	0.11	0.11
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.2	0.2	0.23	0.2	0.22	0.2	0.22	0.21
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	0.053	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	0.012	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.48	0.48	0.52	0.51	0.52	0.52	0.49	0.49
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0052	<0.002	0.0037	0.0037	0.0041	0.005	<0.002	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	266	.	266	.	263	.	267	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	55	55	56	55	58	57	58	58
Chloride	1.3	.	1.2	.	1.8	.	1	.
Fluoride	0.2	.	0.2	.	0.2	.	0.1	.
Magnesium	36	36	36	36	38	38	37	37
Manganese	0.0093	0.0096	0.0092	0.0092	0.0099	0.01	0.01	0.01
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	2.8	2.7	2.8	2.7	2.5	2.4	3.1	2.9
Sodium	10	9.8	9.9	9.5	11	11	11	9.9
Sulfate	51	.	52	.	51	.	53	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

16

Sampling Point . Location . Date Sampled	GW-208							
	EXP							
	01/19/93		05/06/93		08/13/93		10/28/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	<0.02	<0.02	0.021	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.04	0.039	0.037	0.037	0.043	0.042	0.039	0.04
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.21	0.23	0.23	0.21	0.21	0.22	0.21	0.21
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0053	<0.004	0.0097	<0.004	<0.004	<0.004
Iron	0.65	0.45	0.49	0.43	0.89	0.47	0.64	0.47
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	0.018	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	0.053	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	1.3	1.3	1.3	1.3	1.5	1.5	1.3	1.3
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	1.9	1.4	1.2	0.91	2	1.3	2	1.8
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	223	.	222	.	227	.	226	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	73	69	72	74	77	76	73	74
Chloride	1.4	.	1.4	.	2.1	.	2	.
Fluoride	0.3	.	0.2	.	0.3	.	0.4	.
Magnesium	24	22	24	24	25	25	23	24
Manganese	0.015	0.014	0.014	0.014	0.016	0.015	0.016	0.016
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	3.3	2.6	2.8	3.5	2.9	2.6	2.7	2.7
Sodium	15	15	15	15	16	16	14	14
Sulfate	106	.	96	.	103	.	88	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

17

Sampling Point . Location . Date Sampled	GW-220							
	NHP							
	01/25/93		04/22/93		08/06/93		11/01/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.23	0.039	8.6	0.043	2.4	<0.02	0.39	0.023
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.095	0.086	0.18	0.097	0.11	0.091	0.1	0.1
Beryllium	<0.0003	<0.0003	0.00087	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.04	0.029	0.045	0.033	0.061	0.058	0.042	0.043
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	0.021	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	0.0052	<0.005	<0.005	<0.005
Copper	0.0086	<0.004	0.0094	0.0043	0.0073	<0.004	<0.004	<0.004
Iron	0.2	<0.005	8.5	0.023	2.8	<0.005	0.47	<0.005
Lead (AAS)	<0.004	<0.004	0.023	<0.004	0.0055	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.41	0.38	0.47	0.41	0.37	0.36	0.41	0.4
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	0.001	0.001	<0.001	<0.001	0.001	<0.001
Vanadium	<0.005	<0.005	0.011	<0.005	0.0067	<0.005	<0.005	<0.005
Zinc	0.016	0.018	0.023	0.0041	0.02	0.0092	0.0029	0.0064
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	222	.	234	.	220	.	239	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	59	54	99	63	63	57	64	63
Chloride	8.3	.	6.9	.	8.4	.	9.2	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	0.2	.
Magnesium	24	22	26	23	23	22	22	23
Manganese	0.014	0.0082	0.24	0.0063	0.077	0.0028	0.019	0.0067
Nitrate-N	0.43	.	0.78	.	0.85	.	0.72	.
Potassium	2.1	2.4	4.4	2.5	3.1	2	3	2.8
Sodium	3.9	3.6	3.7	3.5	4.6	4.6	4.3	4.1
Sulfate	10.2	.	17	.	19	.	12.5	.

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APPENDIX E.1
Groundwater Quality Data, 1993

18

Sampling Point . Location . Date Sampled	GW-232							
	EXP							
	01/26/93		05/21/93		08/21/93		11/01/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.022	<0.02	0.045	0.042	<0.02	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	0.071	<0.05	<0.05	<0.05	<0.05
Barium	0.016	0.014	0.012	0.012	0.012	0.01	0.015	0.014
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	1.3	1.3	1.3	1.4	1.4	1.4	1.3	1.2
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.0097	<0.004	0.01	0.0065	<0.004	0.0067	<0.004	<0.004
Iron	1.2	0.032	0.073	0.052	2.6	0.12	0.8	0.02
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.31	0.31	0.3	0.33	0.32	0.31	0.33	0.32
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.039	0.0068	0.006	0.0081	0.039	0.031	0.0095	0.0034
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	368	.	352	.	352	.	362	.
Alkalinity-CO3	72	.	82	.	<1	.	<1	.
Calcium	1.4	1.1	1.2	1.3	2.7	2.3	1.2	1.1
Chloride	5.5	.	5.6	.	5.6	.	6.7	.
Fluoride	2.1	.	1.9	.	2.2	.	2	.
Magnesium	0.93	0.91	0.81	0.89	0.96	0.94	0.88	0.84
Manganese	0.0055	0.0012	0.0025	0.003	0.0097	0.0023	0.0038	<0.001
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	2.8	2.6	2	2.7	2.8	3.3	2.1	2.3
Sodium	210	210	210	230	220	220	230	230
Sulfate	31.3	.	30	.	26.5	.	28.6	.

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APPENDIX E.1
Groundwater Quality Data, 1993

19

Sampling Point . Location . Date Sampled	GW-239							
	NHP							
	01/23/93		05/13/93		08/18/93		10/30/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.023	<0.02	0.026	0.032	0.029	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.051	0.048	0.049	0.047	0.045	0.043	0.069	0.051
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	1.5	1.5	1.5	1.5	1.6	1.6	1.5	1.5
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	2.1	0.17	1.1	0.2	3.4	0.13	16	0.37
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.0045	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	0.017	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.19	0.18	0.2	0.2	0.17	0.18	0.21	0.2
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0043	0.004	0.005	0.0065	0.02	0.015	0.0079	0.0027
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	494	.	496	.	511	.	505	.
Alkalinity-CO3	44	.	56	.	40	.	50	.
Calcium	1.7	1.6	1.7	1.7	1.5	1.5	2	1.6
Chloride	280	.	281	.	256	.	229	.
Fluoride	3	.	3	.	2.9	.	3.6	.
Magnesium	0.52	0.51	0.43	0.47	0.48	0.49	0.5	0.46
Manganese	0.0076	0.0032	0.0093	0.0068	0.013	0.0034	0.047	0.0039
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	4.3	3.7	3.7	3.9	4	3.8	3.2	3.3
Sodium	410	410	390	390	410	410	430	430
Sulfate	47	.	44	.	43	.	45	.

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APPENDIX E.1
Groundwater Quality Data, 1993

20

Sampling Point . Location . Date Sampled	GW-240							
	NHP							
	01/27/93		04/21/93		08/05/93		11/01/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.066	<0.02	0.027	<0.02	0.029	<0.02	0.039	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.046	0.042	0.027	0.028	0.035	0.036	0.048	0.047
Beryllium	0.0021	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.028	0.027	0.073	0.069	0.072	0.055	0.064	0.068
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	0.0075	0.0037	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.014	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.019	0.051	0.02	<0.005	0.012	<0.005	<0.005	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.017	<0.01	<0.01	0.015	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	0.063	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.061	0.058	0.044	0.047	0.057	0.059	0.076	0.076
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.004	0.005	0.003	0.003	0.005	0.004	0.007	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0079	<0.002	0.011	0.0077	0.0084	0.0098	0.0027	0.0056
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	191	.	182	.	161	.	156	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	50	48	38	36	42	45	53	52
Chloride	139	.	57	.	39	.	79.6	.
Fluoride	0.3	.	0.2	.	0.3	.	0.5	.
Magnesium	18	17	16	15	16	16	17	17
Manganese	0.0054	0.0026	<0.001	0.0016	0.0017	0.0011	0.0019	<0.001
Nitrate-N	1.1	.	0.85	.	2.5	.	4	.
Potassium	3	4	5.2	11	1.4	2.2	1.8	1.9
Sodium	68	71	42	42	34	35	51	53
Sulfate	14	.	14	.	36	.	58.1	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

21

Sampling Point . Location . Date Sampled	GW-251							
	S2							
	01/20/93		05/05/93		09/17/93		12/08/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.96	0.43	4.4	0.24	17	0.033	6.7	0.067
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.12	0.12	0.14	0.15	0.13	0.078	0.097	0.078
Beryllium	0.00094	0.00054	0.0011	0.0019	0.0026	<0.0003	0.00097	<0.0003
Boron	0.032	0.023	0.047	0.045	0.012	0.017	0.023	0.049
Cadmium (AAS)	0.16	0.15	0.2	0.2	0.083	0.075	0.078	0.072
Cadmium	0.16	0.16	0.18	0.18	0.084	0.069	0.075	0.089
Chromium (AAS)	0.012	<0.01	0.014	<0.01	0.04	<0.01	0.011	<0.01
Chromium	<0.01	<0.01	0.022	0.017	0.033	<0.01	0.011	<0.01
Cobalt	0.035	0.032	0.039	0.036	0.023	0.0063	0.015	0.013
Copper	0.58	0.42	0.65	0.46	0.95	0.17	0.39	0.15
Iron	0.75	0.26	4.9	0.12	23	<0.005	7.6	0.0055
Lead (AAS)	0.033	<0.004	0.022	<0.004	0.06	<0.004	0.033	<0.004
Mercury (CVAA)	0.00025	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.059	0.049	0.067	0.061	0.051	0.014	0.018	<0.01
Selenium	<0.05	0.058	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.19	0.19	0.23	0.26	0.14	0.14	0.13	0.13
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.006	0.005	0.007	0.006	0.01	0.004	0.004	0.003
Vanadium	<0.005	<0.005	<0.005	<0.005	0.029	<0.005	0.0091	<0.005
Zinc	0.11	0.081	0.11	0.11	0.12	0.028	0.067	0.033
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO ₃	159	.	160	.	164	.	158	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.
Calcium	120	110	120	130	98	95	84	110
Chloride	12	.	11	.	6	.	7.1	.
Fluoride	1.3	.	1.2	.	1.6	.	1.6	.
Magnesium	18	18	19	19	18	17	15	18
Manganese	4.7	4.6	5.4	5.2	2.9	1.8	2	1.9
Nitrate-N	82	.	83	.	244	.	42.9	.
Potassium	3.5	3.7	3.9	3.4	5.6	2.4	3.7	2.4
Sodium	18	18	20	20	12	12	11	10
Sulfate	19	.	22	.	11	.	9.1	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

22

Sampling Point . Location . Date Sampled	GW-252							
	S2							
	01/08/93		05/03/93		09/15/93		12/07/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.27	0.021	1.6	<0.02	16	<0.02	0.55	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.01	0.0094	0.023	0.015	0.06	0.022	0.016	0.012
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	0.0014	<0.0003	<0.0003	<0.0003
Boron	0.026	0.018	0.03	0.012	0.022	0.0045	0.027	0.012
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.0032	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	0.0077	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	0.018	<0.01	0.05	0.01	<0.01	<0.01
Chromium	<0.01	<0.01	0.017	<0.01	0.042	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	0.0085	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.053	<0.004	0.0059	0.0044
Iron	0.4	<0.005	1.7	<0.005	20	<0.005	0.64	<0.005
Lead (AAS)	<0.004	<0.004	0.0074	<0.004	0.067	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	0.00023	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	0.011	<0.01	0.034	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.0067	0.0058	0.018	0.016	0.021	0.018	0.0078	0.0061
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	0.0072	<0.005	0.028	<0.005	<0.005	<0.005
Zinc	0.01	0.0067	0.026	0.023	0.15	0.037	0.017	0.009
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	46	.	59	.	197	.	95	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	7.2	5.3	31	31	45	39	7.9	5
Chloride	1.5	.	2.2	.	3.5	.	1	.
Fluoride	<0.1	.	0.2	.	0.2	.	<0.1	.
Magnesium	3.9	2.7	22	22	28	24	4.9	2.8
Manganese	0.012	0.0024	0.075	0.0018	0.65	0.0031	0.017	0.0018
Nitrate-N	0.47	.	0.87	.	2.5	.	0.5	.
Potassium	<0.6	<0.6	1.9	1.7	3.7	1.4	0.92	0.64
Sodium	5.2	3.4	10	10	10	13	3.4	2.1
Sulfate	2.7	.	9.6	.	11	.	1	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

23

Sampling Point . Location . Date Sampled	GW-255							
	S2							
	01/08/93		05/03/93		09/15/93		12/07/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	2.9	<0.02	4	<0.02	7.8	0.033	29	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.04	0.032	0.045	0.03	0.079	0.041	0.22	0.04
Beryllium	<0.0003	<0.0003	0.0003	<0.0003	0.0008	<0.0003	0.0033	<0.0003
Boron	0.025	0.02	0.018	0.018	0.021	0.02	0.084	0.084
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.0023	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	0.013	<0.01	0.018	<0.01	0.045	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	0.014	<0.01	0.027	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	0.0055	<0.005	0.03	<0.005
Copper	0.0071	<0.004	<0.004	<0.004	0.039	<0.004	0.1	<0.004
Iron	3.1	<0.005	4.5	0.011	11	0.046	39	<0.005
Lead (AAS)	0.0056	<0.004	0.0081	<0.004	0.018	<0.004	0.077	<0.004
Mercury (CVAA)	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	0.00038	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	0.014	<0.01	0.047	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.028	0.028	0.026	0.025	0.035	0.034	0.04	0.032
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	0.001	0.001	<0.001	0.001	<0.001	0.001	0.001
Vanadium	<0.005	<0.005	0.0055	<0.005	0.016	<0.005	0.051	<0.005
Zinc	0.023	0.0032	0.029	0.0072	0.055	0.0049	0.19	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	236	.	237	.	239	.	244	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	56	57	49	48	61	59	67	58
Chloride	5.5	.	4.8	.	6.1	.	6	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	30	30	31	30	33	30	43	31
Manganese	0.1	<0.001	0.24	0.0016	0.59	0.0032	2.8	<0.001
Nitrate-N	1.6	.	2.2	.	1.8	.	3.1	.
Potassium	1.6	0.83	1.6	1.2	3	1.2	7.1	1.3
Sodium	3.4	3.4	3.1	3.3	4.2	4.2	3.9	3.8
Sulfate	12	.	12	.	16	.	9	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

24

Sampling Point . Location . Date Sampled	GW-261							
	SY							
	01/08/93		04/07/93		07/01/93		12/07/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.06	<0.02	0.24	0.028	0.39	<0.02	0.06	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.079	0.076	0.086	0.079	0.089	0.071	0.07	0.073
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.017	0.013	0.021	0.018	0.011	0.035	0.027	0.026
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	0.0066	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	0.0071	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.0056	<0.004	<0.004	<0.004	0.0061	0.034	<0.004	<0.004
Iron	0.058	<0.005	0.53	0.0083	0.69	<0.005	0.055	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.089	0.087	0.092	0.091	0.087	0.089	0.09	0.089
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.014	0.0092	0.03	0.028	0.018	0.063	0.016	0.014
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	149	.	153	.	150	.	153	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	46	46	49	48	46	48	47	49
Chloride	3.5	.	3.8	.	4.2	.	5	.
Fluoride	0.2	.	0.2	.	0.3	.	0.2	.
Magnesium	11	11	12	12	12	12	12	12
Manganese	0.013	0.0084	0.011	0.0027	0.023	0.032	0.011	0.012
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	1.8	1.3	1.9	1.7	1.6	2	1.2	1.7
Sodium	9.8	9.7	9.3	9.4	9	9.4	10	10
Sulfate	33	.	33	.	36	.	31	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

25

Sampling Point . Location . Date Sampled	GW-262							
	SY							
	01/11/93		04/08/93		07/01/93		12/07/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.061	0.025	0.042	0.16	0.81	0.027	0.94	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.28	0.27	0.27	0.26	0.28	0.26	0.29	0.27
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.021	0.019	0.019	0.016	0.027	0.036	0.045	0.037
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.0045	<0.004	<0.004	<0.004
Iron	0.18	0.076	0.011	0.79	1	<0.005	0.95	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	0.012	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.15	0.15	0.15	0.15	0.15	0.14	0.15	0.15
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	<0.001	0.001	0.001	0.002	0.001	0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0092	0.0055	0.0086	0.018	0.026	0.032	0.0057	0.0024
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	198	.	200	.	207	.	204	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	62	61	66	64	64	62	71	64
Chloride	1.1	.	1	.	<1	.	<1	.
Fluoride	0.1	.	0.2	.	0.1	.	0.1	.
Magnesium	5.9	5.9	6.1	6.1	6.2	5.9	6.7	6.1
Manganese	0.066	0.059	0.096	0.1	0.085	0.06	0.094	0.069
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	1.5	1.9	1.6	1.8	2.2	1.4	1.7	1.3
Sodium	14	14	15	14	14	15	14	14
Sulfate	14	.	15	.	13	.	10	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

26

Sampling Point Location Date Sampled	GW-263							
	SY							
	01/11/93		04/08/93		07/01/93		12/07/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	13	0.063	0.3	0.042	2.7	<0.02	0.3	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.45	0.17	0.14	0.13	0.14	0.13	0.17	0.16
Beryllium	0.00065	<0.0003	0.00038	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.024	0.29	0.021	0.053	0.013	0.013	0.18	0.049
Cadmium (AAS)	<0.002	<0.002	0.0038	0.003	0.003	<0.002	0.0067	0.0025
Cadmium	0.005	<0.003	0.0035	0.0031	<0.003	<0.003	0.0062	<0.003
Chromium (AAS)	5.8	0.026	0.049	<0.01	0.17	<0.01	0.074	<0.01
Chromium	5	0.021	0.036	<0.01	0.16	<0.01	0.085	<0.01
Cobalt	0.048	0.0091	<0.005	<0.005	0.0054	<0.005	<0.005	<0.005
Copper	0.2	0.0046	<0.004	<0.004	0.02	<0.004	0.0071	<0.004
Iron	37	0.15	0.93	0.018	3.6	<0.005	0.8	<0.005
Lead (AAS)	0.11	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	0.051	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	2.1	0.96	0.33	0.33	0.36	0.15	0.28	0.26
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.18	0.16	0.14	0.14	0.13	0.14	0.16	0.16
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Vanadium	0.032	<0.005	<0.005	<0.005	0.0057	<0.005	<0.005	<0.005
Zinc	0.075	<0.002	0.03	0.023	0.04	0.015	0.032	0.0041
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	190	.	163	.	157	.	198	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	75	65	61	61	56	59	72	71
Chloride	59	.	58	.	43	.	53	.
Fluoride	0.1	.	0.3	.	0.2	.	0.1	.
Magnesium	20	15	15	15	14	14	17	17
Manganese	0.75	0.21	0.043	0.023	0.11	0.023	0.039	0.018
Nitrate-N	0.52	.	0.39	.	0.27	.	0.6	.
Potassium	4.7	2.1	1.7	1.7	2.6	1.8	1.9	1.5
Sodium	21	20	20	19.8	20	20	22	21
Sulfate	16	.	19	.	16	.	16	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

27

Sampling Point . Location . Date Sampled	GW-264							
	SY							
	01/12/93		04/12/93		07/02/93		12/08/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.038	0.03	0.61	0.079	0.24	<0.02	0.51	0.021
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.024	0.05	0.044	0.04	0.042	0.038	0.036	0.026
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.028	0.028	0.12	0.052	0.022	0.017	0.06	0.075
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.005	<0.004	<0.004	<0.004
Iron	0.18	0.12	0.98	0.14	0.39	0.047	0.75	0.044
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	0.027	0.011	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.34	0.32	0.31	0.34	0.31	0.3	0.33	0.33
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	0.001	<0.001	<0.001	0.001	0.001	0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0042	0.0033	0.012	0.0036	0.016	0.0057	0.0066	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	453	.	398	.	407	.	424	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	140	140	130	150	130	120	160	150
Chloride	16	.	15.7	.	20	.	11.8	.
Fluoride	<0.1	.	0.1	.	0.1	.	<0.1	.
Magnesium	40	39	37	41	35	34	42	39
Manganese	0.025	0.032	0.045	0.043	0.042	0.037	0.049	0.041
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	3.1	3.7	3.5	3.8	3.1	3.5	3.7	3.7
Sodium	27	26	28	30	27	27	29	28
Sulfate	141	.	110	.	113	.	141	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

28

Sampling Point . Location . Date Sampled	GW-281							
	FF							
	02/02/93		04/16/93		08/04/93		10/14/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	1.1	<0.02	3.5	<0.02	18	<0.02	0.49	0.023
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.11	0.084	0.084	0.054	0.21	0.14	0.095	0.048
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	0.00064	<0.0003	<0.0003	<0.0003
Boron	0.03	0.024	0.044	0.037	0.079	0.045	0.034	0.033
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	0.0064	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	0.013	<0.01	0.026	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	0.037	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	0.014	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0057	0.01	0.038	<0.004	<0.004	<0.004
Iron	1.8	0.0066	6.9	<0.005	23	1.8	0.82	0.052
Lead (AAS)	<0.004	<0.004	0.0056	<0.004	0.0086	<0.004	<0.004	<0.004
Mercury (CVAA)	0.00041	<0.0002	0.00065	<0.0002	0.00096	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	0.036	<0.01	0.011	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.26	0.23	0.17	0.16	0.33	0.3	0.27	0.17
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.003	0.003	0.005	0.006	0.002	0.003	0.002	0.001
Vanadium	<0.005	<0.005	0.0056	<0.005	0.021	<0.005	<0.005	<0.005
Zinc	0.0099	0.0048	0.024	0.012	0.63	0.009	0.017	0.03
MAJOR ION mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	176	.	123	.	190	.	162	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	58	53	43	43	62	60	50	38
Chloride	5.2	.	9.5	.	7.4	.	6	.
Fluoride	0.2	.	0.1	.	0.2	.	0.2	.
Magnesium	10	8.9	7.1	6.6	15	11	10	7.5
Manganese	0.61	0.5	0.2	0.051	1.2	1.6	0.52	0.38
Nitrate-N	<0.2	.	0.44	.	0.45	.	<0.2	.
Potassium	1.8	1	2.6	1.8	6.4	2	2.3	2.5
Sodium	7.3	7.1	8.2	8.6	8.7	8.5	7.2	5.5
Sulfate	15	.	21	.	18	.	16	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

29

Sampling Point . Location . Date Sampled	GW-283							
	FF							
	02/03/93		04/19/93		08/06/93		10/14/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	1.7	0.047	2.1	<0.02	1.2	0.028	1.1	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.54	0.49	0.48	0.45	0.57	0.56	0.57	0.52
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.05	0.032	0.033	0.02	0.026	0.028	0.03	0.029
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	0.018	<0.01	0.02	<0.01	0.01	<0.01	0.026	<0.01
Chromium	<0.01	<0.01	0.013	<0.01	0.011	<0.01	0.026	<0.01
Cobalt	0.0067	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0043	<0.004	0.011	0.0079	<0.004	<0.004
Iron	2.2	0.12	2.5	0.025	1.6	0.027	1.9	0.14
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.15	0.14	0.12	0.11	0.15	0.15	0.16	0.25
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	0.071	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.58	0.56	0.5	0.49	0.59	0.59	0.59	0.56
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.025	0.02	0.016	0.01	0.047	0.073	0.041	0.029
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	339	.	350	.	383	.	380	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	160	160	150	150	170	170	160	150
Chloride	122	.	90	.	94	.	439	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	17	17	16	15	18	18	18	17
Manganese	1.4	1.3	1.1	1	0.92	0.88	0.88	1.1
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	3.4	2.9	3.6	2.7	3.5	2.9	3.2	2.8
Sodium	12	12	11	11	9.3	9.4	9.1	11
Sulfate	12	.	10.5	.	13	.	8	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

30

Sampling Point . Location . Date Sampled	GW-284							
	FF							
	02/02/93		04/16/93		08/05/93		10/14/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.23	<0.02	0.44	<0.02	14	<0.02	0.5	0.033
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.36	0.35	0.39	0.35	0.6	0.44	0.45	0.44
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	0.00058	<0.0003	<0.0003	<0.0003
Boron	0.009	0.015	0.03	0.024	0.039	0.032	0.017	0.017
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	0.0056	<0.003	<0.003	<0.003
Chromium (AAS)	0.64	<0.01	0.16	<0.01	1.9	<0.01	0.12	<0.01
Chromium	0.16	<0.01	0.16	<0.01	1.7	<0.01	0.12	<0.01
Cobalt	0.0086	0.006	0.0056	0.0057	0.064	0.016	0.0097	0.016
Copper	<0.004	0.0057	0.0063	0.0042	0.035	0.0049	<0.004	<0.004
Iron	2.2	<0.005	1.6	0.12	35	0.0063	2.3	0.32
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	0.024	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	0.022	<0.01	<0.01	<0.01
Nickel	0.96	0.92	0.8	1.4	1.8	0.98	0.59	0.96
Selenium	0.077	<0.05	<0.05	<0.05	0.08	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.56	0.56	0.6	0.68	0.67	0.68	0.6	0.68
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.01	0.01	0.005	0.007	0.008	0.007	0.003	0.004
Vanadium	<0.005	<0.005	<0.005	<0.005	0.029	<0.005	<0.005	<0.005
Zinc	0.0058	0.0061	0.014	0.0097	0.11	0.049	0.063	0.08
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	285	.	263	.	302	.	311	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	190	190	190	180	210	200	190	190
Chloride	212	.	238	.	220	.	249	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	18	19	19	26	25	22	19	22
Manganese	0.64	0.56	0.77	0.099	1.8	1.2	1.6	1.4
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	1.5	1.9	2.3	1.6	5.5	1.7	1.9	1.6
Sodium	26	26	29	32	29	28	33	32
Sulfate	32	.	23	.	28	.	30	.

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APPENDIX E.1
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-285							
	FF							
	02/02/93		04/19/93		08/05/93		10/14/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.28	0.085	3.2	<0.02	0.91	0.054	0.33	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.11	0.12	0.15	0.11	0.15	0.14	0.14	0.13
Beryllium	<0.0003	0.0088	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.018	0.033	0.044	0.028	0.015	0.039	0.021	0.018
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	0.01	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	0.047	<0.01	0.76	<0.01	0.076	<0.01	0.098	<0.01
Chromium	<0.01	<0.01	0.28	<0.01	0.081	<0.01	0.093	<0.01
Cobalt	0.0056	0.016	0.011	<0.005	0.017	0.013	0.013	0.013
Copper	<0.004	0.011	0.017	<0.004	0.013	0.0085	<0.004	<0.004
Iron	0.75	0.056	8.5	0.17	2	0.14	2.2	0.23
Lead (AAS)	<0.004	<0.004	0.011	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.58	0.58	0.91	0.58	0.5	0.45	0.96	0.93
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	0.011	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.18	0.19	0.17	0.17	0.18	0.18	0.18	0.18
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.007	0.006	0.007	0.005	0.003	0.002	0.002	0.002
Vanadium	<0.005	0.013	0.0051	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.016	0.038	0.022	0.013	0.076	0.13	0.052	0.066
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	181	.	191	.	185	.	178	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	72	73	74	71	75	74	65	65
Chloride	20	.	22.9	.	22	.	47	.
Fluoride	0.2	.	0.1	.	<0.1	.	0.1	.
Magnesium	6.8	6.8	7.2	6.1	6.8	6.8	7.2	7.1
Manganese	0.073	0.069	0.27	0.087	0.52	0.42	0.36	0.33
Nitrate-N	0.58	.	0.3	.	<0.2	.	<0.2	.
Potassium	1.7	1.8	2.7	1.3	2.4	1.8	1.8	1.7
Sodium	9.3	9.3	8.6	7.6	7.6	8.1	11	12
Sulfate	45	.	19.4	.	7.2	.	14	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

32

Sampling Point . Location . Date Sampled	GW-337							
	WC							
	01/21/93		05/07/93		09/17/93		12/09/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	5.3	0.091	0.46	<0.02	6.2	<0.02	0.2	0.026
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.24	0.16	0.19	0.18	0.33	0.21	0.21	0.21
Beryllium	0.00069	<0.0003	<0.0003	<0.0003	0.001	<0.0003	<0.0003	<0.0003
Boron	0.034	0.023	0.06	0.048	0.038	0.031	0.034	0.03
Cadmium (AAS)	0.0069	0.0051	<0.002	<0.002	<0.002	<0.002	0.0048	0.0068
Cadmium	0.0078	0.0063	<0.003	<0.003	0.0044	<0.003	0.0036	0.0055
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	0.028	<0.01	<0.01	0.013
Chromium	0.013	<0.01	<0.01	<0.01	0.026	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	0.0094	<0.005	<0.005	<0.005
Copper	0.021	0.0072	<0.004	<0.004	0.027	<0.004	0.013	0.012
Iron	7.9	0.1	0.63	0.0072	14	<0.005	0.28	<0.005
Lead (AAS)	0.004	<0.004	<0.004	<0.004	0.0087	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.014	<0.01	0.011	<0.01	0.033	0.01	<0.01	<0.01
Selenium	<0.05	0.055	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.22	0.19	0.23	0.22	0.25	0.24	0.23	0.17
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.002	0.001	0.001	0.001	0.002	0.001	0.001	0.001
Vanadium	0.0085	<0.005	<0.005	<0.005	0.011	<0.005	<0.005	<0.005
Zinc	0.14	0.12	0.0099	0.0089	0.052	0.018	0.05	0.091
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	251	.	236	.	251	.	240	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	97	88	86	84	100	97	93	68
Chloride	35	.	24	.	22	.	18.9	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	11	8.5	8.3	8.1	12	9.6	9.1	8.6
Manganese	0.39	0.097	0.097	0.073	0.73	0.13	0.11	0.11
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	3.8	2.6	1.6	1.5	5	1.9	1.9	3.1
Sodium	3.8	3.7	3.9	3.8	4.3	4.2	4	4.2
Sulfate	7.5	.	7	.	8	.	6.2	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

33

Sampling Point . Location . Date Sampled	GW-338							
	WC							
	01/11/93		05/04/93		09/23/93		12/07/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.81	<0.02	1.8	0.049	0.33	<0.02	0.34	0.031
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.29	0.25	0.35	0.32	0.37	0.35	0.35	0.34
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.025	0.048	0.028	0.017	0.025	0.017	0.091	0.062
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.0038
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	0.0056	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0058	<0.004	0.0067	<0.004	0.0049	0.0045
Iron	1.2	<0.005	1.6	0.0096	0.35	<0.005	0.32	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.23	0.22	0.26	0.24	0.23	0.23	0.26	0.25
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.025	0.025	0.012	0.025	0.017	0.018	0.014	0.0093
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	233	.	234	.	252	.	245	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	87	85	86	83	90	89	91	89
Chloride	6.1	.	6.5	.	5.8	.	7	.
Fluoride	<0.1	.	<0.1	.	0.1	.	<0.1	.
Magnesium	9.7	9.4	9.5	8.8	9.7	9.6	10	9.8
Manganese	0.3	0.047	0.3	0.035	0.29	0.3	0.11	0.032
Nitrate-N	0.51	.	0.41	.	0.31	.	0.6	.
Potassium	1.8	1	2.8	1.9	2.1	1.8	2.2	2.2
Sodium	5.1	5.4	5.1	5.1	5.9	6.1	5.9	6.2
Sulfate	15	.	14	.	18	.	12	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

34

Sampling Point . Location . Date Sampled	GW-380							
	NHP							
	01/25/93		04/21/93		08/05/93		10/29/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.66	<0.02	0.23	0.021	0.27	<0.02	0.19	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.054	0.047	0.029	0.028	0.056	0.033	0.04	0.07
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.034	0.022	0.061	0.13	0.045	0.047	0.06	0.059
Cadmium (AAS)	<0.002	<0.002	0.0037	0.0033	0.0065	0.0041	<0.002	<0.002
Cadmium	<0.003	<0.003	0.004	0.0034	0.0069	0.0038	<0.003	<0.003
Chromium (AAS)	0.99	<0.01	0.27	<0.01	4	0.032	0.82	0.017
Chromium	0.75	<0.01	0.18	<0.01	2.5	0.031	0.75	0.011
Cobalt	<0.005	<0.005	<0.005	<0.005	0.074	0.011	0.0063	0.073
Copper	0.015	<0.004	0.011	0.0093	0.074	<0.004	0.0056	<0.004
Iron	3.3	0.05	1.3	0.045	28	2.2	2.5	14
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	0.011	<0.01	0.01	<0.01
Nickel	0.16	0.12	0.12	0.094	3.9	0.54	0.39	4
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.057	0.057	0.032	0.029	0.04	0.033	0.04	0.059
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	0.001	0.001	0.001	0.001	<0.001	0.002	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.026	0.04	0.031	0.031	0.026	0.013	0.016	0.18
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	164	.	177	.	78	.	179	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	50	51	30	27	33	29	35	49
Chloride	250	.	140	.	364	.	47	.
Fluoride	0.1	.	0.2	.	<0.1	.	0.2	.
Magnesium	21	21	12	11	12	12	13	15
Manganese	0.052	0.024	0.023	0.0074	0.81	0.15	0.17	1
Nitrate-N	1.4	.	1.1	.	1.8	.	3.6	.
Potassium	1.4	1	0.86	0.96	1.4	0.97	1.5	1.5
Sodium	130	130	100	98	81	78	77	93
Sulfate	20.7	.	13	.	31	.	44	.

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APPENDIX E.1
Groundwater Quality Data, 1993

35

Sampling Point . Location . Date Sampled	GW-381							
	NHP							
	01/27/93		04/26/93		08/08/93		11/08/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	2.5	<0.02	0.86	<0.02	0.16	<0.02	0.26	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.2	0.2	0.2	0.18	0.22	0.2	0.24	0.23
Beryllium	0.00092	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.042	0.17	0.011	0.019	0.018	0.012	0.036	0.034
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	0.0043	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.01	<0.004	<0.004	<0.004	<0.004	<0.004	0.0064	0.0076
Iron	4.2	0.35	1.8	0.18	0.69	0.22	0.58	0.22
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.13	0.14	0.13	0.13	0.15	0.13	0.18	0.17
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	0.001	0.001	0.001	0.001	<0.001	0.004
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.012	0.0052	0.012	0.0059	0.01	0.011	0.0035	0.0031
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	232	.	215	.	245	.	256	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	72	75	72	70	78	71	88	83
Chloride	76	.	83	.	66	.	68	.
Fluoride	<0.1	.	0.1	.	<0.1	.	0.1	.
Magnesium	19	19	20	20	22	20	24	23
Manganese	0.28	0.21	0.25	0.18	0.27	0.21	0.29	0.25
Nitrate-N	<0.2	.	0.34	.	<0.2	.	<0.2	.
Potassium	2.4	2	1.7	1.6	2	1.3	2.4	2.3
Sodium	23	25	29	28	23	21	20	20
Sulfate	7.3	.	5.3	.	6.5	.	6.3	.

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APPENDIX E.1
Groundwater Quality Data, 1993

36

Sampling Point . Location . Date Sampled	GW-382							
	NHP							
	01/28/93		04/26/93		08/08/93		11/04/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.047	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.11	0.11	0.14	0.14	0.12	0.11	0.12	0.12
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.26	0.07	0.14	0.043	0.057	0.072	0.064	0.061
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.024	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.012	0.0076
Iron	1	0.34	1.3	0.36	1	0.12	0.36	0.12
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	0.015	<0.01	<0.01	<0.01	<0.01	0.32	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.39	0.39	0.36	0.36	0.4	0.4	0.45	0.44
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	0.001	<0.001	0.001	<0.001	<0.001	<0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0021	<0.002	0.0035	0.004	0.0068	0.0078	<0.002	0.0043
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	206	.	204	.	207	.	206	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	50	50	51	51	51	50	54	53
Chloride	22	.	19.6	.	19.5	.	20	.
Fluoride	0.1	.	0.2	.	0.2	.	0.2	.
Magnesium	25	25	25	25	27	27	28	28
Manganese	0.006	0.006	0.014	0.012	0.0044	0.0047	0.0085	0.0036
Nitrate-N	2.8	.	2.08	.	3.45	.	3.6	.
Potassium	1.3	1.3	1.2	0.7	1.2	1.3	1.2	1.3
Sodium	6.5	6.1	6.1	6	6.6	6.6	6.7	6.8
Sulfate	17	.	15	.	13.8	.	16	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

37

Sampling Point . Location . Date Sampled	GW-383							
	NHP							
	01/26/93		04/22/93		08/07/93		11/03/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.022	<0.02	0.031	0.02	<0.02	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.55	0.54	0.53	0.53	0.55	0.54	0.6	0.59
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0049	<0.0003
Boron	0.12	0.06	0.11	0.098	0.11	0.11	0.13	0.12
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.007	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0064	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.016	0.091
Iron	0.67	0.57	0.77	0.62	0.86	0.77	0.83	0.77
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	0.00036	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	0.072	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.4	0.39	0.37	0.38	0.39	0.38	0.45	0.43
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0072	<0.005
Zinc	0.01	0.015	0.016	0.01	0.0085	0.0085	0.013	0.011
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	219	.	213	.	222	.	220	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	80	76	74	75	75	73	87	82
Chloride	34	.	27	.	24	.	30	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	0.1	.
Magnesium	10	9.9	9.8	10	10	10	11	11
Manganese	0.17	0.16	0.14	0.14	0.16	0.16	0.17	0.15
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	2.8	2.5	3	2.7	2.4	2.7	3	2.8
Sodium	17	16	15	16	17	18	16	16
Sulfate	19.1	.	21	.	22	.	17	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

38

Sampling Point . Location . Date Sampled	GW-384							
	NHP							
	01/13/93		04/20/93		08/04/93		10/28/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	0.045	<0.02	<0.02	0.023	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.44	0.45	0.45	0.45	0.46	0.46	0.47	0.48
Beryllium	0.00031	0.00046	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.079	0.086	0.066	0.074	0.13	0.087	0.1	0.12
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	0.0044	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	1.2	1.7	1.1	0.96	1.5	1.3	1.1	1
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.49	0.5	0.48	0.48	0.49	0.49	0.5	0.5
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	0.002	<0.001	<0.001	0.003	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0031	0.0042	0.0022	0.0023	0.0037	0.0074	0.0033	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	270	.	277	.	279	.	281	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	95	97	97	97	94	94	97	97
Chloride	30	.	27.7	.	26	.	30	.
Fluoride	<0.1	.	0.1	.	0.1	.	<0.1	.
Magnesium	12	12	12	12	12	12	12	12
Manganese	0.44	0.45	0.44	0.44	0.45	0.45	0.46	0.47
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	2.7	2.6	2.5	2.2	3	2.8	2.9	2.9
Sodium	14	14	13	13	15	15	16	16
Sulfate	14	.	15.4	.	18	.	12	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

39

Sampling Point . Location . Date Sampled	GW-385							
	NHP							
	01/12/93		04/19/93		08/03/93		10/27/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.12	0.022	0.12	<0.02	0.65	0.023	0.58	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	0.056	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.047	0.036	0.043	0.039	0.052	0.045	0.054	0.046
Beryllium	0.0006	0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.83	0.88	0.77	0.75	0.85	0.87	0.89	0.89
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.48	0.015	0.15	0.016	0.75	0.013	0.79	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.088	0.083	0.082	0.08	0.088	0.083	0.092	0.086
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0057	0.0023	0.0048	0.0063	0.0057	0.0029	0.0057	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	318	.	295	.	317	.	330	.
Alkalinity-CO3	46	.	48	.	50	.	54	.
Calcium	1.1	1	1.2	0.95	1.3	0.99	1.5	1
Chloride	2	.	2.4	.	3	.	3	.
Fluoride	2.3	.	3.1	.	3.1	.	3.2	.
Magnesium	0.23	0.2	0.26	0.21	0.45	0.25	0.39	0.23
Manganese	0.0061	<0.001	0.0055	0.0047	0.0064	0.0012	0.0086	<0.001
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	2.2	2	2.5	1.9	2.5	2.6	2.5	2.1
Sodium	170	180	160	160	170	170	180	180
Sulfate	18	.	18.6	.	23	.	17	.

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APPENDIX E.1
Groundwater Quality Data, 1993

40

Sampling Point . Location . Date Sampled	GW-505							
	RG							
	03/01/93		06/18/93		09/15/93		11/16/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	6.3	<0.02	6.2	0.036	3.4	0.062	7.1	0.5
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.078	0.044	0.1	0.065	0.097	0.072	0.11	0.067
Beryllium	<0.0003	<0.0003	0.00043	<0.0003	0.00074	<0.0003	0.005	0.00058
Boron	0.037	0.04	0.04	0.039	0.05	0.041	0.05	0.044
Cadmium (AAS)	<0.002	<0.002	0.0028	<0.002	0.0023	0.002	<0.002	<0.002
Cadmium	0.0063	<0.003	0.0056	<0.003	<0.003	0.0034	0.0046	<0.003
Chromium (AAS)	0.027	<0.01	0.032	<0.01	0.39	<0.01	0.3	<0.01
Chromium	0.019	<0.01	0.034	<0.01	0.48	<0.01	0.35	0.012
Cobalt	0.0074	<0.005	<0.005	<0.005	0.014	<0.005	0.021	<0.005
Copper	<0.004	<0.004	0.0096	<0.004	0.0076	<0.004	0.017	<0.004
Iron	4.1	<0.005	5	0.016	4.1	<0.005	6.2	0.39
Lead (AAS)	0.0048	<0.004	0.0063	<0.004	0.011	<0.004	0.007	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	0.017	<0.01	0.016	<0.01
Nickel	0.035	0.02	0.039	0.021	0.12	0.072	0.087	0.023
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	0.0075	<0.006
Strontium	0.088	0.084	0.08	0.19	0.07	0.063	0.12	0.13
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.012	0.007	0.009	0.003	0.007	0.002	0.014	0.014
Vanadium	<0.005	<0.005	0.0072	<0.005	0.0066	<0.005	0.015	<0.005
Zinc	0.018	0.0031	0.026	0.01	0.027	0.014	0.026	0.0056
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	52	.	37	.	30	.	76	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	27	27	24	22	18	17	33	39
Chloride	27.5	.	24	.	24	.	21.4	.
Fluoride	0.3	.	0.2	.	0.2	.	0.3	.
Magnesium	6.2	5.5	6.1	5.6	5.2	4.6	7.5	7.8
Manganese	0.37	0.022	0.5	0.037	0.75	0.12	0.75	0.051
Nitrate-N	1.2	.	1.4	.	1	.	0.93	.
Potassium	2.7	1.3	2.6	1.7	2.7	1.6	3.6	1.9
Sodium	6.8	6.7	7.3	7.3	7.5	7.3	7	7.1
Sulfate	20.2	.	15	.	21	.	29.4	.

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APPENDIX E.1
Groundwater Quality Data, 1993

41

Sampling Point . Location . Date Sampled	GW-508							
	RG							
	03/05/93		06/23/93		09/21/93	09/22/93	11/19/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.81	0.37	1.1	1.2	2.6	2	1.7	1.1
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.33	0.31	0.39	0.54	0.64	0.74	0.46	0.45
Beryllium	0.0013	0.0011	0.0021	0.0029	0.0042	0.0042	0.0025	0.0061
Boron	0.074	0.075	0.086	0.07	0.088	0.093	0.075	0.086
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.0044
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.13	0.11	0.15	0.21	0.22	0.25	0.15	0.15
Copper	0.0063	<0.004	0.0051	0.0052	<0.004	0.0059	<0.004	0.0049
Iron	0.21	0.01	0.04	<0.005	0.77	<0.005	0.52	0.017
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	0.00022	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.00021	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.068	0.058	0.072	0.11	0.12	0.11	0.075	0.073
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	0.0072
Strontium	0.039	0.04	0.041	0.1	0.063	0.076	0.047	0.053
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.097	0.069	0.084	0.12	0.15	0.16	0.1	0.1
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	17	.	5	.	3	.	2	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	6.2	8.5	4.9	7.2	4.5	6	4.4	5.6
Chloride	127	.	68	.	66	.	134	.
Fluoride	0.2	.	0.2	.	0.2	.	0.2	.
Magnesium	9.8	9.4	11	15	15	18	11	10
Manganese	5.6	5.7	5.4	6.8	6.6	7.8	5	4.8
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	0.85	1	0.91	0.99	1.3	1.2	0.99	0.81
Sodium	23	25	22	26	28	32	23	23
Sulfate	10	.	13	.	7.6	.	3	.

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APPENDIX E.1
Groundwater Quality Data, 1993

42

Sampling Point . Location . Date Sampled	GW-603							
	EXP							
	01/29/93		05/04/93		08/16/93		10/28/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.54	<0.02	3.5	0.038	1.1	<0.02	0.73	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.12	0.12	0.14	0.13	0.15	0.14	0.14	0.14
Beryllium	<0.0003	<0.0003	0.00058	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.0069	0.027	0.042	0.026	0.0064	0.013	0.014	0.018
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	0.08	<0.01	0.089	<0.01	0.054	<0.01
Chromium	<0.01	<0.01	0.057	<0.01	0.11	<0.01	0.04	<0.01
Cobalt	<0.005	0.0051	0.009	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.012	<0.004	0.0081	<0.004	0.0042	<0.004
Iron	0.49	<0.005	3.7	0.011	1.7	<0.005	0.78	<0.005
Lead (AAS)	<0.004	<0.004	0.011	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.082	0.084	0.26	0.2	0.37	0.3	0.17	0.13
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.089	0.086	0.11	0.11	0.1	0.1	0.099	0.098
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	0.0061	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.015	0.0088	0.035	0.0096	0.029	0.014	0.043	0.0095
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO ₃	283	.	291	.	288	.	303	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.
Calcium	73	71	81	79	90	85	82	80
Chloride	5.3	.	6.8	.	6.4	.	5	.
Fluoride	0.2	.	0.1	.	0.2	.	0.2	.
Magnesium	24	23	30	26	29	27	26	25
Manganese	0.02	0.0075	0.11	0.026	0.16	0.1	0.064	0.031
Nitrate-N	0.73	.	0.69	.	0.7	.	0.9	.
Potassium	5.9	5.6	6	5.7	7.9	7.5	6.7	6.5
Sodium	3.6	3.6	3.5	3.6	4	4	3.9	3.8
Sulfate	14	.	18	.	12.7	.	12	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

43

Sampling Point . Location . Date Sampled	GW-604							
	EXP							
	01/30/93		05/04/93		08/16/93		10/28/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)								
Aluminum	1.1	0.054	0.15	<0.02	0.65	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.037	0.034	0.031	0.03	0.033	0.031	0.026	0.03
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.028	0.022	0.025	0.021	<0.004	0.0095	0.017	0.0049
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	0.0031	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.79	<0.005	0.27	0.0071	0.79	<0.005	0.024	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	0.014	0.011	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.042	0.041	0.04	0.039	0.037	0.036	0.13	0.033
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.026	0.0091	0.021	0.011	0.028	0.013	<0.002	0.011
MAJOR IONS (mg/L)								
Alkalinity-HCO3	208	.	183	.	167	.	160	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	53	54	46	46	47	48	42	41
Chloride	2.8	.	2.5	.	2.2	.	2	.
Fluoride	0.1	.	0.1	.	0.2	.	0.2	.
Magnesium	18	18	17	17	17	17	17	16
Manganese	0.0098	<0.001	0.0053	0.0014	0.0087	<0.001	0.012	<0.001
Nitrate-N	0.62	.	0.45	.	0.5	.	0.5	.
Potassium	1.6	1.3	1.4	1.4	1.4	1.2	2	1.2
Sodium	2	2	1.7	1.7	1.4	1.4	6	1.9
Sulfate	6.9	.	5.7	.	4.5	.	5	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

44

Sampling Point . Location . Date Sampled	GW-605							
	EXP							
	02/02/93		05/10/93		08/19/93		11/10/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.034	<0.02	0.027	<0.02	0.044	<0.02	0.026	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.065	0.065	0.068	0.066	0.063	0.059	0.075	0.074
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.16	0.16	0.17	0.17	0.063	0.087	0.18	0.18
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.0068	<0.004	<0.004	0.004	0.01	<0.004	<0.004	<0.004
Iron	0.03	<0.005	0.08	0.0078	0.97	<0.005	0.033	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.15	0.15	0.17	0.17	0.16	0.15	0.17	0.17
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.149	0.152	0.189	0.194	<0.001	0.098	0.19	0.16
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.01	0.015	0.0089	0.015	0.03	0.0067	0.014	0.0035
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	256	.	252	.	255	.	260	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	82	82	85	84	100	98	87	88
Chloride	22	.	26	.	23	.	26.6	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	0.1	.
Magnesium	15	15	15	15	17	16	17	17
Manganese	0.42	0.41	0.49	0.48	0.45	0.28	0.54	0.54
Nitrate-N	<0.2	.	0.38	.	<0.2	.	0.25	.
Potassium	2.5	3.2	2.6	2.5	5.6	4.9	3.4	3.4
Sodium	12	12	13	13	8.8	8.5	15	15
Sulfate	24	.	26	.	16	.	25.3	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-606							
	EXP							
	02/03/93		05/10/93		08/20/93		11/11/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)								
Aluminum	<0.02	<0.02	<0.02	<0.02	0.055	<0.02	<0.02	0.041
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.085	0.084	0.08	0.08	0.095	0.095	0.11	0.1
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.026	0.023	0.048	0.053	0.034	0.031	0.031	0.033
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.028	<0.005	0.049	<0.005	0.017	<0.005	0.018	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	0.024	<0.01	<0.01	<0.01	<0.01
Selenium	0.056	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.43	0.43	0.45	0.46	0.5	0.51	0.5	0.48
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.006	0.007	0.007	0.009	0.001	0.008	0.007	0.007
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0076	0.01	0.013	0.016	0.0049	0.012	0.0087	0.0094
MAJOR IONS (mg/L)								
Alkalinity-HCO3	207	.	218	.	224	.	243	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	60	60	63	64	74	77	69	69
Chloride	45	.	43	.	46	.	51	.
Fluoride	0.1	.	0.1	.	0.1	.	0.2	.
Magnesium	31	31	31	31	36	37	35	35
Manganese	0.021	0.02	0.018	0.018	0.02	0.021	0.022	0.022
Nitrate-N	0.73	.	0.87	.	0.64	.	0.95	.
Potassium	4.1	3.9	3.2	3.1	3.3	3.3	3.8	3.7
Sodium	4.7	4.6	4.5	4.4	5	5	4.9	4.8
Sulfate	34	.	31	.	28	.	33.8	.

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APPENDIX E.1
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-617							
	EXP							
	01/12/93		05/04/93		09/16/93		12/07/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.43	<0.02	0.069	0.032	0.31	<0.02	6.7	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.031	0.03	0.035	0.033	0.057	0.049	0.089	0.06
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	0.001	<0.0003	<0.0003	<0.0003
Boron	0.22	0.24	0.16	0.16	0.11	0.1	0.16	0.17
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	0.0054	0.0043	0.0044	0.022
Cadmium	<0.003	<0.003	<0.003	<0.003	0.0061	0.0042	0.0051	0.022
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.014	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	0.012	0.0088	0.009	0.008	0.0091	0.0071
Copper	<0.004	<0.004	<0.004	0.01	0.01	0.0041	0.015	<0.004
Iron	0.81	<0.005	1.2	0.55	1.7	0.52	11	1.1
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.0087	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	0.012	0.01	<0.01	0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.036	0.037	0.038	0.035	0.045	0.039	0.062	0.054
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.01	<0.005
Zinc	0.021	0.039	0.027	0.048	0.029	0.032	0.15	0.19
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	34	.	36	.	67	.	76	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	22	23	18	17	22	19	33	25
Chloride	3.3	.	4.7	.	11	.	14	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	5.3	5.1	4.7	4.4	5.7	5	6.4	6
Manganese	0.27	0.47	1.4	1.2	4.2	3.9	3.2	2.7
Nitrate-N	2.4	.	1.5	.	0.51	.	0.8	.
Potassium	<0.6	<0.6	1	0.92	1.1	1.3	2.9	1.7
Sodium	4	3.9	3.6	3.3	4.8	3.9	7	6
Sulfate	37	.	31	.	23	.	29	.

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APPENDIX E.1
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-618							
	EXP							
	01/12/93		05/05/93		09/16/93		12/08/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.032	<0.02	0.037	0.066	0.16	<0.02	0.028	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.097
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.053	0.053	0.055	0.055	0.06	0.061	0.06	0.06
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.13	0.13	0.11	0.13	0.14	0.15	0.17	0.17
Cadmium (AAS)	0.014	<0.002	0.02	<0.002	0.03	<0.002	0.02	0.0053
Cadmium	0.014	<0.003	0.017	<0.003	0.027	<0.003	0.02	0.0054
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	0.0047	0.0045	<0.004
Iron	0.43	0.36	0.4	0.19	0.15	0.13	0.16	0.15
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	0.061	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.16	0.16	0.18	0.18	0.18	0.18	0.18	0.18
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0062	0.0055	0.018	0.013	0.01	0.0049	0.005	0.0059
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	271	.	266	.	279	.	282	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	100	99	95	95	100	100	100	100
Chloride	30	.	23	.	27	.	23.5	.
Fluoride	0.2	.	0.2	.	0.2	.	0.3	.
Magnesium	9.2	9.1	8.7	8.8	9.3	9.4	9.3	9.3
Manganese	1.7	1.7	1.8	1.8	1.9	1.9	1.8	1.8
Nitrate-N	1.2	.	1.6	.	1.8	.	1.11	.
Potassium	3.6	3.1	3.3	3.4	3.3	3.5	3.6	3.7
Sodium	18	18	18	17	18	18	18	18
Sulfate	24	.	21	.	22	.	20.8	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

48

Sampling Point . Location . Date Sampled	GW-619							
	FTF							
	01/20/93		05/05/93		09/17/93		12/08/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	1.8	1.7	3.7	3.3	1.8	1.9	1.5	1.1
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.057
Barium	0.0069	0.0067	0.0072	0.0068	0.0087	0.0084	0.0082	0.0078
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.026	0.026	0.022	0.019	0.035	0.041	0.019	0.024
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	0.013	0.011	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	0.011	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0064	<0.004	0.0067	<0.004	<0.004	<0.004
Iron	<0.005	<0.005	0.037	0.012	0.031	<0.005	0.03	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.18	0.17	0.26	0.25	0.19	0.19	0.17	0.17
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	0.001	<0.001	<0.001	0.001	0.001	0.001	0.001
Vanadium	0.0051	<0.005	0.0063	<0.005	0.0055	0.0052	<0.005	<0.005
Zinc	0.0056	0.004	0.018	0.0078	0.01	0.0049	<0.002	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	37	.	<1	.	62	.	59	.
Alkalinity-CO3	8	.	28	.	12	.	8	.
Calcium	51	49	57	53	54	53	44	44
Chloride	2.1	.	1.7	.	3	.	1.9	.
Fluoride	<0.1	.	0.1	.	<0.1	.	0.2	.
Magnesium	1.3	1.3	0.68	0.78	1.8	1.7	1.4	1.4
Manganese	<0.001	<0.001	0.0052	0.0014	0.0038	0.0033	0.0014	<0.001
Nitrate-N	0.71	.	0.49	.	2	.	0.77	.
Potassium	18	17	28	27	18	19	16	16
Sodium	3.3	3.3	4.9	4.6	3.7	3.8	2.7	2.8
Sulfate	3	.	3	.	6	.	2.8	.

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APPENDIX E.1
Groundwater Quality Data, 1993

49

Sampling Point . Location . Date Sampled	GW-620							
	FTF							
	01/20/93		05/06/93		09/17/93		12/09/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.2	0.11	0.54	0.23	0.14	0.032	0.14	0.22
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.027	0.018	0.061	0.055	0.035	0.032	0.038	0.036
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.084	0.056	0.028	0.037	0.053	0.049	0.068	0.08
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.0044	<0.004	0.0052	<0.004	<0.004	<0.004	<0.004	0.0046
Iron	0.022	<0.005	0.013	<0.005	0.11	0.0051	0.054	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.13	0.11	0.6	0.57	0.13	0.12	0.21	0.38
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.022	0.0052	0.0022	<0.002	0.0044	0.0068	<0.002	0.0025
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	<1	.	<1	.	<1	.	138	.
Alkalinity-CO3	10	.	40	.	237	.	<1	.
Calcium	53	36	200	180	56	48	75	88
Chloride	3.1	.	2.7	.	3	.	3.2	.
Fluoride	<0.1	.	0.1	.	0.2	.	<0.1	.
Magnesium	6.6	5.9	1.8	0.03	9	8.5	7.3	0.11
Manganese	<0.001	<0.001	<0.001	<0.001	0.0014	<0.001	<0.001	<0.001
Nitrate-N	1.9	.	1.3	.	1.1	.	2.31	.
Potassium	9.8	9.4	32	32	4.4	4.9	9.1	27
Sodium	3.2	3	6	5.9	2.5	2.5	2.8	5.3
Sulfate	6.9	.	5.7	.	4	.	9.1	.

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APPENDIX E.1
Groundwater Quality Data, 1993

50

Sampling Point . Location . Date Sampled	GW-631							
	RG							
	03/02/93		06/18/93		09/16/93		11/17/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.32	0.14	0.25	0.2	0.44	0.22	5.9	0.16
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.26	0.33	0.28	0.23	0.2	0.2	0.25	0.2
Beryllium	0.00082	0.00041	0.001	0.00085	0.0015	0.0013	0.00071	0.00091
Boron	0.041	0.033	0.056	0.029	0.058	0.05	0.093	0.052
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.026	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.011	<0.01
Cobalt	0.035	0.027	0.028	0.032	0.034	0.034	0.025	0.028
Copper	<0.004	<0.004	0.0058	0.007	0.011	0.006	0.011	<0.004
Iron	0.07	0.23	0.077	0.036	0.27	0.0055	6.1	0.069
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.0043	<0.004
Mercury (CVAA)	0.00023	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.045	0.07	0.033	0.027	0.036	0.025	0.034	0.027
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.069	0.11	0.07	0.054	0.044	0.055	0.065	0.051
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.01	<0.005
Zinc	0.07	0.24	0.063	0.056	0.048	0.052	0.23	0.066
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	11	.	11	.	7	.	10	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	9.2	16	9.5	7	5	7.2	9.6	7.3
Chloride	48	.	47	.	59	.	45	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	7.1	9.6	7.7	6.4	5	5.8	6.9	5.3
Manganese	1	0.94	0.9	0.92	0.94	1	1	0.88
Nitrate-N	2.8	.	14	.	1.1	.	4.4	.
Potassium	2.2	2.4	1.6	2	2.5	2.5	4.2	2.3
Sodium	16	16	17	16	15	17	16	17
Sulfate	4.4	.	2	.	4	.	4	.

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APPENDIX E.1
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-632							
	RG							
	03/03/93		06/21/93		09/16/93		11/18/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.35	<0.02	0.25	<0.02	6.9	0.024	0.51	0.056
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.18	0.2	0.18	0.18	0.27	0.17	0.22	0.23
Beryllium	<0.0003	<0.0003	<0.0003	0.00041	0.001	0.00044	0.00042	0.00058
Boron	0.025	0.022	0.028	0.017	0.025	0.025	0.016	0.018
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	0.0033	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	0.022	<0.01	<0.01	<0.01
Chromium	<0.01	0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01
Cobalt	0.071	0.044	0.08	0.08	0.11	0.055	0.084	0.11
Copper	<0.004	<0.004	<0.004	<0.004	0.0077	<0.004	<0.004	<0.004
Iron	0.24	<0.005	0.47	0.1	7.1	0.041	0.48	0.095
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	0.01	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.024	0.018	0.026	0.027	0.039	0.03	0.027	0.032
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.092	0.14	0.082	0.077	0.097	0.1	0.098	0.077
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	0.0074	<0.005	<0.005	<0.005
Zinc	0.043	0.066	0.067	0.06	0.087	0.04	0.058	0.066
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	51	.	138	.	120	.	147	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	48	78	40	37	43	54	42	28
Chloride	15	.	18	.	16	.	21	.
Fluoride	<0.1	.	0.1	.	<0.1	.	<0.1	.
Magnesium	8.9	11	8.8	8.3	10	8.6	9.2	7.9
Manganese	6.1	5.4	6.5	6.2	5.8	4.4	5.2	4.9
Nitrate-N	11	.	11	.	13.9	.	12.3	.
Potassium	1.6	1.8	1.8	1.3	3.5	1.7	1.8	1.8
Sodium	4.2	4.5	4.1	4	4.5	5	4.7	4.4
Sulfate	<1	.	<1	.	7	.	2	.

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APPENDIX E.1
Groundwater Quality Data, 1993

52

Sampling Point . Location . Date Sampled	GW-633							
	RG							
	03/03/93		06/21/93		09/20/93		11/19/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	11	<2	5.5	<1	3.6	0.58	0.85	0.061
Antimony	<5	<5	<2.5	<2.5	<1	<0.5	<0.05	<0.05
Arsenic	<5	<5	<2.5	<2.5	<1	<0.5	<0.05	<0.05
Barium	33	37	22	21	22	24	0.87	0.92
Beryllium	<0.03	<0.03	<0.015	<0.015	<0.006	<0.003	<0.0003	<0.0003
Boron	<0.4	<0.4	<0.2	<0.2	0.22	0.21	0.043	0.055
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.3	<0.3	<0.15	<0.15	<0.06	<0.03	<0.003	<0.003
Chromium (AAS)	0.046	<0.01	0.013	<0.01	0.024	<0.01	<0.01	<0.01
Chromium	<1	<1	<0.5	<0.5	<0.2	<0.1	0.01	<0.01
Cobalt	<0.5	<0.5	<0.25	<0.25	<0.1	0.086	<0.005	0.0069
Copper	<0.4	<0.4	<0.2	<0.2	<0.08	<0.04	0.0045	<0.004
Iron	14	<0.5	7.9	0.9	6.8	2.8	0.8	0.033
Lead (AAS)	0.011	<0.004	<0.004	<0.004	0.0046	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<1	<1	<0.5	<0.5	<0.2	<0.1	<0.01	<0.01
Nickel	<1	<1	<0.5	<0.5	<0.2	0.28	0.029	0.026
Selenium	<5	<5	<2.5	<2.5	<1	<0.5	<0.05	<0.05
Silver	<0.6	<0.6	<0.3	<0.3	<0.12	<0.06	<0.006	<0.006
Strontium	15	17	11	10	11	12	0.68	0.74
Thorium	<20	<20	<10	<10	<4	<2	<0.2	<0.2
Uranium (Fluor)	0.003	0.002	0.003	0.003	0.002	0.002	0.003	0.002
Vanadium	<0.5	<0.5	<0.25	<0.25	<0.1	<0.05	<0.005	<0.005
Zinc	<0.2	<0.2	<0.1	0.26	0.11	0.078	0.062	0.069
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO ₃	265	.	273	.	261	.	97	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.
Calcium	6600	7100	5000	4700	4600	4900	230	240
Chloride	<100	.	<100	.	<100	.	8	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	430	460	350	330	310	330	21	22
Manganese	1.8	1.7	5.5	7.2	11	13	0.76	0.89
Nitrate-N	3874	.	4300	.	5501	.	841	.
Potassium	<60	<60	<30	<30	<12	14	5	4.9
Sodium	63	72	47	47	55	61	8.3	8.7
Sulfate	<100	.	<2000	.	305	.	29	.

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APPENDIX E.1
Groundwater Quality Data, 1993

53

Sampling Point . Location . Date Sampled	GW-634							
	RG							
	03/02/93		06/18/93		09/16/93		11/18/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.071	0.025	0.056	0.031	0.11	0.041	0.03	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.065	0.067	0.065	0.063	0.063	0.062	0.066	0.061
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	0.00044	<0.0003	<0.0003	<0.0003
Boron	0.036	0.033	0.044	0.034	0.047	0.048	0.054	0.053
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.046	0.047	0.052	0.052	0.051	0.05	0.051	0.048
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	1.5	1.9	1.2	1.2	1.2	1.8	1.2	1.2
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	0.0044	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.019	0.016	<0.01	0.012	0.025	0.019	0.014	0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.012	0.012	0.011	0.011	0.011	0.011	0.011	0.011
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.029	0.051	0.036	0.03	0.036	0.033	0.064	0.057
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	21	.	12	.	18	.	19	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	2.2	2.4	1.9	1.8	1.7	1.7	1.7	1.8
Chloride	7.9	.	9.1	.	9	.	8	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	1.9	1.9	2.2	2.2	1.9	1.9	1.9	1.8
Manganese	3.6	3.7	4.3	4.2	3.9	3.8	3.9	3.7
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	0.93	0.9	<0.6	0.65	1.2	1.2	0.99	0.99
Sodium	3.5	3.4	3.6	3.6	3.6	3.6	3.9	4
Sulfate	<1	.	1.8	.	1	.	<1	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

54

Sampling Point . Location . Date Sampled	GW-656							
	T0134							
	03/11/93		06/22/93		09/23/93		11/17/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	2.6	0.045	2.4	<0.02	1.3	0.035	14	0.022
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.21	0.19	0.19	0.18	0.2	0.19	0.37	0.18
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0013	<0.0003
Boron	0.017	0.013	0.091	0.011	0.017	0.021	0.032	0.017
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	0.011	<0.01	0.017	<0.01	0.07	<0.01	0.072	<0.01
Chromium	<0.01	<0.01	0.016	<0.01	0.063	<0.01	0.069	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.022	<0.005
Copper	0.0054	<0.004	<0.004	<0.004	0.0093	<0.004	0.035	<0.004
Iron	5.2	1.1	7.1	1.2	4.9	0.79	41	0.12
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.013	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.029	0.017	0.054	0.029	0.043	0.02	0.078	0.023
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	0.0075
Strontium	0.21	0.2	0.19	0.19	0.23	0.23	0.23	0.21
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	0.004
Vanadium	<0.005	<0.005	0.0058	<0.005	<0.005	<0.005	0.025	<0.005
Zinc	0.026	0.017	0.25	0.2	0.038	0.035	0.19	0.078
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	159	.	155	.	178	.	175	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	100	100	110	100	120	120	120	110
Chloride	69.6	.	66	.	68	.	64	.
Fluoride	<0.1	.	0.1	.	<0.1	.	<0.1	.
Magnesium	6.4	5.9	6.6	6	6.4	6.2	10	6.1
Manganese	0.69	0.59	0.99	0.75	0.88	0.81	1.8	0.75
Nitrate-N	<0.2	.	0.33	.	<0.2	.	<0.2	.
Potassium	2.5	2.8	3	1.8	3.1	2.4	8.2	2.3
Sodium	8	7.5	7.2	7	7.9	8.1	8.1	8.1
Sulfate	62.2	.	61	.	65	.	67	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

55

Sampling Point . Location . Date Sampled	GW-657							
	T2331							
	03/10/93		06/18/93		09/21/93		11/15/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.033	<0.02	<0.02	<0.02	0.047	0.03	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.05	0.049	0.055	0.055	0.063	0.062	0.061	0.061
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	0.0004	<0.0003	<0.0003	<0.0003
Boron	0.027	0.027	0.031	0.061	0.035	0.051	0.049	0.043
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.0032	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.2	0.13	2	2.2	0.84	0.81	0.13	0.066
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.013	0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.17	0.16	0.16	0.17	0.2	0.2	0.19	0.2
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.005	0.005	0.002	0.002	0.001	0.001	0.006	0.005
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.03	0.028	0.01	0.0071	0.018	0.0064	0.032	0.03
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	195	.	221	.	220	.	211	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	70	70	68	70	79	78	78	81
Chloride	25	.	22	.	15	.	18.6	.
Fluoride	0.4	.	0.5	.	0.5	.	0.4	.
Magnesium	8.1	8.1	8.6	8.9	9.1	9	9.1	9.6
Manganese	0.56	0.54	0.55	0.58	1.1	1.1	1.1	1.2
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	0.26	.
Potassium	5.6	5.4	6.4	6	5.7	5.8	4.8	5.3
Sodium	13	13	15	15	12	12	11	12
Sulfate	30.9	.	22	.	30	.	37.4	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

56

Sampling Point . Location . Date Sampled	GW-658							
	FF							
	03/11/93		06/23/93		11/19/93		09/27/04	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.58	<0.04	0.71	<0.04	1.6	0.023	0.63	0.032
Antimony	<0.1	<0.1	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.1	<0.1	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05
Barium	0.14	0.14	0.13	0.13	0.18	0.17	0.17	0.16
Beryllium	0.0009	<0.0006	<0.0006	<0.0006	<0.0003	<0.0003	<0.0003	<0.0003
Boron	<0.008	0.023	<0.008	<0.008	0.019	0.013	0.024	0.018
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.006	<0.006	<0.006	<0.006	<0.003	<0.003	0.0032	0.0031
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	0.05	0.047	<0.02	<0.02	0.013	<0.01	<0.01	<0.01
Cobalt	<0.01	<0.01	<0.01	<0.01	0.0093	0.0062	0.0068	0.0054
Copper	<0.008	<0.008	<0.008	<0.008	<0.004	<0.004	0.0073	<0.004
Iron	19	18	13	18	6.2	4.3	16	14
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01
Nickel	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01
Selenium	<0.1	<0.1	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05
Silver	<0.012	<0.012	<0.012	<0.012	<0.006	<0.006	<0.006	<0.006
Strontium	0.14	0.14	0.13	0.13	0.25	0.23	0.17	0.17
Thorium	<0.4	<0.4	<0.4	<0.4	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	0.001	0.002	<0.001	<0.001
Vanadium	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005
Zinc	0.005	<0.004	<0.004	<0.004	0.052	0.016	0.025	0.017
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	219	.	241	.	270	.	259	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	45	46	48	47	83	75	56	56
Chloride	19	.	14	.	27	.	26	.
Fluoride	0.1	.	<0.1	.	0.1	.	<0.1	.
Magnesium	13	12	14	14	15	14	13	13
Manganese	22	22	29	28	8.4	8.5	24	23
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	<1.2	<1.2	<1.2	<1.2	1.8	1.2	1.2	0.95
Sodium	16	16	13	13	15	16	16	16
Sulfate	16.5	.	7.5	.	2	.	<1	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

57

Sampling Point . Location . Date Sampled	GW-659							
	FF							
	03/10/93		06/18/93		09/22/93		11/15/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	3.8	0.025	23	0.03	4.4	<0.02	14	0.17
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.27	0.27	0.13	0.041	0.07	0.074	0.094	0.016
Beryllium	<0.0003	<0.0003	0.0013	<0.0003	0.00063	<0.0003	0.0065	<0.0003
Boron	0.015	0.016	0.049	0.055	0.02	0.022	0.024	0.016
Cadmium (AAS)	0.002	<0.002	0.0067	<0.002	0.0026	<0.002	0.005	<0.002
Cadmium	0.0045	<0.003	0.014	<0.003	0.0046	0.0042	0.013	<0.003
Chromium (AAS)	0.023	<0.01	0.18	<0.01	0.13	0.011	0.24	<0.01
Chromium	0.015	<0.01	0.19	<0.01	0.16	<0.01	0.21	<0.01
Cobalt	0.015	0.011	0.025	0.0063	0.013	0.029	0.019	<0.005
Copper	0.0073	<0.004	0.032	<0.004	0.0094	<0.004	0.04	<0.004
Iron	3.5	0.049	27	0.45	6.4	13	18	0.27
Lead (AAS)	0.0056	<0.004	0.017	<0.004	0.0044	<0.004	0.034	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.00026	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.014	<0.01
Nickel	0.058	0.055	0.23	0.13	0.12	1.3	0.062	0.016
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.14	0.15	0.036	0.027	0.031	0.023	0.048	0.024
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	0.002	<0.001	0.001	<0.001	0.002	<0.001
Vanadium	0.0086	<0.005	0.046	<0.005	0.012	<0.005	0.032	<0.005
Zinc	0.076	0.07	0.15	0.04	0.054	0.084	0.19	0.012
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	33	.	72	.	63	.	37	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	47	49	14	11	10	7.8	16	11
Chloride	578	.	238	.	50	.	3.2	.
Fluoride	<0.1	.	<0.1	.	0.1	.	0.1	.
Magnesium	6.2	5.7	4.6	1.3	2	1.3	3.4	0.75
Manganese	3.6	3.6	1	0.75	0.84	1.2	0.32	0.079
Nitrate-N	<2.26	.	<0.2	.	<0.2	.	0.33	.
Potassium	5.9	4.5	8.5	2.2	3.7	1.9	3.6	1.3
Sodium	260	300	140	130	54	82	3.9	6.4
Sulfate	19.6	.	10	.	11	.	5.3	.

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APPENDIX E.1
Groundwater Quality Data, 1993

58

Sampling Point . Location . Date Sampled	GW-707							
	T2331							
	03/11/93		06/23/93		09/27/93		11/18/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.11	0.053	<0.02	<0.02	0.11	0.025	0.065	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.036	0.014	0.048	0.056	0.056	0.06	0.042	0.039
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.011	0.0079	0.029	0.026	0.037	0.042	0.026	0.028
Cadmium (AAS)	<0.002	<0.002	0.0061	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	0.0065	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.011	<0.004	0.0064	<0.004	0.0052	<0.004	<0.004	<0.004
Iron	0.43	0.011	0.11	0.038	0.31	0.031	0.22	0.024
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	0.02	0.021	0.028	0.025
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.12	0.077	0.14	0.15	0.2	0.19	0.17	0.15
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.002	0.001	0.003	0.004	0.006	0.005	0.003	0.003
Vanadium	<0.005	<0.005	<0.005	0.0053	0.014	0.017	<0.005	<0.005
Zinc	0.032	0.021	0.043	0.019	0.067	0.026	0.05	0.011
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	131	.	151	.	200	.	155	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	44	26	41	48	70	73	58	56
Chloride	17	.	202	.	82	.	23	.
Fluoride	0.3	.	0.3	.	0.5	.	0.5	.
Magnesium	5	2.2	5.1	6.3	9.6	10	7.5	7.2
Manganese	0.097	0.039	0.2	0.23	0.29	0.31	0.17	0.15
Nitrate-N	0.31	.	<0.2	.	0.23	.	0.3	.
Potassium	6	4.6	8.8	8.9	7.7	7.7	5.3	5.2
Sodium	9.2	4	29	26	27	19	13	12
Sulfate	21.2	.	32	.	45.2	.	38	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

59

Sampling Point . Location . Date Sampled	GW-708							
	T2331							
	03/10/93		06/18/93		09/21/93		11/12/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.14	<0.02	0.038	0.025	0.037	<0.02	<0.02	0.023
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.18	0.19	0.27	0.28	0.44	0.45	0.6	0.58
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0047	0.00054
Boron	0.028	0.028	0.068	0.12	0.1	0.11	0.086	0.11
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.0045	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.0097	<0.004	<0.004	<0.004
Iron	4.2	4.1	5.4	5.6	8.1	7.7	6.2	6
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	0.057	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.28	0.3	0.37	0.38	0.51	0.51	0.5	0.49
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0056	<0.005
Zinc	0.0082	0.0051	0.0053	0.0044	0.0095	0.0089	0.012	0.0048
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	264	.	372	.	393	.	422	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	93	96	120	120	140	140	140	140
Chloride	3.3	.	6.1	.	5.2	.	6	.
Fluoride	0.2	.	0.4	.	0.5	.	0.5	.
Magnesium	8.9	9.6	13	13	15	16	18	18
Manganese	0.44	0.44	0.6	0.6	0.63	0.62	0.55	0.56
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	5.8	5.9	8.8	8.5	11	11	7.1	7.1
Sodium	2.3	2.4	3.5	3.6	4.4	4.4	4.5	4.2
Sulfate	3.7	.	<1	.	5.7	.	4	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

60

Sampling Point . Location . Date Sampled	GW-733							
	EXP							
	02/02/93		05/06/93		08/18/93		11/04/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	0.082	<0.02	0.02	<0.02	0.044	0.41
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.022	0.021	0.022	0.022	0.023	0.021	0.026	0.031
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.025	0.02	0.024	0.03	0.021	0.022	0.017	0.016
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	0.0034	0.0034	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.0088	<0.004	0.0051	<0.004
Iron	4.7	0.26	2	0.02	16	0.034	1.6	0.3
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	0.012	0.012	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.11	0.11	0.098	0.11	0.13	0.13	0.12	0.033
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	0.001	<0.001	<0.001	0.001	0.001	<0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	<0.002	<0.002	0.0059	0.0094	0.027	0.014	0.012	0.043
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	149	.	151	.	158	.	158	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	39	39	40	38	49	50	40	41
Chloride	17	.	13	.	39	.	13	.
Fluoride	0.3	.	0.2	.	0.2	.	0.3	.
Magnesium	15	15	16	15	18	18	16	16
Manganese	0.053	0.036	0.021	0.0094	0.15	0.066	0.016	0.0036
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	0.2	.
Potassium	1.5	1.5	1.8	1.6	1.7	1.8	2	1.8
Sodium	4.5	4.5	4	4.2	5.3	5.2	5.8	1.8
Sulfate	12	.	12	.	11	.	10	.

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APPENDIX E.1
Groundwater Quality Data, 1993

61

Sampling Point . Location . Date Sampled	GW-735							
	NHP							
	02/02/93		05/07/93		08/18/93		10/29/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.69	<0.02	0.38	0.039	0.06	<0.02	0.63	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.29	0.27	0.28	0.27	0.33	0.33	0.3	0.3
Beryllium	0.0027	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.042	0.025	0.051	0.051	0.027	0.029	0.027	0.033
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.0054	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.0098	0.008	<0.004	<0.004	0.0042	<0.004	0.0052	<0.004
Iron	0.87	0.03	0.61	0.038	0.17	0.046	0.75	0.027
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.26	0.24	0.27	0.26	0.28	0.28	0.25	0.25
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.024	0.0065	0.013	0.0068	0.017	0.018	0.0059	0.01
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	290	.	281	.	286	.	290	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	110	110	110	110	120	120	110	110
Chloride	12	.	15	.	9.4	.	11	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	8.3	8.2	8.1	7.9	9.2	9.1	8.6	8.5
Manganese	0.24	0.22	0.25	0.23	0.32	0.31	0.26	0.25
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	2.5	2.6	2.2	2.2	2.6	2.5	2.5	2.8
Sodium	3.5	3.6	3.4	3.3	3.6	3.6	3.8	3.8
Sulfate	21	.	19	.	18	.	21	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-744							
	GRIDK1							
	01/18/93		04/12/93		08/04/93		10/22/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	0.021	0.021	<0.02	<0.02	0.027	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.16	0.16	0.17	0.17	0.18	0.18	0.2	0.2
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.065	0.053	0.094	0.072	0.062	0.067	0.058	0.059
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.0092	<0.004	0.0061	<0.004
Iron	0.23	0.22	0.24	0.23	0.27	0.24	0.28	0.27
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	0.072	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.84	0.85	0.87	0.88	0.94	0.94	1.1	1.1
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.008	0.01	0.004	0.0025	0.022	0.0073	0.0057	0.0065
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	199	.	192	.	195	.	199	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	50	51	48	48	50	50	52	54
Chloride	3.3	.	3.2	.	3.7	.	4	.
Fluoride	0.1	.	0.1	.	0.1	.	0.1	.
Magnesium	8	8.1	7.9	7.9	8.3	8.4	8.9	9.1
Manganese	0.15	0.15	0.15	0.15	0.16	0.16	0.18	0.18
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	2.9	2.5	3	3	3.7	3.3	3.1	3
Sodium	28	29	29	29	29	29	30	30
Sulfate	22.8	.	21.8	.	25	.	20	.

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APPENDIX E.1
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-745							
	GRIDK1							
	01/19/93		04/12/93		08/04/93		10/23/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.026	<0.02	0.22	0.03	0.04	<0.02	0.029	0.021
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.12	0.11	0.15	0.13	0.15	0.16	0.15	0.15
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.057	0.06	0.046	0.042	0.048	0.066	0.071	0.056
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.018	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.019	<0.005
Copper	<0.004	<0.004	0.018	<0.004	0.008	<0.004	<0.004	<0.004
Iron	0.11	<0.005	0.34	0.069	0.22	0.019	0.21	0.2
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.019	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	0.013	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.55	0.54	0.57	0.55	0.64	0.65	0.75	0.74
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.052	0.05	0.056	0.043	0.024	0.014	0.046	0.026
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	178	.	172	.	186	.	183	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	51	49	56	53	58	59	60	59
Chloride	9.9	.	9.7	.	9.7	.	16	.
Fluoride	<0.1	.	0.2	.	0.1	.	<0.1	.
Magnesium	8.6	8.4	9.1	8.8	9.7	9.8	10	10
Manganese	0.57	0.54	0.17	0.52	0.38	0.25	0.78	0.78
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	2.7	2.5	3.6	3.3	3	3.6	3	3
Sodium	18	18	20	19	21	21	21	21
Sulfate	30	.	29.7	.	29	.	26	.

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APPENDIX E.1
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-746							
	GRIDK1							
	01/19/93		04/12/93		08/05/93		10/23/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.39	<0.02	0.27	0.039	20	1.3	2.8	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.091	0.091	0.079	0.079	0.22	0.1	0.15	0.095
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	0.001	<0.0003	0.00046	<0.0003
Boron	0.011	0.031	0.0086	0.017	0.027	0.025	0.024	0.017
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	0.0076	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	0.013	<0.01	0.2	<0.01	0.04	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	0.18	<0.01	0.036	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	0.014	<0.005	<0.005	<0.005
Copper	0.0052	0.0044	<0.004	<0.004	0.048	0.014	0.012	0.0084
Iron	0.49	0.015	0.21	<0.005	18	0.86	6.2	0.011
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	0.01	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	0.044	0.028	0.033	0.028
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.052	0.051	0.046	0.05	0.1	0.079	0.091	0.062
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	0.029	<0.005	0.01	<0.005
Zinc	0.078	0.058	0.055	0.083	0.044	0.026	0.099	0.044
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	32	.	33	.	38	.	40	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	13	13	10	12	23	18	19	13
Chloride	6.8	.	10.3	.	7.3	.	8	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	4.6	4.3	3.8	4.1	9.5	5.5	6.9	4.7
Manganese	0.04	0.033	0.033	0.029	0.16	0.035	0.1	0.034
Nitrate-N	0.61	.	0.46	.	0.5	.	0.4	.
Potassium	1.6	1.3	1.2	1.1	3.7	2	2.5	1.7
Sodium	5.8	5.8	6	5.9	6.4	8.1	6.9	7
Sulfate	25	.	18.4	.	24	.	26	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

65

Sampling Point . Location . Date Sampled	GW-747							
	GRIDK2							
	01/19/93		04/13/93		08/05/93		10/23/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	0.032	<0.02	<0.02	<0.02	0.021	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.13	0.13	0.13	0.13	0.14	0.14	0.16	0.16
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.064	0.062	0.065	0.063	0.064	0.067	0.073	0.071
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.0062	0.0048
Iron	0.11	0.093	0.11	0.087	0.42	0.087	0.11	0.1
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	0.056	0.067	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.58	0.59	0.57	0.58	0.59	0.59	0.7	0.7
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0075	0.0044	<0.002	<0.002	0.0088	0.0055	0.008	0.0063
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	207	.	200	.	207	.	203	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	51	53	52	53	55	54	54	55
Chloride	6.5	.	5.6	.	4.5	.	4	.
Fluoride	<0.1	.	0.2	.	0.1	.	0.2	.
Magnesium	11	11	10	10	11	11	11	11
Manganese	0.014	0.014	0.013	0.013	0.015	0.015	0.013	0.012
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	1.6	1.9	2	1.8	2.1	2.4	2	2.1
Sodium	23	23	24	25	27	27	30	30
Sulfate	28	.	24.1	.	24	.	22	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

66

Sampling Point . Location . Date Sampled	GW-748							
	GRIDK2							
	01/20/93		04/13/93		08/06/93		10/24/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	3.5	<0.02	6.3	0.025	0.77	<0.02	0.92	0.034
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.15	0.13	0.16	0.13	0.14	0.12	0.17	0.17
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.038	0.059	0.027	0.036	0.025	0.037	0.02	0.021
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	0.014	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	0.014	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.021	0.0079	0.041	0.018	0.006	<0.004	0.0061	<0.004
Iron	3.4	<0.005	5.1	<0.005	1.2	<0.005	1.3	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	0.053	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.21	0.2	0.21	0.2	0.22	0.22	0.28	0.28
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	0.0089	<0.005	0.013	<0.005	0.0052	<0.005	<0.005	<0.005
Zinc	0.043	0.029	0.091	0.051	0.013	0.013	0.02	0.014
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	203	.	197	.	219	.	222	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	77	74	79	77	83	85	93	91
Chloride	23	.	9.5	.	15	.	18.5	.
Fluoride	<0.1	.	0.1	.	0.1	.	<0.1	.
Magnesium	9.1	8.2	9.4	8.2	9.7	9.6	10	10
Manganese	0.089	0.039	0.11	0.032	0.11	0.063	0.092	0.072
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	2.2	0.78	3	1.2	0.95	0.74	1.4	0.92
Sodium	9.3	9.1	9.6	9.6	9.6	9.6	10	11
Sulfate	39	.	27.1	.	29	.	32.4	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-749							
	GRIDK2							
	01/21/93		04/14/93		08/06/93		10/24/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.12	<0.02	0.92	0.026	0.33	<0.02	0.075	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.14	0.14	0.12	0.11	0.21	0.2	0.23	0.27
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.025	0.04	0.019	0.01	0.023	0.032	0.019	0.023
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	0.0058	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0075	0.0079	0.0078	0.006	<0.004	<0.004
Iron	0.12	<0.005	1	0.012	0.67	0.11	0.59	0.14
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.2	0.2	0.18	0.18	0.25	0.25	0.27	0.27
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.003	0.003	0.004	0.003	0.002	0.001	<0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.085	0.079	0.025	0.023	0.031	0.039	0.022	0.0093
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	209	.	202	.	206	.	271	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	85	88	79	80	110	110	110	110
Chloride	20	.	14	.	16	.	38.3	.
Fluoride	<0.1	.	0.2	.	0.2	.	0.1	.
Magnesium	8.9	8.9	7.7	7.6	9.8	9.7	9.6	9.3
Manganese	0.3	0.21	1.2	0.93	0.77	0.81	1.4	0.89
Nitrate-N	0.45	.	<0.2	.	7.1	.	<0.2	.
Potassium	3.9	4	3.2	3.2	1.3	1.3	1.8	1.4
Sodium	6.4	6.3	7.2	7.2	12	12	12	13
Sulfate	54	.	38	.	81	.	47.9	.

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APPENDIX E.1
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-750							
	GRIDK2							
	01/21/93		04/15/93		08/06/93		10/25/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	<0.02	0.025	0.073	<0.02	0.022	0.022
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.72	0.7	0.69	0.68	0.8	0.79	0.81	0.78
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.18	0.1	0.08	0.085	0.066	0.1	0.1	0.1
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	0.005	0.0096	<0.004	<0.004	<0.004
Iron	0.23	0.22	0.28	0.26	0.96	0.21	0.22	0.23
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	0.053	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.7	0.69	0.61	0.6	0.79	0.79	0.84	0.82
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0089	0.0077	0.0042	0.0056	0.016	0.0082	0.0095	0.0053
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	234	.	229	.	241	.	241	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	72	72	78	76	74	75	74	74
Chloride	4.3	.	3.4	.	4.2	.	4.1	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	11	11	11	10	12	13	12	12
Manganese	0.045	0.044	0.048	0.047	0.097	0.045	0.043	0.043
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	4.6	4.7	3.7	4.4	5	4.7	5.5	5.7
Sodium	5.4	5.1	4.6	4.6	6.3	6.3	6.2	6
Sulfate	19	.	19	.	21	.	16.5	.

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APPENDIX E.1
Groundwater Quality Data, 1993

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Sampling Point	GW-751							
Location	GRIDJ3							
Date Sampled	01/11/93		04/16/93		08/02/93		10/26/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.041	0.057	0.027	<0.02	0.053	<0.02	0.2	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.53	0.54	0.5	0.5	0.52	0.5	0.57	0.56
Beryllium	0.00076	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.045	0.033	0.032	0.035	0.036	0.03	0.041	0.042
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.005	<0.004	<0.004	<0.004
Iron	0.2	0.16	0.18	0.16	0.24	0.21	0.21	0.12
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.46	0.47	0.42	0.42	0.44	0.42	0.46	0.46
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0073	0.0071	0.0055	0.0048	0.029	0.013	<0.002	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	181	.	177	.	181	.	182	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	55	57	53	52	52	50	56	55
Chloride	9.1	.	8.9	.	8	.	10	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	9.5	9.7	8.9	8.8	9.4	9.1	9.8	9.6
Manganese	0.014	0.014	0.011	0.011	0.013	0.012	0.014	0.013
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	2.9	3	3	3	3.4	3	3.2	3.2
Sodium	8.2	8.4	7.8	7.8	8.7	8.4	9	9
Sulfate	6.2	.	9.1	.	3.9	.	4	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-752							
	GRIDJ3							
	01/11/93		04/16/93		08/02/93		10/26/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.15	0.038	0.47	<0.02	0.91	0.028	0.22	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.12	0.12	0.12	0.11	0.14	0.13	0.13	0.13
Beryllium	0.00062	0.00061	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.017	0.012	0.0097	0.019	0.03	0.015	0.038	0.037
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.0066	0.0073	<0.005	0.0067	<0.005	0.0078	0.0051	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.0061	<0.004	<0.004	<0.004
Iron	0.97	0.93	1.6	0.58	1.6	0.69	0.59	0.37
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	0.021	0.013	0.029	0.02	0.025	0.025
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.079	0.079	0.077	0.075	0.081	0.079	0.077	0.076
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.013	0.012	0.0076	0.0085	0.018	0.014	0.0075	0.0076
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	58	.	54	.	57	.	45	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	29	30	30	29	30	29	28	28
Chloride	52	.	40	.	54	.	39	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	3.5	3.5	3.6	3.4	3.9	3.7	3.4	3.4
Manganese	1.9	1.9	1.7	1.6	1.8	1.7	1.7	1.7
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	1.6	1.5	1.5	1.6	2.2	2.4	2.3	2.2
Sodium	8.1	8	8.2	8.1	9.2	8.9	8.8	8.9
Sulfate	4.7	.	8.3	.	4.9	.	5	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-753							
	GRIDJ2							
	01/15/93		04/08/93		08/03/93		10/21/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	0.031	<0.02	<0.02	<0.02	<0.02	0.024
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.2	0.2	0.21	0.21	0.22	0.22	0.24	0.24
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.032	0.037	0.03	0.031	0.038	0.028	0.037	0.041
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	0.0057	<0.004	<0.004	<0.004	<0.004	0.013	0.014
Iron	0.16	0.44	0.17	0.15	0.22	0.15	0.17	0.16
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	0.068	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.33	0.33	0.37	0.37	0.36	0.36	0.43	0.43
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.006	0.0064	0.0046	0.011	0.0036	0.0078	0.0082	0.0079
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	199	.	193	.	200	.	196	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	61	61	59	58	58	58	61	60
Chloride	2.6	.	2.6	.	3	.	3	.
Fluoride	<0.1	.	0.1	.	<0.1	.	<0.1	.
Magnesium	8.9	9	8.9	8.8	9	9	9.7	9.6
Manganese	0.033	0.034	0.032	0.032	0.034	0.034	0.035	0.036
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	2.1	2.1	1.6	1.6	1.9	2	1.8	2
Sodium	10	10	11	11	11	11	12	12
Sulfate	12	.	11	.	15	.	9	.

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APPENDIX E.1
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-754							
	GRIDJ2							
	01/18/93		04/08/93		08/04/93		10/22/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	1	<0.02	4.2	0.039	2	<0.02	0.26	0.032
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.23	0.19	0.31	0.25	0.31	0.26	0.27	0.26
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.00034	<0.0003
Boron	0.027	0.032	0.041	0.024	0.017	0.033	0.031	0.031
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.0053	<0.004	<0.004	<0.004	<0.004	<0.004	0.0066	<0.004
Iron	1.6	0.35	5	0.1	2.2	0.082	0.44	0.077
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	0.012	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	0.083	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.12	0.11	0.15	0.16	0.16	0.16	0.17	0.19
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	0.001	0.001	<0.001	0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.021	0.015	0.024	0.011	0.013	0.0087	0.013	0.012
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	130	.	91	.	144	.	142	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	41	38	47	51	52	53	49	54
Chloride	4.1	.	3.2	.	4.5	.	4	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	8.8	8.1	9.5	8.9	10	9.5	9.3	9.9
Manganese	1	0.88	0.77	0.87	0.67	0.63	0.8	0.67
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	1.9	1.9	2.1	1.6	2.3	1.6	1.7	1.6
Sodium	4.8	4.8	4.6	4.7	5	4.6	5	5.1
Sulfate	12.9	.	17	.	14	.	11	.

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APPENDIX E.1
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-755							
	GRIDJ1							
	01/14/93		04/07/93		08/03/93		10/21/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.35	<0.02	2.5	0.1	0.89	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.14	0.13	0.22	0.096	0.19	0.17	0.2	0.2
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.00034	<0.0003
Boron	0.12	0.11	0.11	0.12	0.13	0.12	0.13	0.12
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	0.012	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.0073	<0.004	<0.004	<0.004	0.0074	<0.004	0.01	0.011
Iron	1.1	<0.005	6	0.012	2.3	<0.005	0.049	0.018
Lead (AAS)	<0.004	<0.004	0.0045	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.55	0.59	0.91	0.55	0.7	0.72	0.9	0.93
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.016	0.0049	0.032	0.0042	0.019	0.0074	0.014	0.011
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	212	.	217	.	215	.	216	.
Alkalinity-CO3	<1	.	2	.	<1	.	<1	.
Calcium	22	21	54	19	25	24	24	27
Chloride	6	.	9.5	.	8.2	.	14	.
Fluoride	0.6	.	0.4	.	0.7	.	0.5	.
Magnesium	4.3	4.7	7.1	4	5.5	5.4	6.1	6.3
Manganese	0.033	0.011	0.14	0.006	0.056	0.017	0.02	0.019
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	2.7	2.2	3.2	2.2	3.5	3.5	3.1	3.2
Sodium	76	68	69	76	77	74	81	79
Sulfate	19	.	20	.	21	.	16	.

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APPENDIX E.1
Groundwater Quality Data, 1993

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Sampling Point Location Date Sampled	GW-756							
	GRIDJ1							
	01/15/93		04/08/93		08/03/93		10/21/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	47	0.028	7.3	<0.02	16	<0.02	4.8	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.55	0.075	0.14	0.079	0.22	0.083	0.14	0.1
Beryllium	0.0026	<0.0003	0.00032	<0.0003	0.00056	<0.0003	0.00046	<0.0003
Boron	0.049	0.031	0.023	0.023	0.046	0.018	0.03	0.023
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	0.019	<0.003	<0.003	<0.003	0.0063	<0.003	<0.003	<0.003
Chromium (AAS)	0.12	<0.01	0.018	<0.01	<0.01	<0.01	0.016	<0.01
Chromium	0.093	<0.01	<0.01	<0.01	0.051	<0.01	<0.01	<0.01
Cobalt	0.048	<0.005	0.0061	<0.005	0.025	0.015	0.013	0.0093
Copper	0.061	<0.004	<0.004	<0.004	0.022	<0.004	0.013	0.011
Iron	110	0.12	13	0.074	30	1.3	9.7	0.54
Lead (AAS)	0.042	<0.004	0.0047	<0.004	0.01	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.079	<0.01	0.018	<0.01	0.07	0.019	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.12	0.09	0.098	0.098	0.09	0.08	0.1	0.1
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	0.087	<0.005	0.011	<0.005	0.028	<0.005	0.0095	<0.005
Zinc	0.15	0.016	0.026	0.0091	0.08	0.014	0.034	0.019
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	62	.	56	.	54	.	54	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	35	29	27	27	30	28	30	29
Chloride	39	.	29	.	42	.	45	.
Fluoride	<0.1	.	0.1	.	<0.1	.	<0.1	.
Magnesium	14	5.1	6.4	5.4	8.5	6.1	7.1	6.3
Manganese	1.1	0.67	0.99	1	3	3	2.5	2.4
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	9.2	1.1	3.1	1	5.9	1.9	3	1.5
Sodium	16	16	17	18	21	21	22	22
Sulfate	32	.	36	.	36	.	32	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-758							
	GRIDG1							
	01/25/93		04/13/93		09/12/93		11/19/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	0.05	0.078	<0.02	0.023	<0.02	0.037	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.16	0.12	0.11	0.11	0.12	0.12	0.12	0.12
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.02	0.043	0.085	0.049	0.049	0.037	0.045	0.042
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.02	0.34	0.25	0.19	0.46	0.19	0.46	0.28
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.14	0.46	0.43	0.43	0.46	0.46	0.49	0.51
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0079	0.0037	0.0033	<0.002	0.0065	0.0042	0.0022	0.0033
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	192	.	187	.	200	.	201	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	96	68	63	63	72	72	66	73
Chloride	16.6	.	14	.	15.4	.	19	.
Fluoride	0.1	.	0.1	.	0.1	.	0.2	.
Magnesium	9.5	8.8	8	8	9.1	9.1	8.7	9.4
Manganese	0.22	0.21	0.19	0.19	0.25	0.25	0.21	0.23
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	1	2.5	2.3	2.7	2	2.4	2.4	2.6
Sodium	8.5	15	14	14	13	14	15	14
Sulfate	19.8	.	20	.	20.1	.	16	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

76

Sampling Point . Location . Date Sampled	GW-759							
	GRIDG1							
	01/26/93		04/15/93		09/13/93		11/19/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	1.9	0.031	0.076	<0.02	12	0.03	0.24	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.05
Barium	0.13	0.072	0.1	0.1	0.29	0.18	0.11	0.099
Beryllium	<0.0003	<0.0003	0.0006	<0.0003	0.00072	<0.0003	<0.0003	<0.0003
Boron	0.054	0.032	0.027	0.034	0.022	0.048	0.033	0.071
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	0.0046	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	0.036	<0.01	<0.01	<0.01
Chromium	0.01	<0.01	<0.01	<0.01	0.052	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	0.012	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.038	<0.004	<0.004	<0.004
Iron	2.7	<0.005	0.18	0.068	24	0.055	0.77	0.078
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	0.014	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.024	0.012	<0.01	0.012	0.061	<0.01	<0.01	0.013
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.2	0.052	0.18	0.18	0.22	0.21	0.22	0.21
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	0.001	0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	0.032	<0.005	<0.005	<0.005
Zinc	0.015	0.0088	0.02	0.022	0.058	0.005	0.0097	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	191	.	186	.	195	.	198	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	69	32	67	66	87	75	70	69
Chloride	67	.	21	.	17.8	.	21	.
Fluoride	0.1	.	0.1	.	<0.1	.	0.1	.
Magnesium	9.8	2.9	8.9	8.8	16	10	9.6	9.5
Manganese	0.25	0.0029	0.18	0.15	1.1	0.35	0.24	0.24
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	2.4	<0.6	1.7	1.5	4.7	1.4	2	2
Sodium	12	6.5	13	13	12	12	12	11
Sulfate	20	.	17	.	21	.	18	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-760							
	GRIDG2							
	01/27/93		04/16/93		09/14/93		11/30/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.16	0.11	0.027	<0.02	0.1	<0.02	0.021	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.43	0.42	0.42	0.4	0.47	0.47	0.41	0.41
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.036	0.031	0.019	0.014	0.035	0.03	0.017	0.025
Cadmium (AAS)	<0.002	<0.002	0.0087	0.014	0.02	0.013	<0.002	<0.002
Cadmium	<0.003	<0.003	0.0069	0.01	0.02	0.012	<0.003	<0.003
Chromium (AAS)	0.15	<0.01	<0.01	<0.01	0.051	<0.01	0.015	<0.01
Chromium	0.061	<0.01	<0.01	<0.01	0.081	<0.01	0.014	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0047	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.4	0.0078	0.058	<0.005	0.64	0.013	0.18	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.059	0.052	0.024	0.025	0.08	0.047	0.045	0.027
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.23	0.23	0.24	0.23	0.27	0.26	0.25	0.25
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.013	0.0058	0.013	0.014	0.015	0.014	0.014	0.0046
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	154	.	152	.	166	.	162	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	110	110	100	100	130	130	120	110
Chloride	173	.	122	.	76	.	122	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	12	11	11	11	14	14	13	13
Manganese	0.045	0.04	0.026	0.023	0.072	0.063	0.017	0.015
Nitrate-N	0.38	.	0.54	.	<0.2	.	0.4	.
Potassium	2	2	1.7	1.6	1.9	1.3	1.3	1.4
Sodium	8.9	8.8	10	10	11	11	11	11
Sulfate	21	.	21	.	21	.	18	.

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APPENDIX E.1
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-761							
	GRIDG2							
	01/26/93		04/16/93		09/13/93		11/29/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.71	0.046	1.5	<0.02	0.66	<0.02	3.6	0.026
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.077	0.12	0.076	0.065	0.078	0.071	0.11	0.066
Beryllium	0.00031	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.006	0.00065
Boron	0.019	0.037	0.019	0.022	0.044	0.012	0.029	0.023
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.0059	<0.003
Chromium (AAS)	0.012	<0.01	0.013	<0.01	<0.01	<0.01	0.063	<0.01
Chromium	<0.01	<0.01	0.014	<0.01	<0.01	<0.01	0.065	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.015	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.0095	<0.004
Iron	0.84	0.28	1.7	0.0078	0.93	0.019	5.2	0.022
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.017	<0.01	<0.01	0.012	0.011	<0.01	0.049	0.031
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	0.0082	<0.006
Strontium	0.049	0.46	0.045	0.043	0.048	0.047	0.056	0.047
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.014	<0.005
Zinc	0.013	0.0043	0.022	0.024	0.036	0.026	0.035	0.013
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	72	.	74	.	84	.	78	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	30	68	29	28	33	33	30	29
Chloride	9.8	.	7.2	.	7.3	.	7	.
Fluoride	0.1	.	0.1	.	<0.1	.	0.1	.
Magnesium	2.9	8.8	2.9	2.5	3.1	2.9	3.7	2.6
Manganese	0.065	0.21	0.093	0.0039	0.053	0.0057	0.38	0.013
Nitrate-N	<0.2	.	0.26	.	<0.2	.	0.2	.
Potassium	0.72	2.5	1.2	0.78	0.96	<0.6	1.6	<0.6
Sodium	6.2	15	5.9	5.7	6.1	6.1	6.2	6.1
Sulfate	13	.	16	.	11.9	.	11	.

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APPENDIX E.1
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-762							
	GRIDJ3							
	01/23/93		04/20/93		08/04/93		10/28/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.24	0.033	0.89	<0.02	0.95	<0.02	0.5	0.021
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.61	0.59	0.58	0.56	0.59	0.55	0.64	0.64
Beryllium	0.00031	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.11	0.1	0.095	0.083	0.09	0.12	0.11	0.11
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	0.0032	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	0.023	<0.004	0.0068	0.011	<0.004	<0.004	<0.004
Iron	0.82	0.12	0.69	0.13	1.1	0.041	0.58	0.14
Lead (AAS)	0.004	<0.004	<0.004	<0.004	0.0043	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.75	0.72	0.72	0.7	0.73	0.7	0.82	0.83
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.01	0.012	0.0052	0.0076	0.011	0.0088	<0.002	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	264	.	260	.	281	.	281	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	75	73	74	71	73	69	81	82
Chloride	25	.	25.4	.	24	.	28	.
Fluoride	0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	24	23	23	22	23	23	25	26
Manganese	0.39	0.36	0.29	0.27	0.39	0.15	0.2	0.2
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	3.8	3.4	3.8	3	4.9	4.7	4.2	3.9
Sodium	8.6	9.7	8.2	8	8.3	8.1	9	8.9
Sulfate	15.7	.	12.2	.	18	.	13	.

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APPENDIX E.1
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-763							
	GRIDJ3							
	01/25/93		04/21/93		08/05/93		10/29/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.49	<0.02	<0.02	0.13	0.82	<0.02	0.31	0.021
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.081	0.072	0.065	0.066	0.095	0.094	0.11	0.11
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.027	0.028	0.01	0.014	0.038	0.019	0.032	0.036
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	0.0047	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	20	21	22	23	18	12	16	16
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.22	0.21	0.2	0.2	0.22	0.23	0.24	0.24
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.035	0.028	0.016	0.019	0.0091	0.01	0.0092	0.0083
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	310	.	318	.	323	.	323	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	110	110	100	100	110	110	120	120
Chloride	46.8	.	41	.	36	.	39	.
Fluoride	0.2	.	0.3	.	0.2	.	0.2	.
Magnesium	13	13	12	12	11	12	12	13
Manganese	1.4	1.3	1.4	1.4	1.1	1.1	1.2	1.2
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	0.94	0.88	<0.6	0.73	2	1.8	1.6	1.3
Sodium	11	11	9.3	9.5	8	8.5	10	9.5
Sulfate	<1	.	7	.	8.2	.	2	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

81

Sampling Point . Location . Date Sampled	GW-764							
	GRIDE1							
	01/23/93		04/13/93		09/12/93		11/12/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.066	0.042	0.022	<0.02	0.17	0.067	1.5	0.022
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.3	0.3	0.27	0.27	0.32	0.31	0.36	0.3
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.057	0.076	0.059	0.044	0.087	0.079	0.085	0.066
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.013	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	0.013	<0.004	<0.004	<0.004	<0.004
Iron	0.19	0.15	0.11	0.096	0.4	0.21	2.8	0.16
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	0.061	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.45	0.45	0.39	0.39	0.46	0.45	0.52	0.46
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.013	0.0076	0.015	0.018	0.0077	0.0078	0.026	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	186	.	179	.	189	.	195	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	48	48	43	45	52	51	62	46
Chloride	3	.	2.8	.	3	.	3	.
Fluoride	0.1	.	0.1	.	0.1	.	0.1	.
Magnesium	6	6	5.4	5.5	6.4	6.3	7	5.9
Manganese	0.093	0.085	0.069	0.069	0.094	0.086	0.21	0.08
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	2.3	2.1	2.2	2.2	1.7	1.5	2.4	2
Sodium	27	26	24	24	27	27	28	27
Sulfate	9.9	.	13	.	9.7	.	10	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

82

Sampling Point . Location . Date Sampled	GW-765							
	GRIDE1							
	01/25/93		04/13/93		09/12/93		11/19/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	21	0.19	2.9	0.031	14	<0.02	6.5	0.083
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.4	0.056	0.18	0.14	0.32	0.15	0.23	0.16
Beryllium	0.00058	<0.0003	<0.0003	<0.0003	0.00084	<0.0003	0.00031	<0.0003
Boron	0.039	0.033	0.02	0.012	0.033	0.035	0.064	0.048
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	0.005	<0.003	<0.003	<0.003
Chromium (AAS)	0.068	<0.01	<0.01	<0.01	0.024	<0.01	0.022	<0.01
Chromium	0.047	<0.01	<0.01	<0.01	0.025	<0.01	0.014	<0.01
Cobalt	0.012	<0.005	<0.005	<0.005	0.011	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0044	<0.004	0.015	<0.004	<0.004	<0.004
Iron	27	0.22	3.7	0.012	24	<0.005	10	0.073
Lead (AAS)	0.02	<0.004	<0.004	<0.004	0.0088	<0.004	0.0041	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.031	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.16	0.069	0.13	0.13	0.15	0.14	0.16	0.15
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001
Vanadium	0.027	<0.005	<0.005	<0.005	0.021	<0.005	0.0082	<0.005
Zinc	0.058	0.007	0.023	0.017	0.043	0.005	0.019	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	268	.	268	.	285	.	284	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	99	54	96	89	100	100	98	99
Chloride	8.3	.	6.9	.	9.1	.	9	.
Fluoride	0.1	.	0.1	.	0.1	.	0.1	.
Magnesium	12	3.5	9.7	8.8	12	10	11	9.9
Manganese	0.82	0.027	0.29	0.17	0.64	0.37	0.36	0.27
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	6.4	2.2	2	<0.6	4.4	<0.6	3	1.1
Sodium	8.8	5.1	8.3	8	9	9	9.7	9.6
Sulfate	11.8	.	13	.	10.3	.	10	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

83

Sampling Point . Location . Date Sampled	GW-766							
	GRID12							
	02/01/93		04/15/93		08/03/93		10/13/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.12	0.072	0.049	0.025	0.029	0.032	0.063	0.039
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.25	0.22	0.22	0.22	0.23	0.23	0.25	0.14
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.044	0.04	0.034	0.032	0.043	0.033	0.03	0.031
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.008	<0.004	<0.004	<0.004
Iron	0.017	<0.005	0.044	0.0086	0.049	0.015	0.055	0.0074
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.53	0.5	0.38	0.38	0.43	0.42	0.46	0.49
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	0.001	<0.001	0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0043	0.0055	0.0046	0.0024	0.039	0.026	<0.002	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	51	.	109	.	126	.	123	.
Alkalinity-CO3	26	.	16	.	4	.	10	.
Calcium	46	42	34	35	35	33	35	22
Chloride	2.3	.	2.5	.	3.9	.	4	.
Fluoride	<0.1	.	0.1	.	<0.1	.	0.1	.
Magnesium	6.8	6.4	6.2	6.4	7.3	7.1	6.3	4.7
Manganese	0.014	0.0071	0.0049	0.0032	0.0065	0.0052	0.0067	<0.001
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	4.6	5	3.8	3.8	4.4	3.6	3.9	5.4
Sodium	10	10	12	12	12	12	12	13
Sulfate	10.5	.	8.7	.	14	.	9	.

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APPENDIX E.1
Groundwater Quality Data, 1993

84

Sampling Point . Location . Date Sampled	GW-767							
	GRID12							
	02/02/93		04/15/93		08/04/93		10/13/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.24	0.039	0.039	0.092	0.46	<0.02	0.027	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.062	0.05	0.048	0.047	0.15	0.14	0.06	0.083
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.019	0.024	0.014	0.016	0.0086	0.017	0.012	0.014
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	0.017	<0.01	0.047	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.0065	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.006	<0.004	0.0073	0.014	0.005	<0.004
Iron	0.53	<0.005	0.051	0.028	1.3	0.016	0.024	0.014
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	0.028	0.013	0.013	0.016	0.015	0.011	0.015
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.013	0.022	0.011	0.011	0.021	0.016	0.013	0.019
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.017	0.012	0.029	0.036	0.16	0.18	0.08	0.2
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	8	.	7	.	13	.	13	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	2.6	5.7	2.3	2.4	3.2	2.9	3.1	3.6
Chloride	3.2	.	2.5	.	5.4	.	4	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	1.1	1.4	1	1.1	1.4	1.2	1	1.1
Manganese	0.13	0.099	0.071	0.072	0.15	0.094	0.036	0.048
Nitrate-N	<0.2	.	<0.2	.	0.25	.	<0.2	.
Potassium	0.95	0.85	<0.6	<0.6	1.1	1.3	0.8	0.85
Sodium	2.6	3	2.4	2.3	2.9	2.8	3	3
Sulfate	4.2	.	3.4	.	9	.	3	.

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APPENDIX E.1
Groundwater Quality Data, 1993

85

Sampling Point . Location . Date Sampled	GW-768							
	GRID11							
	01/29/93		04/07/93		08/04/93		10/13/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.079	<0.02	0.026	0.031	0.038	<0.02	0.021	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.25	0.25	0.24	0.25	0.28	0.27	0.27	0.24
Beryllium	0.00094	0.0015	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.1	0.1	0.11	0.098	0.11	0.1	0.096	0.095
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.0067	0.0061	<0.004	<0.004
Iron	0.13	<0.005	0.06	0.0095	0.062	0.0051	0.069	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.012	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.61	0.62	0.63	0.64	0.68	0.67	0.67	0.67
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	<0.001	0.001	0.001	<0.001	0.001	0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0066	0.0084	0.0072	0.0085	0.017	0.0085	0.003	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	250	.	253	.	257	.	255	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	36	36	36	36	40	39	37	36
Chloride	3.2	.	2.9	.	3.5	.	3	.
Fluoride	0.4	.	0.3	.	0.4	.	0.4	.
Magnesium	6.5	6.6	6.7	6.7	7.7	7.5	6.6	6.6
Manganese	0.024	0.024	0.016	0.014	0.024	0.022	0.017	0.012
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	2.6	2.5	2.1	2.1	2.8	2.8	2.8	2.8
Sodium	67	66	66	67	70	69	71	69
Sulfate	13	.	13	.	17	.	12	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-769							
	GRIDG3							
	01/27/93		04/19/93		09/14/93		11/30/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.023	0.037	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.47	0.47	0.42	0.41	0.48	0.48	0.46	0.46
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.05	0.065	0.054	0.047	0.073	0.068	0.074	0.061
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	0.0041	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.19	0.14	0.12	0.12	0.17	0.13	0.19	0.11
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.011	<0.01	<0.01	<0.01	0.012	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.44	0.44	0.39	0.39	0.44	0.43	0.44	0.45
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0051	0.0058	0.0059	0.0055	<0.002	0.0053	0.0074	0.0035
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	199	.	191	.	205	.	207	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	75	74	68	68	80	79	77	76
Chloride	21	.	15.6	.	18	.	21	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	10	10	9.2	9.2	11	11	11	11
Manganese	0.019	0.02	0.015	0.016	0.017	0.017	0.018	0.016
Nitrate-N	<0.2	.	<0.2	.	0.25	.	<0.2	.
Potassium	3.1	3	3.3	3.1	2.7	2.9	2.8	2.9
Sodium	6.5	6.4	6.1	6	6.7	6.6	6.9	7
Sulfate	19	.	18.1	.	21	.	17	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-770							
	GRIDG3							
	01/27/93		04/19/93		09/14/93		11/29/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	0.065	0.9	<0.02	0.43	<0.02	0.061	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.053	0.12	0.05	0.042	0.063	0.057	0.059	0.055
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	0.00079	<0.0003	<0.0003	<0.0003
Boron	0.029	0.032	0.032	0.039	0.045	0.039	0.074	0.038
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.16	<0.004	<0.004	<0.004
Iron	<0.005	0.19	1	<0.005	0.59	<0.005	0.09	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.07	0.2	0.061	0.06	0.074	0.073	0.075	0.072
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0061	0.0089	0.0092	0.0078	0.029	0.019	0.015	0.014
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	133	.	112	.	134	.	141	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	54	70	44	43	63	60	58	54
Chloride	4.4	.	4.4	.	5.2	.	6	.
Fluoride	0.2	.	0.2	.	0.2	.	0.1	.
Magnesium	3.5	9.5	3.3	3.2	4.1	4	3.7	3.6
Manganese	<0.001	0.21	0.061	<0.001	0.023	<0.001	0.0024	<0.001
Nitrate-N	0.46	.	0.51	.	0.77	.	0.6	.
Potassium	2	1.8	2.2	2	2.9	2.3	2.1	2.1
Sodium	5.1	12	4.5	4.5	5.6	5.4	5.9	5.8
Sulfate	22	.	21.7	.	25	.	20	.

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APPENDIX E.1
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-771							
	GRIDC1							
	01/23/93		04/12/93		09/03/93		11/11/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.039	0.023	0.068	0.039	0.18	<0.02	0.58	0.048
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.14	0.15	0.15	0.14	0.16	0.15	0.17	0.16
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0052	0.0051
Boron	0.035	0.015	0.026	0.0095	0.017	0.055	0.076	0.054
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.0046	0.0051
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.011	0.011
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0054
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.012	0.013
Iron	0.15	0.19	0.18	0.061	0.35	0.019	0.96	0.037
Lead (AAS)	0.015	0.0042	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.011	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	0.0091	0.0096
Strontium	0.14	0.16	0.15	0.15	0.16	0.15	0.16	0.16
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0062	<0.005
Zinc	0.0063	0.0092	0.012	0.012	0.0041	0.0056	0.012	0.0055
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	187	.	188	.	194	.	202	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	66	73	71	70	77	77	72	70
Chloride	9.9	.	9.4	.	9	.	10.1	.
Fluoride	0.1	.	0.1	.	0.1	.	<0.1	.
Magnesium	6.6	7.2	6.9	6.8	7.5	7.5	7.3	7.1
Manganese	0.2	0.24	0.23	0.21	0.24	0.24	0.28	0.25
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	1.6	1.1	1.2	1.1	0.68	1.2	1.2	1.3
Sodium	5.1	5.5	5	5.1	5.4	5.4	5.4	5.4
Sulfate	16.4	.	13.3	.	15	.	11.7	.

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APPENDIX E.1
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-772							
	GRIDC1							
	01/23/93		04/12/93		09/12/93		11/12/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.024	0.032	<0.2	<0.2	0.057	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
Barium	0.096	0.094	0.093	0.083	0.084	0.083	0.086	0.086
Beryllium	0.0079	<0.0003	0.0074	<0.003	<0.0003	<0.0003	0.00047	<0.0003
Boron	0.05	0.033	<0.04	<0.04	0.059	0.039	0.028	0.11
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	0.01	<0.003	<0.03	<0.03	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	0.038	0.037	<0.1	<0.1	<0.01	<0.01	<0.01	<0.01
Cobalt	0.069	0.063	0.056	0.051	0.056	0.06	0.056	0.055
Copper	<0.004	<0.004	<0.04	<0.04	<0.004	<0.004	<0.004	<0.004
Iron	36	37	37	36	34	32	34	34
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.1	<0.1	<0.01	<0.01	<0.01	<0.01
Nickel	0.013	<0.01	<0.1	<0.1	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
Silver	0.0082	<0.006	<0.06	<0.06	<0.006	<0.006	<0.006	<0.006
Strontium	0.047	0.041	0.047	0.044	0.035	0.035	0.04	0.039
Thorium	<0.2	<0.2	<2	<2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001
Vanadium	0.0065	<0.005	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005
Zinc	0.033	0.055	0.047	0.039	0.011	0.0064	0.05	0.055
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	108	.	116	.	128	.	119	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	12	12	12	12	11	11	13	13
Chloride	55.6	.	44.7	.	26.7	.	29	.
Fluoride	0.1	.	0.1	.	0.1	.	0.1	.
Magnesium	5.4	5.4	5.9	6.1	5	5	5.1	5.1
Manganese	13	13	13	12	12	12	12	13
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	1.3	1.3	<6	<6	0.81	1.5	1.1	1.3
Sodium	21	21	22	22	20	20	21	21
Sulfate	4.9	.	7.3	.	2.4	.	2	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-773							
	GRIDH2							
	02/03/93		04/20/93		08/06/93		10/15/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.023	0.02	<0.02	<0.02	0.12	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.36	0.36	0.36	0.36	0.39	0.38	0.38	0.37
Beryllium	<0.0003	0.0015	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.019	0.023	0.011	0.0092	0.026	0.013	0.015	0.041
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.0067	<0.004	<0.004	<0.004
Iron	0.11	0.085	0.048	0.036	0.15	0.046	0.066	0.054
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.14	0.15	0.13	0.13	0.14	0.14	0.14	0.14
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0063	0.0074	0.0028	0.0028	0.23	0.0098	0.0073	0.0079
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	162	.	165	.	168	.	169	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	51	52	51	52	55	54	55	53
Chloride	2.8	.	3.1	.	3.1	.	3	.
Fluoride	<0.1	.	0.1	.	<0.1	.	0.1	.
Magnesium	6.7	6.8	6.4	6.4	7.5	7.2	6.8	6.5
Manganese	0.028	0.028	0.027	0.027	0.031	0.028	0.032	0.031
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	1.1	1.2	0.87	<0.6	1.5	1.1	1.3	1.3
Sodium	4.6	4.5	4.1	4.2	4.6	4.6	4.4	4.4
Sulfate	5.5	.	8.6	.	11	.	5	.

(CONTINUED);

APPENDIX E.1
Groundwater Quality Data, 1993

91

Sampling Point . Location . Date Sampled	GW-774							
	GRIDH2							
	02/04/93		04/20/93		08/09/93		10/15/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	24	0.27	0.14	<0.02	1	0.024	0.2	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	1.1	0.4	0.39	0.38	0.44	0.42	0.42	0.41
Beryllium	0.0016	0.00046	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.056	0.017	0.023	0.0076	0.012	0.028	0.01	0.01
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	0.089	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	0.067	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.023	<0.005	<0.005	<0.005	0.0077	<0.005	<0.005	<0.005
Copper	0.051	<0.004	0.0044	0.0074	0.012	0.0054	<0.004	<0.004
Iron	32	0.34	0.19	<0.005	2.4	<0.005	0.28	<0.005
Lead (AAS)	0.021	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.031	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.14	0.12	0.1	0.1	0.11	0.11	0.11	0.12
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	0.038	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.075	0.011	0.007	0.0074	0.042	0.02	0.028	0.022
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	194	.	199	.	196	.	195	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	74	68	65	64	67	67	69	69
Chloride	3.8	.	4.1	.	3.9	.	4	.
Fluoride	<0.1	.	0.1	.	<0.1	.	0.1	.
Magnesium	13	6.1	5.8	5.7	6.5	6.3	6	6.2
Manganese	1.8	0.054	0.034	0.017	0.1	0.026	0.041	0.027
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	8.4	2	1.9	1.9	2.9	3	2.2	2
Sodium	4.9	4.4	4.3	4.3	4.5	4.5	4.3	4.3
Sulfate	10	.	9.9	.	13	.	6	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

92

Sampling Point . Location . Date Sampled	GW-775							
	GRIDH3							
	02/04/93		04/20/93		08/09/93		10/15/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.06	0.057	0.032	<0.02	0.025	<0.02	<0.02	0.027
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.16	0.16	0.16	0.15	0.16	0.16	0.17	0.16
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.047	0.027	0.018	0.024	0.03	0.026	0.027	0.04
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	0.0072	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.051	0.23	0.027	<0.005	0.17	<0.005	0.018	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.2	0.19	0.19	0.18	0.2	0.2	0.2	0.2
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	0.002
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.012	0.0053	0.0032	0.0036	0.0093	0.011	<0.002	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	157	.	159	.	164	.	168	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	71	68	72	71	73	72	70	69
Chloride	22	.	27	.	22	.	41	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	6.1	5.8	6	5.9	6.7	6.6	6.6	6.6
Manganese	0.0083	0.016	0.0033	0.0025	0.0076	0.0076	0.0051	0.0048
Nitrate-N	0.35	.	0.36	.	0.44	.	0.4	.
Potassium	3.8	3.9	2.2	2.1	2.7	2.5	2.6	2.5
Sodium	4	3.8	3.8	3.7	3.9	4	4	4.1
Sulfate	29	.	26.9	.	27	.	25	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

93

Sampling Point . Location . Date Sampled	GW-776							
	GRIDH3							
	02/04/93		04/20/93		08/10/93		10/18/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.42	<0.02	0.67	<0.02	0.074	0.036	0.91	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.074	0.067	0.073	0.066	0.076	0.076	0.087	0.076
Beryllium	0.00059	0.00046	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.029	0.028	0.028	0.011	0.014	0.037	0.02	0.018
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	0.16	<0.01	0.018	<0.01	0.31	<0.01
Chromium	<0.01	<0.01	0.13	<0.01	0.019	<0.01	0.31	<0.01
Cobalt	<0.005	<0.005	0.006	<0.005	0.0089	0.0083	0.0069	<0.005
Copper	0.008	<0.004	0.009	<0.004	0.019	0.013	0.0063	<0.004
Iron	0.69	0.0075	2.2	0.033	0.74	0.029	2.8	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	0.012	<0.01	0.011	<0.01	<0.01	<0.01	<0.01
Nickel	0.15	0.13	0.19	0.15	0.33	0.32	0.24	0.22
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.16	0.16	0.14	0.14	0.15	0.15	0.15	0.15
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.033	0.027	0.013	0.014	0.05	0.064	0.038	0.029
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	198	.	191	.	197	.	198	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	92	89	89	88	92	92	94	91
Chloride	27	.	41.3	.	29	.	37.4	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	5.2	5	4.6	4.4	5	5.1	5	4.7
Manganese	0.037	0.012	0.066	0.0093	0.038	0.021	0.099	0.019
Nitrate-N	1.1	.	1.11	.	1.3	.	1.4	.
Potassium	3.2	3.1	2.7	2.7	3.5	3.1	3	2.8
Sodium	11	11	11	11	11	11	11	10
Sulfate	40	.	40.1	.	38	.	34.5	.

APPENDIX E.2

VOLATILE ORGANIC COMPOUNDS

APPENDIX E.2
VOC Data Summary

Compound	Number of Samples				Total
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	
Total Samples	94	93	93	93	373
Not Detected	29	36	50	25	140
VOCs Detected	65	57	43	68	233
Methylene chloride	20	22	10	44	96
Tetrachloroethene	24	24	24	24	96
Trichloroethene	24	23	21	22	90
Chloroform	16	17	17	17	67
1,2-Dichloroethene	14	14	14	15	57
4-Methyl-2-pentanone	36	9	1	7	53
Carbon tetrachloride	11	11	11	12	45
Benzene	10	10	11	10	41
Xylenes	9	9	10	10	38
Acetone	17	2	3	15	37
Toluene	8	8	10	8	34
Ethylbenzene	9	7	9	8	33
2-Butanone	4	1	1	16	22
1,1-Dichloroethene	5	5	5	5	20
1,1-Dichloroethane	4	3	4	3	14
Vinyl chloride	2	3	4	3	12
1,1,1-Trichloroethane	1	2	2	1	6
1,2-Dichloroethane	2	1	1	1	5
Vinyl acetate	3	0	1	0	4
Bromoform	1	0	1	0	2
Carbon disulfide	0	0	1	1	2
Chloromethane	2	0	0	0	2
Styrene	2	0	0	0	2
Bromodichloromethane	0	0	0	0	0
Bromomethane	0	0	0	0	0
Chlorobenzene	0	0	0	0	0
Chlorodibromomethane	0	0	0	0	0
Chloroethane	0	0	0	0	0
1,2-Dichloropropane	0	0	0	0	0
cis-1,3-Dichloropropene	0	0	0	0	0
trans-1,3-Dichloropropene	0	0	0	0	0
2-Hexanone	0	0	0	0	0
1,1,2,2-Tetrachloroethane	0	0	0	0	0
1,1,2-Trichloroethane	0	0	0	0	0

APPENDIX E.2
Groundwater Quality Data, 1993

2

Sampling Point . Location . Date Sampled	GW-151				GW-168			
	NHP				NHP			
	01/26/93	04/22/93	08/06/93	11/02/93	01/22/93	05/14/93	08/19/93	11/02/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	20U	20U	20U	40U	1	10U	10U	10U
Benzene	10U	10U	10U	20U	5U	5U	5U	5U
Bromodichloromethane	10U	10U	10U	20U	5U	5U	5U	5U
Bromoform	10U	10U	10U	20U	5U	5U	5U	5U
Bromomethane	20U	20U	20U	40U	10U	10U	10U	10U
2-Butanone	20U	20U	20U	40U	10U	10U	10U	10U
Carbon disulfide	10U	10U	10U	20U	5U	5U	5U	5U
Carbon tetrachloride	220	330	520	610	5U	5U	5U	5U
Chlorobenzene	10U	10U	10U	20U	5U	5U	5U	5U
Chlorodibromomethane	10U	10U	10U	20U	5U	5U	5U	5U
Chloroethane	20U	20U	20U	40U	10U	10U	10U	10U
Chloroform	9	15	19	21	5U	5U	5U	5U
Chloromethane	20U	20U	20U	40U	10U	10U	10U	10U
1,1-Dichloroethane	10U	10U	10U	20U	5U	5U	5U	5U
1,2-Dichloroethane	10U	10U	10U	20U	5U	5U	5U	5U
1,1-Dichloroethene	10U	10U	10U	20U	5U	5U	5U	5U
1,2-Dichloroethene	10U	10U	10U	20U	5U	5U	5U	5U
1,2-Dichloropropane	10U	10U	10U	20U	5U	5U	5U	5U
cis-1,3-Dichloropropene	10U	10U	10U	20U	5U	5U	5U	5U
trans-1,3-Dichloropropene	10U	10U	10U	20U	5U	5U	5U	5U
Ethylbenzene	10U	10U	10U	20U	5U	5U	5U	5U
2-Hexanone	20U	20U	20U	40U	10U	10U	10U	10U
4-Methyl-2-pentanone	20U	20U	20U	40U	2	10U	10U	10U
Methylene chloride	10U	10U	10U	20U	5U	1	5U	5U
Styrene	10U	10U	10U	20U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	10U	10U	10U	20U	5U	5U	5U	5U
Tetrachloroethene	12	19	21	27	5U	5U	5U	5U
Toluene	10U	10U	10U	20U	5U	5U	5U	5U
1,1,1-Trichloroethane	10U	10U	10U	20U	5U	5U	5U	5U
1,1,2-Trichloroethane	10U	10U	10U	20U	5U	5U	5U	5U
Trichloroethene	2	3	10U	4	5U	5U	5U	5U
Vinyl acetate	20U	20U	20U	20U	10U	10U	10U	10U
Vinyl chloride	20U	20U	20U	40U	10U	10U	10U	10U
Xylenes	10U	10U	10U	20U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

3

Sampling Point Location Date Sampled	GW-169				GW-170			
	EXP				EXP			
	01/23/93	05/21/93	08/19/93	11/01/93	01/23/93	05/24/93	08/21/93	11/04/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	3	10U	7
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	1	5U	16	39
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	57	59	43	41
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	1
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	1	10U	10U	10U	1	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	2	2	3	1
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	3	3	3	3	7	6	6	6
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	3	3	2	2	2	2	3	2
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

4

Sampling Point . Location . Date Sampled	GW-183				GW-190			
	FF				RG			
	03/10/93	06/21/93	09/22/93	11/16/93	03/01/93	06/17/93	09/15/93	11/16/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	20	10U	10U	10U	10U	10U	20U	10U
Benzene	350	32	57	7	5U	5U	10U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	10U	5U
Bromoform	5U	5U	5U	5U	5U	5U	10U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	20U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	20U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	10U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	10U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	10U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	10U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	20U	10U
Chloroform	5U	5U	5U	5U	5U	5U	10U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	20U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	6	170	5U
1,2-Dichloroethane	7	5U	5U	5U	5U	5U	10U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	220	10U	7
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	10U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	10U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	10U	5U
Ethylbenzene	22	2	5	1	5U	5U	10U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	20U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	20U	10U
Methylene chloride	2	0.9	5U	1	5U	5U	10U	1
Styrene	1	5U	5U	5U	5U	5U	10U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	10U	5U
Tetrachloroethene	5U	5U	5U	5U	110	61	89	49
Toluene	180	25	38	6	5U	5U	10U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	10U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	10U	5U
Trichloroethene	5U	5U	5U	5U	11	67	39	7
Vinyl acetate	63	10U	10U	10U	10U	10U	20U	10U
Vinyl chloride	10U	10U	10U	10U	10U	57	50	2
Xylenes	92	11	21	5	5U	5U	10U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

5

Sampling Point . Location . Date Sampled	GW-191				GW-192			
	B4				B4			
	01/12/93	04/12/93	07/08/93	12/09/93	01/14/93	04/13/93	07/08/93	12/09/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	4	10U	10U	10U	4
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	9	10U	10U	10U	8
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	1	5U	5U	1
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	19	18	9	16
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	1	2	10U	10U	1
Methylene chloride	5U	5U	5U	2	5U	5U	5U	2
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	1	1	5U	1
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	3	3	5U	3
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

6

Sampling Point . Location . Date Sampled	GW-193				GW-194			
	T2331				B4			
	03/11/93	06/22/93	09/23/93	11/18/93	01/13/93	04/13/93	07/08/93	12/09/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	250U	250U	100U	100U	10U	10U	10U	2
Benzene	2200	1400	1200	2800	5U	5U	5U	5U
Bromodichloromethane	130U	130U	50U	50U	5U	5U	5U	5U
Bromoform	130U	130U	50U	50U	5U	5U	5U	5U
Bromomethane	250U	250U	100U	100U	10U	10U	10U	10U
2-Butanone	250U	250U	100U	100U	10U	10U	10U	8
Carbon disulfide	130U	130U	50U	50U	5U	5U	5U	5U
Carbon tetrachloride	130U	130U	50U	50U	5U	5U	5U	5U
Chlorobenzene	130U	130U	50U	50U	5U	5U	5U	5U
Chlorodibromomethane	130U	130U	50U	50U	5U	5U	5U	5U
Chloroethane	250U	250U	100U	100U	10U	10U	10U	10U
Chloroform	130U	130U	50U	50U	5U	5U	5U	5U
Chloromethane	250U	250U	100U	100U	10U	10U	10U	10U
1,1-Dichloroethane	130U	130U	50U	50U	5U	5U	5U	5U
1,2-Dichloroethane	130U	130U	50U	50U	5U	5U	5U	5U
1,1-Dichloroethene	130U	130U	50U	50U	5U	5U	5U	5U
1,2-Dichloroethene	130U	130U	50U	50U	5U	5U	5U	5U
1,2-Dichloropropane	130U	130U	50U	50U	5U	5U	5U	5U
cis-1,3-Dichloropropene	130U	130U	50U	50U	5U	5U	5U	5U
trans-1,3-Dichloropropene	130U	130U	50U	50U	5U	5U	5U	5U
Ethylbenzene	790	740	520	450	5U	5U	5U	5U
2-Hexanone	250U	250U	100U	100U	10U	10U	10U	10U
4-Methyl-2-pentanone	250U	250U	100U	100U	10U	10U	10U	1
Methylene chloride	34	130U	50U	50U	5U	5U	5U	2
Styrene	130U	130U	50U	50U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	130U	130U	50U	50U	5U	5U	5U	5U
Tetrachloroethene	130U	130U	50U	50U	5U	5U	5U	5U
Toluene	370	75	100	700	5U	5U	5U	5U
1,1,1-Trichloroethane	130U	130U	50U	50U	5U	5U	5U	5U
1,1,2-Trichloroethane	130U	130U	50U	50U	5U	5U	5U	5U
Trichloroethene	130U	130U	50U	50U	5U	5U	5U	5U
Vinyl acetate	250U	250U	100U	100U	10U	10U	10U	10U
Vinyl chloride	250U	250U	100U	100U	10U	10U	10U	10U
Xylenes	680	320	300	580	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

7

Sampling Point . Location . Date Sampled	GW-195				GW-199			
	B4				GRID11			
	01/13/93	04/13/93	07/08/93	12/09/93	01/29/93	04/07/93	08/02/93	10/12/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	2	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	6	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	2	5U	5U	0.9	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

8

Sampling Point . Location . Date Sampled	GW-204				GW-206			
	T0134				EXP			
	03/11/93	06/22/93	09/23/93	11/16/93	01/19/93	05/06/93	08/12/93	10/27/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	2	5U	5U	2	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	1	10U	10U
Methylene chloride	1	5U	5U	1	5U	2	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	2	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

9

Sampling Point . Location . Date Sampled	GW-207				GW-208			
	EXP				EXP			
	01/14/93	05/04/93	08/11/93	10/26/93	01/19/93	05/06/93	08/13/93	10/28/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	3	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	8	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	1	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	2	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

10

Sampling Point . Location . Date Sampled	GW-220				GW-232			
	NHP				EXP			
	01/25/93	04/22/93	08/06/93	11/01/93	01/26/93	05/21/93	08/21/93	11/01/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	3	20U	20U	50U	10U	10U	10U	10U
Benzene	10U	10U	10U	25U	5U	5U	5U	5U
Bromodichloromethane	10U	10U	10U	25U	5U	5U	5U	5U
Bromoform	10U	10U	10U	25U	5U	5U	5U	5U
Bromomethane	20U	20U	20U	50U	10U	10U	10U	10U
2-Butanone	20U	20U	20U	50U	10U	10U	10U	10U
Carbon disulfide	10U	10U	10U	25U	5U	5U	5U	5U
Carbon tetrachloride	320	280	490	400	5U	5U	5U	5U
Chlorobenzene	10U	10U	10U	25U	5U	5U	5U	5U
Chlorodibromomethane	10U	10U	10U	25U	5U	5U	5U	5U
Chloroethane	20U	20U	20U	50U	10U	10U	10U	10U
Chloroform	17	14	23	21	5U	5U	5U	5U
Chloromethane	20U	20U	20U	50U	10U	10U	10U	10U
1,1-Dichloroethane	10U	10U	10U	25U	5U	5U	5U	5U
1,2-Dichloroethane	10U	10U	10U	25U	5U	5U	5U	5U
1,1-Dichloroethene	10U	10U	10U	25U	5U	5U	5U	5U
1,2-Dichloroethene	10U	10U	10U	25U	5U	5U	5U	5U
1,2-Dichloropropane	10U	10U	10U	25U	5U	5U	5U	5U
cis-1,3-Dichloropropene	10U	10U	10U	25U	5U	5U	5U	5U
trans-1,3-Dichloropropene	10U	10U	10U	25U	5U	5U	5U	5U
Ethylbenzene	10U	10U	10U	25U	5U	5U	5U	5U
2-Hexanone	20U	20U	20U	50U	10U	10U	10U	10U
4-Methyl-2-pentanone	3	20U	20U	50U	2	10U	10U	10U
Methylene chloride	10U	10U	10U	8	5U	5U	5U	2
Styrene	10U	10U	10U	25U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	10U	10U	10U	25U	5U	5U	5U	5U
Tetrachloroethene	19	23	32	39	5U	5U	5U	5U
Toluene	10U	10U	10U	25U	5U	5U	5U	5U
1,1,1-Trichloroethane	10U	10U	10U	25U	5U	5U	5U	5U
1,1,2-Trichloroethane	10U	10U	10U	25U	5U	5U	5U	5U
Trichloroethene	4	4	6	7	5U	5U	5U	5U
Vinyl acetate	20U	20U	20U	50U	10U	10U	10U	10U
Vinyl chloride	20U	20U	20U	50U	10U	10U	10U	10U
Xylenes	10U	10U	10U	25U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

11

Sampling Point . Location . Date Sampled	GW-239				GW-240			
	NHP				NHP			
	01/23/93	05/13/93	08/18/93	10/30/93	01/27/93	04/21/93	08/05/93	11/01/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	1	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	10	8	10	15
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	1	0.8	2	2
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	1	10U	10U	10U	2	10U	10U	10U
Methylene chloride	5U	2	5U	1	5U	5U	5U	1
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	0.6	5U	1
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

12

Sampling Point . Location . Date Sampled	GW-251				GW-252			
	S2				S2			
	01/20/93	05/05/93	09/17/93	12/08/93	01/08/93	05/03/93	09/15/93	12/07/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	6
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	8
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	11	2	1	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	2	8	6	4	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	7	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	1	10U	1
Methylene chloride	5U	5U	5U	5U	2	2	5U	2
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	24	210	47	31	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	7	82	18	10	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

13

Sampling Point . Location . Date Sampled	GW-255				GW-261			
	S2				SY			
	01/08/93	05/03/93	09/15/93	12/07/93	01/08/93	04/07/93	07/01/93	12/07/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	10U	11	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	1	1	1	1	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	1	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	1	2	1	5U	1
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

14

Sampling Point . Location . Date Sampled	GW-262				GW-263			
	SY				SY			
	01/11/93	04/08/93	07/01/93	12/07/93	01/11/93	04/08/93	07/01/93	12/07/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	32	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	2	10U	10U	10U	2	10U	10U	10U
Methylene chloride	5U	5U	5U	1	5U	5U	5U	1
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

15

Sampling Point . Location . Date Sampled	GW-264				GW-281			
	SY				FF			
	01/12/93	04/12/93	07/02/93	12/08/93	02/02/93	04/16/93	08/04/93	10/14/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	1	10U	10U	2
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	5	10U	10U	9
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	2	10U	10U	10U
Methylene chloride	5U	1	5U	5U	5U	5U	5U	2
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

16

Sampling Point . Location . Date Sampled	GW-283				GW-284			
	FF				FF			
	02/03/93	04/19/93	08/06/93	10/14/93	02/02/93	04/16/93	08/05/93	10/14/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	3	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	9	4	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	2	10U	10U	10U	2	10U	10U	10U
Methylene chloride	2	5U	5U	2	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	2	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

17

Sampling Point . Location . Date Sampled	GW-285				GW-337			
	FF				WC			
	02/02/93	04/19/93	08/05/93	10/14/93	01/21/93	05/07/93	09/17/93	12/09/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	2	1000U	500U	500U	240
Benzene	5U	5U	5U	5U	500U	250U	250U	300U
Bromodichloromethane	5U	5U	5U	5U	500U	250U	250U	300U
Bromoform	5U	5U	5U	5U	500U	250U	250U	300U
Bromomethane	10U	10U	10U	10U	1000U	500U	500U	500U
2-Butanone	4	10U	10U	10	1000U	500U	500U	530
Carbon disulfide	5U	5U	5U	5U	500U	250U	250U	300U
Carbon tetrachloride	5U	5U	5U	5U	500U	250U	250U	300U
Chlorobenzene	5U	5U	5U	5U	500U	250U	250U	300U
Chlorodibromomethane	5U	5U	5U	5U	500U	250U	250U	300U
Chloroethane	10U	10U	10U	10U	1000U	500U	500U	500U
Chloroform	5U	5U	5U	5U	500U	250U	250U	300U
Chloromethane	10U	10U	10U	10U	1000U	500U	500U	500U
1,1-Dichloroethane	5U	5U	5U	5U	190	170	160	170
1,2-Dichloroethane	5U	5U	5U	5U	500U	250U	250U	300U
1,1-Dichloroethene	5U	5U	5U	5U	230	210	210	230
1,2-Dichloroethene	5U	5U	5U	1	9300	8200	8100	8400
1,2-Dichloropropane	5U	5U	5U	5U	500U	250U	250U	300U
cis-1,3-Dichloropropene	5U	5U	5U	5U	500U	250U	250U	300U
trans-1,3-Dichloropropene	5U	5U	5U	5U	500U	250U	250U	300U
Ethylbenzene	5U	5U	5U	5U	500U	250U	250U	300U
2-Hexanone	10U	10U	10U	10U	1000U	500U	500U	500U
4-Methyl-2-pentanone	2	10U	10U	10U	1000U	500U	500U	61
Methylene chloride	5U	5U	5U	3	500U	60	250U	110
Styrene	5U	5U	5U	5U	500U	250U	250U	300U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	500U	250U	250U	300U
Tetrachloroethene	5U	5U	5U	5U	870	760	760	910
Toluene	5U	5U	5U	5U	500U	250U	250U	300U
1,1,1-Trichloroethane	5U	5U	5U	5U	360	360	360	330
1,1,2-Trichloroethane	5U	5U	5U	5U	500U	250U	250U	300U
Trichloroethene	5U	2	5U	5U	960	980	1000	1000
Vinyl acetate	10U	10U	10U	10U	1000U	500U	500U	500U
Vinyl chloride	10U	10U	10U	10U	340	280	230	170
Xylenes	5U	5U	5U	5U	500U	250U	250U	300U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

18

Sampling Point . Location . Date Sampled	GW-338				GW-380			
	WC				NHP			
	01/11/93	05/04/93	09/23/93	12/07/93	01/25/93	04/21/93	08/05/93	10/29/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	1	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	2	10U	10U	10U
Methylene chloride	5U	5U	5U	1	5U	5U	5U	1
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

19

Sampling Point . Location . Date Sampled	GW-381				GW-382			
	NHP				NHP			
	01/27/93	04/26/93	08/08/93	11/08/93	01/28/93	04/26/93	08/08/93	11/04/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	52	500U	500U	500U	80U	100U	500U	500U
Benzene	250U	250U	250U	250U	40U	50U	250U	250U
Bromodichloromethane	250U	250U	250U	250U	40U	50U	250U	250U
Bromoform	250U	250U	250U	250U	40U	50U	250U	250U
Bromomethane	500U	500U	500U	500U	80U	100U	500U	500U
2-Butanone	500U	500U	500U	500U	80U	100U	500U	500U
Carbon disulfide	250U	250U	250U	250U	40U	50U	250U	250U
Carbon tetrachloride	6400	4800	6600	5500	1500	5500	6500	7000
Chlorobenzene	250U	250U	250U	250U	40U	50U	250U	250U
Chlorodibromomethane	250U	250U	250U	250U	40U	50U	250U	250U
Chloroethane	500U	500U	500U	500U	80U	100U	500U	500U
Chloroform	520	380	570	440	950	380	330	220
Chloromethane	500U	500U	500U	500U	80U	100U	500U	500U
1,1-Dichloroethane	250U	250U	250U	250U	40U	50U	250U	250U
1,2-Dichloroethane	250U	250U	250U	250U	40U	50U	250U	250U
1,1-Dichloroethene	250U	250U	250U	250U	40U	50U	250U	250U
1,2-Dichloroethene	250U	250U	250U	250U	40U	50U	250U	250U
1,2-Dichloropropane	250U	250U	250U	250U	40U	50U	250U	250U
cis-1,3-Dichloropropene	250U	250U	250U	250U	40U	50U	250U	250U
trans-1,3-Dichloropropene	250U	250U	250U	250U	40U	50U	250U	250U
Ethylbenzene	250U	250U	250U	250U	40U	50U	250U	250U
2-Hexanone	500U	500U	500U	500U	80U	100U	500U	500U
4-Methyl-2-pentanone	78	500U	500U	500U	80U	100U	500U	500U
Methylene chloride	250U	250U	250U	250U	24	50U	250U	80
Styrene	250U	250U	250U	250U	40U	50U	250U	250U
1,1,2,2-Tetrachloroethane	250U	250U	250U	250U	40U	50U	250U	250U
Tetrachloroethene	250U	250U	250U	250U	130	250	230	260
Toluene	250U	250U	250U	250U	40U	50U	250U	250U
1,1,1-Trichloroethane	250U	250U	250U	250U	40U	50U	250U	250U
1,1,2-Trichloroethane	250U	250U	250U	250U	40U	50U	250U	250U
Trichloroethene	250U	250U	250U	250U	20	34	250U	250U
Vinyl acetate	500U	500U	500U	500U	80U	100U	500U	500U
Vinyl chloride	500U	500U	500U	500U	80U	100U	500U	500U
Xylenes	250U	250U	250U	250U	40U	50U	250U	250U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

20

Sampling Point . Location . Date Sampled	GW-383				GW-384			
	NHP				NHP			
	01/26/93	04/22/93	08/07/93	11/03/93	01/13/93	04/20/93	08/04/93	10/28/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	20U	20U	40U	20U	10U	10U	10U	10U
Benzene	10U	10U	20U	10U	5U	5U	5U	5U
Bromodichloromethane	10U	10U	20U	10U	5U	5U	5U	5U
Bromoform	10U	10U	20U	10U	5U	5U	5U	5U
Bromomethane	20U	20U	40U	20U	10U	10U	10U	10U
2-Butanone	20U	20U	40U	20U	10U	10U	10U	10U
Carbon disulfide	10U	10U	20U	10U	5U	5U	5U	5U
Carbon tetrachloride	3	4	20U	10U	5U	5U	5U	5U
Chlorobenzene	10U	10U	20U	10U	5U	5U	5U	5U
Chlorodibromomethane	10U	10U	20U	10U	5U	5U	5U	5U
Chloroethane	20U	20U	40U	20U	10U	10U	10U	10U
Chloroform	10U	3	20U	10U	5U	5U	5U	5U
Chloromethane	20U	20U	40U	20U	10U	10U	10U	10U
1,1-Dichloroethane	10U	10U	20U	10U	5U	5U	5U	5U
1,2-Dichloroethane	10U	10U	20U	10U	5U	5U	5U	5U
1,1-Dichloroethene	10U	10U	20U	10U	5U	5U	5U	5U
1,2-Dichloroethene	72	71	73	84	5U	5U	5U	7
1,2-Dichloropropane	10U	10U	20U	10U	5U	5U	5U	5U
cis-1,3-Dichloropropene	10U	10U	20U	10U	5U	5U	5U	5U
trans-1,3-Dichloropropene	10U	10U	20U	10U	5U	5U	5U	5U
Ethylbenzene	10U	10U	20U	10U	5U	5U	5U	5U
2-Hexanone	20U	20U	40U	20U	10U	10U	10U	10U
4-Methyl-2-pentanone	3	20U	40U	20U	10U	2	10U	10U
Methylene chloride	10U	10U	20U	10U	5U	1	5U	5U
Styrene	10U	10U	20U	10U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	10U	10U	20U	10U	5U	5U	5U	5U
Tetrachloroethene	300	400	120	190	5U	5U	5U	5U
Toluene	10U	10U	20U	10U	5U	5U	5U	5U
1,1,1-Trichloroethane	10U	10U	20U	10U	5U	5U	5U	5U
1,1,2-Trichloroethane	10U	10U	20U	10U	5U	5U	5U	5U
Trichloroethene	120	130	48	77	5U	5U	5U	5U
Vinyl acetate	20U	20U	40U	20U	10U	10U	10U	10U
Vinyl chloride	20U	20U	40U	20U	10U	10U	10U	10U
Xylenes	10U	10U	20U	10U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

21

Sampling Point . Location . Date Sampled	GW-385				GW-505			
	NHP				RG			
	01/12/93	04/19/93	08/03/93	10/27/93	03/01/93	06/18/93	09/15/93	11/16/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	1	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	2	5U	5U	5U	5U	5U	5U	1
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	0.8	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

22

Sampling Point . Location . Date Sampled	GW-508				GW-603			
	RG				EXP			
	03/05/93	06/23/93	09/21/93	11/19/93	01/29/93	05/04/93	08/16/93	10/28/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	2500U	2500U	2500U	2500U	10U	10U	10U	10U
Benzene	9500	8800	7600	7700	5U	5U	5U	5U
Bromodichloromethane	1300U	1300U	1300U	1300U	5U	5U	5U	5U
Bromoform	1300U	1300U	1300U	1300U	5U	5U	5U	5U
Bromomethane	2500U	2500U	2500U	2500U	10U	10U	10U	10U
2-Butanone	2500U	2500U	2500U	2500U	10U	10U	10U	10U
Carbon disulfide	1300U	1300U	1300U	1300U	5U	5U	5U	5U
Carbon tetrachloride	1300U	1300U	1300U	1300U	5U	5U	5U	5U
Chlorobenzene	1300U	1300U	1300U	1300U	5U	5U	5U	5U
Chlorodibromomethane	1300U	1300U	1300U	1300U	5U	5U	5U	5U
Chloroethane	2500U	2500U	2500U	2500U	10U	10U	10U	10U
Chloroform	1300U	1300U	1300U	1300U	5U	5U	5U	5U
Chloromethane	2500U	2500U	2500U	2500U	10U	10U	10U	10U
1,1-Dichloroethane	1300U	1300U	1300U	1300U	5U	5U	5U	5U
1,2-Dichloroethane	1300U	1300U	1300U	1300U	5U	5U	5U	5U
1,1-Dichloroethene	1300U	1300U	1300U	1300U	5U	5U	5U	5U
1,2-Dichloroethene	1300U	1300U	1300U	1300U	5U	5U	5U	5U
1,2-Dichloropropane	1300U	1300U	1300U	1300U	5U	5U	5U	5U
cis-1,3-Dichloropropene	1300U	1300U	1300U	1300U	5U	5U	5U	5U
trans-1,3-Dichloropropene	1300U	1300U	1300U	1300U	5U	5U	5U	5U
Ethylbenzene	3100	2900	2700	2500	5U	5U	5U	5U
2-Hexanone	2500U	2500U	2500U	2500U	10U	10U	10U	10U
4-Methyl-2-pentanone	2500U	2500U	2500U	2500U	10U	10U	10U	10U
Methylene chloride	1300U	310	350	1300U	5U	5U	1	5U
Styrene	1300U	1300U	1300U	1300U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	1300U	1300U	1300U	1300U	5U	5U	5U	5U
Tetrachloroethene	1300U	1300U	1300U	1300U	5U	5U	5U	5U
Toluene	29000	29000	32000	28000	5U	5U	5U	5U
1,1,1-Trichloroethane	1300U	1300U	1300U	1300U	5U	5U	5U	5U
1,1,2-Trichloroethane	1300U	1300U	1300U	1300U	5U	5U	5U	5U
Trichloroethene	1300U	1300U	1300U	1300U	5U	5U	5U	5U
Vinyl acetate	2500U	2500U	2500U	2500U	10U	10U	10U	10U
Vinyl chloride	2500U	2500U	2500U	2500U	10U	10U	10U	10U
Xylenes	18000	17000	16000	17000	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

23

Sampling Point . Location . Date Sampled	GW-604				GW-605			
	EXP				EXP			
	01/30/93	05/04/93	08/16/93	10/28/93	02/02/93	05/10/93	08/19/93	11/10/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	3	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	170	50	180	160
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	1	1	1	23	20	28	29
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	3	5U	3	3
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	2	5U	1	1
1,2-Dichloroethene	5U	5U	5U	5U	22	10	30	30
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	2	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	1	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	25	7	32	30
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	8	3	10	9
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	2	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

24

Sampling Point . Location . Date Sampled	GW-606				GW-617			
	EXP				EXP			
	02/03/93	05/10/93	08/20/93	11/11/93	01/12/93	05/04/93	09/16/93	12/07/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	29	50U	50U	50U	2	10U	7	4
Benzene	25U	25U	25U	25U	5U	5U	5U	5U
Bromodichloromethane	25U	25U	25U	25U	5U	5U	5U	5U
Bromoform	25U	25U	25U	25U	5U	5U	5U	5U
Bromomethane	50U	50U	50U	50U	10U	10U	10U	10U
2-Butanone	50U	50U	50U	50U	10U	10U	10U	7
Carbon disulfide	25U	25U	25U	25U	5U	5U	5U	5U
Carbon tetrachloride	1100	580	770	500	5U	5U	5U	5U
Chlorobenzene	25U	25U	25U	25U	5U	5U	5U	5U
Chlorodibromomethane	25U	25U	25U	25U	5U	5U	5U	5U
Chloroethane	50U	50U	50U	50U	10U	10U	10U	10U
Chloroform	310	250	250	250	5U	5U	5U	5U
Chloromethane	50U	50U	50U	50U	10U	10U	10U	10U
1,1-Dichloroethane	25U	25U	25U	25U	5U	5U	5U	5U
1,2-Dichloroethane	25U	25U	25U	25U	5U	5U	5U	5U
1,1-Dichloroethene	25U	25U	25U	25U	5U	5U	5U	5U
1,2-Dichloroethene	25U	25U	25U	25U	4	8	22	18
1,2-Dichloropropane	25U	25U	25U	25U	5U	5U	5U	5U
cis-1,3-Dichloropropene	25U	25U	25U	25U	5U	5U	5U	5U
trans-1,3-Dichloropropene	25U	25U	25U	25U	5U	5U	5U	5U
Ethylbenzene	25U	25U	25U	25U	5U	5U	5U	5U
2-Hexanone	50U	50U	50U	50U	10U	10U	10U	10U
4-Methyl-2-pentanone	11	50U	50U	50U	2	10U	10U	1
Methylene chloride	17	25U	10	12	5U	5U	5U	2
Styrene	25U	25U	25U	25U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	25U	25U	25U	25U	5U	5U	5U	5U
Tetrachloroethene	6	25U	6	5	2	5U	14	14
Toluene	25U	25U	25U	25U	5U	5U	5U	5U
1,1,1-Trichloroethane	25U	25U	25U	25U	5U	5U	5U	5U
1,1,2-Trichloroethane	25U	25U	25U	25U	5U	5U	5U	5U
Trichloroethene	25U	25U	25U	25U	2	5U	16	14
Vinyl acetate	50U	50U	50U	50U	10U	10U	10	10U
Vinyl chloride	50U	50U	50U	50U	10U	10U	10U	10U
Xylenes	25U	25U	25U	25U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

25

Sampling Point . Location . Date Sampled	GW-618				GW-619			
	EXP				FTF			
	01/12/93	05/05/93	09/16/93	12/08/93	01/20/93	05/05/93	09/17/93	12/08/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	1	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	41	34	39	36	61	170	95	79
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	2	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	23	27	10	43	140	230	95	150
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	27	30	19	41	35	93	43	42
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

26

Sampling Point . Location . Date Sampled	GW-620				GW-631			
	FTF				RG			
	01/20/93	05/06/93	09/17/93	12/09/93	03/02/93	06/18/93	09/16/93	11/17/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	40U	60	40U	20	10U	10U	10U	10U
Benzene	20U	25U	20U	20U	2	2	1	2
Bromodichloromethane	20U	25U	20U	20U	5U	5U	5U	5U
Bromoform	20U	25U	20U	20U	5U	5U	5U	5U
Bromomethane	40U	50U	40U	40U	10U	10U	10U	10U
2-Butanone	40U	50U	40U	41	10U	10U	7	10U
Carbon disulfide	20U	25U	20U	20U	5U	5U	5U	5U
Carbon tetrachloride	20U	25U	20U	20U	5U	5U	5U	5U
Chlorobenzene	20U	25U	20U	20U	5U	5U	5U	5U
Chlorodibromomethane	20U	25U	20U	20U	5U	5U	5U	5U
Chloroethane	40U	50U	40U	40U	10U	10U	10U	10U
Chloroform	20U	25U	20U	20U	5U	5U	5U	5U
Chloromethane	40U	50U	40U	40U	10U	10U	10U	10U
1,1-Dichloroethane	20U	25U	20U	20U	5U	5U	5U	5U
1,2-Dichloroethane	20U	25U	20U	20U	5U	5U	5U	5U
1,1-Dichloroethene	20U	25U	20U	20U	5U	5U	5U	5U
1,2-Dichloroethene	560	400	540	620	1	1	5U	5U
1,2-Dichloropropane	20U	25U	20U	20U	5U	5U	5U	5U
cis-1,3-Dichloropropene	20U	25U	20U	20U	5U	5U	5U	5U
trans-1,3-Dichloropropene	20U	25U	20U	20U	5U	5U	5U	5U
Ethylbenzene	20U	25U	20U	20U	5U	5U	5U	5U
2-Hexanone	40U	50U	40U	40U	10U	10U	10U	10U
4-Methyl-2-pentanone	40U	50U	40U	4	10U	10U	2	10U
Methylene chloride	9	25U	20U	8	5U	5U	5U	5U
Styrene	20U	25U	20U	20U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	20U	25U	20U	20U	5U	5U	5U	5U
Tetrachloroethene	540	430	530	780	4	5	4	5
Toluene	20U	25U	20U	20U	5U	5U	0.8	5U
1,1,1-Trichloroethane	20U	25U	20U	20U	5U	5U	5U	5U
1,1,2-Trichloroethane	20U	25U	20U	20U	5U	5U	5U	5U
Trichloroethene	170	150	190	230	5U	5U	5U	5U
Vinyl acetate	40U	50U	40U	40U	10U	10U	10U	10U
Vinyl chloride	40U	50U	40U	40U	10U	10U	10U	10U
Xylenes	20U	25U	20U	20U	5U	5U	6	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

27

Sampling Point . Location . Date Sampled	GW-632				GW-633			
	RG				RG			
	03/03/93	06/21/93	09/16/93	11/18/93	03/03/93	06/21/93	09/20/93	11/19/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	500U	1000U	10U	200U	10U	10U	10U	10U
Benzene	9900	9300	2300	11000	6	8	10	4
Bromodichloromethane	250U	500U	5U	100U	5U	5U	5U	5U
Bromoform	250U	500U	5U	100U	2	5U	1	5U
Bromomethane	500U	1000U	10U	200U	10U	10U	10U	10U
2-Butanone	500U	1000U	10U	200U	10U	10U	10U	10U
Carbon disulfide	250U	500U	5U	100U	5U	5U	5U	5U
Carbon tetrachloride	250U	500U	5U	100U	5U	5U	5U	5U
Chlorobenzene	250U	500U	5U	100U	5U	5U	5U	5U
Chlorodibromomethane	250U	500U	5U	100U	5U	5U	5U	5U
Chloroethane	500U	1000U	10U	200U	10U	10U	10U	10U
Chloroform	250U	500U	0.5	100U	24	28	27	6
Chloromethane	160	1000U	10U	200U	10U	10U	10U	10U
1,1-Dichloroethane	250U	500U	2	100U	5U	5U	5U	5U
1,2-Dichloroethane	250U	500U	5U	100U	5U	5U	5U	5U
1,1-Dichloroethene	250U	500U	5U	100U	5U	2	1	0.8
1,2-Dichloroethene	250U	500U	15	100U	3	4	3	5U
1,2-Dichloropropane	250U	500U	5U	100U	5U	5U	5U	5U
cis-1,3-Dichloropropene	250U	500U	5U	100U	5U	5U	5U	5U
trans-1,3-Dichloropropene	250U	500U	5U	100U	5U	5U	5U	5U
Ethylbenzene	260	360	170	400	5U	5U	1	5U
2-Hexanone	500U	1000U	10U	200U	10U	10U	10U	10U
4-Methyl-2-pentanone	71	1000U	10U	200U	10U	10U	10U	10U
Methylene chloride	250U	500U	5U	100U	18	29	24	7
Styrene	250U	500U	5U	100U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	250U	500U	5U	100U	5U	5U	5U	5U
Tetrachloroethene	250U	500U	2	100U	60	74	78	30
Toluene	3600	4100	690	4100	3	6	8	4
1,1,1-Trichloroethane	250U	500U	5U	100U	5U	5U	5U	5U
1,1,2-Trichloroethane	250U	500U	5U	100U	5U	5U	5U	5U
Trichloroethene	250U	500U	1	100U	7	8	8	2
Vinyl acetate	1000	1000U	10U	200U	10U	10U	10U	10U
Vinyl chloride	500U	1000U	10U	200U	10U	10U	10U	10U
Xylenes	2600	3000	1200	4100	1	4	6	3

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

28

Sampling Point . Location . Date Sampled	GW-634				GW-656			
	RG				T0134			
	03/02/93	06/18/93	09/16/93	11/18/93	03/11/93	06/22/93	09/23/93	11/17/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	250U	250U	10U	200U	1000U	1000U	1000U	1000U
Benzene	430	380	270	310	500U	500U	500U	500U
Bromodichloromethane	130U	130U	5U	100U	500U	500U	500U	500U
Bromoform	130U	130U	5U	100U	500U	500U	500U	500U
Bromomethane	250U	250U	10U	200U	1000U	1000U	1000U	1000U
2-Butanone	250U	250U	10U	200U	1000U	1000U	1000U	1000U
Carbon disulfide	130U	130U	5U	100U	500U	500U	500U	500U
Carbon tetrachloride	130U	130U	5U	100U	500U	500U	500U	500U
Chlorobenzene	130U	130U	5U	100U	500U	500U	500U	500U
Chlorodibromomethane	130U	130U	5U	100U	500U	500U	500U	500U
Chloroethane	250U	250U	10U	200U	1000U	1000U	1000U	1000U
Chloroform	130U	130U	5U	100U	500U	500U	500U	500U
Chloromethane	130	250U	10U	200U	1000U	1000U	1000U	1000U
1,1-Dichloroethane	130U	130U	5U	100U	500U	500U	500U	500U
1,2-Dichloroethane	130U	130U	5U	100U	500U	500U	500U	500U
1,1-Dichloroethene	130U	130U	5U	100U	1700	1700	1500	1500
1,2-Dichloroethene	130U	130U	2	100U	300	340	230	250
1,2-Dichloropropane	130U	130U	5U	100U	500U	500U	500U	500U
cis-1,3-Dichloropropene	130U	130U	5U	100U	500U	500U	500U	500U
trans-1,3-Dichloropropene	130U	130U	5U	100U	500U	500U	500U	500U
Ethylbenzene	790	710	550	680	500U	500U	500U	500U
2-Hexanone	250U	250U	10U	200U	1000U	1000U	1000U	1000U
4-Methyl-2-pentanone	250U	250U	10U	200U	1000U	1000U	1000U	1000U
Methylene chloride	62	130U	5U	100U	500U	500U	500U	500U
Styrene	53	130U	5U	100U	500U	500U	500U	500U
1,1,2,2-Tetrachloroethane	130U	130U	5U	100U	500U	500U	500U	500U
Tetrachloroethene	130U	130U	5U	100U	500U	99	81	500U
Toluene	680	540	300	350	500U	500U	500U	500U
1,1,1-Trichloroethane	130U	130U	5U	100U	500U	500U	500U	500U
1,1,2-Trichloroethane	130U	130U	5U	100U	500U	500U	500U	500U
Trichloroethene	130U	130U	5U	100U	11000	11000	10000	8600
Vinyl acetate	250U	250U	10U	200U	1000U	1000U	1000U	1000U
Vinyl chloride	250U	250U	10U	200U	1000U	1000U	1000U	1000U
Xylenes	3100	2800	1800	2200	500U	500U	500U	500U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

29

Sampling Point . Location . Date Sampled	GW-657				GW-658			
	T2331				FF			
	03/10/93	06/18/93	09/21/93	11/15/93	03/11/93	06/23/93	11/19/93	09/27/04
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	1000U	1000U	500U	1000U
Benzene	5U	5U	5U	5U	1000U	1300U	480U	1400U
Bromodichloromethane	5U	5U	5U	5U	500U	500U	250U	500U
Bromoform	5U	5U	5U	5U	500U	500U	250U	500U
Bromomethane	10U	10U	10U	10U	1000U	1000U	500U	1000U
2-Butanone	10U	10U	10U	10U	1000U	1000U	500U	1000U
Carbon disulfide	5U	5U	5U	5U	500U	500U	250U	500U
Carbon tetrachloride	5U	5U	5U	5U	500U	500U	250U	500U
Chlorobenzene	5U	5U	5U	5U	500U	500U	250U	500U
Chlorodibromomethane	5U	5U	5U	5U	500U	500U	250U	500U
Chloroethane	10U	10U	10U	10U	1000U	1000U	500U	1000U
Chloroform	5U	5U	5U	5U	500U	500U	250U	500U
Chloromethane	10U	10U	10U	10U	1000U	1000U	500U	1000U
1,1-Dichloroethane	5U	5U	5U	5U	500U	500U	250U	500U
1,2-Dichloroethane	5U	5U	5U	5U	560	790	370	1000
1,1-Dichloroethene	5U	5U	5U	5U	500U	500U	250U	500U
1,2-Dichloroethene	5U	5U	5U	5U	500U	500U	250U	500U
1,2-Dichloropropane	5U	5U	5U	5U	500U	500U	250U	500U
cis-1,3-Dichloropropene	5U	5U	5U	5U	500U	500U	250U	500U
trans-1,3-Dichloropropene	5U	5U	5U	5U	500U	500U	250U	500U
Ethylbenzene	5U	5U	5U	5U	1100	1400	760	1500
2-Hexanone	10U	10U	10U	10U	1000U	1000U	500U	1000U
4-Methyl-2-pentanone	2	10U	10U	10U	1000U	1000U	500U	1000U
Methylene chloride	2	5U	5U	5U	120	500U	250U	500U
Styrene	5U	5U	5U	5U	500U	500U	250U	500U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	500U	500U	250U	500U
Tetrachloroethene	5U	5U	5U	5U	500U	500U	250U	500U
Toluene	5U	5U	5U	5U	5700	8400	3400	9300
1,1,1-Trichloroethane	5U	5U	5U	5U	500U	500U	250U	500U
1,1,2-Trichloroethane	5U	5U	5U	5U	500U	500U	250U	500U
Trichloroethene	5U	5U	5U	5U	500U	500U	250U	500U
Vinyl acetate	2	10U	10U	10U	1000U	1000U	500U	1000U
Vinyl chloride	10U	10U	10U	10U	1000U	1000U	500U	1000U
Xylenes	5U	5U	5U	5U	6800	6400	4000	7500

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

30

Sampling Point Location Date Sampled	GW-659				GW-707			
	FF				T2331			
	03/10/93	06/18/93	09/22/93	11/15/93	03/11/93	06/23/93	09/27/93	11/18/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	1	10U	10U	10U	10U	10U	10U	10U
Benzene	11	27	42	2	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	2	5U	4	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	2	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	2	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	1	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	1	9	17	6	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

31

Sampling Point . Location . Date Sampled	GW-708				GW-733			
	T2331				EXP			
	03/10/93	06/18/93	09/21/93	11/12/93	02/02/93	05/06/93	08/18/93	11/04/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	200U	200U	200U	200U	10U	10U	10U	10U
Benzene	870	1200	1100	780	5U	5U	5U	5U
Bromodichloromethane	100U	100U	100U	100U	5U	5U	5U	5U
Bromoform	100U	100U	100U	100U	5U	5U	5U	5U
Bromomethane	200U	200U	200U	200U	10U	10U	10U	10U
2-Butanone	200U	200U	200U	200U	10U	10U	10U	10U
Carbon disulfide	100U	100U	100U	100U	5U	5U	5U	5U
Carbon tetrachloride	100U	100U	100U	100U	60	61	72	87
Chlorobenzene	100U	100U	100U	100U	5U	5U	5U	5U
Chlorodibromomethane	100U	100U	100U	100U	5U	5U	5U	5U
Chloroethane	200U	200U	200U	200U	10U	10U	10U	10U
Chloroform	100U	100U	100U	100U	8	5	6	7
Chloromethane	200U	200U	200U	200U	10U	10U	10U	10U
1,1-Dichloroethane	100U	100U	100U	100U	5U	5U	5U	5U
1,2-Dichloroethane	100U	100U	100U	100U	5U	5U	5U	5U
1,1-Dichloroethene	100U	100U	100U	100U	5U	5U	5U	5U
1,2-Dichloroethene	100U	100U	100U	100U	5U	5U	5U	5U
1,2-Dichloropropane	100U	100U	100U	100U	5U	5U	5U	5U
cis-1,3-Dichloropropene	100U	100U	100U	100U	5U	5U	5U	5U
trans-1,3-Dichloropropene	100U	100U	100U	100U	5U	5U	5U	5U
Ethylbenzene	300	620	720	670	5U	5U	5U	5U
2-Hexanone	200U	200U	200U	200U	10U	10U	10U	10U
4-Methyl-2-pentanone	57	200U	200U	200U	10U	1	10U	10U
Methylene chloride	63	100U	100U	32	5U	2	1	1
Styrene	100U	100U	100U	100U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	100U	100U	100U	100U	5U	5U	5U	5U
Tetrachloroethene	100U	100U	100U	100U	2	2	2	3
Toluene	150	120	120	98	5U	5U	5U	5U
1,1,1-Trichloroethane	100U	100U	100U	100U	5U	5U	5U	5U
1,1,2-Trichloroethane	100U	100U	100U	100U	5U	5U	5U	5U
Trichloroethene	100U	100U	100U	100U	0.9	5U	1	1
Vinyl acetate	200U	200U	200U	200U	10U	10U	10U	10U
Vinyl chloride	200U	200U	200U	200U	10U	10U	10U	10U
Xylenes	2500	2600	2400	1800	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

32

Sampling Point . Location . Date Sampled	GW-735				GW-744			
	NHP				GRIDK1			
	02/02/93	05/07/93	08/18/93	10/29/93	01/18/93	04/12/93	08/04/93	10/22/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	5
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	0.8	5U	1	0.6	5U	5U	3
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

33

Sampling Point . Location . Date Sampled	GW-745				GW-746			
	GRIDK1				GRIDK1			
	01/19/93	04/12/93	08/04/93	10/23/93	01/19/93	04/12/93	08/05/93	10/23/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	2	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	3	0.9	5U	1	5U	1	5U	0.9
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

34

Sampling Point . Location . Date Sampled	GW-747				GW-748			
	GRIDK2				GRIDK2			
	01/19/93	04/13/93	08/05/93	10/23/93	01/20/93	04/13/93	08/06/93	10/24/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	1	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	2	10U	10U	10U	2	10U	10U	10U
Methylene chloride	5U	5U	5U	1	5U	5U	5U	1
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

35

Sampling Point . Location . Date Sampled	GW-749				GW-750			
	GRIDK2				GRIDK2			
	01/21/93	04/14/93	08/06/93	10/24/93	01/21/93	04/15/93	08/06/93	10/25/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	1	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

36

Sampling Point Location Date Sampled	GW-751				GW-752			
	GRIDJ3				GRIDJ3			
	01/11/93	04/16/93	08/02/93	10/26/93	01/11/93	04/16/93	08/02/93	10/26/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	42	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	1	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

37

Sampling Point . Location . Date Sampled	GW-753				GW-754			
	GRIDJ2				GRIDJ2			
	01/15/93	04/08/93	08/03/93	10/21/93	01/18/93	04/08/93	08/04/93	10/22/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	3
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	1	5U	5U	5U	5U	5U	3
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

38

Sampling Point Location Date Sampled	GW-755				GW-756			
	GRIDJ1				GRIDJ1			
	01/14/93	04/07/93	08/03/93	10/21/93	01/15/93	04/08/93	08/03/93	10/21/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	2
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
-Butanone	10U	10U	10U	10U	10U	10U	10U	8
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	1	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	3
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

39

Sampling Point . Location . Date Sampled	GW-758				GW-759			
	GRIDG1				GRIDG1			
	01/25/93	04/13/93	09/12/93	11/19/93	01/26/93	04/15/93	09/13/93	11/19/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	15	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	1	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

40

Sampling Point . Location . Date Sampled	GW-760				GW-761			
	GRIDG2				GRIDG2			
	01/27/93	04/16/93	09/14/93	11/30/93	01/26/93	04/16/93	09/13/93	11/29/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-762				GW-763			
	GRIDJ3				GRIDJ3			
	02/22/93	04/20/93	08/04/93	10/28/93	01/25/93	04/21/93	08/05/93	10/29/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	100U	100U	100U	100U	10U	10U	10U	10U
Benzene	50U	50U	50U	50U	5U	5U	5U	5U
Bromodichloromethane	50U	50U	50U	50U	5U	5U	5U	5U
Bromoform	50U	50U	50U	50U	5U	5U	5U	5U
Bromomethane	100U	100U	100U	100U	10U	10U	10U	10U
2-Butanone	100U	100U	100U	100U	10U	10U	10U	10U
Carbon disulfide	50U	50U	50U	50U	5U	5U	5U	5U
Carbon tetrachloride	50U	50U	50U	50U	5U	5U	5U	5U
Chlorobenzene	50U	50U	50U	50U	5U	5U	5U	5U
Chlorodibromomethane	50U	50U	50U	50U	5U	5U	5U	5U
Chloroethane	100U	100U	100U	100U	10U	10U	10U	10U
Chloroform	50U	50U	50U	50U	5U	5U	5U	5U
Chloromethane	100U	100U	100U	100U	10U	10U	10U	10U
1,1-Dichloroethane	50U	50U	50U	50U	5U	5U	5U	5U
1,2-Dichloroethane	50U	50U	50U	50U	5U	5U	5U	5U
1,1-Dichloroethene	12	50U	50U	50U	5U	5U	5U	2
1,2-Dichloroethene	85	50U	71	78	59	42	98	120
1,2-Dichloropropane	50U	50U	50U	50U	5U	5U	5U	5U
cis-1,3-Dichloropropene	50U	50U	50U	50U	5U	5U	5U	5U
trans-1,3-Dichloropropene	50U	50U	50U	50U	5U	5U	5U	5U
Ethylbenzene	50U	50U	50U	50U	5U	5U	5U	5U
2-Hexanone	100U	100U	100U	100U	10U	10U	10U	10U
4-Methyl-2-pentanone	100U	24	100U	100U	10U	10U	10U	10U
Methylene chloride	50U	11	50U	50U	5U	5U	5U	1
Styrene	50U	50U	50U	50U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	50U	50U	50U	50U	5U	5U	5U	5U
Tetrachloroethene	900	1000	920	1000	8	5	27	41
Toluene	50U	50U	50U	50U	5U	5U	5U	5U
1,1,1-Trichloroethane	50U	50U	50U	50U	5U	5U	5U	5U
1,1,2-Trichloroethane	50U	50U	50U	50U	5U	5U	5U	5U
Trichloroethene	38	46	50U	44	2	1	4	7
Vinyl acetate	100U	100U	100U	100U	10U	10U	10U	10U
Vinyl chloride	100U	100U	100U	100U	45	35	48	59
Xylenes	50U	50U	50U	50U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

42

Sampling Point . Location . Date Sampled	GW-764				GW-765			
	GRIDE1				GRIDE1			
	01/23/93	04/13/93	09/12/93	11/12/93	01/25/93	04/13/93	09/12/93	11/19/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	4
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	1	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

43

Sampling Point . Location . Date Sampled	GW-766				GW-767			
	GRID12				GRID12			
	02/01/93	04/15/93	08/03/93	10/13/93	02/02/93	04/15/93	08/04/93	10/13/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	2	10U	10U	10U	1	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	4	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	2	10U	10U	10U	2	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	1	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-768				GW-769			
	GRID11				GRIDG3			
	01/29/93	04/07/93	08/04/93	10/13/93	01/27/93	04/19/93	09/14/93	11/30/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	9	5	5	6
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	1	1	0.9	0.7
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	1	1	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	1	1	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	1	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	2	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	4	4	3	2
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	0.8	0.4	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	1	1	1	0.7
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

45

Sampling Point . Location . Date Sampled	GW-770				GW-771			
	GRIDG3				GRIDC1			
	01/27/93	04/19/93	09/14/93	11/29/93	01/23/93	04/12/93	09/03/93	11/11/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10	10U
Benzene	5U	5U	5U	5U	5U	5U	1	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	2	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	4	4	5	9	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	2	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	0.9	5U	5U	5U	5U	1
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	1	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	4	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

46

Sampling Point . Location . Date Sampled	GW-772				GW-773			
	GRIDC1				GRIDH2			
	01/23/93	04/12/93	09/12/93	11/12/93	02/03/93	04/20/93	08/06/93	10/15/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	2	2	10U	10U
Methylene chloride	5U	5U	5U	1	2	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	3U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX B.2
Groundwater Quality Data, 1993

47

Sampling Point . Location . Date Sampled	GW-774				GW-775			
	GRIDH2				GRIDH3			
	02/04/93	04/20/93	08/09/93	10/15/93	02/04/93	04/20/93	08/09/93	10/15/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	1
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	1	5U	5U	0.9
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	2	10U	10U	10U	2	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	3	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	0.6	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5	3	4	5
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

48

Sampling Point . Location . Date Sampled	GW-776			
	GRID#3			
	02/04/93	04/20/93	08/10/93	10/18/93
VOLATILE ORGANICS (ug/L)	.	.	.	.
Acetone	10U	10U	10U	10U
Benzene	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U
Chloroform	1	1	2	2
Chloromethane	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	1	10U	10U
Methylene chloride	5U	5U	5U	5U
Styrene	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U
Tetrachloroethene	3	2	2	2
Toluene	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U
Trichloroethene	4	3	4	4
Vinyl acetate	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U

APPENDIX E.3

FIELD MEASUREMENTS, MISCELLANEOUS PARAMETERS, AND GROSS ALPHA AND GROSS BETA ACTIVITIES

APPENDIX E.3
Groundwater Quality Data, 1993

1

Sampling Point . Location . Date Sampled	GW-151				GW-168			
	NHP				NHP			
	01/26/93	04/22/93	08/06/93	11/02/93	01/22/93	05/14/93	08/19/93	11/02/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	14.3	14.58	15.1	15.24	28.1	30.21	30.89	31.21
Water Temp (degrees C)	13.4	15.6	17.2	14.8	13.9	15.7	16.9	13.8
pH (pH units)	7.5	7.5	7.3	7.2	6.9	7.1	7.2	7.4
Sp. Cond. (umho/cm)	428	411	443	466	524	476	907	502
Dissolved Oxygen (ppm)	0.7	3	0.9	1	3.4	5.4	1.4	5.7
Oxidation/Reduction (mV)	177	78	167	210	15	-47	-318	14
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.7	7.8	7.6	7.7	7.3	7.8	8	7.5
Sp. Cond. (umho/cm)	515	494	495	484	587	558	553	566
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	278	276	300	302	324	322	334	348
TSS (mg/L)	<1	1	1	<1	3	1	1	<1
Turbidity (NTU)	2.3	0.5	3.7	0.8	2	2.2	1.2	3
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	1.74	-1.00	0.90	1.10	2.66	-5.13	4.60	1.44
Gross Alpha (CE+/-)	2.30	2.20	3.60	1.70	2.10	3.80	2.90	1.80
Gross Beta (pCi/L)	-5.22	4.27	2.97	1.38	1.89	-1.68	5.57	2.16
Gross Beta (CE+/-)	3.40	2.80	5.10	2.90	2.80	5.60	3.00	3.00

(CONTINUED)

APPENDIX E.3
Groundwater Quality Data, 1993

2

Sampling Point . Location . Date Sampled	GW-169				GW-170			
	EXP				EXP			
	01/23/93	05/21/93	08/19/93	11/01/93	01/23/93	05/24/93	08/21/93	11/04/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Depth to Water (ft)	27	30.21	31.43	32	31.8	32.4	33.15	32.85
Water Temp (degrees C)	13.1	13.6	15.6	12.3	12.7	16.6	15.8	13.2
pH (pH units)	7.2	6.6	7.3	7.6	7.6	7.8	7.6	7.7
Sp. Cond. (umho/cm)	304	281	619	356	444	377	453	462
Dissolved Oxygen (ppm)	5.8	5.9	5.4	7.3	1.5	0.8	1.5	2.9
Oxidation/Reduction (mV)	165	236	125	101	190	-46	135	176
.	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
pH (pH units)	7.2	7.4	8	7.6	7.7	7.9	7.9	7.7
Sp. Cond. (umho/cm)	320	350	377	342	485	461	471	514
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	228	240	312	274	266	278	286	294
TSS (mg/L)	2100	404	1388	1960	<1	<1	<1	<1
Turbidity (NTU)	2250	20	1200	46	1.2	1.2	0.8	0.7
.	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	25.60	4.76	24.30	72.00	1.63	-0.90	-1.76	2.04
Gross Alpha (CE+/-)	6.70	2.80	7.30	26.00	1.70	3.10	2.10	1.90
Gross Beta (pCi/L)	29.60	6.16	32.40	65.50	1.19	-2.14	2.25	2.93
Gross Beta (CE+/-)	7.00	3.20	7.10	32.00	2.80	5.40	2.80	3.00

(CONTINUED)

APPENDIX E.3
Groundwater Quality Data, 1993

3

Sampling Point . Location . Date Sampled	GW-183					GW-190		
	FF					RG		
	03/10/93	06/21/93	06/29/93	09/22/93	11/16/93	03/01/93	06/17/93	07/07/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Depth to Water (ft)	10.2	11	11.31	11.79	10.91	12.75	13.44	13.57
Water Temp (degrees C)	17.5	17.6	17.8	19	18.5	16.8	19.4	23.6
pH (pH units)	6.9	6.8	6.6	7	6.8	6.9	6.7	6.8
Sp. Cond. (umho/cm)	878	760	784	837	924	235	236	245
Dissolved Oxygen (ppm)	0.8	1.2	1.9	4.6	1.6	1.5	4.2	7.3
Oxidation/Reduction (mV)	-63	-51	19	35	61	172	202	118
	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
pH (pH units)	6.9	7.6	.	7.1	7.1	6.7	7.5	.
Sp. Cond. (umho/cm)	954	915	.	959	934	225	259	.
TPH (mg/L)	0.034	.	0.014	<0.1	<0.1	<0.1	.	<0.1
TDS (mg/L)	554	584	.	572	540	168	178	.
TSS (mg/L)	13	8	.	18	3	7	5	.
Turbidity (NTU)	5.9	6.6	.	10	2.5	4.7	12	.
	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-1.84	0.00	.	3.51	2.09	0.30	-2.54	.
Gross Alpha (CE+/-)	5.00	3.70	.	4.40	2.40	1.30	1300.00	.
Gross Beta (pCi/L)	4.88	4.01	.	3.97	0.51	0.66	-4.67	.
Gross Beta (CE+/-)	5.70	5.40	.	5.60	2.70	3.10	2500.00	.

(CONTINUED)

APPENDIX E.3
Groundwater Quality Data, 1993

4

Sampling Point . Location . Date Sampled	GW-190		GW-191				GW-192	
	RG		B4				B4	
	09/15/93	11/16/93	01/12/93	04/12/93	07/08/93	12/09/93	01/14/93	04/13/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Depth to Water (ft)	13.87	12.93	4.1	4.2	6.68	3.29	4.2	4.81
Water Temp (degrees C)	18.1	17.1	15.7	21.1	23.1	16	11.8	19.7
pH (pH units)	6.4	6.3	7.4	7.6	7.1	7.4	6.4	6.5
Sp. Cond. (umho/cm)	236	259	453	462	541	479	723	562
Dissolved Oxygen (ppm)	4.4	0.9	8.4	5.4	5.5	7	4.7	5.6
Oxidation/Reduction (mV)	341	198	88	21	169	186	24	-12
	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
pH (pH units)	7	7.2	7.6	8	8	7.6	6.8	6.7
Sp. Cond. (umho/cm)	261	279	493	430	498	524	630	648
TPH (mg/L)	<0.1	<0.1	.	.	.	.	.	.
TDS (mg/L)	180	144	310	334	322	352	392	402
TSS (mg/L)	1	9	21	2162	107	143	61	6
Turbidity (NTU)	4	15	20	560	230	1650	66	5.8
	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	2.33	2.51	0.00	28.00	-0.00	3.32	-0.21	0.26
Gross Alpha (CE+/-)	1.90	1.40	2.20	13.00	2.60	1.80	2.10	2.10
Gross Beta (pCi/L)	-0.34	3.86	1.89	80.60	-5.31	3.42	2.58	5.56
Gross Beta (CE+/-)	2.60	2.60	2.90	15.00	5.60	2.60	2.90	2.90

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APPENDIX E.3
Groundwater Quality Data, 1993

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Sampling Point	GW-192		GW-193				GW-194	
Location	B4		T2331				B4	
Date Sampled	07/08/93	12/09/93	03/11/93	06/22/93	09/23/93	11/18/93	01/13/93	04/13/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	6.7	4.11	8.45	8.85	9.54	8.65	5.68	6.24
Water Temp (degrees C)	20.8	16.6	17.1	23	19.1	19.9	12.4	15.2
pH (pH units)	6.4	6.7	7.4	7.2	7.2	7.2	7	7
Sp. Cond. (umho/cm)	619	608	634	754	793	816	424	377
Dissolved Oxygen (ppm)	2.3	6.4	1.4	2.2	4.1	3.1	4.3	6.8
Oxidation/Reduction (mV)	-36	91	-192	-84	-16	-14	219	107
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.3	6.8	7.7	7.7	7.4	7.4	7.2	7.2
Sp. Cond. (umho/cm)	657	652	719	780	808	866	460	435
TPH (mg/L)	.	.	3.478	3.64	2.18	2.29	.	.
TDS (mg/L)	418	432	398	500	484	462	278	294
TSS (mg/L)	11	10	35	830	23	98	102	65
Turbidity (NTU)	7.5	22	52	440	22	29	34	150
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-1.09	0.37	7.40	15.20	19.00	42.10	27.20	2.29
Gross Alpha (CE+/-)	2.40	1.10	3.80	3.80	5.10	5.80	5.10	2.30
Gross Beta (pCi/L)	-8.53	2.95	11.80	15.20	24.90	41.60	30.30	14.00
Gross Beta (CE+/-)	5.40	2.50	3.70	3.50	4.30	4.60	4.20	3.30

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APPENDIX E.3
Groundwater Quality Data, 1993

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Sampling Point	GW-194		GW-195				GW-199	
Location	B4		B4				GRID11	
Date Sampled	07/08/93	12/09/93	01/13/93	04/13/93	07/08/93	12/09/93	01/29/93	04/07/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	6.83	6.12	5.85	6.37	8.1	6.79	16.62	16.6
Water Temp (degrees C)	23.1	16.7	15.9	18.1	22.1	15.3	15.2	16
pH (pH units)	6.6	7.5	6.7	6.7	6.3	6.9	6.6	6.4
Sp. Cond. (umho/cm)	419	439	364	335	338	338	506	319
Dissolved Oxygen (ppm)	3.9	7.2	1.5	3	3.5	6.7	1.9	2.4
Oxidation/Reduction (mV)	187	188	159	160	200	217	200	116
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.7	7.3	6.9	6.8	7.6	7.1	6.8	6.9
Sp. Cond. (umho/cm)	454	460	390	375	372	372	387	378
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	290	312	254	310	300	282	280	222
TSS (mg/L)	90	30	524	527	510	292	628	40
Turbidity (NTU)	64	120	240	220	240	360	3900	15
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-1.66	6.06	2.50	9.68	2.18	5.05	4.23	-1.14
Gross Alpha (CE+/-)	2.00	2.30	2.10	4.60	2.90	2.30	2.80	6.60
Gross Beta (pCi/L)	-9.04	11.00	7.89	44.10	6.78	25.40	5.45	14.70
Gross Beta (CE+/-)	5.50	3.20	3.20	7.20	6.40	4.50	5.40	10.00

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APPENDIX E.3
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-199		GW-204				GW-206	
	GRID11		T0134				EXP	
	08/02/93	10/12/93	03/11/93	06/22/93	09/23/93	11/16/93	01/19/93	05/06/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Depth to Water (ft)	16	17.55	11.65	10.55	10.9	10.4	9	8.68
Water Temp (degrees C)	19.4	12.2	11.1	22.6	19.8	20.7	12.9	15.1
pH (pH units)	6.1	6.4	7	7.2	7.6	7.4	6.6	6.9
Sp. Cond. (umho/cm)	366	451	422	368	453	399	335	394
Dissolved Oxygen (ppm)	1.3	2.3	4.5	2.9	8.5	4.2	6.7	5.3
Oxidation/Reduction (mV)	183	16	-29	80	212	140	-54	59
	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
pH (pH units)	6.5	6.6	7.6	7.6	7.6	7.7	6.7	6.9
Sp. Cond. (umho/cm)	432	446	447	413	470	391	355	439
TPH (mg/L)	.	.	0.44	0.003	<0.1	0.113	.	.
TDS (mg/L)	250	332	294	268	312	192	220	248
TSS (mg/L)	14	16	25	3	26	250	2750	1210
Turbidity (NTU)	25	6.5	24	3.3	6.5	110	1900	750
	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-2.38	6.93	30.70	102.00	50.10	67.10	44.00	10.90
Gross Alpha (CE+/-)	4.50	6.70	5.20	8.50	8.60	6.70	13.00	4.40
Gross Beta (pCi/L)	-7.41	7.54	20.80	36.80	32.80	39.10	133.00	38.80
Gross Beta (CE+/-)	5.80	10.00	4.00	4.40	7.10	4.50	11.00	5.80

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APPENDIX E.3
Groundwater Quality Data, 1993

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Sampling Point	GW-206		GW-207				GW-208	
Location	EXP		EXP				EXP	
Date Sampled	08/12/93	10/27/93	01/14/93	05/04/93	08/11/93	10/26/93	01/19/93	05/06/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	9.27	9.81	0	0	0	0	0	0
Water Temp (degrees C)	18.2	14.8	14.5	16.6	16.8	15.8	12.6	16.8
pH (pH units)	6.9	6.7	7.3	7.3	7.4	7.4	7.1	7.2
Sp. Cond. (umho/cm)	506	552	580	500	526	543	542	516
Dissolved Oxygen (ppm)	1.5	6.2	1.3	0.2	0.3	6.2	4.2	2.7
Oxidation/Reduction (mV)	-63	-39	-22	-4	-22	-2	-54	56
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7	6.6	7.4	7.5	7.6	7.8	7.5	7.5
Sp. Cond. (umho/cm)	460	498	590	568	568	592	595	613
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	296	300	348	338	366	362	406	388
TSS (mg/L)	67	1187	<1	<1	1	<1	2	<1
Turbidity (NTU)	1050	13	3.1	1.4	1.4	0.7	4.5	2.2
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	6.74	75.20	-0.19	-0.71	-0.84	2.73	-0.36	-0.89
Gross Alpha (CE+/-)	8.90	40.00	1.90	0.85	2.00	1.80	1.80	0.94
Gross Beta (pCi/L)	24.70	204.00	4.93	-1.31	2.09	3.17	4.49	5.01
Gross Beta (CE+/-)	11.00	64.00	3.00	1.40	2.50	2.80	2.90	1.30

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APPENDIX E.3
Groundwater Quality Data, 1993

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Sampling Point	GW-208		GW-220				GW-232	
Location	EXP		NHP				EXP	
Date Sampled	08/13/93	10/28/93	01/25/93	04/22/93	08/06/93	11/01/93	01/26/93	05/21/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	0	2.86	15.75	15.7	15.85	16.22	30.15	30.82
Water Temp (degrees C)	17.3	14	14.8	14.5	17.1	14.7	12	14
pH (pH units)	7.2	6.9	7.6	7	6.7	7.4	9	8.1
Sp. Cond. (umho/cm)	567	545	395	423	410	453	814	701
Dissolved Oxygen (ppm)	0.2	0.8	1.6	2.9	1.4	0.9	1.3	0.7
Oxidation/Reduction (mV)	39	42	99	190	201	144	-12	198
.	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.6	7.6	7.6	7.8	7.6	7.6	9.2	9.2
Sp. Cond. (umho/cm)	592	602	482	516	478	524	877	923
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	428	424	256	332	292	310	580	562
TSS (mg/L)	3	2	7	414	107	11	4	1
Turbidity (NTU)	8.1	7	6	280	74	8.2	2.6	1.2
.	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.99	2.05	0.00	2.57	1.51	2.80	-3.53	-1.18
Gross Alpha (CE+/-)	1.30	1.80	1.90	5.60	3.70	2.30	2.60	3.20
Gross Beta (pCi/L)	-1.19	4.12	-5.47	18.80	5.45	4.15	-2.29	1.49
Gross Beta (CE+/-)	3.10	2.90	3.40	6.30	5.30	2.80	2.90	3.10

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APPENDIX E.3
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-232		GW-239				GW-240	
	EXP		NHP				NHP	
	08/21/93	11/01/93	01/23/93	05/13/93	08/18/93	10/30/93	01/27/93	04/21/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	31.4	31.61	28.95	29.62	30.43	30.71	20.3	20.65
Water Temp (degrees C)	16.8	13	13.5	14.9	19.2	11.7	14.8	13.5
pH (pH units)	8.9	9	8.9	8.8	8.8	7.9	7.1	7.4
Sp. Cond. (umho/cm)	814	746	1779	1567	1736	1721	705	451
Dissolved Oxygen (ppm)	0.9	0.7	9	4.2	1.3	1.2	5.4	10.8
Oxidation/Reduction (mV)	93	135	-101	141	118	122	93	150
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	9.3	9.2	8.8	8.9	8.9	8.9	7.5	7.8
Sp. Cond. (umho/cm)	876	955	1920	1800	1800	1890	733	551
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	576	584	1102	1114	1108	1120	396	304
TSS (mg/L)	5	2	4	3	<1	21	<1	<1
Turbidity (NTU)	4.3	1.8	5.6	3.9	7.9	10	2.1	1.4
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-2.53	-0.21	3.11	-1.61	-10.80	0.00	1.32	-0.34
Gross Alpha (CE+/-)	3.70	2.00	3.30	7.00	10.00	5.10	2.30	2.00
Gross Beta (pCi/L)	-0.53	-1.25	1.90	1.77	5.52	6.22	4.34	5.74
Gross Beta (CE+/-)	2.80	2.80	3.00	6.10	11.00	5.80	3.10	2.80

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APPENDIX E.3
Groundwater Quality Data, 1993

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Sampling Point	GW-240		GW-251				GW-252	
Location	NHP		S2				S2	
Date Sampled	08/05/93	11/01/93	01/20/93	05/05/93	09/17/93	12/08/93	01/08/93	05/03/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	21.25	21.37	13.95	16.48	20.78	11.25	19	23.64
Water Temp (degrees C)	16.8	15.1	13.9	16.6	16.3	14.6	12.3	16.8
pH (pH units)	6.5	7.5	6	6.2	6.4	6.6	6.6	6.9
Sp. Cond. (umho/cm)	471	581	976	961	744	683	136	246
Dissolved Oxygen (ppm)	4.2	4.3	5	0.6	0.5	0.5	12.3	8
Oxidation/Reduction (mV)	43	176	225	222	177	200	218	209
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.6	7.6	6.9	7.2	6.9	6.7	7.2	7.3
Sp. Cond. (umho/cm)	536	665	1040	1080	792	706	125	134
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	312	400	670	722	520	472	60	102
TSS (mg/L)	5	1	119	104	434	150	4	8
Turbidity (NTU)	1.7	1.8	120	105	220	81	12	8.5
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	3.36	3.94	19.20	5.94	22.20	9.11	0.00	5.58
Gross Alpha (CE+/-)	4.00	2.60	6.00	2.40	4.30	2.80	1.60	1.40
Gross Beta (pCi/L)	5.13	7.15	19.40	12.60	11.50	4.19	-1.10	-0.34
Gross Beta (CE+/-)	5.30	3.00	6.50	2.70	3.30	2.70	2.60	1.40

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APPENDIX E.3
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-252		GW-255				GW-261	
	S2		S2				SY	
	09/15/93	12/07/93	01/08/93	05/03/93	09/15/93	12/07/93	01/08/93	04/07/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	32.65	14.3	21.7	26.4	36.97	17.36	17.5	17.5
Water Temp (degrees C)	22.7	13.3	14	14.9	15.6	14.2	15	17.9
pH (pH units)	6.1	7	7.3	6.9	7	7.3	8.1	7
Sp. Cond. (umho/cm)	345	141	448	391	478	474	339	300
Dissolved Oxygen (ppm)	7.8	9.4	7.5	4.3	4.4	4.4	6.3	6.7
Oxidation/Reduction (mV)	238	102	220	226	271	138	143	189
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.2	7	7.7	7.6	7.4	7.5	7.9	7.3
Sp. Cond. (umho/cm)	396	172	508	503	490	488	379	358
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	264	150	300	310	352	360	230	220
TSS (mg/L)	29	5	57	95	187	1260	<1	2
Turbidity (NTU)	250	11	44	115	140	560	15	20
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.63	-0.31	0.58	4.72	3.99	2.60	-0.84	-0.31
Gross Alpha (CE+/-)	1.70	0.60	2.20	2.10	2.20	2.10	1.70	3.60
Gross Beta (pCi/L)	2.41	0.08	3.46	0.46	3.54	6.91	1.22	7.12
Gross Beta (CE+/-)	2.80	2.40	3.00	2.90	2.80	2.90	2.80	5.10

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APPENDIX E.3
Groundwater Quality Data, 1993

13

Sampling Point . Location . Date Sampled	GW-261		GW-262				GW-263	
	SY		SY				SY	
	07/01/93	12/07/93	01/11/93	04/08/93	07/01/93	12/07/93	01/11/93	04/08/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	19.2	17.7	17.38	17.2	18.53	17.65	26.5	24.78
Water Temp (degrees C)	20.1	14.7	12.6	16.8	28.7	14.1	15.5	18.4
pH (pH units)	6.8	7.1	7.6	7.6	7.6	7.9	7.3	7.3
Sp. Cond. (umho/cm)	363	350	383	362	354	375	539	455
Dissolved Oxygen (ppm)	5.7	5.3	3.1	5.7	5.7	6.2	6.6	7.4
Oxidation/Reduction (mV)	186	220	138	69	146	99	173	197
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.2	7.2	8.3	7.7	8.2	7.9	8	7.6
Sp. Cond. (umho/cm)	364	365	399	405	395	391	590	532
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	224	272	252	262	272	296	332	314
TSS (mg/L)	8	1	3	8	48	19	152	7
Turbidity (NTU)	5.5	3.8	1.9	3.5	29	18	230	6
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-2.96	-0.71	2.99	1.17	-2.17	1.62	8.00	0.00
Gross Alpha (CE+/-)	3.50	1.30	2.50	2.10	3.80	1.90	3.00	2.00
Gross Beta (pCi/L)	-2.47	2.45	2.38	13.90	-3.15	4.64	13.90	39.10
Gross Beta (CE+/-)	5.50	2.60	2.90	3.40	5.50	2.70	3.50	4.50

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APPENDIX E.3
Groundwater Quality Data, 1993

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Sampling Point	GW-263		GW-264				GW-281	
Location	SY		SY				FF	
Date Sampled	07/01/93	12/07/93	01/12/93	04/12/93	07/02/93	12/08/93	02/02/93	04/16/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	31.1	29.97	27.18	25.78	31.85	29.91	6.22	5.12
Water Temp (degrees C)	24.5	13	13.6	18.8	21.1	16.5	12.1	11.1
pH (pH units)	7.2	7.6	7.1	7.1	6.9	7.3	6.9	7.1
Sp. Cond. (umho/cm)	447	538	996	913	895	1049	346	301
Dissolved Oxygen (ppm)	5.3	5.9	1.2	3.8	7.4	7.5	5.4	1.3
Oxidation/Reduction (mV)	162	219	-162	-66	-100	42	174	138
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.9	7.6	7.5	7.7	7.4	7.4	7.2	7.4
Sp. Cond. (umho/cm)	461	559	1050	945	968	1080	402	313
TPH (mg/L)	.	.	.	.	.	.	0.0125	0.012
TDS (mg/L)	286	394	658	624	658	740	246	214
TSS (mg/L)	158	7	2	22	8	34	59	129
Turbidity (NTU)	110	20	6.5	1	22	160	23	190
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-4.25	-0.01	-1.03	-2.18	-0.39	1.35	1.74	6.20
Gross Alpha (CE+/-)	3.30	1.60	3.60	3.10	2.80	1.60	2.10	2.00
Gross Beta (pCi/L)	-3.47	3.22	2.26	3.54	-4.87	1.80	2.70	9.88
Gross Beta (CE+/-)	5.50	2.60	3.10	3.00	5.50	2.50	3.00	2.70

(CONTINUED)

APPENDIX E.3
Groundwater Quality Data, 1993

15

Sampling Point . Location . Date Sampled	GW-281		GW-283				GW-284	
	FF		FF				FF	
	08/04/93	10/14/93	02/03/93	04/19/93	08/06/93	10/14/93	02/02/93	04/16/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Depth to Water (ft)	9.2	7.25	6.15	5.8	6.73	6.85	8.73	8.45
Water Temp (degrees C)	20.1	16	15.8	16.8	18.3	19.2	14.4	14.3
pH (pH units)	6.6	6.5	6.7	6.6	6.3	6.6	7	6.6
Sp. Cond. (umho/cm)	396	325	992	816	864	818	1115	1198
Dissolved Oxygen (ppm)	2.1	1.7	4	2.2	1.5	1.2	6.2	1
Oxidation/Reduction (mV)	126	197	85	74	62	-15	114	-8
.	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
pH (pH units)	7	7	6.8	7	6.7	6.7	7.1	7
Sp. Cond. (umho/cm)	420	357	920	950	1020	987	1310	1430
TPH (mg/L)	0.017	<0.1	0.0091	<0.1	<0.1	<0.1	<0.1	<0.1
TDS (mg/L)	280	230	630	650	692	680	788	908
TSS (mg/L)	120	21	1077	348	32	50	18	22
Turbidity (NTU)	40	24	300	37	15	25	8.6	15
.	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	1.75	3.11	1.13	6.65	-1.01	0.37	3.43	1.37
Gross Alpha (CE+/-)	9.30	2.00	2.00	2.00	3.60	1.80	4.20	0.86
Gross Beta (pCi/L)	5.12	4.89	3.74	3.97	4.20	4.16	4.15	2.98
Gross Beta (CE+/-)	12.00	2.80	4.30	1.50	5.30	2.80	3.20	1.30

(CONTINUED)

APPENDIX E.3
Groundwater Quality Data, 1993

16

Sampling Point . Location . Date Sampled	GW-284		GW-285				GW-337	
	FF		FF				WC	
	08/05/93	10/14/93	02/02/93	04/19/93	08/05/93	10/14/93	01/21/93	05/07/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Depth to Water (ft)	10.34	9.75	9.61	9.4	10.7	10.55	10.8	10.7
Water Temp (degrees C)	21.5	18.6	14.3	16	21.1	18.5	16.2	22.9
pH (pH units)	6.5	6.7	6.9	6.8	6.7	6.6	6.3	6.8
Sp. Cond. (umho/cm)	1208	1280	439	393	432	450	484	504
Dissolved Oxygen (ppm)	2.2	1.3	6.3	3.6	3.3	3.1	6	2.2
Oxidation/Reduction (mV)	122	-11	182	162	96	20	236	208
.	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
pH (pH units)	6.9	6.8	7.2	7.3	7	6.8	7.1	7.3
Sp. Cond. (umho/cm)	1340	1320	478	488	453	453	545	538
TPH (mg/L)	<0.1	<0.1	0.0075	<0.1	0.015	<0.1	.	.
TDS (mg/L)	1048	856	304	330	284	300	320	332
TSS (mg/L)	48	20	15	201	26	6	26	11
Turbidity (NTU)	25	15	25	280	18	6.1	14	11
.	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	3.81	3.20	3.89	3.02	0.88	3.85	13.50	-0.17
Gross Alpha (CE+/-)	5.80	2.50	2.60	1.30	4.70	2.20	5.20	0.76
Gross Beta (pCi/L)	2.27	2.66	7.05	2.11	-0.34	4.50	19.30	1.49
Gross Beta (CE+/-)	5.90	2.80	3.20	1.40	5.70	2.80	6.50	1.20

(CONTINUED)

APPENDIX E.3
Groundwater Quality Data, 1993

17

Sampling Point . Location . Date Sampled	GW-337		GW-338				GW-380	
	WC		WC				NHP	
	09/17/93	12/09/93	01/11/93	05/04/93	09/23/93	12/07/93	01/25/93	04/21/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Depth to Water (ft)	10.17	10.54	8.55	8.82	8.85	8.24	9.4	9.52
Water Temp (degrees C)	20.7	17.4	13.1	20.1	21	15.5	12.5	12.5
pH (pH units)	6.6	6.6	6.6	7.1	6.9	7	6.9	6.9
Sp. Cond. (umho/cm)	514	484	460	422	491	450	940	632
Dissolved Oxygen (ppm)	1.1	1.4	6.5	3	3.3	3	5.2	4.8
Oxidation/Reduction (mV)	184	176	203	183	195	161	97	109
.	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
pH (pH units)	7.5	6.9	7.7	7.2	7.4	7.4	7	7.4
Sp. Cond. (umho/cm)	542	535	394	478	501	488	1160	809
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	336	350	300	304	312	368	590	452
TSS (mg/L)	578	6	3	5	7	21	15	10
Turbidity (NTU)	335	3.8	4.4	8	110	4.1	16	20
.	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.16	1.28	-0.21	-0.55	-1.18	-0.56	1.79	-0.25
Gross Alpha (CE+/-)	1.50	1.50	2.20	1.00	3.40	1.40	3.70	3.00
Gross Beta (pCi/L)	1.21	2.57	0.54	-1.87	0.51	1.88	-6.25	3.01
Gross Beta (CE+/-)	2.70	2.50	2.80	1.50	5.30	2.50	3.60	2.80

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APPENDIX E.3
Groundwater Quality Data, 1993

18

Sampling Point	GW-380		GW-381				GW-382	
Location	NHP		NHP				NHP	
Date Sampled	08/05/93	10/29/93	01/27/93	04/26/93	08/08/93	11/08/93	01/28/93	04/26/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	11.52	11.82	10	10.04	11.32	11.5	10.85	10.85
Water Temp (degrees C)	22.7	17	15.1	17.3	18.5	16	15.3	15.8
pH (pH units)	5.6	6.7	7.2	7.6	7.5	7.2	7.6	7.4
Sp. Cond. (umho/cm)	560	578	636	609	646	614	445	425
Dissolved Oxygen (ppm)	2.2	6.9	1.4	3	1	0.9	0.9	2.8
Oxidation/Reduction (mV)	30	65	-26	58	-93	-64	71	35
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	6.7	6.8	7.4	7.4	7.8	7.6	8	7.5
Sp. Cond. (umho/cm)	640	661	691	654	667	656	488	475
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	378	388	390	392	398	420	272	284
TSS (mg/L)	124	11	10	9	4	4	1	3
Turbidity (NTU)	21	50	21	23	5.5	4.6	5.4	13
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-3.32	0.51	1.32	1.17	1.52	1.80	0.87	0.31
Gross Alpha (CE+/-)	2.80	2.10	2.30	2.20	3.50	1.90	1.80	1.90
Gross Beta (pCi/L)	2.31	5.13	3.56	4.00	3.47	0.00	3.12	2.06
Gross Beta (CE+/-)	5.10	2.90	3.00	2.70	5.50	2.80	2.90	2.60

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APPENDIX E.3
Groundwater Quality Data, 1993

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Sampling Point	GW-382		GW-383				GW-384	
Location	NHP		NHP				NHP	
Date Sampled	08/08/93	11/04/93	01/26/93	04/22/93	08/07/93	11/03/93	01/13/93	04/20/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	11.4	11.6	9.5	9.59	9.62	9.68	12.5	10.94
Water Temp (degrees C)	17	14.2	14.9	15.2	17	17	15.8	16.6
pH (pH units)	7.9	7.5	7.3	7	7.2	7.1	7.2	6.9
Sp. Cond. (umho/cm)	481	470	489	444	573	514	544	623
Dissolved Oxygen (ppm)	1.1	1.2	1.2	2.3	0.6	0.6	2.5	1.9
Oxidation/Reduction (mV)	-57	-92	32	64	-105	-51	24	47
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.8	7.7	7.5	7.8	7.8	7.5	7.2	7.3
Sp. Cond. (umho/cm)	482	517	572	542	521	550	620	637
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	288	298	334	320	324	354	370	380
TSS (mg/L)	2	<1	<1	2	2	3	2	4
Turbidity (NTU)	2.5	1.4	0.8	1.8	10	12	5	1.8
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.30	0.46	0.88	-0.65	-1.52	0.16	0.00	1.96
Gross Alpha (CE+/-)	3.20	1.60	2.10	1.80	2.90	1.60	2.00	1.40
Gross Beta (pCi/L)	-0.33	-2.58	-8.53	4.85	-2.48	3.54	2.40	2.88
Gross Beta (CE+/-)	5.20	2.60	3.30	2.80	5.10	3.00	2.80	1.40

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APPENDIX E.3
Groundwater Quality Data, 1993

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Sampling Point	GW-384		GW-385				GW-505	
Location	NHP		NHP				RG	
Date Sampled	08/04/93	10/28/93	01/12/93	04/19/93	08/03/93	10/27/93	03/01/93	06/18/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	12.85	12.98	3	2.5	4.9	4.7	4.62	3.36
Water Temp (degrees C)	18.7	15.7	14.8	16.5	17.6	16	12.6	19.6
pH (pH units)	6.8	7	9.1	9	8.7	9.1	5.7	5.3
Sp. Cond. (umho/cm)	581	543	675	619	663	655	234	183
Dissolved Oxygen (ppm)	0.4	0.2	8.5	5.2	7.2	6.9	4.9	6.3
Oxidation/Reduction (mV)	-54	-96	112	148	152	56	251	254
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.3	7.4	9.1	9	9.2	9.1	6	5.9
Sp. Cond. (umho/cm)	611	616	760	702	736	743	247	213
TPH (mg/L)	.	.	.	.	.	.	0.0166	.
TDS (mg/L)	382	390	452	466	474	476	186	142
TSS (mg/L)	3	2	3	5	20	3	87	133
Turbidity (NTU)	2.5	3.9	5	17	9.8	3	50	16
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-4.58	2.60	0.22	0.74	-4.90	1.94	16.40	16.20
Gross Alpha (CE+/-)	4.10	2.30	2.40	1.10	4.70	2.00	3.50	9.00
Gross Beta (pCi/L)	-1.55	6.84	1.04	-0.17	-4.18	2.56	12.30	9.84
Gross Beta (CE+/-)	5.60	3.00	2.90	1.30	6.10	2.80	3.70	11.00

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APPENDIX E.3
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-505			GW-508				
	RG			RG				
	07/07/93	09/15/93	11/16/93	03/05/93	06/23/93	06/29/93	09/21/93	09/22/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Depth to Water (ft)	5.1	6.15	4.9	10.83	11.83	12.6	11.35	11.35
Water Temp (degrees C)	24.5	15.3	18.3	14.3	18.5	18.4	20.8	20.9
pH (pH units)	5.3	5.2	5.7	5.4	4.7	5	5.4	4.8
Sp. Cond. (umho/cm)	198	237	305	419	298	320	256	369
Dissolved Oxygen (ppm)	5.6	5.6	3.3	5.5	7.1	3	1.7	5.8
Oxidation/Reduction (mV)	182	373	214	253	237	245	252	195
	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
pH (pH units)	.	5.6	6.3	5.4	5	.	4.5	.
Sp. Cond. (umho/cm)	.	188	273	320	272	.	254	.
TPH (mg/L)	0.017	0.017	0.017	24.06	.	1422.9	88.08	.
TDS (mg/L)	.	148	148	196	140	.	158	.
TSS (mg/L)	.	42	103	11	7	.	32	.
Turbidity (NTU)	.	34	26	1	5.5	.	4.5	.
	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	.	10.80	18.90	0.29	0.62	.	.	2.08
Gross Alpha (CE+/-)	.	2.90	4.30	2.90	1.70	.	.	3.90
Gross Beta (pCi/L)	.	4.71	16.90	4.27	4.13	.	.	5.30
Gross Beta (CE+/-)	.	2.90	3.60	5.40	2.80	.	.	5.60

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APPENDIX E.3
Groundwater Quality Data, 1993

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Sampling Point	GW-508	GW-603				GW-604		
Location	RG	EXP				EXP		
Date Sampled	11/19/93	01/29/93	05/04/93	08/16/93	10/28/93	01/30/93	05/04/93	08/16/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	11.35	57.88	58.56	59.41	59.85	58.12	58.71	59.4
Water Temp (degrees C)	19.2	14	17.8	16.1	13.3	14.1	16.6	16.6
pH (pH units)	9.8	7.3	7.2	7.6	6.9	7.4	7.6	8
Sp. Cond. (umho/cm)	590	494	515	529	503	378	327	308
Dissolved Oxygen (ppm)	3.2	3	3.1	3.9	2.1	4.6	4.5	5.8
Oxidation/Reduction (mV)	230	229	92	143	226	206	52	122
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	4.6	7.4	7.2	7.6	8.1	7.4	7.5	7.9
Sp. Cond. (umho/cm)	272	540	578	592	562	418	352	339
TPH (mg/L)	21.49	.	.	.	.	.	.	.
TDS (mg/L)	160	346	346	366	360	262	210	210
TSS (mg/L)	9	9	78	19	16	8	<1	4
Turbidity (NTU)	1.6	10	62	19	14	16.5	4.5	10
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	1.78	2.37	1.77	0.00	4.94	0.18	-0.00	-1.42
Gross Alpha (CE+/-)	1.20	1.90	2.00	2.20	2.20	1.90	0.87	1.80
Gross Beta (pCi/L)	4.28	7.61	4.85	8.43	7.16	5.16	-2.92	4.05
Gross Beta (CE+/-)	2.60	3.10	3.00	2.90	3.00	2.80	1.40	2.60

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APPENDIX E.3
Groundwater Quality Data, 1993

23

Sampling Point	GW-604	GW-605				GW-606		
Location	EXP	EXP				EXP		
Date Sampled	10/28/93	02/02/93	05/10/93	08/19/93	11/10/93	02/03/93	05/10/93	08/20/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	59.64	11.15	10.9	11	11.1	13.85	13.9	14.4
Water Temp (degrees C)	13.8	13.6	17.6	22	16	13.3	17.5	19.5
pH (pH units)	7.5	7	7.1	7.5	6.8	7.5	7.5	7.7
Sp. Cond. (umho/cm)	294	501	488	678	555	582	501	593
Dissolved Oxygen (ppm)	4.6	0.9	1.1	3	1	1.1	1.4	2.4
Oxidation/Reduction (mV)	200	139	36	53	106	115	133	78
.	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.9	7.3	7.9	8	7.3	7.6	8.3	7.6
Sp. Cond. (umho/cm)	317	613	603	571	591	594	600	608
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	202	354	354	370	394	366	360	358
TSS (mg/L)	2	<1	1	7	<1	2	<1	<1
Turbidity (NTU)	6	1.8	2.4	3.2	1.9	1.4	1.5	0.7
.	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.75	53.40	61.40	29.00	83.00	4.22	4.93	1.13
Gross Alpha (CE+/-)	1.90	6.70	10.00	5.00	12.00	1.90	5.10	2.50
Gross Beta (pCi/L)	0.91	43.40	51.40	27.40	58.10	6.37	1.84	5.09
Gross Beta (CE+/-)	2.60	4.80	8.20	4.00	7.70	4.10	5.80	3.00

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APPENDIX E.3
Groundwater Quality Data, 1993

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Sampling Point	GW-606	GW-617					GW-618		
Location	EXP	EXP					EXP		
Date Sampled	11/11/93	01/12/93	05/04/93	09/16/93	12/07/93	01/12/93	05/05/93	09/16/93	
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.	.
Depth to Water (ft)	14.25	12.8	13.56	15	13.6	12.6	13.29	14.51	
Water Temp (degrees C)	13.6	15.1	18.9	19.1	15.2	17	16.9	17.8	
pH (pH units)	7.1	5.5	5.7	4.8	5.7	6.6	6.4	5.9	
Sp. Cond. (umho/cm)	577	181	151	216	254	623	549	647	
Dissolved Oxygen (ppm)	0.9	9.3	4.4	2.3	3.7	2	0.6	0.4	
Oxidation/Reduction (mV)	191	243	61	158	40	-38	18	148	
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.	.
pH (pH units)	8	6.3	5.7	5.9	6.3	6.7	7.5	6.6	
Sp. Cond. (umho/cm)	617	189	169	230	270	664	624	672	
TPH (mg/L)	.	.	.	.	.	.	.	.	
TDS (mg/L)	382	116	110	136	204	350	350	380	
TSS (mg/L)	2	9	19	25	9	<1	<1	1	
Turbidity (NTU)	2	10	16	52	8	1.6	3.3	1.5	
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	6.31	0.45	0.61	1.02	0.80	-1.11	-1.40	0.83	
Gross Alpha (CE+/-)	2.80	1.70	0.69	1.60	1.10	2.20	0.93	1.80	
Gross Beta (pCi/L)	0.26	3.79	-4.01	4.52	1.27	4.60	-1.19	2.17	
Gross Beta (CE+/-)	3.10	2.90	1.40	2.90	2.50	3.10	1.50	2.80	

(CONTINUED)

APPENDIX E.3
Groundwater Quality Data, 1993

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Sampling Point	GW-618	GW-619				GW-620		
Location	EXP	FTF				FTF		
Date Sampled	12/08/93	01/20/93	05/05/93	09/17/93	12/08/93	01/20/93	05/06/93	09/17/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	13.37	20.15	23.3	24.58	17.65	21.9	25	27.65
Water Temp (degrees C)	16.5	14.6	17.5	16.1	15.2	10.5	19	19.7
pH (pH units)	6.3	10.6	11	10.1	10.2	11	11.8	9.1
Sp. Cond. (umho/cm)	626	287	528	277	242	618	2140	292
Dissolved Oxygen (ppm)	0.3	6.3	2.2	1.9	2.5	6.2	4	5.2
Oxidation/Reduction (mV)	48	11	-37	43	15	20	-34	84
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	6.8	9.4	10.7	9.1	9.1	8.9	12	11.4
Sp. Cond. (umho/cm)	659	124	270	160	142	156	2220	510
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	402	72	158	106	118	148	558	158
TSS (mg/L)	<1	<1	42	41	30	78	65	60
Turbidity (NTU)	1	6	2.9	21	20	34	36	20
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.70	2.61	-0.67	3.06	0.63	1.01	0.16	-0.45
Gross Alpha (CE+/-)	1.10	1.90	0.80	2.00	1.00	1.50	0.82	1.40
Gross Beta (pCi/L)	3.21	14.80	14.30	15.00	14.80	10.20	8.51	7.28
Gross Beta (CE+/-)	2.60	3.50	1.80	3.50	3.60	3.20	1.40	3.00

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APPENDIX E.3
Groundwater Quality Data, 1993

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Sampling Point	GW-620	GW-631					GW-632	
Location	FTF	RG					RG	
Date Sampled	12/09/93	03/02/93	06/18/93	07/07/93	09/16/93	11/17/93	03/03/93	06/21/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	20.96	6.8	7.1	7.45	7.85	6.85	7.5	8.34
Water Temp (degrees C)	13.2	13	23.1	24.2	20.1	20.6	14	19.5
pH (pH units)	9.9	4.7	4.5	4.5	4.2	3.9	5.2	5.7
Sp. Cond. (umho/cm)	348	242	248	400	202	240	279	320
Dissolved Oxygen (ppm)	3.8	5.9	5.7	2.9	4	1.9	3.5	3.5
Oxidation/Reduction (mV)	78	277	278	240	383	318	145	140
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	8.2	4.9	5	.	4.8	4.9	5.9	6.8
Sp. Cond. (umho/cm)	328	232	313	.	188	212	290	467
TPH (mg/L)	.	0.003	.	<0.1	0	0.002	2.098	.
TDS (mg/L)	228	166	238	.	142	152	198	272
TSS (mg/L)	55	2	4	.	2	10	27	19
Turbidity (NTU)	9.5	2.6	5.5	.	1.5	50	22	56
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.16	1.78	4.56	.	0.90	0.79	0.57	0.88
Gross Alpha (CE+/-)	0.94	1.60	3.90	.	1.60	0.85	2.90	3.50
Gross Beta (pCi/L)	20.10	8.65	3.27	.	3.08	2.47	-0.98	2.63
Gross Beta (CE+/-)	4.00	3.50	5.30	.	2.80	2.50	5.00	5.20

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APPENDIX E.3
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-632			GW-633				
	RG			RG				
	06/29/93	09/16/93	11/18/93	03/03/93	06/21/93	06/29/93	09/20/93	11/19/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Depth to Water (ft)	8.35	8.9	8.1	3.54	2.61	2.85	3.7	2.55
Water Temp (degrees C)	17.8	19.8	15.1	14	17.6	19.1	21.1	16.7
pH (pH units)	6.1	5.3	5	5.3	5.4	5.1	5.3	9
Sp. Cond. (umho/cm)	792	396	273	2590	1860	23200	26500	1005
Dissolved Oxygen (ppm)	4.1	1.1	3.4	3.1	3.9	1.9	1.8	3.3
Oxidation/Reduction (mV)	138	177	205	250	98	190	258	215
.	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
pH (pH units)	.	5.7	6	5.7	6	.	5.5	5.8
Sp. Cond. (umho/cm)	.	312	423	19870	23800	.	2650	2820
TPH (mg/L)	3.3	2.61	4.2	0.0221	.	0.05	0.044	<0.1
IDS (mg/L)	.	234	188	21966	23196	.	25552	1326
TSS (mg/L)	.	19	8	219	169	.	133	16
Turbidity (NTU)	.	66	5	220	95	.	70	12
.	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	.	4.31	1.30	13.50	14.30	.	-44.40	2.85
Gross Alpha (CE+/-)	.	2.30	1.00	9.70	43.00	.	170.00	1.80
Gross Beta (pCi/L)	.	5.62	3.97	75.60	364.00	.	581.00	43.80
Gross Beta (CE+/-)	.	3.00	2.60	9.30	72.00	.	300.00	6.20

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APPENDIX E.3
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-634					GW-656		
	RG					T0134		
	03/02/93	06/18/93	07/07/93	09/16/93	11/18/93	03/11/93	06/22/93	09/23/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Depth to Water (ft)	8.42	9.74	9.5	9.65	8.81	10.12	9.9	9.19
Water Temp (degrees C)	13.8	21.6	24.5	20.1	15.8	16.1	22.2	22.1
pH (pH units)	5.4	4.8	4.8	4.6	4.2	6.7	6.5	7.1
Sp. Cond. (umho/cm)	75	69	68	75	70	608	562	599
Dissolved Oxygen (ppm)	2.3	5.4	1.8	3.2	2.5	1.1	1.2	4.7
Oxidation/Reduction (mV)	63	41	70	199	133	2	9	241
.	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
pH (pH units)	5.3	5.6	.	5.3	5.3	7.3	6.9	7.1
Sp. Cond. (umho/cm)	73	74	.	71	71	648	624	672
TPH (mg/L)	6.032	.	4.48	2.48	5.16	0.002	<0.1	0.003
TDS (mg/L)	58	46	.	58	52	448	454	476
TSS (mg/L)	<1	<1	.	2	1	92	83	48
Turbidity (NTU)	1.2	1.4	.	3.6	1.4	66	130	100
.	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	2.11	2.26	.	0.71	0.44	0.33	0.93	-1.25
Gross Alpha (CE+/-)	1.60	3.60	.	1.50	0.67	2.10	3.20	3.00
Gross Beta (pCi/L)	11.40	5.40	.	1.36	3.08	2.59	4.30	4.30
Gross Beta (CE+/-)	3.60	5.40	.	2.70	2.60	3.10	5.30	3.30

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APPENDIX E.3
Groundwater Quality Data, 1993

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Sampling Point	GW-656	GW-657				GW-658		
Location	T0134	T2331				FF		
Date Sampled	11/17/93	03/10/93	06/18/93	09/21/93	11/15/93	03/11/93	06/23/93	11/19/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	9.25	6.01	6.17	7.4	5.9	10.95	11.8	11
Water Temp (degrees C)	21	16.3	22	25.2	21	15.3	22.6	18.2
pH (pH units)	6.6	7.3	6.8	6.8	6.9	6.4	6.2	6.4
Sp. Cond. (umho/cm)	654	498	452	538	498	477	546	486
Dissolved Oxygen (ppm)	2.6	0.7	1.3	0.7	1.2	0.9	1.7	1.3
Oxidation/Reduction (mV)	55	-14	-49	-59	166	-65	-43	-25
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.1	7.1	7.3	7.2	7.1	6.9	6.7	7
Sp. Cond. (umho/cm)	635	535	520	530	526	462	482	590
TPH (mg/L)	<0.1	0.002	.	0.003	0.02	8.155	9.81	64.65
TDS (mg/L)	422	292	286	310	302	286	290	332
TSS (mg/L)	746	<1	7	4	3	29	29	91
Turbidity (NTU)	380	1.2	4	5.8	1.6	28	36	18
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	5.63	0.94	0.61	-1.83	2.39	1.36	1.00	4.04
Gross Alpha (CE+/-)	2.90	3.80	3.60	3.30	2.20	4.40	1.80	2.50
Gross Beta (pCi/L)	8.02	6.64	4.80	4.46	4.99	1.01	2.43	4.42
Gross Beta (CE+/-)	3.20	5.60	5.40	5.60	2.90	6.00	2.70	2.90

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APPENDIX E.3
Groundwater Quality Data, 1993

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Sampling Point	GW-658	GW-659					GW-707	
Location	FF	FF					T2331	
Date Sampled	09/27/04	03/10/93	06/18/93	07/07/93	09/22/93	11/15/93	03/11/93	06/23/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	11.85	7.4	8.12	8.5	8.69	1.9	5.95	5.8
Water Temp (degrees C)	21.6	18.1	25.7	21.8	22.7	20	15.1	21.8
pH (pH units)	6.4	6.2	6.2	6.3	6.3	6.7	7.9	7.8
Sp. Cond. (umho/cm)	493	1791	741	1014	308	109	332	431
Dissolved Oxygen (ppm)	5.4	3.5	3	1.5	4.4	6.3	5.6	5.5
Oxidation/Reduction (mV)	-26	147	67	-54	57	175	-27	188
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	6.7	6.2	6.6	.	6.4	6.9	8.2	7.9
Sp. Cond. (umho/cm)	538	1740	905	.	355	101	349	701
TPH (mg/L)	1006.5	0.01	.	0.046	0.015	<0.1	0.01	0.003
TDS (mg/L)	294	946	640	.	224	306	216	514
TSS (mg/L)	31	391	234	.	253	743	11	1
Turbidity (NTU)	220	460	340	.	680	750	6.2	2.9
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-1.00	3.74	10.70	.	-1.47	4.55	2.76	3.66
Gross Alpha (CE+/-)	2.80	6.10	8.80	.	3.30	4.00	2.40	2.50
Gross Beta (pCi/L)	-1.56	16.40	25.30	.	2.90	12.40	3.92	8.15
Gross Beta (CE+/-)	3.00	6.40	12.00	.	5.40	5.90	3.20	3.10

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APPENDIX E.3
Groundwater Quality Data, 1993

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Sampling Point	GW-707		GW-708					GW-733
Location	T2331		T2331					EXP
Date Sampled	09/27/93	11/18/93	03/10/93	06/18/93	07/07/93	09/21/93	11/12/93	02/02/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	5.95	6	4.5	4.98	5.55	5.15	4.8	55.85
Water Temp (degrees C)	22.8	21.5	13.7	23.9	25.7	25.9	15.9	14
pH (pH units)	7.3	7.2	7	6.8	6.6	6.5	6.9	8
Sp. Cond. (umho/cm)	759	485	481	597	646	784	788	330
Dissolved Oxygen (ppm)	6	7	0.5	0.8	0.5	0.6	1.6	1.4
Oxidation/Reduction (mV)	8	16	-92	-80	-104	-85	-54	22
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.7	7.6	7	7.1	.	6.9	6.9	8
Sp. Cond. (umho/cm)	661	447	554	688	.	792	799	367
TPH (mg/L)	<0.1	<0.1	4.88	.	5.22	4.58	4.89	.
TDS (mg/L)	310	242	324	426	.	522	496	194
TSS (mg/L)	2	3	31	10	.	9	12	9
Turbidity (NTU)	3.6	2.4	15	22	.	50	36	15
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.69	1.89	-1.96	0.32	.	-2.15	0.34	0.64
Gross Alpha (CE+/-)	3.00	2.10	3.50	3.70	.	3.30	2.10	1.80
Gross Beta (pCi/L)	6.81	5.82	4.01	10.70	.	6.19	7.75	4.49
Gross Beta (CE+/-)	3.40	3.00	5.40	5.80	.	5.70	3.10	3.00

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Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-733			GW-735				GW-744
	EXP			NHP				GRIDK1
	05/06/93	08/18/93	11/04/93	02/02/93	05/07/93	08/18/93	10/29/93	01/18/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	56.5	57.65	57.92	22.52	22.61	23.22	23.7	6.01
Water Temp (degrees C)	15.9	16.5	13.8	12.7	16.6	19.8	14	15.6
pH (pH units)	7.8	7.9	7.9	7.2	7.1	7	6.5	7.4
Sp. Cond. (umho/cm)	314	356	348	558	520	542	570	393
Dissolved Oxygen (ppm)	1.5	3.1	1.4	0.9	0.7	3.1	0.4	0.7
Oxidation/Reduction (mV)	65	95	62	91	18	51	95	-74
.	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
pH (pH units)	7.7	7.9	7.9	7.3	7.7	7.4	7.3	7.7
Sp. Cond. (umho/cm)	357	355	383	638	614	576	618	435
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	186	228	222	384	374	386	398	258
TSS (mg/L)	37	20	2	7	7	<1	14	<1
Turbidity (NTU)	38	20	4.8	14	14	2.4	18	1.8
.	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.96	1.22	1.06	0.20	-1.03	-0.83	1.98	2.98
Gross Alpha (CE+/-)	0.64	2.40	1.70	2.20	0.68	2.30	2.30	2.30
Gross Beta (pCi/L)	0.23	4.96	-0.69	6.35	3.15	2.51	4.10	6.41
Gross Beta (CE+/-)	1.20	3.00	2.80	3.20	1.30	2.80	2.90	3.00

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APPENDIX E.3
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-744			GW-745				GW-746
	GRIDK1			GRIDK1				GRIDK1
	04/12/93	08/04/93	10/22/93	01/19/93	04/12/93	08/04/93	10/23/93	01/19/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Depth to Water (ft)	5.8	7.9	6.65	8.63	8.25	10.05	6.35	5
Water Temp (degrees C)	16.5	17.7	15.8	12.2	16.3	19.9	15.5	13.1
pH (pH units)	7.5	7.6	7.4	7.1	7.1	7.3	7	5.8
Sp. Cond. (umho/cm)	343	386	407	385	345	414	364	137
Dissolved Oxygen (ppm)	1.2	0.3	0.5	6.6	6.6	3.2	2.7	6.2
Oxidation/Reduction (mV)	54	-97	-95	158	168	28	93	206
.	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
pH (pH units)	8.1	7.6	7.6	7.3	7.9	7.4	7.3	6
Sp. Cond. (umho/cm)	414	423	438	428	419	442	446	152
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	266	242	286	268	270	284	298	102
TSS (mg/L)	<1	<1	<1	3	2	<1	<1	12
Turbidity (NTU)	2.5	1.4	1	1.8	6.2	1.5	2.6	120
.	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	1.29	-3.64	0.48	-0.17	0.18	-2.48	0.32	0.29
Gross Alpha (CE+/-)	1.80	4.20	2.00	1.80	1.50	4.50	1.90	1.60
Gross Beta (pCi/L)	3.74	1.20	0.50	2.02	3.30	-1.38	1.75	0.82
Gross Beta (CE+/-)	2.70	5.80	2.80	2.80	2.60	5.60	2.90	2.60

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Groundwater Quality Data, 1993

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Sampling Point Location Date Sampled	GW-746			GW-747				GW-748
	GRIDK1			GRIDK2				GRIDK2
	04/12/93	08/05/93	10/23/93	01/19/93	04/13/93	08/05/93	10/23/93	01/20/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	4.83	5.78	5.55	4.46	4.52	9.01	5.67	6.16
Water Temp (degrees C)	16	21.1	17.8	13.8	16.1	17.8	16	13.6
pH (pH units)	5.5	6.9	5.6	7.5	7.6	7.7	7.6	7.6
Sp. Cond. (umho/cm)	115	220	176	426	383	456	411	462
Dissolved Oxygen (ppm)	8.7	4.7	2.7	1.3	1.7	0.5	0.5	5
Oxidation/Reduction (mV)	232	59	154	23	133	-71	-64	169
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	6.6	6.2	5.9	7.7	7.5	7.7	7.6	8
Sp. Cond. (umho/cm)	140	158	168	455	440	446	448	480
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	104	104	142	276	272	264	286	326
TSS (mg/L)	13	414	6	<1	1	2	<1	79
Turbidity (NTU)	210	230	4.3	1.3	0.6	1.1	1.6	160
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.72	4.67	0.00	-1.25	0.20	-0.90	0.48	1.40
Gross Alpha (CE+/-)	1.30	4.00	1.80	1.60	1.70	3.20	2.00	2.40
Gross Beta (pCi/L)	2.87	2.79	1.40	1.18	4.46	9.74	-0.33	4.29
Gross Beta (CE+/-)	2.50	5.10	2.80	2.70	2.70	5.50	2.80	3.00

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Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-748			GW-749				GW-750
	GRIDK2			GRIDK2				GRIDK2
	04/13/93	08/06/93	10/24/93	01/21/93	04/14/93	08/06/93	10/24/93	01/21/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Depth to Water (ft)	6.38	9.42	7	6.17	5.18	5.61	7.7	10.47
Water Temp (degrees C)	16.4	16.9	17.1	12.2	15	19.5	20.2	13.5
pH (pH units)	7.8	7.7	7.5	6.7	7	7.1	7.3	6.9
Sp. Cond. (umho/cm)	444	529	494	516	460	593	666	448
Dissolved Oxygen (ppm)	4.6	1.4	4	4.7	4.2	5.9	5.1	6.5
Oxidation/Reduction (mV)	171	176	165	21	138	15	-44	84
	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
pH (pH units)	7.7	7.5	7.7	7.3	7.4	7.4	7.5	7.6
Sp. Cond. (umho/cm)	457	533	524	550	512	644	704	475
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	316	348	350	540	316	436	470	274
TSS (mg/L)	142	12	17	2	20	13	<1	<1
Turbidity (NTU)	1800	16	17	4.3	18	14	3.3	0.9
	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	5.69	-1.20	0.32	0.19	1.57	1.61	0.54	-1.31
Gross Alpha (CE+/-)	3.80	2.90	2.00	2.10	0.94	3.70	2.50	1.70
Gross Beta (pCi/L)	13.70	0.33	0.58	5.12	3.76	1.50	-0.88	4.42
Gross Beta (CE+/-)	5.60	5.30	2.80	3.00	1.40	5.40	3.10	2.90

(CONTINUED)

APPENDIX E.3
Groundwater Quality Data, 1993

36

Sampling Point . Location . Date Sampled	GW-750			GW-751				GW-752
	GRIDK2			GRIDJ3				GRIDJ3
	04/15/93	08/06/93	10/25/93	01/11/93	04/16/93	08/02/93	10/26/93	01/11/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Depth to Water (ft)	10.2	13.25	13.5	4.45	4.14	6.3	6.15	3.95
Water Temp (degrees C)	15.2	16.8	15.4	14.2	15.4	17.3	16.4	12.8
pH (pH units)	7.1	7.7	7.2	7.4	7.1	7.2	7.5	5.5
Sp. Cond. (umho/cm)	399	531	465	361	361	355	365	249
Dissolved Oxygen (ppm)	2.2	0.7	0.4	3	2.1	0.4	0.3	5
Oxidation/Reduction (mV)	51	-57	-85	38	110	72	-76	125
	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
pH (pH units)	7.6	7.5	7.8	8	7.7	7.8	7.9	6.3
Sp. Cond. (umho/cm)	478	498	488	389	392	372	390	276
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	290	308	312	226	218	228	252	160
TSS (mg/L)	<1	7	<1	7	4	2	9	<1
Turbidity (NTU)	0.9	7.9	1	2.1	1.7	1.6	2.2	7.6
	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.80	-0.60	1.25	0.71	-0.61	-1.47	2.44	-0.72
Gross Alpha (CE+/-)	0.79	3.10	1.50	2.10	0.60	4.60	1.70	1.40
Gross Beta (pCi/L)	0.70	5.44	1.99	1.49	1.82	-6.08	1.98	3.44
Gross Beta (CE+/-)	1.30	5.60	2.70	2.80	1.30	5.90	2.70	2.90

(CONTINUED)

APPENDIX E.3
Groundwater Quality Data, 1993

37

Sampling Point . Location . Date Sampled	GW-752			GW-753				GW-754
	GRIDJ3			GRIDJ2				GRIDJ2
	04/16/93	08/02/93	10/26/93	01/15/93	04/08/93	08/03/93	10/21/93	01/18/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Depth to Water (ft)	3.64	6.1	5.95	4	4.62	10.68	9.6	8.15
Water Temp (degrees C)	12.6	21.1	19.7	14.3	15.8	18.3	15.7	12.8
pH (pH units)	5.1	4.7	5.6	7.4	7.4	7.8	7.3	5.8
Sp. Cond. (umho/cm)	251	233	348	399	331	381	335	214
Dissolved Oxygen (ppm)	2.1	0.5	0.4	4.2	2.3	0.4	0.6	3.6
Oxidation/Reduction (mV)	142	129	96	-85	73	-77	-66	-4
	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
pH (pH units)	5.9	5.8	6	7.5	7.5	7.8	7.7	7.2
Sp. Cond. (umho/cm)	269	262	254	383	394	398	402	297
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	160	184	180	242	238	258	256	178
TSS (mg/L)	19	18	5	<1	5	2	2	70
Turbidity (NTU)	13	14	3.7	1.3	1	1.4	3	35
	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.18	1.72	0.88	0.85	-0.78	-4.46	1.69	2.38
Gross Alpha (CE+/-)	0.57	4.90	1.40	1.90	1.80	4.20	2.10	2.00
Gross Beta (pCi/L)	0.31	-0.49	0.58	2.77	3.34	-8.57	0.41	6.90
Gross Beta (CE+/-)	1.20	6.20	2.60	2.80	2.90	5.80	2.80	3.00

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APPENDIX E.3
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-754			GW-755				GW-756
	GRIDJ2			GRIDJ1				GRIDJ1
	04/08/93	08/04/93	10/22/93	01/14/93	04/07/93	08/03/93	10/21/93	01/15/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	8.15	13.75	12.4	6.35	7.15	9.2	8.92	5.42
Water Temp (degrees C)	16.5	20	13.8	13.5	16.2	18.3	16	13.2
pH (pH units)	6.9	7.5	6.9	7.9	8.2	8.1	7.7	5.4
Sp. Cond. (umho/cm)	237	369	294	371	385	428	416	299
Dissolved Oxygen (ppm)	7.3	2.4	2	5.1	7.9	3.5	2	6.4
Oxidation/Reduction (mV)	64	-76	-19	128	203	92	120	135
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	6.3	7.2	7.1	8.2	8.4	8.3	8	6
Sp. Cond. (umho/cm)	187	277	298	460	452	460	479	289
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	136	182	202	282	290	304	308	172
TSS (mg/L)	110	22	7	12	118	12	<1	1729
Turbidity (NTU)	24	20	5.2	10	16	12	2.7	680
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	3.14	-2.30	0.75	-1.00	-1.34	-3.68	1.51	18.30
Gross Alpha (CE+/-)	2.10	4.10	1.90	1.50	3.80	4.50	2.20	6.70
Gross Beta (pCi/L)	6.15	-2.38	0.91	0.33	5.53	-8.94	1.34	38.60
Gross Beta (CE+/-)	3.00	5.50	2.80	2.70	5.00	5.80	2.90	7.50

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APPENDIX E.3
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-756			GW-758				GW-759
	GRIDJ1			GRIDG1				GRIDG1
	04/08/93	08/03/93	10/21/93	01/25/93	04/13/93	09/12/93	11/19/93	01/26/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Depth to Water (ft)	5.85	7.45	7.25	13.55	15	17.25	14.9	15.85
Water Temp (degrees C)	13.2	19.6	18.6	15.6	17.3	17.4	15.6	9.5
pH (pH units)	5.4	5.9	5.7	7.6	7.6	6.9	7.4	7.3
Sp. Cond. (umho/cm)	245	304	314	373	367	421	422	399
Dissolved Oxygen (ppm)	5.1	0.9	1	3.1	6	0.5	4.4	8.1
Oxidation/Reduction (mV)	168	50	23	-24	-11	92	65	106
.	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
pH (pH units)	5.9	6.3	6	7.5	7.6	7.8	7.6	7.6
Sp. Cond. (umho/cm)	283	330	350	475	444	447	465	475
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	194	226	228	276	278	292	284	300
TSS (mg/L)	1233	482	114	4	18	3	1	53
Turbidity (NTU)	1500	340	105	1.7	3	2.5	3.6	52
.	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	2.40	-1.17	1.73	0.54	0.81	-1.70	-0.53	2.94
Gross Alpha (CE+/-)	3.40	4.60	2.20	2.10	1.00	3.80	1.40	2.40
Gross Beta (pCi/L)	7.92	-3.78	6.32	-8.12	1.31	1.74	-5.33	5.99
Gross Beta (CE+/-)	5.60	6.00	3.10	3.30	1.30	5.80	2.90	3.10

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Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-759			GW-760				GW-761
	GRIDG1			GRIDG2				GRIDG2
	04/15/93	09/13/93	11/19/93	01/27/93	04/16/93	09/14/93	11/30/93	01/26/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Depth to Water (ft)	16.8	18.9	20.15	9.22	9.8	13.6	10.75	8.95
Water Temp (degrees C)	19.7	16.8	14.5	17.2	16.5	23.3	14.6	12.3
pH (pH units)	7.4	7.5	7.5	7	7	7.3	8	6.9
Sp. Cond. (umho/cm)	383	462	424	609	571	823	593	191
Dissolved Oxygen (ppm)	2.2	4.4	7.9	7.7	6.8	4.4	8.1	7.2
Oxidation/Reduction (mV)	215	285	164	172	231	361	124	158
	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
pH (pH units)	7.8	7.8	7.7	7.7	7.8	7.9	8.1	7.2
Sp. Cond. (umho/cm)	458	470	477	700	755	826	734	222
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	270	270	284	464	468	566	440	162
TSS (mg/L)	2	592	13	6	2	7	<1	41
Turbidity (NTU)	3.5	80	12	3.5	6	24	2.5	14
	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-1.82	8.50	-1.23	-0.20	4.53	-2.60	-1.15	3.34
Gross Alpha (CE+/-)	0.67	9.20	1.30	1.80	1.40	4.00	1.30	2.10
Gross Beta (pCi/L)	-2.19	15.30	-5.17	-1.97	1.30	-1.23	1.18	2.83
Gross Beta (CE+/-)	1.20	12.00	2.90	2.70	1.30	5.70	2.50	2.90

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APPENDIX E.3
Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-761			GW-762				
	GRIDG2			GRIDJ3				
	04/16/93	09/13/93	11/29/93	01/23/93	02/22/93	04/20/93	08/04/93	10/28/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Depth to Water (ft)	9.15	13.25	10.22	13.25	.	13	13.9	13.75
Water Temp (degrees C)	14	21.3	15.3	17.4	.	17.9	19.2	17.3
pH (pH units)	6.6	6.6	7	7.2	.	7.3	6.8	7.3
Sp. Cond. (umho/cm)	166	201	169	597	.	502	595	560
Dissolved Oxygen (ppm)	4	4.2	7.5	1	.	1.2	1.4	0.4
Oxidation/Reduction (mV)	298	427	189	63	.	106	27	-45
.	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
pH (pH units)	7.1	7.3	7.2	7.4	.	7.5	7.6	7.5
Sp. Cond. (umho/cm)	212	215	200	604	.	592	611	608
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	122	132	138	332	.	344	358	368
TSS (mg/L)	6	12	27	13	.	15	21	8
Turbidity (NTU)	5.5	520	22	9.9	.	16	35	7.5
.	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	1.41	0.59	0.33	-0.60	.	-0.48	-3.28	-1.13
Gross Alpha (CE+/-)	0.79	3.60	1.50	1.90	.	0.96	4.20	1.70
Gross Beta (pCi/L)	1.17	-0.51	5.26	6.09	.	4.68	1.54	2.42
Gross Beta (CE+/-)	1.30	5.50	2.80	2.90	.	1.40	5.80	2.70

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Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-763				GW-764			
	GRIDJ3				GRIDE1			
	01/25/93	04/21/93	08/05/93	10/29/93	01/23/93	04/13/93	09/12/93	11/12/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	10.2	9.95	10.65	10.35	20.68	20.25	21	20.87
Water Temp (degrees C)	7.9	12.7	22.3	19.1	16.7	17.7	18.6	16.5
pH (pH units)	6.9	6.5	6.3	6.9	7.6	7.9	7.2	7.7
Sp. Cond. (umho/cm)	628	593	665	668	360	303	350	355
Dissolved Oxygen (ppm)	1.5	2.9	1.7	2.9	2.8	9	3.2	7.3
Oxidation/Reduction (mV)	-58	-27	-34	-70	22	137	165	55
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7	7.1	6.9	7.1	7.7	8	7.9	7.7
Sp. Cond. (umho/cm)	718	695	716	717	380	327	356	391
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	388	412	422	434	238	240	246	254
TSS (mg/L)	53	30	52	35	2	3	5	113
Turbidity (NTU)	35	30	46	30	2.1	1.1	7.1	320
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	1.51	-3.42	2.81	3.94	-0.35	2.34	2.55	-0.89
Gross Alpha (CE+/-)	2.70	3.50	4.00	2.50	1.90	2.10	4.20	1.40
Gross Beta (pCi/L)	-4.15	1.40	3.32	4.10	-5.49	8.72	2.07	-4.76
Gross Beta (CE+/-)	3.60	2.70	5.20	2.90	3.40	3.00	5.70	2.90

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Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-765				GW-766			
	GRID1				GRID2			
	01/25/93	04/13/93	09/12/93	11/19/93	02/01/93	04/15/93	08/03/93	10/13/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Depth to Water (ft)	19.54	20.33	21.45	19.55	11.73	11.55	12.25	12.33
Water Temp (degrees C)	13.2	17.6	19.1	15.7	17.1	16.1	21.8	17.1
pH (pH units)	7.1	7.2	6.5	7.1	10.1	8.5	9.1	8.7
Sp. Cond. (umho/cm)	419	448	515	490	271	237	261	260
Dissolved Oxygen (ppm)	6.7	7.3	1.9	6.9	1.5	2.5	5.3	4
Oxidation/Reduction (mV)	171	139	340	220	138	112	11	133
	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
pH (pH units)	7.3	7.3	7.5	7.5	9.4	8.8	8.5	8.6
Sp. Cond. (umho/cm)	576	548	553	568	166	257	269	275
TPH (mg/L)	.	.	.	.	<0.1	<0.1	0.007	<0.1
TDS (mg/L)	434	364	362	380	128	166	182	202
TSS (mg/L)	349	97	264	158	64	1	2	3
Turbidity (NTU)	620	80	250	130	7.4	2	1.6	1.4
	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	4.93	-0.19	17.50	-0.36	-0.69	-0.53	-2.30	3.97
Gross Alpha (CE+/-)	4.80	0.80	10.00	1.50	1.60	0.72	4.40	2.10
Gross Beta (pCi/L)	4.90	0.22	6.93	-5.15	6.32	3.45	-6.88	5.21
Gross Beta (CE+/-)	7.60	1.20	12.00	2.90	2.90	1.30	5.80	2.80

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Groundwater Quality Data, 1993

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Sampling Point . Location . Date Sampled	GW-767				GW-768			
	GRID12				GRID11			
	02/02/93	04/15/93	08/04/93	10/13/93	01/29/93	04/07/93	08/04/93	10/13/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Depth to Water (ft)	12.98	12.65	12.6	13.67	18.1	18.2	19.4	19.1
Water Temp (degrees C)	12	16.3	19.7	20	15.2	16	16.4	13.4
pH (pH units)	5.8	5.2	4.8	5.5	7.6	7.4	8.3	7
Sp. Cond. (umho/cm)	66	33	46	63	518	388	599	498
Dissolved Oxygen (ppm)	6.6	6.7	3.5	2.7	8.9	4.6	5.1	3.9
Oxidation/Reduction (mV)	245	292	244	213	148	71	94	198
.	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
pH (pH units)	5.8	5.7	5.5	5.9	7.9	8	7.8	7.8
Sp. Cond. (umho/cm)	45	39	52	42	472	490	512	505
TPH (mg/L)	0.0038	<0.1	<0.1	<0.1	.	.	.	.
TDS (mg/L)	54	32	56	64	340	304	322	342
TSS (mg/L)	33	7	<1	3	5	<1	2	<1
Turbidity (NTU)	2.9	0.5	1.6	1.5	3	1.2	1.9	1
.	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	1.56	1.82	-2.23	2.56	2.57	-2.54	-3.38	2.22
Gross Alpha (CE+/-)	1.80	0.70	4.00	1.80	1.80	3.40	4.30	2.00
Gross Beta (pCi/L)	3.11	0.65	-2.37	4.34	5.57	6.82	0.52	5.63
Gross Beta (CE+/-)	2.90	1.30	5.50	2.80	3.00	5.10	5.70	2.90

(CONTINUED)

APPENDIX E.3
Groundwater Quality Data, 1993

45

Sampling Point . Location . Date Sampled	GW-769				GW-770			
	GRIDG3				GRIDG3			
	01/27/93	04/19/93	09/14/93	11/30/93	01/27/93	04/19/93	09/14/93	11/29/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	10.36	11.5	12.57	10	12.89	13.39	14.75	11.83
Water Temp (degrees C)	17.5	19.2	20.5	18.2	18.3	17.2	20.8	19.3
pH (pH units)	7.2	7.5	7	7.5	6	7.2	6.7	7.1
Sp. Cond. (umho/cm)	422	378	469	424	287	228	316	298
Dissolved Oxygen (ppm)	2.1	0.9	0.5	5	7.7	5.4	3.6	7.7
Oxidation/Reduction (mV)	36	62	123	107	139	237	277	210
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.5	7.7	7.7	7.9	7.4	7.4	7.4	7.3
Sp. Cond. (umho/cm)	460	455	477	480	321	288	325	320
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	282	278	294	298	188	190	212	212
TSS (mg/L)	<1	1	<1	<1	8	41	2	10
Turbidity (NTU)	1.1	0.9	2	1	7.6	8.5	11	13
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.59	-0.46	-0.96	-0.90	2.28	3.96	1.23	-0.52
Gross Alpha (CE+/-)	2.00	0.91	3.70	1.30	2.10	1.30	1.70	1.30
Gross Beta (pCi/L)	2.40	1.05	-2.77	1.89	3.54	3.54	3.35	3.26
Gross Beta (CE+/-)	2.90	1.30	5.40	2.50	3.00	1.40	2.80	2.60

(CONTINUED)

APPENDIX E.3
Groundwater Quality Data, 1993

46

Sampling Point . Location . Date Sampled	GW-771				GW-772			
	GRIDC1				GRIDC1			
	01/23/93	04/12/93	09/03/93	11/11/93	01/23/93	04/12/93	09/12/93	11/12/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	9.62	8.65	13.28	11.68	11.23	10.1	14.8	13.48
Water Temp (degrees C)	17.1	19.6	19.1	19	16.5	18.1	18	16.1
pH (pH units)	7.3	7.3	7.5	7.6	6	6	5.6	6.1
Sp. Cond. (umho/cm)	374	357	392	375	362	323	306	304
Dissolved Oxygen (ppm)	3.6	5.3	4.8	6.7	2	4.4	1.1	5.7
Oxidation/Reduction (mV)	52	53	218	160	-13	-26	30	22
.	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
pH (pH units)	7.5	8	7.5	7.8	6.3	6.4	6.4	6.2
Sp. Cond. (umho/cm)	421	409	417	415	364	360	316	334
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	264	268	266	306	190	214	194	204
TSS (mg/L)	3	<1	6	31	7	1	11	4
Turbidity (NTU)	1.9	1.9	4	4.1	17	8.8	6	20
.	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.19	0.57	1.59	-0.86	0.31	-0.32	-0.61	-0.86
Gross Alpha (CE+/-)	2.10	2.00	4.10	1.30	1.80	1.50	3.60	1.30
Gross Beta (pCi/L)	-6.80	3.92	-0.86	-5.91	-9.29	-0.58	-0.69	-2.17
Gross Beta (CE+/-)	3.40	2.90	5.60	2.90	3.20	2.60	5.50	3.00

(CONTINUED)

APPENDIX E.3
Groundwater Quality Data, 1993

47

Sampling Point . Location . Date Sampled	GW-773				GW-774			
	GRIDH2				GRIDH2			
	02/03/93	04/20/93	08/06/93	10/15/93	02/04/93	04/20/93	08/09/93	10/15/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Depth to Water (ft)	12.8	12.92	15.23	15.95	14.7	14.8	16.77	17.3
Water Temp (degrees C)	15.2	15.7	17	15.7	14.7	15.8	22.6	17.6
pH (pH units)	7.9	7.5	7.4	7.7	7.3	7.1	7.4	7.2
Sp. Cond. (umho/cm)	335	291	312	310	384	336	369	379
Dissolved Oxygen (ppm)	5.3	0.5	1	0.4	3	0.9	2.3	1.5
Oxidation/Reduction (mV)	97	146	73	12	221	190	53	95
.	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
pH (pH units)	7.7	7.8	7.7	7.7	8.2	7.4	7.5	7.3
Sp. Cond. (umho/cm)	318	333	339	335	421	391	386	394
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	210	204	218	234	316	222	256	260
TSS (mg/L)	2	2	<1	<1	22	10	20	5
Turbidity (NTU)	1.4	0.9	1.7	1.5	150	150	14	4
.	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.47	-0.83	-2.03	0.00	1.22	-0.21	0.00	-0.79
Gross Alpha (CE+/-)	1.30	0.77	2.90	2.10	1.60	0.86	3.10	2.00
Gross Beta (pCi/L)	2.74	0.80	1.15	-1.21	-2.95	-0.41	-0.99	-1.21
Gross Beta (CE+/-)	4.10	1.30	5.00	3.00	3.90	1.30	5.20	3.00

(CONTINUED)

APPENDIX E.3
Groundwater Quality Data, 1993

48

Sampling Point . Location . Date Sampled	GW-775				GW-776			
	GRIDH3				GRIDH3			
	02/04/93	04/20/93	08/09/93	10/15/93	02/04/93	04/20/93	08/10/93	10/18/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Depth to Water (ft)	15.15	14.9	12.47	16.1	16	15.7	16	16.55
Water Temp (degrees C)	18.2	17.8	19.8	18.7	18.4	18	18.8	19.3
pH (pH units)	7.6	7.6	7.6	7.6	7.5	7.6	7.1	7.1
Sp. Cond. (umho/cm)	467	385	396	403	573	486	522	478
Dissolved Oxygen (ppm)	3.2	1.6	1.2	0.8	8.9	4.3	9.5	4.4
Oxidation/Reduction (mV)	168	186	12	117	165	192	174	73
.	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
pH (pH units)	8.2	7.7	7.7	7.6	8	7.5	7.5	7.5
Sp. Cond. (umho/cm)	444	441	430	441	571	550	563	530
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	274	254	272	302	350	338	356	356
TSS (mg/L)	4	3	<1	<1	13	45	135	13
Turbidity (NTU)	2.8	1.8	1.4	0.7	12	22	28	18
.	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	1.10	0.22	-0.30	0.32	0.37	-0.83	1.81	-0.17
Gross Alpha (CE+/-)	1.40	0.96	3.10	2.20	1.50	3.20	3.50	2.20
Gross Beta (pCi/L)	-1.66	3.32	0.49	0.26	-2.89	5.88	-1.98	1.30
Gross Beta (CE+/-)	3.90	1.40	5.30	3.10	3.90	3.00	5.20	3.20

APPENDIX F
FIELD DUPLICATE DATA

EXPLANATION

LOCATION:

B4	-	Beta-4 Security Pits
EXP	-	Exit-Pathway Monitoring Well
FF	-	Building 9754-2 Fuel Facility
FTF	-	Fire Training Facility
GRID	-	Comprehensive Groundwater Monitoring Plan Grid Location
NHP	-	New Hope Pond
RG	-	Rust Garage Area
S2	-	S-2 Site
SY	-	Y-12 Salvage Yard
T0134	-	Underground Storage Tank 0134-U
T2331	-	Underground Storage Tank 2331-U
WC	-	Waste Coolant Processing Area

ALL DATA:

- Not Analyzed

VOLATILE ORGANIC COMPOUNDS:

All results in micrograms per Liter (ug/L).

- U - Compound not detected at the reported minimum attainable detection limit.

METALS, MAJOR IONS, MISCELLANEOUS, AND RADIOCHEMICAL PARAMETERS:

All analyses are by Inductively Coupled Plasma (ICP) Spectroscopy unless otherwise noted.

Bicarbonate and carbonate alkalinity reported as CaCO_3 .

- < - Compound not detected at the reported minimum attainable detection limit.
- mg/L - milligrams per Liter
- AAS - Atomic Absorption Spectroscopy
- CVAA - Cold Vapor Atomic Absorption
- Fluor - Fluorometric
- DIS - Dissolved Concentration (Filtered Sample)
- TOT - Total Concentration (Unfiltered Sample)

EXPLANATION (cont'd)

TPH	-	Total Petroleum Hydrocarbons
TDS	-	Total Dissolved Solids
TSS	-	Total Suspended Solids
Sp. Cond.	-	Specific Conductance
ppm	-	parts per million
umho/cm	-	micromhos per centimeter
NTU	-	Nephelometric Turbidity Unit
mV	-	millivolts
pCi/L	-	picoCuries per liter
Bq/L	-	Becquerels per liter
CE +/-	-	Counting Error (two standard deviations)

APPENDIX F.1

TRACE METALS AND MAJOR IONS

APPENDIX F.1
Field Duplicate Groundwater Quality Data, 1993

1

Sampling Point Location Date Sampled	GW-151		GW-170		GW-183			
	NHP		EXP		FF			
	08/06/93		05/24/93		03/10/93		06/21/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	<0.02	<0.02	0.26	0.037	0.21	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.19	0.19	0.086	0.084	0.22	0.22	0.21	0.22
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.074	0.087	0.079	0.071	0.037	0.028	0.049	0.06
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.0044	<0.004	<0.004	0.066	<0.004	<0.004	<0.004	<0.004
Iron	0.038	<0.005	0.051	<0.005	2.1	0.86	1.1	0.86
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.52	0.53	0.51	0.5	0.65	0.65	0.64	0.64
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	0.001	0.001	0.001	0.002	0.002	0.002
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0093	0.0065	0.0088	0.025	<0.002	0.0042	0.0026	0.0067
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	217	.	212	.	437	.	453	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	54	53	45	44	140	140	140	140
Chloride	13	.	11.9	.	33.6	.	31	.
Fluoride	0.1	.	0.2	.	<0.1	.	<0.1	.
Magnesium	24	24	23	23	23	23	24	24
Manganese	0.0015	0.0014	<0.001	0.0017	0.74	0.5	0.3	0.34
Nitrate-N	0.92	.	0.71	.	<0.2	.	<0.2	.
Potassium	2.7	2.5	2.1	2.3	2.4	1.8	1.8	1.7
Sodium	7	7	14	14	25	26	24	24
Sulfate	22	.	17.6	.	26.3	.	29	.

(CONTINUED)

APPENDIX F.1
Field Duplicate Groundwater Quality Data, 1993

2

Sampling Point . Location . Date Sampled	GW-183				GW-190			
	FF				RG			
	09/22/93		11/16/93		06/17/93		09/15/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	1.9	0.035	0.12	<0.02	0.26	<0.02	0.076	0.021
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.25	0.24	0.23	0.21	0.13	0.11	0.13	0.12
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.00044	<0.0003
Boron	0.073	0.055	0.046	0.076	0.013	0.015	0.019	0.02
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	0.0046	0.011	<0.004
Iron	2.7	0.51	0.36	0.024	0.7	0.1	0.33	0.027
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	0.011	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.74	0.73	0.72	0.7	0.11	0.11	0.14	0.12
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.003	0.002	0.002	0.003	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.012	0.0056	0.028	0.035	0.021	0.024	0.024	0.017
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	453	.	467	.	110	.	116	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	150	150	160	150	35	36	43	35
Chloride	31	.	32	.	6.4	.	5.7	.
Fluoride	<0.1	.	<0.1	.	0.2	.	0.1	.
Magnesium	25	25	28	26	6.1	6.1	6.3	6.2
Manganese	0.21	0.18	0.21	0.23	0.35	0.19	0.28	0.34
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	2.5	1.9	2.1	1.8	0.67	1.3	0.99	1.2
Sodium	28	27	25	27	8.2	8.3	8.7	8.1
Sulfate	30	.	24	.	16	.	20	.

(CONTINUED)

APPENDIX F.1
Field Duplicate Groundwater Quality Data, 1993

3

Sampling Point Location Date Sampled	GW-207				GW-208			
	EXP				EXP			
	08/11/93		10/26/93		01/19/93		05/06/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.027
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.05	0.049	0.047	0.047	0.039	0.04	0.037	0.039
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.1	0.11	0.11	0.11	0.22	0.21	0.23	0.34
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.014
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.0074
Iron	0.22	0.2	0.2	0.2	0.63	0.47	0.49	0.54
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.015
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.53	0.52	0.48	0.48	1.3	1.3	1.3	1.3
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	0.002	<0.001	0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0041	0.011	<0.002	0.0078	1.8	1.4	1.2	1
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	265	.	272	.	222	.	220	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	59	59	57	58	72	71	75	75
Chloride	1.9	.	1	.	1.3	.	1.6	.
Fluoride	0.2	.	0.2	.	0.3	.	0.2	.
Magnesium	39	39	37	37	23	23	24	24
Manganese	0.01	0.0098	0.0099	0.01	0.015	0.014	0.014	0.018
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	2.5	2.9	3.1	3	2.8	2.9	2.9	7.8
Sodium	11	11	10	9.7	15	15	15	16
Sulfate	51	.	55	.	116	.	100	.

(CONTINUED)

APPENDIX F.1
Field Duplicate Groundwater Quality Data, 1993

4

Sampling Point . Location . Date Sampled	GW-255						GW-262	
	S2						SY	
	01/08/93		05/03/93		12/07/93		01/11/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	2	<0.02	3.7	<0.02	29	0.025	0.039	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	0.071	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.04	0.031	0.046	0.029	0.21	0.04	0.28	0.27
Beryllium	<0.0003	<0.0003	0.00035	<0.0003	0.0034	<0.0003	<0.0003	<0.0003
Boron	0.025	0.0096	0.023	0.019	0.065	0.034	0.012	0.013
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	0.0025	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	0.0044	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	0.012	<0.01	0.05	<0.01	0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	0.028	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	0.031	<0.005	<0.005	<0.005
Copper	0.011	<0.004	0.0079	<0.004	0.099	<0.004	<0.004	<0.004
Iron	3	<0.005	4.8	<0.005	38	<0.005	0.17	0.035
Lead (AAS)	0.0053	<0.004	0.0087	<0.004	0.076	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	0.00039	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	0.012	<0.01	0.044	<0.01	<0.01	0.011
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.028	0.027	0.026	0.025	0.039	0.034	0.15	0.15
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Vanadium	0.0065	<0.005	<0.005	<0.005	0.053	<0.005	<0.005	<0.005
Zinc	0.019	<0.002	0.04	0.012	0.19	<0.002	0.0099	0.0059
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	238	.	239	.	245	.	195	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	56	58	50	49	66	74	61	63
Chloride	5.5	.	4.8	.	6	.	<1	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	0.1	.
Magnesium	31	30	32	30	42	37	5.9	6
Manganese	0.1	<0.001	0.23	<0.001	2.7	<0.001	0.066	0.062
Nitrate-N	1.7	.	2.2	.	3	.	<0.2	.
Potassium	1.6	0.91	1.6	1.1	6.9	1.4	1.4	1.3
Sodium	3.4	3.3	3.3	3.2	3.8	3.4	14	14
Sulfate	11	.	12	.	9	.	14	.

(CONTINUED)

APPENDIX F.1
Field Duplicate Groundwater Quality Data, 1993

5

Sampling Point . Location . Date Sampled	GW-262				GW-264		GW-382	
	SY				SY		NHP	
	04/08/93		07/01/93		12/08/93		01/28/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.18	0.07	1.1	<0.02	0.64	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.27	0.27	0.28	0.27	0.039	0.029	0.11	0.11
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.012	0.013	0.011	0.0099	0.072	0.14	0.068	0.062
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	0.005	<0.004	<0.004	<0.004	0.0043
Iron	0.71	0.022	1.3	<0.005	0.92	0.044	0.91	0.17
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.011
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.15	0.15	0.15	0.15	0.33	0.33	0.4	0.4
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	0.001	0.001	0.002	0.001	0.001	0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.021	0.013	0.011	0.01	0.0066	0.0039	<0.002	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	201	.	208	.	431	.	205	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	65	64	66	63	150	150	51	51
Chloride	<1	.	<1	.	11.6	.	20	.
Fluoride	0.2	.	0.1	.	<0.1	.	0.2	.
Magnesium	6.2	6	6.4	6	42	39	25	25
Manganese	0.1	0.097	0.094	0.057	0.05	0.04	0.006	0.006
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	2.8	.
Potassium	1.7	1.6	2.2	1.6	3.9	3.4	1.1	1.3
Sodium	14	14	14	15	29	28	6.2	6.3
Sulfate	13	.	12	.	155	.	16	.

(CONTINUED)

APPENDIX F.1
Field Duplicate Groundwater Quality Data, 1993

6

Sampling Point	GW-382		GW-606		GW-618		GW-631	
Location	NHP		EXP		EXP		RG	
Date Sampled	04/26/93		08/20/93		09/16/93		03/02/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.33	0.19
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.15	0.15	0.094	0.095	0.061	0.061	0.33	0.37
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.00082	0.00082
Boron	0.035	0.038	0.03	0.033	0.15	0.15	0.037	0.047
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	0.029	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	0.026	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.028	0.026
Copper	0.0055	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	1.5	0.36	<0.005	<0.005	0.14	0.14	0.14	0.012
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.051	0.042
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.36	0.36	0.5	0.5	0.18	0.18	0.095	0.11
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	0.008	0.01	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.024	0.002	0.0034	0.015	0.0069	0.0049	0.11	0.097
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	203	.	227	.	279	.	8	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	52	52	75	74	100	100	13	16
Chloride	19.5	.	46	.	28	.	48	.
Fluoride	0.2	.	<0.1	.	0.2	.	0.1	.
Magnesium	25	25	36	36	9.5	9.6	9.1	10
Manganese	0.014	0.011	0.02	0.021	1.9	2	0.95	0.86
Nitrate-N	2.08	.	0.58	.	2.1	.	2.8	.
Potassium	1.5	0.73	3.4	3.5	3.5	3.6	2.2	2.5
Sodium	6.1	6.1	5	5	18	18	17	17
Sulfate	13.3	.	26	.	68	.	3	.

(CONTINUED)

APPENDIX F.1
Field Duplicate Groundwater Quality Data, 1993

7

Sampling Point . Location . Date Sampled	GW-631		GW-735					
	RG		NHP					
	11/17/93		02/02/93		05/07/93		10/29/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	2.3	0.18	0.52	<0.02	0.45	0.036	0.25	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.29	0.19	0.28	0.27	0.29	0.28	0.31	0.3
Beryllium	0.00079	0.00088	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.063	0.052	0.031	0.017	0.038	0.045	0.025	0.027
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.022	0.032	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.0051	0.0066	0.0045	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	2.3	0.047	0.6	0.043	0.63	0.04	0.45	0.03
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.033	0.029	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.078	0.047	0.24	0.24	0.27	0.26	0.26	0.26
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.21	0.062	0.0044	0.0024	0.0046	0.0036	0.0044	0.011
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	9	.	289	.	280	.	292	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	11	6.1	110	110	110	110	120	110
Chloride	44	.	13	.	15	.	11	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	7.1	5	8.2	8.1	8.2	8	8.7	8.5
Manganese	0.85	0.89	0.23	0.22	0.25	0.24	0.27	0.25
Nitrate-N	3.9	.	<0.2	.	<0.2	.	<0.2	.
Potassium	2.9	2.2	2.5	2.1	2.4	2.2	2.2	2.3
Sodium	17	16	3.5	3.5	3.4	3.4	3.8	3.8
Sulfate	3	.	23	.	19	.	20	.

(CONTINUED)

APPENDIX F.1
Field Duplicate Groundwater Quality Data, 1993

8

Sampling Point . Location . Date Sampled	GW-747				GW-751		GW-753	
	GRIDK2				GRIDJ3		GRIDJ2	
	01/19/93		04/13/93		10/26/93		08/03/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.021	<0.02	0.024	<0.02	0.12	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.13	0.12	0.13	0.13	0.57	0.57	0.22	0.21
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.064	0.088	0.086	0.071	0.042	0.037	0.04	0.053
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.13	0.11	0.1	0.088	0.2	0.12	0.23	0.15
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.58	0.57	0.58	0.58	0.46	0.46	0.37	0.36
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0067	0.0063	<0.002	<0.002	0.0026	<0.002	0.011	0.0064
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	206	.	203	.	184	.	199	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	51	50	53	53	57	56	61	58
Chloride	6	.	5.5	.	10	.	3.1	.
Fluoride	<0.1	.	0.2	.	<0.1	.	<0.1	.
Magnesium	11	10	10	10	9.9	9.7	9.4	9
Manganese	0.014	0.014	0.013	0.013	0.014	0.013	0.036	0.034
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	0.83	.
Potassium	1.9	1.8	2	1.7	3.1	3.1	2.3	2.1
Sodium	23	23	24	24	8.7	8.7	12	11
Sulfate	26	.	23.9	.	4	.	15	.

(CONTINUED)

APPENDIX F.1
Field Duplicate Groundwater Quality Data, 1993

9

Sampling Point . Location . Date Sampled	GW-755		GW-758					
	GRIDJ1		GRIDG1					
	10/21/93		04/13/93		09/12/93		11/19/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.024	0.024	0.082	<0.02	0.033	<0.02	0.043	0.029
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.19	0.19	0.11	0.11	0.12	0.12	0.11	0.12
Beryllium	<0.0003	0.00034	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.13	0.11	0.061	0.06	0.072	0.05	0.094	0.11
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.014	0.012
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.0084	0.0063	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.054	0.024	0.28	0.19	0.43	0.19	0.46	0.28
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.013
Selenium	<0.05	<0.05	<0.05	<0.05	0.053	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.86	0.89	0.43	0.43	0.46	0.47	0.48	0.5
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0097	0.0097	0.0032	0.0032	0.0036	0.0072	<0.002	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	217	.	188	.	199	.	198	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Calcium	23	25	62	62	72	73	66	70
Chloride	15	.	14	.	14.7	.	20	.
Fluoride	0.5	.	0.1	.	0.1	.	0.2	.
Magnesium	5.8	6.1	8	8	9.1	9.2	8.7	9.1
Manganese	0.013	0.018	0.19	0.19	0.25	0.25	0.21	0.23
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	3.1	3	2.6	2.6	1.9	2	2.5	2.7
Sodium	83	75	14	14	14	14	14	15
Sulfate	16	.	21	.	19.5	.	17	.

(CONTINUED)

APPENDIX F.1
Field Duplicate Groundwater Quality Data, 1993

10

Sampling Point . Location . Date Sampled	GW-760		GW-766					
	GRIDG2		GRIDI2					
	01/27/93		04/15/93		08/03/93		10/13/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.16	0.15	0.056	<0.02	0.03	0.026	0.049	0.045
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.43	0.44	0.22	0.23	0.23	0.23	0.26	0.28
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.029	0.037	0.039	0.027	0.056	0.04	0.03	0.034
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	0.18	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	0.043	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.34	0.0069	0.025	0.015	0.058	0.011	0.056	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.082	0.064	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	0.059	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.23	0.24	0.37	0.38	0.43	0.42	0.52	0.72
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0043	0.011	0.0046	0.0058	0.0048	0.0089	<0.002	0.0045
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	154	.	109	.	124	.	122	.
Alkalinity-CO3	<1	.	16	.	4	.	12	.
Calcium	110	110	33	35	35	33	35	39
Chloride	182	.	2.7	.	3.9	.	4	.
Fluoride	<0.1	.	0.1	.	<0.1	.	0.1	.
Magnesium	12	12	6.1	6.4	7.2	7	7.3	8.9
Manganese	0.042	0.038	0.0041	0.0033	0.006	0.0052	0.0076	0.0067
Nitrate-N	0.29	.	<0.2	.	<0.2	.	<0.2	.
Potassium	2	2.2	3.7	3.7	3.6	4.1	4	4.6
Sodium	8.9	9.1	12	12	12	12	13	12
Sulfate	17	.	10	.	14	.	9	.

(CONTINUED)

APPENDIX F.1

11

Field Duplicate Groundwater Quality Data, 1993

Sampling Point	GW-773	
Location	GRIDH2	
Date Sampled	02/03/93	
	TOT	DIS
METALS (mg/L)	.	.
Aluminum	0.051	0.034
Antimony	<0.05	<0.05
Arsenic	<0.05	<0.05
Barium	0.35	0.35
Beryllium	<0.0003	<0.0003
Boron	0.034	0.035
Cadmium (AAS)	<0.002	<0.002
Cadmium	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01
Chromium	<0.01	<0.01
Cobalt	<0.005	<0.005
Copper	<0.004	<0.004
Iron	0.098	0.14
Lead (AAS)	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002
Molybdenum	<0.01	<0.01
Nickel	<0.01	<0.01
Selenium	<0.05	<0.05
Silver	<0.006	<0.006
Strontium	0.16	0.15
Thorium	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001
Vanadium	<0.005	<0.005
Zinc	0.0089	0.0074
MAJOR IONS (mg/L)	.	.
Alkalinity-HCO3	163	.
Alkalinity-CO3	<1	.
Calcium	52	52
Chloride	2.7	.
Fluoride	<0.1	.
Magnesium	6.9	6.8
Manganese	0.037	0.032
Nitrate-N	<0.2	.
Potassium	1.2	1.2
Sodium	4.8	4.6
Sulfate	7.6	.

APPENDIX F.2

VOLATILE ORGANIC COMPOUNDS

APPENDIX F.2
Field Duplicate Data, 1993

1

Sampling Point	GW-151	GW-170	GW-183					GW-190
Location	NHP	EXP	FF					RG
Date Sampled	08/06/93	05/24/93	03/10/93	06/21/93	06/29/93	09/22/93	11/16/93	06/17/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	20U	10U	10	10U	.	10U	10U	20U
Benzene	10U	5U	310	32	.	71	7	10U
Bromodichloromethane	10U	5U	5U	5U	.	5U	5U	10U
Bromoform	10U	5U	5U	5U	.	5U	5U	10U
Bromomethane	20U	10U	10U	10U	.	10U	10U	20U
2-Butanone	20U	4	10U	10U	.	10U	10U	20U
Carbon disulfide	10U	5U	5U	5U	.	5U	5U	10U
Carbon tetrachloride	520	5U	5U	5U	.	5U	5U	10U
Chlorobenzene	10U	5U	5U	5U	.	5U	5U	10U
Chlorodibromomethane	10U	5U	5U	5U	.	5U	5U	10U
Chloroethane	20U	10U	10U	10U	.	10U	10U	20U
Chloroform	20	63	5U	5U	.	5U	5U	10U
Chloromethane	20U	10U	10U	10U	.	10U	10U	20U
1,1-Dichloroethane	10U	5U	5U	5U	.	5U	5U	7
1,2-Dichloroethane	10U	5U	6	5U	.	5U	5U	10U
1,1-Dichloroethene	10U	5U	5U	5U	.	5U	5U	10U
1,2-Dichloroethene	10U	5U	5U	5U	.	5U	5U	250
1,2-Dichloropropane	10U	5U	5U	5U	.	5U	5U	10U
cis-1,3-Dichloropropene	10U	5U	5U	5U	.	5U	5U	10U
trans-1,3-Dichloropropene	10U	5U	5U	5U	.	5U	5U	10U
Ethylbenzene	10U	5U	19	3	.	4	1	10U
2-Hexanone	20U	10U	10U	10U	.	10U	10U	20U
4-Methyl-2-pentanone	20U	1	10U	10U	.	10U	10U	20U
Methylene chloride	10U	2	2	5U	.	5U	0.9	10U
Styrene	10U	5U	1	5U	.	5U	5U	10U
1,1,2,2-Tetrachloroethane	10U	5U	5U	5U	.	5U	5U	10U
Tetrachloroethene	21	5	5U	5U	.	5U	5U	72
Toluene	10U	5U	140	26	.	35	5	10U
1,1,1-Trichloroethane	10U	5U	5U	5U	.	5U	5U	10U
1,1,2-Trichloroethane	10U	5U	5U	5U	.	5U	5U	10U
Trichloroethene	10U	2	5U	5U	.	5U	5U	79
Vinyl acetate	20U	10U	66	10U	.	10U	10U	20U
Vinyl chloride	20U	10U	10U	10U	.	10U	10U	59
Xylenes	10U	5U	71	11	.	20	4	10U

(CONTINUED)

APPENDIX F.2
Field Duplicate Data, 1993

2

Sampling Point	GW-190		GW-207		GW-208		GW-255	
Location	RG		EXP		EXP		S2	
Date Sampled	07/07/93	09/15/93	08/11/93	10/26/93	01/19/93	05/06/93	01/08/93	05/03/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	.	20U	10U	3	10U	10U	10U	10U
Benzene	.	10U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	.	10U	5U	5U	5U	5U	5U	5U
Bromoform	.	10U	5U	5U	5U	5U	5U	5U
Bromomethane	.	20U	10U	10U	10U	10U	10U	10U
2-Butanone	.	20U	10U	8	10U	10U	10U	10U
Carbon disulfide	.	10U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	.	10U	5U	5U	5U	5U	5U	5U
Chlorobenzene	.	10U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	.	10U	5U	5U	5U	5U	5U	5U
Chloroethane	.	20U	10U	10U	10U	10U	10U	10U
Chloroform	.	10U	5U	5U	5U	5U	1	1
Chloromethane	.	20U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	.	5	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	.	10U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	.	10U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	.	170	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	.	10U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	.	10U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	.	10U	5U	5U	5U	5U	5U	5U
Ethylbenzene	.	10U	5U	5U	5U	5U	5U	5U
2-Hexanone	.	20U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	.	20U	10U	10U	10U	10U	1	10U
Methylene chloride	.	10U	5U	2	5U	5U	5U	5U
Styrene	.	10U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	.	10U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	.	94	5U	5U	5U	5U	5U	5U
Toluene	.	10U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	.	10U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	.	10U	5U	5U	5U	5U	5U	5U
Trichloroethene	.	46	5U	5U	5U	5U	5U	5U
Vinyl acetate	.	20U	10U	10U	10U	10U	10U	10U
Vinyl chloride	.	49	10U	10U	10U	10U	10U	10U
Xylenes	.	10U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX F.2
Field Duplicate Data, 1993

3

Sampling Point	GW-255	GW-262			GW-264	GW-382		GW-606
Location	S2	SY			SY	NHP		EXP
Date Sampled	12/07/93	01/11/93	04/08/93	07/01/93	12/08/93	01/28/93	04/26/93	08/20/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	80U	100U	50U
Benzene	5U	5U	5U	5U	5U	40U	50U	25U
Bromodichloromethane	5U	5U	5U	5U	5U	40U	50U	25U
Bromoform	5U	5U	5U	5U	5U	40U	50U	25U
Bromomethane	10U	10U	10U	10U	10U	80U	100U	50U
2-Butanone	10U	10U	10U	10U	10U	80U	100U	50U
Carbon disulfide	5U	5U	5U	5U	5U	40U	50U	25U
Carbon tetrachloride	5U	5U	5U	5U	5U	1200	5400	730
Chlorobenzene	5U	5U	5U	5U	5U	40U	50U	25U
Chlorodibromomethane	5U	5U	5U	5U	5U	40U	50U	25U
Chloroethane	10U	10U	10U	10U	10U	80U	100U	50U
Chloroform	1	5U	5U	5U	5U	890	380	250
Chloromethane	10U	10U	10U	10U	10U	80U	100U	50U
1,1-Dichloroethane	5U	5U	5U	5U	5U	40U	50U	25U
1,2-Dichloroethane	5U	5U	5U	5U	5U	40U	50U	25U
1,1-Dichloroethene	5U	5U	5U	5U	5U	40U	50U	25U
1,2-Dichloroethene	5U	5U	5U	5U	5U	40U	50U	25U
1,2-Dichloropropane	5U	5U	5U	5U	5U	40U	50U	25U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	40U	50U	25U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	40U	50U	25U
Ethylbenzene	5U	5U	5U	5U	5U	40U	50U	25U
2-Hexanone	10U	10U	10U	10U	10U	80U	100U	50U
4-Methyl-2-pentanone	10U	2	10U	10U	10U	80U	100U	50U
Methylene chloride	5U	5U	5U	5U	5U	24	50U	25U
Styrene	5U	5U	5U	5U	5U	40U	50U	25U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	40U	50U	25U
Tetrachloroethene	5U	5U	5U	5U	5U	94	250	6
Toluene	5U	5U	5U	5U	5U	40U	50U	25U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	40U	50U	25U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	40U	50U	25U
Trichloroethene	5U	5U	5U	5U	5U	19	34	25U
Vinyl acetate	10U	10U	10U	10U	10U	80U	100U	50U
Vinyl chloride	10U	10U	10U	10U	10U	80U	100U	50U
Xylenes	5U	5U	5U	5U	5U	40U	50U	25U

(CONTINUED)

APPENDIX F.2
Field Duplicate Data, 1993

4

Sampling Point	GW-618	GW-631		GW-735			GW-747	
Location	EXP	RG		NHP			GRIDK2	
Date Sampled	09/16/93	03/02/93	11/17/93	02/02/93	05/07/93	10/29/93	01/19/93	04/13/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	1	10U
Benzene	5U	2	2	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	9	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	39	1	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	2	10U
Methylene chloride	5U	5U	5U	5U	0.7	1	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	10	4	5	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	17	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	5	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX F.2
Field Duplicate Data, 1993

5

Sampling Point	GW-751	GW-753	GW-755	GW-758			GW-760	GW-766
Location	GRIDJ3	GRIDJ2	GRIDJ1	GRIDG1			GRIDG2	GRIDI2
Date Sampled	10/26/93	08/03/93	10/21/93	04/13/93	09/12/93	11/19/93	01/27/93	04/15/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	1	1	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX F.2
Field Duplicate Data, 1993

6

Sampling Point . Location . Date Sampled	GW-766		GW-773
	GRID12		GRIDH2
	08/03/93	10/13/93	02/03/93
VOLATILE ORGANICS (ug/L)	.	.	.
	.	.	.
Acetone	10U	10U	10U
Benzene	5U	5U	5U
Bromodichloromethane	5U	5U	5U
Bromoform	5U	5U	5U
Bromomethane	10U	10U	10U
2-Butanone	10U	10U	10U
Carbon disulfide	5U	5U	5U
Carbon tetrachloride	5U	5U	5U
Chlorobenzene	5U	5U	5U
Chlorodibromomethane	5U	5U	5U
Chloroethane	10U	10U	10U
Chloroform	5U	5U	5U
Chloromethane	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U
Ethylbenzene	5U	5U	5U
2-Hexanone	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	2
Methylene chloride	5U	5U	2
Styrene	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U
Tetrachloroethene	5U	5U	5U
Toluene	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U
Trichloroethene	5U	5U	5U
Vinyl acetate	10U	10U	10U
Vinyl chloride	10U	10U	10U
Xylenes	5U	5U	5U

APPENDIX F.3

**FIELD MEASUREMENTS, MISCELLANEOUS PARAMETERS, AND
GROSS ALPHA AND GROSS BETA ACTIVITIES**

APPENDIX F.3
Field Duplicate Groundwater Data, 1993

1

Sampling Point	GW-151	GW-170	GW-183					GW-190
Location	NHP	EXP	FF					RG
Date Sampled	08/06/93	05/24/93	03/10/93	06/21/93	06/29/93	09/22/93	11/16/93	06/17/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	.	.	.	.	.	.	.	.
Water Temp (degrees C)	17.2	16.5	17.5	17.5	17.9	18.5	18.4	19.5
pH (pH units)	7.3	7.8	6.9	6.8	6.6	6.9	6.8	6.8
Sp. Cond. (umho/cm)	437	363	863	764	779	825	921	238
Dissolved Oxygen (ppm)	0.5	0.9	1.1	1.3	1.9	3.4	1.3	4.8
Oxidation/Reduction (mV)	169	26	-55	-30	25	41	59	192
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.6	7.9	6.9	7.7	.	7.1	7.1	7.5
Sp. Cond. (umho/cm)	495	464	951	914	.	948	938	259
TPH (mg/L)	.	.	0.045	.	.	<0.1	0.005	.
TDS (mg/L)	262	262	560	566	.	574	554	178
TSS (mg/L)	<1	<1	11	10	.	27	3	5
Turbidity (NTU)	3.8	1.4	5.8	7.2	.	15	2.5	11
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.60	-2.42	0.00	3.59	.	1.62	1.62	-2.59
Gross Alpha (CE+/-)	3.30	2.80	4.90	4.70	.	4.20	2.40	1300.00
Gross Beta (pCi/L)	3.79	-2.48	1.55	7.62	.	3.64	2.03	-4.28
Gross Beta (CE+/-)	5.20	5.40	5.40	5.70	.	5.60	2.80	2500.00

(CONTINUED)

APPENDIX F.3
Field Duplicate Groundwater Data, 1993

2

Sampling Point . Location . Date Sampled	GW-190		GW-207		GW-208		GW-255	
	RG		EXP		EXP		S2	
	07/07/93	09/15/93	08/11/93	10/26/93	01/19/93	05/06/93	01/08/93	05/03/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	.	.	.	.	.	.	.	.
Water Temp (degrees C)	19.4	18	16.7	15.8	12.8	16.7	13.9	14.9
pH (pH units)	6.8	6.5	7.4	7.4	7.2	7.1	7.5	7
Sp. Cond. (umho/cm)	221	248	515	538	563	497	453	388
Dissolved Oxygen (ppm)	7.4	4.2	0.5	5.9	4.3	2.9	7.3	4.4
Oxidation/Reduction (mV)	128	334	-8	-2	-50	70	214	226
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	.	7	7.6	7.9	7.5	7.5	7.7	7.7
Sp. Cond. (umho/cm)	.	258	576	590	598	614	508	503
TPH (mg/L)	<0.1	<0.1	.	.	.	.	.	.
TDS (mg/L)	.	192	368	360	410	392	304	310
TSS (mg/L)	.	1	1	<1	2	<1	57	93
Turbidity (NTU)	.	3	1.3	0.7	3.6	1.8	42	120
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	.	0.47	-1.69	2.60	-0.18	-1.50	1.31	1.69
Gross Alpha (CE+/-)	.	1.60	1.90	1.80	1.90	0.82	2.30	0.94
Gross Beta (pCi/L)	.	0.86	4.97	1.42	1.27	3.83	1.76	0.48
Gross Beta (CE+/-)	.	2.70	2.70	2.70	2.80	1.30	2.80	1.50

(CONTINUED)

APPENDIX F.3
Field Duplicate Groundwater Data, 1993

3

Sampling Point	GW-255	GW-262				GW-264	GW-382		GW-606
Location	S2	SY				SY	NHP		EXP
Date Sampled	12/07/93	01/11/93	04/08/93	07/01/93	12/08/93	01/28/93	04/26/93	08/20/93	
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.	.
Depth to Water (ft)	.	.	.	.	.	.	.	.	.
Water Temp (degrees C)	14.1	14	16.4	20	16	15.2	15.9	18.8	
pH (pH units)	7.2	7.6	7.6	7.6	7.2	7.6	7.4	7.6	
Sp. Cond. (umho/cm)	464	384	353	414	1010	444	424	595	
Dissolved Oxygen (ppm)	4.5	1.5	7.4	5.8	7.2	1.8	2.4	2.5	
Oxidation/Reduction (mV)	140	104	76	126	54	66	32	83	
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.	.
pH (pH units)	7.5	8.3	7.7	8.1	7.3	8	7.6	7.6	
Sp. Cond. (umho/cm)	489	400	405	400	1090	490	476	609	
TPH (mg/L)	.	.	.	.	.	.	.	.	
TDS (mg/L)	340	252	254	272	752	268	282	354	
TSS (mg/L)	1064	1	12	40	44	<1	2	<1	
Turbidity (NTU)	580	1.8	9	60	200	5	13	0.9	
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	2.77	1.85	0.87	-1.84	1.07	2.10	-0.83	4.06	
Gross Alpha (CE+/-)	2.10	2.30	2.30	3.80	1.40	1.60	2.30	3.00	
Gross Beta (pCi/L)	5.17	2.12	1.99	-1.16	2.03	5.15	2.68	3.11	
Gross Beta (CE+/-)	2.70	2.90	2.80	5.60	2.50	2.90	2.70	2.90	

(CONTINUED)

APPENDIX F.3
Field Duplicate Groundwater Data, 1993

4

Sampling Point	GW-618	GW-631		GW-735			GW-747	
Location	EXP	RG		NHP			GRIDK2	
Date Sampled	09/16/93	03/02/93	11/17/93	02/02/93	05/07/93	10/29/93	01/19/93	04/13/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	.	.	.	.	.	.	.	.
Water Temp (degrees C)	17.7	13.1	20.6	13.3	16.1	14.1	13.6	16.1
pH (pH units)	6	4.3	3.8	7.1	7.1	6.5	7.4	7.6
Sp. Cond. (umho/cm)	638	235	189	572	505	578	428	381
Dissolved Oxygen (ppm)	0.4	6.4	3.1	0.9	0.6	0.4	1.2	1.5
Oxidation/Reduction (mV)	145	276	318	88	19	102	27	129
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	6.6	4.9	4.8	7.3	7.6	7.3	7.7	7.5
Sp. Cond. (umho/cm)	675	231	222	635	617	618	456	438
TPH (mg/L)	.	0.0031	0.003	.	.	.	.	.
TDS (mg/L)	376	152	150	384	382	402	276	272
TSS (mg/L)	1	3	3	7	6	13	<1	2
Turbidity (NTU)	1.2	2.5	5	15	14	20	1.2	0.6
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	1.52	2.07	0.63	1.26	-1.04	1.97	-1.16	1.18
Gross Alpha (CE+/-)	1.90	1.60	0.78	2.50	0.69	2.30	1.50	1.90
Gross Beta (pCi/L)	5.40	9.39	2.55	4.32	4.57	4.01	1.17	4.97
Gross Beta (CE+/-)	3.00	3.50	2.50	3.10	1.30	2.80	2.70	2.80

(CONTINUED)

APPENDIX F.3
Field Duplicate Groundwater Data, 1993

5

Sampling Point	GW-751	GW-753	GW-755	GW-758			GW-760	GW-766
Location	GRIDJ3	GRIDJ2	GRIDJ1	GRIDG1			GRIDG2	GRIDI2
Date Sampled	10/26/93	08/03/93	10/21/93	04/13/93	09/12/93	11/19/93	01/27/93	04/15/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	.	.	.	.	.	.	.	.
Water Temp (degrees C)	16.3	17.9	15.8	17.3	17.2	15.8	16.9	16
pH (pH units)	7.5	7.8	7.6	7.6	6.9	7.4	6.9	8.5
Sp. Cond. (umho/cm)	365	362	409	360	418	427	619	241
Dissolved Oxygen (ppm)	0.3	0.4	2.2	6	0.5	5.6	7.8	2.5
Oxidation/Reduction (mV)	-90	-80	110	-10	101	65	175	116
	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
pH (pH units)	7.9	7.9	8	7.6	7.8	7.6	7.7	8.9
Sp. Cond. (umho/cm)	387	397	475	443	446	464	698	195
TPH (mg/L)	.	.	.	.	.	.	.	<0.1
TDS (mg/L)	246	262	304	282	290	280	436	166
TSS (mg/L)	10	<1	<1	9	2	2	6	<1
Turbidity (NTU)	2.8	1.3	2.4	3.8	2.3	3.7	3.3	2.9
	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	1.53	-6.18	0.50	0.81	0.00	-1.05	2.05	-1.08
Gross Alpha (CE+/-)	1.60	4.00	2.10	1.00	3.90	1.30	2.50	0.67
Gross Beta (pCi/L)	2.15	-6.42	0.42	0.38	4.85	-2.79	-0.78	3.45
Gross Beta (CE+/-)	2.70	5.90	2.80	1.20	5.90	3.00	2.80	1.30

(CONTINUED)

APPENDIX F.3
Field Duplicate Groundwater Data, 1993

6

Sampling Point . Location . Date Sampled	GW-766		GW-773
	GRID12		GRIDH2
	08/03/93	10/13/93	02/03/93
FIELD MEASUREMENTS	.	.	.
	.	.	.
Depth to Water (ft)	.	.	.
Water Temp (degrees C)	20.7	17.2	15.3
pH (pH units)	9	8.6	7.9
Sp. Cond. (umho/cm)	255	265	365
Dissolved Oxygen (ppm)	8	5.4	5
Oxidation/Reduction (mV)	16	131	85
	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.
	.	.	.
pH (pH units)	8.5	8.6	7.7
Sp. Cond. (umho/cm)	270	275	318
TPH (mg/L)	<0.1	<0.1	.
TDS (mg/L)	186	204	204
TSS (mg/L)	1	3	34
Turbidity (NTU)	1.9	1.4	1.2
	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.
	.	.	.
Gross Alpha (pCi/L)	-3.74	2.61	0.47
Gross Alpha (CE+/-)	4.20	1.90	1.30
Gross Beta (pCi/L)	-6.89	3.39	-2.32
Gross Beta (CE+/-)	5.80	2.70	3.80

APPENDIX G

ION-CHARGE BALANCE CALCULATIONS

EXPLANATION

LOCATION:

B4	-	Beta-4 Security Pits
EXP	-	Exit-Pathway Monitoring Well
FF	-	Building 9754-2 Fuel Facility
FTF	-	Fire Training Facility
GRID	-	Comprehensive Groundwater Monitoring Plan Grid Location
NHP	-	New Hope Pond
RG	-	Rust Garage Area
S2	-	S-2 Site
SY	-	Y-12 Salvage Yard
T0134	-	Underground Storage Tank 0134-U
T2331	-	Underground Storage Tank 2331-U
WC	-	Waste Coolant Processing Area

NOTES:

mg/L	-	milligrams per Liter
meq/L	-	milliequivalents per Liter
TDS	-	Total Dissolved Solids
TSS	-	Total Suspended Solids

Bicarbonate and carbonate alkalinities (reported as CaCO_3) were converted to HCO_3 and CO_3 as described in Mercier and Turner (1990).

Charge balances for each sample were evaluated by computing a relative percent difference (RPD) in the summed milliequivalent concentrations of the principal cations and anions using the following formula:

$$RPD \text{ (\%)} = \left(\frac{\sum \text{cations} - \sum \text{anions}}{\sum \text{cations} + \sum \text{anions}} \right) \times 100$$

EXPLANATION

Using this formula, the RPD calculated for the following samples exceeded 10%:

Monitoring Well	Location	Sampling Date	RPD
GW-151	NHP	4/22/93	39.6
GW-190	RG	3/1/93	48.5
GW-193	T2331	9/23/93	40.1
GW-206	EXP	8/12/93	37.1
GW-206	EXP	10/27/93	-11.2
GW-232	EXP	8/21/93	11.1
GW-232	EXP	11/1/93	11.2
GW-251	S2	01/20/93	-11.2
GW-251	S2	09/17/93	-51.8
GW-252	S2	01/08/93	-24.7
GW-252	S2	5/3/93	43.4
GW-252	S2	12/07/93	-54.3
GW-281	FF	10/14/93	-14.2
GW-283	FF	10/14/93	-36.2
GW-337	WC	12/09/93	-11.2
GW-380	NHP	08/05/93	-36.6
GW-380	NHP	10/29/93	12.1
GW-508	RG	03/05/93	-28.3
GW-508	RG	11/19/93	-28.9
GW-617	EXP	09/16/93	-16.1
GW-617	EXP	12/07/93	-11.4
GW-619	FTF	1/20/93	48.1
GW-619	FTF	5/5/93	49.6
GW-619	FTF	9/17/93	30.2
GW-619	FTF	12/8/93	30
GW-620	FTF	1/20/93	64.4
GW-620	FTF	09/17/93	-38.6

APPENDIX G
Ion-Charge Balance Calculations, 1993

1

Sampling Point . Location . Date Sampled	GW-151				GW-168				GW-169				GW-170	
	NHP				NHP				EXP				EXP	
	01/26/93	04/22/93	08/06/93	11/02/93	01/22/93	05/14/93	08/19/93	11/02/93	01/23/93	05/21/93	08/19/93	11/01/93	01/23/93	05/24/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	2.69	0.04	2.45	2.79	3.84	3.74	4.04	3.99	2.50	3.59	3.34	3.14	2.25	2.20
Magnesium	1.97	0.02	1.81	2.06	1.73	1.65	1.81	1.73	0.22	0.30	0.33	0.26	1.89	1.89
Potassium	0.04	0.04	0.05	0.05	0.06	0.04	0.05	0.06	0.06	0.07	0.05	0.06	0.05	0.05
Sodium	0.30	11.75	0.29	0.30	0.28	0.20	0.26	0.25	0.06	0.07	0.06	0.05	0.70	0.61
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total Cations	5.01	11.85	4.59	5.20	5.91	5.62	6.16	6.03	2.84	4.03	3.78	3.51	4.89	4.75
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	4.36	4.26	4.30	4.26	5.50	5.30	5.50	5.62	2.90	3.36	3.80	3.50	4.22	4.18
Chloride	0.54	0.37	0.37	0.45	0.59	0.37	0.34	0.37	0.05	0.05	0.05	0.04	0.46	0.34
Fluoride	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.01
Nitrate Nitrogen	0.05	0.06	0.07	0.07	0.04	0.03	0.03	0.04	0.08	0.06	0.05	0.06	0.06	0.05
Sulfate	0.42	0.44	0.46	0.35	0.25	0.23	0.17	0.21	0.10	0.15	0.12	0.12	0.41	0.37
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total Anions	5.36	5.13	5.19	5.14	6.37	5.92	6.04	6.23	3.13	3.62	4.02	3.73	5.15	4.94
CHARGE BALANCE (%)	-3	40	-6	1	-4	-3	1	-2	-5	5	-3	-3	-3	-2
TDS (mg/L)	278	276	300	302	324	322	334	348	228	240	312	274	266	278
TSS (mg/L)	<1	1	1	<1	3	1	1	<1	2100	404	1388	1960	<1	<1
Turbidity (NTU)	2.3	0.5	3.7	0.8	2	2.2	1.2	3	2250	20	1200	46	1.2	1.2

(CONTINUED)

APPENDIX G

2

Ion-Charge Balance Calculations, 1993

Sampling Point . Location . Date Sampled	GW-170		GW-183				GW-190				GW-191			
	EXP		FF				RG				B4			
	08/21/93	11/04/93	03/10/93	06/21/93	09/22/93	11/16/93	03/01/93	06/17/93	09/15/93	11/16/93	01/12/93	04/12/93	07/08/93	12/09/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	2.40	2.40	6.99	6.99	7.49	7.49	1.40	1.80	1.80	1.65	4.14	3.64	3.44	4.19
Magnesium	2.06	1.97	1.89	1.97	1.97	2.22	0.47	0.50	0.52	0.49	0.90	0.80	0.74	0.90
Potassium	0.04	0.04	0.07	0.04	0.05	0.06	0.03	0.02	0.03	0.02	0.08	0.05	0.07	0.07
Sodium	0.74	0.70	1.09	1.04	1.17	1.13	0.29	0.37	0.36	0.37	0.38	0.52	0.61	0.48
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cations	5.23	5.11	10.04	10.05	10.68	10.89	2.19	2.69	2.70	2.54	5.51	5.01	4.86	5.64
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	4.32	4.26	8.69	8.97	9.19	9.21	0.28	2.24	2.24	2.42	4.78	4.66	5.10	5.14
Chloride	0.41	0.48	1.00	0.85	0.85	0.93	0.15	0.17	0.17	0.17	0.10	0.11	0.12	0.17
Fluoride	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.00
Nitrate Nitrogen	0.05	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
Sulfate	0.38	0.42	0.55	0.60	0.60	0.52	0.32	0.35	0.40	0.34	0.25	0.24	0.42	0.27
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	5.17	5.24	10.25	10.42	10.64	10.66	0.76	2.78	2.83	2.93	5.12	5.01	5.64	5.58
CHARGE BALANCE (%)	1	-1	-1	-2	0	1	49	-2	-2	-7	4	0	-7	1
TDS (mg/L)	286	294	554	584	572	540	168	178	180	144	310	334	322	352
TSS (mg/L)	<1	<1	13	8	18	3	7	5	1	9	21	2162	107	143
Turbidity (NTU)	0.8	0.7	5.9	6.6	10	2.5	4.7	12	4	15	20	560	230	1650

(CONTINUED)

APPENDIX G

Ion-Charge Balance Calculations, 1993

3

Sampling Point Location Date Sampled	GW-192				GW-193				GW-194				GW-195	
	B4				T2331				B4				B4	
	01/14/93	04/13/93	07/08/93	12/09/93	03/11/93	06/22/93	09/23/93	11/18/93	01/13/93	04/13/93	07/08/93	12/09/93	01/13/93	04/13/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	5.49	5.49	5.49	5.49	4.59	5.99	6.99	6.99	3.69	3.79	3.84	3.99	3.14	3.24
Magnesium	0.90	0.99	1.07	0.99	1.23	1.56	1.73	1.89	0.59	0.49	0.49	0.53	0.47	0.47
Potassium	0.02	0.03	0.04	0.03	0.19	0.19	0.26	0.31	0.03	0.02	0.02	0.02	0.02	0.00
Sodium	0.30	0.31	0.31	0.34	0.33	0.48	0.41	0.70	0.22	0.29	0.30	0.30	0.24	0.26
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cations	6.71	6.82	6.91	6.85	6.35	8.22	9.38	9.88	4.53	4.59	4.66	4.84	3.87	3.97
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	6.43	6.61	6.99	6.51	6.35	8.35	3.48	9.13	4.50	4.34	4.56	4.58	3.66	3.58
Chloride	0.31	0.28	0.37	0.42	0.19	0.42	0.18	0.45	0.06	0.09	0.10	0.11	0.10	0.10
Fluoride	0.01	0.01	0.01	0.01	0.03	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00
Nitrate Nitrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sulfate	0.09	0.14	0.04	0.04	0.23	0.17	0.23	0.08	0.29	0.29	0.25	0.23	0.29	0.31
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	6.85	7.04	7.41	6.98	6.80	8.97	4.01	9.69	4.85	4.72	4.91	4.92	4.05	3.99
CHARGE BALANCE (%)	-1	-2	-4	-1	-3	-4	40	1	-3	-1	-3	-1	-2	-0
TDS (mg/L)	392	402	418	432	398	500	484	462	278	294	290	312	254	310
TSS (mg/L)	61	6	11	10	35	830	23	98	102	65	90	30	524	527
Turbidity (NTU)	66	5.8	7.5	22	52	440	22	29	34	150	64	120	240	220

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

4

Sampling Point	GW-195		GW-199				GW-204				GW-206			
Location	B4		GRID11				T0134				EXP			
Date Sampled	07/08/93	12/09/93	01/29/93	04/07/93	08/02/93	10/12/93	03/11/93	06/22/93	09/23/93	11/16/93	01/19/93	05/06/93	08/12/93	10/27/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	3.09	3.24	2.74	2.59	2.94	2.74	1.95	2.64	3.19	2.79	1.95	2.54	5.99	2.74
Magnesium	0.47	0.47	0.99	0.99	1.23	1.15	0.53	0.58	0.77	0.70	1.07	1.56	4.36	1.48
Potassium	0.02	0.02	0.06	0.06	0.07	0.08	0.05	0.07	0.09	0.08	0.11	0.19	0.16	0.17
Sodium	0.27	0.27	0.27	0.32	0.29	0.29	2.13	0.87	1.13	0.70	0.20	0.25	0.21	0.24
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cations	3.85	4.00	4.06	3.96	4.54	4.26	4.66	4.16	5.18	4.27	3.33	4.54	10.71	4.63
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	3.62	3.60	3.52	2.96	3.62	3.42	4.78	3.42	3.72	3.50	3.50	4.26	4.32	5.02
Chloride	0.10	0.11	0.08	0.59	0.21	0.59	0.12	0.11	0.10	0.10	0.15	0.11	0.16	0.59
Fluoride	0.00	0.00	0.01	0.01	0.01	0.01	0.10	0.05	0.07	0.07	0.00	0.00	0.00	0.00
Nitrate Nitrogen	0.00	0.02	0.02	0.02	0.02	0.03	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00
Sulfate	0.29	0.25	0.56	0.52	0.62	0.65	0.09	1.04	0.96	0.66	0.22	0.29	0.44	0.19
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	4.01	3.98	4.20	4.10	4.48	4.69	5.09	4.62	4.86	4.35	3.86	4.66	4.91	5.80
CHARGE BALANCE (%)	-2	0	-2	-2	1	-5	-4	-5	3	-1	-7	-1	37	-11
TDS (mg/L)	300	282	280	222	250	332	294	268	312	192	220	248	296	300
TSS (mg/L)	510	292	628	40	14	16	25	3	26	250	2750	1210	67	1187
Turbidity (NTU)	240	360	3900	15	25	6.5	24	3.3	6.5	110	1900	750	1050	13

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

5

Sampling Point Location Date Sampled	GW-207				GW-208				GW-220				GW-232	
	EXP				EXP				NHP				EXP	
	01/14/93	05/04/93	08/11/93	10/26/93	01/19/93	05/06/93	08/13/93	10/28/93	01/25/93	04/22/93	08/06/93	11/01/93	01/26/93	05/21/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	2.74	2.74	2.84	2.89	3.44	3.69	3.79	3.69	2.69	3.14	2.84	3.14	0.05	0.06
Magnesium	2.96	2.96	3.13	3.04	1.81	1.97	2.06	1.97	1.81	1.89	1.81	1.89	0.07	0.07
Potassium	0.07	0.07	0.06	0.07	0.07	0.09	0.07	0.07	0.06	0.06	0.05	0.07	0.07	0.07
Sodium	0.43	0.41	0.48	0.43	0.65	0.65	0.70	0.61	0.16	0.15	0.20	0.18	9.14	10.00
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cations	6.20	6.19	6.51	6.44	5.97	6.41	6.61	6.34	4.72	5.25	4.91	5.29	9.33	10.21
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.44	1.64
Alkalinity-HCO3	5.32	5.32	5.26	5.34	4.46	4.44	4.54	4.52	4.44	4.68	4.40	4.78	7.35	7.03
Chloride	0.04	0.03	0.05	0.03	0.04	0.04	0.06	0.06	0.23	0.19	0.24	0.26	0.16	0.16
Fluoride	0.01	0.01	0.01	0.01	0.02	0.01	0.02	0.02	0.00	0.00	0.00	0.01	0.11	0.10
Nitrate Nitrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06	0.06	0.05	0.00	0.00
Sulfate	1.06	1.08	1.06	1.10	2.21	2.00	2.15	1.83	0.21	0.35	0.40	0.26	0.65	0.62
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02
Total Anions	6.43	6.44	6.38	6.47	6.72	6.49	6.76	6.43	4.91	5.28	5.09	5.36	9.73	9.57
CHARGE BALANCE (%)	-2	-2	1	-0	-6	-1	-1	-1	-2	-0	-2	-1	-2	3
TDS (mg/L)	348	338	366	362	406	388	428	424	256	332	292	310	580	562
TSS (mg/L)	<1	<1	1	<1	2	<1	3	2	7	414	107	11	4	1
Turbidity (NTU)	3.1	1.4	1.4	0.7	4.5	2.2	8.1	7	6	280	74	8.2	2.6	1.2

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

6

Sampling Point Location Date Sampled	GW-232		GW-239				GW-240				GW-251			
	EXP		NHP				NHP				S2			
	08/21/93	11/01/93	01/23/93	05/13/93	08/18/93	10/30/93	01/27/93	04/21/93	08/05/93	11/01/93	01/20/93	05/05/93	09/17/93	12/08/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	0.11	0.05	0.08	0.08	0.07	0.08	2.40	1.80	2.25	2.59	5.49	6.49	4.74	5.49
Magnesium	0.08	0.07	0.04	0.04	0.04	0.04	1.40	1.23	1.32	1.40	1.48	1.56	1.40	1.48
Potassium	0.08	0.06	0.09	0.10	0.10	0.08	0.10	0.28	0.06	0.05	0.09	0.09	0.06	0.06
Sodium	9.57	10.00	17.83	16.96	17.83	18.70	3.09	1.83	1.52	2.31	0.78	0.87	0.52	0.43
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cations	9.85	10.19	18.05	17.19	18.05	18.91	6.98	5.14	5.14	6.35	7.85	9.01	6.72	7.47
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.88	1.12	0.80	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	7.03	7.23	9.87	9.91	10.21	10.09	3.82	3.64	3.22	3.12	3.18	3.20	3.28	3.16
Chloride	0.16	0.19	7.90	7.93	7.22	6.46	3.92	1.61	1.10	2.25	0.34	0.31	0.17	0.20
Fluoride	0.12	0.11	0.16	0.16	0.15	0.19	0.02	0.01	0.02	0.03	0.07	0.06	0.08	0.08
Nitrate Nitrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.06	0.18	0.29	5.86	5.93	17.42	3.06
Sulfate	0.55	0.60	0.98	0.92	0.90	0.94	0.29	0.29	0.75	1.21	0.40	0.46	0.23	0.19
Hydroxyl Ion	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	7.88	8.14	19.79	20.04	19.29	18.69	8.12	5.61	5.26	6.89	9.84	9.96	21.18	6.69
CHARGE BALANCE (%)	11	11	-5	-8	-3	1	-8	-4	-1	-4	-11	-5	-52	5
TDS (mg/L)	576	584	1102	1114	1108	1120	396	304	312	400	670	722	520	472
TSS (mg/L)	5	2	4	3	<1	21	<1	<1	5	1	119	104	434	150
Turbidity (NTU)	4.3	1.8	5.6	3.9	7.9	10	2.1	1.4	1.7	1.8	120	105	220	81

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

7

Sampling Point . Location . Date Sampled	GW-252				GW-255				GW-261				GW-262	
	S2				S2				SY				SY	
	01/08/93	05/03/93	09/15/93	12/07/93	01/08/93	05/03/93	09/15/93	12/07/93	01/08/93	04/07/93	07/01/93	12/07/93	01/11/93	04/08/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	0.26	1.55	1.95	0.25	2.84	2.40	2.94	2.89	2.30	2.40	2.40	2.45	3.04	3.19
Magnesium	0.22	1.81	1.97	0.23	2.47	2.47	2.47	2.55	0.90	0.99	0.99	0.99	0.49	0.50
Potassium	0.00	0.04	0.04	0.02	0.02	0.03	0.03	0.03	0.03	0.04	0.05	0.04	0.05	0.05
Sodium	0.15	0.43	0.57	0.09	0.15	0.14	0.18	0.17	0.42	0.41	0.41	0.43	0.61	0.61
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cations	0.63	3.84	4.52	0.59	5.48	5.04	5.63	5.64	3.66	3.83	3.84	3.91	4.19	4.35
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	0.92	1.18	3.94	1.90	4.72	4.74	4.78	4.88	2.98	3.06	3.00	3.06	3.96	4.00
Chloride	0.04	0.06	0.10	0.03	0.16	0.14	0.17	0.17	0.10	0.11	0.12	0.14	0.03	0.03
Fluoride	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.01	0.01	0.01
Nitrate Nitrogen	0.03	0.06	0.18	0.04	0.11	0.16	0.13	0.22	0.00	0.00	0.00	0.00	0.00	0.00
Sulfate	0.06	0.20	0.23	0.02	0.25	0.25	0.33	0.19	0.69	0.69	0.75	0.65	0.29	0.31
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	1.05	1.51	4.45	1.98	5.24	5.28	5.41	5.45	3.78	3.86	3.88	3.85	4.29	4.35
CHARGE BALANCE (%)	-25	43	1	-54	2	-2	2	2	-2	-0	-1	1	-1	0
TDS (mg/L)	60	102	264	150	300	310	352	360	230	220	224	272	252	262
TSS (mg/L)	4	8	29	5	57	95	187	1260	<1	2	8	1	3	8
Turbidity (NTU)	12	8.5	250	11	44	115	140	560	15	20	5.5	3.8	1.9	3.5

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

8

Sampling Point	GW-262		GW-263				GW-264				GW-281			
Location	SY		SY				SY				FF			
Date Sampled	07/01/93	12/07/93	01/11/93	04/08/93	07/01/93	12/07/93	01/12/93	04/12/93	07/02/93	12/08/93	02/02/93	04/16/93	08/04/93	10/14/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	3.09	3.19	3.24	3.04	2.94	3.54	6.99	7.49	5.99	7.49	2.64	2.15	2.99	1.90
Magnesium	0.49	0.50	1.23	1.23	1.15	1.40	3.21	3.37	2.80	3.21	0.73	0.54	0.90	0.62
Potassium	0.04	0.03	0.05	0.04	0.05	0.04	0.09	0.10	0.09	0.09	0.03	0.05	0.05	0.06
Sodium	0.65	0.61	0.87	0.86	0.87	0.91	1.13	1.30	1.17	1.22	0.31	0.37	0.37	0.24
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cations	4.27	4.34	5.40	5.18	5.01	5.89	11.42	12.26	10.05	12.01	3.71	3.11	4.32	2.82
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	4.14	4.08	3.80	3.26	3.14	3.96	9.05	7.95	8.13	8.47	3.52	2.46	3.80	3.24
Chloride	0.00	0.00	1.66	1.64	1.21	1.50	0.45	0.44	0.56	0.33	0.15	0.27	0.21	0.17
Fluoride	0.01	0.01	0.01	0.02	0.01	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	0.01
Nitrate Nitrogen	0.00	0.00	0.04	0.03	0.02	0.04	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.00
Sulfate	0.27	0.21	0.33	0.40	0.33	0.33	2.94	2.29	2.35	2.94	0.31	0.44	0.37	0.33
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	4.41	4.29	5.84	5.33	4.71	5.83	12.44	10.69	11.06	11.74	3.99	3.20	4.42	3.75
CHARGE BALANCE (%)	-2	1	-4	-1	3	1	-4	7	-5	1	-4	-1	-1	-14
TDS (mg/L)	272	296	332	314	286	394	658	624	658	740	246	214	280	230
TSS (mg/L)	48	19	152	7	158	7	2	22	8	34	59	129	120	21
Turbidity (NTU)	29	18	230	6	110	20	6.5	1	22	160	23	190	40	24

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

9

Sampling Point Location Date Sampled	GW-283				GW-284				GW-285				GW-337	
	FF				FF				FF				WC	
	02/03/93	04/19/93	08/06/93	10/14/93	02/02/93	04/16/93	08/05/93	10/14/93	02/02/93	04/19/93	08/05/93	10/14/93	05/07/93	09/17/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	7.98	7.49	8.48	7.49	9.48	8.98	9.98	9.48	3.64	3.54	3.69	3.24	4.19	4.84
Magnesium	1.40	1.23	1.48	1.40	1.56	2.14	1.81	1.81	0.56	0.50	0.56	0.58	0.67	0.79
Potassium	0.07	0.07	0.07	0.07	0.05	0.04	0.04	0.04	0.05	0.03	0.05	0.04	0.04	0.05
Sodium	0.52	0.48	0.41	0.48	1.13	1.39	1.22	1.39	0.40	0.33	0.35	0.52	0.17	0.18
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cations	9.98	9.27	10.45	9.43	12.22	12.55	13.05	12.72	4.65	4.41	4.65	4.39	5.06	5.86
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	6.77	6.99	7.65	7.59	5.70	5.26	6.04	6.21	3.62	3.82	3.70	3.56	4.72	5.02
Chloride	3.44	2.54	2.65	12.38	5.98	6.71	6.21	7.02	0.56	0.65	0.62	1.33	0.68	0.62
Fluoride	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.00
Nitrate Nitrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.02	0.00	0.00	0.00	0.00
Sulfate	0.25	0.22	0.27	0.17	0.67	0.48	0.58	0.62	0.94	0.40	0.15	0.29	0.15	0.17
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	10.47	9.75	10.58	20.14	12.34	12.45	12.82	13.86	5.17	4.89	4.47	5.18	5.54	5.80
CHARGE BALANCE (%)	-2	-3	-1	-36	-0	0	1	-4	-5	-5	2	-8	-5	0
TDS (mg/L)	630	650	692	680	788	908	1048	856	304	330	284	300	332	336
TSS (mg/L)	1077	348	32	50	18	22	48	20	15	201	26	6	11	578
Turbidity (NTU)	300	37	15	25	8.6	15	25	15	25	280	18	6.1	11	335

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

10

Sampling Point	GW-337		GW-338				GW-380				GW-381			
Location	WC	WCPA	WC		WCPA		NHP				NHP			
Date Sampled	12/09/93	01/21/93	05/04/93	09/23/93	12/07/93	01/11/93	01/25/93	04/21/93	08/05/93	10/29/93	01/27/93	04/26/93	08/08/93	11/08/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	3.39	4.39	4.14	4.44	4.44	4.24	2.54	1.35	1.45	2.45	3.74	3.49	3.54	4.14
Magnesium	0.71	0.70	0.72	0.79	0.81	0.77	1.73	0.90	0.99	1.23	1.56	1.65	1.65	1.89
Potassium	0.08	0.07	0.05	0.05	0.06	0.03	0.03	0.02	0.02	0.04	0.05	0.04	0.03	0.06
Sodium	0.18	0.16	0.22	0.27	0.27	0.23	5.65	4.26	3.39	4.05	1.09	1.22	0.91	0.87
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cations	4.36	5.32	5.14	5.54	5.57	5.28	9.95	6.54	5.85	7.76	6.44	6.40	6.13	6.96
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	4.80	5.02	4.68	5.04	4.90	4.66	3.28	3.54	1.56	3.58	4.64	4.30	4.90	5.12
Chloride	0.53	0.99	0.18	0.16	0.20	0.17	7.05	3.95	10.27	1.33	2.14	2.34	1.86	1.92
Fluoride	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.01
Nitrate Nitrogen	0.00	0.00	0.03	0.02	0.04	0.04	0.10	0.08	0.13	0.26	0.00	0.02	0.00	0.00
Sulfate	0.13	0.16	0.29	0.37	0.25	0.31	0.43	0.27	0.65	0.92	0.15	0.11	0.14	0.13
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	5.46	6.16	5.18	5.60	5.39	5.18	10.87	7.85	12.60	6.09	6.93	6.78	6.89	7.17
CHARGE BALANCE (%)	-11	-7	-0	-1	2	1	-4	-9	-37	12	-4	-3	-6	-1
TDS (mg/L)	350	320	304	312	368	300	590	452	378	388	390	392	398	420
TSS (mg/L)	6	26	5	7	21	3	15	10	124	11	10	9	4	4
Turbidity (NTU)	3.8	14	8	110	4.1	4.4	16	20	21	50	21	23	5.5	4.6

(CONTINUED)

APPENDIX G

11

Ion-Charge Balance Calculations, 1993

Sampling Point Location Date Sampled	GW-382				GW-383				GW-384				GW-385	
	NHP				NHP				NHP				NHP	
	01/28/93	04/26/93	08/08/93	11/04/93	01/26/93	04/22/93	08/07/93	11/03/93	01/13/93	04/20/93	08/04/93	10/28/93	01/12/93	04/19/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	2.50	2.54	2.50	2.64	3.79	3.74	3.64	4.09	4.84	4.84	4.69	4.84	0.05	0.05
Magnesium	2.06	2.06	2.22	2.30	0.81	0.82	0.82	0.90	0.99	0.99	0.99	0.99	0.02	0.02
Potassium	0.03	0.02	0.03	0.03	0.06	0.07	0.07	0.07	0.07	0.06	0.07	0.07	0.05	0.05
Sodium	0.27	0.26	0.29	0.30	0.70	0.70	0.78	0.70	0.61	0.57	0.65	0.70	7.83	6.96
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cations	4.85	4.88	5.04	5.28	5.37	5.33	5.32	5.76	6.50	6.45	6.40	6.60	7.95	7.07
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.92	0.96
Alkalinity-HCO3	4.12	4.08	4.14	4.12	4.38	4.26	4.44	4.40	5.40	5.54	5.58	5.62	6.35	5.90
Chloride	0.62	0.55	0.55	0.56	0.96	0.76	0.68	0.85	0.85	0.78	0.73	0.85	0.06	0.07
Fluoride	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.12	0.16
Nitrate Nitrogen	0.20	0.15	0.25	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sulfate	0.35	0.31	0.29	0.33	0.40	0.44	0.46	0.35	0.29	0.32	0.37	0.25	0.37	0.39
Hydroxyl Ion	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Total Anions	5.30	5.10	5.23	5.28	5.73	5.46	5.57	5.60	6.53	6.64	6.69	6.71	7.84	7.48
CHARGE BALANCE (%)	-4	-2	-2	-0	-3	-1	-2	1	-0	-1	-2	-1	1	-3
TDS (mg/L)	272	284	288	298	334	320	324	354	370	380	382	390	452	466
TSS (mg/L)	1	3	2	<1	<1	2	2	3	2	4	3	2	3	5
Turbidity (NTU)	5.4	13	2.5	1.4	0.8	1.8	10	12	5	1.8	2.5	3.9	5	17

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

12

Sampling Point	GW-385		GW-505				GW-508				GW-603			
Location	MHP		RG				RG				EXP			
Date Sampled	08/03/93	10/27/93	03/01/93	06/18/93	09/15/93	11/16/93	03/05/93	06/23/93	09/22/93	11/19/93	01/29/93	05/04/93	08/16/93	10/28/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	0.05	0.05	1.35	1.10	0.85	1.95	0.42	0.36	0.30	0.28	3.54	3.94	4.24	3.99
Magnesium	0.02	0.02	0.45	0.46	0.38	0.64	0.77	1.23	1.48	0.82	1.89	2.14	2.22	2.06
Potassium	0.07	0.05	0.03	0.04	0.04	0.05	0.03	0.03	0.03	0.02	0.14	0.15	0.19	0.17
Sodium	7.39	7.83	0.29	0.32	0.32	0.31	1.09	1.13	1.39	1.00	0.16	0.16	0.17	0.17
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.03	0.00	0.00	0.00	0.00
Total Cations	7.53	7.95	2.13	1.92	1.59	2.95	2.31	2.76	3.22	2.15	5.73	6.38	6.83	6.38
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	1.00	1.08	0.00	0.00	0.00	0.00	0.00	0.00	.	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	6.33	6.59	1.04	0.74	0.60	1.52	0.34	0.10	.	0.04	5.66	5.82	5.76	6.06
Chloride	0.08	0.08	0.78	0.68	0.68	0.60	3.58	1.92	.	3.78	0.15	0.19	0.18	0.14
Fluoride	0.16	0.17	0.02	0.01	0.01	0.02	0.01	0.01	.	0.01	0.01	0.01	0.01	0.01
Nitrate Nitrogen	0.00	0.00	0.09	0.10	0.07	0.07	0.00	0.00	.	0.00	0.05	0.05	0.06	0.06
Sulfate	0.48	0.35	0.42	0.31	0.44	0.61	0.21	0.27	.	0.06	0.29	0.37	0.26	0.25
Hydroxyl Ion	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	8.08	8.29	2.34	1.84	1.80	2.82	4.14	2.30	.	3.89	6.16	6.44	6.27	6.52
CHARGE BALANCE (%)	-3	-2	-5	2	-6	2	-28	9	.	-29	-4	-0	4	-1
TDS (mg/L)	474	476	186	142	148	148	196	140	.	160	346	346	366	360
TSS (mg/L)	20	3	87	133	42	103	11	7	.	9	9	78	19	16
Turbidity (NTU)	9.8	3	50	16	34	26	1	5.5	.	1.6	10	62	19	14

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

13

Sampling Point	GW-604				GW-605				GW-606				GW-617	
Location	EXP				EXP				EXP				EXP	
Date Sampled	01/30/93	05/04/93	08/16/93	10/28/93	02/02/93	05/10/93	08/19/93	11/10/93	02/03/93	05/10/93	08/20/93	11/11/93	01/12/93	05/04/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	2.69	2.30	2.40	2.05	4.09	4.19	4.89	4.39	2.99	3.19	3.84	3.44	1.15	0.85
Magnesium	1.48	1.40	1.40	1.32	1.23	1.23	1.32	1.40	2.55	2.55	3.04	2.88	0.42	0.36
Potassium	0.03	0.04	0.03	0.03	0.08	0.06	0.13	0.09	0.10	0.08	0.08	0.09	0.00	0.02
Sodium	0.09	0.07	0.06	0.08	0.52	0.57	0.37	0.65	0.20	0.19	0.22	0.21	0.17	0.14
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cations	4.30	3.80	3.89	3.48	5.93	6.05	6.70	6.53	5.84	6.01	7.19	6.63	1.74	1.38
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	4.16	3.66	3.34	3.20	5.12	5.04	5.10	5.20	4.14	4.36	4.48	4.86	0.68	0.72
Chloride	0.08	0.07	0.06	0.06	0.62	0.73	0.65	0.75	1.27	1.21	1.30	1.44	0.09	0.13
Fluoride	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Nitrate Nitrogen	0.04	0.03	0.04	0.04	0.00	0.03	0.00	0.02	0.05	0.06	0.05	0.07	0.17	0.11
Sulfate	0.14	0.12	0.09	0.10	0.50	0.54	0.33	0.53	0.71	0.65	0.58	0.70	0.77	0.65
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	4.43	3.88	3.54	3.40	6.24	6.34	6.08	6.50	6.17	6.28	6.41	7.08	1.71	1.60
CHARGE BALANCE (%)	-2	-1	5	1	-3	-2	5	0	-3	-2	6	-3	1	-8
TDS (mg/L)	262	210	210	202	354	354	370	394	366	360	358	382	116	110
TSS (mg/L)	8	<1	4	2	<1	1	7	<1	2	<1	<1	2	9	19
Turbidity (NTU)	16.5	4.5	10	6	1.8	2.4	3.2	1.9	1.4	1.5	0.7	2	10	16

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

14

Sampling Point	GW-617		GW-618				GW-619				GW-620			
Location	EXP		EXP				FIT				FIT			
Date Sampled	09/16/93	12/07/93	01/12/93	05/05/93	09/16/93	12/08/93	01/20/93	05/05/93	09/17/93	12/08/93	01/20/93	05/06/93	09/17/93	12/09/93
CATIONS (meq/L)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calcium	0.95	1.25	4.94	4.74	4.99	4.99	2.45	2.64	2.64	2.20	1.80	8.98	2.40	4.39
Magnesium	0.41	0.49	0.75	0.72	0.77	0.77	0.11	0.06	0.14	0.12	0.49	0.00	0.70	0.01
Potassium	0.03	0.04	0.08	0.09	0.09	0.09	0.43	0.69	0.49	0.41	0.24	0.82	0.13	0.69
Sodium	0.17	0.26	0.78	0.74	0.78	0.78	0.14	0.20	0.17	0.12	0.13	0.26	0.11	0.23
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cations	1.56	2.05	6.55	6.29	6.64	6.63	3.13	3.60	3.44	2.84	2.65	10.06	3.33	5.32
ANIONS (meq/L)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.56	0.24	0.16	0.20	0.80	4.74	0.00
Alkalinity-HCO3	1.34	1.52	5.42	5.32	5.58	5.64	0.74	0.00	1.24	1.18	0.00	0.00	3.00	2.76
Chloride	0.31	0.39	0.85	0.65	0.76	0.66	0.06	0.05	0.08	0.05	0.09	0.08	0.08	0.09
Fluoride	0.00	0.00	0.01	0.01	0.01	0.02	0.00	0.01	0.00	0.01	0.00	0.01	0.01	0.00
Nitrate Nitrogen	0.04	0.06	0.09	0.11	0.13	0.08	0.05	0.03	0.14	0.05	0.14	0.09	0.08	0.16
Sulfate	0.48	0.60	0.50	0.44	0.46	0.43	0.06	0.06	0.12	0.06	0.14	0.12	0.08	0.19
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.50	0.01	0.01	0.01	10.00	2.51	0.00
Total Anions	2.16	2.57	6.86	6.53	6.93	6.83	1.10	1.21	1.84	1.53	0.57	11.09	7.50	3.20
CHARGE BALANCE (%)	-16	-11	-2	-2	-2	-1	48	50	30	30	64	-5	-39	25
TDS (mg/L)	136	204	350	350	380	402	72	158	106	118	148	558	158	228
TSS (mg/L)	25	9	<1	<1	1	<1	<1	42	41	30	78	65	60	55
Turbidity (NTU)	52	8	1.6	3.3	1.5	1	6	2.9	21	20	34	36	20	9.5

(CONTINUED)

APPENDIX G

15

Ion-Charge Balance Calculations, 1993

Sampling Point Location Date Sampled	GW-631				GW-632				GW-633				GW-634	
	RG				RG				RG				RG	
	03/02/93	06/18/93	09/16/93	11/17/93	03/03/93	06/21/93	09/16/93	11/18/93	03/03/93	06/21/93	09/20/93	11/19/93	03/02/93	06/18/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	0.80	0.35	0.36	0.36	3.89	1.85	2.69	1.40	354.29	234.53	244.51	11.98	0.12	0.09
Magnesium	0.79	0.53	0.48	0.44	0.90	0.68	0.71	0.65	37.84	27.15	27.15	1.81	0.16	0.18
Potassium	0.06	0.05	0.06	0.06	0.05	0.03	0.04	0.05	0.00	0.00	0.36	0.13	0.02	0.02
Sodium	0.70	0.70	0.74	0.74	0.20	0.17	0.22	0.19	3.13	2.04	2.65	0.38	0.15	0.16
Hydrogen Ion	0.01	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Total Cations	2.36	1.63	1.66	1.61	5.04	2.74	3.67	2.29	395.26	263.72	274.67	14.29	0.45	0.45
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	0.22	0.22	0.14	0.20	1.02	2.76	2.40	2.94	5.30	5.46	5.22	1.94	0.42	0.24
Chloride	1.35	1.33	1.66	1.27	0.42	0.51	0.45	0.59	0.00	0.00	0.00	0.23	0.22	0.26
Fluoride	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nitrate Nitrogen	0.20	1.00	0.08	0.31	0.79	0.79	0.99	0.88	276.62	307.04	392.80	60.05	0.00	0.00
Sulfate	0.09	0.04	0.08	0.08	0.00	0.00	0.15	0.04	0.00	0.00	6.35	0.60	0.00	0.04
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	1.87	2.59	1.97	1.87	2.23	4.06	3.99	4.45	281.92	312.49	404.36	62.82	0.64	0.53
CHARGE BALANCE (%)	12	-23	-9	-7	39	-19	-4	-32	17	-8	-19	-63	-17	-9
TDS (mg/L)	166	238	142	152	198	272	234	188	21966	23196	25552	1326	58	46
TSS (mg/L)	2	4	2	10	27	19	19	8	219	169	133	16	<1	<1
Turbidity (NTU)	2.6	5.5	1.5	50	22	56	66	5	220	95	70	12	1.2	1.4

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

16

Sampling Point Location Date Sampled	GW-634		GW-656				GW-657				GW-658			
	RG		T0134				T2331				FF			
	09/16/93	11/18/93	03/11/93	06/22/93	09/23/93	11/17/93	03/10/93	06/18/93	09/21/93	11/15/93	03/11/93	06/23/93	11/19/93	09/27/04
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	0.08	0.09	4.99	4.99	5.99	5.49	3.49	3.49	3.89	4.04	2.30	2.35	3.74	2.79
Magnesium	0.16	0.15	0.49	0.49	0.51	0.50	0.67	0.73	0.74	0.79	0.99	1.15	1.15	1.07
Potassium	0.03	0.03	0.07	0.05	0.06	0.06	0.14	0.15	0.15	0.14	0.00	0.00	0.03	0.02
Sodium	0.16	0.17	0.33	0.30	0.35	0.35	0.57	0.65	0.52	0.52	0.70	0.57	0.70	0.70
Hydrogen Ion	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cations	0.43	0.44	5.87	5.83	6.91	6.40	4.86	5.03	5.30	5.49	3.98	4.06	5.62	4.58
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	0.36	0.38	3.18	3.10	3.56	3.50	3.90	4.42	4.40	4.22	4.38	4.82	5.40	5.18
Chloride	0.25	0.23	1.96	1.86	1.92	1.81	0.71	0.62	0.42	0.52	0.54	0.39	0.76	0.73
Fluoride	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.03	0.03	0.02	0.01	0.00	0.01	0.00
Nitrate Nitrogen	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
Sulfate	0.02	0.00	1.30	1.27	1.35	1.40	0.64	0.46	0.62	0.78	0.34	0.16	0.04	0.00
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	0.63	0.61	6.44	6.26	6.83	6.70	5.27	5.52	5.47	5.56	5.26	5.37	6.20	5.91
CHARGE BALANCE (%)	-19	-16	-5	-4	1	-2	-4	-5	-2	-1	-14	-14	-5	-13
TDS (mg/L)	58	52	448	454	476	422	292	286	310	302	286	290	332	294
TSS (mg/L)	2	1	92	83	48	746	<1	7	4	3	29	29	91	31
Turbidity (NTU)	3.6	1.4	66	130	100	380	1.2	4	5.8	1.6	28	36	18	220

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

17

Sampling Point	GW-659				GW-707				GW-708				GW-733	
Location	FF				T2331				T2331				EXP	
Date Sampled	03/10/93	06/18/93	09/22/93	11/15/93	03/11/93	06/23/93	09/27/93	11/18/93	03/10/93	06/18/93	09/21/93	11/12/93	02/02/93	05/06/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	2.45	0.55	0.39	0.55	1.30	2.40	3.64	2.79	4.79	5.99	6.99	6.99	1.95	1.90
Magnesium	0.47	0.11	0.11	0.06	0.18	0.52	0.82	0.59	0.79	1.07	1.32	1.48	1.23	1.23
Potassium	0.12	0.06	0.05	0.03	0.12	0.23	0.20	0.13	0.15	0.22	0.28	0.18	0.04	0.04
Sodium	13.05	5.65	3.57	0.28	0.17	1.13	0.83	0.52	0.10	0.16	0.19	0.18	0.20	0.18
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cations	16.08	6.37	4.11	0.92	1.77	4.27	5.49	4.04	5.84	7.43	8.77	8.83	3.41	3.35
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	0.66	1.44	1.26	0.74	2.62	3.02	4.00	3.10	5.28	7.43	7.85	8.43	2.98	3.02
Chloride	16.31	6.71	1.41	0.09	0.48	5.70	2.31	0.65	0.09	0.17	0.15	0.17	0.48	0.37
Fluoride	0.00	0.00	0.01	0.01	0.02	0.02	0.03	0.03	0.01	0.02	0.03	0.03	0.02	0.01
Nitrate Nitrogen	0.00	0.00	0.00	0.02	0.02	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Sulfate	0.41	0.21	0.23	0.11	0.44	0.67	0.94	0.79	0.08	0.00	0.12	0.08	0.25	0.25
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	17.37	8.36	2.90	0.97	3.58	9.40	7.29	4.59	5.46	7.63	8.15	8.71	3.72	3.65
CHARGE BALANCE (%)	-4	-14	17	-2	-34	-38	-14	-6	3	-1	4	1	-4	-4
TDS (mg/L)	946	640	224	306	216	514	310	242	324	426	522	496	194	186
TSS (mg/L)	391	234	253	743	11	1	2	3	31	10	9	12	9	37
Turbidity (NTU)	460	340	680	750	6.2	2.9	3.6	2.4	15	22	50	36	15	38

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

18

Sampling Point . Location . Date Sampled	GW-733		GW-735				GW-744				GW-745			
	EXP		NHP				GRIDK1				GRIDK1			
	08/18/93	11/04/93	02/02/93	05/07/93	08/18/93	10/29/93	01/18/93	04/12/93	08/04/93	10/22/93	01/19/93	04/12/93	08/04/93	10/23/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	2.50	2.05	5.49	5.49	5.99	5.49	2.54	2.40	2.50	2.69	2.45	2.64	2.94	2.94
Magnesium	1.48	1.32	0.67	0.65	0.75	0.70	0.67	0.65	0.69	0.75	0.69	0.72	0.81	0.82
Potassium	0.05	0.05	0.07	0.06	0.06	0.07	0.06	0.08	0.08	0.08	0.06	0.08	0.09	0.08
Sodium	0.23	0.08	0.16	0.14	0.16	0.17	1.26	1.26	1.26	1.30	0.78	0.83	0.91	0.91
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total Cations	4.25	3.49	6.39	6.34	6.96	6.43	4.54	4.38	4.53	4.82	3.98	4.28	4.76	4.76
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	3.16	3.16	5.80	5.62	5.72	5.80	3.98	3.84	3.90	3.98	3.56	3.44	3.72	3.66
Chloride	1.10	0.37	0.34	0.42	0.27	0.31	0.09	0.09	0.10	0.11	0.28	0.27	0.27	0.45
Fluoride	0.01	0.02	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.00
Nitrate Nitrogen	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sulfate	0.23	0.21	0.44	0.40	0.37	0.44	0.47	0.45	0.52	0.42	0.62	0.62	0.60	0.54
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total Anions	4.50	3.76	6.57	6.43	6.36	6.54	4.55	4.39	4.53	4.51	4.46	4.34	4.60	4.65
CHARGE BALANCE (%)	-3	-4	-1	-1	5	-1	-0	-0	0	3	-6	-1	2	1
TDS (mg/L)	228	222	384	374	386	398	258	266	242	286	268	270	284	298
TSS (mg/L)	20	2	7	7	<1	14	<1	<1	<1	<1	3	2	<1	<1
Turbidity (NTU)	20	4.8	14	14	2.4	18	1.8	2.5	1.4	1	1.8	6.2	1.5	2.6

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

19

Sampling Point Location Date Sampled	GW-746				GW-747				GW-748				GW-749	
	GRIDK1				GRIDK2				GRIDK2				GRIDK2	
	01/19/93	04/12/93	08/05/93	10/23/93	01/19/93	04/13/93	08/05/93	10/23/93	01/20/93	04/13/93	08/06/93	10/24/93	01/21/93	04/14/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	0.65	0.60	0.90	0.65	2.64	2.64	2.69	2.74	3.69	3.84	4.24	4.54	4.39	3.99
Magnesium	0.35	0.34	0.45	0.39	0.90	0.82	0.90	0.90	0.67	0.67	0.79	0.82	0.73	0.63
Potassium	0.03	0.03	0.05	0.04	0.05	0.05	0.06	0.05	0.02	0.03	0.02	0.02	0.10	0.08
Sodium	0.25	0.26	0.35	0.30	1.00	1.09	1.17	1.30	0.40	0.42	0.42	0.48	0.27	0.31
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cations	1.29	1.22	1.75	1.38	4.60	4.60	4.84	5.01	4.78	4.97	5.47	5.87	5.50	5.01
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	0.64	0.66	0.76	0.80	4.14	4.00	4.14	4.06	4.06	3.94	4.38	4.44	4.18	4.04
Chloride	0.19	0.29	0.21	0.23	0.18	0.16	0.13	0.11	0.65	0.27	0.42	0.52	0.56	0.39
Fluoride	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.01
Nitrate Nitrogen	0.04	0.03	0.04	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00
Sulfate	0.52	0.38	0.50	0.54	0.58	0.50	0.50	0.46	0.81	0.56	0.60	0.67	1.12	0.79
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	1.40	1.37	1.50	1.60	4.90	4.67	4.77	4.64	5.52	4.78	5.41	5.63	5.90	5.23
CHARGE BALANCE (%)	-4	-6	8	-7	-3	-1	1	4	-7	2	1	2	-3	-2
TDS (mg/L)	102	104	104	142	276	272	264	286	326	316	348	350	540	316
TSS (mg/L)	12	13	414	6	<1	1	2	<1	79	142	12	17	2	20
Turbidity (NTU)	120	210	230	4.3	1.3	0.6	1.1	1.6	160	1800	16	17	4.3	18

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

20

Sampling Point	GW-749		GW-750				GW-751				GW-752			
Location	GRIDK2		GRIDK2				GRIDJ3				GRIDJ3			
Date Sampled	08/06/93	10/24/93	01/21/93	04/15/93	08/06/93	10/25/93	01/11/93	04/16/93	08/02/93	10/26/93	01/11/93	04/16/93	08/02/93	10/26/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	5.49	5.49	3.59	3.79	3.74	3.69	2.84	2.59	2.50	2.74	1.50	1.45	1.45	1.40
Magnesium	0.80	0.77	0.90	0.82	1.07	0.99	0.80	0.72	0.75	0.79	0.29	0.28	0.30	0.28
Potassium	0.03	0.04	0.12	0.11	0.12	0.15	0.08	0.08	0.08	0.08	0.04	0.04	0.06	0.06
Sodium	0.52	0.57	0.22	0.20	0.27	0.26	0.37	0.34	0.37	0.39	0.35	0.35	0.39	0.39
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cations	6.84	6.86	4.84	4.93	5.21	5.09	4.08	3.73	3.69	4.01	2.17	2.12	2.20	2.12
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	4.12	5.42	4.68	4.58	4.82	4.82	3.62	3.54	3.62	3.64	1.16	1.08	1.14	0.90
Chloride	0.45	1.08	0.12	0.10	0.12	0.12	0.26	0.25	0.23	0.28	1.47	1.13	1.52	1.10
Fluoride	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nitrate Nitrogen	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sulfate	1.69	1.00	0.40	0.40	0.44	0.34	0.13	0.19	0.08	0.08	0.10	0.17	0.10	0.10
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	6.77	7.50	5.19	5.07	5.37	5.28	4.00	3.98	3.92	4.00	2.72	2.38	2.76	2.10
CHARGE BALANCE (%)	1	-4	-4	-1	-2	-2	1	-3	-3	0	-11	-6	-11	0
TDS (mg/L)	436	470	274	290	308	312	226	218	228	252	160	160	184	180
TSS (mg/L)	13	<1	<1	<1	7	<1	7	4	2	9	<1	19	18	5
Turbidity (NTU)	14	3.3	0.9	0.9	7.9	1	2.1	1.7	1.6	2.2	7.6	13	14	3.7

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

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Sampling Point	GW-753				GW-754				GW-755				GW-756	
Location	GRIDJ2				GRIDJ2				GRIDJ1				GRIDJ1	
Date Sampled	01/15/93	04/08/93	08/03/93	10/21/93	01/18/93	04/08/93	08/04/93	10/22/93	01/14/93	04/07/93	08/03/93	10/21/93	01/15/93	04/08/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	3.04	2.89	2.89	2.99	1.90	2.54	2.64	2.69	1.05	0.95	1.20	1.35	1.45	1.35
Magnesium	0.74	0.72	0.74	0.79	0.67	0.73	0.78	0.81	0.39	0.33	0.44	0.52	0.42	0.44
Potassium	0.05	0.04	0.05	0.05	0.05	0.04	0.04	0.04	0.06	0.06	0.09	0.08	0.03	0.03
Sodium	0.43	0.48	0.48	0.52	0.21	0.20	0.20	0.22	2.96	3.31	3.22	3.44	0.70	0.78
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cations	4.27	4.14	4.16	4.36	2.82	3.52	3.67	3.77	4.45	4.64	4.95	5.38	2.59	2.60
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00
Alkalinity-HCO3	3.98	3.86	4.00	3.92	2.60	1.82	2.88	2.84	4.24	4.34	4.30	4.32	1.24	1.12
Chloride	0.07	0.07	0.08	0.08	0.12	0.09	0.13	0.11	0.17	0.27	0.23	0.39	1.10	0.82
Fluoride	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.04	0.03	0.00	0.01
Nitrate Nitrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sulfate	0.25	0.23	0.31	0.19	0.27	0.35	0.29	0.23	0.40	0.42	0.44	0.33	0.67	0.75
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	4.30	4.16	4.39	4.19	2.98	2.26	3.30	3.18	4.83	5.08	5.00	5.07	3.01	2.69
CHARGE BALANCE (%)	-0	-0	-3	2	-3	22	5	9	-4	-5	-1	3	-7	-2
TDS (mg/L)	242	238	258	256	178	136	182	202	282	290	304	308	172	194
TSS (mg/L)	<1	5	2	2	70	110	22	7	12	118	12	<1	1729	1233
Turbidity (NTU)	1.3	1	1.4	3	35	24	20	5.2	10	16	12	2.7	680	1500

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

22

Sampling Point	GW-756		GW-758				GW-759				GW-760			
Location	GRIDJ1		GRIDG1				GRIDG1				GRIDG2			
Date Sampled	08/03/93	10/21/93	01/25/93	04/13/93	09/12/93	11/19/93	01/26/93	04/15/93	09/13/93	11/19/93	01/27/93	04/16/93	09/14/93	11/30/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	1.40	1.45	3.39	3.14	3.59	3.64	1.60	3.29	3.74	3.44	5.49	4.99	6.49	5.49
Magnesium	0.50	0.52	0.72	0.66	0.75	0.77	0.24	0.72	0.82	0.78	0.90	0.90	1.15	1.07
Potassium	0.05	0.04	0.06	0.07	0.06	0.07	0.00	0.04	0.04	0.05	0.05	0.04	0.03	0.04
Sodium	0.91	0.96	0.65	0.61	0.61	0.61	0.28	0.57	0.52	0.48	0.38	0.43	0.48	0.48
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cations	2.86	2.96	4.83	4.48	5.01	5.09	2.12	4.62	5.12	4.75	6.83	6.37	8.15	7.07
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	1.08	1.08	3.84	3.74	4.00	4.02	3.82	3.72	3.90	3.96	3.08	3.04	3.32	3.24
Chloride	1.18	1.27	0.47	0.39	0.43	0.54	1.89	0.59	0.50	0.59	4.88	3.44	2.14	3.44
Fluoride	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00
Nitrate Nitrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.04	0.00	0.03
Sulfate	0.75	0.67	0.41	0.42	0.42	0.33	0.42	0.35	0.44	0.37	0.44	0.44	0.44	0.37
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	3.01	3.02	4.72	4.55	4.86	4.90	6.13	4.67	4.84	4.93	8.42	6.96	5.90	7.08
CHARGE BALANCE (%)	-3	-1	1	-1	2	2	-49	-1	3	-2	-10	-4	16	-0
TDS (mg/L)	226	228	276	278	292	284	300	270	270	284	464	468	566	440
TSS (mg/L)	482	114	4	18	3	1	53	2	592	13	6	2	7	<1
Turbidity (NTU)	340	105	1.7	3	2.5	3.6	52	3.5	80	12	3.5	6	24	2.5

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

23

Sampling Point . Location . Date Sampled	GW-761				GW-762				GW-763				GW-764	
	GRIDG2				GRIDJ3				GRIDJ3				GRIDE1	
	01/26/93	04/16/93	09/13/93	11/29/93	01/23/93	04/20/93	08/04/93	10/28/93	01/25/93	04/21/93	08/05/93	10/29/93	01/23/93	04/13/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	3.39	1.40	1.65	1.45	3.64	3.54	3.44	4.09	5.49	4.99	5.49	5.99	2.40	2.25
Magnesium	0.72	0.21	0.24	0.21	1.89	1.81	1.89	2.14	1.07	0.99	0.99	1.07	0.49	0.45
Potassium	0.06	0.02	0.00	0.00	0.09	0.08	0.12	0.10	0.02	0.02	0.05	0.03	0.05	0.06
Sodium	0.65	0.25	0.27	0.27	0.42	0.35	0.35	0.39	0.48	0.41	0.37	0.41	1.13	1.04
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total Cations	4.83	1.87	2.15	1.93	6.04	5.78	5.81	6.72	7.06	6.41	6.89	7.50	4.07	3.80
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	1.44	1.48	1.68	1.56	5.28	5.20	5.62	5.62	6.19	6.35	6.45	6.45	3.72	3.58
Chloride	0.28	0.20	0.21	0.20	0.71	0.72	0.68	0.79	1.32	1.16	1.02	1.10	0.08	0.08
Fluoride	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.02	0.01	0.01	0.01	0.01
Nitrate Nitrogen	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sulfate	0.27	0.33	0.25	0.23	0.33	0.25	0.37	0.27	0.00	0.15	0.17	0.04	0.21	0.27
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total Anions	1.99	2.04	2.13	2.01	6.31	6.17	6.67	6.68	7.53	7.67	7.65	7.61	4.01	3.93
CHARGE BALANCE (%)	42	-4	0	-2	-2	-3	-7	0	-3	-9	-5	-1	1	-2
TDS (mg/L)	162	122	132	138	332	344	358	368	388	412	422	434	238	240
TSS (mg/L)	41	6	12	27	13	15	21	8	53	30	52	35	2	3
Turbidity (NTU)	14	5.5	520	22	9.9	16	35	7.5	35	30	46	30	2.1	1.1

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

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Sampling Point . Location . Date Sampled	GW-764		GW-765				GW-766				GW-767			
	GRIDE1		GRIDE1				GRID12				GRID12			
	09/12/93	11/12/93	01/25/93	04/13/93	09/12/93	11/19/93	02/01/93	04/15/93	08/03/93	10/13/93	02/02/93	04/15/93	08/04/93	10/13/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	2.54	2.30	2.69	4.44	4.99	4.94	2.10	1.75	1.65	1.10	0.28	0.12	0.14	0.18
Magnesium	0.52	0.49	0.29	0.72	0.82	0.81	0.53	0.53	0.58	0.39	0.12	0.09	0.10	0.09
Potassium	0.04	0.05	0.06	0.00	0.00	0.03	0.13	0.10	0.09	0.14	0.02	0.00	0.03	0.02
Sodium	1.17	1.17	0.22	0.35	0.39	0.42	0.43	0.52	0.52	0.57	0.13	0.10	0.12	0.13
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total Cations	4.28	4.01	3.26	5.51	6.20	6.20	3.19	2.89	2.84	2.19	0.55	0.31	0.40	0.42
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.32	0.08	0.20	0.00	0.00	0.00	0.00
Alkalinity-HCO3	3.78	3.90	5.36	5.36	5.70	5.68	1.02	2.18	2.52	2.46	0.16	0.14	0.26	0.26
Chloride	0.08	0.08	0.23	0.19	0.26	0.25	0.06	0.07	0.11	0.11	0.09	0.07	0.15	0.11
Fluoride	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
Nitrate Nitrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
Sulfate	0.20	0.21	0.25	0.27	0.21	0.21	0.22	0.18	0.29	0.19	0.09	0.07	0.19	0.06
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total Anions	4.07	4.20	5.84	5.83	6.17	6.14	1.85	2.76	3.00	2.97	0.34	0.28	0.62	0.44
CHARGE BALANCE (%)	2	-2	-28	-3	0	0	27	2	-3	-15	24	5	-21	-1
TDS (mg/L)	246	254	434	364	362	380	128	166	182	202	54	32	56	64
TSS (mg/L)	5	113	349	97	264	158	64	1	2	3	33	7	<1	3
Turbidity (NTU)	7.1	320	620	80	250	130	7.4	2	1.6	1.4	2.9	0.5	1.6	1.5

(CONTINUED)

APPENDIX G

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Ion-Charge Balance Calculations, 1993

Sampling Point	GW-768				GW-769				GW-770				GW-771	
Location	GRID11				GRID3				GRID3				GRID1	
Date Sampled	01/29/93	04/07/93	08/04/93	10/13/93	01/27/93	04/19/93	09/14/93	11/30/93	01/27/93	04/19/93	09/14/93	11/29/93	01/23/93	04/12/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	1.80	1.80	1.95	1.80	3.69	3.39	3.94	3.79	3.49	2.15	2.99	2.69	3.64	3.49
Magnesium	0.54	0.55	0.62	0.54	0.82	0.76	0.90	0.90	0.78	0.26	0.33	0.30	0.59	0.56
Potassium	0.06	0.05	0.07	0.07	0.08	0.08	0.07	0.07	0.05	0.05	0.06	0.05	0.03	0.03
Sodium	2.87	2.91	3.00	3.00	0.28	0.26	0.29	0.30	0.52	0.20	0.23	0.25	0.24	0.22
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cations	5.27	5.32	5.64	5.41	4.87	4.49	5.21	5.08	4.84	2.66	3.62	3.30	4.50	4.30
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	5.00	5.06	5.14	5.10	3.98	3.82	4.10	4.14	2.66	2.24	2.68	2.82	3.74	3.76
Chloride	0.09	0.08	0.10	0.08	0.59	0.44	0.51	0.59	0.12	0.12	0.15	0.17	0.28	0.27
Fluoride	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01
Nitrate Nitrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.03	0.04	0.05	0.04	0.00	0.00
Sulfate	0.27	0.27	0.35	0.25	0.40	0.38	0.44	0.35	0.46	0.45	0.52	0.42	0.34	0.28
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	5.38	5.43	5.61	5.45	4.97	4.63	5.06	5.08	3.28	2.86	3.41	3.45	4.36	4.31
CHARGE BALANCE (%)	-1	-1	0	-0	-1	-2	1	-0	19	-4	3	-2	2	-0
TDS (mg/L)	340	304	322	342	282	278	294	298	188	190	212	212	264	268
TSS (mg/L)	5	<1	2	<1	<1	1	<1	<1	8	41	2	10	3	<1
Turbidity (NTU)	3	1.2	1.9	1	1.1	0.9	2	1	7.6	8.5	11	13	1.9	1.9

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

26

Sampling Point	GW-771		GW-772				GW-773				GW-774			
Location	GRIDC1		GRIDC1				GRIDH2				GRIDH2			
Date Sampled	09/03/93	11/11/93	01/23/93	04/12/93	09/12/93	11/12/93	02/03/93	04/20/93	08/06/93	10/15/93	02/04/93	04/20/93	08/09/93	10/15/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	3.84	3.49	0.60	0.60	0.55	0.65	2.59	2.59	2.69	2.64	3.39	3.19	3.34	3.44
Magnesium	0.62	0.58	0.44	0.50	0.41	0.42	0.56	0.53	0.59	0.53	0.50	0.47	0.52	0.51
Potassium	0.03	0.03	0.03	0.00	0.04	0.03	0.03	0.00	0.03	0.03	0.05	0.05	0.08	0.05
Sodium	0.23	0.23	0.91	0.96	0.87	0.91	0.20	0.18	0.20	0.19	0.19	0.19	0.20	0.19
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cations	4.72	4.35	1.99	2.06	1.87	2.02	3.38	3.30	3.52	3.40	4.14	3.90	4.13	4.19
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	3.88	4.04	2.16	2.32	2.56	2.38	3.24	3.30	3.36	3.38	3.88	3.98	3.92	3.90
Chloride	0.25	0.28	1.57	1.26	0.75	0.82	0.08	0.09	0.09	0.08	0.11	0.12	0.11	0.11
Fluoride	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
Nitrate Nitrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sulfate	0.31	0.24	0.10	0.15	0.05	0.04	0.11	0.18	0.23	0.10	0.21	0.21	0.27	0.12
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	4.45	4.57	3.83	3.74	3.37	3.24	3.43	3.57	3.67	3.57	4.19	4.30	4.30	4.14
CHARGE BALANCE (%)	3	-2	-32	-29	-29	-23	-1	-4	-2	-2	-1	-5	-2	1
TDS (mg/L)	266	306	190	214	194	204	210	204	218	234	316	222	256	260
TSS (mg/L)	6	31	7	1	11	4	2	2	<1	<1	22	10	20	5
Turbidity (NTU)	4	4.1	17	8.8	6	20	1.4	0.9	1.7	1.5	150	150	14	4

(CONTINUED)

APPENDIX G

Ion-Charge Balance Calculations, 1993

27

Sampling Point . Location . Date Sampled	GW-775				GW-776			
	GRID#3				GRID#3			
	02/04/93	04/20/93	08/09/93	10/15/93	02/04/93	04/20/93	08/10/93	10/18/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.
Calcium	3.39	3.54	3.59	3.44	4.44	4.39	4.59	4.54
Magnesium	0.48	0.49	0.54	0.54	0.41	0.36	0.42	0.39
Potassium	0.10	0.05	0.06	0.06	0.08	0.07	0.08	0.07
Sodium	0.17	0.16	0.17	0.18	0.48	0.48	0.48	0.43
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cations	4.14	4.24	4.37	4.23	5.41	5.30	5.57	5.43
ANIONS (meq/L)	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	3.14	3.18	3.28	3.36	3.96	3.82	3.94	3.96
Chloride	0.62	0.76	0.62	1.16	0.76	1.17	0.82	1.06
Fluoride	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nitrate Nitrogen	0.02	0.03	0.03	0.03	0.08	0.08	0.09	0.10
Sulfate	0.60	0.56	0.56	0.52	0.83	0.84	0.79	0.72
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	4.39	4.53	4.49	5.06	5.63	5.90	5.64	5.83
CHARGE BALANCE (%)	-3	-3	-1	-9	-2	-5	-1	-4
TDS (mg/L)	274	254	272	302	350	338	356	356
TSS (mg/L)	4	3	<1	<1	13	45	135	13
Turbidity (NTU)	2.8	1.8	1.4	0.7	12	22	28	18

APPENDIX H
TRACE METAL DATA SUMMARY

EXPLANATION

LOCATION:

B4	-	Beta-4 Security Pits
EXP	-	Exit-Pathway Monitoring Well
FF	-	Building 9754-2 Fuel Facility
FTF	-	Fire Training Facility
GRID	-	Comprehensive Groundwater Monitoring Plan Grid Location
NHP	-	New Hope Pond
RG	-	Rust Garage Area
S2	-	S-2 Site
SY	-	Y-12 Salvage Yard
T0134	-	Underground Storage Tank 0134-U
T2331	-	Underground Storage Tank 2331-U
WC	-	Waste Coolant Processing Area

NOTES:

mg/L	-	milligrams per Liter
	-	Concentration less than the Maximum Contaminant Level (MCL) or Screening Level
TOT	-	Total Concentration (Unfiltered Sample)
DIS	-	Dissolved Concentration (Filtered Sample)
TSS	-	Total Suspended Solids
NTU	-	Nephelometric Turbidity Unit

MCLs:

<u>Metal</u>	<u>Maximum Contaminant Level (mg/L)</u>
Barium (ICP)	2.0
Cadmium (AAS)	0.005
Chromium (AAS)	0.10
Lead (AAS)	0.05
Mercury (CVAA)	0.002

Because of inherent analytical interferences, ICP results for arsenic, selenium, and silver were not evaluated with respect to MCLs. Historical AAS results for these metals have shown only isolated and sporadic occurrences where concentrations exceeded MCLs.

EXPLANATION (cont'd)

SCREENING LEVELS:

<u>Metal (ICP)</u>	<u>Screening Level (mg/L)</u>
Aluminum	8.3
Beryllium	0.0066
Boron	1.1
Cobalt	0.012
Copper	0.44
Iron	13.91
Manganese	2.4
Molybdenum	0.023
Nickel	0.18
Strontium	0.88
Thorium	<0.2
Uranium	0.01
Vanadium	0.064
Zinc	0.14

Values represent the maximum total concentration (in mg/L) that would be expected in uncontaminated, unfiltered groundwater samples collected from monitoring wells located upgradient from waste-management sites at the Y-12 Plant.

APPENDIX H.1

**TRACE METAL CONCENTRATIONS THAT EXCEED
MAXIMUM CONTAMINANT LEVELS**

Trace Metal Concentrations That Exceed Maximum Contaminant Levels, 1993

Sampling Point Location Date Sampled	GW-169						GW-206						GW-251	
	EXP						EXP						S2	
	01/23/93		08/19/93		11/01/93		05/06/93		08/12/93		10/27/93		01/20/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Barium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cadmium (AAS)	.	.	.	.	.	.	.	.	.	.	.	.	0.16	0.15
Chromium (AAS)	.	.	.	.	.	.	.	.	0.11	<0.01	0.2	<0.01	.	.
Lead (AAS)	0.15	<0.004	0.18	<0.004	0.091	<0.004	0.14	<0.004	0.13	0.064	0.12	<0.004	.	.
Mercury (CVAA)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	2100	.	1388	.	1960	.	1210	.	67	.	1187	.	119	.
Turbidity (NTU)	2250	.	1200	.	46	.	750	.	1050	.	13	.	120	.

(CONTINUED)

Sampling Point Location Date Sampled	GW-251						GW-252		GW-255		GW-263			
	S2						S2		S2		SY			
	05/05/93		09/17/93		12/08/93		09/15/93		12/07/93		01/11/93		07/01/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Barium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cadmium (AAS)	0.2	0.2	0.083	0.075	0.078	0.072	.	.	.	.	.	.	.	.
Chromium (AAS)	.	.	.	.	.	.	.	.	.	.	5.8	0.026	0.17	<0.01
Lead (AAS)	.	.	0.06	<0.004	.	.	0.067	<0.004	0.077	<0.004	0.11	<0.004	.	.
Mercury (CVAA)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	104	.	434	.	150	.	29	.	1260	.	152	.	158	.
Turbidity (NTU)	105	.	220	.	81	.	250	.	560	.	230	.	110	.

(CONTINUED)

APPENDIX H.1

2

Trace Metal Concentrations That Exceed Maximum Contaminant Levels, 1993

Sampling Point Location Date Sampled	GW-263		GW-284								GW-285		GW-337	
	SY		FF								FF		WC	
	12/07/93		02/02/93		04/16/93		08/05/93		10/14/93		04/19/93		01/21/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Barium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cadmium (AAS)	0.0067	0.0025	.	.	.	.	.	.	.	.	.	.	0.0069	0.0051
Chromium (AAS)	.	.	0.64	<0.01	0.16	<0.01	1.9	<0.01	0.12	<0.01	0.76	<0.01	.	.
Lead (AAS)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Mercury (CVAA)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	7	.	18	.	22	.	48	.	20	.	201	.	26	.
Turbidity (NTU)	20	.	8.6	.	15	.	25	.	15	.	280	.	14	.

(CONTINUED)

Sampling Point Location Date Sampled	GW-380								GW-505				GW-617	
	NHP								RG				EXP	
	01/25/93		04/21/93		08/05/93		10/29/93		09/15/93		11/16/93		09/16/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Barium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cadmium (AAS)	.	.	.	.	0.0065	0.0041	.	.	.	.	.	.	0.0054	0.0043
Chromium (AAS)	0.99	<0.01	0.27	<0.01	4	0.032	0.82	0.017	0.39	<0.01	0.3	<0.01	.	.
Lead (AAS)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Mercury (CVAA)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	15	.	10	.	124	.	11	.	42	.	103	.	25	.
Turbidity (NTU)	16	.	20	.	21	.	50	.	34	.	26	.	52	.

(CONTINUED)

Trace Metal Concentrations That Exceed Maximum Contaminant Levels, 1993

Sampling Point . Location . Date Sampled	GW-618								GW-633					
	EXP								RG					
	01/12/93		05/05/93		09/16/93		12/08/93		03/03/93		06/21/93		09/20/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Barium	.	.	.	.	.	.	.	.	33	37	22	21	22	24
Cadmium (AAS)	0.014	<0.002	0.02	<0.002	0.03	<0.002	0.02	0.0053	.	.	.	.	.	.
Chromium (AAS)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lead (AAS)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Mercury (CVAA)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	<1	.	<1	.	1	.	<1	.	219	.	169	.	133	.
Turbidity (NTU)	1.6	.	3.3	.	1.5	.	1	.	220	.	95	.	70	.

(CONTINUED)

Sampling Point . Location . Date Sampled	GW-659						GW-707		GW-746		GW-756		GW-760	
	FF						T2331		GRIDK1		GRIDJ1		GRIDG2	
	06/18/93		09/22/93		11/15/93		06/23/93		08/05/93		01/15/93		01/27/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Barium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cadmium (AAS)	0.0067	<0.002	.	.	.	.	0.0061	<0.002	.	.	.	.	.	.
Chromium (AAS)	0.18	<0.01	0.13	0.011	0.24	<0.01	.	.	0.2	<0.01	0.12	<0.01	0.15	<0.01
Lead (AAS)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Mercury (CVAA)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	234	.	253	.	743	.	1	.	414	.	1729	.	6	.
Turbidity (NTU)	340	.	680	.	750	.	2.9	.	230	.	680	.	3.5	.

(CONTINUED)

APPENDIX H.1

4

Trace Metal Concentrations That Exceed Maximum Contaminant Levels, 1993

Sampling Point . Location . Date Sampled	GW-760				GW-776			
	GRIDG2				GRIDH3			
	04/16/93		09/14/93		04/20/93		10/18/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Barium	.	.	.	.	.	.	.	.
Cadmium (AAS)	0.0087	0.014	0.02	0.013	.	.	.	.
Chromium (AAS)	.	.	.	.	0.16	<0.01	0.31	<0.01
Lead (AAS)	.	.	.	.	.	.	.	.
Mercury (CVAA)	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
TSS (mg/L)	2	.	7	.	45	.	13	.
Turbidity (NTU)	6	.	24	.	22	.	18	.

APPENDIX H.2

**TRACE METAL CONCENTRATIONS THAT EXCEED
SCREENING LEVELS**

APPENDIX H.2
Trace Metal Concentrations That Exceed
Screening Levels, 1993

1

Sampling Point . Location . Date Sampled	GW-169								GW-191		GW-192		GW-193	
	EXP								B4		B4		T2331	
	01/23/93		05/21/93		08/19/93		11/01/93		04/12/93		01/14/93		03/11/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Aluminum	75	0.023	14	0.041	71	<0.02	29	0.045	42	0.051	.	.	.	.
Beryllium	0.0092	<0.0003	.	.	0.0092	<0.0003	.	.	.	.	.	.	.	.
Boron	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cobalt	0.052	<0.005	0.015	<0.005	0.054	<0.005	0.031	<0.005	0.03	<0.005	.	.	.	.
Copper	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Iron	79	0.014	24	<0.005	83	<0.005	45	0.11	56	0.084	18	2.7	.	.
Manganese	3.1	0.0026	.	.	3.3	0.0012	.	.	.	.	.	.	.	.
Molybdenum	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Nickel	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Strontium	.	.	.	.	.	.	.	.	0.96	0.48	.	.	.	.
Thorium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Uranium	.	.	.	.	.	.	.	.	.	.	.	.	0.017	0.018
Vanadium	0.13	<0.005	.	.	0.13	<0.005	.	.	.	.	.	.	.	.
Zinc	0.36	0.0056	.	.	0.36	0.0082	0.21	0.0046	0.2	0.0066	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	2100	.	404	.	1388	.	1960	.	2162	.	61	.	35	.
Turbidity (NTU)	2250	.	20	.	1200	.	46	.	560	.	66	.	52	.

(CONTINUED)

APPENDIX H.2
Trace Metal Concentrations That Exceed
Screening Levels, 1993

2

Sampling Point . Location . Date Sampled	GW-193						GW-194		GW-195					
	T2331						B4		B4					
	06/22/93		09/23/93		11/18/93		01/13/93		01/13/93		04/13/93		07/08/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Aluminum	9.3	<0.02	.	.	.	.	.	.	14	0.097	13	0.055	12	<0.02
Beryllium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Boron	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cobalt	.	.	.	.	.	.	.	.	0.02	<0.005	0.013	0.0053	0.015	<0.005
Copper	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Iron	.	.	.	.	.	.	.	.	24	0.12	17	0.04	18	0.014
Manganese	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Molybdenum	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Nickel	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Strontium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Thorium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Uranium	.	.	0.086	0.077	0.08	0.08	0.09	0.09	.	.	.	.	.	.
Vanadium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Zinc	.	.	.	.	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	830	.	23	.	98	.	102	.	524	.	527	.	510	.
Turbidity (NTU)	440	.	22	.	29	.	34	.	240	.	220	.	240	.

(CONTINUED)

APPENDIX H.2
Trace Metal Concentrations That Exceed
Screening Levels, 1993

3

Sampling Point . Location . Date Sampled	GW-195		GW-199						GW-204					
	B4		GRID11						T0134					
	12/09/93		01/29/93		08/02/93		10/12/93		03/11/93		06/22/93		09/23/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Aluminum	9.3	<0.02	.	.	.	.	.	.	.	.	.	.	.	.
Beryllium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Boron	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cobalt	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Copper	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Iron	14	0.0095	.	.	.	.	.	.	.	.	.	.	.	.
Manganese	.	.	4	1.5	3.4	1.8	.	.	.	.	.	.	.	.
Molybdenum	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Nickel	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Strontium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Thorium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Uranium	.	.	.	.	.	.	.	.	0.075	0.068	0.21	0.185	0.126	0.12
Vanadium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Zinc	.	.	.	.	.	.	0.17	0.18	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	292	.	628	.	14	.	16	.	25	.	3	.	26	.
Turbidity (NTU)	360	.	3900	.	25	.	6.5	.	24	.	3.3	.	6.5	.

(CONTINUED)

APPENDIX H.2
Trace Metal Concentrations That Exceed
Screening Levels, 1993

4

Sampling Point Location Date Sampled	GW-204		GW-206								GW-208			
	T0134		EXP								EXP			
	11/16/93		01/19/93		05/06/93		08/12/93		10/27/93		01/19/93		05/06/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Aluminum	.	.	.	.	22	0.29	49	2.3	42	1	.	.	.	.
Beryllium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Boron	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cobalt	.	.	.	.	0.058	0.0069	0.074	0.025	0.089	<0.005	.	.	.	.
Copper	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Iron	.	.	23	5.9	78	3.6	120	47	130	19	.	.	.	.
Manganese	.	.	.	.	4.8	1.1	7.5	5.7	7.8	1.3	.	.	.	.
Molybdenum	.	.	.	.	<0.05	<0.01	.	.	<0.1	<0.01	.	.	.	.
Nickel	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Strontium	.	.	.	.	.	.	.	.	.	.	1.3	1.3	1.3	1.3
Thorium	.	.	.	.	<1	<0.2	.	.	<2	<0.2	.	.	.	.
Uranium	0.094	0.108	.	.	.	.	.	.	.	.	.	.	.	.
Vanadium	.	.	.	.	.	.	0.1	0.021	0.087	<0.005	.	.	.	.
Zinc	.	.	.	.	0.15	0.053	0.15	0.027	0.21	0.0067	1.9	1.4	1.2	0.91
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	250	.	2750	.	1210	.	67	.	1187	.	2	.	<1	.
Turbidity (NTU)	110	.	1900	.	750	.	1050	.	13	.	4.5	.	2.2	.

(CONTINUED)

APPENDIX H.2
Trace Metal Concentrations That Exceed
Screening Levels, 1993

5

Sampling Point Location Date Sampled	GW-208				GW-220		GW-232							
	EXP				NHP		EXP							
	08/13/93		10/28/93		04/22/93		01/26/93		05/21/93		08/21/93		11/01/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Aluminum	.	.	.	.	8.6	0.043	.	.	.	.	.	.	.	.
Beryllium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Boron	.	.	.	.	.	.	1.3	1.3	1.3	1.4	1.4	1.4	1.3	1.2
Cobalt	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Copper	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Iron	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Manganese	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Molybdenum	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Nickel	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Strontium	1.5	1.5	1.3	1.3	.	.	.	.	.	.	.	.	.	.
Thorium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Uranium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vanadium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Zinc	2	1.3	2	1.8	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	3	.	2	.	414	.	4	.	1	.	5	.	2	.
Turbidity (NTU)	8.1	.	7	.	280	.	2.6	.	1.2	.	4.3	.	1.8	.

(CONTINUED)

APPENDIX H.2
Trace Metal Concentrations That Exceed
Screening Levels, 1993

Sampling Point . Location . Date Sampled	GW-239								GW-251					
	NHP								S2					
	01/23/93		05/13/93		08/18/93		10/30/93		01/20/93		05/05/93		09/17/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Aluminum	.	.	.	.	.	.	.	.	.	.	.	.	17	0.033
Beryllium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Boron	1.5	1.5	1.5	1.5	1.6	1.6	1.5	1.5	.	.	.	.	.	.
Cobalt	.	.	.	.	.	.	.	.	0.035	0.032	0.039	0.036	0.023	0.0063
Copper	.	.	.	.	.	.	.	.	0.58	0.42	0.65	0.46	0.95	0.17
Iron	.	.	.	.	.	.	16	0.37	.	.	.	.	23	<0.005
Manganese	.	.	.	.	.	.	.	.	4.7	4.6	5.4	5.2	2.9	1.8
Molybdenum	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Nickel	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Strontium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Thorium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Uranium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vanadium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Zinc	.	.	.	.	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	4	.	3	.	<1	.	21	.	119	.	104	.	434	.
Turbidity (NTU)	5.6	.	3.9	.	7.9	.	10	.	120	.	105	.	220	.

(CONTINUED)

APPENDIX H.2
Trace Metal Concentrations That Exceed
Screening Levels, 1993

7

Sampling Point Location Date Sampled	GW-251		GW-252		GW-255		GW-263							
	S2		S2		S2		SY							
	12/08/93		09/15/93		12/07/93		01/11/93		04/08/93		07/01/93		12/07/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Aluminum	.	.	16	<0.02	29	<0.02	13	0.063	.	.	.	.	.	.
Beryllium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Boron	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cobalt	0.015	0.013	.	.	0.03	<0.005	0.048	0.0091	.	.	.	.	.	.
Copper	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Iron	.	.	20	<0.005	39	<0.005	37	0.15	.	.	.	.	.	.
Manganese	.	.	.	.	2.8	<0.001	.	.	.	.	.	.	.	.
Molybdenum	.	.	.	.	.	.	0.051	<0.01	.	.	.	.	.	.
Nickel	.	.	.	.	.	.	2.1	0.96	0.33	0.33	0.36	0.15	0.28	0.26
Strontium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Thorium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Uranium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vanadium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Zinc	.	.	0.15	0.037	0.19	<0.002	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	150	.	29	.	1260	.	152	.	7	.	158	.	7	.
Turbidity (NTU)	81	.	250	.	560	.	230	.	6	.	110	.	20	.

(CONTINUED)

APPENDIX H.2
Trace Metal Concentrations That Exceed
Screening Levels, 1993

8

Sampling Point Location Date Sampled	GW-281		GW-284								GW-285			
	FF		FF								FF			
	08/04/93		02/02/93		04/16/93		08/05/93		10/14/93		02/02/93		04/19/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Aluminum	18	<0.02	.	.	.	.	14	<0.02	.	.	.	.	.	.
Beryllium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Boron	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cobalt	0.014	<0.005	.	.	.	.	0.064	0.016	.	.	.	.	.	.
Copper	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Iron	23	1.8	.	.	.	.	35	0.0063	.	.	.	.	.	.
Manganese	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Molybdenum	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Nickel	.	.	0.96	0.92	0.8	1.4	1.8	0.98	0.59	0.96	0.58	0.58	0.91	0.58
Strontium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Thorium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Uranium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vanadium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Zinc	0.63	0.009	.	.	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	120	.	18	.	22	.	48	.	20	.	15	.	201	.
Turbidity (NTU)	40	.	8.6	.	15	.	25	.	15	.	25	.	280	.

(CONTINUED)

APPENDIX H.2
Trace Metal Concentrations That Exceed
Screening Levels, 1993

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Sampling Point . Location . Date Sampled	GW-285				GW-337		GW-380				GW-382		GW-505	
	PF				WC		NHP				NHP		RG	
	08/05/93		10/14/93		09/17/93		08/05/93		10/29/93		11/04/93		03/01/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Aluminum	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Beryllium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Boron	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cobalt	0.017	0.013	0.013	0.013	.	.	0.074	0.011	.	.	.	.	.	.
Copper	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Iron	.	.	.	.	14	<0.005	28	2.2	.	.	.	.	.	.
Manganese	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Molybdenum	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Nickel	0.5	0.45	0.96	0.93	.	.	3.9	0.54	0.39	4	0.32	<0.01	.	.
Strontium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Thorium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Uranium	.	.	.	.	.	.	.	.	.	.	.	.	0.012	0.007
Vanadium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Zinc	.	.	.	.	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	26	.	6	.	578	.	124	.	11	.	<1	.	87	.
Turbidity (NTU)	18	.	6.1	.	335	.	21	.	50	.	1.4	.	50	.

(CONTINUED)

APPENDIX H.2
Trace Metal Concentrations That Exceed
Screening Levels, 1993

Sampling Point . Location . Date Sampled	GW-505				GW-508								GW-603	
	RG				RG								EXP	
	09/15/93		11/16/93		03/05/93		06/23/93		09/21/93		11/19/93		05/04/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Aluminum	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Beryllium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Boron	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cobalt	0.014	<0.005	0.021	<0.005	0.13	0.11	0.15	0.21	0.22	.	0.15	0.15	.	.
Copper	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Iron	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Manganese	.	.	.	.	5.6	5.7	5.4	6.8	6.6	.	5	4.8	.	.
Molybdenum	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Nickel	.	.	.	.	.	.	.	.	.	.	.	.	0.26	0.2
Strontium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Thorium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Uranium	.	.	0.014	0.014	.	.	.	.	.	.	.	.	.	.
Vanadium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Zinc	.	.	.	.	.	.	.	.	0.15	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	42	.	103	.	11	.	7	.	32	.	9	.	78	.
Turbidity (NTU)	34	.	26	.	1	.	5.5	.	4.5	.	1.6	.	62	.

(CONTINUED)

APPENDIX H.2
Trace Metal Concentrations That Exceed
Screening Levels, 1993

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Sampling Point . Location . Date Sampled	GW-631						GW-632							
	RG						RG							
	06/18/93		09/16/93		11/17/93		03/03/93		06/21/93		09/16/93		11/18/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Aluminum	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Beryllium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Boron	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cobalt	0.028	0.032	0.034	0.034	0.025	0.028	0.071	0.044	0.08	0.08	0.11	0.055	0.084	0.11
Copper	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Iron	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Manganese	.	.	.	.	.	.	6.1	5.4	6.5	6.2	5.8	4.4	5.2	4.9
Molybdenum	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Nickel	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Strontium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Thorium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Uranium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vanadium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Zinc	.	.	.	.	0.23	0.066	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	4	.	2	.	10	.	27	.	19	.	19	.	8	.
Turbidity (NTU)	5.5	.	1.5	.	50	.	22	.	56	.	66	.	5	.

(CONTINUED)

APPENDIX H.2
Trace Metal Concentrations That Exceed
Screening Levels, 1993

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Sampling Point Location Date Sampled	GW-603		GW-605						GW-617				GW-631	
	EXP		EXP						EXP				RG	
	08/16/93		02/02/93		05/10/93		11/10/93		09/16/93		12/07/93		03/02/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Aluminum	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Beryllium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Boron	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cobalt	.	.	.	.	.	.	.	.	.	.	.	.	0.035	0.027
Copper	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Iron	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Manganese	.	.	.	.	.	.	.	.	4.2	3.9	3.2	2.7	.	.
Molybdenum	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Nickel	0.37	0.3	.	.	.	.	.	.	.	.	.	.	.	.
Strontium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Thorium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Uranium	.	.	0.149	0.152	0.189	0.194	0.19	0.16	.	.	.	.	.	.
Vanadium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Zinc	.	.	.	.	.	.	.	.	.	.	0.15	0.19	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	19	.	<1	.	1	.	<1	.	25	.	9	.	2	.
Turbidity (NTU)	19	.	1.8	.	2.4	.	1.9	.	52	.	8	.	2.6	.

(CONTINUED)

APPENDIX H.2
Trace Metal Concentrations That Exceed
Screening Levels, 1993

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Sampling Point . Location . Date Sampled	GW-633						GW-634							
	RG						RG							
	03/03/93		06/21/93		09/20/93		03/02/93		06/18/93		09/16/93		11/18/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Aluminum	11	<2	.	.	.	.	.	.	.	.	.	.	.	.
Beryllium	<0.03	<0.03	<0.015	<0.015	.	.	.	.	.	.	.	.	.	.
Boron	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cobalt	<0.5	<0.5	<0.25	<0.25	<0.1	0.086	0.046	0.047	0.052	0.052	0.051	0.05	0.051	0.048
Copper	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Iron	14	<0.5	.	.	.	.	.	.	.	.	.	.	.	.
Manganese	.	.	5.5	7.2	11	13	3.6	3.7	4.3	4.2	3.9	3.8	3.9	3.7
Molybdenum	<1	<1	<0.5	<0.5	<0.2	<0.1	.	.	.	.	.	.	.	.
Nickel	<1	<1	<0.5	<0.5	<0.2	0.28	.	.	.	.	.	.	.	.
Strontium	15	17	11	10	11	12	.	.	.	.	.	.	.	.
Thorium	<20	<20	<10	<10	<4	<2	.	.	.	.	.	.	.	.
Uranium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vanadium	<0.5	<0.5	<0.25	<0.25	<0.1	<0.05	.	.	.	.	.	.	.	.
Zinc	<0.2	<0.2	.	.	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	219	.	169	.	133	.	<1	.	<1	.	2	.	1	.
Turbidity (NTU)	220	.	95	.	70	.	1.2	.	1.4	.	3.6	.	1.4	.

(CONTINUED)

APPENDIX H.2
Trace Metal Concentrations That Exceed
Screening Levels, 1993

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Sampling Point . Location . Date Sampled	GW-656				GW-658								GW-659	
	T0134				FF								FF	
	06/22/93		11/17/93		03/11/93		06/23/93		11/19/93		09/27/04		03/10/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Aluminum	.	.	14	0.022	.	.	.	.	.	.	.	.	.	.
Beryllium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Boron	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cobalt	.	.	0.022	<0.005	.	.	.	.	.	.	.	.	0.015	0.011
Copper	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Iron	.	.	41	0.12	19	18	.	.	.	.	16	14	.	.
Manganese	.	.	.	.	22	22	29	28	8.4	8.5	24	23	3.6	3.6
Molybdenum	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Nickel	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Strontium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Thorium	.	.	.	.	<0.4	<0.4	<0.4	<0.4	.	.	.	.	.	.
Uranium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vanadium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Zinc	0.25	0.2	0.19	0.078	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	83	.	746	.	29	.	29	.	91	.	31	.	391	.
Turbidity (NTU)	130	.	380	.	28	.	36	.	18	.	220	.	460	.

(CONTINUED)

APPENDIX H.2
Trace Metal Concentrations That Exceed
Screening Levels, 1993

15

Sampling Point . Location . Date Sampled	GW-659						GW-707		GW-733		GW-744			
	FF						T2331		EXP		GRIDK1			
	06/18/93		09/22/93		11/15/93		11/18/93		08/18/93		08/04/93		10/22/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Aluminum	23	0.03	.	.	14	0.17	.	.	.	.	.	.	.	.
Beryllium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Boron	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cobalt	0.025	0.0063	0.013	0.029	0.019	<0.005	.	.	.	.	.	.	.	.
Copper	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Iron	27	0.45	.	.	18	0.27	.	.	16	0.034	.	.	.	.
Manganese	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Molybdenum	.	.	.	.	.	.	0.028	0.025	.	.	.	.	.	.
Nickel	0.23	0.13	.	.	.	.	.	.	.	.	.	.	.	.
Strontium	.	.	.	.	.	.	.	.	.	.	0.94	0.94	1.1	1.1
Thorium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Uranium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vanadium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Zinc	0.15	0.04	.	.	0.19	0.012	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	234	.	253	.	743	.	3	.	20	.	<1	.	<1	.
Turbidity (NTU)	340	.	680	.	750	.	2.4	.	20	.	1.4	.	1	.

(CONTINUED)

APPENDIX H.2
Trace Metal Concentrations That Exceed
Screening Levels, 1993

16

Sampling Point . Location . Date Sampled	GW-745		GW-746		GW-755				GW-756					
	GRIDK1		GRIDK1		GRIDJ1				GRIDJ1					
	10/23/93		08/05/93		04/07/93		10/21/93		01/15/93		08/03/93		10/21/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Aluminum	.	.	20	1.3	.	.	.	.	47	0.028	16	<0.02	.	.
Beryllium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Boron	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cobalt	0.019	<0.005	0.014	<0.005	.	.	.	.	0.048	<0.005	0.025	0.015	0.013	0.0093
Copper	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Iron	.	.	18	0.86	.	.	.	.	110	0.12	30	1.3	.	.
Manganese	.	.	.	.	.	.	.	.	.	.	3	3	2.5	2.4
Molybdenum	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Nickel	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Strontium	.	.	.	.	0.91	0.55	0.9	0.93	.	.	.	.	.	.
Thorium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Uranium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vanadium	.	.	.	.	.	.	.	.	0.087	<0.005	.	.	.	.
Zinc	.	.	.	.	.	.	.	.	0.15	0.016	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	<1	.	414	.	118	.	<1	.	1729	.	482	.	114	.
Turbidity (NTU)	2.6	.	230	.	16	.	2.7	.	680	.	340	.	105	.

(CONTINUED)

APPENDIX H.2
Trace Metal Concentrations That Exceed
Screening Levels, 1993

17

Sampling Point . Location . Date Sampled	GW-759		GW-761		GW-763								GW-765	
	GRIDG1		GRIDG2		GRIDJ3								GRIDE1	
	09/13/93		11/29/93		01/25/93		04/21/93		08/05/93		10/29/93		01/25/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Aluminum	12	0.03	.	.	.	.	.	.	.	.	.	.	21	0.19
Beryllium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Boron	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cobalt	.	.	0.015	<0.005	.	.	.	.	.	.	.	.	.	.
Copper	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Iron	24	0.055	.	.	20	21	22	23	18	12	16	16	27	0.22
Manganese	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Molybdenum	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Nickel	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Strontium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Thorium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Uranium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vanadium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Zinc	.	.	.	.	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	592	.	27	.	53	.	30	.	52	.	35	.	349	.
Turbidity (NTU)	80	.	22	.	35	.	30	.	46	.	30	.	620	.

(CONTINUED)

APPENDIX H.2
Trace Metal Concentrations That Exceed
Screening Levels, 1993

18

Sampling Point . Location . Date Sampled	GW-765		GW-767		GW-772								GW-773	
	GRID1		GRID2		GRID1								GRID2	
	09/12/93		08/04/93		01/23/93		04/12/93		09/12/93		11/12/93		08/06/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Aluminum	14	<0.02	.	.	.	.	.	.	.	.	.	.	.	.
Beryllium	.	.	.	.	0.0079	<0.0003	0.0074	<0.003	.	.	.	.	.	.
Boron	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cobalt	.	.	.	.	0.069	0.063	0.056	0.051	0.056	0.06	0.056	0.055	.	.
Copper	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Iron	24	<0.005	.	.	36	37	37	36	34	32	34	34	.	.
Manganese	.	.	.	.	13	13	13	12	12	12	12	13	.	.
Molybdenum	.	.	.	.	.	.	<0.1	<0.1	.	.	.	.	.	.
Nickel	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Strontium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Thorium	.	.	.	.	.	.	<2	<2	.	.	.	.	.	.
Uranium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vanadium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Zinc	.	.	0.16	0.18	.	.	.	.	.	.	.	.	0.23	0.0098
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	264	.	<1	.	7	.	1	.	11	.	4	.	<1	.
Turbidity (NTU)	250	.	1.6	.	17	.	8.8	.	6	.	20	.	1.7	.

(CONTINUED)

APPENDIX H.2
Trace Metal Concentrations That Exceed
Screening Levels, 1993

Sampling Point . Location . Date Sampled	GW-774		GW-776					
	GRIDH2		GRIDH3					
	02/04/93		04/20/93		08/10/93		10/18/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Aluminum	24	0.27	.	.	.	.	.	.
Beryllium	.	.	.	.	.	.	.	.
Boron	.	.	.	.	.	.	.	.
Cobalt	0.023	<0.005	.	.	.	.	.	.
Copper	.	.	.	.	.	.	.	.
Iron	32	0.34	.	.	.	.	.	.
Manganese	.	.	.	.	.	.	.	.
Molybdenum	.	.	.	.	.	.	.	.
Nickel	.	.	0.19	0.15	0.33	0.32	0.24	0.22
Strontium	.	.	.	.	.	.	.	.
Thorium	.	.	.	.	.	.	.	.
Uranium	.	.	.	.	.	.	.	.
Vanadium	.	.	.	.	.	.	.	.
Zinc	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
TSS (mg/L)	22	.	45	.	135	.	13	.
Turbidity (NTU)	150	.	22	.	28	.	18	.

APPENDIX I
QA/QC DATA SUMMARIES

EXPLANATION

LOCATION:

B4	-	Beta-4 Security Pits
EXP	-	Exit-Pathway Monitoring Well
FF	-	Building 9754-2 Fuel Facility
FTF	-	Fire Training Facility
GRID	-	Comprehensive Groundwater Monitoring Plan Grid Location
NHP	-	New Hope Pond
RG	-	Rust Garage Area
S2	-	S-2 Site
SY	-	Y-12 Salvage Yard
T0134	-	Underground Storage Tank 0134-U
T2331	-	Underground Storage Tank 2331-U
WC	-	Waste Coolant Processing Area

NOTES:

.	-	Not analyzed
U	-	Compound not detected at the reported minimum attainable detection limit.
B	-	Well was bailed
W	-	Well Wizard (Dedicated sampling equipment)

UNITS:

µg/L	-	micrograms per liter
mg/L	-	milligrams per liter
pCi/L	-	picoCuries per liter
Bq/L	-	Becquerels per liter
CE +/-	-	Counting Error (two standard deviations)

APPENDIX L1

CORRELATION OF GROUNDWATER SAMPLES TO ASSOCIATED BLANKS

APPENDIX I.1
Correlation of Samples to Associated Blanks

Sampling Pt.	Location	Pump No.	Date	Sample No.	Trip Blank No.	Lab Blank No.
First Quarter 1993						
GW-151	NHP	7	01/26/93	930126-094	930126-096	930127-001
GW-168	NHP	8	01/22/93	930122-070	930122-072	930125-004
GW-169	EXP	B	01/23/93	930123-021	930123-025	930125-004
GW-170	EXP	8	01/23/93	930123-022	930123-025	930125-004
GW-183	FF	8	03/10/93	930311-011	930311-021	930311-091
GW-190	RG	3	03/01/93	930302-001	930302-007	930304-076
GW-191	B4	6	01/12/93	930112-083	930112-087	930113-147
GW-192	B4	6	01/14/93	930114-028	930114-030	930115-001
GW-193	T2331	8	03/11/93	930312-006	930312-012	930316-001
GW-194	B4	7	01/13/93	930113-115	930113-117	930113-147
GW-195	B4	7	01/13/93	930113-113	930113-117	930113-147
GW-199	GRID11	6	01/29/93	930129-094	930129-096	930202-095
GW-204	T0134	8	03/11/93	930312-010	930312-012	930312-001
GW-206	EXP	B	01/19/93	930119-064	930119-070	930119-088
GW-207	EXP	8	01/14/93	930114-223	930114-225	930115-001
GW-208	EXP	8	01/19/93	930119-066	930119-070	930120-001
GW-220	NHP	7	01/25/93	930125-256	930125-262	930127-005
GW-232	EXP	2	01/26/93	930126-074	930126-076	930127-005
GW-239	NHP	2	01/23/93	930123-016	930123-018	930125-004
GW-240	NHP	3	01/27/93	930127-088	930127-090	930128-009
GW-251	S2	4	01/20/93	930121-016	930121-018	930121-066
GW-252	S2	4	01/08/93	930108-135	930108-137	930111-139
GW-255	S2	4	01/08/93	930108-131	930108-137	930111-008
GW-261	SY	6	01/08/93	930108-138	930108-140	930111-139
GW-262	SY	6	01/11/93	930111-144	930111-148	930112-042
GW-263	SY	6	01/11/93	930111-142	930111-148	930112-042
GW-264	SY	6	01/12/93	930112-085	930112-087	930113-147
GW-281	FF	6	02/02/93	930203-009	930203-017	930203-057
GW-283	FF	6	02/03/93	930203-124	930203-128	930205-035
GW-284	FF	6	02/02/93	930203-011	930203-017	930203-057
GW-285	FF	6	02/02/93	930203-013	930203-017	930203-057
GW-337	WC	4	01/21/93	930121-060	930121-062	930122-001
GW-338	WC	4	01/11/93	930111-089	930111-091	930111-139
GW-380	NHP	7	01/25/93	930125-258	930125-262	930126-030
GW-381	NHP	3	01/27/93	930127-086	930127-090	930128-009
GW-382	NHP	7	01/28/93	930128-199	930128-203	930202-095
GW-383	NHP	7	01/26/93	930126-092	930126-096	930127-005
GW-384	NHP	5	01/13/93	930113-118	930113-120	930113-147
GW-385	NHP	5	01/12/93	930112-100	930112-102	930113-147
GW-505	RG	B	03/01/93	930302-002	930302-007	930302-060
GW-508	RG	B	03/05/93	930305-040	930305-042	930308-083
GW-603	EXP	4	01/29/93	930129-114	930129-116	930201-001
GW-604	EXP	4	01/30/93	930201-089	930201-091	930202-004
GW-605	EXP	8	02/02/93	930203-031	930203-033	930203-001
GW-606	EXP	8	02/03/93	930203-091	930203-093	930204-034

APPENDIX I.1
Correlation of Samples to Associated Blanks

Sampling Pt.	Location	Pump No.	Date	Sample No.	Trip Blank No.	Lab Blank No.
GW-617	EXP	4	01/12/93	930112-057	930112-061	930113-002
GW-618	EXP	4	01/12/93	930112-059	930112-061	930113-002
GW-619	FTF	4	01/20/93	930121-012	930121-018	930125-263
GW-620	FTF	4	01/20/93	930121-014	930121-018	930125-263
GW-631	RG	3	03/02/93	930303-007	930303-013	930303-002
GW-632	RG	3	03/03/93	930303-110	930303-114	930304-069
GW-633	RG	3	03/03/93	930303-112	930303-114	930304-069
GW-634	RG	3	03/02/93	930303-009	930303-013	930303-002
GW-656	T0134	8	03/11/93	930312-002	930312-012	930312-001
GW-657	T2331	8	03/10/93	930311-015	930311-021	930311-091
GW-658	FF	8	03/11/93	930312-004	930312-012	930316-001
GW-659	FF	8	03/10/93	930311-017	930311-021	930312-066
GW-707	T2331	8	03/11/93	930312-008	930312-012	930312-001
GW-708	T2331	8	03/10/93	930311-019	930311-021	930311-091
GW-733	EXP	4	02/02/93	930203-024	930203-030	930203-001
GW-735	NHP	4	02/02/93	930203-026	930203-030	930203-001
GW-744	GRIDK1	7	01/18/93	930118-103	930118-105	930119-012
GW-745	GRIDK1	7	01/19/93	930120-009	930120-011	930121-029
GW-746	GRIDK1	7	01/19/93	930120-007	930120-011	930120-001
GW-747	GRIDK2	7	01/19/93	930120-012	930120-011	930120-037
GW-748	GRIDK2	7	01/20/93	930120-098	930120-100	930121-029
GW-749	GRIDK2	7	01/21/93	930121-078	930121-082	930122-001
GW-750	GRIDK2	7	01/21/93	930121-080	930121-082	930122-001
GW-751	GRIDJ3	5	01/11/93	930111-127	930111-131	930111-139
GW-752	GRIDJ3	5	01/11/93	930111-129	930111-131	930114-221
GW-753	GRIDJ2	7	01/15/93	930115-095	930115-099	930118-002
GW-754	GRIDJ2	7	01/18/93	930118-101	930118-105	930119-012
GW-755	GRIDJ1	7	01/14/93	930114-218	930114-220	930115-001
GW-756	GRIDJ1	7	01/15/93	930115-097	930115-099	930118-002
GW-758	GRIDG1	6	01/25/93	930125-236	930125-238	930126-001
GW-759	GRIDG1	6	01/26/93	930126-110	930126-112	930128-002
GW-760	GRIDG2	6	01/27/93	930128-012	930128-018	930128-002
GW-761	GRIDG2	6	01/26/93	930126-108	930126-112	930128-002
GW-762	GRIDJ3	7	01/23/93	930123-019	930123-025	
GW-762	GRIDJ3	B	02/22/93	930222-102	930222-103	930223-001
GW-763	GRIDJ3	7	01/25/93	930125-260	930125-262	930126-001
GW-764	GRIDE1	6	01/23/93	930123-029	930123-033	930125-263
GW-765	GRIDE1	6	01/25/93	930125-234	930125-238	930126-001
GW-766	GRIDI2	6	02/01/93	930201-114	930201-116	930202-004
GW-767	GRIDI2	6	02/02/93	930203-015	930203-017	930203-057
GW-768	GRIDI1	6	01/29/93	930129-092	930129-096	930129-124
GW-769	GRIDG3	6	01/27/93	930128-016	930128-018	930128-009
GW-770	GRIDG3	6	01/27/93	930128-010	930128-018	930128-009
GW-771	GRIDC1	6	01/23/93	930123-027	930123-033	930125-263
GW-772	GRIDC1	6	01/23/93	930123-028	930123-033	930125-263
GW-773	GRIDH2	6	02/03/93	930203-122	930203-128	930205-035
GW-774	GRIDH2	6	02/04/93	930205-016	930205-018	930209-001

APPENDIX I.1
Correlation of Samples to Associated Blanks

Sampling Pt.	Location	Pump No.	Date	Sample No.	Trip Blank No.	Lab Blank No.
GW-775	GRIDH3	6	02/04/93	930205-012	930205-018	930209-001
GW-776	GRIDH3	6	02/04/93	930205-014	930205-018	930209-001
Second Quarter 1993						
GW-151	NHP	10	04/22/93	930423-006	930423-010	930423-001
GW-168	NHP	2	05/14/93	930514-078	930514-080	930518-127
GW-169	EXP	B	05/21/93	930521-063	930521-065	930522-012
GW-170	EXP	2	05/24/93	930524-135	930524-139	930526-019
GW-183	FF	4	06/21/93	930621-106	930621-110	930623-001
GW-183	FF	7	06/29/93	930629-093		
GW-190	RG	5	06/17/93	930617-174	930617-178	930618-178
GW-190	RG	8	07/07/93	930708-004	930708-010	
GW-191	B4	4	04/12/93	930412-117	930412-121	930414-001
GW-192	B4	4	04/13/93	930414-004	930414-018	930415-050
GW-193	T2331	4	06/22/93	930622-161	930622-167	930623-001
GW-194	B4	4	04/13/93	930414-006	930414-018	930416-008
GW-195	B4	4	04/13/93	930414-008	930414-018	930414-097
GW-199	GRID11	6	04/07/93	930407-102	930407-104	930413-001
GW-204	T0134	4	06/22/93	930622-163	930622-167	930623-001
GW-206	EXP	B	05/06/93	930506-298	930506-300	930510-088
GW-207	EXP	2	05/04/93	930504-077	930504-079	930509-001
GW-208	EXP	2	05/06/93	930506-294	930506-300	930509-001
GW-220	NHP	10	04/22/93	930423-008	930423-010	930423-001
GW-232	EXP	2	05/21/93	930521-061	930521-065	930522-012
GW-239	NHP	2	05/13/93	930513-356	930513-358	930514-020
GW-240	NHP	10	04/21/93	930422-020	930422-026	930422-001
GW-251	S2	6	05/05/93	930505-131	930505-137	930509-001
GW-252	S2	6	05/03/93	930503-158	930503-164	930507-100
GW-255	S2	6	05/03/93	930503-160	930503-164	930508-020
GW-261	SY	4	04/07/93	930407-097	930407-099	930412-001
GW-262	SY	4	04/08/93	930408-295	930408-301	930413-001
GW-263	SY	4	04/08/93	930408-299	930408-301	930413-001
GW-264	SY	4	04/12/93	930412-119	930412-121	930414-001
GW-281	FF	6	04/16/93	930416-073	930416-075	930419-001
GW-283	FF	6	04/19/93	930419-080	930419-082	930421-001
GW-284	FF	6	04/16/93	930416-071	930416-075	930419-001
GW-285	FF	6	04/19/93	930419-078	930419-082	930421-001
GW-337	WC	6	05/07/93	930507-122	930507-124	930513-001
GW-338	WC	6	05/04/93	930504-069	930504-071	930509-001
GW-380	NHP	10	04/21/93	930422-022	930422-026	930422-001
GW-381	NHP	10	04/26/93	930427-016	930427-022	930428-001
GW-382	NHP	10	04/26/93	930427-018	930427-022	930428-001
GW-383	NHP	10	04/22/93	930423-011	930423-010	930423-001
GW-384	NHP	10	04/20/93	930420-066	930420-070	930421-113
GW-385	NHP	10	04/19/93	930420-009	930420-011	930420-001
GW-505	RG	B	06/18/93	930618-211	930618-213	930621-002

APPENDIX I.1
Correlation of Samples to Associated Blanks

Sampling Pt.	Location	Pump No.	Date	Sample No.	Trip Blank No.	Lab Blank No.
GW-505	RG	B	07/07/93	930708-008	930708-010	
GW-508	RG	B	06/23/93	930624-010	930624-012	930625-001
GW-508	RG	1	06/29/93	930630-007	930630-010	
GW-603	EXP	10	05/04/93	930504-074	930504-076	930508-020
GW-604	EXP	10	05/04/93	930504-072	930504-076	930508-020
GW-605	EXP	10	05/10/93	930511-020	930511-022	930513-045
GW-606	EXP	10	05/10/93	930511-023	930511-022	930513-045
GW-617	EXP	6	05/04/93	930504-067	930504-071	930508-020
GW-618	EXP	6	05/05/93	930505-133	930505-137	930509-001
GW-619	FTF	6	05/05/93	930505-135	930505-137	930509-001
GW-620	FTF	6	05/06/93	930506-053	930506-055	930511-065
GW-631	RG	5	06/18/93	930618-209	930618-213	930621-002
GW-631	RG	8	07/07/93	930708-006	930708-010	
GW-632	RG	5	06/21/93	930622-012	930622-016	930623-001
GW-632	RG	1	06/29/93	930630-005	930630-010	
GW-633	RG	5	06/21/93	930622-014	930622-016	930623-001
GW-633	RG	1	06/29/93	930630-006	930630-010	
GW-634	RG	5	06/18/93	930618-207	930618-213	930619-007
GW-634	RG	8	07/07/93	930708-007	930708-010	
GW-656	T0134	4	06/22/93	930622-165	930622-167	930623-001
GW-657	T2331	4	06/18/93	930618-247	930618-249	930621-002
GW-658	FF	4	06/23/93	930624-018	930624-022	930625-001
GW-659	FF	4	06/18/93	930618-245	930618-249	930619-007
GW-659	FF	3	07/07/93	930707-079	930707-081	
GW-707	T2331	4	06/23/93	930624-020	930624-022	930625-001
GW-708	T2331	4	06/18/93	930618-243	930618-249	930619-007
GW-708	T2331	3	07/07/93	930707-078	930707-081	
GW-733	EXP	10	05/06/93	930506-301	930506-303	930511-041
GW-735	NHP	10	05/07/93	930507-126	930507-130	930511-065
GW-744	GRIDK1	3	04/12/93	930412-126	930412-128	930414-001
GW-745	GRIDK1	3	04/12/93	930412-124	930412-128	930414-001
GW-746	GRIDK1	3	04/12/93	930412-122	930412-128	930414-001
GW-747	GRIDK2	3	04/13/93	930413-077	930413-083	930414-097
GW-748	GRIDK2	3	04/13/93	930413-081	930413-083	930415-050
GW-749	GRIDK2	3	04/14/93	930414-126	930414-128	930416-008
GW-750	GRIDK2	3	04/15/93	930415-035	930415-037	930416-061
GW-751	GRIDJ3	10	04/16/93	930416-121	930416-125	930419-001
GW-752	GRIDJ3	10	04/16/93	930416-123	930416-125	930419-001
GW-753	GRIDJ2	3	04/08/93	930408-317	930408-319	930413-001
GW-754	GRIDJ2	3	04/08/93	930408-315	930408-319	930413-001
GW-755	GRIDJ1	8	04/07/93	930407-105	930407-107	930412-001
GW-756	GRIDJ1	3	04/08/93	930408-313	930408-319	930413-001
GW-758	GRIDG1	5	04/13/93	930414-010	930414-019	930415-001
GW-759	GRIDG1	5	04/15/93	930415-213	930415-215	930416-061
GW-760	GRIDG2	5	04/16/93	930416-098	930416-102	930419-001
GW-761	GRIDG2	5	04/16/93	930416-100	930416-102	930419-001
GW-762	GRIDJ3	10	04/20/93	930420-068	930420-070	930421-113

APPENDIX I.1
Correlation of Samples to Associated Blanks

Sampling Pt.	Location	Pump No.	Date	Sample No.	Trip Blank No.	Lab Blank No.
GW-763	GRIDJ3	10	04/21/93	930422-024	930422-026	930422-001
GW-764	GRIDE1	5	04/13/93	930414-014	930414-019	930415-001
GW-765	GRIDE1	5	04/13/93	930414-016	930414-019	930415-001
GW-766	GRIDI2	6	04/15/93	930415-267	930415-273	930416-008
GW-767	GRIDI2	6	04/15/93	930415-271	930415-273	930416-008
GW-768	GRIDI1	6	04/07/93	930407-100	930407-104	930413-001
GW-769	GRIDG3	5	04/19/93	930419-065	930419-067	930420-001
GW-770	GRIDG3	5	04/19/93	930419-063	930419-067	930420-001
GW-771	GRIDC1	5	04/12/93	930412-111	930412-113	930414-001
GW-772	GRIDC1	5	04/12/93	930412-109	930412-113	930414-001
GW-773	GRIDH2	6	04/20/93	930421-005	930421-007	930421-113
GW-774	GRIDH2	6	04/20/93	930421-008	930421-007	930421-113
GW-775	GRIDH3	6	04/20/93	930421-010	930421-007	930421-113
GW-776	GRIDH3	6	04/20/93	930421-012	930421-007	930421-113

Third Quarter 1993

GW-151	NHP	4	08/06/93	930806-118	930806-124	930809-070
GW-168	NHP	2	08/19/93	930819-301	930819-305	930820-001
GW-169	EXP	B	08/19/93	930819-303	930819-305	930820-001
GW-170	EXP	2	08/21/93	930823-107	930823-112	930825-035
GW-183	FF	1	09/22/93	930922-071	930922-68	930923-093
GW-190	RG	1	09/15/93	930915-146	930915-152	930917-070
GW-191	B4	10	07/08/93	930709-001	930709-008	930709-031
GW-192	B4	10	07/08/93	930709-003	930709-008	930709-031
GW-193	T2331	1	09/23/93	930924-014	930924-013	930927-018
GW-194	B4	10	07/08/93	930709-005	930709-008	930709-031
GW-195	B4	10	07/08/93	930709-009	930709-008	930709-031
GW-199	GRIDI1	7	08/02/93	930802-137	930802-139	930803-001
GW-204	T0134	1	09/23/93	930924-011	930924-013	930927-018
GW-206	EXP	B	08/12/93	930813-007	930813-009	930816-088
GW-207	EXP	2	08/11/93	930812-005	930812-009	930812-271
GW-208	EXP	2	08/13/93	930813-164	930813-166	930816-126
GW-220	NHP	4	08/06/93	930806-122	930806-124	930809-070
GW-232	EXP	2	08/21/93	930823-105	930823-112	930825-035
GW-239	NHP	2	08/18/93	930818-114	930818-119	930820-001
GW-240	NHP	4	08/05/93	930805-421	930805-427	930807-045
GW-251	S2	4	09/17/93	930918-004	930918-011	930921-039
GW-252	S2	4	09/15/93	930915-133	930915-135	930916-031
GW-255	S2	4	09/15/93	930915-136	930915-135	930916-031
GW-261	SY	10	07/01/93	930702-006	930702-019	930707-032
GW-262	SY	10	07/01/93	930702-008	930702-019	930707-032
GW-263	SY	10	07/01/93	930702-012	930702-019	930707-032
GW-264	SY	10	07/02/93	930702-100	930702-102	930707-090
GW-281	FF	7	08/04/93	930805-409	930805-415	930806-047
GW-283	FF	7	08/06/93	930806-081	930806-083	930809-070
GW-284	FF	7	08/05/93	930805-413	930805-415	930806-047

APPENDIX I.1
Correlation of Samples to Associated Blanks

Sampling Pt.	Location	Pump No.	Date	Sample No.	Trip Blank No.	Lab Blank No.
GW-285	FF	7	08/05/93	930805-411	930805-415	930806-047
GW-337	WC	4	09/17/93	930918-009	930918-011	930920-116
GW-338	WC	4	09/23/93	930923-129	930923-131	930927-018
GW-380	NHP	4	08/05/93	930805-423	930805-427	930807-045
GW-381	NHP	4	08/08/93	930809-019	930809-021	930811-031
GW-382	NHP	4	08/08/93	930809-017	930809-021	930811-031
GW-383	NHP	4	08/07/93	930809-014	930809-016	930810-039
GW-384	NHP	4	08/04/93	930804-086	930804-090	930805-116
GW-385	NHP	1	08/03/93	930804-005	930804-016	930804-035
GW-505	RG	B	09/15/93	930915-150	930915-152	930917-070
GW-508	RG	B	09/21/93	930921-168	930921-169	930922-010
GW-508	RG	B	09/22/93	930922-065		
GW-603	EXP	7	08/16/93	930816-200	930816-204	930818-001
GW-604	EXP	7	08/16/93	930816-202	930816-204	930818-001
GW-605	EXP	7	08/19/93	930819-254	930819-256	930820-001
GW-606	EXP	7	08/20/93	930820-084	930820-088	930823-002
GW-617	EXP	4	09/16/93	930916-126	930916-132	930918-029
GW-618	EXP	4	09/16/93	930916-128	930916-132	930918-029
GW-619	FTF	4	09/17/93	930918-002	930918-011	930921-039
GW-620	FTF	4	09/17/93	930918-007	930918-011	930921-039
GW-631	RG	1	09/16/93	930917-005	930917-007	930918-029
GW-632	RG	1	09/16/93	930917-001	930917-007	930918-029
GW-633	RG	1	09/20/93	930920-164	930920-166	930921-025
GW-634	RG	1	09/16/93	930917-003	930917-007	930918-029
GW-656	T0134	1	09/23/93	930924-016	930924-013	930927-018
GW-657	T2331	1	09/21/93	930921-164	930921-169	930922-033
GW-658	FF	1	09/27/04	930927-229	930927-228	930928-089
GW-659	FF	1	09/22/93	930922-066	930922-068	930923-093
GW-707	T2331	1	09/27/93	930927-226	930927-228	930928-089
GW-708	T2331	1	09/21/93	930921-166	930921-169	930922-033
GW-733	EXP	7	08/18/93	930818-112	930818-118	930820-001
GW-735	NHP	7	08/18/93	930818-116	930818-118	930820-001
GW-744	GRIDK1	10	08/04/93	930804-108	930804-110	930806-047
GW-745	GRIDK1	10	08/04/93	930804-106	930804-110	930806-047
GW-746	GRIDK1	10	08/05/93	930805-418	930805-420	930806-047
GW-747	GRIDK2	10	08/05/93	930805-416	930805-420	930806-047
GW-748	GRIDK2	10	08/06/93	930806-160	930806-164	930810-039
GW-749	GRIDK2	10	08/06/93	930806-162	930806-164	930810-039
GW-750	GRIDK2	10	08/06/93	930806-158	930806-164	930810-039
GW-751	GRIDJ3	1	08/02/93	930802-126	930802-130	930803-001
GW-752	GRIDJ3	1	08/02/93	930802-128	930802-130	930804-035
GW-753	GRIDJ2	10	08/03/93	930804-007	930804-017	930804-035
GW-754	GRIDJ2	10	08/04/93	930804-104	930804-110	930806-047
GW-755	GRIDJ1	10	08/03/93	930804-011	930804-017	930804-035
GW-756	GRIDJ1	10	08/03/93	930804-013	930804-017	930804-035
GW-758	GRIDG1	4	09/12/93	930913-080	930913-075	930915-110
GW-759	GRIDG1	4	09/13/93	930914-006	930914-008	930916-020

APPENDIX I.1
Correlation of Samples to Associated Blanks

Sampling Pt.	Location	Pump No.	Date	Sample No.	Trip Blank No.	Lab Blank No.
GW-760	GRIDG2	4	09/14/93	930915-001	930915-007	930916-020
GW-761	GRIDG2	4	09/13/93	930914-004	930914-008	930915-107
GW-762	GRIDJ3	4	08/04/93	930804-088	930804-090	930805-116
GW-763	GRIDJ3	4	08/05/93	930805-425	930805-427	930807-045
GW-764	GRIDE1	4	09/12/93	930913-076	930913-075	930915-110
GW-765	GRIDE1	4	09/12/93	930913-078	930913-075	930915-110
GW-766	GRIDI2	7	08/03/93	930804-001	930804-015	930804-035
GW-767	GRIDI2	7	08/04/93	930805-060	930805-064	930805-116
GW-768	GRIDI1	7	08/04/93	930805-062	930805-064	930805-116
GW-769	GRIDG3	4	09/14/93	930915-003	930915-007	930916-020
GW-770	GRIDG3	4	09/14/93	930915-005	930915-007	930916-020
GW-771	GRIDC1	4	09/03/93	930903-143	930903-145	930908-076
GW-772	GRIDC1	4	09/12/93	930913-073	930913-075	930915-107
GW-773	GRIDH2	7	08/06/93	930806-079	930806-083	930809-070
GW-774	GRIDH2	7	08/09/93	930810-003	930810-007	930811-031
GW-775	GRIDH3	7	08/09/93	930810-005	930810-007	930811-031
GW-776	GRIDH3	7	08/10/93	930810-117	930810-119	930811-031

Fourth Quarter 1993

GW-151	NHP	5	11/02/93	931102-047	931102-050	931109-111
GW-168	NHP	8	11/02/93	931102-045	931102-049	931119-123
GW-169	EXP	B	11/01/93	931101-146	931101-150	931102-001
GW-170	EXP	8	11/04/93	931104-062	931104-064	931109-111
GW-183	FF	10	11/16/93	931116-109	931116-111	931118-001
GW-190	RG	6	11/16/93	931116-096	931116-100	931118-001
GW-191	B4	5	12/09/93	931210-007	931210-016	931214-001
GW-192	B4	5	12/09/93	931210-009	931210-016	931214-001
GW-193	T2331	10	11/18/93	931118-161	931118-163	931119-102
GW-194	B4	5	12/09/93	931210-011	931210-016	931214-001
GW-195	B4	5	12/09/93	931210-013	931210-016	931214-001
GW-199	GRIDI1	7	10/12/93	931012-154	931012-156	931015-141
GW-204	T0134	10	11/16/93	931116-114	931116-111	931118-001
GW-206	EXP	B	10/27/93	931027-120	931027-122	931028-022
GW-207	EXP	8	10/26/93	931026-031	931026-035	931028-007
GW-208	EXP	8	10/28/93	931028-032	931028-034	931028-022
GW-220	NHP	5	11/01/93	931101-133	931101-135	931102-001
GW-232	EXP	2	11/01/93	931101-148	931101-150	931102-001
GW-239	NHP	2	10/30/93	931101-045	931101-047	931102-001
GW-240	NHP	5	11/01/93	931101-131	931101-135	931102-001
GW-251	S2	10	12/08/93	931208-086	931208-092	931209-029
GW-252	S2	10	12/07/93	931208-021	931208-023	931209-025
GW-255	S2	10	12/07/93	931208-017	931208-023	931208-005
GW-261	SY	5	12/07/93	931208-010	931208-012	931208-005
GW-262	SY	5	12/07/93	931208-006	931208-012	931208-005
GW-263	SY	5	12/07/93	931208-008	931208-012	931208-005
GW-264	SY	5	12/08/93	931208-093	931208-097	931209-029

APPENDIX I.1
Correlation of Samples to Associated Blanks

Sampling Pt.	Location	Pump No.	Date	Sample No.	Trip Blank No.	Lab Blank No.
GW-281	FF	7	10/14/93	931014-059	931014-056	931018-003
GW-283	FF	7	10/14/93	931014-057	931014-056	931018-003
GW-284	FF	7	10/14/93	931014-054	931014-056	931014-010
GW-285	FF	7	10/14/93	931014-061	931014-056	931018-003
GW-337	WC	10	12/09/93	931209-098	931209-102	931210-049
GW-338	WC	10	12/07/93	931208-015	931208-023	931208-005
GW-380	NHP	5	10/29/93	931029-067	931029-071	931101-042
GW-381	NHP	5	11/08/93	931108-192	931108-194	931110-011
GW-382	NHP	5	11/04/93	931104-066	931104-068	931109-029
GW-383	NHP	5	11/03/93	931103-013	931103-015	931109-111
GW-384	NHP	5	10/28/93	931028-078	931028-080	931029-026
GW-385	NHP	5	10/27/93	931027-118	931027-123	931028-022
GW-505	RG	B	11/16/93	931116-098	931116-100	931118-001
GW-508	RG	B	11/19/93	931119-064	931119-066	931124-240
GW-603	EXP	6	10/28/93	931028-071	931028-075	931029-026
GW-604	EXP	6	10/28/93	931028-073	931028-075	931029-026
GW-605	EXP	6	11/10/93	931110-069	931110-071	931111-014
GW-606	EXP	6	11/11/93	931111-105	931111-107	931117-001
GW-617	EXP	10	12/07/93	931208-019	931208-023	931206-102
GW-618	EXP	10	12/08/93	931208-088	931208-092	931209-029
GW-619	FTF	10	12/08/93	931208-090	931208-092	931209-029
GW-620	FTF	10	12/09/93	931209-100	931209-102	931210-049
GW-631	RG	6	11/17/93	931117-045	931117-047	931118-146
GW-632	RG	6	11/18/93	931118-154	931118-158	931119-102
GW-633	RG	6	11/19/93	931119-062	931119-066	931123-001
GW-634	RG	6	11/18/93	931118-156	931118-158	931119-102
GW-656	T0134	10	11/17/93	931117-042	931117-044	931118-146
GW-657	T2331	10	11/15/93	931115-205	931115-207	931116-035
GW-658	FF	10	11/19/93	931119-058	931119-060	931124-240
GW-659	FF	10	11/15/93	931115-203	931115-207	931116-035
GW-707	T2331	10	11/18/93	931118-159	931118-163	931119-102
GW-708	T2331	10	11/12/93	931112-063	931112-065	931117-001
GW-733	EXP	6	11/04/93	931104-072	931104-074	931109-029
GW-735	NHP	6	10/29/93	931029-053	931029-057	931101-042
GW-744	GRIDK1	5	10/22/93	931022-044	931022-048	931025-031
GW-745	GRIDK1	5	10/23/93	931025-006	931025-008	931027-001
GW-746	GRIDK1	5	10/23/93	931025-004	931025-008	931027-001
GW-747	GRIDK2	5	10/23/93	931025-002	931025-008	931027-001
GW-748	GRIDK2	5	10/24/93	931025-017	931025-021	931027-001
GW-749	GRIDK2	5	10/24/93	931025-019	931025-021	931027-001
GW-750	GRIDK2	5	10/25/93	931025-076	931025-078	931027-002
GW-751	GRIDJ3	5	10/26/93	931026-019	931026-023	931027-002
GW-752	GRIDJ3	5	10/26/93	931026-017	931026-023	931027-002
GW-753	GRIDJ2	5	10/21/93	931021-108	931021-114	931023-006
GW-754	GRIDJ2	5	10/22/93	931022-046	931022-048	931025-031
GW-755	GRIDJ1	5	10/21/93	931021-110	931021-114	931023-006
GW-756	GRIDJ1	5	10/21/93	931021-106	931021-114	931025-031

APPENDIX I.1
Correlation of Samples to Associated Blanks

Sampling Pt.	Location	Pump No.	Date	Sample No.	Trip Blank No.	Lab Blank No.
GW-758	GRIDG1	8	11/19/93	931119-108	931119-114	931123-001
GW-759	GRIDG1	8	11/19/93	931119-110	931119-114	931123-053
GW-760	GRIDG2	8	11/30/93	931130-063	931130-065	931201-064
GW-761	GRIDG2	8	11/29/93	931129-127	931129-129	931130-055
GW-762	GRIDJ3	5	10/28/93	931028-076	931028-080	931029-026
GW-763	GRIDJ3	5	10/29/93	931029-069	931029-071	931101-042
GW-764	GRIDE1	8	11/12/93	931112-080	931112-079	931116-035
GW-765	GRIDE1	8	11/19/93	931119-112	931119-114	931124-240
GW-766	GRIDI2	7	10/13/93	931013-068	931013-072	931014-010
GW-767	GRIDI2	7	10/13/93	931013-064	931013-072	931014-010
GW-768	GRIDI1	7	10/13/93	931013-066	931013-072	931014-010
GW-769	GRIDG3	8	11/30/93	931130-061	931130-065	931201-064
GW-770	GRIDG3	8	11/29/93	931129-125	931129-129	931130-055
GW-771	GRIDC1	8	11/11/93	931111-109	931111-111	931116-002
GW-772	GRIDC1	8	11/12/93	931112-077	931112-079	931117-001
GW-773	GRIDH2	7	10/15/93	931015-226	931015-228	931018-196
GW-774	GRIDH2	7	10/15/93	931015-224	931015-228	931018-196
GW-775	GRIDH3	7	10/15/93	931015-222	931015-228	931018-196
GW-776	GRIDH3	7	10/18/93	931018-202	931018-204	931019-038

APPENDIX L2

TRIP BLANK DATA SUMMARY

APPENDIX L2
1993 Trip Blank Data Summary

Compound	First		Second		Third		Fourth		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Total Samples	50		50		46		51		197	
Not Detected	22	44	34	68	36	78	21	41	113	57
VOCs Detected	28	56	16	32	10	22	30	59	84	43
Methylene chloride	11	22	14	28	6	13	21	41	52	26
Acetone	15	30	1	2	4	9	20	39	40	20
4-Methyl-2-pentanone	19	38	1	2			2	4	22	11
2-Butanone	1	2	1	2			5	10	7	4
Benzene					2	4			2	1
Trichloroethene			1	2	1	2			2	1
Carbon disulfide					1	2			1	1
Chloroform			1	2					1	1
Xylenes					1	2			1	1

APPENDIX I.2

2

VOCs Detected in Trip Blank Samples, First Quarter 1993

Sample No.	930108- 137	930108- 140	930111- 091	930111- 131	930111- 148	930112- 061	930112- 087	930112- 102
Acetone	10U	10U	10U	2	10U	2	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	2	2	2	10U	10U
Methylene chloride	2	3	3	1	5U	5U	5U	2

(CONTINUED)

Sample No.	930113- 117	930113- 120	930114- 030	930114- 220	930114- 225	930115- 099	930118- 105	930119- 070
Acetone	10U	10U	2	10U	1	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	2	2	1	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample No.	930120- 011	930120- 100	930121- 018	930121- 062	930121- 082	930122- 072	930123- 018	930123- 025
Acetone	3	1	10U	10U	10U	2	2	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	2	2	10U	10U	10U	2	1	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample No.	930123- 033	930125- 238	930125- 262	930126- 076	930126- 096	930126- 112	930127- 090	930128- 018
Acetone	10U	220	31	33	10U	10U	2	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	2	1	10U	10U	2	2
Methylene chloride	5U	5U	5U	5U	15	1	5U	5U

(CONTINUED)

APPENDIX 1.2

3

VOCs Detected in Trip Blank Samples, First Quarter 1993

Sample No.	930128- 203	930129- 096	930129- 116	930201- 091	930201- 116	930203- 017	930203- 030	930203- 033
Acetone	10U	10U	10U	1	2	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	3	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	2	2	2	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	0.7	5U

(CONTINUED)

Sample No.	930203- 093	930203- 128	930205- 018	930222- 103	930302- 007	930303- 013	930303- 114	930305- 042
Acetone	6	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	2	2	10U	10U	10U	10U	10U	10U
Methylene chloride	2	2	5U	1	5U	5U	5U	5U

(CONTINUED)

Sample No.	930311- 021	930312- 012
Acetone	10U	10U
2-Butanone	10U	10U
4-Methyl-2-pentanone	10U	10U
Methylene chloride	5U	5U

APPENDIX I.2

4

Trip Blank Data Summary, Second Quarter 1993

Sample No.	930407-099	930407-104	930407-107	930408-301	930408-319	930412-113	930412-121	930412-128
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	2	5U	6	5U	5U	1	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample No.	930413-083	930414-018	930414-019	930414-128	930415-037	930415-215	930415-273	930416-075
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample No.	930416-102	930416-125	930419-067	930419-082	930420-011	930420-070	930421-007	930422-026
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	2	10U	10U
Methylene chloride	5U	5U	2	1	5U	1	5U	5U
Trichloroethene	5U	5U	5U	0.8	5U	5U	5U	5U

(CONTINUED)

Sample No.	930423-010	930427-022	930503-164	930504-071	930504-076	930504-079	930505-137	930506-055
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U

APPENDIX I.2

5

Trip Blank Data Summary, Second Quarter 1993

Sample No.	930506- 300	930506- 303	930507- 124	930507- 130	930511- 022	930513- 358	930514- 080	930521- 065
Acetone	9	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	0.8	5U	0.8	5U	5U	2	2	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample No.	930524- 139	930617- 178	930618- 213	930618- 249	930621- 110	930622- 016	930622- 167	930624- 012
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	4	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	0.4
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	2	2	2	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample No.	930624- 022	930630- 010
Acetone	10U	10U
2-Butanone	10U	10U
Chloroform	5U	5U
4-Methyl-2-pentanone	10U	10U
Methylene chloride	5U	1
Trichloroethene	5U	5U

APPENDIX I.2

6

Trip Blank Data Summary, Third Quarter 1993

Sample No.	930702- 019	930702- 102	930709- 008	930802- 130	930802- 139	930804- 015	930804- 016	930804- 017
Acetone	10U	10U	10U	10U	10U	20	18	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample No.	930804- 090	930804- 110	930805- 064	930805- 415	930805- 420	930805- 427	930806- 083	930806- 124
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample No.	930806- 164	930809- 016	930809- 021	930810- 007	930810- 119	930812- 009	930813- 009	930813- 166
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX I.2

7

Trip Blank Data Summary, Third Quarter 1993

Sample No.	930816- 204	930818- 118	930818- 119	930819- 256	930819- 305	930820- 088	930823- 112	930903- 145
Acetone	10U	10U	10U	10U	10U	10	10U	26
Benzene	5U	5U	5U	5U	5U	5U	5U	1
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	2
Methylene chloride	1	1	5U	1	1	1	2	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	1
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample No.	930913- 075	930914- 008	930915- 007	930915- 135	930915- 152	930916- 132	930917- 007	930918- 011
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	1	5U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Xylenes	5U	5U	5U	5U	5U	5U	3	5U

(CONTINUED)

Sample No.	930920- 166	930921- 169	930922- 068	930923- 131	930924- 013	930927- 228
Acetone	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U
Carbon disulfide	5U	5U	5U	5U	5U	5U
Methylene chloride	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U
Xylenes	5U	5U	5U	5U	5U	5U

APPENDIX I.2

8

Trip Blank Data Summary, Fourth Quarter 1993

Sample No.	931012- 156	931013- 072	931014- 056	931015- 228	931021- 114	931022- 048	931025- 008	931025- 021
Acetone	10U	10U	4	10U	10U	10U	8	6
2-Butanone	10	10U	10	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	2	5U	5U	5U	1	1

(CONTINUED)

Sample No.	931025- 078	931026- 023	931026- 035	931027- 122	931027- 123	931028- 034	931028- 075	931028- 080
Acetone	10U	10U	10U	21	16	29	30	29
2-Butanone	10U	10U	9	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	2	5U	5U	5U	5U	5U

(CONTINUED)

Sample No.	931029- 057	931029- 071	931101- 047	931101- 135	931101- 150	931102- 049	931102- 050	931103- 015
Acetone	23	22	19	22	20	10U	10U	37
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	1	1	5U	1	1	5U	5U	5U

(CONTINUED)

Sample No.	931104- 064	931104- 068	931104- 074	931108- 194	931110- 071	931111- 107	931111- 111	931112- 065
Acetone	41	39	35	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	0.7	1	5U	5U	2	5U	1

(CONTINUED)

APPENDIX I.2

9

Trip Blank Data Summary, Fourth Quarter 1993

Sample No.	931112-079	931115-207	931116-100	931116-111	931117-044	931117-047	931118-158	931118-163
Acetone	15	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	2	5U	1	1	5U	5U	5U	5U

(CONTINUED)

Sample No.	931119-060	931119-066	931119-114	931129-129	931130-065	931208-012	931208-023	931208-092
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	1	1	5U	5U	5U	1	1	5U

(CONTINUED)

Sample No.	931208-097	931209-102	931210-016
Acetone	10U	5	3
2-Butanone	10U	9	8
4-Methyl-2-pentanone	10U	1	1
Methylene chloride	5U	2	2

APPENDIX L3

LABORATORY BLANK DATA SUMMARY

APPENDIX L3
1993 Laboratory Blank Data Summary

Compound	First		Second		Third		Fourth		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Total Samples	42		32		33		36		143	
Not Detected	13	31	17	53	23	70	18	50	71	50
VOCs Detected	29	69	15	47	10	30	18	50	72	50
Methylene chloride	17	41	11	34	8	24	17	47	53	37
4-Methyl-2-pentanone	17	41	7	22	1	3	5	14	30	21
Acetone	11	26					8	22	19	13
2-Butanone	1	2	1	3	1	3	7	19	10	7
2-Hexanone			7	22	1	3	1	3	9	6
Vinyl Acetate			2	6					2	1
Benzene					1	3			1	1
Styrene							1	3	1	1
Toluene					1	3			1	1
1,1,2-Trichloroethane			1	3					1	1

APPENDIX I.3

2

VOCs Detected in Laboratory Blank Samples, First Quarter 1993

Sample No.	930111-008	930111-139	930112-042	930113-002	930113-147	930114-221	930115-001	930118-002
Acetone	1	10U	1	2	10U	10U	1	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	2	10U	2	2	10U	10U	2	10U
Methylene chloride	5U	2	5U	5U	2	3	5U	5U

(CONTINUED)

Sample No.	930119-012	930119-088	930120-001	930120-037	930121-029	930121-066	930122-001	930125-004
Acetone	10U	10U	10U	2	2	10U	10U	1
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	2	3	10U	10U	3
Methylene chloride	5U	2	5U	5U	5U	2	0.7	5U

(CONTINUED)

Sample No.	930125-263	930126-001	930126-030	930127-001	930127-005	930128-002	930128-009	930129-124
Acetone	10U	10U	3	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	2	10U	1	10U	2	10U
Methylene chloride	2	5U	5U	5U	5U	5U	5U	2

(CONTINUED)

Sample No.	930201-001	930202-004	930202-095	930203-001	930203-057	930204-034	930205-035	930209-001
Acetone	10U	1	10U	10U	2	10U	10U	10U
2-Butanone	10U	10U	10U	10U	5	10U	10U	10U
4-Methyl-2-pentanone	10U	2	10U	10U	2	2	2	10U
Methylene chloride	5U	5U	2	5U	5U	1	1	5U

(CONTINUED)

APPENDIX I.3

3

VOCs Detected in Laboratory Blank Samples, First Quarter 1993

Sample No.	930223- 001	930302- 060	930303- 002	930304- 069	930304- 076	930308- 083	930311- 091	930312- 001
Acetone	10U	10U	10U	10U	10U	10U	3	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	2	10U	10U	10U	3	10U
Methylene chloride	1	5U	2	1	5U	5U	2	5U

(CONTINUED)

Sample No.	930312- 066	930316- 001
Acetone	10U	10U
2-Butanone	10U	10U
4-Methyl-2-pentanone	1	10U
Methylene chloride	2	1

APPENDIX I.3

VOCs Detected in Laboratory Blank Samples, Second Quarter 1993

Sample No.	930412-001	930413-001	930414-001	930414-097	930415-001	930415-050	930416-008	930416-061
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	1	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

Sample No.	930419-001	930420-001	930421-001	930421-113	930422-001	930423-001	930428-001	930507-100
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
2-Hexanone	10U	10U	10U	5	10U	10U	10U	1
4-Methyl-2-pentanone	10U	10U	10U	3	10U	10U	10U	2
Methylene chloride	5U	1	1	5U	5U	5U	1	2
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	1	10U	10U	10U	10U

(CONTINUED)

Sample No.	930508-020	930509-001	930510-088	930511-041	930511-065	930513-001	930513-045	930514-020
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
2-Hexanone	10U	10U	3	3	10U	10U	5	2
4-Methyl-2-pentanone	10U	10U	3	2	10U	10U	5	3
Methylene chloride	1	5U	2	2	5U	1	5U	2
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

Sample No.	930518-127	930522-012	930526-019	930618-178	930619-007	930621-002	930623-001	930625-001
2-Butanone	10U	10U	5	10U	10U	10U	10U	10U
2-Hexanone	10U	10U	1	10U	10U	10U	0U	10U
4-Methyl-2-pentanone	10U	10U	2	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	1	5U	5U
1,1,2-Trichloroethane	1	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	5	10U	10U	10U	10U	10U	10U	10U

APPENDIX I.3

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VOCs Detected in Laboratory Blank Samples, Third Quarter 1993

Sample No.	930707- 032	930707- 090	930709- 031	930803- 001	930804- 035	930805- 116	930806- 047	930807- 045
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
2-Hexanone	10U	3	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	3	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	3	5U	1	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample No.	930809- 070	930810- 039	930811- 031	930812- 271	930816- 088	930816- 126	930818- 001	930820- 001
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	1	1	2
Toluene	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample No.	930823- 002	930825- 035	930908- 076	930915- 107	930915- 110	930916- 020	930916- 031	930917- 070
Benzene	5U	5U	1	5U	5U	5U	5U	5U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	1	5U	5U	5U	5U	2	5U	5U
Toluene	5U	5U	1	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX I.3

6

VOCs Detected in Laboratory Blank Samples, Third Quarter 1993

Sample No.	930918- 029	930920- 116	930921- 025	930921- 039	930922- 010	930922- 033	930923- 093	930927- 018
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Butanone	8	10U	10U	10U	10U	10U	10U	10U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	1	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample No.	930928- 089
Benzene	5U
2-Butanone	10U
2-Hexanone	10U
4-Methyl-2-pentanone	10U
Methylene chloride	5U
Toluene	5U

APPENDIX I.3

7

VOCs Detected in Laboratory Blank Samples, Fourth Quarter 1993

Sample No.	931014- 010	931015- 141	931018- 003	931018- 196	931019- 038	931023- 006	931025- 031	931027- 001
Acetone	10U	10U	4	10U	10U	10U	3	8
2-Butanone	10U	10U	10	10U	10U	10U	9	10U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	1	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	3	5U	5U	0.6	2	1
Styrene	5U	5U	5U	0.6	5U	5U	5U	5U

(CONTINUED)

Sample No.	931027- 002	931028- 007	931028- 022	931029- 026	931101- 042	931102- 001	931109- 029	931109- 111
Acetone	10U	3	10U	10U	10U	10U	10U	10U
2-Butanone	10U	15	10U	10U	10U	10U	10U	10U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	3	5U	5U	2	2	2	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample No.	931110- 011	931111- 014	931116- 002	931116- 035	931117- 001	931118- 001	931118- 146	931119- 102
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	1	5U	2	1	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX I.3

8

VOCs Detected in Laboratory Blank Samples, Fourth Quarter 1993

Sample No.	931119- 123	931123- 001	931123- 053	931124- 240	931130- 055	931201- 064	931206- 102	931208- 005
Acetone	10U	10U	10U	10U	10U	10U	7	10U
2-Butanone	10U	10U	10U	10U	10U	10U	15	10U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	1	10U
Methylene chloride	5U	2	5U	5U	5U	5U	2	1
Styrene	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample No.	931209- 025	931209- 029	931210- 049	931214- 001
Acetone	5	10U	4	3
2-Butanone	10	10U	8	8
2-Hexanone	10U	10U	2	10U
4-Methyl-2-pentanone	2	10U	3	1
Methylene chloride	2	5U	2	2
Styrene	5U	5U	5U	5U

APPENDIX L4

EQUIPMENT RINSATE DATA SUMMARY

APPENDIX I.4

1

Equipment Rinsate Data Summary, First Quarter 1993

Sample No.	930114- 031	930121- 063	930121- 083	930123- 026	930127- 091	930128- 019	930128- 204	930201- 060
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	2	10U	10U	10U	1	2	10U	.
4-Methyl-2-pentanone	2	10U	10U	10U	2	1	10U	.
Methylene chloride	5U	2	1	5U	5U	5U	5U	.
OTHER PARAMETERS (mg/L)	.	.	.	.	.	.	.	.
Nitrate (as N)	.	.	.	.	.	.	.	.
Aluminum	.	.	.	.	0.051	.	0.037	0.023
Antimony	.	.	.	.	<0.05	.	<0.05	<0.05
Arsenic	.	.	.	.	<0.05	.	<0.05	<0.05
Barium	.	.	.	.	0.014	.	0.023	0.0037
Beryllium	.	.	.	.	<0.0003	.	<0.0003	<0.0003
Boron	.	.	.	.	0.018	.	0.016	0.0061
Cadmium	.	.	.	.	<0.003	.	<0.003	<0.003
Calcium	.	.	.	.	34	.	27	0.28
Chromium	.	.	.	.	<0.01	.	<0.01	<0.01
Cobalt	.	.	.	.	<0.005	.	<0.005	<0.005
Copper	.	.	.	.	<0.004	.	0.0044	<0.004
Iron	.	.	.	.	0.016	.	1.5	0.065
Magnesium	.	.	.	.	9.6	.	7.6	0.04
Manganese	.	.	.	.	<0.001	.	0.0071	0.0036
Molybdenum	.	.	.	.	<0.01	.	<0.01	<0.01
Nickel	.	.	.	.	<0.01	.	<0.01	<0.01
Potassium	.	.	.	.	1.5	.	1.2	<0.6
Selenium	.	.	.	.	<0.05	.	0.059	<0.05
Silver	.	.	.	.	<0.006	.	<0.006	<0.006
Sodium	.	.	.	.	6.3	.	4.5	<0.02
Strontium	.	.	.	.	0.079	.	0.067	0.0022
Thorium	.	.	.	.	<0.2	.	<0.2	<0.2
Vanadium	.	.	.	.	<0.005	.	<0.005	<0.005
Zinc	.	.	.	.	1.3	.	0.85	0.0061
Gross Alpha (pCi/L)	.	.	.	.	.	.	.	.
Gross Alpha (CE+/-)	.	.	.	.	.	.	.	.
Gross Beta (pCi/L)	.	.	.	.	.	.	.	.
Gross Beta (CE+/-)	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX I.4

2

Equipment Rinsate Data Summary, First Quarter 1993

Sample No.	930203- 094	930224- 003	930303- 115	930312- 013
VOLATILE ORGANICS (ug/L)	.	.	.	.
	.	.	.	.
Acetone	3	10U	10U	10U
4-Methyl-2-pentanone	2	10U	10U	10U
Methylene chloride	2	1	5U	5U
	.	.	.	.
OTHER PARAMETERS (mg/L)	.	.	.	.
	.	.	.	.
Nitrate (as N)	.	.	<0.2	.
Aluminum	.	.	0.043	.
Antimony	.	.	<0.05	.
Arsenic	.	.	<0.05	.
Barium	.	.	0.034	.
Beryllium	.	.	0.0021	.
Boron	.	.	0.022	.
Cadmium	.	.	<0.003	.
Calcium	.	.	33	.
Chromium	.	.	<0.01	.
Cobalt	.	.	<0.005	.
Copper	.	.	<0.004	.
Iron	.	.	0.43	.
Magnesium	.	.	8.9	.
Manganese	.	.	0.1	.
Molybdenum	.	.	<0.01	.
Nickel	.	.	0.01	.
Potassium	.	.	1.5	.
Selenium	.	.	<0.05	.
Silver	.	.	<0.006	.
Sodium	.	.	5.6	.
Strontium	.	.	0.086	.
Thorium	.	.	<0.2	.
Vanadium	.	.	<0.005	.
Zinc	.	.	1.2	.
Gross Alpha (pCi/L)	.	.	0	.
Gross Alpha (CE+/-)	.	.	2.9	.
Gross Beta (pCi/L)	.	.	3.96	.
Gross Beta (CE+/-)	.	.	5.4	.

Equipment Rinsate Data Summary, Second Quarter 1993

Sample No.	930414- 020	930415- 038	930419- 068	930421- 004	930427- 023	930507- 125	930511- 025	930524- 140
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Bromodichloromethane	5U	5U	5U	3	5U	5U	5U	5U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	4
Chloroform	5U	5U	5U	23	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	9	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	2	10U	10U	10U	1
Methylene chloride	5U	5U	5U	5U	5U	1	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
	.	.	.	.	.	.	.	.
OTHER PARAMETERS (mg/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Nitrate (as N)	.	.	.	.	.	.	.	.
TPH (mg/L)	.	.	.	<0.1	.	.	.	.
Aluminum	.	.	.	.	<0.02	.	.	.
Antimony	.	.	.	.	<0.05	.	.	.
Arsenic	.	.	.	.	<0.05	.	.	.
Barium	.	.	.	.	0.021	.	.	.
Beryllium	.	.	.	.	<0.0003	.	.	.
Boron	.	.	.	.	0.0047	.	.	.
Cadmium	.	.	.	.	<0.003	.	.	.
Calcium	.	.	.	.	31	.	.	.
Chromium	.	.	.	.	<0.01	.	.	.
Cobalt	.	.	.	.	<0.005	.	.	.
Copper	.	.	.	.	<0.004	.	.	.
Iron	.	.	.	.	0.3	.	.	.
Magnesium	.	.	.	.	9.2	.	.	.
Manganese	.	.	.	.	0.0076	.	.	.
Molybdenum	.	.	.	.	<0.01	.	.	.
Nickel	.	.	.	.	<0.01	.	.	.
Potassium	.	.	.	.	1.5	.	.	.
Selenium	.	.	.	.	<0.05	.	.	.
Silver	.	.	.	.	<0.006	.	.	.
Sodium	.	.	.	.	4.9	.	.	.
Strontium	.	.	.	.	0.08	.	.	.
Thorium	.	.	.	.	<0.2	.	.	.
Vanadium	.	.	.	.	<0.005	.	.	.
Zinc	.	.	.	.	0.74	.	.	.
Gross Alpha (pCi/L)	.	.	.	.	.	.	.	.
Gross Alpha (CE+/-)	.	.	.	.	.	.	.	.
Gross Beta (pCi/L)	.	.	.	.	.	.	.	.
Gross Beta (CE+/-)	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX I.4

4

Equipment Rinse Data Summary, Second Quarter 1993

Sample No.	930622- 017	930624- 023	930629- 095	930630- 008	930707- 080	930708- 009
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.
	.	.	.	.	.	.
Acetone	6	10U	10U	10U	10U	10U
Bromodichloromethane	5U	5U	5U	5U	5U	5U
2-Butanone	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	1	5U	5U
Trichloroethene	1	5U	5U	5U	5U	5U
	.	.	.	.	.	.
OTHER PARAMETERS (mg/L)	.	.	.	.	.	.
	.	.	.	.	.	.
Nitrate (as N)	0.28	.	.	<0.2	.	0.55
TPH (mg/L)	.	0.006	0.003	0.079	<0.1	0.028
Aluminum	<0.02	.	.	<0.02	.	<0.02
Antimony	<0.05	.	.	<0.05	.	<0.05
Arsenic	<0.05	.	.	<0.05	.	<0.05
Barium	0.03	.	.	0.0063	.	0.016
Beryllium	<0.0003	.	.	<0.0003	.	<0.0003
Boron	0.035	.	.	0.024	.	0.035
Cadmium	<0.003	.	.	<0.003	.	<0.003
Calcium	33	.	.	<0.008	.	25
Chromium	<0.01	.	.	<0.01	.	<0.01
Cobalt	<0.005	.	.	<0.005	.	<0.005
Copper	<0.004	.	.	0.12	.	0.012
Iron	<0.005	.	.	0.022	.	0.019
Magnesium	9.4	.	.	0.0046	.	6.3
Manganese	0.006	.	.	0.0021	.	0.014
Molybdenum	<0.01	.	.	<0.01	.	<0.01
Nickel	<0.01	.	.	0.012	.	<0.01
Potassium	1.4	.	.	<0.6	.	0.89
Selenium	<0.05	.	.	<0.05	.	<0.05
Silver	<0.006	.	.	<0.006	.	<0.006
Sodium	5.2	.	.	0.13	.	3.4
Strontium	0.086	.	.	<0.0004	.	0.054
Thorium	<0.2	.	.	<0.2	.	<0.2
Vanadium	<0.005	.	.	<0.005	.	<0.005
Zinc	0.71	.	.	0.015	.	0.3
Gross Alpha (pCi/L)	0.45	.	.	0	.	-1.22
Gross Alpha (CE+/-)	1.6	.	.	1.4	.	1.9
Gross Beta (pCi/L)	2.91	.	.	0.762	.	-7
Gross Beta (CE+/-)	2.7	.	.	2.5	.	5.7

Equipment Rinse Data Summary, Third Quarter 1993

Sample No.	930709- 007	930806- 165	930809- 022	930810- 120	930820- 089	930823- 110	930915- 008	930918- 006
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Methylene chloride	5U	5U	5U	5U	1	1	5U	5U
OTHER PARAMETERS (mg/L)	.	.	.	.	.	.	.	.
Nitrate (as N)	.	.	.	.	.	.	.	.
TPH (mg/L)	.	.	.	<0.1	.	.	.	.
Aluminum	.	.	0.022	.	.	.	.	.
Antimony	.	.	<0.05	.	.	.	.	.
Arsenic	.	.	<0.05	.	.	.	.	.
Barium	.	.	0.029	.	.	.	.	.
Beryllium	.	.	<0.0003	.	.	.	.	.
Boron	.	.	0.0067	.	.	.	.	.
Cadmium	.	.	<0.003	.	.	.	.	.
Calcium	.	.	31	.	.	.	.	.
Chromium	.	.	<0.01	.	.	.	.	.
Cobalt	.	.	<0.005	.	.	.	.	.
Copper	.	.	0.0072	.	.	.	.	.
Iron	.	.	0.19	.	.	.	.	.
Magnesium	.	.	9.6	.	.	.	.	.
Manganese	.	.	0.0088	.	.	.	.	.
Molybdenum	.	.	<0.01	.	.	.	.	.
Nickel	.	.	<0.01	.	.	.	.	.
Potassium	.	.	1	.	.	.	.	.
Selenium	.	.	0.06	.	.	.	.	.
Silver	.	.	<0.006	.	.	.	.	.
Sodium	.	.	5	.	.	.	.	.
Strontium	.	.	0.082	.	.	.	.	.
Thorium	.	.	<0.2	.	.	.	.	.
Vanadium	.	.	<0.005	.	.	.	.	.
Zinc	.	.	0.97	.	.	.	.	.
Gross Alpha (pCi/L)	.	.	.	.	.	.	.	.
Gross Alpha (CE+/-)	.	.	.	.	.	.	.	.
Gross Beta (pCi/L)	.	.	.	.	.	.	.	.
Gross Beta (CE+/-)	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX I.4

6

Equipment Rinse Data Summary, Third Quarter 1993

Sample No.	930920- 167	930927- 231
VOLATILE ORGANICS (ug/L)	.	.
Methylene chloride	1	5U
OTHER PARAMETERS (mg/L)	.	.
Nitrate (as N)	0.55	.
TPH (mg/L)	0	0.285
Aluminum	<0.02	.
Antimony	<0.05	.
Arsenic	<0.05	.
Barium	0.026	.
Beryllium	<0.0003	.
Boron	0.018	.
Cadmium	<0.003	.
Calcium	30	.
Chromium	<0.01	.
Cobalt	<0.005	.
Copper	<0.004	.
Iron	<0.005	.
Magnesium	8	.
Manganese	0.0033	.
Molybdenum	<0.01	.
Nickel	<0.01	.
Potassium	1.1	.
Selenium	<0.05	.
Silver	<0.006	.
Sodium	4	.
Strontium	0.078	.
Thorium	<0.2	.
Vanadium	<0.005	.
Zinc	0.99	.
Gross Alpha (pCi/L)	-2.03	.
Gross Alpha (CE+/-)	3.1	.
Gross Beta (pCi/L)	2.9	.
Gross Beta (CE+/-)	5.4	.

APPENDIX I.4

7

Equipment Rinseate Data Summary, Fourth Quarter 1993

Sample No.	931018- 209	931025- 079	931101- 151	931104- 065	931108- 195	931111- 108	931119- 061	931129- 065
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	3	10U	31	39	10U	10U	10U	10U
2-Butanone	8	10U	10U	10U	10U	10U	10U	10U
1,2-Dichloropropane	5	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	2	5U	1	5U	5U	2	5U	5U
OTHER PARAMETERS (mg/L)	.	.	.	.	.	.	.	.
Nitrate (as N)	.	.	.	.	.	.	.	<0.2
TPH (mg/L)	<0.1	.	.	.	.	.	.	.
Aluminum	.	.	.	.	0.021	.	.	<0.02
Antimony	.	.	.	.	<0.05	.	.	<0.05
Arsenic	.	.	.	.	<0.05	.	.	<0.05
Barium	.	.	.	.	0.042	.	.	<0.001
Beryllium	.	.	.	.	<0.0003	.	.	<0.0003
Boron	.	.	.	.	0.016	.	.	0.0041
Cadmium	.	.	.	.	<0.003	.	.	<0.003
Calcium	.	.	.	.	36	.	.	0.21
Chromium	.	.	.	.	<0.01	.	.	<0.01
Cobalt	.	.	.	.	<0.005	.	.	<0.005
Copper	.	.	.	.	0.01	.	.	0.0053
Iron	.	.	.	.	0.13	.	.	0.01
Magnesium	.	.	.	.	10	.	.	0.043
Manganese	.	.	.	.	0.014	.	.	<0.001
Molybdenum	.	.	.	.	<0.01	.	.	<0.01
Nickel	.	.	.	.	<0.01	.	.	<0.01
Potassium	.	.	.	.	1.4	.	.	<0.6
Selenium	.	.	.	.	<0.05	.	.	<0.05
Silver	.	.	.	.	<0.006	.	.	<0.006
Sodium	.	.	.	.	4.9	.	.	0.094
Strontium	.	.	.	.	0.095	.	.	0.00088
Thorium	.	.	.	.	<0.2	.	.	<0.2
Vanadium	.	.	.	.	<0.005	.	.	<0.005
Zinc	.	.	.	.	0.83	.	.	0.014
Gross Alpha (pCi/L)	.	.	.	.	.	.	.	0.134
Gross Alpha (CE+/-)	.	.	.	.	.	.	.	0.48
Gross Beta (pCi/L)	.	.	.	.	.	.	.	-1.83
Gross Beta (CE+/-)	.	.	.	.	.	.	.	2.3

(CONTINUED)

APPENDIX I.4

8

Equipment Rinseate Data Summary, Fourth Quarter 1993

Sample No.	931130- 066	931209- 103	931210- 015
VOLATILE ORGANICS (ug/L)	.	.	.
	.	.	.
Acetone	10U	14	3
2-Butanone	10U	10	7
1,2-Dichloropropane	5U	5U	5U
4-Methyl-2-pentanone	10U	1	10U
Methylene chloride	5U	2	2
	.	.	.
OTHER PARAMETERS (mg/L)	.	.	.
	.	.	.
Nitrate (as N)	.	.	.
TPH (mg/L)	.	.	.
Aluminum	.	.	.
Antimony	.	.	.
Arsenic	.	.	.
Barium	.	.	.
Beryllium	.	.	.
Boron	.	.	.
Cadmium	.	.	.
Calcium	.	.	.
Chromium	.	.	.
Cobalt	.	.	.
Copper	.	.	.
Iron	.	.	.
Magnesium	.	.	.
Manganese	.	.	.
Molybdenum	.	.	.
Nickel	.	.	.
Potassium	.	.	.
Selenium	.	.	.
Silver	.	.	.
Sodium	.	.	.
Strontium	.	.	.
Thorium	.	.	.
Vanadium	.	.	.
Zinc	.	.	.
Gross Alpha (pCi/L)	.	.	.
Gross Alpha (CE+/-)	.	.	.
Gross Beta (pCi/L)	.	.	.
Gross Beta (CE+/-)	.	.	.

APPENDIX J

VALIDATED RESULTS OF VOLATILE ORGANIC COMPOUND ANALYSES

EXPLANATION

LOCATION:

B4	-	Beta-4 Security Pits
EXP	-	Exit-Pathway Monitoring Well
FF	-	Building 9754-2 Fuel Facility
FTF	-	Fire Training Facility
GRID	-	Comprehensive Groundwater Monitoring Plan Grid Location
NHP	-	New Hope Pond
RG	-	Rust Garage Area
S2	-	S-2 Site
SY	-	Y-12 Salvage Yard
T0134	-	Underground Storage Tank 0134-U
T2331	-	Underground Storage Tank 2331-U
WC	-	Waste Coolant Processing Area

NOTES:

All results in micrograms per Liter (ug/L).

FP1	-	False Positive result, screened by laboratory blank
FP2	-	False Positive result, screened by trip blank
FP3	-	Anomalous Result
U	-	Compound not detected at the reported minimum attainable detection limit.

Results of VOC analyses reported for each groundwater sample were evaluated using results for each associated laboratory and trip blank sample to identify false positives (i.e., results that are probable artifacts of the groundwater sampling or analysis procedures). To identify the false positives, the maximum concentration of each VOC detected in either blank sample (Appendix I) is multiplied by a qualification factor to determine the blank qualification result (BQR) for the compound. A factor of 5 is used for most compounds and a factor of 10 is used for the common laboratory reagents methylene chloride, acetone, 2-butanone, and toluene (U.S. Environmental Protection Agency 1988b). If a compound detected in the blank samples is also detected in an associated groundwater sample, the concentration reported for the groundwater sample (Appendix E) is compared to the corresponding BQR. If the concentration of the compound in the groundwater sample is at or below the BQR, the result is considered a false positive and is excluded from the summed VOC concentration determined for the sample.

If a compound was detected in only one of at least four consecutive quarterly samples collected at a sampling point, the result was assumed to be anomalous. Anomalous VOC results were not identified in samples for which elevated analytical detection limits were reported for the compound during any other consecutive sampling event.

APPENDIX J
Validated VOC Results, 1993

1

Sampling Point . Location . Date Sampled	GW-151								GW-168			
	MHP								MHP			
	01/26/93		04/22/93		08/06/93		11/02/93		01/22/93		05/14/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	200	.	200	.	200	.	400	.	FP1	.	100	.
Benzene	100	.	100	.	100	.	200	.	50	.	50	.
Bromoform	100	.	100	.	100	.	200	.	50	.	50	.
2-Butanone	200	.	200	.	200	.	400	.	100	.	100	.
Carbon disulfide	100	.	100	.	100	.	200	.	50	.	50	.
Carbon tetrachloride	220	90.5	330	89.9	520	92.9	610	92.1	50	.	50	.
Chloroform	9	3.7	15	4.1	19	3.4	21	3.2	50	.	50	.
Chloromethane	200	.	200	.	200	.	400	.	100	.	100	.
1,1-Dichloroethane	100	.	100	.	100	.	200	.	50	.	50	.
1,2-Dichloroethane	100	.	100	.	100	.	200	.	50	.	50	.
1,1-Dichloroethene	100	.	100	.	100	.	200	.	50	.	50	.
1,2-Dichloroethene	100	.	100	.	100	.	200	.	50	.	50	.
Ethylbenzene	100	.	100	.	100	.	200	.	50	.	50	.
4-Methyl-2-pentanone	200	.	200	.	200	.	400	.	FP1	.	100	.
Methylene chloride	100	.	100	.	100	.	200	.	50	.	FP2	.
Styrene	100	.	100	.	100	.	200	.	50	.	50	.
Tetrachloroethene	12	4.9	19	5.2	21	3.8	27	4.1	50	.	50	.
Toluene	100	.	100	.	100	.	200	.	50	.	50	.
1,1,1-Trichloroethane	100	.	100	.	100	.	200	.	50	.	50	.
Trichloroethene	2	0.8	3	0.8	100	.	4	0.6	50	.	50	.
Vinyl acetate	200	.	200	.	200	.	200	.	100	.	100	.
Vinyl chloride	200	.	200	.	200	.	400	.	100	.	100	.
Xylenes	100	.	100	.	100	.	200	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	243	99.9	367	100	560	100.1	662	100	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

2

Sampling Point . Location . Date Sampled	GW-168				GW-169							
	NHP				EXP							
	08/19/93		11/02/93		01/23/93		05/21/93		08/19/93		11/01/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Bromoform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloromethane	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Ethylbenzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
4-Methyl-2-pentanone	10U	.	10U	.	FP1	.	10U	.	10U	.	10U	.
Methylene chloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Styrene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	5U	.	5U	.	3	50	3	50	3	60	3	60
Toluene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	3	50	3	50	2	40	2	40
Vinyl acetate	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Vinyl chloride	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	6	100	6	100	5	100	5	100

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

3

Sampling Point . Location . Date Sampled	GW-170								GW-183			
	EXP								FF			
	01/23/93		05/24/93		08/21/93		11/04/93		03/10/93		06/21/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	10U	.	FP1	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	350	54.3	32	45.7
Bromoform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	FP1	.	10U	.	FP3	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	1	1.4	5U	.	16	23.5	39	43.8	5U	.	5U	.
Chloroform	57	82.6	59	85.5	43	63.2	41	46.1	5U	.	5U	.
Chloromethane	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethane	5U	.	5U	.	5U	.	5U	.	FP3	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	FP3	.	5U	.	5U	.
Ethylbenzene	5U	.	5U	.	5U	.	5U	.	22	3.4	2	2.9
4-Methyl-2-pentanone	FP1	.	10U	.	10U	.	10U	.	10U	.	10U	.
Methylene chloride	2	2.9	2	2.9	FP2	.	1	1.1	FP1	.	FP2	.
Styrene	5U	.	5U	.	5U	.	5U	.	FP3	.	5U	.
Tetrachloroethene	7	10.1	6	8.7	6	8.8	6	6.7	5U	.	5U	.
Toluene	5U	.	5U	.	5U	.	5U	.	180	28	25	35.7
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	2	2.9	2	2.9	3	4.4	2	2.2	5U	.	5U	.
Vinyl acetate	10U	.	10U	.	10U	.	10U	.	FP3	.	10U	.
Vinyl chloride	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	92	14.3	11	15.7
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	69	99.9	69	100	68	99.9	89	99.9	644	100	70	100

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

4

Sampling Point . Location . Date Sampled	GW-183				GW-190							
	FF				RG							
	09/22/93		11/16/93		03/01/93		06/17/93		09/15/93		11/16/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	10U	.	20U	.	10U	.
Benzene	57	47.1	7	36.8	5U	.	5U	.	10U	.	5U	.
Bromoform	5U	.	5U	.	5U	.	5U	.	10U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	20U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	10U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	10U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	10U	.	5U	.
Chloromethane	10U	.	10U	.	10U	.	10U	.	20U	.	10U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	6	1.5	170	48.9	5U	.
1,2-Dichloroethane	5U	.	5U	.	5U	.	5U	.	10U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	FP3	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	220	53.5	10U	.	7	10.8
Ethylbenzene	5	4.1	1	5.3	5U	.	5U	.	10U	.	5U	.
4-Methyl-2-pentanone	10U	.	10U	.	10U	.	10U	.	20U	.	10U	.
Methylene chloride	5U	.	FP1	.	5U	.	5U	.	10U	.	FP1	.
Styrene	5U	.	5U	.	5U	.	5U	.	10U	.	5U	.
Tetrachloroethene	5U	.	5U	.	110	90.9	61	14.8	89	25.6	49	75.4
Toluene	38	31.4	6	31.6	5U	.	5U	.	10U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	10U	.	5U	.
Trichloroethene	5U	.	5U	.	11	9.1	67	16.3	39	11.2	7	10.8
Vinyl acetate	10U	.	10U	.	10U	.	10U	.	20U	.	10U	.
Vinyl chloride	10U	.	10U	.	10U	.	57	13.9	50	14.4	2	3.1
Xylenes	21	17.4	5	26.3	5U	.	5U	.	10U	.	5U	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	121	100	19	100	121	100	411	100	348	100.1	65	100.1

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

5

Sampling Point . Location . Date Sampled	GW-191								GW-192			
	B4								B4			
	01/12/93		04/12/93		07/08/93		12/09/93		01/14/93		04/13/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	FP1	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Bromoform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	FP1	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloromethane	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	1	4.2	5U	.
1,2-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	19	79.2	18	81.8
Ethylbenzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
4-Methyl-2-pentanone	10U	.	10U	.	10U	.	FP1	.	FP1	.	10U	.
Methylene chloride	5U	.	5U	.	5U	.	FP1	.	5U	.	5U	.
Styrene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	1	4.2	1	4.5
Toluene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	3	12.5	3	13.6
Vinyl acetate	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Vinyl chloride	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	24	100.1	22	99.9

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

6

Sampling Point . Location . Date Sampled	GW-192				GW-193							
	B4				T2331							
	07/08/93		12/09/93		03/11/93		06/22/93		09/23/93		11/18/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	FP1	.	250U	.	250U	.	100U	.	100U	.
Benzene	5U	.	5U	.	2200	54	1400	55.2	1200	56.6	2800	61.8
Bromoform	5U	.	5U	.	130U	.	130U	.	50U	.	50U	.
2-Butanone	10U	.	FP1	.	250U	.	250U	.	100U	.	100U	.
Carbon disulfide	5U	.	5U	.	130U	.	130U	.	50U	.	50U	.
Carbon tetrachloride	5U	.	5U	.	130U	.	130U	.	50U	.	50U	.
Chloroform	5U	.	5U	.	130U	.	130U	.	50U	.	50U	.
Chloromethane	10U	.	10U	.	250U	.	250U	.	100U	.	100U	.
1,1-Dichloroethane	5U	.	1	4.8	130U	.	130U	.	50U	.	50U	.
1,2-Dichloroethane	5U	.	5U	.	130U	.	130U	.	50U	.	50U	.
1,1-Dichloroethene	5U	.	5U	.	130U	.	130U	.	50U	.	50U	.
1,2-Dichloroethene	9	100	16	76.2	130U	.	130U	.	50U	.	50U	.
Ethylbenzene	5U	.	5U	.	790	19.4	740	29.2	520	24.5	450	9.9
4-Methyl-2-pentanone	10U	.	FP1	.	250U	.	250U	.	100U	.	100U	.
Methylene chloride	5U	.	FP1	.	34	0.8	130U	.	50U	.	50U	.
Styrene	5U	.	5U	.	130U	.	130U	.	50U	.	50U	.
Tetrachloroethene	5U	.	1	4.8	130U	.	130U	.	50U	.	50U	.
Toluene	5U	.	5U	.	370	9.1	75	3	100	4.7	700	15.5
1,1,1-Trichloroethane	5U	.	5U	.	130U	.	130U	.	50U	.	50U	.
Trichloroethene	5U	.	3	14.3	130U	.	130U	.	50U	.	50U	.
Vinyl acetate	10U	.	10U	.	250U	.	250U	.	100U	.	100U	.
Vinyl chloride	10U	.	10U	.	250U	.	250U	.	100U	.	100U	.
Xylenes	5U	.	5U	.	680	16.7	320	12.6	300	14.2	580	12.8
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	9	100	21	100.1	4074	100	2535	100	2120	100	4530	100

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

7

Sampling Point . Location . Date Sampled	GW-194								GW-195			
	B4								B4			
	01/13/93		04/13/93		07/08/93		12/09/93		01/13/93		04/13/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	FP1	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Bromoform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	FP1	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloromethane	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Ethylbenzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
4-Methyl-2-pentanone	10U	.	10U	.	10U	.	FP1	.	10U	.	10U	.
Methylene chloride	5U	.	5U	.	5U	.	FP1	.	5U	.	5U	.
Styrene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Toluene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Vinyl acetate	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Vinyl chloride	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

8

Sampling Point . Location . Date Sampled	GW-195				GW-199							
	B4				GRID11							
	07/08/93		12/09/93		01/29/93		04/07/93		08/02/93		10/12/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	FP1	.	10U	.	10U	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Bromoform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	FP1	.	10U	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloromethane	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Ethylbenzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
4-Methyl-2-pentanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Methylene chloride	5U	.	FP1	.	5U	.	5U	.	FP1	.	5U	.
Styrene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Toluene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Vinyl acetate	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Vinyl chloride	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

9

Sampling Point . Location . Date Sampled	GW-204								GW-206			
	T0134								EXP			
	03/11/93		06/22/93		09/23/93		11/16/93		01/19/93		05/06/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Bromoform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloromethane	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Ethylbenzene	2	100	5U	.	5U	.	2	100	5U	.	5U	.
4-Methyl-2-pentanone	10U	.	10U	.	10U	.	10U	.	10U	.	FP1	.
Methylene chloride	FP3	.	5U	.	5U	.	FP1	.	5U	.	FP1	.
Styrene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Toluene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Vinyl acetate	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Vinyl chloride	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Xylenes	5U	.	5U	.	5U	.	FP3	.	5U	.	5U	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	2	100	0	.	0	.	2	100	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

10

Sampling Point . Location . Date Sampled	GW-206				GW-207							
	EXP				EXP							
	08/12/93		10/27/93		01/14/93		05/04/93		08/11/93		10/26/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	100	.	FP1	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
Bromoform	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	FP1	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
Chloromethane	100	.	100	.	100	.	100	.	100	.	100	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Ethylbenzene	50	.	50	.	50	.	50	.	50	.	50	.
4-Methyl-2-pentanone	100	.	100	.	FP1	.	100	.	100	.	100	.
Methylene chloride	50	.	50	.	50	.	50	.	50	.	FP1	.
Styrene	50	.	50	.	50	.	50	.	50	.	50	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Toluene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Vinyl acetate	100	.	100	.	100	.	100	.	100	.	100	.
Vinyl chloride	100	.	100	.	100	.	100	.	100	.	100	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

11

Sampling Point . Location . Date Sampled	GW-220								GW-232			
	MHP								EXP			
	01/25/93		04/22/93		08/06/93		11/01/93		01/26/93		05/21/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	FP2	.	200	.	200	.	500	.	100	.	100	.
Benzene	100	.	100	.	100	.	250	.	50	.	50	.
Bromoform	100	.	100	.	100	.	250	.	50	.	50	.
2-Butanone	200	.	200	.	200	.	500	.	100	.	100	.
Carbon disulfide	100	.	100	.	100	.	250	.	50	.	50	.
Carbon tetrachloride	320	88.9	280	87.2	490	88.9	400	85.7	50	.	50	.
Chloroform	17	4.7	14	4.4	23	4.2	21	4.5	50	.	50	.
Chloromethane	200	.	200	.	200	.	500	.	100	.	100	.
1,1-Dichloroethane	100	.	100	.	100	.	250	.	50	.	50	.
1,2-Dichloroethane	100	.	100	.	100	.	250	.	50	.	50	.
1,1-Dichloroethene	100	.	100	.	100	.	250	.	50	.	50	.
1,2-Dichloroethene	100	.	100	.	100	.	250	.	50	.	50	.
Ethylbenzene	100	.	100	.	100	.	250	.	50	.	50	.
4-Methyl-2-pentanone	FP1	.	200	.	200	.	500	.	FP1	.	100	.
Methylene chloride	100	.	100	.	100	.	FP1	.	50	.	50	.
Styrene	100	.	100	.	100	.	250	.	50	.	50	.
Tetrachloroethene	19	5.3	23	7.2	32	5.8	39	8.4	50	.	50	.
Toluene	100	.	100	.	100	.	250	.	50	.	50	.
1,1,1-Trichloroethane	100	.	100	.	100	.	250	.	50	.	50	.
Trichloroethene	4	1.1	4	1.2	6	1.1	7	1.5	50	.	50	.
Vinyl acetate	200	.	200	.	200	.	500	.	100	.	100	.
Vinyl chloride	200	.	200	.	200	.	500	.	100	.	100	.
Xylenes	100	.	100	.	100	.	250	.	50	.	50	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	360	100	321	100	551	100	467	100.1	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

12

Sampling Point . Location . Date Sampled	GW-232				GW-239							
	EXP				BHP							
	08/21/93		11/01/93		01/23/93		05/13/93		08/18/93		10/30/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
Bromoform	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
Chloromethane	100	.	100	.	100	.	100	.	100	.	100	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Ethylbenzene	50	.	50	.	50	.	50	.	50	.	50	.
4-Methyl-2-pentanone	100	.	100	.	FP1	.	100	.	100	.	100	.
Methylene chloride	50	.	FP1	.	50	.	FP1	.	50	.	FP1	.
Styrene	50	.	50	.	50	.	50	.	50	.	50	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Toluene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Vinyl acetate	100	.	100	.	100	.	100	.	100	.	100	.
Vinyl chloride	100	.	100	.	100	.	100	.	100	.	100	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

13

Sampling Point . Location . Date Sampled	GW-240								GW-251			
	MHP								S2			
	01/27/93		04/21/93		08/05/93		11/01/93		01/20/93		05/05/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	FP2	.	100	.	100	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
Bromoform	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	10	90.9	8	85.1	10	83.3	15	83.3	50	.	11	3.5
Chloroform	1	9.1	0.8	8.5	2	16.7	2	11.1	2	6.1	8	2.6
Chloroethane	100	.	100	.	100	.	100	.	100	.	100	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	FP3	.
Ethylbenzene	50	.	50	.	50	.	50	.	50	.	50	.
4-Methyl-2-pentanone	FP1	.	100	.	100	.	100	.	100	.	100	.
Methylene chloride	50	.	50	.	50	.	FP1	.	50	.	50	.
Styrene	50	.	50	.	50	.	50	.	50	.	50	.
Tetrachloroethene	50	.	0.6	6.4	50	.	1	5.6	24	72.7	210	67.5
Toluene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	7	21.2	82	26.4
Vinyl acetate	100	.	100	.	100	.	100	.	100	.	100	.
Vinyl chloride	100	.	100	.	100	.	100	.	100	.	100	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	11	100	9.4	100	12	100	18	100	33	100	311	100

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

14

Sampling Point . Location . Date Sampled	GW-251				GW-252							
	S2				S2							
	09/17/93		12/08/93		01/08/93		05/03/93		09/15/93		12/07/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	100	.	FP1	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
Bromoform	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	FP1	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	2	2.7	1	2.2	50	.	50	.	50	.	50	.
Chloroform	6	8.2	4	8.7	50	.	50	.	50	.	50	.
Chloromethane	100	.	100	.	100	.	100	.	100	.	100	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Ethylbenzene	50	.	50	.	50	.	50	.	50	.	50	.
4-Methyl-2-pentanone	100	.	100	.	100	.	FP1	.	100	.	FP1	.
Methylene chloride	50	.	50	.	FP1	.	FP1	.	50	.	FP1	.
Styrene	50	.	50	.	50	.	50	.	50	.	50	.
Tetrachloroethene	47	64.4	31	67.4	50	.	50	.	50	.	50	.
Toluene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	18	24.7	10	21.7	50	.	50	.	50	.	50	.
Vinyl acetate	100	.	100	.	100	.	100	.	100	.	100	.
Vinyl chloride	100	.	100	.	100	.	100	.	100	.	100	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	73	100	46	100	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

15

Sampling Point . Location . Date Sampled	GW-255								GW-261			
	S2								SY			
	01/08/93		05/03/93		09/15/93		12/07/93		01/08/93		04/07/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	FP3	.	100	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
Bromoform	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	1	100	1	100	1	100	1	100	50	.	50	.
Chloromethane	100	.	100	.	100	.	100	.	100	.	100	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Ethylbenzene	50	.	50	.	50	.	50	.	50	.	50	.
4-Methyl-2-pentanone	FP1	.	100	.	100	.	100	.	100	.	100	.
Methylene chloride	50	.	50	.	50	.	FP1	.	FP1	.	FP2	.
Styrene	50	.	50	.	50	.	50	.	50	.	50	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Toluene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Vinyl acetate	100	.	100	.	100	.	100	.	100	.	100	.
Vinyl chloride	100	.	100	.	100	.	100	.	100	.	100	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	1	100	1	100	1	100	1	100	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

16

Sampling Point . Location . Date Sampled	GW-261				GW-262							
	SY				SY							
	07/01/93		12/07/93		01/11/93		04/08/93		07/01/93		12/07/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
Bromoform	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
Chloromethane	100	.	100	.	100	.	100	.	100	.	100	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Ethylbenzene	50	.	50	.	50	.	50	.	50	.	50	.
4-Methyl-2-pentanone	100	.	100	.	FP1	.	100	.	100	.	100	.
Methylene chloride	50	.	FP1	.	50	.	50	.	50	.	FP1	.
Styrene	50	.	50	.	50	.	50	.	50	.	50	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Toluene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Vinyl acetate	100	.	100	.	100	.	100	.	100	.	100	.
Vinyl chloride	100	.	100	.	100	.	100	.	100	.	100	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

17

Sampling Point . Location . Date Sampled	GW-263								GW-264			
	SY								SY			
	01/11/93		04/08/93		07/01/93		12/07/93		01/12/93		04/12/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	FP3	.	10U	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Bromoform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloromethane	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Ethylbenzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
4-Methyl-2-pentanone	FP1	.	10U	.	10U	.	10U	.	10U	.	10U	.
Methylene chloride	5U	.	5U	.	5U	.	FP1	.	5U	.	FP3	.
Styrene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Toluene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Vinyl acetate	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Vinyl chloride	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

18

Sampling Point . Location . Date Sampled	GW-264				GW-281							
	SY				FF							
	07/02/93		12/08/93		02/02/93		04/16/93		08/04/93		10/14/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	FP1	.	10U	.	10U	.	FP1	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Bromoform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	FP1	.	10U	.	10U	.	FP1	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloromethane	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Ethylbenzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
4-Methyl-2-pentanone	10U	.	10U	.	FP1	.	10U	.	10U	.	10U	.
Methylene chloride	5U	.	5U	.	5U	.	5U	.	5U	.	FP1	.
Styrene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Toluene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Vinyl acetate	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Vinyl chloride	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

19

Sampling Point . Location . Date Sampled	GW-283								GW-284			
	FF								FF			
	02/03/93		04/19/93		08/06/93		10/14/93		02/02/93		04/16/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	FP1	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Bromoform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	FP1	.	FP1	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloromethane	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Ethylbenzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
4-Methyl-2-pentanone	FP1	.	10U	.	10U	.	10U	.	FP1	.	10U	.
Methylene chloride	FP1	.	5U	.	5U	.	FP1	.	5U	.	5U	.
Styrene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Toluene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	FP2	.	5U	.	5U	.	5U	.	5U	.
Vinyl acetate	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Vinyl chloride	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

20

Sampling Point . Location . Date Sampled	GW-284				GW-285							
	FF				FF							
	08/05/93		10/14/93		02/02/93		04/19/93		08/05/93		10/14/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	10U	.	10U	.	FP1	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Bromoform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	FP1	.	10U	.	10U	.	FP1	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloromethane	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	FP3	.
Ethylbenzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
4-Methyl-2-pentanone	10U	.	10U	.	FP1	.	10U	.	10U	.	10U	.
Methylene chloride	5U	.	5U	.	5U	.	5U	.	5U	.	FP1	.
Styrene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Toluene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	FP2	.	5U	.	5U	.
Vinyl acetate	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Vinyl chloride	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

21

Sampling Point . Location . Date Sampled	GW-337								GW-338			
	WC								WC			
	01/21/93		05/07/93		09/17/93		12/09/93		01/11/93		05/04/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	1000U	.	500U	.	500U	.	240	2	10U	.	10U	.
Benzene	500U	.	250U	.	250U	.	300U	.	5U	.	5U	.
Bromoform	500U	.	250U	.	250U	.	300U	.	5U	.	5U	.
2-Butanone	1000U	.	500U	.	500U	.	530	4.4	10U	.	10U	.
Carbon disulfide	500U	.	250U	.	250U	.	300U	.	5U	.	5U	.
Carbon tetrachloride	500U	.	250U	.	250U	.	300U	.	5U	.	5U	.
Chloroform	500U	.	250U	.	250U	.	300U	.	5U	.	5U	.
Chloromethane	1000U	.	500U	.	500U	.	500U	.	10U	.	10U	.
1,1-Dichloroethane	190	1.6	170	1.5	160	1.5	170	1.4	5U	.	5U	.
1,2-Dichloroethane	500U	.	250U	.	250U	.	300U	.	5U	.	5U	.
1,1-Dichloroethene	230	1.9	210	1.9	210	1.9	230	1.9	5U	.	5U	.
1,2-Dichloroethene	9300	75.9	8200	74.4	8100	74.9	8400	69.1	5U	.	5U	.
Ethylbenzene	500U	.	250U	.	250U	.	300U	.	5U	.	5U	.
4-Methyl-2-pentanone	1000U	.	500U	.	500U	.	61	0.5	10U	.	10U	.
Methylene chloride	500U	.	60	0.5	250U	.	110	0.9	5U	.	5U	.
Styrene	500U	.	250U	.	250U	.	300U	.	5U	.	5U	.
Tetrachloroethene	870	7.1	760	6.9	760	7	910	7.5	5U	.	5U	.
Toluene	500U	.	250U	.	250U	.	300U	.	5U	.	5U	.
1,1,1-Trichloroethane	360	2.9	360	3.3	360	3.3	330	2.7	5U	.	5U	.
Trichloroethene	960	7.8	980	8.9	1000	9.2	1000	8.2	5U	.	5U	.
Vinyl acetate	1000U	.	500U	.	500U	.	500U	.	10U	.	10U	.
Vinyl chloride	340	2.8	280	2.5	230	2.1	170	1.4	10U	.	10U	.
Xylenes	500U	.	250U	.	250U	.	300U	.	5U	.	5U	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	12250	100	11020	99.9	10820	99.9	12151	100	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

22

Sampling Point . Location . Date Sampled	GW-338				GW-380							
	WC				NHP							
	09/23/93		12/07/93		01/25/93		04/21/93		08/05/93		10/29/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	FP1	.	10U	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Bromoform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloromethane	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Ethylbenzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
4-Methyl-2-pentanone	10U	.	10U	.	FP1	.	10U	.	10U	.	10U	.
Methylene chloride	5U	.	FP1	.	5U	.	5U	.	5U	.	FP1	.
Styrene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Toluene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Vinyl acetate	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Vinyl chloride	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

23

Sampling Point . Location . Date Sampled	GW-381								GW-382			
	NHP								NHP			
	01/27/93		04/26/93		08/08/93		11/08/93		01/28/93		04/26/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	52	0.7	500U	.	500U	.	500U	.	80U	.	100U	.
Benzene	250U	.	250U	.	250U	.	250U	.	40U	.	50U	.
Bromoform	250U	.	250U	.	250U	.	250U	.	40U	.	50U	.
2-Butanone	500U	.	500U	.	500U	.	500U	.	80U	.	100U	.
Carbon disulfide	250U	.	250U	.	250U	.	250U	.	40U	.	50U	.
Carbon tetrachloride	6400	90.8	4800	92.7	6600	92.1	5500	92.6	1500	57.2	5500	89.2
Chloroform	520	7.4	380	7.3	570	7.9	440	7.4	950	36.2	380	6.2
Chloromethane	500U	.	500U	.	500U	.	500U	.	80U	.	100U	.
1,1-Dichloroethane	250U	.	250U	.	250U	.	250U	.	40U	.	50U	.
1,2-Dichloroethane	250U	.	250U	.	250U	.	250U	.	40U	.	50U	.
1,1-Dichloroethene	250U	.	250U	.	250U	.	250U	.	40U	.	50U	.
1,2-Dichloroethene	250U	.	250U	.	250U	.	250U	.	40U	.	50U	.
Ethylbenzene	250U	.	250U	.	250U	.	250U	.	40U	.	50U	.
4-Methyl-2-pentanone	78	1.1	500U	.	500U	.	500U	.	80U	.	100U	.
Methylene chloride	250U	.	250U	.	250U	.	250U	.	24	0.9	50U	.
Styrene	250U	.	250U	.	250U	.	250U	.	40U	.	50U	.
Tetrachloroethene	250U	.	250U	.	250U	.	250U	.	130	5	250	4.1
Toluene	250U	.	250U	.	250U	.	250U	.	40U	.	50U	.
1,1,1-Trichloroethane	250U	.	250U	.	250U	.	250U	.	40U	.	50U	.
Trichloroethene	250U	.	250U	.	250U	.	250U	.	20	0.8	34	0.6
Vinyl acetate	500U	.	500U	.	500U	.	500U	.	80U	.	100U	.
Vinyl chloride	500U	.	500U	.	500U	.	500U	.	80U	.	100U	.
Xylenes	250U	.	250U	.	250U	.	250U	.	40U	.	50U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	7050	100	5180	100	7170	100	5940	100	2624	100.1	6164	100.1

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

24

Sampling Point . Location . Date Sampled	GW-382				GW-383							
	NHP				NHP							
	08/08/93		11/04/93		01/26/93		04/22/93		08/07/93		11/03/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	500U	.	500U	.	20U	.	20U	.	40U	.	20U	.
Benzene	250U	.	250U	.	10U	.	10U	.	20U	.	10U	.
Bromoform	250U	.	250U	.	10U	.	10U	.	20U	.	10U	.
2-Butanone	500U	.	500U	.	20U	.	20U	.	40U	.	20U	.
Carbon disulfide	250U	.	250U	.	10U	.	10U	.	20U	.	10U	.
Carbon tetrachloride	6500	92.1	7000	92.6	3	0.6	4	0.7	20U	.	10U	.
Chloroform	330	4.7	220	2.9	10U	.	3	0.5	20U	.	10U	.
Chloromethane	500U	.	500U	.	20U	.	20U	.	40U	.	20U	.
1,1-Dichloroethane	250U	.	250U	.	10U	.	10U	.	20U	.	10U	.
1,2-Dichloroethane	250U	.	250U	.	10U	.	10U	.	20U	.	10U	.
1,1-Dichloroethene	250U	.	250U	.	10U	.	10U	.	20U	.	10U	.
1,2-Dichloroethene	250U	.	250U	.	72	14.5	71	11.7	73	30.3	84	23.9
Ethylbenzene	250U	.	250U	.	10U	.	10U	.	20U	.	10U	.
4-Methyl-2-pentanone	500U	.	500U	.	FP1	.	20U	.	40U	.	20U	.
Methylene chloride	250U	.	80	1.1	10U	.	10U	.	20U	.	10U	.
Styrene	250U	.	250U	.	10U	.	10U	.	20U	.	10U	.
Tetrachloroethene	230	3.3	260	3.4	300	60.6	400	65.8	120	49.8	190	54.1
Toluene	250U	.	250U	.	10U	.	10U	.	20U	.	10U	.
1,1,1-Trichloroethane	250U	.	250U	.	10U	.	10U	.	20U	.	10U	.
Trichloroethene	250U	.	250U	.	120	24.2	130	21.4	48	19.9	77	21.9
Vinyl acetate	500U	.	500U	.	20U	.	20U	.	40U	.	20U	.
Vinyl chloride	500U	.	500U	.	20U	.	20U	.	40U	.	20U	.
Xylenes	250U	.	250U	.	10U	.	10U	.	20U	.	10U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	7060	100.1	7560	100	495	99.9	608	100.1	241	100	351	99.9

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

25

Sampling Point . Location . Date Sampled	GW-384								GW-385			
	NHP								NHP			
	01/13/93		04/20/93		08/04/93		10/28/93		01/12/93		04/19/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
Bromoform	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
Chloromethane	100	.	100	.	100	.	100	.	100	.	100	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	FP3	.	50	.	50	.
Ethylbenzene	50	.	50	.	50	.	50	.	50	.	50	.
4-Methyl-2-pentanone	100	.	FP1	.	100	.	100	.	100	.	100	.
Methylene chloride	50	.	FP2	.	50	.	50	.	FP1	.	50	.
Styrene	50	.	50	.	50	.	50	.	50	.	50	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Toluene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Vinyl acetate	100	.	100	.	100	.	100	.	100	.	100	.
Vinyl chloride	100	.	100	.	100	.	100	.	100	.	100	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

26

Sampling Point . Location . Date Sampled	GW-385				GW-505							
	NHP				RG							
	08/03/93		10/27/93		03/01/93		06/18/93		09/15/93		11/16/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
Bromoform	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
Chloromethane	100	.	100	.	100	.	100	.	100	.	100	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	FP3	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Ethylbenzene	50	.	50	.	50	.	50	.	50	.	50	.
4-Methyl-2-pentanone	100	.	100	.	100	.	100	.	100	.	100	.
Methylene chloride	50	.	50	.	50	.	50	.	50	.	FP1	.
Styrene	50	.	50	.	50	.	50	.	50	.	50	.
Tetrachloroethene	50	.	50	.	50	.	FP3	.	50	.	50	.
Toluene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Vinyl acetate	100	.	100	.	100	.	100	.	100	.	100	.
Vinyl chloride	100	.	100	.	100	.	100	.	100	.	100	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

27

Sampling Point . Location . Date Sampled	GW-508								GW-603			
	RG								EXP			
	03/05/93		06/23/93		09/21/93		11/19/93		01/29/93		05/04/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	25000	.	25000	.	25000	.	25000	.	100	.	100	.
Benzene	9500	15.9	8800	15.2	7600	13	7700	13.9	50	.	50	.
Bromoform	13000	.	13000	.	13000	.	13000	.	50	.	50	.
2-Butanone	25000	.	25000	.	25000	.	25000	.	100	.	100	.
Carbon disulfide	13000	.	13000	.	13000	.	13000	.	50	.	50	.
Carbon tetrachloride	13000	.	13000	.	13000	.	13000	.	50	.	50	.
Chloroform	13000	.	13000	.	13000	.	13000	.	50	.	50	.
Chloromethane	25000	.	25000	.	25000	.	25000	.	100	.	100	.
1,1-Dichloroethane	13000	.	13000	.	13000	.	13000	.	50	.	50	.
1,2-Dichloroethane	13000	.	13000	.	13000	.	13000	.	50	.	50	.
1,1-Dichloroethene	13000	.	13000	.	13000	.	13000	.	50	.	50	.
1,2-Dichloroethene	13000	.	13000	.	13000	.	13000	.	50	.	50	.
Ethylbenzene	3100	5.2	2900	5	2700	4.6	2500	4.5	50	.	50	.
4-Methyl-2-pentanone	25000	.	25000	.	25000	.	25000	.	100	.	100	.
Methylene chloride	13000	.	310	0.5	350	0.6	13000	.	50	.	50	.
Styrene	13000	.	13000	.	13000	.	13000	.	50	.	50	.
Tetrachloroethene	13000	.	13000	.	13000	.	13000	.	50	.	50	.
Toluene	29000	48.7	29000	50	32000	54.6	28000	50.7	50	.	50	.
1,1,1-Trichloroethane	13000	.	13000	.	13000	.	13000	.	50	.	50	.
Trichloroethene	13000	.	13000	.	13000	.	13000	.	50	.	50	.
Vinyl acetate	25000	.	25000	.	25000	.	25000	.	100	.	100	.
Vinyl chloride	25000	.	25000	.	25000	.	25000	.	100	.	100	.
Xylenes	18000	30.2	17000	29.3	16000	27.3	17000	30.8	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	59600	100	58010	100	58650	100.1	55200	99.9	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

28

Sampling Point . Location . Date Sampled	GW-603				GW-604							
	EXP				EXP							
	08/16/93		10/28/93		01/30/93		05/04/93		08/16/93		10/28/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	FP1	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
Bromoform	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	1	100	1	100	1	100
Chloromethane	100	.	100	.	100	.	100	.	100	.	100	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Ethylbenzene	50	.	50	.	50	.	50	.	50	.	50	.
4-Methyl-2-pentanone	100	.	100	.	FP1	.	100	.	100	.	100	.
Methylene chloride	FP1	.	50	.	50	.	50	.	50	.	50	.
Styrene	50	.	50	.	50	.	50	.	50	.	50	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Toluene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Vinyl acetate	100	.	100	.	100	.	100	.	100	.	100	.
Vinyl chloride	100	.	100	.	100	.	100	.	100	.	100	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	1	100	1	100	1	100

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

29

Sampling Point . Location . Date Sampled	GW-605								GW-606			
	EXP								EXP			
	02/02/93		05/10/93		08/19/93		11/10/93		02/03/93		05/10/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	FP2	.	500	.
Benzene	50	.	50	.	50	.	50	.	250	.	250	.
Bromoform	50	.	50	.	50	.	50	.	250	.	250	.
2-Butanone	100	.	100	.	100	.	100	.	500	.	500	.
Carbon disulfide	50	.	50	.	50	.	50	.	250	.	250	.
Carbon tetrachloride	170	67.2	50	55.6	180	63.4	160	61.1	1100	77.1	580	69.9
Chloroform	23	9.1	20	22.2	28	9.9	29	11.1	310	21.7	250	30.1
Chloromethane	100	.	100	.	100	.	100	.	500	.	500	.
1,1-Dichloroethane	3	1.2	50	.	3	1.1	3	1.1	250	.	250	.
1,2-Dichloroethane	50	.	50	.	50	.	50	.	250	.	250	.
1,1-Dichloroethene	2	0.8	50	.	1	0.4	1	0.4	250	.	250	.
1,2-Dichloroethene	22	8.7	10	11.1	30	10.6	30	11.5	250	.	250	.
Ethylbenzene	50	.	50	.	50	.	50	.	250	.	250	.
4-Methyl-2-pentanone	100	.	100	.	100	.	100	.	11	0.8	500	.
Methylene chloride	50	.	50	.	FP1	.	50	.	FP2	.	250	.
Styrene	50	.	50	.	50	.	50	.	250	.	250	.
Tetrachloroethene	25	9.9	7	7.8	32	11.3	30	11.5	6	0.4	250	.
Toluene	50	.	50	.	50	.	50	.	250	.	250	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	250	.	250	.
Trichloroethene	8	3.2	3	3.3	10	3.5	9	3.4	250	.	250	.
Vinyl acetate	100	.	100	.	100	.	100	.	500	.	500	.
Vinyl chloride	100	.	100	.	FP3	.	100	.	500	.	500	.
Xylenes	50	.	50	.	50	.	50	.	250	.	250	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	253	100.1	90	100	284	100.2	262	100.1	1427	100	830	100

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

30

Sampling Point . Location . Date Sampled	GW-606				GW-617							
	EXP				EXP							
	08/20/93		11/11/93		01/12/93		05/04/93		09/16/93		12/07/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	50U	.	50U	.	FP1	.	10U	.	FP3	.	FP1	.
Benzene	25U	.	25U	.	5U	.	5U	.	5U	.	5U	.
Bromoform	25U	.	25U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	50U	.	50U	.	10U	.	10U	.	10U	.	FP1	.
Carbon disulfide	25U	.	25U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	770	74.3	500	66.2	5U	.	5U	.	5U	.	5U	.
Chloroform	250	24.1	250	33.1	5U	.	5U	.	5U	.	5U	.
Chloromethane	50U	.	50U	.	10U	.	10U	.	10U	.	10U	.
1,1-Dichloroethane	25U	.	25U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethane	25U	.	25U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	25U	.	25U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	25U	.	25U	.	4	50	8	100	22	42.3	18	39.1
Ethylbenzene	25U	.	25U	.	5U	.	5U	.	5U	.	5U	.
4-Methyl-2-pentanone	50U	.	50U	.	FP1	.	10U	.	10U	.	FP1	.
Methylene chloride	10	1	FP1	.	5U	.	5U	.	5U	.	FP1	.
Styrene	25U	.	25U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	6	0.6	5	0.7	2	25	5U	.	14	26.9	14	30.4
Toluene	25U	.	25U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	25U	.	25U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	25U	.	25U	.	2	25	5U	.	16	30.8	14	30.4
Vinyl acetate	50U	.	50U	.	10U	.	10U	.	FP3	.	10U	.
Vinyl chloride	50U	.	50U	.	10U	.	10U	.	10U	.	10U	.
Xylenes	25U	.	25U	.	5U	.	5U	.	5U	.	5U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	1036	100	755	100	8	100	8	100	52	100	46	99.9

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

31

Sampling Point . Location . Date Sampled	GW-618								GW-619			
	EXP								FTF			
	01/12/93		05/05/93		09/16/93		12/08/93		01/20/93		05/05/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	FP1	.	10U	.	10U	.	10U	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Bromoform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloromethane	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	41	45.1	34	37.4	39	57.4	36	30	61	25.8	170	34.5
Ethylbenzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
4-Methyl-2-pentanone	FP1	.	10U	.	10U	.	10U	.	10U	.	10U	.
Methylene chloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Styrene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	23	25.3	27	29.7	10	14.7	43	35.8	140	59.3	230	46.7
Toluene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	27	29.7	30	33	19	27.9	41	34.2	35	14.8	93	18.9
Vinyl acetate	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Vinyl chloride	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	91	100.1	91	100.1	68	100	120	100	236	99.9	493	100.1

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

32

Sampling Point . Location . Date Sampled	GW-619				GW-620							
	FTF				FTF							
	09/17/93		12/08/93		01/20/93		05/06/93		09/17/93		12/09/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	40U	.	60	5.8	40U	.	FP1	.
Benzene	5U	.	5U	.	20U	.	25U	.	20U	.	20U	.
Bromoform	5U	.	5U	.	20U	.	25U	.	20U	.	20U	.
2-Butanone	10U	.	10U	.	40U	.	50U	.	40U	.	FP1	.
Carbon disulfide	5U	.	5U	.	20U	.	25U	.	20U	.	20U	.
Carbon tetrachloride	5U	.	5U	.	20U	.	25U	.	20U	.	20U	.
Chloroform	5U	.	5U	.	20U	.	25U	.	20U	.	20U	.
Chloromethane	10U	.	10U	.	40U	.	50U	.	40U	.	40U	.
1,1-Dichloroethane	5U	.	5U	.	20U	.	25U	.	20U	.	20U	.
1,2-Dichloroethane	5U	.	5U	.	20U	.	25U	.	20U	.	20U	.
1,1-Dichloroethene	5U	.	5U	.	20U	.	25U	.	20U	.	20U	.
1,2-Dichloroethene	95	40.8	79	29.2	560	44.1	400	38.5	540	42.9	620	38
Ethylbenzene	5U	.	5U	.	20U	.	25U	.	20U	.	20U	.
4-Methyl-2-pentanone	10U	.	10U	.	40U	.	50U	.	40U	.	FP1	.
Methylene chloride	5U	.	5U	.	FP1	.	25U	.	20U	.	FP1	.
Styrene	5U	.	5U	.	20U	.	25U	.	20U	.	20U	.
Tetrachloroethene	95	40.8	150	55.4	540	42.5	430	41.3	530	42.1	780	47.9
Toluene	5U	.	5U	.	20U	.	25U	.	20U	.	20U	.
1,1,1-Trichloroethane	5U	.	5U	.	20U	.	25U	.	20U	.	20U	.
Trichloroethene	43	18.5	42	15.5	170	13.4	150	14.4	190	15.1	230	14.1
Vinyl acetate	10U	.	10U	.	40U	.	50U	.	40U	.	40U	.
Vinyl chloride	10U	.	10U	.	40U	.	50U	.	40U	.	40U	.
Xylenes	5U	.	5U	.	20U	.	25U	.	20U	.	20U	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	233	100.1	271	100.1	1270	100	1040	100	1260	100.1	1630	100

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

33

Sampling Point . Location . Date Sampled	GW-631								GW-632			
	RG								RG			
	03/02/93		06/18/93		09/16/93		11/17/93		03/03/93		06/21/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	10U	.	500U	.	1000U	.
Benzene	2	28.6	2	25	FP2	.	2	28.6	9900	56.3	9300	55.5
Bromoform	5U	.	5U	.	5U	.	5U	.	250U	.	500U	.
2-Butanone	10U	.	10U	.	FP1	.	10U	.	500U	.	1000U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	250U	.	500U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	250U	.	500U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	250U	.	500U	.
Chloromethane	10U	.	10U	.	10U	.	10U	.	160	0.9	1000U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	250U	.	500U	.
1,2-Dichloroethane	5U	.	5U	.	5U	.	5U	.	250U	.	500U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	250U	.	500U	.
1,2-Dichloroethene	1	14.3	1	12.5	5U	.	5U	.	250U	.	500U	.
Ethylbenzene	5U	.	5U	.	5U	.	5U	.	260	1.5	360	2.1
4-Methyl-2-pentanone	10U	.	10U	.	FP3	.	10U	.	71	0.4	1000U	.
Methylene chloride	5U	.	5U	.	5U	.	5U	.	250U	.	500U	.
Styrene	5U	.	5U	.	5U	.	5U	.	250U	.	500U	.
Tetrachloroethene	4	57.1	5	62.5	4	100	5	71.4	250U	.	500U	.
Toluene	5U	.	5U	.	FP3	.	5U	.	3600	20.5	4100	24.5
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	250U	.	500U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	250U	.	500U	.
Vinyl acetate	10U	.	10U	.	10U	.	10U	.	1000	5.7	1000U	.
Vinyl chloride	10U	.	10U	.	10U	.	10U	.	500U	.	1000U	.
Xylenes	5U	.	5U	.	FP2	.	5U	.	2600	14.8	3000	17.9
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	7	100	8	100	4	100	7	100	17591	100.1	16760	100

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

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Sampling Point . Location . Date Sampled	GW-632				GW-633							
	RG				RG							
	09/16/93		11/18/93		03/03/93		06/21/93		09/20/93		11/19/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	200U	.	10U	.	10U	.	10U	.	10U	.
Benzene	2300	52.5	11000	56.1	6	4.8	8	4.9	10	6	4	8
Bromoform	5U	.	100U	.	2	1.6	5U	.	1	0.6	5U	.
2-Butanone	10U	.	200U	.	10U	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	100U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	100U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	0.5	0	100U	.	24	19.4	28	17.2	27	16.3	6	12
Chloromethane	10U	.	200U	.	10U	.	10U	.	10U	.	10U	.
1,1-Dichloroethane	2	0	100U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethane	5U	.	100U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	100U	.	5U	.	2	1.2	1	0.6	0.8	1.6
1,2-Dichloroethene	15	0.3	100U	.	3	2.4	4	2.5	3	1.8	5U	.
Ethylbenzene	170	3.9	400	2	5U	.	5U	.	FP3	.	5U	.
4-Methyl-2-pentanone	10U	.	200U	.	10U	.	10U	.	10U	.	10U	.
Methylene chloride	5U	.	100U	.	18	14.5	29	17.8	24	14.5	FP1	.
Styrene	5U	.	100U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	2	0	100U	.	60	48.4	74	45.4	78	47	30	60.2
Toluene	690	15.8	4100	20.9	3	2.4	6	3.7	8	4.8	4	8
1,1,1-Trichloroethane	5U	.	100U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	1	0	100U	.	7	5.6	8	4.9	8	4.8	2	4
Vinyl acetate	10U	.	200U	.	10U	.	10U	.	10U	.	10U	.
Vinyl chloride	10U	.	200U	.	10U	.	10U	.	10U	.	10U	.
Xylenes	1200	27.4	4100	20.9	1	0.8	4	2.5	6	3.6	3	6
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	4380.5	99.9	19600	99.9	124	99.9	163	100.1	166	100	49.8	99.8

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

35

Sampling Point . Location . Date Sampled	GW-634								GW-656			
	RG								T0134			
	03/02/93		06/18/93		09/16/93		11/18/93		03/11/93		06/22/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	250U	.	250U	.	10U	.	200U	.	1000U	.	1000U	.
Benzene	430	8.2	380	8.6	270	9.2	310	8.8	500U	.	500U	.
Bromoform	130U	.	130U	.	5U	.	100U	.	500U	.	500U	.
2-Butanone	250U	.	250U	.	10U	.	200U	.	1000U	.	1000U	.
Carbon disulfide	130U	.	130U	.	5U	.	100U	.	500U	.	500U	.
Carbon tetrachloride	130U	.	130U	.	5U	.	100U	.	500U	.	500U	.
Chloroform	130U	.	130U	.	5U	.	100U	.	500U	.	500U	.
Chloromethane	130	2.5	250U	.	10U	.	200U	.	1000U	.	1000U	.
1,1-Dichloroethane	130U	.	130U	.	5U	.	100U	.	500U	.	500U	.
1,2-Dichloroethane	130U	.	130U	.	5U	.	100U	.	500U	.	500U	.
1,1-Dichloroethene	130U	.	130U	.	5U	.	100U	.	1700	13.1	1700	12.9
1,2-Dichloroethene	130U	.	130U	.	2	0.1	100U	.	300	2.3	340	2.6
Ethylbenzene	790	15.1	710	16	550	18.8	680	19.2	500U	.	500U	.
4-Methyl-2-pentanone	250U	.	250U	.	10U	.	200U	.	1000U	.	1000U	.
Methylene chloride	62	1.2	130U	.	5U	.	100U	.	500U	.	500U	.
Styrene	53	1	130U	.	5U	.	100U	.	500U	.	500U	.
Tetrachloroethene	130U	.	130U	.	5U	.	100U	.	500U	.	99	0.8
Toluene	680	13	540	12.2	300	10.3	350	9.9	500U	.	500U	.
1,1,1-Trichloroethane	130U	.	130U	.	5U	.	100U	.	500U	.	500U	.
Trichloroethene	130U	.	130U	.	5U	.	100U	.	11000	84.6	11000	83.7
Vinyl acetate	250U	.	250U	.	10U	.	200U	.	1000U	.	1000U	.
Vinyl chloride	250U	.	250U	.	10U	.	200U	.	1000U	.	1000U	.
Xylenes	3100	59.1	2800	63.2	1800	61.6	2200	62.1	500U	.	500U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	5245	100.1	4430	100	2922	100	3540	100	13000	100	13139	100

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

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Sampling Point . Location . Date Sampled	GW-656				GW-657							
	T0134				T2331							
	09/23/93		11/17/93		03/10/93		06/18/93		09/21/93		11/15/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	1000U	.	1000U	.	10U	.	10U	.	10U	.	10U	.
Benzene	500U	.	500U	.	5U	.	5U	.	5U	.	5U	.
Bromoform	500U	.	500U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	1000U	.	1000U	.	10U	.	10U	.	10U	.	10U	.
Carbon disulfide	500U	.	500U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	500U	.	500U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	500U	.	500U	.	5U	.	5U	.	5U	.	5U	.
Chloromethane	1000U	.	1000U	.	10U	.	10U	.	10U	.	10U	.
1,1-Dichloroethane	500U	.	500U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethane	500U	.	500U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	1500	12.7	1500	14.5	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	230	1.9	250	2.4	5U	.	5U	.	5U	.	5U	.
Ethylbenzene	500U	.	500U	.	5U	.	5U	.	5U	.	5U	.
4-Methyl-2-pentanone	1000U	.	1000U	.	FP1	.	10U	.	10U	.	10U	.
Methylene chloride	500U	.	500U	.	FP1	.	5U	.	5U	.	5U	.
Styrene	500U	.	500U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	81	0.7	500U	.	5U	.	5U	.	5U	.	5U	.
Toluene	500U	.	500U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	500U	.	500U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	10000	84.7	8600	83.1	5U	.	5U	.	5U	.	5U	.
Vinyl acetate	1000U	.	1000U	.	FP3	.	10U	.	10U	.	10U	.
Vinyl chloride	1000U	.	1000U	.	10U	.	10U	.	10U	.	10U	.
Xylenes	500U	.	500U	.	5U	.	5U	.	5U	.	5U	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	11811	100	10350	100	0	.	0	.	0	.	0	.

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APPENDIX J
Validated VOC Results, 1993

37

Sampling Point . Location . Date Sampled	GW-658								GW-659			
	FF								FF			
	03/11/93		06/23/93		11/19/93		09/27/04		03/10/93		06/18/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	1000U	.	1000U	.	500U	.	1000U	.	FP3	.	10U	.
Benzene	10000	41.2	13000	43.3	4800	36	14000	42	11	78.6	27	75
Bromoform	500U	.	500U	.	250U	.	500U	.	5U	.	5U	.
2-Butanone	1000U	.	1000U	.	500U	.	1000U	.	10U	.	10U	.
Carbon disulfide	500U	.	500U	.	250U	.	500U	.	5U	.	5U	.
Carbon tetrachloride	500U	.	500U	.	250U	.	500U	.	5U	.	5U	.
Chloroform	500U	.	500U	.	250U	.	500U	.	5U	.	5U	.
Chloromethane	1000U	.	1000U	.	500U	.	1000U	.	10U	.	10U	.
1,1-Dichloroethane	500U	.	500U	.	250U	.	500U	.	5U	.	5U	.
1,2-Dichloroethane	560	2.3	790	2.6	370	2.8	1000	3	5U	.	5U	.
1,1-Dichloroethene	500U	.	500U	.	250U	.	500U	.	5U	.	5U	.
1,2-Dichloroethene	500U	.	500U	.	250U	.	500U	.	5U	.	5U	.
Ethylbenzene	1100	4.5	1400	4.7	760	5.7	1500	4.5	2	14.3	5U	.
4-Methyl-2-pentanone	1000U	.	1000U	.	500U	.	1000U	.	FP1	.	10U	.
Methylene chloride	120	0.5	500U	.	250U	.	500U	.	FP1	.	5U	.
Styrene	500U	.	500U	.	250U	.	500U	.	5U	.	5U	.
Tetrachloroethene	500U	.	500U	.	250U	.	500U	.	5U	.	5U	.
Toluene	5700	23.5	8400	28	3400	25.5	9300	27.9	5U	.	5U	.
1,1,1-Trichloroethane	500U	.	500U	.	250U	.	500U	.	5U	.	5U	.
Trichloroethene	500U	.	500U	.	250U	.	500U	.	5U	.	5U	.
Vinyl acetate	1000U	.	1000U	.	500U	.	1000U	.	10U	.	10U	.
Vinyl chloride	1000U	.	1000U	.	500U	.	1000U	.	10U	.	10U	.
Xylenes	6800	28	6400	21.3	4000	30	7500	22.5	1	7.1	9	25
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	24280	100	29990	99.9	13330	100	33300	99.9	14	100	36	100

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

38

Sampling Point . Location . Date Sampled	GW-659				GW-707							
	FF				T2331							
	09/22/93		11/15/93		03/11/93		06/23/93		09/27/93		11/18/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	100	.	100	.
Benzene	42	66.7	2	25	50	.	50	.	50	.	50	.
Bromoform	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
Chloromethane	100	.	100	.	100	.	100	.	100	.	100	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Ethylbenzene	4	6.3	50	.	50	.	50	.	50	.	50	.
4-Methyl-2-pentanone	100	.	100	.	100	.	100	.	100	.	100	.
Methylene chloride	50	.	50	.	50	.	50	.	50	.	50	.
Styrene	50	.	50	.	50	.	50	.	50	.	50	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Toluene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	FP3	.	50	.	50	.	50	.
Vinyl acetate	100	.	100	.	100	.	100	.	100	.	100	.
Vinyl chloride	100	.	100	.	100	.	100	.	100	.	100	.
Xylenes	17	27	6	75	50	.	50	.	50	.	50	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	63	100	8	100	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

39

Sampling Point . Location . Date Sampled	GW-708								GW-733			
	T2331								EXP			
	03/10/93		06/18/93		09/21/93		11/12/93		02/02/93		05/06/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	200U	.	200U	.	200U	.	200U	.	10U	.	10U	.
Benzene	870	22.1	1200	26.4	1100	25.3	780	23.1	5U	.	5U	.
Bromoform	100U	.	100U	.	100U	.	100U	.	5U	.	5U	.
2-Butanone	200U	.	200U	.	200U	.	200U	.	10U	.	10U	.
Carbon disulfide	100U	.	100U	.	100U	.	100U	.	5U	.	5U	.
Carbon tetrachloride	100U	.	100U	.	100U	.	100U	.	60	84.6	61	89.7
Chloroform	100U	.	100U	.	100U	.	100U	.	8	11.3	5	7.4
Chloromethane	200U	.	200U	.	200U	.	200U	.	10U	.	10U	.
1,1-Dichloroethane	100U	.	100U	.	100U	.	100U	.	5U	.	5U	.
1,2-Dichloroethane	100U	.	100U	.	100U	.	100U	.	5U	.	5U	.
1,1-Dichloroethene	100U	.	100U	.	100U	.	100U	.	5U	.	5U	.
1,2-Dichloroethene	100U	.	100U	.	100U	.	100U	.	5U	.	5U	.
Ethylbenzene	300	7.6	620	13.7	720	16.6	670	19.8	5U	.	5U	.
4-Methyl-2-pentanone	57	1.4	200U	.	200U	.	200U	.	10U	.	FP1	.
Methylene chloride	63	1.6	100U	.	100U	.	32	0.9	5U	.	FP1	.
Styrene	100U	.	100U	.	100U	.	100U	.	5U	.	5U	.
Tetrachloroethene	100U	.	100U	.	100U	.	100U	.	2	2.8	2	2.9
Toluene	150	3.8	120	2.6	120	2.8	98	2.9	5U	.	5U	.
1,1,1-Trichloroethane	100U	.	100U	.	100U	.	100U	.	5U	.	5U	.
Trichloroethene	100U	.	100U	.	100U	.	100U	.	0.9	1.3	5U	.
Vinyl acetate	200U	.	200U	.	200U	.	200U	.	10U	.	10U	.
Vinyl chloride	200U	.	200U	.	200U	.	200U	.	10U	.	10U	.
Xylenes	2500	63.5	2600	57.3	2400	55.3	1800	53.3	5U	.	5U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	3940	100	4540	100	4340	100	3380	100	70.9	100	68	100

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

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Sampling Point . Location . Date Sampled	GW-733				GW-735							
	EXP				MRP							
	08/18/93		11/04/93		02/02/93		05/07/93		08/18/93		10/29/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
Bromoform	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	72	88.9	87	88.8	50	.	50	.	50	.	50	.
Chloroform	6	7.4	7	7.1	50	.	50	.	50	.	50	.
Chloromethane	100	.	100	.	100	.	100	.	100	.	100	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Ethylbenzene	50	.	50	.	50	.	50	.	50	.	50	.
4-Methyl-2-pentanone	100	.	100	.	100	.	100	.	100	.	100	.
Methylene chloride	FP1	.	FP1	.	50	.	FP3	.	50	.	FP1	.
Styrene	50	.	50	.	50	.	50	.	50	.	50	.
Tetrachloroethene	2	2.5	3	3.1	50	.	50	.	50	.	50	.
Toluene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	1	1.2	1	1	50	.	50	.	50	.	50	.
Vinyl acetate	100	.	100	.	100	.	100	.	100	.	100	.
Vinyl chloride	100	.	100	.	100	.	100	.	100	.	100	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	81	100	98	100	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

41

Sampling Point . Location . Date Sampled	GW-744								GW-745			
	GRIDK1								GRIDK1			
	01/18/93		04/12/93		08/04/93		10/22/93		01/19/93		04/12/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	FP1	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
Bromoform	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	FP1	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
Chloromethane	100	.	100	.	100	.	100	.	100	.	100	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Ethylbenzene	50	.	50	.	50	.	50	.	50	.	50	.
4-Methyl-2-pentanone	100	.	100	.	100	.	100	.	FP1	.	100	.
Methylene chloride	FP3	.	50	.	50	.	FP1	.	3	100	0.9	100
Styrene	50	.	50	.	50	.	50	.	50	.	50	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Toluene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Vinyl acetate	100	.	100	.	100	.	100	.	100	.	100	.
Vinyl chloride	100	.	100	.	100	.	100	.	100	.	100	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	3	100	0.9	100

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

42

Sampling Point . Location . Date Sampled	GW-745				GW-746							
	GRIDK1				GRIDK1							
	08/04/93		10/23/93		01/19/93		04/12/93		08/05/93		10/23/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
Bromoform	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
Chloromethane	100	.	100	.	100	.	100	.	100	.	100	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Ethylbenzene	50	.	50	.	50	.	50	.	50	.	50	.
4-Methyl-2-pentanone	100	.	100	.	100	.	100	.	100	.	100	.
Methylene chloride	50	.	FP1	.	50	.	FP3	.	50	.	FP1	.
Styrene	50	.	50	.	50	.	50	.	50	.	50	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Toluene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Vinyl acetate	100	.	100	.	100	.	100	.	100	.	100	.
Vinyl chloride	100	.	100	.	100	.	100	.	100	.	100	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

43

Sampling Point . Location . Date Sampled	GW-747								GW-748			
	GRIDK2								GRIDK2			
	01/19/93		04/13/93		08/05/93		10/23/93		01/20/93		04/13/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	FP1	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
Bromoform	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
Chloromethane	100	.	100	.	100	.	100	.	100	.	100	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Ethylbenzene	50	.	50	.	50	.	50	.	50	.	50	.
4-Methyl-2-pentanone	FP1	.	100	.	100	.	100	.	FP1	.	100	.
Methylene chloride	50	.	50	.	50	.	FP1	.	50	.	50	.
Styrene	50	.	50	.	50	.	50	.	50	.	50	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Toluene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Vinyl acetate	100	.	100	.	100	.	100	.	100	.	100	.
Vinyl chloride	100	.	100	.	100	.	100	.	100	.	100	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

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Sampling Point . Location . Date Sampled	GW-748				GW-749							
	GRIDK2				GRIDK2							
	08/06/93		10/24/93		01/21/93		04/14/93		08/06/93		10/24/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
Bromoform	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
Chloromethane	100	.	100	.	100	.	100	.	100	.	100	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Ethylbenzene	50	.	50	.	50	.	50	.	50	.	50	.
4-Methyl-2-pentanone	100	.	100	.	100	.	100	.	100	.	100	.
Methylene chloride	50	.	FP1	.	50	.	50	.	50	.	FP1	.
Styrene	50	.	50	.	50	.	50	.	50	.	50	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Toluene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Vinyl acetate	100	.	100	.	100	.	100	.	100	.	100	.
Vinyl chloride	100	.	100	.	100	.	100	.	100	.	100	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

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Sampling Point . Location . Date Sampled	GW-751								GW-752			
	GRIDJ3								GRIDJ3			
	01/11/93		04/16/93		08/02/93		10/26/93		01/11/93		04/16/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	10U	.	FP3	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Bromoform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloromethane	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Ethylbenzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
4-Methyl-2-pentanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Methylene chloride	5U	.	FP3	.	5U	.	5U	.	5U	.	5U	.
Styrene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Toluene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Vinyl acetate	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Vinyl chloride	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

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APPENDIX J
Validated VOC Results, 1993

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Sampling Point . Location . Date Sampled	GW-752				GW-753							
	GRIDJ3				GRIDJ2							
	08/02/93		10/26/93		01/15/93		04/08/93		08/03/93		10/21/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Bromoform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloromethane	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Ethylbenzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
4-Methyl-2-pentanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Methylene chloride	5U	.	5U	.	5U	.	FP3	.	5U	.	5U	.
Styrene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Toluene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Vinyl acetate	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Vinyl chloride	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

47

Sampling Point . Location . Date Sampled	GW-754								GW-755			
	GRIDJ2								GRIDJ1			
	01/18/93		04/08/93		08/04/93		10/22/93		01/14/93		04/07/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	FP1	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Bromoform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	FP1	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloromethane	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Ethylbenzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
4-Methyl-2-pentanone	10U	.	10U	.	10U	.	10U	.	FP1	.	10U	.
Methylene chloride	5U	.	5U	.	5U	.	FP1	.	5U	.	5U	.
Styrene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Toluene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Vinyl acetate	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Vinyl chloride	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

48

Sampling Point . Location . Date Sampled	GW-755				GW-756							
	GRIDJ1				GRIDJ1							
	08/03/93		10/21/93		01/15/93		04/08/93		08/03/93		10/21/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	10U	.	10U	.	FP1	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Bromoform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	10U	.	FP1	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloromethane	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Ethylbenzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
4-Methyl-2-pentanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Methylene chloride	5U	.	5U	.	5U	.	5U	.	5U	.	FP1	.
Styrene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Toluene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Vinyl acetate	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Vinyl chloride	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

49

Sampling Point . Location . Date Sampled	GW-758								GW-762			
	GRIDG1								GRIDJ3			
	01/25/93		04/13/93		09/12/93		11/19/93		02/22/93		04/20/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	FP2	.	10U	.	10U	.	10U	.	100U	.	100U	.
Benzene	5U	.	5U	.	5U	.	5U	.	50U	.	50U	.
Bromoform	5U	.	5U	.	5U	.	5U	.	50U	.	50U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	100U	.	100U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	50U	.	50U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	50U	.	50U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	50U	.	50U	.
Chloromethane	10U	.	10U	.	10U	.	10U	.	100U	.	100U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	50U	.	50U	.
1,2-Dichloroethane	5U	.	5U	.	5U	.	5U	.	50U	.	50U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	12	1.2	50U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	85	8.2	50U	.
Ethylbenzene	5U	.	5U	.	5U	.	5U	.	50U	.	50U	.
4-Methyl-2-pentanone	10U	.	10U	.	10U	.	10U	.	100U	.	24	2.2
Methylene chloride	5U	.	5U	.	FP3	.	5U	.	50U	.	11	1
Styrene	5U	.	5U	.	5U	.	5U	.	50U	.	50U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	900	87	1000	92.5
Toluene	5U	.	5U	.	5U	.	5U	.	50U	.	50U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	50U	.	50U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	38	3.7	46	4.3
Vinyl acetate	10U	.	10U	.	10U	.	10U	.	100U	.	100U	.
Vinyl chloride	10U	.	10U	.	10U	.	10U	.	100U	.	100U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	50U	.	50U	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	1035	100.1	1081	100

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

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Sampling Point . Location . Date Sampled	GW-762				GW-763							
	GRIDJ3				GRIDJ3							
	08/04/93		10/28/93		01/25/93		04/21/93		08/05/93		10/29/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100U	.	100U	.	10U	.	10U	.	10U	.	10U	.
Benzene	50U	.	50U	.	5U	.	5U	.	5U	.	5U	.
Bromoform	50U	.	50U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	100U	.	100U	.	10U	.	10U	.	10U	.	10U	.
Carbon disulfide	50U	.	50U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	50U	.	50U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	50U	.	50U	.	5U	.	5U	.	5U	.	5U	.
Chloromethane	100U	.	100U	.	10U	.	10U	.	10U	.	10U	.
1,1-Dichloroethane	50U	.	50U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethane	50U	.	50U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	50U	.	50U	.	5U	.	5U	.	5U	.	FP3	.
1,2-Dichloroethene	71	7.2	78	7	59	51.8	42	50.6	98	55.4	120	52.9
Ethylbenzene	50U	.	50U	.	5U	.	5U	.	5U	.	5U	.
4-Methyl-2-pentanone	100U	.	100U	.	10U	.	10U	.	10U	.	10U	.
Methylene chloride	50U	.	50U	.	5U	.	5U	.	5U	.	FP1	.
Styrene	50U	.	50U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	920	92.8	1000	89.1	8	7	5	6	27	15.3	41	18.1
Toluene	50U	.	50U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	50U	.	50U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	50U	.	44	3.9	2	1.8	1	1.2	4	2.3	7	3.1
Vinyl acetate	100U	.	100U	.	10U	.	10U	.	10U	.	10U	.
Vinyl chloride	100U	.	100U	.	45	39.5	35	42.2	48	27.1	59	26
Xylenes	50U	.	50U	.	5U	.	5U	.	5U	.	5U	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	991	100	1122	100	114	100.1	83	100	177	100.1	227	100.1

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

51

Sampling Point . Location . Date Sampled	GW-764								GW-765			
	GRIDE1								GRIDE1			
	01/23/93		04/13/93		09/12/93		11/12/93		01/25/93		04/13/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Bromoform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloromethane	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Ethylbenzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
4-Methyl-2-pentanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Methylene chloride	5U	.	FP3	.	5U	.	5U	.	5U	.	5U	.
Styrene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Toluene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Vinyl acetate	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Vinyl chloride	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

52

Sampling Point . Location . Date Sampled	GW-765				GW-766							
	GRID1				GRID2							
	03/12/93		11/19/93		02/01/93		04/15/93		08/03/93		10/13/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	FP1	.	10U	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Bromoform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	FP3	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloromethane	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Ethylbenzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
4-Methyl-2-pentanone	10U	.	10U	.	FP1	.	10U	.	10U	.	10U	.
Methylene chloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Styrene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Toluene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Vinyl acetate	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Vinyl chloride	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

53

Sampling Point . Location . Date Sampled	GW-767								GW-769			
	GRID12								GRIDG3			
	02/02/93		04/15/93		08/04/93		10/13/93		01/27/93		04/19/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	FP1	.	10U	.	10U	.	10U	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Bromoform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	FP1	.	10U	.	10U	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	9	52.9	5	36.2
Chloroform	5U	.	5U	.	5U	.	5U	.	1	5.9	1	7.2
Chloromethane	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	1	5.9	1	7.2
1,2-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	1	5.9	1	7.2
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	FP3	.	5U	.
Ethylbenzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
4-Methyl-2-pentanone	FP1	.	10U	.	10U	.	10U	.	FP1	.	10U	.
Methylene chloride	5U	.	FP1	.	5U	.	5U	.	5U	.	5U	.
Styrene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	4	23.5	4	29
Toluene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	0.8	5.8
Trichloroethene	5U	.	5U	.	5U	.	5U	.	1	5.9	1	7.2
Vinyl acetate	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Vinyl chloride	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	17	100	13.8	99.8

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

54

Sampling Point . Location . Date Sampled	GW-769				GW-770							
	GRIDG3				GRIDG3							
	09/14/93		11/30/93		01/27/93		04/19/93		09/14/93		11/29/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Bromoform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5	48.5	6	63.8	5U	.	5U	.	5U	.	5U	.
Chloroform	0.9	8.7	0.7	7.4	4	100	4	100	5	100	9	100
Chloromethane	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Ethylbenzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
4-Methyl-2-pentanone	10U	.	10U	.	FP1	.	10U	.	10U	.	10U	.
Methylene chloride	5U	.	5U	.	5U	.	5U	.	FP1	.	5U	.
Styrene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	3	29.1	2	21.3	5U	.	5U	.	5U	.	5U	.
Toluene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	0.4	3.9	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	1	9.7	0.7	7.4	5U	.	5U	.	5U	.	5U	.
Vinyl acetate	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Vinyl chloride	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	10.3	99.9	9.4	99.9	4	100	4	100	5	100	9	100

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

55

Sampling Point . Location . Date Sampled	GW-771								GW-772			
	GRIDC1								GRIDC1			
	01/23/93		04/12/93		09/03/93		11/11/93		01/23/93		04/12/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	FP2	.	10U	.	10U	.	10U	.
Benzene	5U	.	5U	.	FP1	.	5U	.	5U	.	5U	.
Bromoform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	FP2	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloromethane	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Ethylbenzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
4-Methyl-2-pentanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Methylene chloride	5U	.	5U	.	5U	.	FP1	.	5U	.	5U	.
Styrene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Toluene	5U	.	5U	.	FP1	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	FP2	.	5U	.	5U	.	5U	.
Vinyl acetate	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Vinyl chloride	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

56

Sampling Point . Location . Date Sampled	GW-772				GW-773							
	GRIDC1				GRIDB2							
	09/12/93		11/12/93		02/03/93		04/20/93		08/06/93		10/15/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
Bromoform	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
Chloromethane	100	.	100	.	100	.	100	.	100	.	100	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Ethylbenzene	50	.	50	.	50	.	50	.	50	.	50	.
4-Methyl-2-pentanone	100	.	100	.	FP1	.	FP1	.	100	.	100	.
Methylene chloride	50	.	FP1	.	FP1	.	50	.	50	.	50	.
Styrene	50	.	50	.	50	.	50	.	50	.	50	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Toluene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Vinyl acetate	100	.	100	.	100	.	100	.	100	.	100	.
Vinyl chloride	100	.	100	.	100	.	100	.	100	.	100	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

57

Sampling Point . Location . Date Sampled	GW-774								GW-775			
	GRID#2								GRID#3			
	02/04/93		04/20/93		08/09/93		10/15/93		02/04/93		04/20/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
Bromoform	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	1	16.7	50	.
Chloromethane	100	.	100	.	100	.	100	.	100	.	100	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Ethylbenzene	50	.	50	.	50	.	50	.	50	.	50	.
4-Methyl-2-pentanone	100	.	FP1	.	100	.	100	.	100	.	FP1	.
Methylene chloride	50	.	50	.	50	.	50	.	50	.	FP3	.
Styrene	50	.	50	.	50	.	50	.	50	.	50	.
Tetrachloroethene	50	.	50	.	50	.	50	.	FP3	.	50	.
Toluene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	5	83.3	3	100
Vinyl acetate	100	.	100	.	100	.	100	.	100	.	100	.
Vinyl chloride	100	.	100	.	100	.	100	.	100	.	100	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	6	100	3	100

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

58

Sampling Point . Location . Date Sampled	GW-775				GW-776							
	GRID#3				GRID#3							
	08/09/93		10/15/93		02/04/93		04/20/93		08/10/93		10/18/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
Bromoform	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	FP3	.	50	.	50	.	50	.	50	.
Chloroform	50	.	0.9	15.3	1	12.5	1	16.7	2	25	2	25
Chloromethane	100	.	100	.	100	.	100	.	100	.	100	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Ethylbenzene	50	.	50	.	50	.	50	.	50	.	50	.
4-Methyl-2-pentanone	100	.	100	.	100	.	FP1	.	100	.	100	.
Methylene chloride	50	.	50	.	50	.	50	.	50	.	50	.
Styrene	50	.	50	.	50	.	50	.	50	.	50	.
Tetrachloroethene	50	.	50	.	3	37.5	2	33.3	2	25	2	25
Toluene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	4	100	5	84.7	4	50	3	50	4	50	4	50
Vinyl acetate	100	.	100	.	100	.	100	.	100	.	100	.
Vinyl chloride	100	.	100	.	100	.	100	.	100	.	100	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	4	100	5.9	100	8	100	6	100	8	100	8	100

APPENDIX K

RADIOCHEMICAL DATA SUMMARY

EXPLANATION

LOCATION:

B4	-	Beta-4 Security Pits
EXP	-	Exit-Pathway Monitoring Well
FF	-	Building 9754-2 Fuel Facility
FTF	-	Fire Training Facility
GRID	-	Comprehensive Groundwater Monitoring Plan Grid Location
NHP	-	New Hope Pond
RG	-	Rust Garage Area
S2	-	S-2 Site
SY	-	Y-12 Salvage Yard
T0134	-	Underground Storage Tank 0134-U
T2331	-	Underground Storage Tank 2331-U
WC	-	Waste Coolant Processing Area

NOTES:

pCi/L	-	picoCuries per Liter
±	-	Counting Error (two standard deviations)
.	-	Not sampled

Mean counting error (e) calculated using the following formula from Evans (1955):

$$e = \sqrt{\frac{E_1^2}{n^2} + \frac{E_2^2}{n^2} + \frac{E_3^2}{n^2} + \dots}$$

where $E_1, E_2, \dots, E_x$ are the individual errors, and n is the number of observations.

APPENDIX K

1

Gross Alpha and Gross Beta Activity Data Summary, 1993

Sampling Point Location	GW-151		GW-168		GW-169		GW-170		GW-183	
	NHP		NHP		EXP		EXP		FF	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	1.74	2.30	2.66	2.10	25.60	6.70	1.63	1.70	-1.84	5.00
Second Quarter	-1.00	2.20	-5.13	3.80	4.76	2.80	-0.90	3.10	0.00	3.70
Third Quarter	0.90	3.60	4.60	2.90	24.30	7.30	-1.76	2.10	3.51	4.40
Fourth Quarter	1.10	1.70	1.44	1.80	72.00	26.00	2.04	1.90	2.09	2.40
Mean	0.69	1.30	0.89	1.40	31.66	7.00	0.25	1.10	0.94	2.00
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	-5.22	3.40	1.89	2.80	29.60	7.00	1.19	2.80	4.88	5.70
Second Quarter	4.27	2.80	-1.68	5.60	6.16	3.20	-2.14	5.40	4.01	5.40
Third Quarter	2.97	5.10	5.57	3.00	32.40	7.10	2.25	2.80	3.97	5.60
Fourth Quarter	1.38	2.90	2.16	3.00	65.50	32.00	2.93	3.00	0.51	2.70
Mean	0.85	1.80	1.98	1.90	33.42	8.40	1.06	1.80	3.34	2.50

(CONTINUED)

Sampling Point Location	GW-190		GW-191		GW-192		GW-193		GW-194	
	RG		B4		B4		T2331		B4	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	0.30	1.30	0.00	2.20	-0.21	2.10	7.40	3.80	27.20	5.10
Second Quarter	-2.54	1300.00	28.00	13.00	0.26	2.10	15.20	3.80	2.29	2.30
Third Quarter	2.33	1.90	-0.00	2.60	-1.09	2.40	19.00	5.10	-1.66	2.00
Fourth Quarter	2.51	1.40	3.32	1.80	0.37	1.10	42.10	5.80	6.06	2.30
Mean	0.65	325.00	7.83	3.40	-0.17	1.00	20.92	2.40	8.47	1.60
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	0.66	3.10	1.89	2.90	2.58	2.90	11.80	3.70	30.30	4.20
Second Quarter	-4.67	2500.00	80.60	15.00	5.56	2.90	15.20	3.50	14.00	3.30
Third Quarter	-0.34	2.60	-5.31	5.60	-8.53	5.40	24.90	4.30	-9.04	5.50
Fourth Quarter	3.86	2.60	3.42	2.60	2.95	2.50	41.60	4.60	11.00	3.20
Mean	-0.12	625.00	20.15	4.10	0.64	1.80	23.37	2.00	11.57	2.10

(CONTINUED)

APPENDIX K

3

Gross Alpha and Gross Beta Activity Data Summary, 1993

Sampling Point Location	GW-251		GW-252		GW-255		GW-261		GW-262	
	S2		S2		S2		SY		SY	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	19.20	6.00	0.00	1.60	0.58	2.20	-0.84	1.70	2.99	2.50
Second Quarter	5.94	2.40	5.58	1.40	4.72	2.10	-0.31	3.60	1.17	2.10
Third Quarter	22.20	4.30	0.63	1.70	3.99	2.20	-2.96	3.50	-2.17	3.80
Fourth Quarter	9.11	2.80	-0.31	0.60	2.60	2.10	-0.71	1.30	1.62	1.90
Mean	14.11	2.10	1.48	0.70	2.97	1.10	-1.20	1.40	0.90	1.30
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	19.40	6.50	-1.10	2.60	3.46	3.00	1.22	2.80	2.38	2.90
Second Quarter	12.60	2.70	-0.34	1.40	0.46	2.90	7.12	5.10	13.90	3.40
Third Quarter	11.50	3.30	2.41	2.80	3.54	2.80	-2.47	5.50	-3.15	5.50
Fourth Quarter	4.19	2.70	0.08	2.40	6.91	2.90	2.45	2.60	4.64	2.70
Mean	11.92	2.10	0.26	1.20	3.59	1.50	2.08	2.10	4.44	1.90

(CONTINUED)

Sampling Point Location	GW-263		GW-264		GW-281		GW-283		GW-284	
	SY		SY		FF		FF		FF	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	8.00	3.00	-1.03	3.60	1.74	2.10	1.13	2.00	3.43	4.20
Second Quarter	0.00	2.00	-2.18	3.10	6.20	2.00	6.65	2.00	1.37	0.86
Third Quarter	-4.25	3.30	-0.39	2.80	1.75	9.30	-1.01	3.60	3.81	5.80
Fourth Quarter	-0.01	1.60	1.35	1.60	3.11	2.00	0.37	1.80	3.20	2.50
Mean	0.94	1.30	-0.56	1.40	3.20	2.50	1.78	1.20	2.95	1.90
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	13.90	3.50	2.26	3.00	2.70	3.00	3.74	4.30	4.15	3.20
Second Quarter	39.10	4.50	3.54	3.00	9.88	2.70	3.97	1.50	2.98	1.30
Third Quarter	-3.47	5.50	-4.87	5.50	5.12	12.00	4.20	5.30	2.27	5.90
Fourth Quarter	3.22	2.60	1.80	2.50	4.89	2.80	4.16	2.80	2.66	2.80
Mean	13.19	2.10	0.68	1.90	5.65	3.20	4.02	1.90	3.01	1.80

(CONTINUED)

APPENDIX K

4

Gross Alpha and Gross Beta Activity Data Summary, 1993

Sampling Point Location	GW-285		GW-337		GW-338		GW-380		GW-381	
	FF		WC		WC		NHP		NHP	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	3.89	2.60	13.50	5.20	-0.21	2.20	1.79	3.70	1.32	2.30
Second Quarter	3.02	1.30	-0.17	0.76	-0.55	1.00	-0.25	3.00	1.17	2.20
Third Quarter	0.88	4.70	-0.16	1.50	-1.18	3.40	-3.32	2.80	1.52	3.50
Fourth Quarter	3.85	2.20	1.28	1.50	-0.56	1.40	0.51	2.10	1.80	1.90
Mean	2.91	1.50	3.61	1.40	-0.62	1.10	-0.32	1.50	1.45	1.30
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	7.05	3.20	19.30	6.50	0.54	2.80	-6.25	3.60	3.56	3.00
Second Quarter	2.11	1.40	1.49	1.20	-1.87	1.50	3.01	2.80	4.00	2.70
Third Quarter	-0.34	5.70	1.21	2.70	0.51	5.30	2.31	5.10	3.47	5.50
Fourth Quarter	4.50	2.80	2.57	2.50	1.88	2.50	5.13	2.90	0.00	2.80
Mean	3.33	1.80	6.14	1.90	0.26	1.70	1.05	1.90	2.76	1.80

(CONTINUED)

Sampling Point Location	GW-382		GW-383		GW-384		GW-385		GW-505	
	NHP		NHP		NHP		NHP		RG	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	0.87	1.80	0.88	2.10	0.00	2.00	0.22	2.40	16.40	3.50
Second Quarter	0.31	1.90	-0.65	1.80	1.96	1.40	0.74	1.10	16.20	9.00
Third Quarter	0.30	3.20	-1.52	2.90	-4.58	4.10	-4.90	4.70	10.80	2.90
Fourth Quarter	0.46	1.60	0.16	1.60	2.60	2.30	1.94	2.00	18.90	4.30
Mean	0.48	1.10	-0.28	1.10	-0.00	1.30	-0.50	1.40	15.58	2.70
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	3.12	2.90	-8.53	3.30	2.40	2.80	1.04	2.90	12.30	3.70
Second Quarter	2.06	2.60	4.85	2.80	2.88	1.40	-0.17	1.30	9.84	11.00
Third Quarter	-0.33	5.20	-2.48	5.10	-1.55	5.60	-4.18	6.10	4.71	2.90
Fourth Quarter	-2.58	2.60	3.54	3.00	6.84	3.00	2.56	2.80	16.90	3.60
Mean	0.57	1.70	-0.65	1.80	2.64	1.80	-0.19	1.90	10.94	3.10

(CONTINUED)

APPENDIX K

5

Gross Alpha and Gross Beta Activity Data Summary, 1993

Sampling Point	GW-508		GW-603		GW-604		GW-605		GW-606	
Location	RG		EXP		EXP		EXP		EXP	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	0.29	2.90	2.37	1.90	0.18	1.90	53.40	6.70	4.22	1.90
Second Quarter	0.62	1.70	1.77	2.00	-0.00	0.87	61.40	10.00	4.93	5.10
Third Quarter	2.08	3.90	0.00	2.20	-1.42	1.80	29.00	5.00	1.13	2.50
Fourth Quarter	1.78	1.20	4.94	2.20	0.75	1.90	83.00	12.00	6.31	2.80
Mean	1.19	1.30	2.27	1.00	-0.12	0.80	56.70	4.40	4.15	1.70
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	4.27	5.40	7.61	3.10	5.16	2.80	43.40	4.80	6.37	4.10
Second Quarter	4.13	2.80	4.85	3.00	-2.92	1.40	51.40	8.20	1.84	5.80
Third Quarter	5.30	5.60	8.43	2.90	4.05	2.60	27.40	4.00	5.09	3.00
Fourth Quarter	4.28	2.60	7.16	3.00	0.91	2.60	58.10	7.70	0.26	3.10
Mean	4.49	2.20	7.01	1.50	1.80	1.20	45.07	3.20	3.39	2.10

(CONTINUED)

Sampling Point	GW-617		GW-618		GW-619		GW-620		GW-631	
Location	EXP		EXP		FTF		FTF		RG	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	0.45	1.70	-1.11	2.20	2.61	1.90	1.01	1.50	1.78	1.60
Second Quarter	0.61	0.69	-1.40	0.93	-0.67	0.80	0.16	0.82	4.56	3.90
Third Quarter	1.02	1.60	0.83	1.80	3.06	2.00	-0.45	1.40	0.90	1.60
Fourth Quarter	0.80	1.10	0.70	1.10	0.63	1.00	0.16	0.94	0.79	0.85
Mean	0.72	0.70	-0.25	0.80	1.41	0.80	0.22	0.60	2.01	1.10
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	3.79	2.90	4.60	3.10	14.80	3.50	10.20	3.20	8.65	3.50
Second Quarter	-4.01	1.40	-1.19	1.50	14.30	1.80	8.51	1.40	3.27	5.30
Third Quarter	4.52	2.90	2.17	2.80	15.00	3.50	7.28	3.00	3.08	2.80
Fourth Quarter	1.27	2.50	3.21	2.60	14.80	3.60	20.10	4.00	2.47	2.50
Mean	1.39	1.30	2.20	1.30	14.73	1.60	11.52	1.50	4.37	1.80

(CONTINUED)

APPENDIX K

6

Gross Alpha and Gross Beta Activity Data Summary, 1993

Sampling Point	GW-632		GW-633		GW-634		GW-656		GW-657	
Location	RG		RG		RG		T0134		T2331	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	0.57	2.90	13.50	9.70	2.11	1.60	0.33	2.10	0.94	3.80
Second Quarter	0.88	3.50	14.30	43.00	2.26	3.60	0.93	3.20	0.61	3.60
Third Quarter	4.31	2.30	-44.40	170.00	0.71	1.50	-1.25	3.00	-1.83	3.30
Fourth Quarter	1.30	1.00	2.85	1.80	0.44	0.67	5.63	2.90	2.39	2.20
Mean	1.77	1.30	-3.44	43.90	1.38	1.10	1.41	1.40	0.53	1.60
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	-0.98	5.00	75.60	9.30	11.40	3.60	2.59	3.10	6.64	5.60
Second Quarter	2.63	5.20	364.00	72.00	5.40	5.40	4.30	5.30	4.80	5.40
Third Quarter	5.62	3.00	581.00	300.00	1.36	2.70	4.30	3.30	4.46	5.60
Fourth Quarter	3.97	2.60	43.80	6.20	3.08	2.60	8.02	3.20	4.99	2.90
Mean	2.81	2.10	266.10	77.20	5.31	1.90	4.80	1.90	5.22	2.50

(CONTINUED)

Sampling Point	GW-658		GW-659		GW-707		GW-708		GW-733	
Location	FF		FF		T2331		T2331		EXP	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	1.36	4.40	3.74	6.10	2.76	2.40	-1.96	3.50	0.64	1.80
Second Quarter	1.00	1.80	10.70	8.80	3.66	2.50	0.32	3.70	-0.96	0.64
Third Quarter	-1.00	2.80	-1.47	3.30	-0.69	3.00	-2.15	3.30	1.22	2.40
Fourth Quarter	4.04	2.50	4.55	4.00	1.89	2.10	0.34	2.10	1.06	1.70
Mean	1.35	1.50	4.38	3.00	1.91	1.30	-0.86	1.60	0.49	0.90
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	1.01	6.00	16.40	6.40	3.92	3.20	4.01	5.40	4.49	3.00
Second Quarter	2.43	2.70	25.30	12.00	8.15	3.10	10.70	5.80	0.23	1.20
Third Quarter	-1.56	3.00	2.90	5.40	6.81	3.40	6.19	5.70	4.96	3.00
Fourth Quarter	4.42	2.90	12.40	5.90	5.82	3.00	7.75	3.10	-0.69	2.80
Mean	1.58	1.90	14.25	3.90	6.17	1.60	7.16	2.60	2.25	1.30

(CONTINUED)

APPENDIX K

7

Gross Alpha and Gross Beta Activity Data Summary, 1993

Sampling Point Location	GW-735		GW-744		GW-745		GW-746		GW-747	
	NHP		GRIDK1		GRIDK1		GRIDK1		GRIDK2	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	0.20	2.20	2.98	2.30	-0.17	1.80	0.29	1.60	-1.25	1.60
Second Quarter	-1.03	0.68	1.29	1.80	0.18	1.50	0.72	1.30	0.20	1.70
Third Quarter	-0.83	2.30	-3.64	4.20	-2.48	4.50	4.67	4.00	-0.90	3.20
Fourth Quarter	1.98	2.30	0.48	2.00	0.32	1.90	0.00	1.80	0.48	2.00
Mean	0.08	1.00	0.28	1.40	-0.54	1.40	1.42	1.20	-0.37	1.10
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	6.35	3.20	6.41	3.00	2.02	2.80	0.82	2.60	1.18	2.70
Second Quarter	3.15	1.30	3.74	2.70	3.30	2.60	2.87	2.50	4.46	2.70
Third Quarter	2.51	2.80	1.20	5.80	-1.38	5.60	2.79	5.10	9.74	5.50
Fourth Quarter	4.10	2.90	0.50	2.80	1.75	2.90	1.40	2.80	-0.33	2.80
Mean	4.03	1.30	2.96	1.90	1.42	1.80	1.97	1.70	3.76	1.80

(CONTINUED)

Sampling Point Location	GW-748		GW-749		GW-750		GW-751		GW-752	
	GRIDK2		GRIDK2		GRIDK2		GRIDJ3		GRIDJ3	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	1.40	2.40	0.19	2.10	-1.31	1.70	0.71	2.10	-0.72	1.40
Second Quarter	5.69	3.80	1.57	0.94	-0.80	0.79	-0.61	0.60	-0.18	0.57
Third Quarter	-1.20	2.90	1.61	3.70	-0.60	3.10	-1.47	4.60	1.72	4.90
Fourth Quarter	0.32	2.00	0.54	2.50	1.25	1.50	2.44	1.70	0.88	1.40
Mean	1.55	1.40	0.98	1.30	-0.36	1.00	0.27	1.30	0.43	1.30
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	4.29	3.00	5.12	3.00	4.42	2.90	1.49	2.80	3.44	2.90
Second Quarter	13.70	5.60	3.76	1.40	0.70	1.30	1.82	1.30	0.31	1.20
Third Quarter	0.33	5.30	1.50	5.40	5.44	5.60	-6.08	5.90	-0.49	6.20
Fourth Quarter	0.58	2.80	-0.88	3.10	1.99	2.70	1.98	2.70	0.58	2.60
Mean	4.73	2.20	2.38	1.80	3.14	1.70	-0.20	1.80	0.96	1.90

(CONTINUED)

APPENDIX K

8

Gross Alpha and Gross Beta Activity Data Summary, 1993

Sampling Point Location	GW-753		GW-754		GW-755		GW-756		GW-758	
	GRIDJ2		GRIDJ2		GRIDJ1		GRIDJ1		GRIDG1	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	0.85	1.90	2.38	2.00	-1.00	1.50	18.30	6.70	0.54	2.10
Second Quarter	-0.78	1.80	3.14	2.10	-1.34	3.80	2.40	3.40	0.81	1.00
Third Quarter	-4.46	4.20	-2.30	4.10	-3.68	4.50	-1.17	4.60	-1.70	3.80
Fourth Quarter	1.69	2.10	0.75	1.90	1.51	2.20	1.73	2.20	-0.53	1.40
Mean	-0.68	1.30	0.99	1.30	-1.13	1.60	5.31	2.30	-0.22	1.20
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	2.77	2.80	6.90	3.00	0.33	2.70	38.60	7.50	-8.12	3.30
Second Quarter	3.34	2.90	6.15	3.00	5.53	5.00	7.92	5.60	1.31	1.30
Third Quarter	-8.57	5.80	-2.38	5.50	-8.94	5.80	-3.78	6.00	1.74	5.80
Fourth Quarter	0.41	2.80	0.91	2.80	1.34	2.90	6.32	3.10	-5.33	2.90
Mean	-0.51	1.90	2.89	1.90	-0.43	2.20	12.26	2.90	-2.60	1.80

(CONTINUED)

Sampling Point Location	GW-759		GW-760		GW-761		GW-762		GW-763	
	GRIDG1		GRIDG2		GRIDG2		GRIDJ3		GRIDJ3	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	2.94	2.40	-0.20	1.80	3.34	2.10	-0.60	1.90	1.51	2.70
Second Quarter	-1.82	0.67	4.53	1.40	1.41	0.79	-0.48	0.96	-3.42	3.50
Third Quarter	8.50	9.20	-2.60	4.00	0.59	3.60	-3.28	4.20	2.81	4.00
Fourth Quarter	-1.23	1.30	-1.15	1.30	0.33	1.50	-1.13	1.70	3.94	2.50
Mean	2.10	2.40	0.15	1.20	1.42	1.10	-1.37	1.30	1.21	1.60
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	5.99	3.10	-1.97	2.70	2.83	2.90	6.09	2.90	-4.15	3.60
Second Quarter	-2.19	1.20	1.30	1.30	1.17	1.30	4.68	1.40	1.40	2.70
Third Quarter	15.30	12.00	-1.23	5.70	-0.51	5.50	1.54	5.80	3.32	5.20
Fourth Quarter	-5.17	2.90	1.18	2.50	5.26	2.80	2.42	2.70	4.10	2.90
Mean	3.48	3.20	-0.18	1.70	2.19	1.70	3.68	1.80	1.17	1.90

(CONTINUED)

APPENDIX K

9

Gross Alpha and Gross Beta Activity Data Summary, 1993

Sampling Point Location	GW-764		GW-765		GW-766		GW-767		GW-768	
	GRIDE1		GRIDE1		GRIDI2		GRIDI2		GRIDI1	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	-0.35	1.90	4.93	4.80	-0.69	1.60	1.56	1.80	2.57	1.80
Second Quarter	2.34	2.10	-0.19	0.80	-0.53	0.72	1.82	0.70	-2.54	3.40
Third Quarter	2.55	4.20	17.50	10.00	-2.30	4.40	-2.23	4.00	-3.38	4.30
Fourth Quarter	-0.89	1.40	-0.36	1.50	3.97	2.10	2.56	1.80	2.22	2.00
Mean	0.91	1.30	5.47	2.80	0.11	1.30	0.93	1.20	-0.28	1.50
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	-5.49	3.40	4.90	7.60	6.32	2.90	3.11	2.90	5.57	3.00
Second Quarter	8.72	3.00	0.22	1.20	3.45	1.30	0.65	1.30	6.82	5.10
Third Quarter	2.07	5.70	6.93	12.00	-6.88	5.80	-2.37	5.50	0.52	5.70
Fourth Quarter	-4.76	2.90	-5.15	2.90	5.21	2.80	4.34	2.80	5.63	2.90
Mean	0.13	2.00	1.73	3.60	2.02	1.80	1.43	1.70	4.63	2.20

(CONTINUED)

Sampling Point Location	GW-769		GW-770		GW-771		GW-772		GW-773	
	GRIDG3		GRIDG3		GRIDC1		GRIDC1		GRIDH2	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	0.59	2.00	2.28	2.10	-0.19	2.10	0.31	1.80	0.47	1.30
Second Quarter	-0.46	0.91	3.96	1.30	0.57	2.00	-0.32	1.50	-0.83	0.77
Third Quarter	-0.96	3.70	1.23	1.70	1.59	4.10	-0.61	3.60	-2.03	2.90
Fourth Quarter	-0.90	1.30	-0.52	1.30	-0.86	1.30	-0.86	1.30	0.00	2.10
Mean	-0.43	1.10	1.74	0.80	0.28	1.30	-0.37	1.10	-0.60	1.00
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	2.40	2.90	3.54	3.00	-6.80	3.40	-9.29	3.20	2.74	4.10
Second Quarter	1.05	1.30	3.54	1.40	3.92	2.90	-0.58	2.60	0.80	1.30
Third Quarter	-2.77	5.40	3.35	2.80	-0.86	5.60	-0.69	5.50	1.15	5.00
Fourth Quarter	1.89	2.50	3.26	2.60	-5.91	2.90	-2.17	3.00	-1.21	3.00
Mean	0.64	1.70	3.42	1.30	-2.41	1.90	-3.18	1.90	0.87	1.80

(CONTINUED)

APPENDIX K

10

Gross Alpha and Gross Beta Activity Data Summary, 1993

Sampling Point Location	GW-774		GW-775		GW-776	
	GRIDH2		GRIDH3		GRIDH3	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.
	.	.	.	.	.	.
First Quarter	1.22	1.60	1.10	1.40	0.37	1.50
Second Quarter	-0.21	0.86	0.22	0.96	-0.83	3.20
Third Quarter	0.00	3.10	-0.30	3.10	1.81	3.50
Fourth Quarter	-0.79	2.00	0.32	2.20	-0.17	2.20
.	.	.	.	.	.	.
Mean	0.05	1.00	0.34	1.00	0.30	1.40
	.	.	.	.	.	.
GROSS BETA	.	.	.	.	.	.
	.	.	.	.	.	.
First Quarter	-2.95	3.90	-1.66	3.90	-2.89	3.90
Second Quarter	-0.41	1.30	3.32	1.40	5.88	3.00
Third Quarter	-0.99	5.20	0.49	5.30	-1.98	5.20
Fourth Quarter	-1.21	3.00	0.26	3.10	1.30	3.20
.	.	.	.	.	.	.
Mean	-1.39	1.80	0.60	1.90	0.58	2.00

APPENDIX L

ANNUAL AVERAGE NITRATE (as N) CONCENTRATIONS

EXPLANATION

LOCATION:

B4	-	Beta-4 Security Pits
EXP	-	Exit-Pathway Monitoring Well
FF	-	Building 9754-2 Fuel Facility
FTF	-	Fire Training Facility
GRID	-	Comprehensive Groundwater Monitoring Plan Grid Location
NHP	-	New Hope Pond
RG	-	Rust Garage Area
S2	-	S-2 Site
SY	-	Y-12 Salvage Yard
T0134	-	Underground Storage Tank 0134-U
T2331	-	Underground Storage Tank 2331-U
WC	-	Waste Coolant Processing Area

NOTES:

All concentrations reported as nitrate (as N) in milligrams per Liter (mg/L).

Results reported as less than the detection limit were not used to calculate mean concentrations.

ND	-	Not detected, annual average
.	-	Not sampled
<	-	Not detected at the minimum attainable detection limit.

APPENDIX L
Annual Average Nitrate Concentrations, 1993

Sampling Point	Location	1993 Average	Quarterly Concentration (mg/L)			
			First	Second	Third	Fourth
GW-151	NHP	0.87	0.7	0.86	0.92	1
GW-168	NHP	0.46	0.51	0.42	0.41	0.5
GW-169	EXP	0.88	1.1	0.79	0.71	0.91
GW-170	EXP	0.83	0.79	0.66	0.76	1.1
GW-183	FF	ND	<0.2	<0.2	<0.2	<0.2
GW-190	RG	0.26	<0.2	<0.2	0.26	<0.2
GW-191	B4	ND	<0.2	<0.2	<0.2	<0.2
GW-192	B4	ND	<0.2	<0.2	<0.2	<0.2
GW-193	T2331	1.3	<0.2	<0.2	1.3	<0.2
GW-194	B4	ND	<0.2	<0.2	<0.2	<0.2
GW-195	B4	0.3	<0.2	<0.2	<0.2	0.3
GW-199	GRID11	0.3	0.3	0.23	0.25	0.4
GW-204	T0134	0.27	<0.2	<0.2	0.26	0.28
GW-206	EXP	ND	<0.2	<0.2	<0.2	<0.2
GW-207	EXP	ND	<0.2	<0.2	<0.2	<0.2
GW-208	EXP	ND	<0.2	<0.2	<0.2	<0.2
GW-220	NHP	0.7	0.43	0.78	0.85	0.72
GW-232	EXP	ND	<0.2	<0.2	<0.2	<0.2
GW-239	NHP	ND	<0.2	<0.2	<0.2	<0.2
GW-240	NHP	2.11	1.1	0.85	2.5	4
GW-251	S2	112.98	82	83	244	42.9
GW-252	S2	1.09	0.47	0.87	2.5	0.5
GW-255	S2	2.18	1.6	2.2	1.8	3.1
GW-261	SY	ND	<0.2	<0.2	<0.2	<0.2
GW-262	SY	ND	<0.2	<0.2	<0.2	<0.2
GW-263	SY	0.45	0.52	0.39	0.27	0.6
GW-264	SY	ND	<0.2	<0.2	<0.2	<0.2
GW-281	FF	0.45	<0.2	0.44	0.45	<0.2
GW-283	FF	ND	<0.2	<0.2	<0.2	<0.2
GW-284	FF	ND	<0.2	<0.2	<0.2	<0.2
GW-285	FF	0.44	0.58	0.3	<0.2	<0.2
GW-337	WC	ND	<0.2	<0.2	<0.2	<0.2
GW-338	WC	0.46	0.51	0.41	0.31	0.6
GW-380	NHP	1.98	1.4	1.1	1.8	3.6
GW-381	NHP	0.34	<0.2	0.34	<0.2	<0.2
GW-382	NHP	2.98	2.8	2.08	3.45	3.6
GW-383	NHP	ND	<0.2	<0.2	<0.2	<0.2
GW-384	NHP	ND	<0.2	<0.2	<0.2	<0.2
GW-385	NHP	ND	<0.2	<0.2	<0.2	<0.2
GW-505	RG	1.13	1.2	1.4	1	0.93
GW-508	RG	ND	<0.2	<0.2	<0.2	<0.2
GW-603	EXP	0.78	0.73	0.69	0.8	0.9
GW-604	EXP	0.52	0.62	0.45	0.5	0.5
GW-605	EXP	0.32	<0.2	0.38	<0.2	0.25
GW-606	EXP	0.8	0.73	0.87	0.64	0.95

APPENDIX L
Annual Average Nitrate Concentrations, 1993

Sampling Point	Location	1993 Average	Quarterly Concentration (mg/L)			
			First	Second	Third	Fourth
GW-617	EXP	1.3	2.4	1.5	0.51	0.8
GW-618	EXP	1.43	1.2	1.6	1.8	1.11
GW-619	FTF	0.99	0.71	0.49	2	0.77
GW-620	FTF	1.65	1.9	1.3	1.1	2.31
GW-631	RG	5.58	2.8	14	1.1	4.4
GW-632	RG	12.05	11	11	13.9	12.3
GW-633	RG	3629	3874	4300	5501	841
GW-634	RG	ND	<0.2	<0.2	<0.2	<0.2
GW-656	T0134	0.33	<0.2	0.33	<0.2	<0.2
GW-657	T2331	0.26	<0.2	<0.2	<0.2	0.26
GW-658	FF	ND	<0.2	<0.2	<0.2	<0.2
GW-659	FF	0.33	<2.26	<0.2	<0.2	0.33
GW-707	T2331	0.28	0.31	<0.2	0.23	0.3
GW-708	T2331	ND	<0.2	<0.2	<0.2	<0.2
GW-733	EXP	0.2	<0.2	<0.2	<0.2	0.2
GW-735	NHP	ND	<0.2	<0.2	<0.2	<0.2
GW-744	GRIDK1	ND	<0.2	<0.2	<0.2	<0.2
GW-745	GRIDK1	ND	<0.2	<0.2	<0.2	<0.2
GW-746	GRIDK1	0.49	0.61	0.46	0.5	0.4
GW-747	GRIDK2	ND	<0.2	<0.2	<0.2	<0.2
GW-748	GRIDK2	ND	<0.2	<0.2	<0.2	<0.2
GW-749	GRIDK2	3.78	0.45	<0.2	7.1	<0.2
GW-750	GRIDK2	ND	<0.2	<0.2	<0.2	<0.2
GW-751	GRIDJ3	ND	<0.2	<0.2	<0.2	<0.2
GW-752	GRIDJ3	ND	<0.2	<0.2	<0.2	<0.2
GW-753	GRIDJ2	ND	<0.2	<0.2	<0.2	<0.2
GW-754	GRIDJ2	ND	<0.2	<0.2	<0.2	<0.2
GW-755	GRIDJ1	ND	<0.2	<0.2	<0.2	<0.2
GW-756	GRIDJ1	ND	<0.2	<0.2	<0.2	<0.2
GW-758	GRIDG1	ND	<0.2	<0.2	<0.2	<0.2
GW-759	GRIDG1	ND	<0.2	<0.2	<0.2	<0.2
GW-760	GRIDG2	0.44	0.38	0.54	<0.2	0.4
GW-761	GRIDG2	0.23	<0.2	0.26	<0.2	0.2
GW-762	GRIDJ3	ND	<0.2	<0.2	<0.2	<0.2
GW-763	GRIDJ3	ND	<0.2	<0.2	<0.2	<0.2
GW-764	GRIDE1	ND	<0.2	<0.2	<0.2	<0.2
GW-765	GRIDE1	ND	<0.2	<0.2	<0.2	<0.2
GW-766	GRIDI2	ND	<0.2	<0.2	<0.2	<0.2
GW-767	GRIDI2	0.25	<0.2	<0.2	0.25	<0.2
GW-768	GRIDI1	ND	<0.2	<0.2	<0.2	<0.2
GW-769	GRIDG3	0.25	<0.2	<0.2	0.25	<0.2
GW-770	GRIDG3	0.59	0.46	0.51	0.77	0.6
GW-771	GRIDC1	ND	<0.2	<0.2	<0.2	<0.2
GW-772	GRIDC1	ND	<0.2	<0.2	<0.2	<0.2
GW-773	GRIDH2	ND	<0.2	<0.2	<0.2	<0.2

APPENDIX L
Annual Average Nitrate Concentrations, 1993

Sampling Point	Location	1993 Average	Quarterly Concentration (mg/L)			
			First	Second	Third	Fourth
GW-774	GRIDH2	ND	<0.2	<0.2	<0.2	<0.2
GW-775	GRIDH3	0.39	0.35	0.36	0.44	0.4
GW-776	GRIDH3	1.23	1.1	1.11	1.3	1.4

APPENDIX M
GROUNDWATER ELEVATIONS

EXPLANATION

LOCATION:

B4	-	Beta-4 Security Pits
EXP	-	Exit-Pathway Monitoring Well
FF	-	Building 9754-2 Fuel Facility
FTF	-	Fire Training Facility
GRID	-	Comprehensive Groundwater Monitoring Plan Grid Location
NHP	-	New Hope Pond
RDS	-	Ravine Disposal Site
RG	-	Rust Garage Area
S2	-	S-2 Site
SY	-	Y-12 Salvage Yard
T0134	-	Underground Storage Tank 0134-U
T2331	-	Underground Storage Tank 2331-U
UOV	-	Uranium Oxide Vault
WC	-	Waste Coolant Processing Area
Y12	-	Y-12 Plant

SAMPLED IN 93:

Y	-	Wells included in the 1993 groundwater monitoring program.
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NOTES:

CTP Elev.	-	The elevation of the centerpoint of the monitored interval.
January	-	Measuring event from January 10 to 14, 1993.
August	-	Measuring event from August 31 to September 3, 1993.
Depth	-	The distance in ft from the top-of-casing measuring point to the static water level.
Elev.	-	The groundwater elevation in ft above mean sea level.
+/- Ft	-	The calculated drop in water level from the January to the August measuring events. Negative results show a rise in water level.
.	-	No information available.

APPENDIX M
Groundwater Elevations, 1993

Sampling Pt.	Location	Sampled in 93	CTP Elev.	January Depth	January Elev.	August Depth	August Elev.	+/- Ft
Water Table Interval								
55-1A	Y12		970.05	10.7	975.97	10.9	975.77	0.2
55-1B	Y12		950.25	10.5	975.76	10.8	975.46	0.3
55-1C	Y12		913.45	11.2	975.53	11.9	974.83	0.7
55-2A	Y12		965.12	8.2	968.54	8.6	968.14	0.4
55-2B	Y12		951.87	7.7	969.55	8.6	968.65	0.9
55-3A	Y12		960.44	11.3	961.16	11.7	960.76	0.4
55-3B	Y12		936.71	12.1	961.22	12.5	960.82	0.4
55-3C	Y12		897.51	12.5	961.84	12.9	961.44	0.4
55-6A	Y12		977.37	7.9	981.14	9.8	979.24	1.9
56-1A	Y12		952.72	8.2	961.05	8.1	961.15	-0.1
56-2A	Y12		950.47	7.5	955.80	8.4	954.90	0.9
56-2B	Y12		926.81	7.0	955.28	7.9	954.38	0.9
56-3A	Y12		947.95	10.6	952.43	10.7	952.33	0.1
56-3B	Y12		932.16	10.2	953.20	10.5	952.90	0.3
56-3C	Y12		910.11	10.3	952.56	10.6	952.26	0.3
56-4A	Y12		951.05	10.3	951.77	10.3	951.77	0.0
56-6A	Y12		940.12	.	.	12.1	948.18	.
56-7A	Y12		938.57	.	.	19.3	939.15	.
56-8A	Y12		936.85	19.3	943.20	20.3	942.16	1.0
59-1A	Y12		934.26	3.0	942.75	4.9	940.85	1.9
59-1B	Y12		911.62	3.8	941.89	5.0	940.69	1.2
60-1A	Y12		909.19	12.6	917.06	13.5	916.16	0.9
60-1B	Y12		903.06	12.8	917.00	13.5	916.30	0.7
60-2A	Y12		917.52	10.1	919.59	10.7	918.99	0.6
GW-105	S3		1000.81	8.1	1009.25	9.3	1008.05	1.2
GW-106	S3		950.15	4.1	1011.91	5.4	1010.61	1.3
GW-107	S3		985.43	7.2	990.99	7.4	990.79	0.2
GW-108	S3		945.81	8.4	989.78	8.7	989.48	0.3
GW-132	S3		622.76	150.3	903.62	150.0	903.92	-0.3
GW-135	S3		497.92	181.6	996.18	177.0	1000.78	-4.6
GW-148	NHP		896.68	8.3	899.06	9.1	898.26	0.8
GW-150	NHP		904.53	14.2	901.36	14.1	901.46	-0.1
GW-152	NHP	Y	904.31	19.2	901.98	20.0	901.18	0.8
GW-154	NHP		900.65	8.5	903.00	9.8	901.70	1.3
GW-167	NHP	Y	902.12	23.7	907.68	32.0	899.38	8.3
GW-169	EXP	Y	898.25	23.9	907.97	33.4	898.47	9.5
GW-171	EXP		889.95	8.9	911.20	14.6	905.50	5.7
GW-183	FF	Y	925.21	9.8	936.22	11.9	934.12	2.1
GW-191	B4	Y	954.35	4.2	1006.94	6.8	1004.34	2.6
GW-192	B4	Y	994.04	4.8	1003.83	6.8	1001.83	2.0
GW-193	T2331	Y	919.16	8.5	925.50	9.7	924.30	1.2
GW-194	B4	Y	982.92	6.4	988.96	.	.	.
GW-196	B4		1010.44	13.0	1024.23	19.3	1017.93	6.3
GW-198	RDS		940.54	19.7	944.82	22.4	942.12	2.7
GW-199	GRID11	Y	938.56	16.6	944.48	18.2	942.88	1.6

APPENDIX M
Groundwater Elevations, 1993

Sampling Pt.	Location	Sampled in 93	CTP Elev.	January Depth	January Elev.	August Depth	August Elev.	+/- Ft
GW-201	RDS		947.87	19.2	949.69	19.8	949.09	0.6
GW-202	RDS		947.12	10.1	957.92	11.5	956.52	1.4
GW-204	T0134	Y	943.57	11.6	946.97	10.9	947.67	-0.7
GW-206	EXP	Y	881.20	9.1	885.40	9.7	884.80	0.6
GW-218	UOV		911.82	13.2	922.61	15.9	919.91	2.7
GW-219	UOV		923.47	11.5	924.14	14.2	921.44	2.7
GW-252	S2	Y	978.06	17.5	1006.71	32.8	991.41	15.3
GW-253	S2		958.50	2.3	1001.69	15.7	988.29	13.4
GW-255	S2	Y	950.37	21.1	1006.03	37.4	989.73	16.3
GW-261	SY	Y	1027.37	17.9	1032.09	19.9	1030.09	2.0
GW-263	SY	Y	1028.23	26.3	1031.43	33.4	1024.33	7.1
GW-269	SY		999.43	18.9	1008.91	.	.	.
GW-272	SY		994.12	7.2	1001.96	.	.	.
GW-273	SY		973.34	6.1	997.42	.	.	.
GW-274	SY		962.54	5.0	990.43	.	.	.
GW-281	FF	Y	937.01	5.3	940.78	7.3	938.78	2.0
GW-282	FF		936.19	0.4	943.54	6.3	937.64	5.9
GW-283	FF	Y	927.22	4.5	934.12	7.2	931.42	2.7
GW-284	FF	Y	942.30	7.9	933.71	10.2	931.41	2.3
GW-285	FF	Y	930.63	8.7	933.76	10.9	931.56	2.2
GW-332	WC		959.10	10.1	970.97	11.6	969.47	1.5
GW-333	WC		960.72	11.0	972.83	12.4	971.43	1.4
GW-334	WC		956.73	11.3	972.43	12.3	971.43	1.0
GW-335	WC		969.45	9.9	971.98	11.7	970.18	1.8
GW-337	WC	Y	965.57	10.6	976.71	11.6	975.71	1.0
GW-338	WC	Y	969.62	9.0	978.27	9.1	978.17	0.1
GW-349	S2		976.33	3.7	989.80	6.7	986.80	3.0
GW-350	S2		955.15	3.6	989.91	6.5	987.01	2.9
GW-380	NHP	Y	904.51	8.9	904.65	11.6	901.95	2.7
GW-383	NHP	Y	885.90	9.3	899.20	9.8	898.70	0.5
GW-384	NHP	Y	859.78	12.3	896.08	12.9	895.48	0.6
GW-617	EXP	Y	970.21	13.0	972.11	15.1	970.01	2.1
GW-618	EXP	Y	951.14	12.6	972.34	14.8	970.14	2.2
GW-619	FTF	Y	978.94	17.4	997.84	29.5	985.74	12.1
GW-620	FTF	Y	944.49	19.8	995.54	30.4	984.94	10.6
GW-633	RG	Y	987.27	6.2	990.30	4.0	992.50	-2.2
GW-634	RG	Y	998.06	7.9	999.25	10.1	997.05	2.2
GW-656	T0134	Y	940.00	10.0	944.79	9.9	944.89	-0.1
GW-657	T2331	Y	920.25	6.5	924.00	.	.	.
GW-658	FF	Y	929.04	10.2	934.61	12.7	932.11	2.5
GW-659	FF	Y	931.14	7.0	934.16	8.9	932.26	1.9
GW-707	T2331	Y	915.41	5.9	925.00	.	.	.
GW-708	T2331	Y	922.83	4.6	926.30	.	.	.
GW-735	NHP	Y	847.99	19.8	904.48	23.7	900.58	3.9
GW-746	GRIDK1	Y	895.06	3.8	903.08	6.6	900.28	2.8
GW-749	GRIDK2	Y	908.09	4.0	917.19	9.3	911.89	5.3
GW-752	GRIDJ3	Y	899.41	3.7	909.08	6.4	906.38	2.7

APPENDIX M
Groundwater Elevations, 1993

Sampling Pt.	Location	Sampled in 93	CTP Elev.	January Depth	January Elev.	August Depth	August Elev.	+/- Ft
GW-754	GRIDJ2	Y	907.08	3.8	924.79	13.2	915.39	9.4
GW-756	GRIDJ1	Y	913.94	5.8	922.12	7.2	920.72	1.4
GW-759	GRIDG1	Y	966.94	17.3	976.71	19.4	974.61	2.1
GW-761	GRIDG2	Y	955.46	8.1	960.13	13.3	954.93	5.2
GW-765	GRIDE1	Y	979.38	19.3	989.24	20.1	988.44	0.8
GW-767	GRIDI2	Y	932.82	10.5	938.04	12.6	935.94	2.1
GW-770	GRIDG3	Y	928.42	13.5	931.05	14.6	929.95	1.1
GW-774	GRIDH2	Y	940.54	9.7	953.46	17.2	945.96	7.5

Bedrock Interval

55-2C	Y12		903.65	7.8	969.05	8.6	968.25	0.8
56-1C	Y12		896.75	6.5	962.99	6.7	962.79	0.2
56-2C	Y12		888.25	9.2	955.74	9.9	955.04	0.7
56-4C	Y12		885.90	10.1	952.52	10.2	952.42	0.1
59-1C	Y12		874.67	2.7	943.17	4.8	941.07	2.1
GW-109	S3		881.99	3.5	993.49	4.7	992.29	1.2
GW-149	NHP		861.51	13.7	894.02	14.1	893.62	0.4
GW-151	NHP	Y	822.31	15.6	900.37	15.3	900.67	-0.3
GW-153	NHP		866.03	9.9	911.54	20.3	901.14	10.4
GW-168	NHP	Y	809.75	26.6	904.35	31.7	899.25	5.1
GW-170	EXP	Y	800.25	29.8	902.64	33.9	898.54	4.1
GW-172	EXP		803.67	15.1	909.69	20.9	903.89	5.8
GW-200	RDS		915.34	15.8	953.29	18.6	950.49	2.8
GW-220	NHP	Y	874.64	20.1	895.54	16.3	899.34	-3.8
GW-222	NHP		887.32	8.9	902.92	10.2	901.62	1.3
GW-223	NHP		824.22	8.9	902.72	10.1	901.52	1.2
GW-230	EXP		546.11	12.7	908.15	16.9	903.95	4.2
GW-232	EXP	Y	523.17	28.7	902.52	32.3	898.92	3.6
GW-239	NHP	Y	509.86	27.9	903.60	30.1	901.40	2.2
GW-240	NHP	Y	894.25	19.0	903.90	21.3	901.60	2.3
GW-251	S2	Y	958.60	11.5	992.10	22.8	980.80	11.3
GW-262	SY	Y	983.17	17.4	1032.27	19.2	1030.47	1.8
GW-264	SY	Y	990.79	27.2	1031.10	33.8	1024.50	6.6
GW-270	SY		991.60	2.1	1006.86	.	.	.
GW-271	SY		956.39	0.9	1008.11	.	.	.
GW-275	SY		933.68	3.2	992.16	.	.	.
GW-381	NHP	Y	858.55	10.6	902.76	11.5	901.86	0.9
GW-382	NHP	Y	764.16	9.3	903.87	11.8	901.37	2.5
GW-385	NHP	Y	754.67	3.9	904.97	5.0	903.87	1.1
GW-603	EXP	Y	890.11	56.3	905.00	59.6	901.72	3.3
GW-604	EXP	Y	853.23	55.7	905.16	59.5	901.36	3.8
GW-605	EXP	Y	882.92	10.8	908.08	11.2	907.68	0.4
GW-606	EXP	Y	753.63	12.8	906.59	14.4	904.99	1.6
GW-733	EXP	Y	707.39	54.4	904.64	58.1	900.94	3.7
GW-734	EXP		907.72	35.9	904.03	39.7	900.23	3.8
GW-744	GRIDK1	Y	842.80	5.5	901.93	7.7	899.73	2.2

APPENDIX M
Groundwater Elevations, 1993

Sampling Pt.	Location	Sampled in 93	CTP Elev.	January Depth	January Elev.	August Depth	August Elev.	+/- Ft
GW-745	GRIDK1	Y	877.28	5.0	902.06	7.3	899.76	2.3
GW-747	GRIDK2	Y	844.83	3.2	917.76	8.0	912.96	4.8
GW-748	GRIDK2	Y	897.89	5.1	916.07	8.6	912.57	3.5
GW-750	GRIDK2	Y	849.01	8.1	910.76	14.1	904.76	6.0
GW-751	GRIDJ3	Y	854.58	3.9	908.15	6.5	905.55	2.6
GW-753	GRIDJ2	Y	859.58	7.5	920.19	10.2	917.49	2.7
GW-755	GRIDJ1	Y	872.56	6.9	923.46	9.2	921.16	2.3
GW-758	GRIDG1	Y	945.35	15.4	977.30	17.5	975.20	2.1
GW-760	GRIDG2	Y	912.31	9.1	960.92	14.0	956.02	4.9
GW-764	GRIDE1	Y	947.27	20.2	989.67	21.0	988.87	0.8
GW-766	GRIDI2	Y	903.87	10.7	937.67	12.2	936.17	1.5
GW-768	GRIDI1	Y	897.50	17.9	941.83	19.4	940.33	1.5
GW-769	GRIDG3	Y	887.28	11.1	933.16	13.4	930.86	2.3
GW-773	GRIDH2	Y	907.87	8.0	955.76	16.1	947.66	8.1

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