Y-12

OAK RIDGE Y-12 PLANT

MARTIN MARIETTA

CALENDAR YEAR 1994 GROUNDWATER QUALITY REPORT FOR THE UPPER EAST FORK POPLAR CREEK HYDROGEOLOGIC REGIME Y-12 PLANT, OAK RIDGE, TENNESSEE

1994 Groundwater Quality Data
and Calculated Rate of
Contaminant Migration

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Prepared by:

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ACRONYMS

ARAR	Appropriate, Relevant, and Applicable Requirement
ASO	Analytical Services Organization
BCV	Bear Creek Valley
bgs	below ground surface
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
ft	feet
ft/day	feet per day
gal/hr	gallons per hour
gpm	gallons per minute
GWPP	Groundwater Protection Program
GWQR	Groundwater Quality Report
HSEA	Y-12 Plant Health, Safety, Environment, and Accountability (Organization)
IDL	Instrument Detection Limit
MCL	Maximum Contaminant Level
MDL	Method Detection Limit
mg/L	milligrams per liter
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
SESD	K-25 Site Sampling and Environmental Support Department
SWMU	Solid Waste Management Unit
TDEC	Tennessee Department of Environment and Conservation
TDS	Total Dissolved Solids
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 annual groundwater quality report (GWQR) contains groundwater and surface water quality data obtained during the 1994 calendar year (CY) at several waste-management facilities and a petroleum fuel underground storage tank (UST) site 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). The sites addressed by this document are located within the Upper East Fork Poplar Creek Hydrogeologic Regime (East Fork Regime). The East Fork Regime, which is one of three hydrogeologic regimes defined for the purposes of groundwater quality monitoring at the Y-12 Plant (Figure 2), encompasses the Y-12 Plant. The regime extends west from a surface water and shallow groundwater divide located near the west end of the plant to Scarboro Road (directions in this report are in reference to the Y-12 Plant grid system unless otherwise noted).

The Environmental Management Department of the Y-12 Plant Health, Safety, Environment, and Accountability (HSEA) Organization manages the groundwater monitoring activities in each regime as part of the Y-12 Plant Groundwater Protection Program (GWPP). The purpose of the GWPP is to characterize the hydrogeology and to monitor groundwater quality at the Y-12 Plant and surrounding area to provide for protection of groundwater resources consistent with federal, state, and local requirements and in accordance with DOE Orders and Energy Systems corporate policy.

The annual GWQR for the East Fork Regime is completed in two-parts. Part 1 (this report) consists primarily of data appendices and serves as a reference for the groundwater quality data obtained each CY under the lead of the Y-12 Plant GWPP. 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 Environment and Conservation (TDEC) by the RCRA reporting deadline (March 1 of the following CY). Part 2 of the report, to be issued mid-year, will contain an evaluation of the data with respect to regime-wide 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

Groundwater quality monitoring activities at the waste-management sites in the East Fork Regime have been in progress since the late 1970s and have evolved in response to regulatory changes and monitoring results. A brief description of the waste-management facilities in the East Fork Regime, including waste inventories and disposal 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 treatment, storage, and disposal (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 the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This agreement changed the regulatory status of several 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, the 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 Hydrogeologic Regime [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 common surface and subsurface exit pathways (U.S. Department of Energy 1994a). The FFA established one integrator OU and two source control OUs in the East Fork Regime (Table 1)

Early in CY 1994, as RIs at sites within the Bear Creek Regime progressed, data increasingly indicated that the separation of source control and integrator OUs was not the most technically feasible approach to the RI/FS process. Efforts were therefore initiated to revise the strategy for RI/FS implementation, and as a result, agreement was reached among regulatory agencies and the DOE to proceed with an integrated RI/FS approach. Source units are to be addressed concurrently with integrator units, with sites or locations of highest risk or concern to be targeted for focused studies. A similar integrated RI/FS approach will be implemented for the East Fork Regime.

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 between 1955 and 1962 (U.S. Department of Energy 1994a). 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. 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 Oak Ridge, Tennessee* (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 report.

Implementation of the grid network approach to shallow groundwater contamination assessment in the East Fork Regime began in CY 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. All existing wells, and new wells installed between CYs 1991 and 1994, have been incorporated into the grid network and the ongoing quarterly sampling program.

A CERCLA RI work plan or plans for focused studies of East Fork Poplar Creek OU 01 are scheduled to be submitted to the EPA in late 1995. 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 requirements. Additionally, future monitoring

priorities may be modified to support particular aspects of the RIs for the source control OUs in the regime.

The administrative boundary of East Fork Poplar Creek OU1 was expanded in CY 1994 to include portions of Union Valley to the east of the boundaries of the ORR. A focus study was initiated in Union Valley because data obtained during CY 1993 indicated that volatile organic compounds (VOCs) known to be in the groundwater in the eastern end of the Y-12 Plant were also present in the groundwater monitored by well GW-170, which is completed in the Maynardville Limestone and located about 1,500 feet (ft) east of the eastern ORR boundary. Carbon tetrachloride, tetrachloroethene, and other chlorinated solvents were detected in the samples collected from this well, which is completed at a depth of 160 ft below ground surface (bgs). Concentrations of carbon tetrachloride, chloroform, and tetrachloroethene have sporadically exceeded respective maximum contaminant levels (MCLs) for drinking water. Trace concentrations (typically less than MCLs) of chloroform, trichloroethene, and carbon tetrachloride also were reported for samples collected during CY 1993 from well GW-169, which is completed in the Maynardville Limestone at a depth of about 40 ft bgs approximately 12 ft east of well GW-170. Concentrations of VOCs in groundwater samples collected from a much deeper well (400 ft bgs) in the area, GW-232, did not exceed analytical detection limits.

In CY 1993, the presence of VOCs was confirmed in the groundwater monitored by well GW-733, which is located along the eastern edge of the ORR and is completed in the Maynardville Limestone at a depth of approximately 160 ft bgs. The types of VOCs detected in samples from this well were the same as those reported for samples from well GW-170, indicating transport of VOCs at depth within the Maynardville Limestone. However, no VOCs have been detected in samples collected from exit pathway wells drilled to a variety of depths in the ORR Aquitards north of well GW-733, suggesting that VOC transport beyond the boundaries of the ORR is restricted to this formation.

Source areas for the VOCs detected in samples from wells GW-169 and GW-170 are not well defined. Multiple sources within the Y-12 Plant are likely to include process areas where large quantities of solvents, particularly carbon tetrachloride, were used in the early and mid-1940s. Operations and maintenance facilities, such as the Waste Coolant Processing Area, also represent probable historical source areas.

A public meeting was held and notification to regulatory agencies was made in March 1994. Evaluation of human health risks to date indicates that an exposure route to humans and the environment does not exist because of the depth of the contaminants. However, additional actions are planned as part of the focus study to characterize the extent of the VOC contamination and to ensure that no exposure routes exist. Immediate actions include continued monitoring of existing wells both on and off site as part of the Comprehensive Monitoring Plan. Additional off-site wells are located farther to the east of well GW-170. These wells (one of which was compromised by surface water flooding) have been rehabilitated and sampled. A field survey was performed to identify potential discharge springs for groundwater, and appropriate sampling of these springs was conducted. Surface water at several locations, including two quarry sites, also was sampled to provide additional data on exposure risks. An interim investigation report is currently being prepared. Evaluation of these short-term actions will determine the need for any interim remedial measures. Long-term actions include application of the CERCLA process and implementation of an RI/FS.

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 Site. 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 Site (Geraghty & Miller, Inc. 1989a).

Available construction drawings indicate that the pipeline was constructed of 1.5- to 3-inch diameter, Type 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 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).

A RI for the site was completed in mid-February 1993. The RI effort targeted possible source releases and contaminated soils associated with pipeline operations. A final RI report was issued in February 1994 (U.S. Department of Energy 1994b). A Record of Decision was prepared and approved in December 1994.

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 (WCPF) (Table 1). A CERCLA RI work plan for this OU has been completed (U.S. Department of Energy 1993a); however, implementation of the RI will be integrated with the RI planned for OU1.

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. Both areas were 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; 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 1989).

A leak test was performed on Tank 2063-U in March 1989 and a 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 VOCs and PCBs (Stone 1989).

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 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 1994a). 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 1989).

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. 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 1989).

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 formerly 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).

2.2.4 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), 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. 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 was certified by the TDEC in December 1990, and 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 New Hope Pond 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 the site also may be necessary to maintain consistency with modifications to the post-closure permit issued for the S-3 Site by the TDEC in October 1993. A major objective of the PCPA, due to the TDEC in February 1995, is to demonstrate that New Hope Pond is not a statistically discernable source of groundwater contamination relative to source areas upgradient of the site. The PCPA will request a return to detection monitoring.

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. Lake Reality contains approximately 6 million gallons of water during normal operations (Lee Wan & Associates 1989).

In October 1992, the Y-12 Plant GWPP began an investigation of the hydrologic effects of a 6-ft diameter, 20-ft deep dewatering sump installed in CY 1990 to relieve 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). Sampling of the sump in CY 1994 showed that VOCs have migrated along this shallow, preferred pathway. Except for brief periods (less than 1 hour), pumping ceased between September 1991 and October 1993. The sump pump was returned to automatic control after October 1993; however, operation was again suspended in mid-December CY 1994 due to VOC contamination concerns. Operation of the sump pump likely affects groundwater levels in nearby monitoring wells (Turner 1992). The sump, as well as permeable zones beneath the diversion channel, have probably induced northward VOC movements in the water table interval.

2.3 UST Facilities

The Y-12 Plant GWPP conducted long-term monitoring at four UST sites (Figure 3) through CY 1993: the 9754/9754-2 East End Fuel Facility; Building 9201-1; Building 9204-2; and Building 9754-1/9720-15 Rust Garage Facility. Preliminary investigation and assessment activities have been completed at each of these USTs. Soil and/or groundwater contamination delineated through these characterization efforts was documented in site-specific corrective action plans, which contain not only the characterization information but also a proposed remedial/corrective action approach. Detailed descriptions of these sites and their operational histories have been provided in previous GWQRs. The Rust Garage Facility was the only UST site monitored during CY 1994, and this program was discontinued after the first quarter.

In January 1994, the TDEC Division of USTs issued new guidance allowing owner/operators of USTs to evaluate or "rank" individual USTs for potential long-term, semiannual monitoring in lieu of proposed corrective action; TDEC approval of the UST ranking supersedes a remediation scenario with a "monitoring-only" approach. A comparative result can be achieved through the pursuit of a site-specific standard for an individual UST site. TDEC approval of a site-specific standard request also supersedes a remediation scenario with "monitoring-only".

The progressive, regulatory status of each UST site is outlined in Table 2. Semi-annual monitoring currently conducted at Building 9201-1 and the Rust Garage Facility is limited in scope (total petroleum hydrocarbons and benzene, toluene, xylenes) and is performed by the Compliance Monitoring Services staff of the Y-12 Plant Environmental Management Department.

3.0 CY 1994 GROUNDWATER PROTECTION PROGRAM

The following sections describe the groundwater sampling activities performed during CY 1994 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 Sampling Locations

Groundwater monitoring during CY 1994 involved the collection of groundwater samples from 99 monitoring wells and two surface water sampling locations (Table 3). Locations of these sampling points are shown on Figure 4. Data regarding the aquifer and screened or open-hole interval monitored by the wells are provided in Table 4. Detailed well construction information is contained in Appendix C.

Samples were collected for the purposes of five monitoring programs: (1) RCRA interim status assessment monitoring, (2) best-management practice monitoring, (3) exit-pathway monitoring, (4) grid well monitoring, and (5) UST monitoring. These monitoring programs were implemented within the context of the technical approach contained in the Comprehensive Monitoring Plan. However, in light of overlapping regulatory requirements, an increasing number of wells were sampled to meet multiple programmatic goals. For example, data from all the above monitoring programs will be incorporated into the RI/FS for OU1. Data from selected exit-pathway wells also will be incorporated into a focus study of off-site VOC contamination in the groundwater east of the Y-12 Plant.

3.1.1 RCRA Interim Status Assessment Monitoring

Assessment monitoring in accordance with RCRA interim status requirements involved 9 monitoring wells located at New Hope Pond (Table 3 and Figure 4). Assessment monitoring at the site will be replaced with either an approved RCRA detection or corrective action monitoring program when a RCRA post-closure permit is issued for the site by the TDEC. The

current RCRA PCPA for the site, to be issued in late February 1995, proposes a detection monitoring program for the site.

3.1.2 Best-Management Practice Monitoring

Groundwater samples were collected from 6 monitoring wells near New Hope Pond as a best-management practice of the Y-12 Plant GWPP (Table 3 and Figure 4). Monitoring of these wells had been suspended for several years, but current groundwater quality data was required to support preparation of the RCRA PCPA for New Hope Pond. Some or all of these wells may be included in the proposed detection monitoring program when a RCRA post-closure permit is issued for the site.

3.1.3 Exit Pathway Monitoring

In June 1990, the DOE revised Order 5400.1 regarding environmental protection standards for DOE facilities. This order requires monitoring of groundwater that is, or could be, affected by operations at DOE facilities. Compliance with most of the DOE Order 5400.1 requirements is achieved through continued implementation of ongoing monitoring programs required under TDEC and EPA regulations. However, the order imposes additional requirements for monitoring groundwater quality where contamination is most likely to be transported beyond the ORR boundaries, and the exit pathway monitoring program was implemented under the Y-12 Plant GWPP to comply with these requirements. Exit pathway monitoring during CY 1994 involved 9 wells completed in the Maynardville Limestone, 2 surface water sampling stations located near Lake Reality, 6 wells located in Union Valley east of the ORR boundary, and 4 wells completed in the ORR Aquitards near UEFPC where it passes through a gap in Pine Ridge northeast of the Y-12 Plant (Table 3 and Figure 4).

3.1.4 Grid Well Monitoring

In CY 1994, 59 wells were monitored as part of the grid network program outlined in the Comprehensive Monitoring Plan (Table 3 and Figure 4). Six existing and 16 newly installed

monitoring wells were added to the monitoring program during CY 1994, thereby completing most of the proposed phase I grid network. Additional grid wells will be installed if evaluation of groundwater quality data indicates that more monitoring coverage is necessary.

3.1.5 UST Monitoring

Groundwater monitoring at petroleum USTs included 6 wells located near the Rust Garage Area (Table 3 and Figure 4). However, because monitoring objectives have been achieved, sampling of these wells as part of the Y-12 Plant GWPP was discontinued after the first quarter of CY 1994.

3.2 Sampling Frequency

Groundwater samples were collected during each quarter of CY 1994. First through fourth quarter sampling events were performed from January 14 to March 4, April 22 to June 16, July 30 to September 28, and October 25 to December 27, respectively.

All monitoring wells were scheduled for quarterly sampling; however, four quarters of groundwater samples were collected from only 58 of the 99 wells included in the previously described monitoring programs (Table 3). As a result of monitoring program modifications (adding and dropping wells) implemented during CY 1994, three quarterly samples were collected from 24 wells, two quarterly samples were collected from 5 wells, and one sample was collected from 12 wells.

Semiannual sampling of surface water stations (LRS and LRSPW) began during the third quarter of CY 1994. Surface water samples are collected semiannually during high and low flow conditions.

3.3 Sample Collection

Groundwater samples were collected by personnel from the Oak Ridge K-25 Site Sampling and Environmental Support Department (SESD) and surface water samples were collected by personnel from the HSEA Organization. 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 SESD Technical Procedure for Groundwater Sampling (SESD-TP-8204) approved by the Y-12 Plant GWPP Manager. Descriptions of the field methods and procedures used to collect the groundwater and surface water 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).

3.4 Quality Assurance/Quality Control Sampling

Quality assurance/quality control (QA/QC) samples included laboratory blanks, trip blanks, equipment rinsates, field blanks, and duplicate groundwater samples. A total of 100 laboratory blanks, 166 trip blanks, 37 equipment rinsate samples, 4 field blanks, and 33 duplicate samples were analyzed during CY 1994. Similar numbers of QA/QC samples were analyzed during each quarterly sampling event: 14 to 32 laboratory blanks, 36 to 46 trip blanks, 8 to 11 equipment rinsates, 1 field blank, and 7 to 9 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 to be analyzed for VOCs. 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. Field blanks were prepared in the field using deionized water and were collected at a frequency of at least 10 percent of the sampling groups. Duplicate groundwater samples were collected at a frequency of at least one per sampling group.

3.5 Laboratory Analysis

Groundwater and surface water samples were analyzed for:

- principal cations and anions;
- trace metals (a term used to differentiate metals that are typically minor groundwater constituents, such as cobalt and nickel, from metals that are principal ions in groundwater, such as magnesium and sodium);
- VOCs;
- gross alpha activity and gross beta activity;
- total suspended solids, total dissolved solids (TDS), 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 specific analytes for each well are presented in Table 3. The K-25 Analytical Services Organization (ASO) performed most of the analyses; some radiochemical analyses were performed by the Oak Ridge National Laboratory (ORNL) ASO.

The detection limit reported for total uranium analyses changed during the third quarter of CY 1994 from 0.001 to 0.015 milligrams per liter (mg/L). This change resulted from findings of an assessment of the K-25 Uranium Fluorometry Laboratory performed by the K-25 ASO. As part of this assessment, EPA contract laboratory program protocols were used to calculate the instrument detection limit (IDL) for the instrument used for fluorometric analyses. Based on these calculations, the IDL was determined to be 0.005 mg/L. The method detection limit (MDL), which is equal to the reporting limit for uranium analyses, was set by the K-25 ASO at three times the IDL (0.015 mg/L). Because this MDL is too high to comply with the data quality objectives of the Y-12 Plant GWPP, an alternative analytical method for total uranium (inductively coupled plasma/mass spectroscopy, EPA Method 200.8) will be implemented in the first quarter of CY 1995. This method has a standard reporting limit of 0.0005 mg/L.

3.6 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 *Y-12 Plant Groundwater Protection Program Groundwater Monitoring Data Management Plan* (Martin Marietta Energy Systems, Inc. 1993).

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.

3.7 Analytical Results

Groundwater quality data obtained during CY 1994 are contained in Appendices E through K. Appendix E contains the analytical results for each groundwater sample and Appendix F contain the results for the field duplicate samples. Ion-charge balances for each groundwater sample are presented in Appendix G. Appendix H contains trace metal results that exceed MCLs. Analytical results for the QA/QC samples are summarized in Appendix I. Validated analytical results for VOCs are provided in Appendix J. Radiochemical data are summarized in Appendix K and 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. The data presented in these appendices were generated from the following quarterly datasets: first quarter - Q1_94R2.SD2, second quarter - Q2_94R2.SD2, third quarter - Q3_94R1.SD2, and fourth quarter - Q4_94.SD2 (H&R Technical Associates, Inc. 1995a, 1995b, 1995c, and 1995d).

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 RCRA assessment monitoring reporting requirements regarding evaluation of groundwater flow directions. 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). However, a revised conceptual model of the groundwater flow system at the Y-12 Plant is currently being developed and will incorporate the findings of several ongoing and recently completed hydrogeologic (exit pathway and RI) studies. Development of a conceptual model specific to BCV was initiated because the Solomon et al. (1992) model does not explicitly address karst and fracture flow in the Maynardville Limestone, which is the principal groundwater flow and contaminant migration pathway in the East Fork Regime. The developing BCV model differs from the ORR framework in that: (1) the amount of recharge to the Knox Aquifer is thought to be higher in BCV than previous studies indicated, and (2) the influence of stormflow in BCV is thought to be lower than elsewhere on the ORR. In addition, the base of the active flow zone within the Maynardville Limestone is now believed to be deeper than previously thought and fractures and stratabound flow may exert as much influence as solution features on patterns of contaminant transport. If completed in time, the revised conceptual model will be incorporated into the description of the groundwater flow system included in the Part 2 GWQR.

4.1 Geology

The geology in the area of the Y-12 Plant is generally characterized by sequences of southeast-dipping (true direction), 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 (true direction), 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 is partially exposed along the axis of BCV at the base of Chestnut Ridge and the underlying formations of the ORR Aquitards are partially exposed 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 26 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 (Dreier *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).

Dissolution of carbonates along fractures, particularly in the Maynardville Limestone, has produced solutionally-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.

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 east 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 the water level. Preliminary data indicate that the water level responds 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 system underlying the ORR into two basic hydrogeologic units with fundamentally different hydrologic characteristics: the Knox Aquifer and the ORR Aquitards. The Knox Aquifer consists of the Knox Group and the underlying Maynardville Limestone formation of the Conasauga Group. The remaining formations of the Conasauga Group, 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 formations (excluding the Maynardville Limestone), and the Rome Formation.

Both the Knox Aquifer and the ORR Aquitards are divided by Solomon *et al.* (1992) into four parts: (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 flow system is vertically gradational with no discrete boundaries separating the subsystems. However, the bulk permeability of the Knox Aquifer is about ten times greater than that of the ORR Aquitards (Solomon *et al.* 1992).

The stormflow zone occurs in regolith as does much of the vadose zone, although in some areas the vadose zone includes weathered and fresh bedrock. In the bedrock, orthogonal sets of pervious, planar fractures form groundwater flow paths. Within a fracture, groundwater may flow either downdip, 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). Intersections of two or more fracture sets form permeable intervals or zones that transmit the bulk of the groundwater flux (Moore and Toran 1992). Fracture sets comprising the permeable zone in the water table interval are generally nonstratiform and groundwater generally flows in the direction of maximum hydraulic gradient along multiple, alternative flow paths (Moore and Toran 1992). Stratiform fracture sets are believed to form permeable zones at deeper intervals in the bedrock, and groundwater in these zones primarily flows in the direction of geologic strike (which may or may not correlate with the maximum hydraulic gradient) toward cross-cutting tributary streams (Moore and Toran 1992). Additionally, the vertical spacing between permeable zones increases with depth, and these zones 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). As part of the RI/FS in progress for the integrator OU located in the Bear Creek Regime, stormflow tubes were installed at 6 sites (3 along the northern flank of Chestnut Ridge), all of which showed brief periods of soil saturation in response to rainfall (Figure 7). These findings suggest that stormflow is a widespread phenomenon at the Y-12 Plant (Science Applications International Corporation 1994), although construction activities have probably altered the stormflow zone in developed areas of the East Fork Regime. The importance of the stormflow zone to contaminant transport is not fully understood in BCV but may not be as important an influence as in Bethel or Melton Valley.

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 (Figure 6) based on observed changes in hydrologic characteristics and groundwater geochemistry; flow volumes decrease and solute residence times increase sharply with depth, and most groundwater flow is thought to occur at depths of less than 100 ft bgs (Solomon *et al.* 1992).

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 approximately 100 ft bgs, 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 and solutionally-enlarged (i.e., >0.5 ft) features in the Maynardville Limestone occur most frequently at depths less than 100 ft bgs, suggesting that the active karst flow system in the Maynardville Limestone is relatively shallow (Shevenell *et al.* 1993). However, water levels in many wells completed in the Maynardville Limestone at depths of 200 to 400 ft bgs show significant responses to rainfall events, suggesting that active flow may occur at greater depths than indicated by previous studies.

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 variations in the water table elevation, and the interval may be nearly drained during seasonal water table declines. Moore (1989) estimates an average effective porosity of 0.0042 near the water table. Estimates of the permeability of the water table interval 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. The presence of large amounts of ^4He in groundwater samples from greater depths (45 to 165 ft bgs) 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 bgs in the ORR Aquitards (Figure 6), and depths of 160 to 325 ft bgs 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. Assuming that interconnected permeable intervals can be treated as a continuum, Moore and Toran (1992) estimate an average hydraulic conductivity of about 0.6 ft/day for the ORR Aquitards.

The above estimates of hydraulic conductivity are probably not representative of the Knox Aquifer because the analysis included few wells completed in the Knox Group; hydraulic conductivity of the water-producing intervals in the Knox Aquifer is probably much greater than the ORR Aquitards because of an interconnected network of solution cavities and solutionally-enlarged fractures (Moore 1989). For instance, results of hydraulic conductivity tests for wells less than 100 ft bgs 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. Moore and Toran (1992) estimate an effective fracture porosity of 0.00035 based on calculations of average fracture aperture and spacing, and assuming that effective porosity and specific yield are nearly equal (i.e., only water in fractures drains by gravity).

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 conductivities 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 bgs) monitoring wells and coreholes. Solomon et al. (1992) report that the boundary between the intermediate and deep intervals occurs at depths of about 325 ft bgs in the ORR Aquitards and 650 ft bgs 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 TDS. This change in groundwater geochemistry probably reflects longer residence times in the deep interval, and usually occurs at depths of more than 400 ft bgs (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 bgs (Dreier et al. 1993).

Evaluation of data obtained from straddle packer tests, 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 TDS concentrations of 40,000 to 300,000 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 bgs (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 bgs monitor groundwater with TDS concentrations of several thousand mg/L to several tens of thousand mg/L. The presence of water with relatively high TDS (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).

4.3 Groundwater Flow Directions

Directions of groundwater flow in the East Fork Regime were evaluated from static water level measurements obtained in January and August 1994. Depth-to-water measurements were obtained from 140 monitoring wells during January 1994 (the seasonally high water table) and from 105 wells in August 1994 (the seasonally low water table). Depth-to-water measurements and water-level elevations for each well are tabulated in Appendix M. Review of these data show that water level fluctuations 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; thus 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 seasonally high and seasonally low groundwater flow conditions are illustrated on Figures 8 and 9, respectively. The water table is a subdued replica of surface topography under both conditions, with steep gradients along the flanks of Pine Ridge and Chestnut Ridge and a gentle slope northeast down the axis of BCV.

The pattern of groundwater flow in the ORR Aquitards is toward the Maynardville Limestone, the hydrologic drain for the groundwater flow system in the regime. Flow in the Maynardville Limestone 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 (as indicated by the presence of VOCs in wells located in Union Valley east of New Hope Pond). The horizontal hydraulic gradient averages about 0.038 across BCV (strike-normal) in the ORR Aquitards and about 0.011 along the axis of BCV (strike-parallel).

4.4 Rate of Contaminant Migration

The following estimates of contaminant migration rates are presented to comply with RCRA interim status assessment monitoring requirements. Contaminant migration 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). The migration rates estimated for the water table and shallow bedrock intervals are 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.

The wide range of potential contaminant migration rates presented in this section demonstrate the uncertainty in determining a representative rate of solute transport for the groundwater flow system in the East Fork Regime. Long term transport of solutes in dual porosity and/or highly heterogeneous media is a complex physical and chemical process, and it is probable that at various times and under various conditions, migration rates throughout the given range occur. Nitrate, for instance, may move relatively rapidly through the flow system, while other more highly attenuated constituents, such trace metals, probably 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 (particularly in the ORR Aquitards) and that attenuation processes such as matrix diffusion are an important controlling factor.

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 given by $v = Ki/n$, 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) reported by Connell and Bailey (1989), an effective porosity of 0.0042 (Moore 1989), an average strike-parallel (down-valley) gradient of 0.011, and an average strike-normal (cross-valley) gradient of 0.038, calculated rates of solute transport in the water table interval are as follows:

v (ft/day)	K (ft/day)	i	n
0.08	0.03	0.011	0.0042
0.27	0.03	0.038	0.0042
8.51	3.25	0.011	0.0042
29.40	3.25	0.038	0.0042

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).

Estimates of contaminant transport rates for the shallow bedrock interval in the ORR Aquitards were based on: a geometric mean hydraulic conductivity of 0.0008 ft/day for matrix intervals (Moore 1989), 0.15 ft/day for permeable intervals (Moore 1989), and 0.6 ft/day for the continuum of permeable intervals (Moore and Toran 1992); effective porosity values ranging from 0.00035 (Moore and Toran 1992) to 0.004 (Lozier *et al.* 1987); and an average strike-normal hydraulic gradient of 0.038. As summarized in the following table, estimated migration rates range from 0.08 ft/day to about 65 ft/day.

v (ft/day)	K (ft/day)	i	n
0.87	0.008	0.038	0.00035
0.08	0.008	0.038	0.004
16.29	0.15	0.038	0.00035
1.43	0.15	0.038	0.004
65.14	0.6	0.038	0.00035
5.7	0.6	0.038	0.004

Contaminant transport rates for the shallow interval in the Maynardville Limestone were calculated using the average hydraulic conductivity (22 ft/day) determined from well test results summarized in Geraghty & Miller, Inc. (1989b), the same range of effective porosity used in calculations for the ORR Aquitards, and an average strike-parallel hydraulic gradient of 0.011. Using these values, the rate of contaminant migration in the Maynardville Limestone ranges from about 60 to 691 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).

Contaminant migration rates in the East Fork Regime also were estimated 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). In CY 1990, the nitrate plume extended westward (along strike) from the S-3 Site for 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 west 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 ($v = \text{distance}/\text{time}$) 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.

4.5 Surface Water System

Upper East Fork Poplar Creek drainage extends to near the western edge of the Y-12 Plant as a surface water drainage system. Drainage is contained in a network of underground collection pipes that extend to near the central area of the Plant, where the stormdrain system emerges above ground. 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 exits the ORR.

During construction of the Y-12 Plant, all the north-south tributaries to UEFPC were filled or routed through 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 70% of dry weather flow in UEFPC is attributable to once-through noncontact cooling water, condensate, and cooling tower blowdown, and over 31% can be attributed to groundwater infiltration (CDM Federal Programs Corporation 1994). Surface-water quality in UEFPC is monitored at Station 17 located downstream of Lake Reality (Figure 4) as a best-management practice by the Y-12 Clean Water Program and 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:	1-18-95
DWG ID.:	OR250-HC

LOCATION:	Y-12 PLANT OAK RIDGE, TN.
DATE:	1-25-95
DWG ID.:	OR321-HC

FIGURE 2

HYDROGEOLOGIC REGIMES
AT THE Y-12 PLANT

FIGURE 3

WASTE-MANAGEMENT SITES,
CERCLA OPERABLE UNITS, AND USTs LOCATED IN THE
UPPER EAST FORK POPLAR CREEK HYDROGEOLOGIC REGIME

LOCATION: Y-12 PLANT
OAK RIDGE, TN.

DATE: 1-24-95

DWG ID.: OR171-HC

EXPLANATION

- GW-152 ■ — Water Table Zone Monitoring W
- GW-240 ● — Bedrock Zone Monitoring Well
- ▲ — Surface Water Sampling Locatic
- LRSPW — Lake Reality Emergency Spillwa
- LRS — Lake Reality Sump
- ▭ — NPDES Surface Water Monitorin
- — Boundary of Site
- K — 1 — Comprehensive Groundwater Mo

Note: Wells GW-171, GW-172, and GW-230 are located about 2,500 feet east of well GW-169.

Location

Monitoring Grid

LOCATION:	Y-12 PLANT OAK RIDGE, TN.	FIGURE 4 SAMPLING LOCATIONS FOR GROUNDWATER AND SURFACE WATER MONITORING DURING CY 1994
DATE:	1-24-95	
DWG ID.:	OR429-HC

SOURCE: King and Haase, 1987

0 2000
SCALE (ft)

ORR AQUITARDS

KNOX AQUIFER

SYSTEM	GROUP	HYDRO UNIT	FORMATION	MAP SYMBOL	THICKNESS (ft)
CAMBRIAN	UPPER	KNOX	COPPER RIDGE DOLOMITE	Ock	NOT DETERMINED
			MAYNARDVILLE LIMESTONE	Cmn	418-450
	MIDDLE	ORR AQUITARDS	NOLICHUCKY SHALE	Cn	422-550
			MARYVILLE LIMESTONE	Cm	346-445
			ROGERSVILLE SHALE	Crg	90-120
			RUTLEDGE LIMESTONE	Cr	90-120
			PUMPKIN VALLEY SHALE	Cpv	260-320
	LOWER		ROME FORMATION	Cr	NOT DETERMINED

LOCATION:

Y-12 PLANT
OAK RIDGE, TN.

DATE:

1-24-95

DWG ID.:

OR172-HC

FIGURE 5

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

HYDROSTRATIGRAPHIC UNITS PROPOSED BY SOLOMON *et al.* (1992)

LOCATION:	Y-12 PLANT OAK RIDGE, TN.	FIGURE 6 SCHEMATIC PROFILE OF HYDROSTRATIGRAPHIC UNITS IN THE UPPER EAST FORK POPLAR CREEK HYDROGEOLOGIC REGIME
DATE:	1-24-95	
DWG ID.:	OR213-HC

SOURCE: SAIC, 1994.

EXPLANATION

- - STORMFLOW TUBE
- ⊕ - TRIBUTARY GAUGING LOCATION
- NT - NORTH TRIBUTARY
- ST - SOUTH TRIBUTARY
- En - NOLICHUCKY SHALE
- - APPROXIMATE CONTACT
- Cmn - MAYNARDVILLE LIMESTONE

FIGURE 7

RAINFALL RESPONSES
IN THE STORMFLOW ZONE

LOCATION: Y-12 PLANT
OAK RIDGE, TN.

DATE: 2-13-95

DWG ID.: OR414-HC

JANUARY 10-11

AUGUST 22-31

EXPLANATION

- GW-255 999.03 — Water Table Interval and Water Level Elevation (ft msl)
- Approximate Water-Level Isopleth (ft msl)
- - - Surface Drainage Feature

, 1994

1994

LOCATION:	Y-12 PLANT OAK RIDGE, TN.	FIGURE 8 GROUNDWATER ELEVATIONS IN THE WATER TABLE INTERVAL
DATE:	1-24-95	
DWG ID.:	OR464-HC

JANUARY 10-

AUGUST 22

EXPLANATION

- GW-339 1048.99 ● Bedrock Monitoring Well and Water Level Elevation (ft msl)
- Approximate Water-Level Isopleth (ft msl)
- - - Surface Drainage Feature

4, 1994

31, 1994

LOCATION:	Y-12 PLANT OAK RIDGE, TN.	FIGURE 9 GROUNDWATER ELEVATIONS IN THE SHALLOW AND INTERMEDIATE BEDROCK INTERVALS
DATE:	2-14-95	
DWG ID.:	OR463-HC	

APPENDIX B

TABLES

Table 1. Waste-Management Sites, CERCLA Operable Units, and Underground Storage Tanks Included in the CY 1994 Groundwater Protection Program

Site Name	Regulatory Classification	
	Historical ¹	Current ²
New Hope Pond	TSD Unit	TSD Unit/Y-12 SA
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
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 1994a)

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. Current Regulatory Status of UST Sites in the
Upper East Fork Poplar Creek Hydrogeologic Regime**

Groundwater Monitoring	REGULATORY STATUS					
	Corrective Action Plan		Site Ranking Form		Site-Specific Standard Request	
	Submitted*	Approved	Submitted*	Approved	Submitted*	Approved
UST Locations						
Buildings 9754/9754-2 East End Fuel Facility	7/6/92	5/11/93	NA	NA	4/21/94	Pending
Building 9201-1 (Tank 2331-U)	7/21/92	12/7/93	4/20/94	5/23/94	NA	NA
Building 9204-2 (Tank 0134-U)	8/21/92	5/7/93	2/1/95	Pending	NA	NA
Buildings 9754-1/9720-15 Rust Garage Facility	5/11/92	NA	2/28/94	3/7/94	9/23/94	Pending

Notes:

* DOE to TDEC
NA Not Applicable

Table 3. Monitoring Programs Implemented During CY 1994

Monitoring Program	Sampling Point	Location ¹	Quarter Sampled ²				Analytical Parameters ³ /Notes
			1st	2nd	3rd	4th	
RCRA Interim Status Assessment Monitoring							
	GW-151	NHP	■	■	■	■	STD
	GW-220	NHP	■	■	■	■	STD
	GW-240	NHP	■	■	■	■	STD
	GW-380	NHP	■	■	■	■	STD
	GW-381	NHP	■	■	■	■	STD
	GW-382	NHP	■	■	■	■	STD
	GW-383	NHP	■	■	■	■	STD
	GW-384	NHP	■	■	■	■	STD
	GW-385	NHP	■	■	■	■	STD
Best-Management Practice Monitoring							
	GW-148	NHP	.	.	.	■	STD/ Program initiated 4th qtr
	GW-149	NHP	.	.	.	■	STD/ Program initiated 4th qtr
	GW-153	NHP	.	.	.	■	STD/ Program initiated 4th qtr
	GW-154	NHP	.	.	.	■	STD/ Program initiated 4th qtr
	GW-222	NHP	.	.	.	■	STD/ Program initiated 4th qtr
	GW-223	NHP	.	.	.	■	STD/ Program initiated 4th qtr
Exit Pathway Monitoring							
	GW-169	EXP-UV	■	.	■	■	STD, RAD, BNA/no access 2nd qtr
	GW-170	EXP-UV	■	.	■	■	STD, RAD, BNA/no access 2nd qtr
	GW-171	EXP-UV	.	.	■	■	STD, RAD, BNA/ added 3rd qtr
	GW-172	EXP-UV	.	.	■	■	STD, RAD, BNA/ added 3rd qtr
	GW-206	EXP-SR	■	■	■	■	STD
	GW-207	EXP-SR	■	■	■	■	STD
	GW-208	EXP-SR	■	■	■	■	STD
	GW-230	EXP-UV	.	.	■	■	STD, RAD, BNA/ added 3rd qtr

Table 3 (cont'd)

Monitoring Program	Sampling Point	Location ¹	Quarter Sampled ²				Analytical Parameters ³ /Notes
			1st	2nd	3rd	4th	
Exit Pathway Monitoring (cont'd)							
	GW-232	EXP-UV	■	.	■	■	STD, RAD, BNA/ no access 2nd qtr
	GW-603	EXP-J	■	■	■	■	STD
	GW-604	EXP-J	■	■	■	■	STD
	GW-605	EXP-I	■	■	■	■	STD
	GW-606	EXP-I	■	■	■	■	STD
	GW-617	EXP-E	■	■	■	■	STD
	GW-618	EXP-E	■	■	■	■	STD
	GW-733	EXP-J	■	■	■	■	STD
	GW-735	EXP-J	■	■	■	■	STD
	GW-750	EXP-J	■	■	■	■	STD
	GW-816	EXP-SR	.	.	■	■	STD/ New well, added 3rd qtr
	LRS	EXP-SW	.	.	■	■	STD/ Semiannual sampling frequency
	LRSPW	EXP-SW	.	.	■	■	STD/ Semiannual sampling frequency
Grid Well Monitoring							
	GW-191	B4	■	■	■	■	STD
	GW-192	B4	■	■	■	■	STD
	GW-194	B4	■	■	■	■	STD
	GW-195	B4	■	■	■	■	STD
	GW-199	GRID11	■	■	■	■	STD
	GW-251	S2	■	■	■	■	STD
	GW-252	S2	.	■	■	■	STD/ existing well, added 2nd qtr
	GW-255	S2	.	■	■	■	STD/ existing well, added 2nd qtr
	GW-261	SY	.	■	■	■	STD/ existing well, added 2nd qtr
	GW-262	SY	.	■	■	■	STD/ existing well, added 2nd qtr
	GW-263	SY	.	■	■	■	STD/ existing well, added 2nd qtr
	GW-264	SY	.	■	■	■	STD/ existing well, added 2nd qtr

Table 3 (cont'd)

Monitoring Program	Sampling Point	Location ¹	Quarter Sampled ²				Analytical Parameters ³ /Notes
			1st	2nd	3rd	4th	
Grid Well Monitoring (cont'd)							
	GW-337	WC	▪	▪	▪	▪	STD
	GW-338	WC	▪	▪	▪	▪	STD
	GW-619	FTF	▪	▪	▪	▪	STD
	GW-620	FTF	▪	▪	▪	▪	STD
	GW-744	GRIDK1	▪	▪	▪	▪	STD
	GW-745	GRIDK1	▪	▪	▪	▪	STD
	GW-746	GRIDK1	▪	▪	▪	▪	STD
	GW-747	GRIDK2	▪	▪	▪	▪	STD
	GW-748	GRIDK2	▪	▪	▪	▪	STD
	GW-749	GRIDK2	▪	▪	▪	▪	STD
	GW-751	GRIDJ3	▪	▪	▪	▪	STD
	GW-752	GRIDJ3	▪	▪	▪	▪	STD
	GW-758	GRIDG1	▪	▪	▪	▪	STD
	GW-759	GRIDG1	▪	▪	▪	▪	STD
	GW-760	GRIDG2	▪	▪	▪	▪	STD
	GW-761	GRIDG2	▪	▪	▪	▪	STD
	GW-762	GRIDJ3	▪	▪	▪	▪	STD
	GW-763	GRIDJ3	▪	▪	▪	▪	STD
	GW-764	GRIDE1	▪	▪	▪	▪	STD
	GW-765	GRIDE1	▪	▪	▪	▪	STD
	GW-766	GRIDI2	▪	▪	▪	▪	STD, TPH
	GW-767	GRIDI2	▪	▪	▪	▪	STD, TPH
	GW-768	GRIDI1	▪	▪	▪	▪	STD
	GW-769	GRIDG3	▪	▪	▪	▪	STD
	GW-770	GRIDG3	▪	▪	▪	▪	STD
	GW-771	GRIDC1	▪	▪	▪	▪	STD
	GW-772	GRIDC1	▪	▪	▪	▪	STD

Table 3 (cont'd)

Monitoring Program	Sampling Point	Location ¹	Quarter Sampled ²				Analytical Parameters ³ /Notes
			1st	2nd	3rd	4th	
Grid Well Monitoring (cont'd)							
	GW-773	GRIDH2	▪	▪	▪	▪	STD
	GW-774	GRIDH2	▪	▪	▪	▪	STD
	GW-775	GRIDH3	▪	▪	▪	▪	STD
	GW-776	GRIDH3	▪	▪	▪	▪	STD
	GW-777	GRIDB2	.	▪	▪	▪	STD/ New well, added 2nd qtr
	GW-778	GRIDB2	.	▪	▪	▪	STD/ New well, added 2nd qtr
	GW-779	GRIDF2	.	▪	▪	▪	STD/ New well, added 2nd qtr
	GW-780	GRIDF2	.	▪	▪	▪	STD/ New well, added 2nd qtr
	GW-781	GRIDE3	.	▪	▪	▪	STD/ New well, added 2nd qtr
	GW-782	GRIDE3	.	▪	▪	▪	STD/ New well, added 2nd qtr
	GW-783	GRIDE3	.	▪	▪	▪	STD/ New well, added 2nd qtr
	GW-784	GRIDD1	.	▪	▪	▪	STD/ New well, added 2nd qtr
	GW-785	GRIDD1	.	▪	▪	▪	STD/ New well, added 2nd qtr
	GW-786	GRIDE2	.	▪	▪	▪	STD/ New well, added 2nd qtr
	GW-787	GRIDE2	.	▪	▪	▪	STD/ New well, added 2nd qtr
	GW-788	GRIDF3	.	▪	▪	▪	STD/ New well, added 2nd qtr
	GW-789	GRIDF3	.	▪	▪	▪	STD/ New well, added 2nd qtr
	GW-791	GRIDD2	.	▪	▪	▪	STD/ New well, added 2nd qtr
	GW-792	GRIDD2	.	▪	▪	▪	STD/ New well, added 2nd qtr
	GW-817	GRIDK3	.	.	▪	▪	STD/ New well, added 3rd qtr
UST Monitoring							
	GW-505	RG	▪	.	.	.	STD, TPH/ Program terminated
	GW-508	RG	▪	.	.	.	STD, TPH/ Program terminated
	GW-631	RG	▪	.	.	.	STD, TPH/ Program terminated
	GW-632	RG	▪	.	.	.	STD, TPH/ Program terminated
	GW-633	RG	▪	.	.	.	STD, TPH/ Program terminated
	GW-634	RG	▪	.	.	.	STD, TPH/ Program terminated

Table 3 (cont'd)

Notes:

- 1 B4 - Beta-4 Security Pits
 EXP - Exit Pathway:
 Maynardville Limestone Transverse (-E, -I, -J)
 Offsite, in Union Valley (-UV)
 Along Scarboro Road in the gap through Pine Ridge (-SR)
 Surface Water Sampling Location (-SW)
 FTF - Fire Training Facility
 GRID - Comprehensive Groundwater Monitoring Plan Grid Location (see Figure 4)
 NHP - New Hope Pond
 RG - Rust Garage Area
 S2 - S-2 Site
 SY - Y-12 Salvage Yard
 WC - Waste Coolant Processing Area

- 2 ■ - sample collected during specified quarter of CY 1994
 . - sample not collected
 First Quarter: January 14 - March 4
 Second Quarter: April 22 - June 16
 Third Quarter: July 30 - September 28
 Fourth Quarter: October 25 - December 27

- 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 (AAS) Metals

Cadmium
 Chromium
 Lead

• Other Metals

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

Table 3 (cont'd)

Notes: (cont'd)

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

- 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
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
 - Total Dissolved Solids
 - Turbidity
- Field Measurements
 - Static Water Level
 - pH
 - Temperature
 - Dissolved Oxygen
 - Specific Conductance
 - Oxidation - Reduction Potential

Table 3 (cont'd)

Notes: (cont'd)

3

RAD - Radionuclides:

Note: initiated during the 3rd quarter sampling event

Americium (²⁴¹ Am)	Strontium (total)
Iodine (¹²⁹ I, ¹³¹ I)	Technetium (⁹⁹ Tc)
Neptunium (²³⁷ Np)	Tritium (³ H)
Plutonium (²³⁸ Pu, ²³⁹ Pu)	Uranium (²³⁴ U, ²³⁵ U, ²³⁸ U)
Radium (total)	Gamma Activity (spectrum)

BNA - Base/Neutral/Acid Extractable Organic Compounds:

Note: initiated during the 3rd quarter sampling event

Acenaphthene	Naphthalene
Acenaphthylene	Nitrobenzene
Anthracene	Pentachlorophenol
Benzo (A) Anthracene	Phenol
Benzo (A) Pyrene	Phenanthrene
Benzo (B) Fluoranthene	Pyrene
Benzo (G,H,I) Perylene	4-Bromophenyl Phenyl Ether
Benzo (K) Fluoranthene	2-Chloronaphthalene
Benzyl Alcohol	2-Chlorophenol
Bis (2-Chloroethoxy) Methane	4-Chlorophenyl Phenyl Ether
Bis (2-Chloroethyl) Ether	4-Chloro-3-Methylphenol
Bis (2-Chloroisopropyl) Ether	4-Chloroaniline
Bis (2-Ethylhexyl) Phthalate	1,2-Dichlorobenzene
Butyl Benzyl Phthalate	1,3-Dichlorobenzene
Carbazole	1,4-Dichlorobenzene
Chrysene	2,4-Dinitrotoluene
Dibenzofuran	2,6-Dinitrotoluene
Dibenzo (A,H) Anthracene	2,4-Dichlorophenol
Diethylphthalate	2,4-Dimethylphenol
Dimethylphthalate	2,4-Dinitrophenol
Di-N-Butylphthalate	3,3-Dichlorobenzidine
Di-N-Octylphthalate	4,6-Dinitro-2-Methylphenol
Fluoranthene	2-Methylnaphthalene
Fluorene	2-Methylphenol
Hexachlorobenzene	4-Methylphenol
Hexachlorobutadiene	2-Nitrophenol
Hexachlorocyclopentadiene	2-Nitroaniline
Hexachloroethane	3-Nitroaniline
Ideno(1,2,3-CD) Pyrene	4-Nitroaniline
Isophorone	4-Nitrophenol
N-Nitrosodi-N-Propylamine	1,2,4-Trichlorobenzene
N-Nitrosodiphenylamine	2,4,5-Trichlorophenol
	2,4,6-Trichlorophenol

TPH - Total Petroleum Hydrocarbons - Diesel Range Organics and/or Gasoline Range Organics

Table 4. General Construction Information¹ for Monitoring Wells Sampled During CY 1994

Well	Location ²	Aquifer ³			Monitored Interval ⁴					
		Unit	Form.	Interval	Depths			Elevations		
GW-148	NHP	AQF	Cmn	WT	4.6	-	11.1	899.9	-	893.4
GW-149	NHP	AQF	Cmn	BDR	36.0	-	50.5	868.8	-	854.3
GW-151	NHP	AQF	Cmn	BDR	85.0	-	96.5	828.1	-	816.6
GW-153	NHP	AQF	Cmn	BDR	45.0	-	60.0	873.5	-	858.5
GW-154	NHP	AQF	Cmn	WT	4.7	-	11.2	903.9	-	897.4
GW-169	EXP-UV	AQF	Cmn	WT	28.7	-	34.7	901.3	-	895.3
GW-170 ^a	EXP-UV	AQF	Cmn	BDR	104.0	-	156.9	826.7	-	773.8
GW-171	EXP-UV	AQF	Cmn	WT	26.0	-	31.2	892.6	-	887.4
GW-172 ^a	EXP-UV	AQF	Cmn	BDR	105.0	-	133.8	818.1	-	789.3
GW-191	B4	AQT	Cm	WT	45.0	-	60.5	962.1	-	946.6
GW-192	B4	AQT	Cm	WT	6.5	-	17.5	999.5	-	988.5
GW-194	B4	AQT	Cm	WT	6.5	-	12.6	986.0	-	979.9
GW-195	B4	AQT	Cm	WT	17.0	-	23.0	983.2	-	977.1
GW-199	GRID11	AQT	Crg	WT	16.5	-	22.5	941.6	-	935.6
GW-206	EXP-SR	AQT	Cr	WT	10.0	-	16.9	884.7	-	877.8
GW-207 ^a	EXP-SR	AQT	Cr	BDR	100.0	-	109.6	794.7	-	785.1
GW-208 ^a	EXP-SR	AQT	Cr	BDR	404.0	-	412.8	490.5	-	481.7
GW-220	NHP	AQF	Cmn	BDR	31.0	-	45.2	881.7	-	867.5
GW-222	NHP	AQF	Cmn	BDR	18.0	-	25.0	890.8	-	883.8
GW-223	NHP	AQF	Cmn	BDR	79.0	-	90.5	830.0	-	818.5
GW-230 ^a	EXP-UV	AQF	Cmn	BDR	341.0	-	406.4	578.8	-	513.4
GW-232 ^a	EXP-UV	AQF	Cmn	BDR	401.0	-	411.7	528.5	-	517.8
GW-240	NHP	AQF	Cmn	BDR	21.0	-	29.5	898.5	-	890.0
GW-251	S2	AQF	Cmn	BDR	35.0	-	51.0	966.6	-	950.6
GW-252	S2	AQF	Cmn	WT	40.2	-	49.0	982.5	-	973.7
GW-255	S2	AQF	Cmn	WT	66.3	-	81.5	958.0	-	942.8
GW-261	SY	AQT	Cm	WT	16.7	-	23.7	1,030.9	-	1,023.9

Table 4 (cont'd)

Well	Location ²	Aquifer ³			Monitored Interval ⁴					
		Unit	Form.	Interval	Depths			Elevations		
GW-262	SY	AQT	Cm	BDR	57.7	-	70.6	989.6	-	976.7
GW-263	SY	AQT	Cm	WT	23.0	-	30.8	1,032.1	-	1,024.3
GW-264	SY	AQT	Cm	BDR	58.5	-	71.0	997.0	-	984.5
GW-337	WC	AQT	Cn	WT	15.0	-	22.1	969.1	-	962.0
GW-338	WC	AQT	Cn	WT	11.2	-	17.6	972.8	-	966.4
GW-380	NHP	AQF	Cmn	WT	2.8	-	15.5	910.9	-	898.2
GW-381 ^a	NHP	AQF	Cmn	BDR	49.3	-	60.4	864.1	-	853.0
GW-382 ^a	NHP	AQF	Cmn	BDR	125.0	-	173.0	788.2	-	740.2
GW-383	NHP	AQT	Cn	WT	16.6	-	23.6	889.4	-	882.4
GW-384 ^a	NHP	AQT	Cn	WT	35.5	-	55.7	869.9	-	849.7
GW-385 ^a	NHP	AQT	Cn	BDR	123.7	-	178.7	782.2	-	727.2
GW-505	RG	AQT	Cn	WT	1.5	-	13.5	1,010.1	-	998.1
GW-508	RG	AQT	Cn	WT	1.3	-	15.0	1,008.3	-	994.6
GW-603	EXP-J	AQF	Cmn	BDR	63.4	-	75.2	896.0	-	884.2
GW-604	EXP-J	AQF	Cmn	BDR	100.2	-	112.4	859.3	-	847.1
GW-605	EXP-I	AQF	Cmn	BDR	28.2	-	39.9	888.8	-	877.1
GW-606	EXP-I	AQF	Cmn	BDR	155.0	-	171.7	762.0	-	745.3
GW-617	EXP-E	AQF	Cmn	WT	6.8	-	18.0	975.8	-	964.6
GW-618	EXP-E	AQF	Cmn	WT	26.0	-	37.0	956.6	-	945.6
GW-619	FTF	AQF	Cmn	WT	26.8	-	40.8	985.9	-	971.9
GW-620	FTF	AQF	Cmn	WT	61.7	-	75.0	951.1	-	937.8
GW-631	RG	AQT	Cn	WT	4.0	-	16.0	1,000.1	-	988.1
GW-632	RG	AQT	Cn	WT	3.5	-	15.0	1,002.5	-	991.0
GW-633	RG	AQT	Cn	WT	3.5	-	15.0	993.0	-	981.5
GW-634	RG	AQT	Cn	WT	3.5	-	15.0	1,003.8	-	992.3
GW-733 ^a	EXP-J	AQF	Cmn	BDR	240.1	-	256.5	715.6	-	699.2
GW-735	EXP-J	AQT	Cn	WT	67.5	-	79.2	853.8	-	842.1

Table 4 (cont'd)

Well	Location ²	Aquifer ³			Monitored Interval ⁴					
		Unit	Form.	Interval	Depths			Elevations		
GW-744	GRIDK1	AQT	Cpv	BDR	55.0	-	69.5	850.1	-	835.6
GW-745	GRIDK1	AQT	Cpv	BDR	21.2	-	32.8	883.1	-	871.5
GW-746	GRIDK1	AQT	Cpv	WT	3.2	-	15.2	901.1	-	889.1
GW-747	GRIDK2	AQT	Cm	BDR	67.4	-	79.6	850.9	-	838.7
GW-748	GRIDK2	AQT	Cm	BDR	14.8	-	27.2	904.1	-	891.7
GW-749	GRIDK2	AQT	Cm	WT	4.8	-	16.4	913.9	-	902.3
GW-750	EXP-J	AQT	Cn	BDR	61.2	-	72.7	854.8	-	843.3
GW-751	GRIDJ3	AQT	Cn	BDR	49.0	-	60.6	860.4	-	848.8
GW-752	GRIDJ3	AQT	Cn	WT	4.8	-	15.9	905.0	-	893.9
GW-758	GRIDG1	AQT	Crt	BDR	38.4	-	50.2	951.3	-	939.5
GW-759	GRIDG1	AQT	Crg	WT	18.0	-	30.2	973.0	-	960.8
GW-760	GRIDG2	AQT	Cm	BDR	48.3	-	60.1	918.2	-	906.4
GW-761	GRIDG2	AQT	Cm	WT	3.6	-	15.3	961.3	-	949.
GW-762	GRIDJ3	AQT	Cn	BDR	46.4	-	58.7	865.5	-	853.2
GW-763	GRIDJ3	AQT	Cn	WT	4.0	-	16.0	907.4	-	895.4
GW-764	GRIDE1	AQT	Crg	BDR	53.9	-	65.0	952.8	-	941.7
GW-765	GRIDE1	AQT	Crg	WT	19.9	-	32.4	985.6	-	973.1
GW-766	GRIDI2	AQT	Cm	BDR	34.0	-	47.6	910.7	-	897.1
GW-767	GRIDI2	AQT	Cm	BDR	6.7	-	18.0	938.5	-	927.2
GW-768	GRIDI1	AQT	Crg	BDR	53.3	-	65.0	903.4	-	891.7
GW-769	GRIDG3	AQT	Cn	BDR	48.2	-	60.3	893.3	-	881.2
GW-770	GRIDG3	AQT	Cn	BDR	7.5	-	19.0	934.2	-	922.7
GW-771	GRIDC1	AQT	Crg	BDR	42.2	-	54.4	966.1	-	953.9
GW-772	GRIDC1	AQT	Crt	BDR	3.8	-	17.0	1,005.8	-	992.6
GW-773	GRIDH2	AQT	Cm	BDR	46.1	-	59.6	914.6	-	901.1
GW-774	GRIDH2	AQT	Cm	BDR	12.5	-	26.6	947.6	-	933.5
GW-775	GRIDH3	AQT	Cn	BDR	45.0	-	56.4	886.5	-	875.1

Table 4 (cont'd)

Well	Location ²	Aquifer ³			Monitored Interval ⁴					
		Unit	Form.	Interval	Depths			Elevations		
GW-776	GRIDH3	AQT	Cn	BDR	10.6	-	23.0	920.8	-	908.4
GW-777	GRIDB2	AQT	Cm	BDR	46.1	-	59.0	952.8	-	939.9
GW-778	GRIDB2	AQT	Cm	BDR	7.8	-	21.9	990.5	-	976.4
GW-779	GRIDF2	AQT	Cm	BDR	50.7	-	62.9	909.0	-	896.8
GW-780	GRIDF2	AQT	Cn	BDR	4.6	-	18.6	955.6	-	941.6
GW-781	GRIDE3	AQT	Cn	BDR	56.0	-	69.3	888.7	-	875.4
GW-782	GRIDE3	AQT	Cn	BDR	23.8	-	35.9	920.7	-	908.6
GW-783	GRIDE3	AQT	Cn	BDR	3.6	-	16.3	942.2	-	929.5
GW-784	GRIDD1	AQT	Crg	BDR	52.0	-	63.4	953.8	-	942.4
GW-785	GRIDD1	AQT	Cm	BDR	11.5	-	25.4	994.4	-	980.5
GW-786	GRIDE2	AQT	Cm	BDR	52.9	-	64.9	932.3	-	920.3
GW-787	GRIDE2	AQT	Cm	BDR	5.3	-	18.1	979.5	-	966.7
GW-788	GRIDF3	AQT	Cn	BDR	55.9	-	67.8	877.9	-	866.0
GW-789	GRIDF3	AQT	Cn	BDR	10.7	-	23.8	923.7	-	910.6
GW-791	GRIDD2	AQT	Cm	BDR	57.5	-	70.6	931.0	-	917.9
GW-792	GRIDD2	AQT	Cm	BDR	17.0	-	29.0	972.5	-	960.5
GW-816	EXP-SR	AQT	Cr	WT	2.9	-	15.8	891.7	-	878.8
GW-817	GRIDK3	AQT	Cn	WT	0.6	-	23.0	914.0	-	891.6

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. 1994).

Table 4 (cont'd)

Notes: (cont'd)

- 2
 - B4 - Beta-4 Security Pits
 - EXP - Exit Pathway:
 - Maynardville Limestone Transverse (-E, -I, -J)
 - Offsite in Union Valley (-UV)
 - Along Scarboro Road in the gap through Pine Ridge (-SR)
 - FTF - Fire Training Facility
 - GRID - Comprehensive Groundwater Monitoring Plan Grid Location (see Figure 4)
 - NHP - New Hope Pond
 - RG - Rust Garage Area
 - S2 - S-2 Site
 - SY - Y-12 Salvage Yard
 - WC - Waste Coolant Processing Area

- 3
 - Unit: Hydrostratigraphic unit
 - AQF - Knox Aquifer
 - AQT - ORR Aquitards

 - Form.: Geologic Formation
 - Cmn - Maynardville Limestone
 - Cn - Nolichucky Shale
 - Cm - Maryville Limestone
 - Crg - Rogersville Shale
 - Crt - Rutledge Limestone
 - Cpv - Pumpkin Valley Shale
 - Cr - Rome Formation

 - Interval: determined from the placement of the top of the monitored interval
 - BDR - Bedrock (Shallow, Intermediate, and Deep Intervals)
 - WT - Water table Interval (above unweathered bedrock)

- 4
 - Depth in feet from the ground surface.
 - Elevation in feet above mean sea level.

- a
 - Open-hole well construction.

APPENDIX C

MONITORING WELL CONSTRUCTION DETAILS

EXPLANATION

LOCATION:

- B4 - Beta-4 Security Pits
- EXP - Exit Pathway:
 - Maynardville Limestone Transverse (-E, -I, -J)
 - Offsite, in Union Valley (-UV)
 - Along Scarboro Road in the gap through Pine Ridge (-SR)
- 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
- WC - Waste Coolant Processing Area

GENERAL INFORMATION:

- Coordinates - Y-12 Plant grid system
- Elevations - Feet above mean sea level
- Depths - Feet below ground surface
- AQF - Knox Aquifer
- AQT - ORR Aquitards
- BDR - Bedrock Interval
- WT - Water Table Interval
- OCk - Knox Group
- Cmn - Maynardville Limestone
- Cn - Nolichucky Shale
- Cm - Maryville Limestone
- Crg - Rogersville Shale
- Crt - Rutledge Limestone
- Cpv - Pumpkin Valley Shale
- Cr - Rome Formation
- . - Not Applicable or not available

CASING:

- Casing Diameter - Outside diameter, in inches
- Borehole Diameter - Nominal diameter, in inches
- Casing Material:
 - PVC - Polyvinyl chloride
 - SS - Stainless Steel

EXPLANATION (cont'd)

MONITORED INTERVAL:

- Top - Depth to top of filter pack or open-hole
- Bottom - Depth to bottom of filter pack or open-hole
- Screen Material:
 - PVC/sl - Slotted
 - PVC/sw/.01 - Spiral wound, 0.01 inch slot size
 - SS/sw/.01 - Spiral wound, 0.01 inch slot size

Length of screen and open hole interval is in feet.

NOTE:

Data 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., 1994).

APPENDIX C
Monitoring Well Construction Details

1

Well No.	GW-148	GW-149	GW-151	GW-153	GW-154	GW-169	GW-170
Location	NHP	NHP	NHP	NHP	NHP	EXP-UV	EXP-UV
GENERAL INFORMATION	.	.	.	.	.	.	.
East Coordinate	63817.00	63824.00	64232.00	63728.00	63346.00	66855.00	66843.00
North Coordinate	29202.00	29201.00	28958.00	28613.00	28987.00	28545.00	28545.00
Measuring Pt. Elevation	907.36	907.72	915.97	921.44	911.50	931.87	932.44
Surface Elevation	904.53	904.76	913.06	918.53	908.60	929.95	930.70
Hydrostratigraphic Unit	AQF	AQF	AQF	AQF	AQF	AQF	AQF
Geologic Formation	Cmn	Cmn	Cmn	Cmn	Cmn	Cmn	Cmn
Aquifer Zone	WT	BDR	BDR	BDR	WT	WT	BDR
Weathered Rock - Depth	11.1	9.0	12.0	.	11.2	.	.
Weathered Rock - Elevation	893.43	895.76	901.06	.	897.40	.	.
Fresh Rock - Depth	.	12.0	12.0	14.0	.	.	30.0
Fresh Rock - Elevation	.	892.76	901.06	904.53	.	.	900.70
Total Depth Drilled	11.1	50.5	96.5	60.0	11.2	42.0	156.9
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	.	.	12.0	14.0	.	.	30.0
Casing Diameter	.	.	12.50	12.50	.	.	8.63
Casing Material	.	.	PVC/#40	PVC/#40	.	.	PVC/#40
WELL CASING	.	.	.	.	.	.	.
Borehole Depth	11.1	50.5	96.5	60.0	11.2	42.0	104.0
Borehole Diameter	8.00	11.00	11.00	11.00	8.00	8.00	6.62
Well Casing Depth	11.1	47.5	96.5	59.5	11.2	34.8	104.0
Well Casing Diameter	4.50	4.50	4.50	4.50	4.50	2.37	4.38
Well Casing Material	PVC/#40	PVC/#40	PVC/#40	PVC/#40	PVC/#40	PVC/#40	Steel
MONITORED INTERVAL	.	.	.	.	.	.	.
Top - Depth	4.6	36.0	85.0	45.0	4.7	28.7	104.0
Top - Elevation	899.93	868.76	828.06	873.53	903.90	901.25	826.70
Midpoint - Depth	7.9	43.3	90.8	52.5	8.0	31.7	130.5
Midpoint - Elevation	896.68	861.51	822.31	866.03	900.65	898.25	800.25
Bottom - Depth	11.1	50.5	96.5	60.0	11.2	34.7	156.9
Bottom - Elevation	893.43	854.26	816.56	858.53	897.40	895.25	773.80
Screen Material	PVC/sw/.01	PVC/sw/.01	PVC/sw/.01	PVC/sw/.01	PVC/sw/.01	PVC/sl	.
Screen Length	5.5	10.0	10.0	10.0	5.0	5.0	.
Open-Hole Length	.	.	.	.	.	.	52.9
Open-Hole Diameter	.	.	.	.	.	.	3.88

(CONTINUED)

APPENDIX C
Monitoring Well Construction Details

2

Well No.	GW-171	GW-172	GW-191	GW-192	GW-194	GW-195	GW-199
Location	EXP-UV	EXP-UV	B4	B4	B4	B4	GRID11
GENERAL INFORMATION	.	.	.	.	.	.	.
East Coordinate	69654.00	69579.00	54279.00	54277.00	54218.00	54089.00	62464.00
North Coordinate	28403.00	28359.00	30780.00	30772.00	30583.00	30573.00	30283.00
Measuring Pt. Elevation	920.10	924.79	1011.14	1008.63	995.36	1002.94	961.08
Surface Elevation	918.55	923.07	1007.10	1006.04	992.47	1000.23	958.06
Hydrostratigraphic Unit	AQF	AQF	AQT	AQT	AQT	AQT	AQT
Geologic Formation	Cmn	Cmn	Cm	Cm	Cm	Cm	Crg
Aquifer Zone	WT	BDR	WT	WT	WT	WT	WT
Weathered Rock - Depth	.	15.0	.	17.5	12.6	23.0	0.8
Weathered Rock - Elevation	.	908.07	.	988.54	979.87	977.23	957.26
Fresh Rock - Depth	.	19.0	.	.	.	.	18.0
Fresh Rock - Elevation	.	904.07	.	.	.	.	940.06
Total Depth Drilled	31.2	133.8	60.5	17.5	12.6	23.0	22.5
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	.	35.0	17.0	.	.	.	.
Casing Diameter	.	8.63	12.50	.	.	.	.
Casing Material	.	.	PVC/#40	.	.	.	.
WELL CASING	.	.	.	.	.	.	.
Borehole Depth	31.2	105.0	60.5	17.5	12.6	23.0	22.5
Borehole Diameter	8.00	6.62	11.00	6.00	8.00	6.00	8.00
Well Casing Depth	31.2	105.0	60.0	17.5	12.5	23.0	22.5
Well Casing Diameter	2.37	4.38	4.50	4.50	4.50	4.50	4.50
Well Casing Material	PVC/#40	Steel	PVC/#40	PVC/#40	PVC/#40	PVC/#40	PVC/#40
MONITORED INTERVAL	.	.	.	.	.	.	.
Top - Depth	26.0	105.0	45.0	6.5	6.5	17.0	16.5
Top - Elevation	892.55	818.07	962.10	999.54	985.97	983.23	941.56
Midpoint - Depth	28.6	119.4	52.8	12.0	9.6	20.0	19.5
Midpoint - Elevation	889.95	803.67	954.35	994.04	982.92	980.23	938.56
Bottom - Depth	31.2	133.8	60.5	17.5	12.6	23.0	22.5
Bottom - Elevation	887.35	789.27	946.60	988.54	979.87	977.23	935.56
Screen Material	PVC/sl	.	PVC/sw/.01	PVC/sw/.01	PVC/sw/.01	PVC/sw/.01	PVC/sw/.01
Screen Length	4.4	.	10.0	10.0	5.0	6.0	5.0
Open-Hole Length	.	28.8	.	.	.	.	.
Open-Hole Diameter	.	3.63	.	.	.	.	.

(CONTINUED)

APPENDIX C
Monitoring Well Construction Details

3

Well No.	GW-206	GW-207	GW-208	GW-220	GW-222	GW-223	GW-230
Location	EXP-SR	EXP-SR	EXP-SR	NHP	NHP	NHP	EXP-UV
GENERAL INFORMATION	.	.	.	.	.	.	.
East Coordinate	64019.00	64023.00	64007.00	64225.00	63324.00	63311.00	69617.00
North Coordinate	31603.00	31596.00	31612.00	28949.00	28954.00	28938.00	28389.00
Measuring Pt. Elevation	984.97	901.81	901.30	915.64	911.82	911.62	920.85
Surface Elevation	894.65	894.66	894.52	912.74	908.82	908.97	919.81
Hydrostratigraphic Unit	AQT	AQT	AQT	AQF	AQF	AQF	AQF
Geologic Formation	Cr	Cr	Cr	Cmn	Cmn	Cmn	Cmn
Aquifer Zone	WT	BDR	BDR	BDR	BDR	BDR	BDR
Weathered Rock - Depth	.	.	.	.	.	.	19.0
Weathered Rock - Elevation	.	.	.	.	.	.	900.81
Fresh Rock - Depth	.	.	12.0	11.0	10.0	10.0	38.0
Fresh Rock - Elevation	.	.	882.52	901.74	898.82	898.97	881.81
Total Depth Drilled	16.9	109.6	412.8	45.2	25.0	90.5	406.4
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	.	17.0	24.0	13.0	11.0	11.0	31.0
Casing Diameter	.	8.63	8.63	12.50	12.50	12.50	8.63
Casing Material	.	PVC/#40	PVC/#40	PVC/#40	PVC/#40	PVC/#40	Steel
WELL CASING	.	.	.	.	.	.	.
Borehole Depth	16.9	100.0	404.0	45.2	25.0	90.5	341.0
Borehole Diameter	8.00	7.87	6.62	11.00	11.00	11.00	5.50
Well Casing Depth	16.9	100.0	404.0	45.2	25.0	90.5	341.0
Well Casing Diameter	2.37	4.38	4.38	4.50	4.50	4.50	4.38
Well Casing Material	PVC/#40	PVC/#40	Steel	PVC/#40	PVC/#40	PVC/#40	Steel
MONITORED INTERVAL	.	.	.	.	.	.	.
Top - Depth	10.0	100.0	404.0	31.0	18.0	79.0	341.0
Top - Elevation	884.65	794.66	490.52	881.74	890.82	829.97	578.81
Midpoint - Depth	13.5	104.8	408.4	38.1	21.5	84.8	373.7
Midpoint - Elevation	881.20	789.86	486.12	874.64	887.32	824.22	546.11
Bottom - Depth	16.9	109.6	412.8	45.2	25.0	90.5	406.4
Bottom - Elevation	877.75	785.06	481.72	867.54	883.82	818.47	513.41
Screen Material	PVC/sw/.01	.	.	PVC/sw/.01	PVC/sw/.01	PVC/sw/.01	.
Screen Length	5.1	.	.	10.0	5.0	10.0	.
Open-Hole Length	.	9.6	8.8	.	.	.	65.4
Open-Hole Diameter	.	3.88	3.63	.	.	.	3.63

(CONTINUED)

APPENDIX C
Monitoring Well Construction Details

4

Well No.	GW-232	GW-240	GW-251	GW-252	GW-255	GW-261	GW-262
Location	EXP-UV	NHP	S2	S2	S2	SY	SY
GENERAL INFORMATION	.	.	.	.	.	.	.
East Coordinate	66863.00	63726.00	53843.00	53920.00	53906.00	53094.00	53106.00
North Coordinate	28546.00	28604.00	29467.00	29326.00	29330.00	30914.00	30913.00
Measuring Pt. Elevation	931.22	922.90	1003.60	1024.21	1027.13	1049.99	1049.67
Surface Elevation	929.52	919.50	1001.60	1022.66	1024.27	1047.57	1047.32
Hydrostratigraphic Unit	AQF	AQF	AQF	AQF	AQF	AQT	AQT
Geologic Formation	Cmn	Cmn	Cmn	Cmn	Cmn	Cm	Cm
Aquifer Zone	BDR	BDR	BDR	WT	WT	WT	BDR
Weathered Rock - Depth	.	.	.	.	.	.	.
Weathered Rock - Elevation	.	.	.	.	.	.	.
Fresh Rock - Depth	.	14.0	32.5	.	.	23.0	20.0
Fresh Rock - Elevation	.	905.50	969.10	.	.	1024.57	1027.32
Total Depth Drilled	411.7	29.5	51.0	49.0	81.5	23.7	70.6
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	33.0	14.0	.	.	43.0	.	37.8
Casing Diameter	8.63	12.50	.	.	10.50	.	10.63
Casing Material	PVC/#40	PVC/#40	.	.	PVC/#40	.	PVC/#40
WELL CASING	.	.	.	.	.	.	.
Borehole Depth	401.0	29.5	51.0	49.0	81.5	23.7	70.6
Borehole Diameter	6.62	11.00	8.25	8.25	9.62	10.00	10.00
Well Casing Depth	401.0	29.0	47.1	48.8	81.3	23.7	70.6
Well Casing Diameter	4.38	4.50	4.50	4.50	4.50	4.50	4.50
Well Casing Material	Steel	PVC/#40	PVC/#40	PVC/#40	SS/#304	SS/#304	SS/#304
MONITORED INTERVAL	.	.	.	.	.	.	.
Top - Depth	401.0	21.0	35.0	40.2	66.3	16.7	57.7
Top - Elevation	528.52	898.50	966.60	982.46	957.97	1030.87	989.62
Midpoint - Depth	406.4	25.3	43.0	44.6	73.9	20.2	64.2
Midpoint - Elevation	523.17	894.25	958.60	978.06	950.37	1027.37	983.17
Bottom - Depth	411.7	29.5	51.0	49.0	81.5	23.7	70.6
Bottom - Elevation	517.82	890.00	950.60	973.66	942.77	1023.87	976.72
Screen Material	.	PVC/sw/.01	PVC/sw/.01	PVC/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
Open-Hole Length	10.7	.	.	.	.	.	.
Open-Hole Diameter	3.88	.	.	.	.	.	.

(CONTINUED)

APPENDIX C
Monitoring Well Construction Details

5

Well No.	GW-263	GW-264	GW-337	GW-338	GW-380	GW-381	GW-382
Location	SY	SY	WC	WC	NHP	NHP	NHP
GENERAL INFORMATION	.	.	.	.	.	.	.
East Coordinate	53674.00	53670.00	54519.00	54430.00	62938.00	62947.00	62956.00
North Coordinate	30885.00	30872.00	30057.00	30134.00	28714.00	28715.00	28716.00
Measuring Pt. Elevation	1057.73	1058.30	987.31	987.27	913.55	913.36	913.17
Surface Elevation	1055.13	1055.54	984.12	984.02	913.66	913.40	913.16
Hydrostratigraphic Unit	AQT	AQT	AQT	AQT	AQF	AQF	AQF
Geologic Formation	Cm	Cm	Cn	Cn	Cmn	Cmn	Cmn
Aquifer Zone	WT	BDR	WT	WT	WT	BDR	BDR
Weathered Rock - Depth	.	.	.	6.0	15.5	13.5	12.7
Weathered Rock - Elevation	.	.	.	978.02	898.16	899.90	900.46
Fresh Rock - Depth	30.0	33.0	.	.	.	26.0	17.0
Fresh Rock - Elevation	1025.13	1022.54	.	.	.	887.40	896.16
Total Depth Drilled	30.8	71.0	22.1	17.6	15.5	60.4	173.0
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	.	35.0	.	.	.	13.5	12.7
Casing Diameter	.	10.63	.	.	.	13.00	10.75
Casing Material	.	PVC/#40	.	.	.	unknown	unknown
WELL CASING	.	.	.	.	.	.	.
Borehole Depth	30.8	71.0	22.1	17.6	15.5	49.3	125.0
Borehole Diameter	10.00	10.00	10.00	10.00	10.00	9.50	9.50
Well Casing Depth	30.8	70.7	22.1	17.6	15.5	49.3	125.0
Well Casing Diameter	4.50	4.50	4.50	4.50	4.50	6.62	6.62
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	Steel/F25	Steel/F25
MONITORED INTERVAL	.	.	.	.	.	.	.
Top - Depth	23.0	58.5	15.0	11.2	2.8	49.3	125.0
Top - Elevation	1032.13	997.04	969.12	972.82	910.86	864.10	788.16
Midpoint - Depth	26.9	64.8	18.6	14.4	9.2	54.9	149.0
Midpoint - Elevation	1028.23	990.79	965.57	969.62	904.51	858.55	764.16
Bottom - Depth	30.8	71.0	22.1	17.6	15.5	60.4	173.0
Bottom - Elevation	1024.33	984.54	962.02	966.42	898.16	853.00	740.16
Screen Material	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	.	.
Screen Length	5.3	10.2	5.4	5.5	5.4	.	.
Open-Hole Length	.	.	.	.	.	11.1	48.0
Open-Hole Diameter	.	.	.	.	.	6.10	6.13

(CONTINUED)

APPENDIX C
Monitoring Well Construction Details

6

Well No.	GW-383	GW-384	GW-385	GW-505	GW-508	GW-603	GW-604
Location	NHP	NHP	NHP	RG	RG	EXP-J	EXP-J
GENERAL INFORMATION	.	.	.	.	.	.	.
East Coordinate	63522.00	63530.00	63526.00	53037.00	53148.00	64803.26	64836.82
North Coordinate	29201.00	29216.00	29208.00	30400.00	30281.00	28429.84	28436.97
Measuring Pt. Elevation	908.50	908.38	908.87	1014.78	1012.50	961.32	960.86
Surface Elevation	906.00	905.38	905.87	1011.60	1009.56	959.41	959.53
Hydrostratigraphic Unit	AQT	AQT	AQT	AQT	AQT	AQF	AQF
Geologic Formation	Cn	Cn	Cn	Cn	Cn	Cmn	Cmn
Aquifer Zone	WT	WT	BDR	WT	WT	BDR	BDR
Weathered Rock - Depth	11.5	12.0	11.0	.	.	24.0	31.0
Weathered Rock - Elevation	894.50	893.38	894.87	.	.	935.41	928.53
Fresh Rock - Depth	.	.	.	.	.	60.0	55.0
Fresh Rock - Elevation	.	.	.	.	.	899.41	904.53
Total Depth Drilled	24.1	55.7	178.7	13.5	15.0	75.2	112.4
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	5.0	16.0	13.0	.	.	31.9	95.2
Casing Diameter	10.75	10.75	13.00	.	.	10.75	10.75
Casing Material	unknown	unknown	unknown	.	.	Steel	Steel
WELL CASING	.	.	.	.	.	.	.
Borehole Depth	24.1	35.5	123.7	13.5	15.0	75.2	112.4
Borehole Diameter	8.75	9.50	9.50	7.00	7.00	9.50	9.50
Well Casing Depth	23.6	35.5	123.7	13.3	13.7	75.2	112.4
Well Casing Diameter	4.50	6.62	6.62	2.37	2.37	4.50	4.50
Well Casing Material	SS/#304	Steel/F25	Steel/F25	SS/#304	SS/#304	SS/#304	SS/#304
MONITORED INTERVAL	.	.	.	.	.	.	.
Top - Depth	16.6	35.5	123.7	1.5	1.3	63.4	100.2
Top - Elevation	889.40	869.88	782.17	1010.10	1008.26	896.01	859.33
Midpoint - Depth	20.1	45.6	151.2	7.5	8.2	69.3	106.3
Midpoint - Elevation	885.90	859.78	754.67	1004.10	1001.41	890.11	853.23
Bottom - Depth	23.6	55.7	178.7	13.5	15.0	75.2	112.4
Bottom - Elevation	882.40	849.68	727.17	998.10	994.56	884.21	847.13
Screen Material	SS/sw/.01	.	.	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01
Screen Length	5.0	.	.	10.4	10.3	10.3	9.9
Open-Hole Length	.	20.2	55.0	.	.	.	.
Open-Hole Diameter	.	6.00	6.00	.	.	.	.

(CONTINUED)

APPENDIX C
Monitoring Well Construction Details

7

Well No.	GW-605	GW-606	GW-617	GW-618	GW-619	GW-620	GW-631
Location	EXP-I	EXP-I	EXP-E	EXP-E	FTF	FTF	RG
GENERAL INFORMATION	.	.	.	.	.	.	.
East Coordinate	62001.50	61951.42	54755.65	54738.12	52905.94	52894.57	53144.93
North Coordinate	28706.83	28708.32	29806.44	29798.46	29562.80	29564.54	30202.77
Measuring Pt. Elevation	918.88	919.39	985.11	984.94	1015.24	1015.34	1003.99
Surface Elevation	916.97	916.98	982.61	982.64	1012.74	1012.84	1004.11
Hydrostratigraphic Unit	AQF	AQF	AQF	AQF	AQF	AQF	AQT
Geologic Formation	Cmn	Cmn	Cmn	Cmn	Cmn	Cmn	Cn
Aquifer Zone	BDR	BDR	WT	WT	WT	WT	WT
Weathered Rock - Depth	.	.	.	27.0	40.0	41.0	.
Weathered Rock - Elevation	.	.	.	955.64	972.74	971.84	.
Fresh Rock - Depth	9.5	10.8	.	.	40.8	70.0	.
Fresh Rock - Elevation	907.47	906.18	.	.	971.94	942.84	.
Total Depth Drilled	40.5	175.0	18.0	37.0	40.8	75.0	16.0
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	9.5	10.8	.	27.5	.	42.5	.
Casing Diameter	11.75	16.00	.	10.75	.	10.75	.
Casing Material	Steel	Steel	.	Steel	.	Steel	.
WELL CASING	.	.	.	.	.	.	.
Borehole Depth	40.5	66.0	18.0	37.0	40.8	75.0	16.0
Borehole Diameter	10.60	9.63	9.50	9.50	9.50	9.50	10.50
Well Casing Depth	39.9	64.7	18.0	37.0	40.8	75.0	15.5
Well Casing Diameter	4.25	7.00	4.50	4.50	4.50	4.50	4.50
Well Casing Material	SS/#304	Steel	SS/#304	SS/#304	SS/#304	SS/#304	PVC
MONITORED INTERVAL	.	.	.	.	.	.	.
Top - Depth	28.2	155.0	6.8	26.0	26.8	61.7	4.0
Top - Elevation	888.77	761.98	975.81	956.64	985.94	951.14	1000.11
Midpoint - Depth	34.1	163.4	12.4	31.5	33.8	68.4	10.0
Midpoint - Elevation	882.92	753.63	970.21	951.14	978.94	944.49	994.11
Bottom - Depth	39.9	171.7	18.0	37.0	40.8	75.0	16.0
Bottom - Elevation	877.07	745.28	964.61	945.64	971.94	937.84	988.11
Screen Material	SS/sw/.01	SS/pp/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	PVC/sl/.01
Screen Length	10.2	10.7	10.3	10.3	10.8	10.8	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-632	GW-633	GW-634	GW-733	GW-735	GW-744	GW-745
Location	RG	RG	RG	EXP-J	EXP-J	GRIDK1	GRIDK1
GENERAL INFORMATION	.	.	.	.	.	.	.
East Coordinate	53077.90	53100.64	53256.62	65057.00	64872.00	64324.00	64309.00
North Coordinate	30236.97	30144.44	30222.38	28447.00	28867.00	30282.00	30278.00
Measuring Pt. Elevation	1005.73	996.50	1007.15	959.04	924.28	907.43	907.06
Surface Elevation	1005.95	996.52	1007.31	955.69	921.34	905.05	904.28
Hydrostratigraphic Unit	AQT	AQT	AQT	AQF	AQT	AQT	AQT
Geologic Formation	Cn	Cn	Cn	Cmn	Cn	Cpv	Cpv
Aquifer Zone	WT	WT	WT	BDR	WT	BDR	BDR
Weathered Rock - Depth	8.5	8.5	5.0	11.1	19.0	9.6	9.5
Weathered Rock - Elevation	997.45	988.02	1002.31	944.59	902.34	895.45	894.78
Fresh Rock - Depth	.	.	.	42.5	77.5	14.6	12.5
Fresh Rock - Elevation	.	.	.	913.19	843.84	890.45	891.78
Total Depth Drilled	15.0	15.0	15.0	256.5	83.0	69.5	33.0
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	.	.	.	51.8	25.5	27.6	.
Casing Diameter	.	.	.	11.75	11.75	10.00	.
Casing Material	.	.	.	.	.	.	.
WELL CASING	.	.	.	.	.	.	.
Borehole Depth	15.0	15.0	15.0	240.1	83.0	69.5	33.0
Borehole Diameter	10.50	10.50	10.50	10.60	10.60	9.87	9.87
Well Casing Depth	14.5	15.0	15.0	240.1	78.1	67.0	32.5
Well Casing Diameter	4.50	4.50	4.50	7.00	4.50	4.50	4.50
Well Casing Material	PVC	PVC	PVC	Steel/F25	SS/#304	SS/#304	SS/#304
MONITORED INTERVAL	.	.	.	.	.	.	.
Top - Depth	3.5	3.5	3.5	240.1	67.5	55.0	21.2
Top - Elevation	1002.45	993.02	1003.81	715.59	853.84	850.05	883.08
Midpoint - Depth	9.3	9.3	9.3	248.3	73.4	62.3	27.0
Midpoint - Elevation	996.70	987.27	998.06	707.39	847.99	842.80	877.28
Bottom - Depth	15.0	15.0	15.0	256.5	79.2	69.5	32.8
Bottom - Elevation	990.95	981.52	992.31	699.19	842.14	835.55	871.48
Screen Material	PVC/sl/.01	PVC/sl/.01	PVC/sl/.01	.	SS/sw/.01	SS/sw/.01	SS/sw/.01
Screen Length	10.0	10.0	10.0	.	10.2	10.0	10.0
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-746	GW-747	GW-748	GW-749	GW-750	GW-751	GW-752
Location	GRIDK1	GRIDK2	GRIDK2	GRIDK2	EXP-J	GRIDJ3	GRIDJ3
GENERAL INFORMATION	.	.	.	.	.	.	.
East Coordinate	64312.00	64569.57	64579.38	64585.74	64835.48	63248.80	63226.77
North Coordinate	30291.00	29729.81	29740.86	29726.40	28974.53	29310.00	29312.53
Measuring Pt. Elevation	906.88	920.96	921.17	921.19	918.86	912.05	912.78
Surface Elevation	904.26	918.33	918.89	918.69	915.96	909.38	909.76
Hydrostratigraphic Unit	AQT	AQT	AQT	AQT	AQT	AQT	AQT
Geologic Formation	Cpv	Cm	Cm	Cm	Cn	Cn	Cn
Aquifer Zone	WT	BDR	BDR	WT	BDR	BDR	WT
Weathered Rock - Depth	9.0	10.5	8.0	9.0	18.5	10.0	11.5
Weathered Rock - Elevation	895.26	907.83	910.89	909.69	897.46	899.38	898.26
Fresh Rock - Depth	11.0	12.0	11.8	11.0	24.8	12.0	12.5
Fresh Rock - Elevation	893.26	906.33	907.09	907.69	891.16	897.38	897.26
Total Depth Drilled	15.2	79.9	27.2	16.4	72.8	60.8	16.0
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	.	23.8	.	.	21.7	22.9	.
Casing Diameter	.	10.75	.	.	11.75	10.75	.
Casing Material	.	Steel	.	.	Steel	Steel	.
WELL CASING	.	.	.	.	.	.	.
Borehole Depth	15.2	23.8	27.2	16.4	72.8	60.8	16.0
Borehole Diameter	9.87	15.00	9.90	9.90	10.60	9.90	9.80
Well Casing Depth	14.8	69.2	17.0	6.0	62.4	50.1	15.5
Well Casing Diameter	4.50	4.50	4.50	4.50	4.50	4.50	4.50
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304
MONITORED INTERVAL	.	.	.	.	.	.	.
Top - Depth	3.2	67.4	14.8	4.8	61.2	49.0	4.8
Top - Elevation	901.06	850.93	904.09	913.89	854.76	860.38	904.96
Midpoint - Depth	9.2	73.5	21.0	10.6	67.0	54.8	10.3
Midpoint - Elevation	895.06	844.83	897.89	908.09	849.01	854.58	899.41
Bottom - Depth	15.2	79.6	27.2	16.4	72.7	60.6	15.9
Bottom - Elevation	889.06	838.73	891.69	902.29	843.26	848.78	893.86
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	10.3	9.9	9.9	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-758	GW-759	GW-760	GW-761	GW-762	GW-763	GW-764
Location	GRIDG1	GRIDG1	GRIDG2	GRIDG2	GRIDJ3	GRIDJ3	GRIDE1
GENERAL INFORMATION	.	.	.	.	.	.	.
East Coordinate	60331.97	60312.58	60207.30	60201.31	63192.53	63219.76	58461.86
North Coordinate	30853.74	30863.89	30160.44	30133.05	29114.91	29117.17	31026.68
Measuring Pt. Elevation	992.70	994.01	970.02	968.23	915.34	914.85	1009.87
Surface Elevation	989.65	991.04	966.51	964.91	911.85	911.38	1006.72
Hydrostratigraphic Unit	AQT	AQT	AQT	AQT	AQT	AQT	AQT
Geologic Formation	Crt	Crg	Cm	Cm	Cn	Cn	Crg
Aquifer Zone	BDR	WT	BDR	WT	BDR	WT	BDR
Weathered Rock - Depth	16.0	14.0	4.0	4.8	12.0	17.0	24.9
Weathered Rock - Elevation	973.65	977.04	962.51	960.11	899.85	894.38	981.82
Fresh Rock - Depth	19.0	20.0	12.5	11.5	14.5	.	33.9
Fresh Rock - Elevation	970.65	971.04	954.01	953.41	897.35	.	972.82
Total Depth Drilled	50.2	30.2	60.1	15.3	60.2	17.0	65.1
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	.	15.4	.	.	11.5	.	38.0
Casing Diameter	.	10.75	.	.	16.75	.	10.75
Casing Material	.	Steel	.	.	.	.	.
WELL CASING	.	.	.	.	.	.	.
Borehole Depth	50.2	30.2	60.1	15.3	60.2	17.0	65.1
Borehole Diameter	9.90	9.90	9.90	9.90	9.90	8.00	9.90
Well Casing Depth	40.2	18.9	49.7	5.3	58.2	15.4	64.9
Well Casing Diameter	4.50	4.50	4.50	4.50	4.50	4.50	4.50
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304
MONITORED INTERVAL	.	.	.	.	.	.	.
Top - Depth	38.4	18.0	48.3	3.6	46.4	4.0	53.9
Top - Elevation	951.25	973.04	918.21	961.31	865.45	907.38	952.82
Midpoint - Depth	44.3	24.1	54.2	9.4	52.6	10.0	59.5
Midpoint - Elevation	945.35	966.94	912.31	955.46	859.30	901.38	947.27
Bottom - Depth	50.2	30.2	60.1	15.3	58.7	16.0	65.0
Bottom - Elevation	939.45	960.84	906.41	949.61	853.15	895.38	941.72
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	10.1	9.9	9.6	10.0	10.3	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-765	GW-766	GW-767	GW-768	GW-769	GW-770	GW-771
Location	GRIDE1	GRIDI2	GRIDI2	GRIDI1	GRIDG3	GRIDG3	GRIDC1
GENERAL INFORMATION	.	.	.	.	.	.	.
East Coordinate	58481.71	62312.08	62294.12	62445.04	60230.01	60255.00	56360.67
North Coordinate	31025.53	29717.66	29725.79	30330.21	29510.42	29504.56	31331.05
Measuring Pt. Elevation	1008.54	948.37	948.54	959.73	944.26	944.55	1011.20
Surface Elevation	1005.53	944.67	945.17	956.65	941.53	941.67	1008.27
Hydrostratigraphic Unit	AQT	AQT	AQT	AQT	AQT	AQT	AQT
Geologic Formation	Crg	Cm	Cm	Crg	Cn	Cn	Crg
Aquifer Zone	WT	BDR	BDR	BDR	BDR	BDR	BDR
Weathered Rock - Depth	24.5	.	.	.	.	.	.
Weathered Rock - Elevation	981.03	.	.	.	.	.	.
Fresh Rock - Depth	.	.	.	.	.	.	.
Fresh Rock - Elevation	.	.	.	.	.	.	.
Total Depth Drilled	32.5	100.3	18.0	65.0	61.4	20.0	54.4
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	.	24.0	.	32.3	14.2	.	25.1
Casing Diameter	.	10.75	.	10.75	16.75	.	10.75
Casing Material	.	.	.	.	.	.	.
WELL CASING	.	.	.	.	.	.	.
Borehole Depth	32.5	47.6	18.0	65.0	61.4	20.0	54.4
Borehole Diameter	9.90	9.87	9.87	9.62	10.62	10.62	9.87
Well Casing Depth	32.2	44.9	17.8	64.6	59.4	18.5	53.8
Well Casing Diameter	4.50	4.50	4.50	4.50	4.50	4.50	4.50
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304
MONITORED INTERVAL	.	.	.	.	.	.	.
Top - Depth	19.9	34.0	6.7	53.3	48.2	7.5	42.2
Top - Elevation	985.63	910.67	938.47	903.35	893.33	934.17	966.07
Midpoint - Depth	26.1	40.8	12.4	59.2	54.3	13.3	48.3
Midpoint - Elevation	979.38	903.87	932.82	897.50	887.28	928.42	959.97
Bottom - Depth	32.4	47.6	18.0	65.0	60.3	19.0	54.4
Bottom - Elevation	973.13	897.07	927.17	891.65	881.23	922.67	953.87
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	10.3	10.0	10.0	9.9	10.0	10.0	14.8
Open-Hole Length	.	.	.	.	.	.	.
Open-Hole Diameter	.	.	.	.	.	.	.

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APPENDIX C
Monitoring Well Construction Details

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Well No.	GW-772	GW-773	GW-774	GW-775	GW-776	GW-777	GW-778
Location	GRIDC1	GRIDH2	GRIDH2	GRIDH3	GRIDH3	GRIDB2	GRIDB2
GENERAL INFORMATION	.	.	.	.	.	.	.
East Coordinate	56356.69	61388.81	61408.76	61277.82	61309.06	55118.94	55120.61
North Coordinate	31310.43	29878.95	29876.52	29272.38	29271.38	30942.73	30923.01
Measuring Pt. Elevation	1012.66	963.76	963.16	931.35	931.45	1002.30	1001.84
Surface Elevation	1009.60	960.72	960.09	931.48	931.44	998.89	998.31
Hydrostratigraphic Unit	AQT	AQT	AQT	AQT	AQT	AQT	AQT
Geologic Formation	Crt	Cm	Cm	Cn	Cn	Cm	Cm
Aquifer Zone	BDR	BDR	BDR	BDR	BDR	BDR	BDR
Weathered Rock - Depth	.	.	.	.	.	.	.
Weathered Rock - Elevation	.	.	.	.	.	.	.
Fresh Rock - Depth	.	.	.	.	.	.	.
Fresh Rock - Elevation	.	.	.	.	.	.	.
Total Depth Drilled	19.0	59.6	26.6	60.5	24.0	59.1	22.0
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	.	25.5	.	16.7	.	26.8	.
Casing Diameter	.	10.75	.	11.75	.	10.75	.
Casing Material	.	.	.	.	.	.	.
WELL CASING	.	.	.	.	.	.	.
Borehole Depth	19.0	59.6	26.6	60.5	24.0	59.1	22.0
Borehole Diameter	8.00	9.87	9.87	10.62	9.87	9.87	9.87
Well Casing Depth	15.2	58.7	25.8	56.3	22.3	58.1	21.2
Well Casing Diameter	4.50	4.50	4.50	4.50	4.50	4.50	4.50
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304
MONITORED INTERVAL	.	.	.	.	.	.	.
Top - Depth	3.8	46.1	12.5	45.0	10.6	46.1	7.8
Top - Elevation	1005.80	914.62	947.59	886.48	920.84	952.79	990.51
Midpoint - Depth	10.4	52.9	19.6	50.7	16.8	52.6	14.9
Midpoint - Elevation	999.20	907.87	940.54	880.78	914.64	946.34	983.46
Bottom - Depth	17.0	59.6	26.6	56.4	23.0	59.0	21.9
Bottom - Elevation	992.60	901.12	933.49	875.08	908.44	939.89	976.41
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	10.1	9.8	10.0	10.0	10.0	10.2
Open-Hole Length	.	.	.	.	.	.	.
Open-Hole Diameter	.	.	.	.	.	.	.

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APPENDIX C
Monitoring Well Construction Details

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Well No.	GW-779	GW-780	GW-781	GW-782	GW-783	GW-784	GW-785
Location	GRIDF2	GRIDF2	GRIDE3	GRIDE3	GRIDE3	GRIDD1	GRIDD1
GENERAL INFORMATION	.	.	.	.	.	.	.
East Coordinate	59246.82	59267.14	58117.83	58099.21	58112.53	57036.50	57050.04
North Coordinate	30225.86	30222.02	29710.78	29718.84	29734.28	31251.62	31246.88
Measuring Pt. Elevation	963.09	963.40	947.72	947.56	948.32	1009.27	1009.43
Surface Elevation	959.73	960.22	944.66	944.48	945.81	1005.81	1005.87
Hydrostratigraphic Unit	AQT	AQT	AQT	AQT	AQT	AQT	AQT
Geologic Formation	Cm	Cn	Cn	Cn	Cn	Crg	Cm
Aquifer Zone	BDR	BDR	BDR	BDR	BDR	BDR	BDR
Weathered Rock - Depth	.	.	.	.	.	.	.
Weathered Rock - Elevation	.	.	.	.	.	.	.
Fresh Rock - Depth	.	.	.	.	.	.	.
Fresh Rock - Elevation	.	.	.	.	.	.	.
Total Depth Drilled	63.1	20.0	69.6	36.0	16.3	64.3	25.5
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	23.3	.	23.8	.	.	26.9	.
Casing Diameter	10.75	.	10.75	.	.	11.75	.
Casing Material	.	.	.	.	.	.	.
WELL CASING	.	.	.	.	.	.	.
Borehole Depth	63.1	20.0	69.6	36.0	16.3	64.3	25.5
Borehole Diameter	9.87	8.00	9.87	9.87	9.87	9.87	8.00
Well Casing Depth	62.1	17.0	68.1	35.0	14.0	63.2	23.3
Well Casing Diameter	4.50	4.50	4.50	4.50	4.50	4.50	4.50
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304
MONITORED INTERVAL	.	.	.	.	.	.	.
Top - Depth	50.7	4.6	56.0	23.8	3.6	52.0	11.5
Top - Elevation	909.03	955.62	888.66	920.68	942.21	953.81	994.37
Midpoint - Depth	56.8	11.6	62.7	29.9	10.0	57.7	18.5
Midpoint - Elevation	902.93	948.62	882.01	914.63	935.86	948.11	987.42
Bottom - Depth	62.9	18.6	69.3	35.9	16.3	63.4	25.4
Bottom - Elevation	896.83	941.62	875.36	908.58	929.51	942.41	980.47
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	10.0	9.8	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-786	GW-787	GW-788	GW-789	GW-791	GW-792	GW-816
Location	GRIDE2	GRIDE2	GRIDF3	GRIDF3	GRIDD2	GRIDD2	EXP-SR
GENERAL INFORMATION	.	.	.	.	.	.	.
East Coordinate	58589.75	58588.32	59043.21	59044.56	57423.22	57442.16	64031.36
North Coordinate	30456.28	30437.24	29617.94	29644.68	30482.67	30481.19	31581.50
Measuring Pt. Elevation	987.80	987.85	937.07	937.30	989.40	990.53	898.21
Surface Elevation	985.23	984.81	933.84	934.37	988.50	989.52	894.56
Hydrostratigraphic Unit	AQT	AQT	AQT	AQT	AQT	AQT	AQT
Geologic Formation	Cm	Cm	Cn	Cn	Cm	Cm	Cr
Aquifer Zone	BDR	BDR	BDR	BDR	BDR	BDR	WT
Weathered Rock - Depth	.	.	.	.	.	.	.
Weathered Rock - Elevation	.	.	.	.	.	.	.
Fresh Rock - Depth	.	.	.	.	.	.	.
Fresh Rock - Elevation	.	.	.	.	.	.	.
Total Depth Drilled	64.9	18.1	67.9	23.8	70.6	29.2	16.1
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	33.0	.	7.5	.	31.5	.	.
Casing Diameter	10.75	.	10.75	.	10.75	.	.
Casing Material	.	.	.	.	.	.	.
WELL CASING	.	.	.	.	.	.	.
Borehole Depth	64.9	18.1	67.9	23.8	70.6	29.2	16.1
Borehole Diameter	9.87	9.87	9.87	9.87	9.87	9.87	10.00
Well Casing Depth	64.2	16.9	66.8	22.7	69.0	28.3	4.2
Well Casing Diameter	4.50	4.50	4.50	4.50	4.50	4.50	4.50
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304
MONITORED INTERVAL	.	.	.	.	.	.	.
Top - Depth	52.9	5.3	55.9	10.7	57.5	17.0	2.9
Top - Elevation	932.33	979.51	877.94	923.67	931.00	972.52	891.66
Midpoint - Depth	58.9	11.7	61.9	17.3	64.1	23.0	9.4
Midpoint - Elevation	926.33	973.11	871.99	917.12	924.45	966.52	885.16
Bottom - Depth	64.9	18.1	67.8	23.8	70.6	29.0	15.8
Bottom - Elevation	920.33	966.71	866.04	910.57	917.90	960.52	878.76
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	10.0	9.7	10.5	10.0	9.8	9.4
Open-Hole Length	.	.	.	.	.	.	.
Open-Hole Diameter	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX C
Monitoring Well Construction Details

15

Well No.	GW-817
Location	GRIDK3
GENERAL INFORMATION	.
	.
East Coordinate	64642.99
North Coordinate	29269.15
Measuring Pt. Elevation	918.12
Surface Elevation	914.61
Hydrostratigraphic Unit	AQT
Geologic Formation	Cn
Aquifer Zone	WT
Weathered Rock - Depth	11.6
Weathered Rock - Elevation	903.01
Fresh Rock - Depth	18.4
Fresh Rock - Elevation	896.41
Total Depth Drilled	23.0
	.
SURFACE/CONDUCTOR CASING	.
	.
Casing Depth	.
Casing Diameter	.
Casing Material	.
	.
WELL CASING	.
	.
Borehole Depth	23.0
Borehole Diameter	10.75
Well Casing Depth	1.0
Well Casing Diameter	4.50
Well Casing Material	SS/#304
	.
MONITORED INTERVAL	.
	.
Top - Depth	0.6
Top - Elevation	914.01
Midpoint - Depth	11.8
Midpoint - Elevation	902.81
Bottom - Depth	23.0
Bottom - Elevation	891.61
Screen Material	SS/sw/.01
Screen Length	20.6
Open-Hole Length	.
Open-Hole Diameter	.

APPENDIX D
SAMPLING SEQUENCE

EXPLANATION

SAMPLING GROUP:

Series of sampling locations grouped for data tracking and accounting purposes.

SAMPLE IDENTITY:

DUPE - Field Duplicate Sample
RES - Resample
ER - Equipment Rinsate Sample
FB - Field Blank
LRS - Lake Reality Sump
LRSPW - Lake Reality Emergency Spillway

LOCATION:

B4 - Beta-4 Security Pits
EXP - Exit Pathway:
 Maynardville Limestone Transverse (-E, -I, -J)
 Offsite, in Union Valley (-UV)
 Along Scarboro Road in the gap through Pine Ridge (-SR)
 Surface Water Sampling Location (-SW)
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
WC - Waste Coolant Processing Area

PURGE TIME:

The time (in hours:minutes) that groundwater was purged from the monitoring well before samples were collected.

NOTE:

Data compiled from data tracking datasets (H&R Technical Associates, Inc. 1995a, 1995b, 1995c, and 1995d).

APPENDIX D
Sampling Sequence, First Quarter 1994

Sampling Group	Sample Identity	Location	Pump No.	Purge Time	Date Sampled	Time Sampled
EF 1	GW-191	B4	11	0:30	02/04/94	10:45
EF 1	GW-194	B4	11	0:05	02/04/94	12:30
EF 1	GW-195	B4	11	0:12	02/05/94	9:30
EF 1	GW-338	WC	11	0:08	02/05/94	11:00
EF 1	GW-192	B4	11	0:07	02/05/94	13:00
EF 1	GW-617	EXP-E	11	0:06	02/05/94	14:30
EF 1	GW-618	EXP-E	11	0:38	02/07/94	10:28
EF 1	GW-251	S2	11	0:51	02/07/94	11:51
EF 1	GW-251 DUPE	S2	11	0:51	02/07/94	11:51
EF 1	GW-619	FTF	11	0:32	02/07/94	13:12
EF 1	GW-620	FTF	11	0:45	02/07/94	15:15
EF 1	ER EF 1		11	.	02/08/94	9:55
EF 1	GW-337	WC	11	0:07	02/08/94	10:00
EF 2	GW-771	GRIDC1	8	1:06	02/02/94	14:56
EF 2	GW-772	GRIDC1	8	0:11	02/03/94	11:20
EF 2	GW-764	GRIDE1	8	0:42	02/03/94	14:25
EF 2	GW-765	GRIDE1	8	0:13	02/04/94	11:10
EF 2	GW-758	GRIDG1	8	0:51	02/05/94	9:33
EF 2	GW-758 DUPE	GRIDG1	8	0:51	02/05/94	9:33
EF 2	GW-759	GRIDG1	8	0:11	02/05/94	11:30
EF 2	GW-761	GRIDG2	8	0:10	02/05/94	13:30
EF 2	GW-770	GRIDG3	8	0:11	02/08/94	9:50
EF 2	GW-760	GRIDG2	8	0:44	02/08/94	11:50
EF 2	ER EF 2		8	.	02/08/94	14:05
EF 2	FB EF 2		8	.	02/08/94	14:10
EF 2	GW-769	GRIDG3	8	1:08	02/08/94	14:10
EF 3	GW-199	GRIDI1	8	0:06	01/14/94	10:25
EF 3	GW-768	GRIDI1	8	0:37	01/26/94	14:45
EF 3	GW-766	GRIDI2	8	0:44	01/27/94	10:35
EF 3	GW-767	GRIDI2	8	0:10	01/27/94	13:15
EF 3	GW-773	GRIDH2	8	1:18	01/28/94	10:18
EF 3	GW-773 DUPE	GRIDH2	8	1:18	01/28/94	10:18
EF 3	GW-774	GRIDH2	8	0:29	01/28/94	12:36
EF 3	GW-775	GRIDH3	8	1:03	01/31/94	10:38
EF 3	ER EF 3		8	.	01/31/94	11:54
EF 3	GW-776	GRIDH3	8	0:14	01/31/94	11:57
EF 4	GW-762	GRIDJ3	6	1:04	02/03/94	11:29
EF 4	GW-762 DUPE	GRIDJ3	6	1:04	02/03/94	11:29
EF 4	GW-763	GRIDJ3	6	0:07	02/03/94	13:54
EF 4	GW-380	NHP	6	0:06	02/04/94	10:50
EF 4	GW-240	NHP	6	0:16	02/04/94	12:00
EF 4	GW-220	NHP	6	0:42	02/05/94	9:42
EF 4	GW-151	NHP	6	0:34	02/05/94	11:54
EF 4	GW-383	NHP	6	0:23	02/05/94	14:28
EF 4	GW-382	NHP	6	.	02/08/94	12:57
EF 4	GW-381	NHP	6	2:27	02/09/94	11:37
EF 4	ER EF 4		6	.	02/09/94	11:40
EF 5	GW-751	GRIDJ3	6	1:23	01/26/94	13:28

APPENDIX D
Sampling Sequence, First Quarter 1994

Sampling Group	Sample Identity	Location	Pump No.	Purge Time	Date Sampled	Time Sampled
EF 5	GW-751 DUPE	GRIDJ3	6	1:23	01/26/94	13:28
EF 5	GW-752	GRIDJ3	6	0:20	01/26/94	14:10
EF 5	GW-744	GRIDK1	6	1:30	01/27/94	9:50
EF 5	GW-745	GRIDK1	6	0:25	01/27/94	11:45
EF 5	GW-746	GRIDK1	6	0:08	01/27/94	13:15
EF 5	GW-747	GRIDK2	6	1:52	01/28/94	11:17
EF 5	GW-748	GRIDK2	6	0:15	01/28/94	13:00
EF 5	GW-749	GRIDK2	6	0:08	01/30/94	9:30
EF 5	GW-750	EXP-J	6	1:37	01/30/94	12:22
EF 5	GW-385	NHP	6	5:00	01/31/94	14:00
EF 5	ER EF 5		6	.	02/01/94	12:25
EF 5	GW-384	NHP	6	2:23	02/01/94	12:28
EF 6	GW-207	EXP-SR	11	2:30	01/28/94	12:50
EF 6	GW-733	EXP-J	2	.	01/30/94	10:15
EF 6	GW-208	EXP-SR	11	.	01/30/94	12:26
EF 6	GW-208 DUPE	EXP-SR	11	.	01/30/94	12:26
EF 6	GW-206	EXP-SR	B	.	01/30/94	12:50
EF 6	GW-603	EXP-J	11	0:33	01/31/94	12:26
EF 6	GW-169	EXP-UV	B	.	01/31/94	12:35
EF 6	GW-604	EXP-J	11	1:14	02/01/94	13:17
EF 6	GW-232	EXP-UV	2	.	02/01/94	14:42
EF 6	GW-735	EXP-J	11	1:20	02/02/94	12:35
EF 6	ER EF 6		11	.	02/02/94	13:40
EF 6	GW-605	EXP-I	11	0:40	02/02/94	13:45
EF 6	GW-170	EXP-UV	2	2:48	02/02/94	14:18
EF 6	ER EF 6		2	.	02/03/94	14:55
EF 6	GW-606	EXP-I	2	3:30	02/03/94	15:00
UST 1	GW-505	RG	B	.	03/01/94	9:30
UST 1	GW-631	RG	11	2:06	03/01/94	11:00
UST 1	GW-634	RG	11	0:04	03/01/94	13:00
UST 1	GW-632	RG	11	0:08	03/02/94	10:00
UST 1	GW-508	RG	B	.	03/02/94	12:00
UST 1	GW-633	RG	11	0:08	03/03/94	10:30
UST 1	GW-633 DUPE	RG	11	0:08	03/03/94	10:30
UST 1	ER UST 1		11	.	03/03/94	10:40

APPENDIX D
Sampling Sequence, Second Quarter 1994

Sampling Group	Sample Identity	Location	Pump No.	Purge Time	Date Sampled	Time Sampled
EF 1	GW-261	SY	11	0:05	05/11/94	10:45
EF 1	GW-262	SY	11	0:30	05/11/94	12:30
EF 1	GW-262 DUPE	SY	11	0:30	05/11/94	12:30
EF 1	GW-263	SY	11	0:06	05/12/94	10:00
EF 1	GW-264	SY	11	0:28	05/12/94	12:00
EF 1	GW-252	S2	11	0:15	05/13/94	9:45
EF 1	GW-255	S2	11	1:30	05/13/94	11:40
EF 1	GW-777	GRIDB2	11	1:12	05/20/94	11:47
EF 1	ER EF 1		11	.	05/20/94	12:45
EF 1	GW-778	GRIDB2	11	0:10	05/20/94	12:50
EF 2	GW-191	B4	11	0:30	05/02/94	10:45
EF 2	GW-194	B4	11	0:05	05/02/94	13:00
EF 2	GW-195	B4	11	0:16	05/04/94	9:45
EF 2	GW-338	WC	11	0:06	05/04/94	11:30
EF 2	GW-192	B4	11	0:09	05/04/94	13:00
EF 2	GW-617	EXP-E	11	0:06	05/05/94	10:15
EF 2	GW-618	EXP-E	11	0:41	05/05/94	12:11
EF 2	GW-251	S2	11	0:51	05/09/94	9:51
EF 2	GW-251 DUPE	S2	11	0:51	05/09/94	9:51
EF 2	FB EF 2		.	.	05/09/94	9:55
EF 2	GW-619	FTF	11	0:33	05/09/94	10:53
EF 2	GW-620	FTF	11	0:58	05/09/94	14:00
EF 2	ER EF 2		11	.	05/10/94	10:40
EF 2	GW-337	WC	11	0:08	05/10/94	10:45
EF 3	GW-771	GRIDC1	8	1:11	05/02/94	10:41
EF 3	GW-771 DUPE	GRIDC1	8	1:11	05/02/94	10:41
EF 3	GW-772	GRIDC1	8	0:11	05/02/94	12:38
EF 3	GW-764	GRIDE1	8	0:50	05/05/94	12:00
EF 3	GW-765	GRIDE1	8	0:12	05/05/94	14:00
EF 3	GW-758	GRIDG1	8	0:55	05/06/94	11:25
EF 3	GW-759	GRIDG1	8	0:13	05/06/94	13:43
EF 3	GW-761	GRIDG2	8	0:10	05/09/94	10:30
EF 3	GW-760	GRIDG2	8	1:45	05/09/94	13:40
EF 3	GW-770	GRIDG3	8	0:20	05/10/94	9:15
EF 3	ER EF 3		8	.	05/10/94	10:55
EF 3	GW-769	GRIDG3	8	1:14	05/10/94	10:59
EF 4	GW-784	GRIDD1	10	0:45	06/06/94	11:15
EF 4	GW-785	GRIDD1	10	0:11	06/07/94	9:30
EF 4	GW-791	GRIDD2	10	0:45	06/07/94	12:30
EF 4	GW-792	GRIDD2	10	0:04	06/07/94	14:00
EF 4	GW-786	GRIDE2	10	0:40	06/08/94	11:15
EF 4	GW-786 DUPE	GRIDE2	10	0:40	06/08/94	11:15
EF 4	GW-787	GRIDE2	10	0:04	06/08/94	13:00
EF 4	GW-779	GRIDF2	10	0:30	06/09/94	10:30
EF 4	GW-780	GRIDF2	10	0:04	06/09/94	12:00
EF 4	GW-788	GRIDF3	10	0:38	06/10/94	11:00
EF 4	GW-789	GRIDF3	10	0:15	06/15/94	10:30
EF 4	GW-781	GRIDE3	10	0:35	06/15/94	13:00

APPENDIX D
Sampling Sequence, Second Quarter 1994

Sampling Group	Sample Identity	Location	Pump No.	Purge Time	Date Sampled	Time Sampled
EF 4	GW-782	GRIDE3	10	0:45	06/16/94	8:50
EF 4	ER EF 4		10	.	06/16/94	10:25
EF 4	GW-783	GRIDE3	10	0:04	06/16/94	10:30
EF 5	GW-199	GRIDI1	8	0:05	04/22/94	10:40
EF 5	GW-768	GRIDI1	8	0:33	04/22/94	13:30
EF 5	GW-766	GRIDI2	8	0:25	04/25/94	10:35
EF 5	GW-766 DUPE	GRIDI2	8	0:25	04/25/94	10:35
EF 5	GW-767	GRIDI2	8	0:10	04/25/94	13:40
EF 5	GW-773	GRIDH2	8	1:16	04/26/94	12:26
EF 5	GW-774	GRIDH2	8	0:11	04/26/94	14:01
EF 5	GW-775	GRIDH3	8	1:03	04/26/94	16:38
EF 5	ER EF 5		8	.	04/29/94	10:15
EF 5	GW-776	GRIDH3	8	0:11	04/29/94	10:30
EF 6	GW-762	GRIDJ3	6	1:05	05/05/94	11:50
EF 6	GW-763	GRIDJ3	6	0:14	05/05/94	13:00
EF 6	GW-380	NHP	6	0:05	05/11/94	13:00
EF 6	GW-240	NHP	6	0:16	05/11/94	14:00
EF 6	GW-220	NHP	6	0:46	05/12/94	10:46
EF 6	GW-220 DUPE	NHP	6	0:46	05/12/94	10:46
EF 6	GW-151	NHP	6	1:59	05/12/94	14:19
EF 6	GW-383	NHP	6	0:23	05/13/94	10:53
EF 6	GW-382	NHP	6	.	05/16/94	15:25
EF 6	GW-381	NHP	6	2:36	05/17/94	11:51
EF 6	ER EF 6		6	.	05/17/94	12:00
EF 7	GW-751	GRIDJ3	8	1:35	05/25/94	14:45
EF 7	GW-751 DUPE	GRIDJ3	8	1:35	05/25/94	14:45
EF 7	GW-752	GRIDJ3	8	0:25	05/25/94	15:35
EF 7	GW-744	GRIDK1	8	1:42	05/26/94	10:42
EF 7	GW-745	GRIDK1	8	0:20	05/26/94	12:30
EF 7	GW-746	GRIDK1	8	0:08	05/27/94	9:30
EF 7	GW-747	GRIDK2	8	2:05	05/27/94	12:30
EF 7	GW-748	GRIDK2	8	0:18	05/31/94	11:00
EF 7	GW-749	GRIDK2	8	0:12	05/31/94	13:00
EF 7	GW-750	EXP-J	8	1:42	06/01/94	9:32
EF 7	GW-385	NHP	8	.	06/02/94	14:00
EF 7	GW-384	NHP	8	2:47	06/03/94	11:17
EF 7	ER EF 7		8	.	06/03/94	11:20
EF 8	GW-207	EXP-SR	6	2:51	05/24/94	14:31
EF 8	GW-207 DUPE	EXP-SR	6	2:51	05/24/94	14:31
EF 8	GW-208	EXP-SR	6	.	05/26/94	16:28
EF 8	GW-603	EXP-J	6	0:27	05/27/94	10:47
EF 8	GW-604	EXP-J	6	1:23	05/31/94	10:48
EF 8	GW-735	EXP-J	6	1:28	05/31/94	13:13
EF 8	GW-733	EXP-J	6	.	06/02/94	12:49
EF 8	GW-605	EXP-I	6	1:32	06/03/94	12:14
EF 8	ER EF 8		6	.	06/06/94	13:00
EF 8	GW-606	EXP-I	6	3:45	06/06/94	13:03
EF 8	GW-206	EXP-SR	W	0:09	06/15/94	10:15

APPENDIX D
Sampling Sequence, Third Quarter 1994

Sampling Group	Sample Identity	Location	Pump No.	Purge Time	Date Sampled	Time Sampled
EF 1	GW-261	SY	11	0:07	08/13/94	9:50
EF 1	GW-262	SY	11	0:38	08/13/94	11:50
EF 1	GW-263	SY	11	0:05	08/13/94	14:00
EF 1	GW-264	SY	11	0:42	08/13/94	15:40
EF 1	GW-252	S2	11	0:13	08/14/94	9:55
EF 1	GW-255	S2	11	1:06	08/14/94	11:18
EF 1	GW-255 DUPE	S2	11	1:06	08/14/94	11:18
EF 1	GW-777	GRIDB2	11	1:02	08/14/94	14:07
EF 1	ER EF 1		11	.	08/14/94	15:00
EF 1	GW-778	GRIDB2	11	0:12	08/14/94	15:05
EF 2	FB EF 2		4	.	08/20/94	.
EF 2	GW-191	B4	4	0:28	08/20/94	9:50
EF 2	GW-194	B4	4	0:04	08/20/94	11:00
EF 2	GW-195	B4	4	0:15	08/20/94	13:00
EF 2	GW-338	WC	4	0:08	08/20/94	13:50
EF 2	GW-192	B4	4	0:11	08/21/94	10:00
EF 2	GW-617	EXP-E	4	0:06	08/21/94	11:00
EF 2	GW-618	EXP-E	4	0:31	08/21/94	13:18
EF 2	GW-618 DUPE	EXP-E	4	0:31	08/21/94	13:18
EF 2	GW-251	S2	4	0:39	08/22/94	12:49
EF 2	GW-619	FTF	4	0:26	08/22/94	13:56
EF 2	GW-620	FTF	4	0:50	08/23/94	10:00
EF 2	ER EF 2		4	.	08/25/94	10:40
EF 2	GW-337	WC	4	0:10	08/25/94	10:45
EF 3	GW-771	GRIDC1	4	0:57	08/24/94	10:22
EF 3	GW-772	GRIDC1	4	0:09	08/24/94	11:08
EF 3	GW-764	GRIDE1	4	0:35	08/24/94	13:30
EF 3	GW-765	GRIDE1	4	0:08	08/24/94	14:30
EF 3	GW-758	GRIDG1	6	0:41	08/29/94	11:05
EF 3	GW-758 DUPE	GRIDG1	6	0:41	08/29/94	11:05
EF 3	GW-759	GRIDG1	6	0:10	08/29/94	13:30
EF 3	GW-761	GRIDG2	6	0:09	08/30/94	10:15
EF 3	GW-760	GRIDG2	6	0:39	08/30/94	13:15
EF 3	GW-770	GRIDG3	6	0:09	08/31/94	10:00
EF 3	ER EF 2		6	.	08/31/94	13:25
EF 3	GW-769	GRIDG3	6	0:58	08/31/94	13:30
EF 4	GW-784	GRIDD1	6	0:45	09/01/94	14:00
EF 4	GW-784 DUPE	GRIDD1	6	0:45	09/01/94	14:00
EF 4	GW-785	GRIDD1	6	0:51	09/06/94	12:45
EF 4	GW-791	GRIDD2	6	0:44	09/06/94	14:15
EF 4	GW-792	GRIDD2	6	0:03	09/07/94	10:40
EF 4	GW-786	GRIDE2	6	0:42	09/07/94	12:30
EF 4	GW-787	GRIDE2	6	0:02	09/07/94	13:45
EF 4	GW-779	GRIDF2	6	0:32	09/08/94	11:37
EF 4	GW-780	GRIDF2	6	0:04	09/08/94	12:45
EF 4	GW-788	GRIDF3	6	0:46	09/08/94	14:30
EF 4	GW-789	GRIDF3	6	0:17	09/09/94	10:30
EF 4	GW-788	GRIDF3	B	.	09/09/94	10:50

APPENDIX D
Sampling Sequence, Third Quarter 1994

Sampling Group	Sample Identity	Location	Pump No.	Purge Time	Date Sampled	Time Sampled
EF 4	GW-779	GRIDF2	B	.	09/09/94	11:25
EF 4	GW-780	GRIDF2	B	.	09/09/94	11:30
EF 4	GW-781	GRIDE3	6	0:30	09/09/94	13:30
EF 4	GW-782	GRIDE3	6	0:30	09/12/94	12:10
EF 4	ER EF 4		6	.	09/12/94	13:25
EF 4	GW-783	GRIDE3	6	0:05	09/12/94	13:30
EF 5	GW-199	GRIDI1	11	0:06	08/08/94	11:03
EF 5	GW-768	GRIDI1	11	.	08/09/94	8:45
EF 5	GW-766	GRIDI2	11	0:32	08/09/94	11:03
EF 5	GW-767	GRIDI2	11	0:07	08/09/94	13:30
EF 5	GW-773	GRIDH2	11	1:03	08/10/94	11:20
EF 5	GW-774	GRIDH2	11	0:08	08/10/94	13:30
EF 5	GW-775	GRIDH3	11	0:53	08/11/94	10:48
EF 5	GW-775 DUPE	GRIDH3	11	0:53	08/11/94	10:48
EF 5	ER EF 5		11	.	08/11/94	12:20
EF 5	GW-776	GRIDH3	11	0:05	08/11/94	12:30
EF 6	GW-762	GRIDJ3	8	0:58	09/21/94	13:13
EF 6	GW-763	GRIDJ3	8	0:25	09/21/94	14:10
EF 6	GW-380	NHP	8	.	09/21/94	14:50
EF 6	GW-240	NHP	8	0:15	09/22/94	9:25
EF 6	GW-240 DUPE	NHP	8	0:15	09/22/94	9:25
EF 6	GW-220	NHP	8	0:43	09/22/94	10:38
EF 6	GW-151	NHP	8	1:50	09/22/94	12:45
EF 6	GW-383	NHP	8	0:21	09/22/94	13:41
EF 6	GW-382	NHP	8	8:08	09/26/94	18:23
EF 6	ER EF 6		8	.	09/27/94	12:10
EF 6	GW-381	NHP	8	2:26	09/27/94	12:16
EF 7	GW-751	GRIDJ3	8	1:17	07/29/94	13:37
EF 7	GW-752	GRIDJ3	8	0:19	07/30/94	9:44
EF 7	GW-744	GRIDK1	8	1:23	07/30/94	12:58
EF 7	GW-745	GRIDK1	8	0:35	07/30/94	14:20
EF 7	GW-746	GRIDK1	8	0:12	07/31/94	9:15
EF 7	GW-747	GRIDK2	8	1:17	07/31/94	11:17
EF 7	GW-748	GRIDK2	8	0:18	07/31/94	13:30
EF 7	GW-749	GRIDK2	8	0:15	07/31/94	15:30
EF 7	GW-750	EXP-J	8	1:27	08/01/94	12:12
EF 7	GW-385	NHP	8	2:04	08/03/94	9:45
EF 7	ER EF 7		8	.	08/03/94	12:45
EF 7	GW-384	NHP	8	2:15	08/03/94	12:50
EF 7	GW-384 DUPE	NHP	8	2:15	08/03/94	12:50
EF 8	GW-207	EXP-SR	5	.	09/13/94	15:16
EF 8	GW-207 DUPE	EXP-SR	5	.	09/13/94	15:16
EF 8	GW-208	EXP-SR	5	.	09/16/94	11:15
EF 8	GW-603	EXP-J	5	0:20	09/20/94	10:02
EF 8	GW-604	EXP-J	5	1:03	09/20/94	11:30
EF 8	GW-735	EXP-J	5	1:08	09/20/94	13:31
EF 8	GW-816	EXP-SR	5	0:04	09/21/94	11:30
EF 8	GW-817	GRIDK3	5	0:20	09/21/94	12:45

APPENDIX D
Sampling Sequence, Third Quarter 1994

Sampling Group	Sample Identity	Location	Pump No.	Purge Time	Date Sampled	Time Sampled
EF 8	GW-733	EXP-J	5	.	09/24/94	13:00
EF 8	GW-605	EXP-I	5	0:38	09/25/94	9:45
EF 8	ER EF 8		5	.	09/25/94	13:55
EF 8	GW-606	EXP-I	5	3:15	09/25/94	14:00
EF 8	GW-206	EXP-SR	W	0:30	09/28/94	10:30
EF 9	GW-232	EXP-UV	2	.	08/11/94	13:22
EF 9	GW-169	EXP-UV	W	0:09	08/11/94	17:00
EF 9	GW-170	EXP-UV	2	2:45	08/11/94	17:53
EF 9	ER EF 9		2	.	08/12/94	12:20
EF 9	GW-172	EXP-UV	.	.	09/06/94	.
EF 9	GW-230	EXP-UV	.	.	09/06/94	.
EF 9	LRSPW	EXP-SW	.	.	09/07/94	13:15
EF 9	LRS	EXP-SW	.	.	09/07/94	13:45
EF 9	GW-172	EXP-UV	5	2:18	09/26/94	13:18
EF 9	GW-171	EXP-UV	W	0:09	09/27/94	9:40
EF 9	GW-230	EXP-UV	5	.	09/28/94	13:30
EF 9	GW-230 DUPE	EXP-UV	5	.	09/28/94	13:30
EF 9	ER EF 9		5	.	09/28/94	14:00

APPENDIX D
Sampling Sequence, Fourth Quarter 1994

Sampling Group	Sample Identity	Location	Pump No.	Purge Time	Date Sampled	Time Sampled
EF 1	GW-261	SY	6	0:04	10/28/94	11:40
EF 1	GW-262	SY	6	0:30	10/28/94	13:45
EF 1	GW-264	SY	6	0:40	10/29/94	11:00
EF 1	GW-264 DUPE	SY	6	0:40	10/29/94	11:00
EF 1	GW-252	S2	6	0:09	10/29/94	13:20
EF 1	GW-255	S2	6	0:56	10/29/94	14:46
EF 1	GW-263	SY	6	.	10/31/94	9:20
EF 1	GW-777	GRIDB2	6	1:12	10/31/94	11:05
EF 1	ER EF 1	.	6	.	10/31/94	13:25
EF 1	GW-778	GRIDB2	6	0:13	10/31/94	13:30
EF 2	GW-191	B4	8	0:34	11/29/94	11:15
EF 2	GW-194	B4	8	0:04	12/01/94	11:15
EF 2	GW-195	B4	8	0:12	12/01/94	13:05
EF 2	GW-338	WC	8	0:11	12/02/94	10:37
EF 2	GW-192	B4	8	0:08	12/02/94	12:20
EF 2	GW-617	EXP-E	8	0:06	12/02/94	14:20
EF 2	GW-618	EXP-E	8	0:36	12/03/94	9:30
EF 2	GW-618 DUPE	EXP-E	8	0:36	12/03/94	9:30
EF 2	GW-251	S2	8	0:54	12/03/94	11:01
EF 2	GW-619	FTF	8	0:29	12/03/94	13:20
EF 2	ER EF 2	.	4	.	12/03/94	14:35
EF 2	FB EF 2	.	.	.	12/03/94	14:45
EF 2	GW-620	FTF	8	0:33	12/03/94	14:45
EF 2	GW-337	WC	8	0:09	12/08/94	12:15
EF 2	ER EF 2	.	8	.	12/09/94	7:45
EF 3	GW-771	GRIDC1	8	1:02	11/01/94	12:50
EF 3	GW-771 DUPE	GRIDC1	8	1:02	11/01/94	12:50
EF 3	GW-772	GRIDC1	8	.	11/01/94	14:10
EF 3	GW-764	GRIDE1	8	0:53	11/01/94	16:10
EF 3	GW-765	GRIDE1	8	0:14	11/02/94	11:00
EF 3	GW-758	GRIDG1	8	0:49	11/02/94	13:10
EF 3	GW-759	GRIDG1	8	0:10	11/02/94	15:15
EF 3	GW-761	GRIDG2	8	0:06	11/03/94	10:30
EF 3	GW-770	GRIDG3	8	0:09	11/07/94	10:15
EF 3	ER EF 3	.	8	.	11/07/94	11:40
EF 3	GW-769	GRIDG3	8	1:16	11/07/94	11:51
EF 3	ER EF 3	.	6	.	11/22/94	13:55
EF 3	GW-760	GRIDG2	6	0:42	11/22/94	14:00
EF 4	GW-784	GRIDD1	4	0:57	11/28/94	13:30
EF 4	GW-785	GRIDD1	4	0:12	11/28/94	14:30
EF 4	GW-786	GRIDE2	4	0:40	11/28/94	16:30
EF 4	GW-787	GRIDE2	4	0:02	11/29/94	11:15
EF 4	GW-779	GRIDF2	4	0:37	11/29/94	13:45
EF 4	GW-779 DUPE	GRIDF2	4	0:37	11/29/94	13:45
EF 4	GW-780	GRIDF2	4	0:04	11/29/94	15:30
EF 4	GW-788	GRIDF3	4	0:42	11/30/94	12:25
EF 4	GW-789	GRIDF3	4	0:16	11/30/94	15:00
EF 4	GW-791	GRIDD2	4	0:38	12/01/94	12:10

APPENDIX D
Sampling Sequence, Fourth Quarter 1994

Sampling Group	Sample Identity	Location	Pump No.	Purge Time	Date Sampled	Time Sampled
EF 4	GW-792	GRIDD2	4	0:20	12/01/94	12:50
EF 4	GW-781	GRIDE3	4	0:45	12/01/94	15:00
EF 4	GW-782	GRIDE3	4	0:37	12/02/94	10:23
EF 4	ER EF 4		4	.	12/02/94	12:40
EF 4	GW-783	GRIDE3	4	0:05	12/02/94	12:45
EF 5	GW-199	GRIDI1	8	0:05	10/27/94	11:00
EF 5	GW-768	GRIDI1	4	1:45	10/31/94	11:02
EF 5	GW-766	GRIDI2	4	0:29	10/31/94	13:00
EF 5	GW-767	GRIDI2	4	0:11	10/31/94	13:49
EF 5	GW-773	GRIDH2	4	0:45	11/01/94	10:06
EF 5	GW-774	GRIDH2	4	0:18	11/01/94	10:46
EF 5	GW-775	GRIDH3	4	0:40	11/01/94	14:33
EF 5	GW-775 DUPE	GRIDH3	4	0:40	11/01/94	14:33
EF 5	ER EF 5		B	.	11/01/94	15:40
EF 5	GW-776	GRIDH3	4	0:02	11/01/94	15:45
EF 5	GW-766 RES	GRIDI2	5	0:23	11/08/94	14:23
EF 5	GW-767 RES	GRIDI2	5	0:14	11/08/94	14:44
EF 6	GW-762	GRIDJ3	7	1:13	11/09/94	13:17
EF 6	GW-762 DUPE	GRIDJ3	7	1:13	11/09/94	13:17
EF 6	GW-763	GRIDJ3	7	0:06	11/09/94	15:00
EF 6	GW-148	NHP	7	0:03	11/14/94	12:10
EF 6	GW-149	NHP	7	0:26	11/14/94	13:40
EF 6	GW-153	NHP	7	0:51	11/14/94	15:16
EF 6	GW-154	NHP	7	.	11/15/94	10:00
EF 6	GW-222	NHP	7	.	11/15/94	11:14
EF 6	GW-223	NHP	7	1:39	11/15/94	14:19
EF 6	GW-380	NHP	7	0:02	11/15/94	15:45
EF 6	GW-240	NHP	7	0:11	11/16/94	9:47
EF 6	GW-220	NHP	7	0:44	11/16/94	11:26
EF 6	GW-151	NHP	7	1:39	11/16/94	15:03
EF 6	GW-383	NHP	7	0:24	11/17/94	10:16
EF 6	GW-382	NHP	7	.	11/18/94	12:52
EF 6	ER EF 6		7	.	11/21/94	13:45
EF 6	GW-381	NHP	7	2:15	11/21/94	13:50
EF 7	GW-751	GRIDJ3	5	1:20	10/25/94	12:35
EF 7	GW-752	GRIDJ3	5	0:22	10/25/94	13:11
EF 7	GW-744	GRIDK1	5	1:25	10/26/94	10:22
EF 7	GW-744 DUPE	GRIDK1	5	1:25	10/26/94	10:22
EF 7	GW-745	GRIDK1	5	0:38	10/26/94	11:11
EF 7	GW-746	GRIDK1	5	0:12	10/27/94	10:30
EF 7	GW-747	GRIDK2	5	1:42	10/27/94	12:55
EF 7	GW-748	GRIDK2	5	0:20	10/27/94	14:00
EF 7	GW-749	GRIDK2	5	0:11	10/31/94	10:30
EF 7	GW-750	EXP-J	5	1:25	10/31/94	12:31
EF 7	GW-385	NHP	5	.	11/01/94	15:33
EF 7	ER EF 7		5	.	11/02/94	11:00
EF 7	GW-384	NHP	5	2:13	11/02/94	11:08
EF 8	GW-206	EXP-SR	W	0:33	11/28/94	11:18

APPENDIX D
Sampling Sequence, Fourth Quarter 1994

Sampling Group	Sample Identity	Location	Pump No.	Purge Time	Date Sampled	Time Sampled
EF 8	GW-816	EXP-SR	W	0:40	11/28/94	12:10
EF 8	GW-817	GRIDK3	W	0:22	11/28/94	14:29
EF 8	GW-207	EXP-SR	6	2:30	12/03/94	10:57
EF 8	GW-207 DUPE	EXP-SR	6	2:30	12/03/94	10:57
EF 8	GW-208	EXP-SR	6	.	12/04/94	12:49
EF 8	GW-603	EXP-J	6	0:25	12/04/94	13:43
EF 8	GW-604	EXP-J	6	1:15	12/04/94	15:12
EF 8	GW-735	EXP-J	6	1:20	12/05/94	11:18
EF 8	GW-733	EXP-J	6	6:38	12/06/94	12:39
EF 8	GW-605	EXP-I	6	0:42	12/06/94	13:50
EF 8	ER EF 8		6	.	12/07/94	13:45
EF 8	GW-606	EXP-I	6	3:30	12/07/94	13:59
EF 9	GW-172	EXP-UV	8	2:30	11/14/94	12:30
EF 9	GW-230	EXP-UV	8	.	11/15/94	14:36
EF 9	GW-171	EXP-UV	W	0:08	11/15/94	15:11
EF 9	GW-171 DUPE	EXP-UV	W	0:08	11/15/94	15:11
EF 9	GW-232	EXP-UV	8	.	11/17/94	11:00
EF 9	GW-170	EXP-UV	8	2:42	11/17/94	14:07
EF 9	ER EF 9		8	.	11/17/94	14:30
EF 9	GW-169	EXP-UV	W	0:21	12/06/94	14:00
EF 10	LRSPW	EXP-SW	.	.	12/27/94	13:40
EF 10	LRS	EXP-SW	.	.	12/27/94	14:00

APPENDIX E
GROUNDWATER QUALITY DATA

EXPLANATION

SAMPLING POINT:

GW - Monitoring Well
LRS - Lake Reality Sump (Surface Water Location)
LRSPW - Lake Reality Emergency Spillway (Surface Water Location)

UNIT:

AQF - Knox Aquifer
AQT - ORR Aquitards

LOCATION:

B4 - Beta-4 Security Pits
EXP - Exit Pathway:
 Maynardville Limestone Transverse (-E, -I, -J)
 Offsite, in Union Valley (-UV)
 Along Scarboro Road in the gap through Pine Ridge (-SR)
 Surface Water Sampling Location (-SW)
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
WC - Waste Coolant Processing Area

ALL DATA:

. - Not analyzed or not reported.

ORGANIC COMPOUNDS:

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

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

EXPLANATION (cont'd)

METALS, ANIONS, MISCELLANEOUS, AND RADIOCHEMICAL PARAMETERS:

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

Bicarbonate and carbonate alkalinity reported as CaCO₃.

<	-	Compound analyzed but 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)
COD	-	Chemical Oxygen Demand
TOC	-	Total Organic Carbon
TOX	-	Total Organic Halogens
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)

* Fourth quarter results for samples from 2 surface water sampling locations reported in Appendix E.1 as "Uranium (fluor)" were analyzed by the ICP/MS (EPA Method 200.8). This method has a lower detection/reporting limit (0.0005 mg/L) than the fluorometric method (0.015 mg/L, fourth quarter). The following sample results were obtained by ICP/MS:

Sampling Point	Date Sampled	Uranium Concentration (mg/L)	
		Total	Dissolved
LRS	12/7/94	0.015	0.015
LRSPW	12/7/94	0.015	0.015

Results for iodine activity for the fourth quarter sample from well GW-169 was not reported in time for this report. Data from this well were obtained to support the Union Valley focus study.

APPENDIX E.1
TRACE METALS AND ANIONS

APPENDIX E.1
Trace Metals and Anions, 1994

1

Sampling Point	GW-148		GW-149		GW-151					
Unit	AQF		AQF		AQF					
Location	NHP		NHP		NHP					
Date Sampled	11/14/94		11/14/94		02/05/94		05/12/94		09/22/94	
Type	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.34	<0.02	<0.02	<0.02	0.053	0.021	0.056	0.093	0.04	0.037
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.3	0.22	0.43	0.5	0.19	0.19	0.2	0.2	0.19	0.19
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.047	0.04	0.23	0.22	0.1	0.094	0.12	0.12	0.19	0.21
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	150	140	35	44	56	58	58	58	57	56
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<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	0.0044	0.0047	<0.004	<0.004	<0.004	<0.004
Iron	0.45	0.017	0.23	0.21	0.022	<0.005	0.016	0.1	0.0091	0.2
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	9	8.6	8.7	10	25	27	27	27	26	25
Manganese	0.44	0.22	0.09	0.11	0.0013	<0.001	<0.001	<0.001	<0.001	0.0018
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	2.6	2.2	6.3	6.7	2.6	2.5	2.2	2.1	2.2	2.1
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	15	14	75	54	7.4	7.4	7.5	7.6	7.7	7.6
Strontium	0.52	0.49	0.93	1	0.52	0.52	0.58	0.58	0.57	0.56
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	<0.015	<0.015	0.002	<0.001	0.002	0.001	<0.015	<0.015
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	<0.002	<0.002	<0.002	<0.002	0.013	0.012	0.0036	0.0075	0.0034	0.0034
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	337	.	257	.	229	.	228	.	221	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	41	.	9.9	.	15.6	.	14	.	13	.
Fluoride	<0.1	.	0.3	.	<0.1	.	0.1	.	<0.1	.
Nitrate-N	0.36	.	<0.2	.	0.99	.	1.1	.	1.2	.
Sulfate	29	.	3.9	.	16.7	.	16	.	22	.
TSS (mg/L)	8	.	2	.	2	.	<1	.	<1	.
Turbidity (NTU)	15	.	2.7	.	2	.	1.4	.	0.4	.

(CONTINUED)

Trace Metals and Anions, 1994

Sampling Point	GW-151		GW-153		GW-154		GW-169			
Unit	AQF		AQF		AQF		AQF			
Location	NHP		NHP		NHP		EXP-UV			
Date Sampled	11/16/94		11/14/94		11/15/94		01/31/94		08/11/94	
Type	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.02	<0.02	1.1	<0.02	14	0.1	4.5	<0.02	0.1	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.18	0.18	0.051	0.044	0.25	0.068	0.039	0.027	0.025	0.023
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	0.00052	<0.0003	0.00059	<0.0003	0.00043	<0.0003
Boron	0.11	0.1	0.02	0.016	0.18	0.1	0.0047	0.0094	0.14	0.15
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	0.0021	<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	<0.003	<0.003
Calcium	55	55	42	43	140	110	44	44	38	37
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	0.027	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	0.015	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	0.012	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.046	<0.004	0.01	0.13	<0.004	<0.004
Iron	0.022	<0.005	2.1	0.01	18	0.16	4.7	0.052	0.096	<0.005
Lead (AAS)	<0.004	<0.004	0.004	<0.004	0.056	<0.004	0.013	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	0.051	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	24	24	17	17	18	16	2.9	2.9	2.3	2.2
Manganese	0.0011	<0.001	0.11	0.0017	4.1	0.05	0.13	0.031	0.0071	0.0012
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	0.019	0.00026	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	0.029	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	2.2	2.3	2.5	2.6	8.2	6.6	3.6	2.4	2.7	2.6
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	7	7	17	18	9.2	9.3	1	1.2	13	14
Strontium	0.5	0.51	0.17	0.18	0.44	0.39	0.055	0.053	0.05	0.048
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	<0.015	<0.015	0.465	0.528	<0.001	0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	0.0064	<0.005	0.022	<0.005	0.007	<0.005	<0.005	<0.005
Zinc	<0.002	<0.002	<0.002	<0.002	0.06	<0.002	0.031	0.07	0.0086	0.002
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	218	.	152	.	270	.	122	.	120	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	14	.	26	.	3.5	.	2.2	.	2.6	.
Fluoride	0.1	.	0.2	.	0.4	.	<0.1	.	<0.1	.
Nitrate-N	1.2	.	1.5	.	0.42	.	0.94	.	0.59	.
Sulfate	19	.	22	.	72	.	5.3	.	12	.
TSS (mg/L)	<1	.	25	.	3	.	2154	.	1	.
Turbidity (NTU)	0.8	.	56	.	6	.	105	.	4.6	.

(CONTINUED)

Sampling Point	GW-169		GW-170						GW-171	
Unit	AQF		AQF						AQF	
Location	EXP-UV		EXP-UV						EXP-UV	
Date Sampled	12/06/94		02/02/94		08/11/94		11/17/94		09/27/94	
Type	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	<0.02	0.031	0.036	0.04	<0.02	<0.02	1.9	0.027
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.021	0.022	0.087	0.099	0.097	0.092	0.095	0.094	0.22	0.21
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	0.00043	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.0099	0.011	0.089	0.096	0.17	0.16	0.096	0.11	0.14	0.059
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	36	37	45	53	49	47	49	48	55	54
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0053	<0.005
Copper	<0.004	0.0057	<0.004	<0.004	<0.004	<0.004	<0.004	0.011	<0.004	<0.004
Iron	0.039	<0.005	0.54	<0.005	0.34	0.021	0.17	<0.005	9.7	6.5
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.0058	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	2.1	2.2	22	26	24	23	23	23	13	13
Manganese	0.0011	0.0013	0.0026	<0.001	0.0018	0.0015	<0.001	<0.001	12	11
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.014	0.012
Potassium	3.1	3.3	2.1	2.4	2.2	2.2	2.3	2.1	7.1	6.6
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	2.5	2.5	14	16	14	13	15	15	6.2	6
Strontium	0.048	0.049	0.49	0.57	0.56	0.54	0.54	0.53	0.1	0.1
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	<0.001	<0.001	0.001	<0.001	<0.015	<0.015	<0.015	<0.015
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	<0.002	<0.002	0.013	0.0049	0.0076	<0.002	0.0091	0.0036	0.0057	0.0083
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	102	.	213	.	214	.	221	.	219	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	1.7	.	13	.	8.3	.	12	.	10.2	.
Fluoride	<0.1	.	0.1	.	0.2	.	0.2	.	<0.1	.
Nitrate-N	0.87	.	0.8	.	0.77	.	0.96	.	<0.2	.
Sulfate	4.8	.	17	.	18	.	18	.	5.9	.
TSS (mg/L)	<1	.	<1	.	2	.	<1	.	42	.
Turbidity (NTU)	1.8	.	1.1	.	1.7	.	0.9	.	54	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point	GW-171		GW-172				GW-191			
Unit	AQF		AQF				AQT			
Location	EXP-UV		EXP-UV				B4			
Date Sampled	11/15/94		09/26/94		11/14/94		02/04/94		05/02/94	
Type	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.92	0.022	<0.02	<0.02	<0.02	<0.02	0.28	<0.02	2.6	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.21	0.2	0.3	0.3	0.3	0.3	0.38	0.38	0.41	0.36
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.069	0.095	0.042	0.039	0.04	0.035	0.023	0.026	0.05	0.028
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	56	53	96	97	98	98	87	87	100	88
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<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	0.0055	<0.004
Iron	7.9	6.9	1.2	1.2	1.4	1.3	0.26	<0.005	5	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	13	12	21	21	20	21	11	11	15	12
Manganese	11	10	1.7	1.7	1.6	1.6	0.015	0.0072	0.15	0.035
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	0.013	<0.01	0.012	<0.01	0.024	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	6.9	6.9	2.5	2.4	3.3	3.5	2.1	1.7	3.2	2.7
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	6.6	7	9.8	9.9	10	10	8.6	8.1	8.2	9.2
Strontium	0.094	0.095	0.15	0.15	0.14	0.14	0.45	0.47	0.69	0.61
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<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	<0.005	<0.005
Zinc	0.0074	0.0065	0.38	0.37	0.51	0.39	0.011	0.0052	0.028	0.0065
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	215	.	321	.	458	.	273	.	268	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	11	.	22	.	26	.	8	.	5.9	.
Fluoride	<0.1	.	0.2	.	<0.1	.	<0.1	.	0.1	.
Nitrate-N	0.34	.	<0.2	.	0.48	.	<0.2	.	<0.2	.
Sulfate	6.3	.	3.2	.	3.1	.	8	.	9.8	.
TSS (mg/L)	16	.	<1	.	2	.	143	.	18	.
Turbidity (NTU)	25	.	1	.	17	.	8	.	13	.

(CONTINUED)

Sampling Point • Unit • Location • Date Sampled • Type	GW-191				GW-192					
	AQT				AQT					
	B4				B4					
	08/20/94		11/29/94		02/05/94		05/04/94		08/21/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	3.4	0.089	5.1	<0.02	0.85	0.024	0.025	<0.02	0.76	0.049
Antimony	<0.05	<0.05	<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	0.17	<0.05
Barium	0.43	0.36	0.52	0.3	0.17	0.15	0.17	0.17	0.21	0.21
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.035	0.035	0.02	0.0084	0.028	0.04	0.12	0.081	0.037	0.04
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	89	87	95	83	120	94	120	120	120	130
Chromium (AAS)	0.11	<0.01	0.015	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	0.0064	0.0059	<0.005	<0.005	<0.005	<0.005
Copper	0.0088	<0.004	0.011	0.0066	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	4.6	0.028	7.3	<0.005	3.3	0.78	3.2	3.4	7	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	13	13	14	12	13	10	13	14	16	18
Manganese	0.13	0.064	0.18	0.033	2.2	1.7	2.3	2.4	2.5	2.5
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	0.011	<0.01	<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	0.01	<0.01
Potassium	3.8	3.1	4	3.1	1.6	1.3	1.1	1.1	1.5	1.4
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	11	8.8	12	9.7	7.6	7.7	7.3	7.3	7.4	6.9
Strontium	0.6	0.74	0.58	0.64	0.2	0.17	0.23	0.24	0.26	0.3
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	0.001	<0.015	<0.015	<0.001	<0.001	<0.001	<0.001	0.001	0.001
Vanadium	0.0078	<0.005	0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.032	0.0034	0.026	<0.002	0.013	0.027	0.028	0.023	0.011	0.008
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	262	.	270	.	86	.	341	.	397	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	5.5	.	6.7	.	12.2	.	15	.	11.1	.
Fluoride	0.2	.	<0.1	.	0.2	.	0.2	.	0.4	.
Nitrate-N	<0.2	.	0.38	.	<0.2	.	<0.2	.	0.36	.
Sulfate	14	.	13	.	2	.	2	.	16.3	.
TSS (mg/L)	188	.	58	.	21	.	23	.	23	.
Turbidity (NTU)	140	.	115	.	15	.	14	.	15	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point . Unit . Location . Date Sampled . Type	GW-192		GW-194							
	AQT		AQT							
	B4		B4							
	12/02/94		02/04/94		05/02/94		08/20/94		12/01/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.18	<0.02	3.4	<0.02	0.82	<0.02	1.5	0.1	1	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.18	0.19	0.32	0.26	0.33	0.28	0.42	0.27	0.32	0.3
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.018	0.032	0.038	0.042	0.041	0.063	0.027	0.026	0.02	0.028
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	120	120	78	77	83	81	82	84	85	84
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	0.0077	0.008	<0.004	<0.004	<0.004	<0.004	<0.004	0.0063	<0.004
Iron	3.2	3	4.1	<0.005	1.5	0.014	1.9	0.034	1.4	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	13	13	7.1	6.1	6.9	6.5	6.9	6.8	6.8	6.5
Manganese	2.1	2.1	0.69	0.048	0.73	0.041	4.1	0.31	0.62	0.15
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	1.3	1.8	2.1	1.1	0.92	0.77	1.7	1.3	1.7	1.1
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	7.9	8.1	7	7.1	6.8	6.7	7	7.2	7.3	7.2
Strontium	0.22	0.23	0.15	0.15	0.17	0.17	0.18	0.18	0.17	0.17
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	0.008	0.008	0.002	0.011	0.001	0.001	<0.015	<0.015
Vanadium	<0.005	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.01	0.016	0.023	0.0055	0.02	0.023	0.02	0.0059	0.014	0.0037
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	343	.	228	.	229	.	230	.	229	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	14	.	8	.	4.1	.	3.7	.	4.2	.
Fluoride	0.2	.	<0.1	.	<0.1	.	0.2	.	<0.1	.
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.	0.38	.
Sulfate	2.5	.	12	.	10.8	.	14	.	12	.
TSS (mg/L)	8	.	103	.	120	.	44	.	22	.
Turbidity (NTU)	6.7	.	30	.	100	.	19	.	48	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

7

Sampling Point . Unit . Location . Date Sampled . Type	GW-195								GW-199	
	AQT								AQT	
	B4								GRID11	
	02/05/94		05/04/94		08/20/94		12/01/94		01/14/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	14	<0.02	2.9	<0.02	4.3	0.058	5.9	<0.02	2.7	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.41	0.2	0.31	0.19	0.26	0.19	0.3	0.19	0.14	0.12
Beryllium	0.00049	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.13	0.039	0.048	0.047	0.034	0.038	0.038	0.038	0.089	0.074
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	0.0038	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Calcium	69	68	69	66	69	68	67	67	51	50
Chromium (AAS)	0.023	<0.01	<0.01	<0.01	<0.01	<0.01	0.013	<0.01	<0.01	<0.01
Chromium	0.024	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.011	<0.005	0.0061	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.032	<0.004	0.014	<0.004	0.0057	<0.004	0.017	<0.004	0.0064	<0.004
Iron	16	<0.005	6	0.0078	4.7	0.026	6.9	<0.005	3.6	0.47
Lead (AAS)	0.011	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	9	6.2	7.3	6	7.3	6.5	7.2	6	12	11
Manganese	1.3	0.016	0.68	0.013	0.45	0.057	0.74	0.012	1.2	1.1
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00023	<0.00023
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.021	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	6	1	1.3	0.84	2.7	0.73	3.5	0.85	2.9	2.2
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	6.4	6.3	6.1	5.9	6.2	6.1	6.2	6.2	6.9	7.3
Strontium	0.14	0.14	0.15	0.14	0.16	0.15	0.15	0.14	0.12	0.13
Thorium	<0.2	<0.2	<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	<0.015	<0.015	<0.001	0.002
Vanadium	0.017	<0.005	<0.005	<0.005	0.005	<0.005	0.0083	<0.005	<0.005	<0.005
Zinc	0.039	0.0095	0.029	0.0077	0.031	0.0078	0.022	0.0093	0.086	0.086
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	190	.	186	.	184	.	183	.	157	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	5	.	5	.	3.9	.	4	.	9	.
Fluoride	<0.1	.	0.1	.	0.1	.	<0.1	.	0.1	.
Nitrate-N	0.27	.	0.3	.	0.59	.	0.69	.	0.3	.
Sulfate	12.5	.	12	.	16	.	13	.	26	.
TSS (mg/L)	384	.	259	.	96	.	147	.	62	.
Turbidity (NTU)	180	.	85	.	35	.	74	.	27	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

8

Sampling Point . Unit . Location . Date Sampled . Type	GW-199						GW-206			
	AQT						AQT			
	GRID11						EXP-SR			
	04/22/94		08/08/94		10/27/94		01/30/94		06/15/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	2.3	0.04	87	0.061	0.99	<0.02	30	<0.02	1.1	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	0.051	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.13	0.094	1.4	0.16	0.18	0.16	0.44	0.15	0.29	0.27
Beryllium	<0.0003	<0.0003	0.0043	<0.0003	<0.0003	<0.0003	0.0022	<0.0003	0.00032	<0.0003
Boron	0.064	0.05	0.22	0.11	0.058	0.058	0.053	0.017	0.072	0.041
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	0.003	0.0035	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	0.0038	0.0031	<0.003	<0.003	<0.003	<0.003
Calcium	50	49	68	57	61	58	100	51	54	50
Chromium (AAS)	<0.01	<0.01	0.18	<0.01	<0.01	<0.01	0.044	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	0.11	<0.01	<0.01	<0.01	0.048	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	0.092	<0.005	0.0058	<0.005	0.047	<0.005	0.0053	<0.005
Copper	<0.004	<0.004	0.092	0.0071	0.0055	0.0055	0.072	0.0058	0.006	<0.004
Iron	3.8	0.083	210	0.13	2.8	0.19	80	11	20	16
Lead (AAS)	<0.004	<0.004	0.22	<0.004	0.004	<0.004	0.095	<0.004	0.006	<0.004
Lead	<0.05	<0.05	0.19	<0.05	<0.05	<0.05	0.085	<0.05	<0.05	<0.05
Magnesium	12	11	32	14	15	14	52	17	22	20
Manganese	0.86	0.21	20	2	1.7	1.5	4.9	1	1	0.74
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	0.1	<0.01	<0.01	0.013	0.054	<0.01	<0.01	<0.01
Potassium	2.8	2.5	17	2.7	3.4	3	14	5.4	5.6	5.3
Selenium	<0.05	<0.05	<0.05	0.074	<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	<0.006	<0.006
Sodium	10	9.6	9	8.6	8.1	7.6	7.1	7.5	4.6	4.6
Strontium	0.13	0.12	0.21	0.15	0.16	0.15	0.12	0.089	0.11	0.11
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	0.001	0.004	<0.001	<0.015	<0.015	0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	0.13	<0.005	<0.005	<0.005	0.062	<0.005	<0.005	<0.005
Zinc	0.068	0.044	0.28	0.03	0.016	0.023	0.11	0.0034	0.013	0.0031
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	142	.	181	.	192	.	165	.	213	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	12	.	5	.	4.3	.	14	.	3.3	.
Fluoride	0.2	.	0.2	.	0.2	.	<0.1	.	0.1	.
Nitrate-N	0.5	.	<0.2	.	0.41	.	<0.12	.	<0.2	.
Sulfate	24	.	27	.	29	.	20	.	16	.
TSS (mg/L)	58	.	256	.	300	.	1384	.	156	.
Turbidity (NTU)	30	.	22	.	39	.	450	.	120	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

9

Sampling Point . Unit . Location . Date Sampled . Type	GW-206				GW-207					
	AQT				AQT					
	EXP-SR				EXP-SR					
	09/28/94		11/28/94		01/28/94		05/24/94		09/13/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	3	0.03	1.1	<0.02	<0.02	<0.02	0.069	0.093	<0.02	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.22	0.2	0.19	0.19	0.05	0.046	0.051	0.055	0.059	0.048
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.039	0.089	0.048	0.032	0.12	0.099	0.11	0.11	0.15	0.1
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	55	52	52	51	61	58	56	61	70	56
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.0069	<0.004	<0.004	<0.004	0.0065	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	27	22	24	22	0.23	0.23	0.21	0.23	0.25	0.2
Lead (AAS)	0.0083	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	19	17	17	16	40	38	39	43	49	39
Manganese	1.4	1.1	1.2	1.1	0.011	0.0088	0.011	0.011	0.012	0.0097
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	6.9	5.8	6.6	6	3.2	2.9	3.1	3.8	3.6	2.7
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	4.6	4.7	7.2	7.3	11	9.8	11	12	13	10
Strontium	0.097	0.095	0.093	0.093	0.55	0.51	0.54	0.58	0.62	0.5
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	<0.015	<0.015	<0.001	<0.001	<0.001	<0.001	<0.015	<0.015
Vanadium	0.0086	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0078	<0.002	0.007	0.0047	<0.002	<0.002	0.0072	0.0038	0.0053	<0.002
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	221	.	258	.	260	.	272	.	271	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	6	.	9.3	.	4.9	.	1	.	1.2	.
Fluoride	<0.1	.	<0.1	.	0.3	.	0.1	.	0.2	.
Nitrate-N	<0.2	.	<0.2	.	<0.12	.	<0.2	.	<0.2	.
Sulfate	7.5	.	10	.	66	.	52	.	53	.
TSS (mg/L)	153	.	55	.	2	.	<1	.	<1	.
Turbidity (NTU)	110	.	60	.	1.1	.	2.8	.	2.5	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

10

Sampling Point . Unit . Location . Date Sampled . Type	GW-207		GW-208							
	AQT		AQT							
	EXP-SR		EXP-SR							
	12/03/94		01/30/94		05/26/94		09/16/94		12/04/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	<0.02	0.024	0.068	0.07	<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	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.046	0.046	0.042	0.042	0.041	0.039	0.041	0.042	0.039	0.04
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.11	0.11	0.21	0.23	0.2	0.25	0.22	0.22	0.23	0.26
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	54	55	79	78	72	69	74	75	74	72
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	0.0043	0.013	0.017	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.23	0.2	0.93	0.54	0.54	0.43	0.74	0.5	0.73	0.47
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	36	36	25	25	25	24	25	26	24	23
Manganese	0.0094	0.0094	0.016	0.014	0.016	0.015	0.015	0.015	0.014	0.014
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	3.8	3.8	3	3	3	3.3	2.9	2.9	3.7	3.4
Selenium	<0.05	<0.05	<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	0.0068	<0.006	<0.006	<0.006	<0.006
Sodium	10	10	16	15	16	15	16	16	16	16
Strontium	0.49	0.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	<0.001	<0.001	0.004	<0.001	<0.015	<0.015	.	.
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0024	<0.002	2.4	2	0.92	0.71	1.5	1.2	1.1	0.67
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	269	.	227	.	227	.	225	.	222	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	1.4	.	4.5	.	1	.	1.4	.	2.5	.
Fluoride	0.2	.	0.3	.	0.3	.	0.3	.	0.2	.
Nitrate-N	<0.2	.	<0.12	.	<0.2	.	<0.2	.	<0.2	.
Sulfate	47	.	97	.	104	.	100	.	96	.
TSS (mg/L)	<1	.	3	.	<1	.	2	.	1	.
Turbidity (NTU)	0.3	.	3.4	.	5.1	.	4.5	.	6.5	.

(CONTINUED)

Sampling Point . Unit . Location . Date Sampled . Type	GW-220								GW-222	
	AQF								AQF	
	NHP								NHP	
	02/05/94		05/12/94		09/22/94		11/16/94		11/15/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	2.9	0.046	0.34	0.043	1.1	0.02	0.76	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	0.065	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.13	0.11	0.1	0.1	0.1	0.097	0.093	0.085	0.23	0.23
Beryllium	0.00048	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.044	0.032	0.071	0.076	0.2	0.15	0.072	0.067	0.12	0.05
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	81	68	64	61	64	62	60	56	120	110
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.0079	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.0097
Iron	2.9	0.066	0.32	<0.005	0.95	<0.005	0.93	<0.005	2.6	2.5
Lead (AAS)	0.0063	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	25	23	26	25	23	23	23	24	14	14
Manganese	0.097	0.011	0.02	0.0024	0.032	0.0047	0.034	0.011	1.2	1.2
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	4.2	3.4	2.4	2.6	2.9	2.4	2.9	2.7	3.4	3.6
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	3.4	3.8	3.9	3.9	5.6	5.4	4.3	4.3	20	19
Strontium	0.43	0.41	0.43	0.43	0.42	0.42	0.39	0.39	0.33	0.32
Thorium	<0.2	<0.2	<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	<0.015	<0.015	<0.015	<0.015	0.051	0.055
Vanadium	0.0095	0.0051	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.023	0.014	0.019	0.012	0.0064	<0.002	0.002	<0.002	<0.002	<0.002
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	267	.	238	.	229	.	224	.	305	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	8.7	.	9	.	9.9	.	9.2	.	46	.
Fluoride	<0.1	.	0.1	.	0.1	.	<0.1	.	0.2	.
Nitrate-N	0.99	.	0.6	.	0.83	.	0.82	.	<0.2	.
Sulfate	11.8	.	10	.	19	.	15	.	11	.
TSS (mg/L)	99	.	10	.	21	.	34	.	1	.
Turbidity (NTU)	60	.	7.2	.	24	.	38	.	20	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point . Unit . Location . Date Sampled . Type	GW-223		GW-230				GW-232			
	AQF		AQF				AQF			
	NHP		EXP-UV				EXP-UV			
	11/15/94		09/28/94		11/15/94		02/01/94		08/11/94	
	TOT	DIS	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	<0.02	0.027	0.05
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.29	0.29	0.37	0.37	0.36	0.37	0.012	0.011	0.013	0.012
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.00073	<0.0003	<0.0003	<0.0003
Boron	0.057	0.035	0.077	0.078	0.071	0.075	1.3	1.3	1.4	1.5
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	120	120	130	130	130	130	1.3	1.2	1.2	1.2
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<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	0.0048	0.0069	<0.004	<0.004
Iron	0.67	0.67	0.27	0.26	0.27	0.24	0.39	0.0089	0.24	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	14	14	30	30	30	30	0.84	0.81	0.91	0.9
Manganese	0.73	0.74	0.58	0.59	0.54	0.55	0.002	<0.001	0.0024	0.0012
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.00022	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<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	<0.01	<0.01
Potassium	1.7	1.8	3.8	3.9	4.3	4.3	2.3	2.3	2.7	2.6
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	8.8	8.9	28	28	27	28	210	200	220	220
Strontium	0.29	0.29	0.73	0.73	0.66	0.67	0.3	0.29	0.33	0.33
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	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	<0.005	<0.005
Zinc	<0.002	<0.002	1.7	2	1.5	1.4	0.011	0.0062	0.0049	0.0022
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	290	.	381	.	382	.	351	.	355	.
Alkalinity-CO3	<1	.	<1	.	<1	.	80	.	80	.
Chloride	27	.	86	.	98	.	9.3	.	5.6	.
Fluoride	0.1	.	<0.1	.	<0.1	.	2	.	2.3	.
Nitrate-N	0.35	.	<0.2	.	0.48	.	<0.12	.	<0.2	.
Sulfate	30	.	8.8	.	2.8	.	29	.	29	.
TSS (mg/L)	<1	.	<1	.	<1	.	3	.	<1	.
Turbidity (NTU)	1.2	.	0.5	.	0.7	.	1.4	.	1.6	.

(CONTINUED)

Sampling Point • Unit • Location • Date Sampled • Type	GW-232		GW-240							
	AQF		AQF							
	EXP-UV		NHP							
	11/17/94		02/04/94		05/11/94		09/22/94		11/16/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	0.11	0.036	0.045	0.072	0.059	0.038	0.024	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.013	0.011	0.035	0.033	0.028	0.028	0.04	0.038	0.039	0.04
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	1.3	1.3	0.02	0.031	0.04	0.04	0.34	0.19	0.09	0.058
Cadmium (AAS)	<0.002	<0.002	<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	0.0034	<0.003
Calcium	1.7	1.3	48	48	39	38	50	47	51	51
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	0.011	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	0.0081	0.0044	0.0048	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.3	0.028	0.084	0.0087	0.07	0.063	0.017	<0.005	0.033	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	0.95	0.88	17	17	17	17	18	17	17	17
Manganese	0.003	<0.001	0.0043	0.0012	0.0024	0.0013	0.0026	0.001	0.0024	0.003
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	3.2	2.9	5.5	5.1	11	10	1.9	2.3	4.9	4.5
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	230	210	17	17	17	17	31	30	28	28
Strontium	0.33	0.3	0.059	0.057	0.053	0.049	0.064	0.061	0.067	0.067
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	0.003	0.002	0.003	0.002	<0.015	<0.015	<0.015	<0.015
Vanadium	<0.005	<0.005	<0.005	0.0067	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.053	0.0062	0.024	0.014	0.01	0.036	0.0062	0.003	<0.002	0.0059
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	358	.	200	.	176	.	164	.	159	.
Alkalinity-CO3	80	.	<1	.	<1	.	<1	.	<1	.
Chloride	6.9	.	23	.	18.1	.	36	.	46	.
Fluoride	1.9	.	0.2	.	0.1	.	0.3	.	0.4	.
Nitrate-N	<0.2	.	0.96	.	0.6	.	2.3	.	2.9	.
Sulfate	30	.	15	.	6.3	.	38	.	47	.
TSS (mg/L)	<1	.	6	.	<1	.	<1	.	<1	.
Turbidity (NTU)	2	.	4.3	.	1.8	.	1	.	1.4	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point . Unit . Location . Date Sampled . Type	GW-251								GW-252	
	AQF								AQF	
	S2								S2	
	02/07/94		05/09/94		08/22/94		12/03/94		05/13/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	8.6	0.086	3.7	0.069	8.3	0.092	3.9	0.024	0.23	<0.02
Antimony	<0.05	<0.05	<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	0.067	0.22	<0.05	<0.05	<0.05	<0.05
Barium	0.15	0.13	0.15	0.13	0.13	0.11	0.089	0.077	0.013	0.015
Beryllium	0.0016	0.00056	0.00099	0.00044	0.0018	<0.0003	0.00073	<0.0003	<0.0003	<0.0003
Boron	0.038	0.03	0.03	0.024	0.052	0.034	0.044	0.024	0.015	0.024
Cadmium (AAS)	0.15	0.15	0.16	0.16	0.1	0.096	0.072	0.072	<0.002	<0.002
Cadmium	0.15	0.15	0.16	0.16	0.11	0.11	0.073	0.07	<0.003	<0.003
Calcium	100	100	120	120	110	110	82	82	15	36
Chromium (AAS)	0.02	<0.01	0.014	<0.01	0.017	<0.01	0.011	<0.01	<0.01	<0.01
Chromium	0.02	<0.01	<0.01	<0.01	0.014	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.039	0.03	0.034	0.03	0.023	0.016	0.0096	0.007	<0.005	<0.005
Copper	0.9	0.41	0.72	0.47	0.71	0.26	0.4	0.2	0.011	<0.004
Iron	11	0.008	4.7	<0.005	11	0.0077	4.6	<0.005	0.2	0.0094
Lead (AAS)	0.047	<0.004	0.019	<0.004	0.027	<0.004	0.013	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	18	17	20	21	22	22	14	14	8.1	24
Manganese	5	4.4	5.1	4.9	3.5	3	1.9	1.7	0.016	<0.001
Mercury (CVAA)	0.00028	<0.0002	<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	<0.01	<0.01
Nickel	0.066	0.049	0.057	0.051	0.031	0.014	0.023	0.017	0.015	<0.01
Potassium	5.2	3.7	4.3	3.7	4.6	3.1	3.2	2.6	1.1	1.8
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.052	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Sodium	17	18	21	21	16	17	11	11	8.1	7.3
Strontium	0.18	0.19	0.24	0.23	0.2	0.2	0.13	0.13	0.014	0.019
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.007	0.004	0.007	0.005	0.008	0.005	<0.015	<0.015	<0.001	<0.001
Vanadium	0.016	<0.005	0.007	<0.005	0.017	<0.005	0.0078	<0.005	<0.005	<0.005
Zinc	0.12	0.07	0.1	0.077	0.1	0.044	0.05	0.022	0.018	<0.002
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	167	.	174	.	181	.	156	.	110	.
Alkalinity-CO3	<1	.	<1	.	<1	.	1	.	<1	.
Chloride	10.1	.	10.4	.	9.7	.	6	.	2	.
Fluoride	1.4	.	1.5	.	1.5	.	1.3	.	0.2	.
Nitrate-N	75.24	.	91	.	146.9	.	<0.2	.	1.3	.
Sulfate	15.7	.	18.1	.	16	.	11	.	5	.
TSS (mg/L)	223	.	99	.	193	.	74	.	8	.
Turbidity (NTU)	140	.	62	.	160	.	50	.	11	.

(CONTINUED)

Sampling Point . Unit . Location . Date Sampled . Type	GW-252				GW-255					
	AQF				AQF					
	S2				S2					
	08/14/94		10/29/94		05/13/94		08/14/94		10/29/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	3.7	<0.02	0.61	<0.02	1.9	<0.02	6.5	<0.02	3.8	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.023	0.014	0.021	0.031	0.064	0.039	0.12	0.051	0.058	0.041
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	0.00045	<0.0003	0.0024	<0.0003	0.00036	<0.0003
Boron	0.012	0.022	0.045	0.019	0.041	0.022	0.1	0.057	0.039	0.029
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.0027	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Calcium	35	35	39	37	55	53	61	57	62	61
Chromium (AAS)	0.019	<0.01	0.017	<0.01	0.028	<0.01	0.029	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	0.014	<0.01	<0.01	<0.01	0.018	<0.01	0.011	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.012	<0.005	<0.005	<0.005
Copper	0.017	0.0077	<0.004	<0.004	0.071	0.0059	0.22	0.0044	0.028	<0.004
Iron	1.9	<0.005	0.67	<0.005	2.1	0.0055	14	<0.005	3.6	<0.005
Lead (AAS)	0.0049	<0.004	<0.004	<0.004	0.013	<0.004	0.033	<0.004	0.0062	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	24	22	23	21	30	28	32	28	29	29
Manganese	0.055	0.0026	0.022	0.015	0.43	<0.001	1.2	0.0011	0.22	<0.001
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.014	<0.01	<0.01	<0.01
Potassium	2.7	1.8	1.8	1.8	1.8	1.3	2.7	1.4	2.4	1.5
Selenium	<0.05	0.051	<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	<0.006	<0.006
Sodium	9.8	13	6.6	8.5	3.3	3.3	4	3.9	3.9	3.8
Strontium	0.017	0.018	0.019	0.025	0.036	0.036	0.048	0.046	0.043	0.041
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	0.001	<0.015	<0.015	0.001	0.001	0.002	0.001	0.015	<0.015
Vanadium	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.018	<0.005	0.0051	<0.005
Zinc	0.036	0.0053	0.029	0.11	0.025	0.0045	0.076	0.0094	0.023	<0.002
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	197	.	180	.	225	.	224	.	240	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	3.3	.	2.6	.	5	.	7.1	.	5.5	.
Fluoride	0.3	.	0.2	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	1.9	.	1.8	.	1.7	.	1.3	.	1.9	.
Sulfate	5.2	.	5.7	.	8	.	13	.	12	.
TSS (mg/L)	28	.	8	.	146	.	288	.	50	.
Turbidity (NTU)	15	.	16	.	150	.	260	.	80	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point . Unit . Location . Date Sampled . Type	GW-261						GW-262			
	AQT						AQT			
	SY						SY			
	05/11/94		08/13/94		10/28/94		05/11/94		08/13/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.095	0.026	0.13	0.047	0.57	0.028	1.1	<0.02	1.1	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.082	0.081	0.081	0.076	0.12	0.081	0.29	0.28	0.32	0.29
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.00031	<0.0003	<0.0003	<0.0003
Boron	0.032	0.023	0.042	0.09	0.051	0.038	0.023	0.019	0.021	0.078
Cadmium (AAS)	0.0034	0.0037	0.0023	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	0.0035	0.0034	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Calcium	49	49	51	48	55	55	65	56	67	63
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.011	0.008	0.0093	<0.004	<0.004	<0.004	0.046	<0.004	<0.004	<0.004
Iron	0.089	0.018	0.088	<0.005	0.58	<0.005	1.5	0.024	1	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	13	13	13	13	13	13	6.9	6.2	7	6.6
Manganese	0.022	0.02	0.035	0.021	0.04	0.027	0.14	0.091	0.15	0.12
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	1.9	1.8	1.9	2	2.2	2.1	1.8	1.7	2	1.9
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	9.5	9.6	10	11	11	11	15	13	14	14
Strontium	0.095	0.096	0.096	0.092	0.1	0.11	0.16	0.15	0.15	0.16
Thorium	<0.2	<0.2	<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	<0.015	<0.015	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	<0.005	<0.005
Zinc	0.024	0.02	0.052	0.033	0.019	0.015	0.021	0.013	0.0072	0.0087
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	153	.	150	.	152	.	190	.	184	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	6.2	.	6.1	.	6.2	.	1.1	.	1.8	.
Fluoride	0.2	.	0.2	.	0.3	.	0.1	.	0.2	.
Nitrate-N	<0.2	.	<0.2	.	0.27	.	<0.2	.	<0.2	.
Sulfate	33.8	.	34	.	37	.	8.7	.	14	.
TSS (mg/L)	7	.	1	.	16	.	4	.	122	.
Turbidity (NTU)	2.4	.	1.5	.	2.1	.	3	.	250	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point	GW-262		GW-263						GW-264	
Unit	AQT		AQT						AQT	
Location	SY		SY						SY	
Date Sampled	10/28/94		05/12/94		08/13/94		10/31/94		05/12/94	
Type	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.08	0.033	0.049	0.024	0.16	0.036	19	<0.02	0.05	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05
Barium	0.31	0.28	0.15	0.14	0.14	0.14	0.89	0.096	0.039	0.038
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.003	<0.0003	<0.0003	<0.0003
Boron	0.031	0.086	0.024	0.016	0.028	0.046	<0.04	0.035	0.038	0.071
Cadmium (AAS)	<0.002	<0.002	0.002	0.0045	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	0.0054	<0.003	<0.003	<0.03	<0.003	<0.003	<0.003
Calcium	67	68	67	61	63	61	85	66	130	130
Chromium (AAS)	<0.01	<0.01	0.012	<0.01	0.021	<0.01	56	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	0.015	<0.01	49	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	0.0053	0.17	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.01	0.01	<0.004	0.0067	1.1	<0.004	0.004	0.0043
Iron	0.15	<0.005	0.14	0.013	0.43	0.012	290	0.021	0.19	0.11
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.1	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05
Magnesium	6.4	6.6	16	14	16	15	22	15	37	38
Manganese	0.072	0.062	0.018	0.011	0.02	0.011	1.5	0.05	0.065	0.065
Mercury (CVAA)	<0.0002	<0.0002	<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	0.31	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	0.35	0.38	0.23	0.24	7.8	0.45	<0.01	<0.01
Potassium	1.8	1.8	1.8	1.6	1.7	1.8	6.8	1.9	3.5	3.5
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.06	<0.006	<0.006	<0.006
Sodium	13	13	20	20	21	21	22	21	31	32
Strontium	0.17	0.17	0.15	0.14	0.15	0.14	0.23	0.15	0.32	0.33
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	<0.001	0.001	0.001	0.001	<0.015	<0.015	0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.23	<0.005	<0.005	<0.005
Zinc	0.0032	<0.002	0.025	0.026	0.062	0.024	0.15	0.0026	0.0041	0.0059
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	201	.	198	.	207	.	179	.	389	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	1.7	.	39	.	36	.	44	.	23	.
Fluoride	0.2	.	<0.1	.	0.2	.	0.2	.	<0.1	.
Nitrate-N	<0.2	.	0.3	.	0.41	.	0.51	.	<0.2	.
Sulfate	14	.	16	.	22	.	19	.	94	.
TSS (mg/L)	3	.	42	.	2	.	1430	.	56	.
Turbidity (NTU)	3.8	.	36	.	2.1	.	1600	.	3.3	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point . Unit . Location . Date Sampled . Type	GW-264				GW-337					
	AQT				AQT					
	SY				WC					
	08/13/94		10/29/94		02/08/94		05/10/94		08/25/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	1.1	0.058	0.17	<0.02	0.14	<0.02	0.24	<0.02	1.3	0.049
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	0.092	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.05
Barium	0.059	0.043	0.041	0.04	0.2	0.2	0.22	0.2	0.22	0.048
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.00043	<0.0003
Boron	0.074	0.06	0.045	0.06	0.042	0.021	0.061	0.076	0.049	0.047
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	0.0022	0.003	0.0028	0.0025	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Calcium	130	130	150	160	83	85	93	89	93	95
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<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	0.0056	0.011	0.0063	0.0043	0.0043
Iron	1.2	0.22	0.59	0.25	0.17	<0.005	0.51	0.011	2	0.014
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	39	39	38	42	8.5	9.3	9.5	8.9	10	11
Manganese	0.049	0.037	0.041	0.04	0.087	0.085	0.15	0.064	0.18	<0.001
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	0.011	<0.01	<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	<0.01	<0.01
Potassium	3.9	3.4	3.8	3.8	2	2.3	2.1	1.8	2.6	3
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	29	29	29	31	4.2	4.2	4.2	4.1	4.4	5.5
Strontium	0.33	0.33	0.35	0.38	0.22	0.22	0.25	0.24	0.26	0.16
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	0.001	<0.015	<0.015	0.003	0.001	0.001	0.001	0.003	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0094	<0.002	0.0075	0.016	0.062	0.1	0.0053	0.0069	0.054	0.0065
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	389	.	407	.	246	.	253	.	242	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	20	.	21	.	17.3	.	19	.	16	.
Fluoride	0.1	.	<0.1	.	<0.1	.	<0.1	.	0.1	.
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Sulfate	102	.	110	.	5.8	.	5.4	.	12	.
TSS (mg/L)	28	.	5	.	3	.	68	.	29	.
Turbidity (NTU)	6.2	.	5.5	.	4.1	.	34	.	30	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point . Unit . Location . Date Sampled . Type	GW-337		GW-338							
	AQT		AQT							
	WC		WC							
	12/08/94		02/05/94		05/04/94		08/20/94		12/02/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	2.1	0.039	0.29	<0.02	0.094	0.13	3.1	0.063	0.36	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.23	0.2	0.31	0.3	0.23	0.3	0.43	0.39	0.36	0.37
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.045	0.032	0.014	0.045	0.04	0.025	0.036	0.032	0.015	0.021
Cadmium (AAS)	<0.002	0.0029	<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	<0.003	<0.003
Calcium	97	89	82	84	85	85	90	90	90	90
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.012	0.0063	<0.004	<0.004	0.0078	0.0047	<0.004	<0.004	0.0047	0.0043
Iron	3.3	0.047	0.29	<0.005	0.16	0.04	2.8	<0.005	0.39	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	9.5	8.6	9.2	9.4	9.4	9.9	11	10	9.6	9.7
Manganese	0.17	0.11	0.059	0.018	0.6	0.15	0.6	0.21	0.16	0.058
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	3	1.9	3	2.1	1.7	1.6	3.1	2.2	2.5	2.4
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	4.3	4.3	5.9	5.8	6.3	5.6	5.5	5.4	6.4	6.3
Strontium	0.25	0.22	0.23	0.24	0.23	0.24	0.28	0.28	0.25	0.26
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	0.002	0.002	0.001	0.001	0.001	0.002	<0.015	<0.015
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0076	0.0077	0.019	0.0043	0.0061	0.013	0.012	0.0021	<0.002	<0.002
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	239	.	236	.	242	.	247	.	240	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	16	.	7.7	.	8	.	5.7	.	6.5	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	0.1	.	<0.1	.
Nitrate-N	0.36	.	0.56	.	0.5	.	0.5	.	0.93	.
Sulfate	7.2	.	12.7	.	14	.	17	.	14	.
TSS (mg/L)	37	.	5	.	<1	.	105	.	1	.
Turbidity (NTU)	50	.	6.5	.	3	.	240	.	4.2	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point . Unit . Location . Date Sampled . Type	GW-380								GW-381	
	AQF								AQF	
	NHP								NHP	
	02/04/94		05/11/94		09/21/94		11/15/94		02/09/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	2.8	<0.02	1	0.033	2.1	0.035	0.47	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	0.082	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.076	0.052	0.04	0.024	0.067	0.098	0.04	0.035	0.21	0.2
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.027	0.061	0.053	0.06	0.23	0.18	0.088	0.048	0.024	0.022
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	60	61	31	28	43	53	45	50	78	78
Chromium (AAS)	0.66	<0.01	3.1	<0.01	9.7	0.035	1.7	0.027	<0.01	<0.01
Chromium	0.5	<0.01	2.1	<0.01	9	0.037	1.8	0.022	<0.01	<0.01
Cobalt	0.014	<0.005	0.016	<0.005	0.086	0.04	0.016	0.02	<0.005	<0.005
Copper	0.026	<0.004	0.022	<0.004	0.14	<0.004	0.027	<0.004	<0.004	0.0044
Iron	13	0.1	9.2	0.021	54	9.6	9	3.3	1.9	0.61
Lead (AAS)	0.014	<0.004	0.0073	<0.004	0.012	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	0.064	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	25	24	14	13	15	16	14	15	21	21
Manganese	0.21	0.015	0.28	0.046	1.1	0.9	0.38	0.46	0.23	0.22
Mercury (CVAA)	0.00022	<0.0002	<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	0.071	<0.01	0.018	<0.01	<0.01	<0.01
Nickel	0.31	0.17	0.31	0.09	5.1	2.3	1	1.4	<0.01	<0.01
Potassium	2.5	1.2	0.95	0.91	1.6	1.3	1.4	1.4	2.1	1.6
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	130	130	80	76	65	74	63	68	24	25
Strontium	0.065	0.063	0.035	0.031	0.05	0.071	0.049	0.053	0.14	0.14
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.002	0.001	0.002	0.001	<0.015	<0.015	<0.015	<0.015	<0.001	0.002
Vanadium	0.012	<0.005	0.0083	<0.005	0.032	<0.005	0.0075	<0.005	<0.005	<0.005
Zinc	0.057	0.04	0.029	0.0095	0.045	0.13	<0.002	<0.002	0.0091	0.0093
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	174	.	170	.	132	.	132	.	233	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	256	.	92.5	.	76	.	157	.	76	.
Fluoride	0.1	.	0.1	.	0.3	.	0.2	.	<0.1	.
Nitrate-N	2.2	.	0.7	.	2.5	.	1.9	.	<0.2	.
Sulfate	15	.	6.1	.	42	.	44	.	5	.
TSS (mg/L)	141	.	56	.	385	.	28	.	4	.
Turbidity (NTU)	16	.	76	.	480	.	405	.	12	.

(CONTINUED)

Sampling Point . Unit . Location . Date Sampled . Type	GW-381						GW-382			
	AQF						AQF			
	NHP						NHP			
	05/17/94		09/27/94		11/21/94		02/08/94		05/16/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.16	0.16	0.25	<0.02	1.5	<0.02	0.02	<0.02	0.044	0.11
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.2	0.2	0.23	0.23	0.23	0.21	0.12	0.11	0.12	0.12
Beryllium	<0.0003	<0.0003	0.00053	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.087	0.054	0.078	0.036	0.037	0.071	0.057	0.097	0.068	0.074
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	76	77	81	83	80	79	55	52	54	54
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	0.0052	<0.004	0.01	0.0041	<0.004	<0.004	<0.004
Iron	2.6	0.93	3.3	0.87	2.1	0.33	0.21	0.12	0.54	0.18
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.0045	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	22	23	22	22	21	21	29	27	29	29
Manganese	0.18	0.16	0.29	0.24	0.39	0.23	0.0036	0.0031	0.007	0.0072
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	1.7	1.6	2.1	2	2.5	2.7	1.7	1	1.3	1.3
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	30	31	25	25	23	23	7.1	6.7	6.8	6.8
Strontium	0.14	0.14	0.16	0.16	0.15	0.14	0.41	0.4	0.45	0.45
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.015	.	<0.015	<0.015	<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	<0.005	<0.005
Zinc	0.052	0.34	0.018	<0.002	0.0051	0.0055	0.011	0.0088	0.034	0.11
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	220	.	240	.	250	.	211	.	209	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	85.4	.	73	.	71	.	18	.	19.4	.
Fluoride	<0.1	.	0.1	.	<0.1	.	0.2	.	0.2	.
Nitrate-N	<0.2	.	<0.2	.	0.39	.	3.22	.	3.5	.
Sulfate	3.9	.	4.8	.	5.3	.	13.7	.	14.9	.
TSS (mg/L)	7	.	8	.	8	.	<1	.	10	.
Turbidity (NTU)	17	.	29	.	30	.	2.4	.	4.4	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point . Unit . Location . Date Sampled . Type	GW-382				GW-383					
	AQF				AQT					
	NHP				NHP					
	09/26/94		11/18/94		02/05/94		05/13/94		09/22/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	<0.02	<0.02	<0.02	0.026	0.027	0.023	0.023	0.027
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.12	0.12	0.11	0.11	0.55	0.58	0.62	0.61	0.58	0.59
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.065	0.075	0.074	0.094	0.12	0.11	0.12	0.12	0.27	0.18
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	55	54	53	52	77	85	86	87	81	83
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<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	<0.004	0.0078
Iron	0.52	0.27	0.22	0.068	0.76	0.68	2	0.73	0.81	0.79
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	28	27	27	26	10	11	12	12	11	11
Manganese	0.0085	0.0085	0.0036	0.0038	0.15	0.16	0.17	0.16	0.15	0.15
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	1.4	1.5	1.7	1.5	2.8	3.4	2.7	2.7	2.8	2.9
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	7.1	7.1	7	6.9	17	17	15	15	16	17
Strontium	0.46	0.46	0.41	0.41	0.39	0.4	0.44	0.44	0.43	0.44
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	<0.015	<0.015	<0.001	<0.001	0.001	0.001	<0.015	<0.015
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	<0.002	<0.002	<0.002	<0.002	0.013	0.021	0.014	0.019	0.0027	0.009
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	207	.	207	.	227	.	226	.	222	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	18	.	19	.	26.3	.	32	.	28	.
Fluoride	0.3	.	0.2	.	0.1	.	<0.1	.	0.1	.
Nitrate-N	3.97	.	3.6	.	<0.2	.	<0.2	.	<0.2	.
Sulfate	15.2	.	16	.	17.6	.	17	.	22	.
TSS (mg/L)	<1	.	2	.	2	.	5	.	<1	.
Turbidity (NTU)	4.2	.	0.4	.	8.1	.	14	.	2	.

(CONTINUED)

Sampling Point	GW-383		GW-384							
Unit	AQT		AQT							
Location	NHP		NHP							
Date Sampled	11/17/94		02/01/94		06/03/94		08/03/94		11/02/94	
Type	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	<0.02	<0.02	0.024	0.03	0.061	<0.02	0.038	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.53	0.53	0.44	0.43	0.46	0.45	0.47	0.48	0.55	0.55
Beryllium	<0.0003	0.00032	0.0023	0.00046	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.16	0.15	0.073	0.077	0.078	0.075	0.094	0.088	0.093	0.08
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	75	76	96	96	100	100	100	110	120	120
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0059	0.0041	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.77	0.75	1.1	0.91	1.5	1.3	1.7	1.5	1.7	1.2
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	9.8	9.9	12	12	13	13	13	13	14	14
Manganese	0.16	0.16	0.45	0.45	0.48	0.47	0.49	0.5	0.55	0.55
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	3.1	3.4	2.5	2.6	3.1	3.2	2.7	2.7	2.8	2.9
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	18	18	14	14	14	14	14	14	13	14
Strontium	0.38	0.39	0.47	0.46	0.54	0.53	0.51	0.52	0.61	0.61
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.015	<0.015
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	<0.002	<0.002	0.0057	0.0037	0.0021	0.0038	<0.002	<0.002	0.007	0.007
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	220	.	281	.	290	.	287	.	284	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	29	.	43	.	31	.	31	.	36	.
Fluoride	0.1	.	<0.1	.	<0.1	.	0.2	.	<0.1	.
Nitrate-N	0.22	.	<0.12	.	<0.2	.	<0.2	.	<0.2	.
Sulfate	19	.	16	.	14	.	17	.	15	.
TSS (mg/L)	2	.	3	.	2	.	3	.	1	.
Turbidity (NTU)	6.4	.	3.9	.	1.8	.	2.9	.	4.5	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point . Unit . Location . Date Sampled . Type	GW-385								GW-505	
	AQT								AQT	
	NHP								RG	
	01/31/94		06/02/94		08/03/94		11/01/94		03/01/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.6	0.02	0.8	<0.02	0.1	0.034	0.024	0.043	7	0.082
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.05	0.043	0.065	0.051	0.04	0.025	0.047	0.046	0.14	0.056
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.00031	<0.0003	0.00084	<0.0003
Boron	0.99	0.9	0.84	0.85	0.83	0.86	0.98	1.1	0.071	0.066
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	1.1	1	2.1	3.5	1.1	1.2	1.2	1.2	31	29
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.63	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.51	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.013	<0.005
Copper	<0.004	<0.004	0.0058	<0.004	0.0078	<0.004	<0.004	<0.004	0.015	0.0078
Iron	0.6	<0.005	3.7	0.0051	1.2	0.0082	0.16	<0.005	6.7	<0.005
Lead (AAS)	<0.004	<0.004	0.015	<0.004	<0.004	<0.004	<0.004	<0.004	0.014	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	0.35	0.23	0.62	0.58	0.28	0.26	0.26	0.26	7.3	6.1
Manganese	0.0039	<0.001	0.022	0.0019	0.0054	<0.001	0.0015	<0.001	0.83	0.035
Mercury (CVAA)	<0.0002	<0.0002	<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	0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.076	0.025
Potassium	1.9	1.9	2.9	2.4	2.1	2.2	2.4	2.4	3	1.5
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	190	190	180	170	160	170	200	200	8.7	8.5
Strontium	0.085	0.083	0.1	0.1	0.091	0.08	0.11	0.11	0.11	0.092
Thorium	<0.2	<0.2	<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	<0.015	<0.015	0.028	0.007
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0086	<0.005
Zinc	<0.002	<0.002	0.011	0.0028	<0.002	0.0064	<0.002	0.0052	0.034	0.041
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	324	.	321	.	319	.	314	.	57	.
Alkalinity-CO3	56	.	54	.	52	.	48	.	<1	.
Chloride	6.5	.	2	.	2.4	.	4.5	.	30	.
Fluoride	2.4	.	2.4	.	2.4	.	2.1	.	0.2	.
Nitrate-N	<0.12	.	<0.2	.	<0.2	.	<0.2	.	1	.
Sulfate	19	.	18	.	18	.	18	.	25	.
TSS (mg/L)	4	.	9	.	5	.	<1	.	259	.
Turbidity (NTU)	2.5	.	9.1	.	2.4	.	0.6	.	200	.

(CONTINUED)

Sampling Point . Unit . Location . Date Sampled . Type	GW-508		GW-603							
	AQT		AQF							
	RG		EXP-J							
	03/02/94		01/31/94		05/27/94		09/20/94		12/04/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	2.2	0.55	0.046	<0.02	0.099	0.061	0.35	<0.02	0.095	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.39	0.35	0.11	0.11	0.12	0.12	0.13	0.13	0.13	0.13
Beryllium	0.0016	0.0015	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.068	0.055	0.044	0.013	0.015	0.013	0.018	0.017	0.017	0.02
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	9.9	9.4	71	75	70	69	75	74	72	74
Chromium (AAS)	<0.01	<0.01	0.027	<0.01	0.049	<0.01	0.15	<0.01	0.21	<0.01
Chromium	<0.01	<0.01	0.018	<0.01	0.028	<0.01	0.14	<0.01	0.18	<0.01
Cobalt	0.14	0.12	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.0074	0.0069	0.0083	0.0097	0.004	<0.004	0.0046	<0.004	0.01	<0.004
Iron	0.77	<0.005	0.14	<0.005	0.36	0.0096	0.98	0.057	0.96	0.0078
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	10	9.5	23	24	25	24	27	26	25	25
Manganese	11	9.8	0.012	0.003	0.025	0.0046	0.032	0.031	0.062	0.024
Mercury (CVAA)	0.00034	<0.0002	<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	<0.01	<0.01
Nickel	0.063	0.054	0.061	0.053	0.078	0.048	0.21	0.27	1.1	0.93
Potassium	1.1	0.99	4.6	4.7	5.2	5.6	5.9	5.8	6.8	7.4
Selenium	<0.05	<0.05	<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	0.011	<0.006	<0.006	<0.006	<0.006
Sodium	32	30	3	3.1	3.1	3	3.3	3.3	3.6	3.5
Strontium	0.042	0.042	0.09	0.094	0.095	0.093	0.096	0.097	0.1	0.1
Thorium	<0.2	<0.2	<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	<0.015	<0.015	<0.015	<0.015
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.088	0.072	0.014	0.013	0.052	0.037	0.026	0.021	0.081	0.017
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	12	.	276	.	288	.	286	.	293	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	97	.	7.9	.	5	.	6.3	.	9.8	.
Fluoride	0.4	.	0.1	.	0.2	.	0.1	.	0.1	.
Nitrate-N	<0.2	.	1.3	.	0.8	.	1	.	1.1	.
Sulfate	20	.	18	.	16	.	12	.	12	.
TSS (mg/L)	62	.	3	.	1	.	24	.	2	.
Turbidity (NTU)	9.5	.	2.5	.	2.6	.	14	.	4.4	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point . Unit . Location . Date Sampled . Type	GW-604								GW-605	
	AQF								AQF	
	EXP-J								EXP-I	
	02/01/94		05/31/94		09/20/94		12/04/94		02/02/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.75	<0.02	0.085	0.072	0.13	<0.02	0.28	0.022	0.045	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.036	0.034	0.028	0.028	0.031	0.031	0.032	0.031	0.072	0.068
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.13	0.082	0.0093	0.052	0.011	<0.004	0.016	0.031	0.2	0.19
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	65	61	34	34	40	41	35	35	92	87
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.016	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.015	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<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	0.0054	0.0042	<0.004	<0.004	<0.004
Iron	0.78	<0.005	0.051	0.0076	0.18	<0.005	0.32	0.011	0.058	0.015
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	20	19	14	14	16	17	14	14	18	17
Manganese	0.0094	<0.001	0.0021	<0.001	0.0027	<0.001	0.0067	<0.001	0.52	0.51
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	0.012	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	1.6	1.4	1.8	1.9	1.3	1.2	2.7	2.5	3.2	3.3
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	2.7	2.5	1.4	1.5	1.5	1.6	1.8	1.7	15	14
Strontium	0.05	0.047	0.031	0.031	0.034	0.035	0.033	0.033	0.18	0.18
Thorium	<0.2	<0.2	<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	<0.015	<0.015	<0.015	<0.015	0.234	0.221
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.031	0.012	0.021	0.0068	0.02	<0.002	0.02	0.0029	0.0069	0.0022
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	236	.	151	.	166	.	151	.	268	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	5.1	.	1.9	.	2.2	.	3.3	.	22	.
Fluoride	<0.1	.	0.1	.	0.2	.	0.2	.	<0.1	.
Nitrate-N	0.84	.	0.5	.	0.6	.	0.82	.	0.39	.
Sulfate	10	.	4.6	.	4.3	.	6.2	.	27	.
TSS (mg/L)	12	.	1	.	3	.	1	.	<1	.
Turbidity (NTU)	18	.	1.3	.	4.4	.	4.8	.	1.5	.

(CONTINUED)

Sampling Point . Unit . Location . Date Sampled . Type	GW-605						GW-606			
	AQF						AQF			
	EXP-I						EXP-I			
	06/03/94		09/25/94		12/06/94		02/03/94		06/06/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.37	0.24	0.23	<0.02	0.28	0.023	<0.02	0.059	0.07	0.052
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.068	0.064	0.072	0.068	0.068	0.065	0.1	0.089	0.091	0.09
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.16	0.16	0.19	0.21	0.2	0.2	0.059	0.069	0.039	0.051
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	85	84	85	85	80	78	76	68	67	68
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<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	<0.004	<0.004
Iron	0.38	0.059	0.39	0.0064	0.34	0.034	0.013	<0.005	0.027	0.033
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	18	16	17	17	16	16	38	34	35	35
Manganese	0.65	0.51	0.57	0.55	0.55	0.53	0.02	0.017	0.016	0.016
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	3.7	3.4	3.4	3.5	4	4.4	3.6	2.9	3.7	3.4
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	14	13	15	15	14	14	5.2	4.6	5	5.1
Strontium	0.18	0.17	0.18	0.18	0.17	0.17	0.52	0.47	0.46	0.47
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.165	0.199	0.246	0.226	0.222	0.207	0.008	0.007	0.007	0.007
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.014	0.0099	0.015	0.0066	0.0056	0.0056	0.0044	0.0022	0.012	0.0036
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	262	.	264	.	267	.	232	.	231	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	20	.	20.6	.	19	.	45	.	39	.
Fluoride	<0.1	.	<0.1	.	0.1	.	0.1	.	0.2	.
Nitrate-N	0.3	.	<0.2	.	0.32	.	0.7	.	1	.
Sulfate	26	.	26.6	.	30	.	31	.	31	.
TSS (mg/L)	9	.	4	.	<1	.	<1	.	<1	.
Turbidity (NTU)	6.8	.	6.9	.	4.5	.	0.8	.	1	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

28

Sampling Point . Unit . Location . Date Sampled . Type	GW-606				GW-617					
	AQF				AQF					
	EXP-I				EXP-E					
	09/25/94		12/07/94		02/05/94		05/05/94		08/21/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.042	0.034	<0.02	<0.02	0.74	<0.02	0.041	0.25	68	0.078
Antimony	<0.05	<0.05	<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	0.057	0.066
Barium	0.094	0.093	0.096	0.093	0.043	0.041	0.037	0.041	0.4	0.044
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0039	<0.0003
Boron	0.1	0.079	0.042	0.032	0.25	0.37	0.33	0.4	0.49	0.39
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.005	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Calcium	69	69	69	65	28	27	20	21	26	23
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.31	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.25	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.066	<0.005
Copper	0.016	<0.004	<0.004	<0.004	0.007	<0.004	<0.004	<0.004	0.14	<0.004
Iron	0.11	<0.005	0.059	<0.005	1.5	0.0053	0.31	0.097	170	0.05
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.048	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	34	35	33	33	6.7	6.5	5.3	6.1	11	4.9
Manganese	0.017	0.016	0.017	0.014	0.4	0.39	0.33	0.27	5.1	2.2
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.11	<0.01
Potassium	3.2	3.1	3.7	3.8	1	0.68	0.85	0.94	9.9	1.6
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.094	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Sodium	4.7	4.7	4.6	4.7	6.1	6.4	4.2	4.4	4.5	4.3
Strontium	0.52	0.51	0.49	0.47	0.048	0.049	0.04	0.042	0.065	0.047
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	<0.015	<0.015	<0.001	0.001	<0.001	<0.001	0.004	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.13	<0.005
Zinc	0.013	<0.002	<0.002	<0.002	0.018	0.035	0.027	0.054	0.15	0.012
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	237	.	233	.	46	.	36	.	47	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	40.5	.	42	.	6.6	.	5	.	6.7	.
Fluoride	0.2	.	0.2	.	<0.1	.	<0.1	.	0.1	.
Nitrate-N	0.72	.	0.89	.	2.79	.	2.3	.	1.27	.
Sulfate	34.5	.	37	.	38.4	.	30	.	25.4	.
TSS (mg/L)	<1	.	2	.	17	.	3	.	12355	.
Turbidity (NTU)	0.4	.	1.5	.	16	.	5.1	.	3500	.

(CONTINUED)

Sampling Point Unit Location Date Sampled Type	GW-617		GW-618							
	AQF		AQF							
	EXP-E		EXP-E							
	12/02/94		02/07/94		05/05/94		08/21/94		12/03/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.12	<0.02	<0.02	0.026	<0.02	<0.02	0.043	0.028	<0.02	<0.02
Antimony	<0.05	<0.05	<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	0.072	<0.05	<0.05
Barium	0.048	0.05	0.056	0.055	0.055	0.055	0.059	0.06	0.06	0.06
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.14	0.19	0.17	0.24	0.2	0.19	0.18	0.18	0.19	0.18
Cadmium (AAS)	<0.002	<0.002	0.022	0.015	0.018	0.011	0.021	0.012	0.022	0.011
Cadmium	<0.003	<0.003	0.021	0.016	0.016	0.0089	0.02	0.012	0.022	0.011
Calcium	18	19	89	89	95	95	97	99	100	99
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	0.012	0.0056	<0.004	0.0053	0.0055	<0.004	<0.004	0.0052	0.0061
Iron	2	0.31	0.14	0.17	0.37	0.18	0.16	0.14	0.22	0.23
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	4.6	4.9	8.7	8.6	9.1	9.1	9.6	9.8	9.4	9.2
Manganese	3.9	4.2	1.7	1.7	1.8	1.8	1.9	1.9	1.9	1.8
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	1.4	1.4	3.4	3.9	3.3	3.4	3.6	3.7	3.6	4.2
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.051
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Sodium	4.7	5.2	17	17	16	17	17	18	18	18
Strontium	0.039	0.042	0.17	0.17	0.18	0.19	0.2	0.2	0.19	0.19
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	<0.001	0.001	<0.001	<0.001	0.001	0.001	<0.015	<0.015
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.016	0.023	0.0042	0.005	0.0042	0.0027	0.0061	0.0074	<0.002	<0.002
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	59	.	283	.	273	.	277	.	284	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	12	.	20.2	.	21	.	28.6	.	28	.
Fluoride	<0.1	.	0.3	.	0.2	.	0.4	.	0.2	.
Nitrate-N	0.44	.	1.1	.	1.4	.	1.79	.	0.94	.
Sulfate	18	.	20.7	.	22	.	24.2	.	24	.
TSS (mg/L)	6	.	<1	.	<1	.	26	.	<1	.
Turbidity (NTU)	7.7	.	0.7	.	7	.	0.5	.	0.8	.

(CONTINUED)

Sampling Point . Unit . Location . Date Sampled . Type	GW-619								GW-620	
	AQF								AQF	
	FTF								FTF	
	02/07/94		05/09/94		08/22/94		12/03/94		02/07/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	1.6	1.3	1.2	1.2	1.7	0.73	1.7	1.2	0.32	0.21
Antimony	<0.05	<0.05	<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	0.11	<0.05	<0.05	<0.05	<0.05
Barium	0.01	0.011	0.014	0.012	0.012	0.012	0.011	0.01	0.066	0.075
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.031	0.026	0.071	0.1	0.05	0.038	0.058	0.096	0.075	0.033
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	42	43	50	49	50	46	56	55	170	220
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	0.0042	<0.004	<0.004	<0.004	<0.004	<0.004	0.0045	<0.004	<0.004
Iron	0.022	<0.005	0.033	0.0062	0.02	<0.005	0.06	0.0073	0.056	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	1.4	1.5	2.3	2	2.2	2.2	2.2	1.9	0.77	0.021
Manganese	<0.001	<0.001	0.0017	<0.001	0.0033	0.0015	0.0054	0.0012	<0.001	<0.001
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	18	18	17	17	19	17	19	20	29	34
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	3.2	3.1	2.7	2.9	3.2	3.1	3.3	3.4	5.4	6
Strontium	0.15	0.15	0.18	0.17	0.21	0.2	0.21	0.2	0.67	0.81
Thorium	<0.2	<0.2	<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	<0.015	<0.015	<0.001	<0.001
Vanadium	0.0052	<0.005	<0.005	<0.005	0.0056	0.006	0.0056	0.0062	<0.005	<0.005
Zinc	0.0036	0.007	<0.002	<0.002	0.0035	<0.002	0.0021	<0.002	0.0033	0.004
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	55	.	81	.	66	.	110	.	<1	.
Alkalinity-CO3	10	.	6	.	8	.	12	.	22	.
Chloride	2.2	.	2.1	.	2.3	.	2.8	.	1.8	.
Fluoride	<0.1	.	<0.1	.	0.1	.	<0.1	.	0.1	.
Nitrate-N	0.79	.	0.8	.	1.23	.	1.6	.	1.72	.
Sulfate	2.8	.	3.4	.	4	.	4.5	.	5.1	.
TSS (mg/L)	68	.	76	.	43	.	80	.	122	.
Turbidity (NTU)	24	.	35	.	15	.	65	.	22	.

(CONTINUED)

Sampling Point . Unit . Location . Date Sampled . Type	GW-620						GW-631		GW-632	
	AQF						AQT		AQT	
	FTF						RG		RG	
	05/09/94		08/23/94		12/03/94		03/01/94		03/02/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.52	0.025	0.38	0.028	0.68	<0.02	14	0.2	0.29	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	0.067	0.14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.038	0.021	0.052	0.035	0.053	0.037	0.35	0.27	0.17	0.17
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0023	0.00099	0.00036	<0.0003
Boron	0.071	0.18	0.068	0.05	0.048	0.076	0.089	0.21	0.04	0.035
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	89	47	63	50	68	35	12	11	33	23
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.022	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.038	0.03	0.086	0.098
Copper	0.012	<0.004	<0.004	<0.004	0.0043	<0.004	0.032	0.009	<0.004	<0.004
Iron	0.064	0.009	0.2	<0.005	0.55	0.02	19	<0.005	1	1.6
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.018	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	3.1	0.31	7.3	4.5	9.6	8.8	10	7.7	7.9	7
Manganese	0.0017	<0.001	0.0022	0.0011	0.0062	<0.001	1.3	1.1	6.5	7
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.043	0.027	0.013	<0.01
Potassium	14	14	7.4	13	5.8	6.2	5.7	2.1	1.8	1.9
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	3.2	3.3	2.5	3.1	2.4	2.5	17	18	4.3	4.1
Strontium	0.32	0.26	0.21	0.24	0.21	0.14	0.086	0.078	0.078	0.065
Thorium	<0.2	<0.2	<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	<0.015	<0.015	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.03	<0.005	<0.005	<0.005
Zinc	0.0039	<0.002	0.0042	<0.002	<0.002	<0.002	0.18	0.4	0.062	0.28
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	<1	.	100	.	126	.	10	.	64	.
Alkalinity-CO3	8	.	4	.	<1	.	<1	.	<1	.
Chloride	2.1	.	2.3	.	3.2	.	51	.	16	.
Fluoride	<0.1	.	0.2	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	1.5	.	1.21	.	2	.	7.3	.	8.5	.
Sulfate	4.1	.	6.1	.	6.6	.	2	.	<1	.
TSS (mg/L)	126	.	86	.	138	.	5	.	29	.
Turbidity (NTU)	52	.	74	.	55	.	4	.	4.6	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point	GW-633		GW-634		GW-733					
Unit	AQT		AQT		AQF					
Location	RG		RG		EXP-J					
Date Sampled	03/03/94		03/01/94		01/30/94		06/02/94		09/24/94	
Type	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	<0.2	<0.2	0.035	<0.02	0.084	0.035	0.073	0.067	<0.02	<0.02
Antimony	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	5.3	12	0.068	0.052	0.023	0.027	0.023	0.025	0.027	0.024
Beryllium	<0.003	<0.003	0.00036	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	<0.04	<0.04	0.083	0.04	0.015	0.032	0.054	0.042	0.053	0.016
Cadmium (AAS)	0.0041	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.03	<0.03	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Calcium	1300	2700	2.7	2.3	43	43	36	44	43	42
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.1	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.05	<0.05	0.061	0.053	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.04	<0.04	<0.004	<0.004	<0.004	0.04	<0.004	<0.004	<0.004	<0.004
Iron	0.15	<0.05	2	2.3	1.8	0.022	10	0.11	5.1	0.034
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	94	190	2.4	2.3	17	16	16	19	18	18
Manganese	1.5	1.2	5.5	4.9	0.068	0.056	0.061	0.029	0.053	0.018
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.1	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.12	0.19	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	8.1	9.6	1.2	1.1	1.9	1.9	2	2	1.8	2
Selenium	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.06	<0.06	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Sodium	44	44	3.8	3.9	4.1	4.2	3.7	4.5	4.5	4.4
Strontium	3.1	6.6	0.014	0.013	0.11	0.11	0.094	0.11	0.11	0.11
Thorium	<2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.011	0.025	<0.001	<0.001	0.001	0.001	<0.001	0.001	<0.015	<0.015
Vanadium	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.095	0.17	0.045	0.11	0.0029	0.0022	0.011	0.015	0.0079	0.0037
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	126	.	20	.	157	.	156	.	161	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	<100	.	9	.	5.5	.	11	.	8.6	.
Fluoride	<0.1	.	<0.1	.	0.3	.	0.25	.	0.2	.
Nitrate-N	861	.	<0.2	.	<0.12	.	0.3	.	0.32	.
Sulfate	<100	.	<1	.	14	.	10	.	14	.
TSS (mg/L)	39	.	7	.	10	.	33	.	2	.
Turbidity (NTU)	20	.	3.6	.	4.5	.	22	.	26	.

(CONTINUED)

Sampling Point • Unit • Location • Date Sampled • Type	GW-733		GW-735							
	AQF		AQT							
	EXP-J		EXP-J							
	12/06/94		02/02/94		05/31/94		09/20/94		12/05/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	0.17	<0.02	0.087	0.066	3.2	<0.02	5.6	0.026
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.024	0.022	0.37	0.4	0.38	0.36	0.35	0.33	0.35	0.29
Beryllium	<0.0003	<0.0003	0.0019	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.00072	<0.0003
Boron	0.02	0.018	0.035	0.028	0.026	0.047	0.049	0.038	0.047	0.03
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	40	40	130	140	110	110	110	110	110	99
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.022	<0.01
Chromium	0.012	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.015	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.0048	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.016	<0.004
Iron	16	0.087	0.36	0.076	0.17	0.092	2.6	0.058	7.9	0.036
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.017	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	16	16	10	10	9.5	9.1	9.4	9.2	8.9	8
Manganese	0.099	0.041	0.35	0.36	0.36	0.34	0.3	0.27	0.38	0.25
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	2	2.2	2.7	2.7	3.2	2.7	3.6	2.6	4.6	3.5
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	4.7	4.6	4.2	4.6	4	3.9	4	4.1	3.7	3.6
Strontium	0.12	0.11	0.29	0.32	0.3	0.28	0.27	0.27	0.27	0.25
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	<0.001	<0.001	<0.001	<0.001	<0.015	<0.015	<0.015	<0.015
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0059	<0.005	0.0078	<0.005
Zinc	0.003	<0.002	0.0043	0.025	0.018	0.011	0.018	0.0045	0.027	0.0087
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	166	.	290	.	292	.	295	.	278	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	9.4	.	14	.	13	.	11	.	11	.
Fluoride	0.3	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	0.35	.	0.2	.	<0.2	.	<0.2	.	<0.2	.
Sulfate	10	.	24	.	23	.	22	.	24	.
TSS (mg/L)	38	.	4	.	1	.	<1	.	90	.
Turbidity (NTU)	25	.	5.3	.	1.5	.	65	.	190	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point . Unit . Location . Date Sampled . Type	GW-744								GW-745	
	AQT								AQT	
	GRIDK1								GRIDK1	
	01/27/94		05/26/94		07/30/94		10/26/94		01/27/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.031	<0.02	0.029	0.031	0.025	<0.02	0.031	<0.02	0.049	0.024
Antimony	<0.05	<0.05	<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	0.067	<0.05	<0.05	<0.05	<0.05
Barium	0.19	0.18	0.19	0.19	0.18	0.19	0.19	0.19	0.15	0.17
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.13	0.08	0.056	0.057	0.11	0.12	0.15	0.09	0.074	0.079
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	52	53	53	53	53	55	57	56	56	56
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	0.0051	0.012	<0.004	<0.004	<0.004	0.0058	<0.004
Iron	0.22	0.22	0.26	0.25	0.34	0.27	0.26	0.26	0.072	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	8.7	8.8	9	9	8.8	9.1	8.9	8.8	9.4	9.4
Manganese	0.17	0.17	0.17	0.18	0.18	0.18	0.18	0.18	0.28	0.12
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	3.2	3.2	3.4	3.1	3	3	3	2.9	3.5	3.8
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	30	30	29	29	27	28	29	29	22	23
Strontium	1	0.99	1	1	0.99	1	1.1	1.1	0.65	0.67
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	0.004	0.001	0.002	0.001	<0.015	<0.015	<0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	<0.002	<0.002	<0.002	0.0057	0.0085	0.0026	0.0029	0.0032	0.011	<0.002
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	211	.	207	.	205	.	205	.	190	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	9.4	.	5	.	4.3	.	4.2	.	19	.
Fluoride	0.1	.	<0.1	.	0.1	.	0.1	.	0.1	.
Nitrate-N	2.2	.	<0.2	.	<0.2	.	<0.2	.	3	.
Sulfate	25	.	23	.	25	.	24	.	29	.
TSS (mg/L)	<1	.	<1	.	<1	.	<1	.	<1	.
Turbidity (NTU)	0.8	.	2.1	.	2.6	.	0.3	.	3.1	.

(CONTINUED)

Sampling Point . Unit . Location . Date Sampled . Type	GW-745						GW-746			
	AQT						AQT			
	GRIDK1						GRIDK1			
	05/26/94		07/30/94		10/26/94		01/27/94		05/27/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.033	0.023	0.086	0.042	0.058	0.035	0.51	0.043	0.12	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.17	0.18	0.16	0.17	0.16	0.16	0.099	0.11	0.11	0.1
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.053	0.049	0.061	0.091	0.12	0.1	0.081	0.1	0.024	0.017
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	59	59	62	62	69	69	19	22	21	23
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.066	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.059	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.0043	<0.004	<0.004	0.0065	<0.004	<0.004	<0.004	<0.004	0.0072	0.0043
Iron	0.048	<0.005	0.2	0.099	0.26	0.17	0.62	0.0072	0.37	0.015
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	10	10	11	10	11	11	5.3	6	6.3	6.9
Manganese	0.27	0.11	0.35	0.32	0.59	0.52	0.024	0.024	0.069	0.054
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.016	0.019	0.19	0.087
Potassium	3.3	3.4	3	3.2	3.2	3.2	1.1	1.3	1.6	1.8
Selenium	<0.05	<0.05	<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	0.0089	<0.006	<0.006	<0.006
Sodium	22	22	22	23	24	24	7.3	7.9	7.2	7.1
Strontium	0.66	0.69	0.71	0.71	0.76	0.77	0.065	0.074	0.076	0.082
Thorium	<0.2	<0.2	<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	<0.015	<0.015	<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	<0.005	<0.005
Zinc	0.011	0.0035	0.0039	0.0026	0.0073	0.0072	0.015	0.022	0.023	0.027
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	189	.	195	.	198	.	39	.	43	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	15	.	12	.	12	.	11	.	12	.
Fluoride	0.2	.	0.1	.	0.1	.	<0.1	.	0.1	.
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	0.35	.	0.2	.
Sulfate	27	.	29	.	29	.	21	.	21	.
TSS (mg/L)	<1	.	<1	.	<1	.	71	.	3	.
Turbidity (NTU)	1.7	.	2.5	.	1.2	.	60	.	4.6	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

36

Sampling Point . Unit . Location . Date Sampled . Type	GW-746				GW-747					
	AQT				AQT					
	GRIDK1				GRIDK2					
	07/31/94		10/27/94		01/28/94		05/27/94		07/31/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.78	0.12	4.9	0.045	0.021	0.024	0.026	0.031	0.022	0.03
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.1	0.1	0.18	0.13	0.14	0.14	0.14	0.14	0.12	0.12
Beryllium	<0.0003	<0.0003	0.00044	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.031	0.055	0.085	0.1	0.11	0.075	0.064	0.057	0.088	0.13
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	7.5	8.2	23	22	49	51	54	53	41	41
Chromium (AAS)	0.038	<0.01	0.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	0.046	<0.01	0.33	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	0.0076	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.0053	0.0062	0.011	0.006	<0.004	<0.004	<0.004	0.0054	<0.004	0.0041
Iron	1.3	0.059	9.2	0.036	0.094	0.088	0.083	0.11	0.27	0.19
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	3.4	3.8	8.1	7.1	10	10	11	11	7.8	8
Manganese	0.035	0.025	0.15	0.072	0.013	0.013	0.015	0.016	0.014	0.015
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	0.063	0.061	0.15	0.13	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	1.7	1.7	3.3	2.1	1.6	2.1	2.5	2.3	2.1	2.1
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	6.9	7	8.5	8.4	29	29	29	28	42	42
Strontium	0.037	0.04	0.1	0.094	0.57	0.58	0.6	0.58	0.49	0.5
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.015	<0.015	<0.001	<0.001	<0.001	<0.001	<0.001	0.001
Vanadium	<0.005	<0.005	0.017	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0099	0.017	0.1	0.025	<0.002	<0.002	0.0021	0.0071	0.0027	0.0069
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	35	.	46	.	208	.	208	.	202	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	13	.	9.8	.	5.3	.	4	.	2	.
Fluoride	<0.1	.	<0.1	.	0.2	.	0.2	.	0.2	.
Nitrate-N	0.5	.	0.27	.	<0.12	.	<0.2	.	<0.2	.
Sulfate	22	.	27	.	35	.	23	.	18	.
TSS (mg/L)	13	.	14	.	<1	.	<1	.	<1	.
Turbidity (NTU)	7	.	17	.	1	.	1.3	.	2	.

(CONTINUED)

Sampling Point . Unit . Location . Date Sampled . Type	GW-747		GW-748							
	AQT		AQT							
	GRIDK2		GRIDK2							
	10/27/94		01/28/94		05/31/94		07/31/94		10/27/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.031	0.024	1.6	<0.02	1.1	0.024	2.8	0.048	0.58	0.026
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.16	0.16	0.15	0.13	0.15	0.14	0.15	0.12	0.18	0.14
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.12	0.17	0.035	0.044	0.016	0.016	0.063	0.032	0.066	0.072
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	49	51	79	76	84	83	94	95	100	110
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.019	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<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	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.0066	<0.004	0.0099	0.0064	<0.004	<0.004
Iron	0.13	0.1	1.9	<0.005	1.3	<0.005	4.1	0.017	0.63	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	10	11	8.9	8.5	9.5	9.1	11	9.4	11	10
Manganese	0.013	0.014	0.036	0.0044	0.091	0.059	0.11	0.0012	0.054	0.0088
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	2.1	2.2	0.87	<0.6	1.1	1.2	1.8	1	1.2	1.1
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	38	39	11	11	10	11	10	9.7	12	12
Strontium	0.67	0.68	0.22	0.22	0.23	0.23	0.24	0.23	0.29	0.29
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	<0.001	<0.001	<0.001	0.001	0.001	<0.001	<0.015	<0.015
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0087	<0.005	<0.005	<0.005
Zinc	0.0039	0.0024	0.0044	<0.002	0.0072	<0.002	0.019	0.0089	0.031	0.0031
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	200	.	213	.	216	.	227	.	232	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	2.9	.	14	.	16	.	17	.	15	.
Fluoride	0.2	.	0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	<0.2	.	<0.12	.	<0.2	.	<0.2	.	<0.2	.
Sulfate	21	.	36	.	33	.	41	.	37	.
TSS (mg/L)	<1	.	149	.	68	.	40	.	88	.
Turbidity (NTU)	1.1	.	160	.	27	.	12	.	38	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point . Unit . Location . Date Sampled . Type	GW-749								GW-750	
	AQT								AQT	
	GRIDK2								EXP-J	
	01/30/94		05/31/94		07/31/94		10/31/94		01/30/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.087	0.042	0.039	0.029	0.2	<0.02	0.64	<0.02	0.021	0.022
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.15	0.14	0.25	0.21	0.16	0.15	0.22	0.23	0.73	0.73
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.11	0.068	0.019	0.023	0.042	0.073	0.035	0.04	0.14	0.11
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	74	72	110	110	90	89	130	130	75	73
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<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	0.0086	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.63	0.52	0.36	0.78	1.4	0.61	1.8	0.69	0.27	0.26
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	7.2	7	9.3	9.6	8	7.9	11	11	11	11
Manganese	1.2	1.2	0.67	1.4	2.9	2	1.9	1.9	0.049	0.048
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	2.8	3.2	1.5	1.8	2.4	2.5	1.8	1.8	4.5	4.5
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	6.5	6.5	11	11	7.8	7.4	14	14	5.3	5.2
Strontium	0.17	0.17	0.25	0.25	0.2	0.2	0.31	0.31	0.63	0.63
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.005	0.005	0.008	0.002	0.001	0.001	<0.015	<0.015	<0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	<0.002	<0.002	0.015	0.018	0.0031	<0.002	0.023	0.039	<0.002	<0.002
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	170	.	255	.	232	.	271	.	233	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	14	.	29	.	20	.	26	.	3.8	.
Fluoride	<0.1	.	<0.1	.	0.1	.	0.1	.	<0.1	.
Nitrate-N	<0.12	.	<0.2	.	<0.2	.	<0.2	.	<0.12	.
Sulfate	31	.	44	.	39	.	42	.	21	.
TSS (mg/L)	5	.	3	.	6	.	2	.	<1	.
Turbidity (NTU)	3.6	.	2.5	.	4.7	.	3.4	.	0.9	.

(CONTINUED)

Sampling Point . Unit . Location . Date Sampled . Type	GW-750						GW-751			
	AQT						AQT			
	EXP-J						GRIDJ3			
	06/01/94		08/01/94		10/31/94		01/26/94		05/25/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	<0.02	0.021	<0.02	<0.02	0.023	<0.02	0.079	<0.02	<0.02	0.03
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.7	0.69	0.71	0.72	0.94	0.91	0.56	0.56	0.58	0.57
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	0.00037	<0.0003	0.0024	<0.0003	<0.0003	<0.0003
Boron	0.076	0.081	0.11	0.092	0.14	0.13	0.14	0.088	0.029	0.028
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	75	75	78	80	90	86	53	53	57	56
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0042	<0.004	<0.004	<0.004	<0.004	0.029	<0.004	<0.004
Iron	0.27	0.27	0.28	0.29	0.32	0.29	0.2	0.15	0.22	0.21
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	11	11	11	11	13	13	9.3	9.3	10	10
Manganese	0.05	0.05	0.054	0.055	0.054	0.051	0.013	0.011	0.012	0.012
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	4.4	4.7	4.5	4.5	5.7	5.4	3.4	3.1	2.9	3.2
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	5	5	4.9	5	7.1	6.8	8.8	8.9	8.5	8.4
Strontium	0.62	0.62	0.63	0.64	0.95	0.91	0.44	0.43	0.46	0.45
Thorium	<0.2	<0.2	<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	<0.015	<0.015	<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	<0.005	<0.005
Zinc	0.0029	0.0092	<0.002	<0.002	0.0096	0.0034	<0.002	<0.002	0.0086	0.0039
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	237	.	230	.	242	.	183	.	186	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	4	.	3.8	.	4.6	.	13	.	12	.
Fluoride	0.1	.	<0.1	.	<0.1	.	0.66	.	<0.1	.
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.12	.	<0.2	.
Sulfate	20	.	20	.	19	.	5.6	.	5	.
TSS (mg/L)	<1	.	<1	.	<1	.	2	.	<1	.
Turbidity (NTU)	1.5	.	0.6	.	3.4	.	1.3	.	0.5	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point . Unit . Location . Date Sampled . Type	GW-751				GW-752					
	AQT				AQT					
	GRIDJ3				GRIDJ3					
	07/29/94		10/25/94		01/26/94		05/25/94		07/30/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.022	<0.02	<0.02	<0.02	0.033	<0.02	0.029	<0.02	0.042	<0.02
Antimony	<0.05	<0.05	<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	0.053	<0.05
Barium	0.58	0.58	0.56	0.57	0.12	0.12	0.12	0.12	0.12	0.12
Beryllium	<0.0003	0.00044	<0.0003	<0.0003	<0.0003	0.0012	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.04	0.031	0.053	0.12	0.045	0.081	0.028	0.011	0.06	0.031
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	61	62	61	61	29	30	27	27	31	31
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	0.0074	0.0055	0.0054	<0.005	<0.005
Copper	0.0042	0.039	<0.004	<0.004	<0.004	<0.004	0.0047	<0.004	<0.004	<0.004
Iron	0.21	0.2	0.17	0.16	0.26	0.2	0.28	0.25	0.23	0.24
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	11	11	10	10	3.6	3.6	3.6	3.6	3.6	3.6
Manganese	0.015	0.015	0.014	0.014	1.6	1.7	1.7	1.6	1.8	1.8
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.00023	<0.00023	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	0.013	0.022	0.02	0.015	0.014
Potassium	3.2	3.2	3	3	1.7	1.9	1.9	1.5	1.9	2.1
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	8.6	8.6	8.5	8.6	9.3	8.9	9.9	9.8	9.2	9.5
Strontium	0.47	0.47	0.46	0.47	0.073	0.074	0.077	0.076	0.079	0.079
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	0.001	<0.015	<0.015	<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	<0.005	<0.005
Zinc	0.0055	0.0024	0.0099	0.0028	0.012	0.015	0.014	0.011	0.023	0.01
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	187	.	188	.	43	.	40	.	55	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	11	.	13	.	35	.	53	.	41	.
Fluoride	<0.1	.	<0.1	.	0.04	.	<0.1	.	<0.1	.
Nitrate-N	<0.2	.	0.4	.	<0.12	.	<0.2	.	<0.2	.
Sulfate	11	.	21	.	6.6	.	5	.	10	.
TSS (mg/L)	1	.	<1	.	1	.	1	.	<1	.
Turbidity (NTU)	0.5	.	0.1	.	1.1	.	1.2	.	0.7	.

(CONTINUED)

Sampling Point . Unit . Location . Date Sampled . Type	GW-752		GW-758							
	AQT		AQT							
	GRIDJ3		GRIDG1							
	10/25/94		02/05/94		05/06/94		08/29/94		11/02/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.31	<0.02	0.082	<0.02	<0.02	<0.02	<0.02	<0.02	0.039	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.12	0.12	0.13	0.12	0.12	0.13	0.13	0.12	0.12	0.11
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.075	0.1	0.037	0.036	0.04	0.036	0.03	0.038	0.12	0.083
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	27	28	67	67	68	65	71	68	66	66
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	0.0051	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	0.0052	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.5	0.14	0.47	0.27	0.21	0.15	1.3	0.038	0.32	0.25
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	3.3	3.4	9.2	8.8	9.1	9.5	9.7	9.4	8.6	8.6
Manganese	1.5	1.6	0.25	0.23	0.21	0.19	0.26	0.24	0.22	0.22
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	0.023	0.024	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	2	2	3.2	2.4	2.4	2.7	2.3	2.7	3.2	2.8
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	9.4	9.6	14	13	14	14	13	14	14	15
Strontium	0.075	0.077	0.48	0.46	0.48	0.53	0.49	0.46	0.47	0.47
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.015	<0.015
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.022	0.029	0.0082	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	42	.	198	.	194	.	202	.	197	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	46	.	18.4	.	16	.	17.2	.	17	.
Fluoride	<0.1	.	0.1	.	0.1	.	0.2	.	0.1	.
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Sulfate	3.8	.	17.9	.	18	.	18.1	.	20	.
TSS (mg/L)	<1	.	5	.	1	.	12	.	4	.
Turbidity (NTU)	3.9	.	4.1	.	2	.	32	.	0.4	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point . Unit . Location . Date Sampled . Type	GW-759								GW-760	
	AQT								AQT	
	GRIDG1								GRIDG2	
	02/05/94		05/06/94		08/29/94		11/02/94		02/08/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.32	<0.02	4.2	0.024	1.2	<0.02	0.44	<0.02	0.041	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.13	0.11	0.22	0.13	0.14	0.12	0.11	0.11	0.45	0.39
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.037	0.061	0.074	0.052	0.031	0.024	0.11	0.12	0.027	0.016
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	71	67	76	68	73	72	73	71	120	110
Chromium (AAS)	<0.01	<0.01	0.074	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	0.018	<0.01	<0.01	<0.01	<0.01	<0.01	0.029	<0.01
Cobalt	<0.005	<0.005	0.0076	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.0045	<0.004	0.028	0.004	0.005	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.53	0.24	8.2	0.11	2.6	<0.005	0.57	0.048	0.4	0.018
Lead (AAS)	<0.004	<0.004	0.008	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	10	9.5	15	10	11	10	9.9	9.8	13	12
Manganese	0.19	0.16	1.2	0.18	0.73	0.58	0.45	0.32	0.03	0.024
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	0.02	0.011	0.087	0.032	<0.01	<0.01	0.013	<0.01	0.14	0.099
Potassium	2.9	1.9	2.9	2	2.2	2.2	1.8	2	1.6	1.4
Selenium	<0.05	<0.05	<0.05	<0.05	0.053	<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	<0.006	<0.006
Sodium	12	12	12	12	13	12	11	12	11	9.8
Strontium	0.2	0.2	0.25	0.23	0.21	0.21	0.21	0.21	0.25	0.23
Thorium	<0.2	<0.2	<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	<0.015	<0.015	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.022	0.0089	0.11	0.0067	0.03	0.0096	0.0072	<0.002	0.0098	<0.002
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	195	.	193	.	198	.	195	.	160	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	20	.	23	.	23	.	25	.	125	.
Fluoride	<0.1	.	0.1	.	0.2	.	0.1	.	<0.1	.
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.	0.5	.
Sulfate	18.9	.	19	.	27	.	22	.	21	.
TSS (mg/L)	9	.	232	.	58	.	5	.	3	.
Turbidity (NTU)	30	.	200	.	75	.	5.5	.	5.2	.

(CONTINUED)

Sampling Point . Unit . Location . Date Sampled . Type	GW-760						GW-761			
	AQT						AQT			
	GRIDG2						GRIDG2			
	05/09/94		08/30/94		11/22/94		02/05/94		05/09/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.11	<0.02	0.051	0.032	0.11	<0.02	0.25	<0.02	1.5	0.028
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.49	0.5	0.48	0.5	0.39	0.4	0.07	0.064	0.095	0.069
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.028	0.019	0.017	0.031	0.013	0.019	0.02	0.054	0.027	0.047
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	110	120	120	120	110	110	28	27	28	28
Chromium (AAS)	0.22	<0.01	0.25	<0.01	0.39	<0.01	<0.01	<0.01	0.074	<0.01
Chromium	0.2	<0.01	0.24	<0.01	0.39	<0.01	<0.01	<0.01	0.084	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0058	<0.005
Copper	0.0066	<0.004	0.005	<0.004	0.011	0.0044	<0.004	0.0048	0.006	0.0041
Iron	1.2	0.009	1.3	<0.005	1.1	0.036	0.31	<0.005	2.4	0.07
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	14	15	16	16	12	12	2.6	2.5	3.3	2.8
Manganese	0.046	0.036	0.063	0.063	0.058	0.057	0.024	0.0035	0.28	0.0092
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	0.17	0.15	0.11	0.1	0.085	0.053	0.02	0.022	0.051	0.036
Potassium	1.7	1.7	1.8	2	2.4	1.9	1.2	1.2	0.86	<0.6
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	12	12	12	12	11	11	6	5.8	5.8	5.7
Strontium	0.29	0.3	0.3	0.29	0.23	0.24	0.043	0.041	0.051	0.05
Thorium	<0.2	<0.2	<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	<0.015	<0.015	<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	<0.005	<0.005
Zinc	0.0077	<0.002	0.016	0.0023	0.0021	<0.002	0.04	0.02	0.02	0.013
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	163	.	168	.	168	.	76	.	78	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	138	.	139	.	115	.	4.5	.	3.8	.
Fluoride	0.1	.	0.2	.	<0.1	.	<0.1	.	0.1	.
Nitrate-N	0.7	.	1.1	.	0.87	.	<0.2	.	<0.2	.
Sulfate	19.8	.	29	.	20	.	9.8	.	9.7	.
TSS (mg/L)	33	.	8	.	47	.	3	.	3	.
Turbidity (NTU)	34	.	5.5	.	16	.	4.6	.	4.4	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point . Unit . Location . Date Sampled . Type	GW-761				GW-762					
	AQT				AQT					
	GRIDG2				GRIDJ3					
	08/30/94		11/03/94		02/03/94		05/05/94		09/21/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	1.9	<0.02	0.76	<0.02	0.51	0.022	0.18	0.029	0.23	0.034
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.086	0.066	0.07	0.055	0.61	0.61	0.6	0.6	0.61	0.6
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.00031	<0.0003	<0.0003	<0.0003
Boron	0.022	0.022	0.049	0.014	0.094	0.11	0.11	0.098	0.21	0.18
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	27	28	29	25	80	82	82	81	85	84
Chromium (AAS)	0.052	<0.01	0.88	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	0.045	<0.01	0.69	<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	0.0053	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.0068	0.0074	<0.004	<0.004	<0.004	<0.004
Iron	4.7	<0.005	3	<0.005	0.59	0.18	0.37	0.18	0.36	0.2
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	3.2	2.7	2.5	2.5	26	26	26	26	26	26
Manganese	0.26	0.0086	0.088	0.029	0.18	0.17	0.16	0.15	0.14	0.13
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	0.012	<0.01	0.071	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	1.1	0.62	0.72	0.63	4	4	3.8	3.5	3.9	3.7
Selenium	<0.05	<0.05	<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	0.0069	0.0076	<0.006	<0.006	<0.006	<0.006
Sodium	6.1	6.1	5.3	5.3	8.5	8.6	8.4	8.4	8.5	8.4
Strontium	0.045	0.045	0.044	0.042	0.77	0.78	0.83	0.82	0.86	0.85
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	<0.001	<0.015	<0.015	<0.001	<0.001	<0.001	<0.001	<0.015	<0.015
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.036	0.007	0.019	0.0071	0.014	0.014	0.009	0.0091	0.0083	0.0039
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	78	.	79	.	287	.	283	.	285	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	3.4	.	2.9	.	28	.	28	.	27	.
Fluoride	0.1	.	0.2	.	0.1	.	<0.1	.	0.1	.
Nitrate-N	0.24	.	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Sulfate	20	.	14	.	13	.	13	.	18	.
TSS (mg/L)	91	.	44	.	14	.	5	.	4	.
Turbidity (NTU)	110	.	2.7	.	10	.	4.5	.	4	.

(CONTINUED)

Sampling Point Unit Location Date Sampled Type	GW-762		GW-763							
	AQT		AQT							
	GRIDJ3		GRIDJ3							
	11/09/94		02/03/94		05/05/94		09/21/94		11/09/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.68	<0.02	0.39	<0.02	0.49	0.038	0.82	0.035	<0.02	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.59	0.6	0.069	0.07	0.1	0.095	0.088	0.089	0.077	0.075
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.091	0.093	0.034	0.06	0.03	0.03	0.081	0.12	<0.004	0.02
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	0.0043	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Calcium	86	90	110	110	120	110	110	110	120	120
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0044	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.76	0.2	28	25	19	18	25	21	21	21
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	25	26	14	14	13	13	14	13	13	13
Manganese	0.14	0.13	1.6	1.6	1.5	1.5	1.1	1.1	1.2	1.2
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	3.7	3.8	1	<0.6	1.1	0.85	1.3	1.2	1.1	1.1
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	7.8	8.1	10	10	9.5	9.6	11	10	9.7	9.9
Strontium	0.85	0.89	0.2	0.2	0.25	0.25	0.23	0.23	0.24	0.24
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	<0.001	<0.001	<0.001	<0.001	<0.015	<0.015	<0.015	<0.015
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0067	0.0028	0.027	0.026	0.035	0.023	0.046	0.033	0.025	<0.002
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	282	.	301	.	287	.	319	.	275	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	1	.	44	.	41	.	40	.	43	.
Fluoride	0.1	.	0.2	.	0.1	.	0.2	.	0.3	.
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.	0.42	.
Sulfate	18	.	2	.	1	.	7.2	.	7.8	.
TSS (mg/L)	9	.	33	.	48	.	37	.	18	.
Turbidity (NTU)	16	.	60	.	3.4	.	80	.	100	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point . Unit . Location . Date Sampled . Type	GW-764								GW-765	
	AQT								AQT	
	GRIDE1								GRIDE1	
	02/03/94		05/05/94		08/24/94		11/01/94		02/04/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.052	0.021	<0.02	<0.02	0.091	<0.02	0.074	<0.02	4.2	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.3	0.3	0.32	0.31	0.31	0.32	0.31	0.3	0.21	0.15
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.069	0.12	0.066	0.084	0.055	0.048	0.14	0.11	0.04	0.026
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	47	46	48	47	45	46	47	45	95	94
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.015	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.012	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0068	<0.005
Copper	0.0045	0.0065	<0.004	<0.004	<0.004	0.0045	<0.004	<0.004	0.009	<0.004
Iron	0.22	0.1	0.088	0.06	0.36	0.032	0.4	0.11	6.9	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.014	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	6.1	6.1	6.3	6.2	6.4	6.3	5.9	5.8	11	9.6
Manganese	0.086	0.08	0.08	0.081	0.053	0.068	0.11	0.099	0.57	0.26
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0032	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	0.011	<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	<0.01	<0.01
Potassium	2.5	2.8	2	2	2.3	2.4	2.3	2.2	2.4	0.99
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	0.0074	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Sodium	26	26	28	27	28	28	28	27	8.7	8.8
Strontium	0.43	0.43	0.47	0.47	0.45	0.45	0.45	0.45	0.14	0.14
Thorium	<0.2	<0.2	<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	<0.015	<0.015	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0082	<0.005
Zinc	0.021	0.0069	<0.002	<0.002	0.01	0.022	0.0059	<0.002	0.033	0.005
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	191	.	182	.	160	.	189	.	282	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	3	.	3	.	3.1	.	4.7	.	10	.
Fluoride	<0.1	.	<0.1	.	0.2	.	0.1	.	<0.1	.
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Sulfate	9	.	8	.	15	.	14	.	10	.
TSS (mg/L)	11	.	9	.	2	.	<1	.	161	.
Turbidity (NTU)	2.3	.	1.5	.	6.1	.	5.2	.	120	.

(CONTINUED)

Sampling Point Unit Location Date Sampled Type	GW-765						GW-766			
	AQT						AQT			
	GRID1						GRID2			
	05/05/94		08/24/94		11/02/94		01/27/94		04/25/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.26	<0.02	1.1	<0.02	7.7	0.029	0.084	0.026	0.051	0.032
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.16	0.15	0.18	0.17	0.21	0.16	0.31	0.29	0.27	0.27
Beryllium	<0.0003	<0.0003	0.0015	<0.0003	0.00044	<0.0003	0.00043	<0.0003	<0.0003	<0.0003
Boron	0.017	0.014	0.017	0.021	0.077	0.11	0.052	0.046	0.053	0.056
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	98	98	100	100	98	99	44	43	39	39
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	0.027	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	0.016	<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	<0.005	<0.005
Copper	<0.004	<0.004	0.0046	<0.004	0.0086	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.37	0.0094	1.6	<0.005	8.7	0.016	0.077	<0.005	0.0081	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	0.0071	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	10	10	11	11	11	9.8	6.8	6.8	7.1	7.1
Manganese	0.21	0.17	0.43	0.25	0.56	0.3	0.0025	<0.001	0.002	0.0015
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00023	<0.00023	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<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	0.013	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	0.9	0.97	1.4	0.81	3.9	1.1	2.9	3.2	3.6	3.5
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	8.6	8.6	9.6	10	9.5	9.7	14	14	13	13
Strontium	0.15	0.15	0.15	0.15	0.15	0.15	0.43	0.42	0.49	0.49
Thorium	<0.2	<0.2	<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	<0.015	<0.015	<0.001	0.003	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	0.0095	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0031	0.63	0.012	0.0072	0.061	0.045	0.0065	0.006	0.0064	0.0066
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	282	.	288	.	281	.	150	.	125	.
Alkalinity-CO3	<1	.	<1	.	<1	.	2	.	14	.
Chloride	10	.	9.8	.	10	.	13	.	4.4	.
Fluoride	<0.1	.	0.2	.	0.2	.	0.1	.	<0.1	.
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.12	.	<0.2	.
Sulfate	8	.	14	.	12	.	13	.	8.3	.
TSS (mg/L)	9	.	60	.	196	.	6	.	<1	.
Turbidity (NTU)	15	.	7.3	.	200	.	2.7	.	1.5	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point . Unit . Location . Date Sampled . Type	GW-766				GW-767					
	AQT				AQT					
	GRID12				GRID12					
	08/09/94		10/31/94		01/27/94		04/25/94		08/09/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	1.4	<0.02	0.1	0.031	0.35	0.84	0.16	0.033	0.19	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.37	0.28	0.23	0.24	0.052	0.049	0.055	0.053	0.058	0.051
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.057	0.061	0.04	0.047	0.09	0.046	0.019	0.015	0.059	0.048
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	0.0032	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Calcium	53	31	34	31	2.7	2.9	2.6	2.8	3.2	3.1
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<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	0.0053	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	2.2	0.005	0.15	0.0096	0.25	<0.005	0.19	<0.005	0.18	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	9.2	8	6.2	6.7	1	1	1.2	1.2	1.3	1.2
Manganese	0.046	0.0036	0.01	0.007	0.05	0.04	0.069	0.059	0.063	0.042
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.00023	<0.00023	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.011	<0.01
Potassium	4.4	4	4.8	3.8	0.67	<0.6	0.72	0.72	0.89	0.81
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	13	13	13	12	2.8	2.9	2.6	2.7	3	2.9
Strontium	0.79	0.66	0.59	0.57	0.012	0.011	0.012	0.013	0.013	0.012
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	<0.001	<0.015	<0.015	<0.001	<0.001	<0.001	0.002	<0.001	0.006
Vanadium	0.0054	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.013	0.0031	0.0029	0.0047	0.053	0.047	0.08	0.073	0.074	0.048
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	95	.	130	.	11	.	9	.	11	.
Alkalinity-CO3	20	.	8	.	<1	.	<1	.	<1	.
Chloride	3.4	.	3.3	.	5.1	.	4.7	.	4	.
Fluoride	<0.1	.	0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	<0.2	.	<0.2	.	0.14	.	<0.2	.	0.36	.
Sulfate	13	.	12	.	2	.	3	.	7.8	.
TSS (mg/L)	117	.	2	.	1	.	1	.	11	.
Turbidity (NTU)	33	.	0.7	.	2.9	.	1.8	.	7	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point . Unit . Location . Date Sampled . Type	GW-767		GW-768							
	AQT		AQT							
	GRID12		GRID11							
	10/31/94		01/26/94		04/22/94		08/09/94		10/31/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.49	<0.02	0.95	<0.02	0.18	0.059	0.083	0.057	0.12	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.052	0.044	0.33	0.29	0.25	0.25	0.29	0.29	0.33	0.32
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.021	0.017	0.21	0.11	0.12	0.17	0.15	0.15	0.14	0.11
Cadmium (AAS)	0.0026	<0.002	<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	<0.003	<0.003
Calcium	2.5	2.4	44	35	37	40	43	42	41	40
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.0095	0.0063	0.0062	<0.004	<0.004	<0.004	<0.004	0.015	<0.004	<0.004
Iron	0.76	0.013	1.5	<0.005	0.18	<0.005	0.19	0.066	0.18	0.0069
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	1	0.89	7.2	6.5	6.8	7.4	7.8	7.8	8	7.7
Manganese	0.09	0.03	0.047	0.0024	0.0087	0.002	0.035	0.036	0.0067	0.0023
Mercury (CVAA)	<0.0002	<0.0002	<0.00023	<0.00023	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	1.5	1	3.2	2.9	2.5	2.8	2.8	3.1	3.3	3
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.055	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Sodium	2.7	2.7	72	70	73	71	71	69	78	73
Strontium	0.012	0.011	0.75	0.67	0.67	0.73	0.77	0.75	0.8	0.75
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	0.001	0.002	0.001	0.001	0.001	<0.001	<0.015	<0.015
Vanadium	<0.005	<0.005	0.0051	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.024	0.018	0.013	0.0021	0.012	0.011	0.01	0.017	0.0025	0.0022
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	11	.	262	.	300	.	12	.	262	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	3.9	.	4.8	.	3	.	3.3	.	3.5	.
Fluoride	<0.1	.	0.4	.	0.4	.	0.4	.	0.4	.
Nitrate-N	<0.2	.	<0.12	.	0.3	.	<0.2	.	0.39	.
Sulfate	6.1	.	19	.	13	.	16	.	18	.
TSS (mg/L)	46	.	94	.	4	.	10	.	2	.
Turbidity (NTU)	18	.	72	.	2	.	1.7	.	4.5	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point . Unit . Location . Date Sampled . Type	GW-769								GW-770	
	AQT								AQT	
	GRIDG3								GRIDG3	
	02/08/94		05/10/94		08/31/94		11/07/94		02/08/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	<0.02	0.033	<0.02	<0.02	0.034	<0.02	0.16	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.43	0.45	0.49	0.51	0.48	0.48	0.44	0.43	0.05	0.054
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.046	0.071	0.051	0.077	0.053	0.053	0.11	0.062	0.03	0.039
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	75	78	72	73	75	75	76	74	50	57
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0079	0.0073	0.0062	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.19	0.13	0.2	0.14	0.17	0.069	0.17	0.15	0.22	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	10	11	11	12	11	11	10	10	3.5	4
Manganese	0.015	0.016	0.016	0.017	0.017	0.016	0.015	0.015	0.015	<0.001
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	0.014	0.017	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	3	3.2	3.3	3.1	3	3.2	2.8	2.7	1.8	2.3
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	6.3	6.7	6.7	6.8	7.2	7.2	6.3	6.1	5.2	5.8
Strontium	0.4	0.42	0.48	0.5	0.43	0.44	0.43	0.42	0.062	0.07
Thorium	<0.2	<0.2	<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	<0.015	<0.015	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.005	0.004	0.0063	0.0038	0.0071	0.021	<0.002	0.0052	0.071	0.033
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	208	.	203	.	204	.	197	.	128	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	17	.	17.4	.	17	.	23	.	7	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.	0.2	.
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.	0.6	.
Sulfate	17	.	16.6	.	20	.	21	.	23	.
TSS (mg/L)	1	.	<1	.	<1	.	1	.	6	.
Turbidity (NTU)	1.5	.	2	.	1.4	.	0.6	.	4.5	.

(CONTINUED)

Sampling Point . Unit . Location . Date Sampled . Type	GW-770						GW-771			
	AQT						AQT			
	GRIDG3						GRIDC1			
	05/10/94		08/31/94		11/07/94		02/02/94		05/02/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	<0.02	0.029	0.83	0.083	0.91	<0.02	0.053	0.03	0.026	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	0.11	0.093	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.048	0.048	0.066	0.058	0.07	0.063	0.16	0.16	0.16	0.17
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0012	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.03	0.029	0.043	0.048	0.045	0.062	0.017	0.046	0.1	0.053
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	47	46	52	53	64	65	73	71	74	73
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<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	0.0095	0.0045
Iron	0.025	<0.005	1	<0.005	0.95	<0.005	0.15	0.069	0.13	0.13
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	3.7	3.7	4.2	3.9	3.8	4	7.5	7.4	7.5	7.4
Manganese	0.0018	<0.001	0.046	0.0033	0.051	0.0026	0.19	0.2	0.2	0.24
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	2.8	2.6	2.4	2.2	2.4	3	1.8	2	1.3	0.99
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	4.6	4.6	4.8	4.9	5.3	5.3	5.3	5.3	5.3	5
Strontium	0.062	0.062	0.078	0.074	0.079	0.078	0.15	0.15	0.17	0.16
Thorium	<0.2	<0.2	<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	<0.015	<0.015	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	<0.005	<0.005
Zinc	0.0059	0.0033	0.03	0.02	0.013	0.0034	0.0047	0.0062	0.011	0.003
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	120	.	146	.	146	.	207	.	204	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	4	.	4.3	.	4.6	.	11	.	9.3	.
Fluoride	0.2	.	0.2	.	0.2	.	<0.1	.	<0.1	.
Nitrate-N	2.7	.	0.74	.	0.8	.	<0.2	.	<0.2	.
Sulfate	19.8	.	24	.	25	.	12	.	13.9	.
TSS (mg/L)	5	.	1	.	20	.	3	.	<1	.
Turbidity (NTU)	1.3	.	2	.	55	.	2.5	.	1.5	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point . Unit . Location . Date Sampled . Type	GW-771				GW-772					
	AQT				AQT					
	GRIDC1				GRIDC1					
	08/24/94		11/01/94		02/03/94		05/02/94		08/24/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.28	<0.02	0.039	<0.02	<0.02	<0.02	<0.02	<0.02	0.096	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.16	0.16	0.17	0.16	0.079	0.083	0.09	0.092	0.092	0.088
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0003	<0.0003	0.0011	0.00037
Boron	0.023	0.031	0.095	0.087	0.016	0.053	0.059	0.032	0.016	0.012
Cadmium (AAS)	<0.002	<0.002	<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	0.0031	0.0031	<0.003	<0.003	0.0038	0.003
Calcium	73	72	73	72	14	13	14	14	13	13
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	0.052	0.059	0.062	0.066	0.051	0.054
Copper	<0.004	0.0042	<0.004	<0.004	<0.004	0.0048	<0.004	<0.004	<0.004	<0.004
Iron	1.2	<0.005	0.18	0.082	30	33	43	41	35	35
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	7.8	7.7	7.3	7.2	6.6	5.8	7.1	7.1	6.4	6.3
Manganese	0.23	0.21	0.24	0.21	12	13	15	15	12	13
Mercury (CVAA)	<0.0002	<0.0002	0.00051	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01
Potassium	1.4	1.3	1.4	1.4	0.82	1.5	1.1	1.1	1.2	1.3
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.051	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Sodium	5.6	5.6	5.6	5.8	21	20	25	26	25	26
Strontium	0.16	0.16	0.16	0.16	0.041	0.039	0.048	0.049	0.041	0.04
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	0.006	<0.015	<0.015	<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	<0.005	<0.005
Zinc	0.038	0.0071	0.0043	<0.002	0.013	0.011	0.022	0.022	0.043	0.022
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	201	.	206	.	106	.	120	.	102	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	7.8	.	5.6	.	38	.	75	.	46	.
Fluoride	0.2	.	<0.1	.	<0.1	.	0.1	.	0.2	.
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Sulfate	17	.	16	.	13	.	7.5	.	9.4	.
TSS (mg/L)	1	.	<1	.	5	.	4	.	6	.
Turbidity (NTU)	2.9	.	1.5	.	7	.	11	.	6.9	.

(CONTINUED)

Sampling Point . Unit . Location . Date Sampled . Type	GW-772		GW-773							
	AQT		AQT							
	GRIDC1		GRIDH2							
	11/01/94		01/28/94		04/26/94		08/10/94		11/01/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.035	0.024	<0.02	<0.02	0.056	0.025	<0.02	0.071	0.023	<0.02
Antimony	<0.05	<0.05	<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	0.051	<0.05	<0.05	<0.05	<0.05
Barium	0.074	0.076	0.38	0.38	0.35	0.34	0.39	0.4	0.39	0.37
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.062	0.13	0.058	0.025	0.037	0.015	0.052	0.077	0.078	0.021
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	11	11	58	59	56	56	55	56	58	54
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	0.049	0.047	<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	0.0065	<0.004	<0.004	<0.004
Iron	35	35	0.054	0.036	0.027	0.032	0.06	0.042	0.15	0.1
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	5.1	5	6.8	7	6.6	6.7	7.1	7.2	7.6	7.1
Manganese	12	12	0.03	0.031	0.026	0.027	0.023	0.023	0.031	0.029
Mercury (CVAA)	<0.0002	<0.0002	<0.00023	<0.00023	<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	<0.01	<0.01
Nickel	0.016	0.016	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	1.4	1.6	1.5	1.4	1.1	1.1	1.3	1.4	1.7	1.6
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	25	24	4.7	4.5	4.4	4.4	5	5	5.5	5.1
Strontium	0.037	0.037	0.13	0.13	0.14	0.14	0.16	0.16	0.17	0.16
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.015	<0.015
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.017	0.027	0.0052	0.0036	0.0029	0.0044	0.0061	0.0026	<0.002	0.0041
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	117	.	171	.	170	.	170	.	162	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	12	.	11	.	3	.	3	.	4.7	.
Fluoride	<0.1	.	0.1	.	<0.1	.	0.1	.	<0.1	.
Nitrate-N	<0.2	.	0.2	.	<0.2	.	<0.2	.	<0.2	.
Sulfate	8.5	.	12	.	5	.	10	.	11	.
TSS (mg/L)	<1	.	<1	.	<1	.	8	.	<1	.
Turbidity (NTU)	2.4	.	1.1	.	0.6	.	0.5	.	1	.

(CONTINUED)

Trace Metals and Anions, 1994

Sampling Point • Unit • Location • Date Sampled • Type	GW-774								GW-775	
	AQT								AQT	
	GRIDH2								GRIDH3	
	01/28/94		04/26/94		08/10/94		11/01/94		01/31/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	2.7	<0.02	0.1	<0.02	0.32	0.073	0.068	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	0.063	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.5	0.44	0.41	0.41	0.46	0.45	0.49	0.46	0.17	0.17
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.034	0.048	0.022	0.016	0.04	0.067	0.027	0.025	0.035	0.032
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	71	73	70	70	69	68	74	70	81	81
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.008	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	3.2	<0.005	0.14	<0.005	0.25	0.0079	0.11	0.017	0.0071	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	6.7	6.3	5.9	5.9	6.3	6.1	6.5	6.2	6.5	6.5
Manganese	0.25	0.038	0.026	0.0079	0.038	0.018	0.043	0.022	<0.001	<0.001
Mercury (CVAA)	<0.00023	<0.00023	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00023	<0.00023
Molybdenum	<0.01	<0.01	<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	<0.01	<0.01
Potassium	2.8	1.7	2	1.8	2.2	2	2.5	2.5	2.6	2.3
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	0.059	<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	<0.006	<0.006
Sodium	4.4	4.4	4.1	4.1	4.6	4.4	4.7	4.6	4.3	4.3
Strontium	0.12	0.11	0.11	0.11	0.12	0.12	0.12	0.12	0.19	0.19
Thorium	<0.2	<0.2	<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	<0.015	<0.015	<0.001	<0.001
Vanadium	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.016	0.0066	0.0094	0.0042	0.016	0.015	<0.002	<0.002	0.0088	0.0034
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	201	.	198	.	197	.	197	.	164	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	8.9	.	4	.	3.7	.	4.8	.	28	.
Fluoride	0.1	.	<0.1	.	0.1	.	<0.1	.	<0.1	.
Nitrate-N	<0.12	.	<0.2	.	0.27	.	<0.2	.	0.55	.
Sulfate	8.5	.	6	.	11	.	12	.	31	.
TSS (mg/L)	52	.	2	.	26	.	8	.	18	.
Turbidity (NTU)	26	.	1.1	.	12	.	240	.	0.4	.

(CONTINUED)

Sampling Point . Unit . Location . Date Sampled . Type	GW-775						GW-776			
	AQT						AQT			
	GRIDH3						GRIDH3			
	04/26/94		08/11/94		11/01/94		01/31/94		04/29/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.039	0.026	0.1	0.041	<0.02	<0.02	2.6	<0.02	0.17	0.044
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	0.052	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.052	<0.05
Barium	0.16	0.16	0.18	0.18	0.18	0.18	0.087	0.073	0.082	0.084
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.029	0.038	0.09	0.074	0.044	0.027	0.03	0.026	0.041	0.028
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	80	79	80	78	79	81	100	99	91	94
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	0.026	<0.01	0.096	<0.01	2.6	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	0.029	<0.01	0.11	<0.01	2.3	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.013	0.011
Copper	<0.004	<0.004	0.0041	<0.004	<0.004	0.0059	0.005	<0.004	0.014	<0.004
Iron	0.041	<0.005	0.099	0.0077	0.14	<0.005	3.9	0.076	9.1	1.7
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	6.3	6.3	6.9	6.8	6.7	6.8	4.9	4.7	5.4	5.9
Manganese	0.001	0.0016	0.0039	0.0021	0.0052	0.0058	0.093	0.013	0.12	0.096
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00023	<0.00023	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	0.021	<0.01	0.11	0.072	0.78	1
Potassium	2.3	2.2	3.3	4	6.1	3.3	4.7	3.5	3.1	3.1
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	4	4.2	4.4	4.5	4.4	4.2	14	14	13	14
Strontium	0.2	0.2	0.23	0.23	0.21	0.22	0.15	0.14	0.15	0.16
Thorium	<0.2	<0.2	<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	<0.015	<0.015	<0.001	<0.001	0.002	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0077	<0.005	0.0079	<0.005
Zinc	0.0045	0.0026	0.0054	0.0047	0.0027	<0.002	0.013	0.0083	0.021	0.034
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	169	.	166	.	174	.	183	.	193	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	1	.
Chloride	32	.	27	.	8.8	.	44	.	44	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	0.6	.	0.59	.	0.47	.	1.8	.	1.3	.
Sulfate	29	.	29	.	28	.	39	.	44	.
TSS (mg/L)	<1	.	2	.	<1	.	63	.	16	.
Turbidity (NTU)	0.8	.	2.7	.	0.9	.	56	.	14	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point . Unit . Location . Date Sampled . Type	GW-776				GW-777					
	AQT				AQT					
	GRIDH3				GRIDB2					
	08/11/94		11/01/94		05/20/94		08/14/94		10/31/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.57	<0.02	0.1	<0.02	0.29	0.027	0.035	0.024	0.11	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.084	0.074	0.098	0.072	0.23	0.22	0.2	0.2	0.21	0.006
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.14	0.059	0.034	0.023	0.086	0.03	0.025	0.029	0.076	<0.004
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	93	94	96	98	67	66	67	68	72	2.1
Chromium (AAS)	1.6	<0.01	1.1	0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	1.3	<0.01	1.1	0.078	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.028	0.0055	0.03	0.014	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.016	<0.004	0.01	<0.004	<0.004	<0.004	0.0046	<0.004	<0.004	<0.004
Iron	25	0.3	18	1.1	0.68	0.11	0.21	0.028	0.46	0.066
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	5.3	5.3	4.9	5.1	7.4	7.5	7.2	7.3	7.2	0.22
Manganese	0.27	0.06	0.3	0.17	0.073	0.067	0.057	0.057	0.064	0.0015
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	0.016	<0.01	0.012	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	1.5	0.72	1.2	0.89	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	3.3	3	3.3	3.3	2.2	2.1	1.9	1.8	2.3	<0.6
Selenium	<0.05	0.066	<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	<0.006	<0.006
Sodium	12	12	12	13	10	9.6	9.6	9.7	10	0.27
Strontium	0.17	0.17	0.16	0.16	0.19	0.21	0.19	0.2	0.21	0.006
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	<0.001	<0.015	<0.015	<0.001	<0.001	<0.001	0.001	<0.015	<0.015
Vanadium	0.0063	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.034	0.012	0.0048	0.0029	0.014	0.014	0.0075	0.0048	0.0099	0.0038
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	186	.	198	.	205	.	205	.	205	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	39	.	11	.	2	.	4.8	.	3	.
Fluoride	<0.1	.	<0.1	.	0.1	.	0.1	.	0.1	.
Nitrate-N	1.2	.	1.2	.	<0.2	.	0.6	.	<0.2	.
Sulfate	44	.	39	.	10	.	16	.	13	.
TSS (mg/L)	60	.	24	.	6	.	<1	.	10	.
Turbidity (NTU)	150	.	16	.	5.6	.	2.8	.	3.4	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point . Unit . Location . Date Sampled . Type	GW-778						GW-779			
	AQT						AQT			
	GRIDB2						GRIDF2			
	05/20/94		08/14/94		10/31/94		06/09/94		09/08/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.57	0.03	3.3	0.027	4.1	0.021	0.14	0.036	0.25	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.091	0.074	0.13	0.092	0.13	0.09	0.19	0.17	0.18	0.17
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.029	0.02	0.029	0.036	0.032	0.041	0.17	0.19	0.21	0.18
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	56	55	60	64	61	61	5.9	5.4	5.6	5.7
Chromium (AAS)	0.16	<0.01	0.13	<0.01	0.067	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	0.13	<0.01	0.12	<0.01	0.05	<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	<0.005	<0.005
Copper	0.0094	0.0061	0.018	<0.004	0.006	<0.004	<0.004	<0.004	0.0069	0.0043
Iron	1.6	0.035	6.4	<0.005	5.1	<0.005	0.1	<0.005	0.3	0.0053
Lead (AAS)	<0.004	<0.004	0.0064	<0.004	0.005	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	9.9	9.8	11	10	10	9.2	2.1	2.1	2.1	2.1
Manganese	0.071	0.0029	0.29	0.0052	0.21	0.003	0.0036	<0.001	0.0056	0.0032
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	0.018	0.015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	1.4	1.4	2.3	1.5	2.7	1.4	2.8	3.1	2.4	2.5
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	13	13	12	13	13	13	85	88	85	85
Strontium	0.1	0.099	0.1	0.11	0.1	0.1	0.37	0.38	0.33	0.33
Thorium	<0.2	<0.2	<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	<0.015	<0.015	<0.001	<0.001	<0.015	<0.015
Vanadium	<0.005	<0.005	<0.005	<0.005	0.0056	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.017	0.01	0.036	0.025	0.03	0.017	<0.002	0.003	0.004	<0.002
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	155	.	165	.	166	.	174	.	182	.
Alkalinity-CO3	<1	.	<1	.	<1	.	24	.	10	.
Chloride	9	.	13	.	1.6	.	2.7	.	3.3	.
Fluoride	<0.1	.	0.1	.	0.1	.	0.6	.	0.6	.
Nitrate-N	1.1	.	1	.	<0.2	.	<0.2	.	<0.2	.
Sulfate	23	.	26	.	6.5	.	11	.	13	.
TSS (mg/L)	13	.	91	.	76	.	3	.	2	.
Turbidity (NTU)	8.7	.	90	.	70	.	4.4	.	6.4	.

(CONTINUED)

Sampling Point	GW-779		GW-780						GW-781	
Unit	AQT		AQT						AQT	
Location	GRIDF2		GRIDF2						GRIDE3	
Date Sampled	11/29/94		06/09/94		09/08/94		11/29/94		06/15/94	
Type	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.48	<0.02	0.035	<0.02	7.4	<0.02	0.033	<0.02	0.17	0.085
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.22	0.21	0.51	0.53	0.77	0.52	0.53	0.51	0.63	0.36
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	0.0015	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.22	0.19	0.037	0.048	0.052	0.044	0.045	0.05	0.42	0.52
Cadmium (AAS)	<0.002	<0.002	<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	0.0041	<0.003	<0.003	<0.003	<0.003	<0.003
Calcium	6.3	6	120	120	130	130	120	120	27	14
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	1.1	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	0.8	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	0.013	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.12	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.19	<0.005	0.76	0.59	13	0.5	1	0.71	0.15	0.017
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	0.0056	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	2.2	2.1	17	17	20	18	17	16	8.5	5.1
Manganese	0.0046	0.0029	1.1	1.2	0.68	0.87	0.97	1.4	0.015	0.0049
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	0.011	<0.01	0.53	0.033	<0.01	<0.01	<0.01	<0.01
Potassium	3.3	2.9	2.6	2.7	4.4	2.3	3.2	2.9	5.7	5.5
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	89	87	16	16	17	16	16	16	63	79
Strontium	0.38	0.36	0.57	0.57	0.7	0.58	0.61	0.61	1.1	0.7
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	<0.001	<0.001	<0.015	<0.015	<0.015	<0.015	0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	0.014	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0043	0.0032	0.037	0.049	0.18	0.062	0.0036	0.034	0.01	0.062
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	200	.	269	.	262	.	275	.	212	.
Alkalinity-CO3	4	.	<1	.	<1	.	<1	.	<1	.
Chloride	3.1	.	92	.	99	.	136	.	11	.
Fluoride	0.5	.	<0.1	.	0.1	.	<0.1	.	<0.1	.
Nitrate-N	0.34	.	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Sulfate	8.6	.	16	.	16	.	13	.	14	.
TSS (mg/L)	1	.	174	.	4	.	<1	.	10	.
Turbidity (NTU)	5.5	.	2.2	.	5.7	.	5.3	.	4.6	.

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APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point . Unit . Location . Date Sampled . Type	GW-781				GW-782					
	AQT				AQT					
	GRIDE3				GRIDE3					
	09/09/94		12/01/94		06/16/94		09/12/94		12/02/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.28	<0.02	2	<0.02	0.043	0.034	<0.02	<0.02	0.24	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.35	0.3	0.5	0.44	0.64	0.64	0.71	0.69	0.67	0.64
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.43	0.47	0.46	0.49	0.12	0.14	0.12	0.12	0.15	0.13
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	16	12	28	18	87	89	81	77	81	80
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	0.023	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	0.019	<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	<0.005	<0.005
Copper	0.019	<0.004	0.0081	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	1.1	0.021	1.7	<0.005	0.3	0.013	0.04	0.021	0.29	0.015
Lead (AAS)	<0.004	<0.004	0.0078	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	4.9	4.3	5.9	5.6	15	15	16	15	15	15
Manganese	0.043	0.011	0.063	0.011	0.048	0.02	0.061	0.056	0.045	0.037
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	0.024	<0.01	<0.01	<0.01	0.011	<0.01	<0.01	0.013	<0.01	<0.01
Potassium	6.1	5.2	6.4	6	4.5	4.6	5.2	4.9	5.7	5.2
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	75	76	71	73	10	11	10	9.7	11	11
Strontium	0.65	0.57	0.79	0.78	0.95	0.95	1	0.94	0.98	0.96
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	<0.015	<0.015	0.001	0.001	<0.015	<0.015	<0.015	<0.015
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.021	<0.002	0.011	0.0029	0.016	0.0089	0.015	0.0074	<0.002	0.0038
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	198	.	201	.	249	.	243	.	250	.
Alkalinity-CO3	2	.	<1	.	<1	.	<1	.	<1	.
Chloride	7.1	.	8.7	.	19	.	22	.	22	.
Fluoride	0.1	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	<0.2	.	<0.2	.	0.47	.	<0.2	.	0.51	.
Sulfate	12	.	8.4	.	17	.	14	.	15	.
TSS (mg/L)	11	.	82	.	3	.	<1	.	2	.
Turbidity (NTU)	5	.	48	.	3.5	.	1.2	.	2.4	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point . Unit . Location . Date Sampled . Type	GW-783						GW-784			
	AQT						AQT			
	GRIDE3						GRIDD1			
	06/16/94		09/12/94		12/02/94		06/06/94		09/01/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.064	0.023	0.24	<0.02	1.3	0.035	<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	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.12	0.14	0.15	0.15	0.18	0.19	0.24	0.24	0.22	0.22
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.079	0.068	0.058	0.1	0.064	0.18	0.033	0.022	0.0043	0.076
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.0048	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.0054	<0.003	<0.003	<0.003
Calcium	88	90	94	100	95	98	81	83	83	81
Chromium (AAS)	<0.01	<0.01	0.011	<0.01	0.87	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	0.012	<0.01	0.88	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	0.0057	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0051	<0.004	0.024	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.064	0.056	0.57	0.012	5.9	0.27	0.44	0.065	0.66	0.61
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	6.2	6.4	7.1	8.1	7.8	8.7	8.8	8.7	8.9	8.7
Manganese	0.0064	0.007	0.037	0.014	0.1	0.084	0.26	0.3	0.31	0.3
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	0.049	0.052	0.24	0.15	0.28	0.26	0.015	0.016	<0.01	<0.01
Potassium	1.6	1.6	2.5	2.7	3.6	3.4	3	3.1	1.7	2.6
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	15	15	15	14	14	14	7.4	7.8	7.6	7.6
Strontium	0.2	0.21	0.22	0.24	0.27	0.3	0.44	0.4	0.4	0.39
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.002	0.002	<0.015	<0.015	<0.015	<0.015	<0.001	<0.001	<0.015	<0.015
Vanadium	<0.005	<0.005	<0.005	<0.005	0.0062	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.026	0.034	0.048	0.032	0.0046	0.0042	0.0082	0.01	0.011	0.0071
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	212	.	239	.	261	.	214	.	219	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	17	.	20	.	19	.	25	.	25	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	0.1	.	<0.1	.
Nitrate-N	1.2	.	1.3	.	1	.	<0.2	.	<0.2	.
Sulfate	22	.	23	.	21	.	12	.	16	.
TSS (mg/L)	2	.	9	.	33	.	1	.	10	.
Turbidity (NTU)	3	.	19	.	50	.	1.1	.	2	.

(CONTINUED)

Sampling Point	GW-784		GW-785						GW-786	
Unit	AQT		AQT						AQT	
Location	GRIDD1		GRIDD1						GRIDE2	
Date Sampled	11/28/94		06/07/94		09/06/94		11/28/94		06/08/94	
Type	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.091	<0.02	1.3	<0.02	0.47	0.026	3.6	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.25	0.24	0.037	0.035	0.035	0.032	0.058	0.037	0.38	0.37
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.039	0.053	0.0073	0.02	0.017	0.11	0.03	0.025	0.017	0.014
Cadmium (AAS)	<0.002	<0.002	<0.002	0.0022	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	0.0031	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Calcium	86	83	1.9	2	1.9	1.9	2.2	2	70	69
Chromium (AAS)	<0.01	<0.01	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	<0.01	<0.01
Cobalt	<0.005	<0.005	0.011	0.013	0.0078	0.011	0.012	0.0089	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	0.0045	0.0043	<0.004	<0.004	<0.004
Iron	0.74	0.41	27	25	30	29	28	26	0.092	0.069
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	9.1	8.9	1.6	1.4	1.5	1.4	1.9	1.4	12	12
Manganese	0.24	0.22	1.3	1.3	1.4	1.4	1.3	1.3	0.023	0.022
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	3	2.7	1.7	1.7	<0.6	1.5	2.7	1.4	1.9	2.1
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	7.3	7.2	9.9	9.7	10	11	10	9.9	9.1	8.6
Strontium	0.46	0.44	0.011	0.012	0.011	0.011	0.014	0.011	0.18	0.18
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	0.001	<0.001	<0.015	<0.015	<0.015	<0.015	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	0.0053	<0.005	<0.005	<0.005	<0.005
Zinc	0.004	0.0024	0.028	0.049	0.038	0.033	0.02	0.011	0.0025	0.002
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	215	.	54	.	51	.	47	.	224	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	27	.	20	.	20	.	19	.	13	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Sulfate	12	.	<1	.	<1	.	<1	.	12	.
TSS (mg/L)	4	.	54	.	17	.	98	.	7	.
Turbidity (NTU)	50	.	33	.	9.5	.	70	.	0.6	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point . Unit . Location . Date Sampled . Type	GW-786				GW-787					
	AQT				AQT					
	GRIDE2				GRIDE2					
	09/07/94		11/28/94		06/08/94		09/07/94		11/29/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.04	<0.02	<0.02	<0.02	5.5	0.16	2.1	<0.02	0.26	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.4	0.36	0.39	0.39	0.11	0.045	0.15	0.081	0.035	0.035
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.019	0.013	0.021	0.032	0.027	0.0041	0.0086	0.05	0.016	0.0078
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.0028
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Calcium	72	66	71	71	2.4	2.2	3.4	4.4	1.4	1.9
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	0.15	<0.01	0.012	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	0.091	<0.01	0.013	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	0.019	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.0061	<0.004	0.012	0.007	0.042	0.0046	0.0076	0.0066	0.0081	0.0081
Iron	0.22	<0.005	0.12	0.045	7.7	0.19	3.6	<0.005	0.31	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	0.01	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	14	12	13	13	2.9	1.2	1.9	2.1	0.99	1.1
Manganese	0.027	0.023	0.016	0.016	0.77	0.036	0.16	0.031	0.025	0.0097
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	0.046	0.013	0.019	<0.01	<0.01	<0.01
Potassium	2.1	1.8	2.2	2.2	1.7	1.2	1.1	<0.6	1	1.5
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	0.0066	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Sodium	10	8.9	9.2	9.4	2.9	4.8	3.5	3.8	3.1	3.2
Strontium	0.21	0.18	0.19	0.19	0.011	0.044	0.021	0.021	0.0084	0.01
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	<0.015	<0.015	<0.001	<0.001	<0.015	<0.015	<0.015	<0.015
Vanadium	<0.005	<0.005	<0.005	<0.005	0.014	<0.005	0.0095	<0.005	<0.005	<0.005
Zinc	0.0088	0.0021	<0.002	0.0039	0.058	0.035	0.53	0.35	0.022	0.019
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	225	.	221	.	11	.	13	.	10	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	11	.	11	.	3	.	2.7	.	2.7	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	<0.2	.	<0.2	.	0.49	.	0.39	.	0.62	.
Sulfate	13	.	6.9	.	5.6	.	6.7	.	<1	.
TSS (mg/L)	2	.	2	.	140	.	10	.	<1	.
Turbidity (NTU)	2.1	.	1.3	.	120	.	20	.	14	.

(CONTINUED)

Sampling Point . Unit . Location . Date Sampled . Type	GW-788						GW-789			
	AQT						AQT			
	GRIDF3						GRIDF3			
	06/10/94		09/08/94		11/30/94		06/15/94		09/09/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.41	<0.02	6.4	0.072	5.2	0.025	1.3	<0.02	2.2	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.12	0.11	0.18	0.086	0.17	0.081	0.33	0.3	0.28	0.28
Beryllium	<0.0003	<0.0003	0.00034	<0.0003	0.0003	<0.0003	0.00035	<0.0003	<0.0003	<0.0003
Boron	1.5	1.3	1.1	1.2	1.2	1.2	0.18	0.071	0.12	0.068
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	12	11	21	8.2	15	8.4	72	64	67	65
Chromium (AAS)	<0.01	<0.01	0.023	<0.01	<0.01	<0.01	0.015	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	0.014	<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	<0.005	<0.005
Copper	0.0061	<0.004	0.02	0.0086	0.025	0.0051	0.0067	<0.004	0.0088	<0.004
Iron	0.33	<0.005	7.5	0.063	4	<0.005	1.6	<0.005	2	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	3.3	3	5.2	2.6	3.8	2.4	10	9.3	9.7	8.8
Manganese	0.019	0.011	0.21	0.0086	0.12	0.0023	0.11	0.0086	0.07	0.0086
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	0.013	0.013	<0.01	<0.01	0.012	<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	0.013	0.013
Potassium	5.7	5.4	7.8	5.5	7.3	5.6	3.1	2.6	3.6	2.8
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	130	120	120	120	120	120	6.1	5.8	8	5.9
Strontium	0.55	0.51	0.47	0.4	0.51	0.42	0.27	0.27	0.22	0.24
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.003	0.002	<0.015	<0.015	<0.015	<0.015	0.001	0.001	<0.015	<0.015
Vanadium	<0.005	<0.005	0.0092	<0.005	0.0056	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0046	<0.002	0.029	0.03	0.017	<0.002	0.011	<0.002	0.016	<0.002
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	272	.	252	.	246	.	180	.	180	.
Alkalinity-CO3	<1	.	2	.	6	.	<1	.	<1	.
Chloride	6.2	.	7.8	.	8.2	.	5.7	.	5.7	.
Fluoride	1.4	.	1.5	.	1.3	.	<0.1	.	0.1	.
Nitrate-N	<0.2	.	0.42	.	0.69	.	0.94	.	0.9	.
Sulfate	29	.	27	.	24	.	19	.	20	.
TSS (mg/L)	12	.	93	.	89	.	122	.	57	.
Turbidity (NTU)	1	.	135	.	110	.	110	.	76	.

(CONTINUED)

Trace Metals and Anions, 1994

Sampling Point	GW-789		GW-791						GW-792	
Unit	AQT		AQT						AQT	
Location	GRIDF3		GRIDD2						GRIDD2	
Date Sampled	11/30/94		06/07/94		09/06/94		12/01/94		06/07/94	
Type	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	3.8	0.024	<0.02	<0.02	0.031	<0.02	0.025	0.038	0.084	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.32	0.31	0.27	0.27	0.27	0.28	0.29	0.29	0.075	0.095
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.075	0.12	0.027	0.025	0.033	0.05	0.041	0.031	0.022	0.033
Cadmium (AAS)	0.0023	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.0028
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Calcium	77	64	66	67	71	68	70	70	31	29
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	0.0052	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.015	<0.004	<0.004	<0.004	<0.004	0.021	<0.004	<0.004	<0.004	<0.004
Iron	4.5	<0.005	0.12	0.064	0.24	0.14	0.17	0.16	0.12	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	9.1	8.8	14	14	15	14	14	14	3.1	3.1
Manganese	0.15	0.0095	0.02	0.019	0.02	0.02	0.019	0.019	0.022	0.018
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	5.1	3.8	2.7	3	1.9	2.4	2.6	2.2	1.2	1.7
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	5.7	6.4	7.6	7.7	7.6	7.8	8.3	8.2	7.9	8.2
Strontium	0.25	0.25	0.37	0.38	0.38	0.39	0.39	0.38	0.059	0.06
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	<0.001	0.001	<0.015	<0.015	<0.015	<0.015	0.008	0.002
Vanadium	0.0066	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.02	<0.002	0.0066	0.0027	0.011	0.0049	0.0062	0.0095	0.039	0.059
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	174	.	230	.	236	.	233	.	66	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	5.9	.	5	.	7.5	.	5.2	.	2	.
Fluoride	<0.1	.	0.1	.	<0.1	.	<0.1	.	0.1	.
Nitrate-N	1.3	.	<0.2	.	0.5	.	<0.2	.	3.4	.
Sulfate	18	.	11	.	15	.	11	.	26	.
TSS (mg/L)	160	.	<1	.	1	.	1	.	5	.
Turbidity (NTU)	112	.	1.4	.	2	.	0.1	.	18	.

(CONTINUED)

Sampling Point • Unit • Location • Date Sampled • Type	GW-792				GW-816				GW-817	
	AQT				AQT				AQT	
	GRIDD2				EXP-SR				GRIDK3	
	09/07/94		12/01/94		09/21/94		11/28/94		09/21/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.022	<0.02	1.3	0.025	3.4	<0.02	0.038	<0.02	1	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.099	0.082	0.077	0.07	0.31	0.29	0.24	0.24	0.35	0.35
Beryllium	<0.0003	<0.0003	0.00035	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.016	0.019	0.04	0.029	0.031	0.026	0.057	0.048	0.014	0.044
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	26	29	23	28	49	48	50	50	76	74
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0052	0.0055	0.0042	<0.004	<0.004	0.0084	<0.004	<0.004
Iron	0.15	<0.005	1.6	0.0085	18	11	3.8	3.3	1.3	0.12
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	2.8	3	3	3	15	14	16	16	8.8	8.4
Manganese	0.023	0.011	0.12	0.0053	1.4	1.4	2.2	2.2	0.24	0.14
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	1.8	0.8	1.8	1.7	7	5.8	6.2	6.4	2.7	2
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	7.9	8	10	8.9	4.4	4.4	4.4	4.6	5.1	5
Strontium	0.058	0.055	0.052	0.055	0.093	0.092	0.085	0.086	0.22	0.21
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Vanadium	<0.005	<0.005	<0.005	<0.005	0.0066	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.082	0.09	0.011	0.0068	0.089	0.051	0.0042	0.0092	0.0094	0.0035
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	47	.	36	.	203	.	222	.	215	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	4	.	3.8	.	4.5	.	6.3	.	4.6	.
Fluoride	<0.1	.	0.1	.	0.1	.	<0.1	.	<0.1	.
Nitrate-N	5.1	.	4.8	.	<0.2	.	0.52	.	<0.2	.
Sulfate	27	.	27	.	6.5	.	1.5	.	17	.
TSS (mg/L)	8	.	10	.	81	.	2	.	35	.
Turbidity (NTU)	10.1	.	3.2	.	95	.	7	.	20	.

(CONTINUED)

APPENDIX E.1
Trace Metals and Anions, 1994

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Sampling Point	GW-817	
Unit	AQT	
Location	GRIDK3	
Date Sampled	11/28/94	
Type	TOT	DIS
METALS (mg/L)	.	.
Aluminum	2	<0.02
Antimony	<0.05	<0.05
Arsenic	<0.05	<0.05
Barium	0.34	0.31
Beryllium	<0.0003	<0.0003
Boron	0.042	0.055
Cadmium (AAS)	<0.002	<0.002
Cadmium	<0.003	<0.003
Calcium	69	67
Chromium (AAS)	<0.01	<0.01
Chromium	<0.01	<0.01
Cobalt	<0.005	<0.005
Copper	0.045	<0.004
Iron	2.2	0.013
Lead (AAS)	<0.004	<0.004
Lead	<0.05	<0.05
Magnesium	7.9	7.4
Manganese	0.29	0.054
Mercury (CVAA)	<0.0002	<0.0002
Molybdenum	<0.01	<0.01
Nickel	<0.01	<0.01
Potassium	5.5	5.2
Selenium	<0.05	<0.05
Silver	<0.006	<0.006
Sodium	10	10
Strontium	0.2	0.19
Thorium	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015
Vanadium	<0.005	<0.005
Zinc	0.012	0.0054
ANIONS (mg/L)	.	.
Alkalinity-HCO3	-205	.
Alkalinity-CO3	<1	.
Chloride	5.6	.
Fluoride	<0.1	.
Nitrate-N	0.56	.
Sulfate	22	.
TSS (mg/L)	54	.
Turbidity (NTU)	36	.

APPENDIX E.1
Trace Metals and Anions, 1994

67

Sampling Point . Unit . Location . Date Sampled . Type	LRS				LRSPW			
	CREEK				CREEK			
	EXP-SW				EXP-SW			
	09/07/94		12/27/94		09/07/94		12/27/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	<0.02	<0.02	0.088	0.046	0.038	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	0.082	0.076	0.069	0.068	0.062	0.064	0.047	0.047
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.097	0.094	0.056	0.057	0.12	0.13	0.094	0.077
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
Calcium	69	64	66	66	67	65	59	57
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	0.0046	0.0071	0.0047	<0.004	0.0053	<0.004	<0.004
Iron	<0.005	<0.005	<0.005	0.0072	0.069	0.0073	0.0073	0.011
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	11	11	11	11	12	12	12	11
Manganese	0.057	0.051	0.034	0.038	0.0081	0.0088	<0.001	0.0017
Mercury (CVAA)	<0.00022	<0.00022	<0.0002	<0.0002	0.00035	<0.00022	<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
Potassium	2.8	2.6	2.2	2.5	3	3	2	1.8
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	0.0063	<0.006	<0.006	<0.006
Sodium	22	20	12	12	24	23	9.8	9.8
Strontium	0.18	0.16	0.17	0.17	0.13	0.13	0.12	0.12
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	0.012	0.015	0.015	<0.015	0.011	0.015	0.015
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0056	0.012	0.009	0.011	0.022	0.018	0.02	0.025
ANIONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	153	.	171	.	128	.	148	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Chloride	18	.	13	.	20	.	12	.
Fluoride	0.8	.	0.6	.	0.9	.	0.7	.
Nitrate-N	2.9	.	3.4	.	3.4	.	3.8	.
Sulfate	72	.	42	.	93	.	43	.
TSS (mg/L)	10	.	<1	.	8	.	<1	.
Turbidity (NTU)	0.4	.	0.3	.	1.2	.	0.2	.

APPENDIX E.2
VOLATILE ORGANIC COMPOUNDS

APPENDIX E.2
Volatile Organic Compounds, 1994

1

Sampling Point	GW-148	GW-149	GW-151				GW-153	GW-154
Unit	AQF	AQF	AQF				AQF	AQF
Location	NHP	NHP	NHP				NHP	NHP
Date Sampled	11/14/94	11/14/94	02/05/94	05/12/94	09/22/94	11/16/94	11/14/94	11/15/94
Acetone	11	10	10U	10U	50U	50U	11	10
Benzene	10U	10U	5U	10U	50U	50U	10U	10U
Bromodichloromethane	10U	10U	5U	10U	50U	50U	10U	10U
Bromoform	10U	10U	5U	10U	50U	50U	10U	10U
Bromomethane	10U	10U	10U	10U	50U	50U	10U	10U
2-Butanone	10	10U	16	10U	50U	50U	10U	10U
Carbon disulfide	10U	10U	5U	10U	50U	50U	10U	10U
Carbon tetrachloride	10U	10U	450	560	370	300	100	10U
Chlorobenzene	10U	10U	5U	10U	50U	50U	10U	10U
Chlorodibromomethane	10U	10U	5U	10U	50U	50U	10U	10U
Chloroethane	10U	10U	10U	10U	50U	50U	10U	10U
Chloroform	10U	10U	20	20	19	15	8	10U
Chloromethane	10U	10U	10U	10U	50U	50U	10U	10U
1,1-Dichloroethane	10U	10U	5U	10U	50U	50U	10U	10U
1,2-Dichloroethane	10U	10U	5U	10U	50U	50U	10U	10U
1,1-Dichloroethene	10U	10U	5U	10U	50U	50U	10U	10U
1,2-Dichloroethene	3	10U	1	2	50U	50U	10U	10U
1,2-Dichloropropane	10U	10U	5U	10U	50U	50U	10U	10U
cis-1,3-Dichloropropene	10U	10U	5U	10U	50U	50U	10U	10U
trans-1,3-Dichloropropene	10U	10U	5U	10U	50U	50U	10U	10U
Ethylbenzene	10U	10U	5U	10U	50U	50U	10U	10U
2-Hexanone	10U	10U	10U	10U	50U	50U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	50U	50U	10U	10U
Methylene chloride	10U	10U	12	10U	50U	50U	10U	10U
Styrene	10U	10U	5U	10U	50U	50U	10U	10U
1,1,2,2-Tetrachloroethane	10U	10U	5U	10U	50U	50U	10U	10U
Tetrachloroethene	10U	10U	21	21	27	15	4	10U
Toluene	2	1	5U	10U	50U	50U	2	2
1,1,1-Trichloroethane	10U	10U	5U	1	50U	50U	10U	10U
1,1,2-Trichloroethane	10U	10U	5U	10U	50U	50U	10U	10U
Trichloroethene	10U	10U	3	10U	3	50U	1	10U
Vinyl acetate	10U	10U	10U	10U	50U	50U	10U	10U
Vinyl chloride	10U	10U	10U	10U	50U	50U	10U	10U
Xylenes	10U	10U	5U	10U	50U	50U	10U	10U

(CONTINUED)

APPENDIX E.2

Summary of VOCs Detected in Groundwater and Surface Water Samples

	Number of Samples				Total
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	
Total Samples	67	79	89	95	330
Samples without VOCs	17	47	47	46	157
Samples with VOCs	50	32	42	49	173
Compound					
Acetone	12	0	4	12	28
Benzene	4	0	0	0	4
Bromodichloromethane	0	0	0	0	0
Bromoform	1	0	0	0	1
Bromomethane	0	0	0	0	0
2-Butanone	13	0	2	12	27
Carbon disulfide	0	0	0	0	0
Carbon tetrachloride	12	12	16	17	57
Chlorobenzene	0	0	0	0	0
Chlorodibromomethane	0	0	0	0	0
Chloroethane	0	0	0	0	0
Chloroform	15	14	19	17	65
Chloromethane	0	0	0	0	0
1,1-Dichloroethane	3	4	6	5	18
1,2-Dichloroethane	0	0	0	0	0
1,1-Dichloroethene	3	3	5	5	16
1,2-Dichloroethene	11	16	14	17	58
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
Ethylbenzene	4	0	0	0	4
2-Hexanone	0	0	0	0	0
4-Methyl-2-pentanone	0	0	0	0	0
Methylene chloride	29	1	5	6	41
Styrene	0	0	0	0	0
1,1,2,2-Tetrachloroethane	0	0	1	0	1
Tetrachloroethene	20	21	27	29	97
Toluene	10	1	1	11	23
1,1,1-Trichloroethane	1	5	7	4	17
1,1,2-Trichloroethane	0	0	0	0	0
Trichloroethene	18	18	21	26	83
Vinyl acetate	0	0	0	0	0
Vinyl chloride	2	3	2	2	9
Xylenes	4	0	0	0	4

APPENDIX E.2
Volatile Organic Compounds, 1994

2

Sampling Point . Unit . Location . Date Sampled	GW-169			GW-170			GW-171	
	AQF			AQF			AQF	
	EXP-UV			EXP-UV			EXP-UV	
	01/31/94	08/11/94	12/06/94	02/02/94	08/11/94	11/17/94	09/27/94	11/15/94
Acetone	10U	10U	10U	10U	10	10U	10U	10U
Benzene	5U	10U	10U	5U	10U	10U	10U	10U
Bromodichloromethane	5U	10U	10U	5U	10U	10U	10U	10U
Bromoform	5U	10U	10U	5U	10U	10U	10U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	10U	10U	5U	10U	10U	10U	10U
Carbon tetrachloride	5U	10U	10U	4	2	200	10U	10U
Chlorobenzene	5U	10U	10U	5U	10U	10U	10U	10U
Chlorodibromomethane	5U	10U	10U	5U	10U	10U	10U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	10U	10U	95	69	12	10U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	10U	10U	5U	10U	10U	10U	10U
1,2-Dichloroethane	5U	10U	10U	5U	10U	10U	10U	10U
1,1-Dichloroethene	5U	10U	10U	5U	10U	10U	10U	10U
1,2-Dichloroethene	5U	10U	10U	0.9	10U	10U	10U	10U
1,2-Dichloropropane	5U	10U	10U	5U	10U	10U	10U	10U
cis-1,3-Dichloropropene	5U	10U	10U	5U	10U	10U	10U	10U
trans-1,3-Dichloropropene	5U	10U	10U	5U	10U	10U	10U	10U
Ethylbenzene	5U	10U	10U	5U	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	10U	10U	3	3	10U	10U	10U
Styrene	5U	10U	10U	5U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	10U	10U	5U	10U	10U	10U	10U
Tetrachloroethene	2	1	2	10	7	11	10U	10U
Toluene	5U	10U	10U	1	10U	1	10U	10U
1,1,1-Trichloroethane	5U	10U	10U	5U	10U	10U	10U	10U
1,1,2-Trichloroethane	5U	10U	10U	5U	10U	10U	10U	10U
Trichloroethene	3	0.8	1	2	3	3	10U	10U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	10U	10U	5U	10U	10U	10U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

3

Sampling Point	GW-172		GW-191				GW-192	
Unit	AQF		AQT				AQT	
Location	EXP-UV		B4				B4	
Date Sampled	09/26/94	11/14/94	02/04/94	05/02/94	08/20/94	11/29/94	02/05/94	05/04/94
Acetone	10U	10U	10U	10U	10U	10U	12	10U
Benzene	10U	10U	5U	10U	10U	10U	5U	10U
Bromodichloromethane	10U	10U	5U	10U	10U	10U	5U	10U
Bromoform	10U	10U	5U	10U	10U	10U	5U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	10U	10U	5U	10U	10U	10U	5U	10U
Carbon tetrachloride	10U	10U	5U	10U	10U	10U	5U	10U
Chlorobenzene	10U	10U	5U	10U	10U	10U	5U	10U
Chlorodibromomethane	10U	10U	5U	10U	10U	10U	5U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	10U	10U	5U	10U	10U	10U	5U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	10U	5U	10U	10U	10U	1	2
1,2-Dichloroethane	10U	10U	5U	10U	10U	10U	5U	10U
1,1-Dichloroethene	10U	10U	5U	10U	10U	10U	5U	10U
1,2-Dichloroethene	10U	10U	5U	10U	10U	10U	17	23
1,2-Dichloropropane	10U	10U	5U	10U	10U	10U	5U	10U
cis-1,3-Dichloropropene	10U	10U	5U	10U	10U	10U	5U	10U
trans-1,3-Dichloropropene	10U	10U	5U	10U	10U	10U	5U	10U
Ethylbenzene	10U	10U	5U	10U	10U	10U	5U	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	10U	10U	12	10U	10U	10U	12	10U
Styrene	10U	10U	5U	10U	10U	10U	5U	10U
1,1,2,2-Tetrachloroethane	10U	10U	5U	10U	10U	10U	5U	10U
Tetrachloroethene	10U	10U	5U	10U	10U	10U	3	4
Toluene	10U	1	5U	10U	10U	10U	5U	10U
1,1,1-Trichloroethane	10U	10U	5U	10U	0.9	10U	5U	10U
1,1,2-Trichloroethane	10U	10U	5U	10U	10U	10U	5U	10U
Trichloroethene	10U	10U	5U	10U	0.7	10U	3	4
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	10U	10U	5U	10U	10U	10U	5U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

4

Sampling Point	GW-192		GW-194				GW-195	
Unit	AQT		AQT				AQT	
Location	B4		B4				B4	
Date Sampled	08/21/94	12/02/94	02/04/94	05/02/94	08/20/94	12/01/94	02/05/94	05/04/94
Acetone	10U	10U	37	10U	10U	10U	7	10U
Benzene	10U	10U	5U	10U	10U	10U	5U	10U
Bromodichloromethane	10U	10U	5U	10U	10U	10U	5U	10U
Bromoform	10U	10U	5U	10U	10U	10U	5U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	14	10U
Carbon disulfide	10U	10U	5U	10U	10U	10U	5U	10U
Carbon tetrachloride	10U	10U	5U	10U	10U	10U	5U	10U
Chlorobenzene	10U	10U	5U	10U	10U	10U	5U	10U
Chlorodibromomethane	10U	10U	5U	10U	10U	10U	5U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	10U	10U	5U	10U	10U	10U	5U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	2	1	5U	10U	10U	10U	5U	10U
1,2-Dichloroethane	10U	10U	5U	10U	10U	10U	5U	10U
1,1-Dichloroethene	10U	10U	5U	10U	10U	10U	5U	10U
1,2-Dichloroethene	19	15	5U	10U	10U	10U	5U	10U
1,2-Dichloropropane	10U	10U	5U	10U	10U	10U	5U	10U
cis-1,3-Dichloropropene	10U	10U	5U	10U	10U	10U	5U	10U
trans-1,3-Dichloropropene	10U	10U	5U	10U	10U	10U	5U	10U
Ethylbenzene	10U	10U	5U	10U	10U	10U	5U	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	10U	10U	12	10U	10U	10U	12	10U
Styrene	10U	10U	5U	10U	10U	10U	5U	10U
1,1,2,2-Tetrachloroethane	10U	10U	5U	10U	10U	10U	5U	10U
Tetrachloroethene	10U	10U	5U	10U	10U	10U	5U	10U
Toluene	10U	10U	5U	10U	10U	10U	5U	10U
1,1,1-Trichloroethane	10U	10U	5U	10U	1	10U	5U	10U
1,1,2-Trichloroethane	10U	10U	5U	10U	10U	10U	5U	10U
Trichloroethene	2	1	5U	10U	10U	10U	5U	10U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	10U	10U	5U	10U	10U	10U	5U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

5

Sampling Point	GW-195		GW-199				GW-206	
Unit	AQT		AQT				AQT	
Location	B4		GRID11				EXP-SR	
Date Sampled	08/20/94	12/01/94	01/14/94	04/22/94	08/08/94	10/27/94	01/30/94	06/15/94
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	10U	10U	5U	5U	10U	10U	5U	10U
Bromodichloromethane	10U	10U	5U	5U	10U	10U	5U	10U
Bromoform	10U	10U	5U	5U	10U	10U	5U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	11	10U	10U
Carbon disulfide	10U	10U	5U	5U	10U	10U	5U	10U
Carbon tetrachloride	10U	10U	5U	5U	10U	10U	5U	10U
Chlorobenzene	10U	10U	5U	5U	10U	10U	5U	10U
Chlorodibromomethane	10U	10U	5U	5U	10U	10U	5U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	10U	10U	5U	5U	10U	10U	5U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	10U	5U	5U	10U	10U	5U	10U
1,2-Dichloroethane	10U	10U	5U	5U	10U	10U	5U	10U
1,1-Dichloroethene	10U	10U	5U	5U	10U	10U	5U	10U
1,2-Dichloroethene	10U	10U	5U	5U	10U	10U	5U	10U
1,2-Dichloropropane	10U	10U	5U	5U	10U	10U	5U	10U
cis-1,3-Dichloropropene	10U	10U	5U	5U	10U	10U	5U	10U
trans-1,3-Dichloropropene	10U	10U	5U	5U	10U	10U	5U	10U
Ethylbenzene	10U	10U	5U	5U	10U	10U	5U	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	10U	10U	1	5U	10U	2	5U	10U
Styrene	10U	10U	5U	5U	10U	10U	5U	10U
1,1,2,2-Tetrachloroethane	10U	10U	5U	5U	10U	10U	5U	10U
Tetrachloroethene	10U	10U	5U	5U	10U	10U	5U	10U
Toluene	10U	10U	5U	5U	10U	10U	5U	0.4
1,1,1-Trichloroethane	0.9	10U	5U	5U	10U	10U	5U	10U
1,1,2-Trichloroethane	10U	10U	5U	5U	10U	10U	5U	10U
Trichloroethene	10U	10U	5U	5U	10U	10U	5U	10U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	10U	10U	5U	5U	10U	10U	5U	10U

(CONTINUED)

APPENDIX E.2

6

Volatile Organic Compounds, 1994

Sampling Point . Unit . Location . Date Sampled	GW-206		GW-207				GW-208	
	AQT		AQT				AQT	
	EXP-SR		EXP-SR				EXP-SR	
	09/28/94	11/28/94	01/28/94	05/24/94	09/13/94	12/03/94	01/30/94	05/26/94
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	10U	10U	5U	10U	10U	10U	5U	10U
Bromodichloromethane	10U	10U	5U	10U	10U	10U	5U	10U
Bromoform	10U	10U	5U	10U	10U	10U	5U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	10U	10U	5U	10U	10U	10U	5U	10U
Carbon tetrachloride	10U	10U	5U	10U	10U	10U	5U	10U
Chlorobenzene	10U	10U	5U	10U	10U	10U	5U	10U
Chlorodibromomethane	10U	10U	5U	10U	10U	10U	5U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	10U	10U	5U	10U	10U	10U	5U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	10U	5U	10U	10U	10U	5U	10U
1,2-Dichloroethane	10U	10U	5U	10U	10U	10U	5U	10U
1,1-Dichloroethene	10U	10U	5U	10U	10U	10U	5U	10U
1,2-Dichloroethene	10U	10U	5U	10U	10U	10U	5U	10U
1,2-Dichloropropane	10U	10U	5U	10U	10U	10U	5U	10U
cis-1,3-Dichloropropene	10U	10U	5U	10U	10U	10U	5U	10U
trans-1,3-Dichloropropene	10U	10U	5U	10U	10U	10U	5U	10U
Ethylbenzene	10U	10U	5U	10U	10U	10U	5U	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	10U	10U	5U	10U	10U	10U	5U	10U
Styrene	10U	10U	5U	10U	10U	10U	5U	10U
1,1,2,2-Tetrachloroethane	10U	10U	5U	10U	10U	10U	5U	10U
Tetrachloroethene	10U	10U	5U	10U	10U	10U	5U	10U
Toluene	10U	10U	5U	10U	10U	10U	5U	10U
1,1,1-Trichloroethane	10U	10U	5U	10U	10U	10U	5U	10U
1,1,2-Trichloroethane	10U	10U	5U	10U	10U	10U	5U	10U
Trichloroethene	10U	10U	5U	10U	10U	10U	5U	10U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	10U	10U	5U	10U	10U	10U	5U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

7

Sampling Point	GW-208		GW-220				GW-222	GW-223
Unit	AQT		AQF				AQF	AQF
Location	EXP-SR		NHP				NHP	NHP
Date Sampled	09/16/94	12/04/94	02/05/94	05/12/94	09/22/94	11/16/94	11/15/94	11/15/94
Acetone	10U	10U	10U	10U	20U	10U	10U	10
Benzene	10U	10U	5U	10U	20U	10U	10U	10U
Bromodichloromethane	10U	10U	5U	10U	20U	10U	10U	10U
Bromoform	10U	10U	5U	10U	20U	10U	10U	10U
Bromomethane	10U	10U	10U	10U	20U	10U	10U	10U
2-Butanone	10U	10U	16	10U	20U	10U	10U	10
Carbon disulfide	10U	10U	5U	10U	20U	10U	10U	10U
Carbon tetrachloride	10U	10U	260	250	430	540	10U	1
Chlorobenzene	10U	10U	5U	10U	20U	10U	10U	10U
Chlorodibromomethane	10U	10U	5U	10U	20U	10U	10U	10U
Chloroethane	10U	10U	10U	10U	20U	10U	10U	10U
Chloroform	10U	10U	15	17	23	29	10U	10U
Chloromethane	10U	10U	10U	10U	20U	10U	10U	10U
1,1-Dichloroethane	10U	10U	5U	10U	20U	10U	10U	10U
1,2-Dichloroethane	10U	10U	5U	10U	20U	10U	10U	10U
1,1-Dichloroethene	10U	10U	5U	10U	20U	10U	10U	10U
1,2-Dichloroethene	10U	10U	5U	1	20U	10U	6	15
1,2-Dichloropropane	10U	10U	5U	10U	20U	10U	10U	10U
cis-1,3-Dichloropropene	10U	10U	5U	10U	20U	10U	10U	10U
trans-1,3-Dichloropropene	10U	10U	5U	10U	20U	10U	10U	10U
Ethylbenzene	10U	10U	5U	10U	20U	10U	10U	10U
2-Hexanone	10U	10U	10U	10U	20U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	20U	10U	10U	10U
Methylene chloride	10U	10U	12	10U	20U	10U	10U	10U
Styrene	10U	10U	5U	10U	20U	10U	10U	10U
1,1,2,2-Tetrachloroethane	10U	10U	5U	10U	20U	10U	10U	10U
Tetrachloroethene	10U	10U	23	20	38	53	6	15
Toluene	10U	10U	5U	10U	20U	10U	1	2
1,1,1-Trichloroethane	10U	10U	5U	10U	20U	10U	10U	10U
1,1,2-Trichloroethane	10U	10U	5U	10U	20U	10U	10U	10U
Trichloroethene	10U	10U	4	5	8	9	2	4
Vinyl acetate	10U	10U	10U	10U	20U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	20U	10U	10U	10U
Xylenes	10U	10U	5U	10U	20U	10U	10U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

8

Sampling Point	GW-230		GW-232			GW-240		
Unit	AQF		AQF			AQF		
Location	EXP-UV		EXP-UV			NHP		
Date Sampled	09/28/94	11/15/94	02/01/94	08/11/94	11/17/94	02/04/94	05/11/94	09/22/94
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	10U	10U	5U	10U	10U	5U	10U	10U
Bromodichloromethane	10U	10U	5U	10U	10U	5U	10U	10U
Bromoform	10U	10U	5U	10U	10U	5U	10U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	10U	10U	5U	10U	10U	5U	10U	10U
Carbon tetrachloride	10U	10U	5U	10U	10U	11	10	14
Chlorobenzene	10U	10U	5U	10U	10U	5U	10U	10U
Chlorodibromomethane	10U	10U	5U	10U	10U	5U	10U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	10U	10U	5U	10U	10U	2	10U	2
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	10U	5U	10U	10U	5U	10U	10U
1,2-Dichloroethane	10U	10U	5U	10U	10U	5U	10U	10U
1,1-Dichloroethene	10U	10U	5U	10U	10U	5U	10U	10U
1,2-Dichloroethene	6	17	5U	10U	10U	5U	10U	10U
1,2-Dichloropropane	10U	10U	5U	10U	10U	5U	10U	10U
cis-1,3-Dichloropropene	10U	10U	5U	10U	10U	5U	10U	10U
trans-1,3-Dichloropropene	10U	10U	5U	10U	10U	5U	10U	10U
Ethylbenzene	10U	10U	5U	10U	10U	5U	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	10U	10U	1	10U	10U	13	10U	10U
Styrene	10U	10U	5U	10U	10U	5U	10U	10U
1,1,2,2-Tetrachloroethane	10U	10U	5U	10U	10U	5U	10U	10U
Tetrachloroethene	10U	10U	5U	10U	10U	5U	10U	1
Toluene	1	10U	1	10U	1	5U	10U	10U
1,1,1-Trichloroethane	10U	10U	5U	10U	10U	5U	10U	10U
1,1,2-Trichloroethane	10U	10U	5U	10U	10U	5U	10U	10U
Trichloroethene	10U	10U	5U	10U	10U	5U	10U	10U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	10U	10U	5U	10U	10U	5U	10U	10U

(CONTINUED)

APPENDIX E.2

9

Volatile Organic Compounds, 1994

Sampling Point	GW-240	GW-251				GW-252		
Unit	AQF	AQF				AQF		
Location	NHP	S2				S2		
Date Sampled	11/16/94	02/07/94	05/09/94	08/22/94	12/03/94	05/13/94	08/14/94	10/29/94
Acetone	10U	10U	10U	20U	10U	10U	10U	10U
Benzene	10U	5U	10U	20U	10U	10U	10U	10U
Bromodichloromethane	10U	5U	10U	20U	10U	10U	10U	10U
Bromoform	10U	5U	10U	20U	10U	10U	10U	10U
Bromomethane	10U	10U	10U	20U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	20U	10U	10U	10U	10U
Carbon disulfide	10U	5U	10U	20U	10U	10U	10U	10U
Carbon tetrachloride	8	0.9	13	6	10U	10U	10U	10U
Chlorobenzene	10U	5U	10U	20U	10U	10U	10U	10U
Chlorodibromomethane	10U	5U	10U	20U	10U	10U	10U	10U
Chloroethane	10U	10U	10U	20U	10U	10U	10U	10U
Chloroform	1	2	9	8	4	10U	10U	10U
Chloromethane	10U	10U	10U	20U	10U	10U	10U	10U
1,1-Dichloroethane	10U	5U	10U	20U	10U	10U	10U	10U
1,2-Dichloroethane	10U	5U	10U	20U	10U	10U	10U	10U
1,1-Dichloroethene	10U	5U	10U	20U	10U	10U	10U	10U
1,2-Dichloroethene	10U	5U	5	20U	10U	10U	10U	10U
1,2-Dichloropropane	10U	5U	10U	20U	10U	10U	10U	10U
cis-1,3-Dichloropropene	10U	5U	10U	20U	10U	10U	10U	10U
trans-1,3-Dichloropropene	10U	5U	10U	20U	10U	10U	10U	10U
Ethylbenzene	10U	5U	10U	20U	10U	10U	10U	10U
2-Hexanone	10U	10U	10U	20U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	20U	10U	10U	10U	10U
Methylene chloride	10U	11	10U	20U	10U	10U	10U	10U
Styrene	10U	5U	10U	20U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	10U	5U	10U	20U	10U	10U	10U	10U
Tetrachloroethene	10U	27	240	130	49	10U	10U	10U
Toluene	10U	5U	10U	20U	10U	10U	10U	10U
1,1,1-Trichloroethane	10U	5U	10U	20U	10U	10U	10U	10U
1,1,2-Trichloroethane	10U	5U	10U	20U	10U	10U	10U	10U
Trichloroethene	10U	8	99	49	17	10U	10U	10U
Vinyl acetate	10U	10U	10U	20U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	20U	10U	10U	10U	10U
Xylenes	10U	5U	10U	20U	10U	10U	10U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

10

Sampling Point . Unit . Location . Date Sampled	GW-255			GW-261			GW-262	
	AQF			AQT			AQT	
	S2			SY			SY	
	05/13/94	08/14/94	10/29/94	05/11/94	08/13/94	10/28/94	05/11/94	08/13/94
Acetone	10U	10U	10U	10U	10U	5	10U	10U
Benzene	10U	10U	10U	10U	10U	10U	10U	10U
Bromodichloromethane	10U	10U	10U	10U	10U	10U	10U	10U
Bromoform	10U	10U	10U	10U	10U	10U	10U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	15	10U	10U
Carbon disulfide	10U	10U	10U	10U	10U	10U	10U	10U
Carbon tetrachloride	10U	10U	10U	10U	10U	10U	10U	10U
Chlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U
Chlorodibromomethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	1	1	1	10U	10U	10U	10U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichloroethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethene	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichloroethene	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichloropropane	10U	10U	10U	10U	10U	10U	10U	10U
cis-1,3-Dichloropropene	10U	10U	10U	10U	10U	10U	10U	10U
trans-1,3-Dichloropropene	10U	10U	10U	10U	10U	10U	10U	10U
Ethylbenzene	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	10U	10U	10U	10U	10U	10U	10U	10U
Styrene	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Tetrachloroethene	10U	10U	10U	10U	10U	10U	10U	10U
Toluene	10U	10U	10U	10U	10U	10U	10U	10U
1,1,1-Trichloroethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2-Trichloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Trichloroethene	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	10U	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

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Sampling Point	GW-262	GW-263			GW-264			GW-337
Unit	AQT	AQT			AQT			AQT
Location	SY	SY			SY			WC
Date Sampled	10/28/94	05/12/94	08/13/94	10/31/94	05/12/94	08/13/94	10/29/94	02/08/94
Acetone	6	10U	10U	10U	10U	15	10U	500U
Benzene	10U	10U	10U	10U	10U	10U	10U	250U
Bromodichloromethane	10U	10U	10U	10U	10U	10U	10U	250U
Bromoform	10U	10U	10U	10U	10U	10U	10U	250U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	500U
2-Butanone	13	10U	10U	10U	10U	10U	10U	500U
Carbon disulfide	10U	10U	10U	10U	10U	10U	10U	250U
Carbon tetrachloride	10U	10U	10U	10U	10U	10U	10U	250U
Chlorobenzene	10U	10U	10U	10U	10U	10U	10U	250U
Chlorodibromomethane	10U	10U	10U	10U	10U	10U	10U	250U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	500U
Chloroform	10U	10U	10U	10U	10U	10U	10U	250U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	500U
1,1-Dichloroethane	10U	10U	10U	10U	10U	10U	10U	160
1,2-Dichloroethane	10U	10U	10U	10U	10U	10U	10U	250U
1,1-Dichloroethene	10U	10U	10U	10U	10U	10U	10U	200
1,2-Dichloroethene	10U	10U	10U	10U	10U	10U	10U	7600
1,2-Dichloropropane	10U	10U	10U	10U	10U	10U	10U	250U
cis-1,3-Dichloropropene	10U	10U	10U	10U	10U	10U	10U	250U
trans-1,3-Dichloropropene	10U	10U	10U	10U	10U	10U	10U	250U
Ethylbenzene	10U	10U	10U	10U	10U	10U	10U	250U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	500U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	500U
Methylene chloride	1	10U	10U	10U	10U	10U	10U	250U
Styrene	10U	10U	10U	10U	10U	10U	10U	250U
1,1,2,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	250U
Tetrachloroethene	10U	10U	10U	10U	10U	10U	10U	830
Toluene	10U	10U	10U	10U	10U	10U	10U	250U
1,1,1-Trichloroethane	10U	10U	10U	10U	10U	10U	10U	270
1,1,2-Trichloroethane	10U	10U	10U	10U	10U	10U	10U	250U
Trichloroethene	10U	10U	10U	10U	10U	10U	10U	920
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	500U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	280
Xylenes	10U	10U	10U	10U	10U	10U	10U	250U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

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Sampling Point . Unit . Location . Date Sampled	GW-337			GW-338				GW-380
	AQT			AQT				AQF
	WC			WC				NHP
	05/10/94	08/25/94	12/08/94	02/05/94	05/04/94	08/20/94	12/02/94	02/04/94
Acetone	1000U	500U	500U	10	10U	10U	10U	12
Benzene	1000U	500U	500U	5U	10U	10U	10U	5U
Bromodichloromethane	1000U	500U	500U	5U	10U	10U	10U	5U
Bromoform	1000U	500U	500U	5U	10U	10U	10U	5U
Bromomethane	1000U	500U	500U	10U	10U	10U	10U	10U
2-Butanone	1000U	500U	500U	13	10U	10U	10U	14
Carbon disulfide	1000U	500U	500U	5U	10U	10U	10U	5U
Carbon tetrachloride	1000U	500U	500U	5U	10U	10U	10U	5U
Chlorobenzene	1000U	500U	500U	5U	10U	10U	10U	5U
Chlorodibromomethane	1000U	500U	500U	5U	10U	10U	10U	5U
Chloroethane	1000U	500U	500U	10U	10U	10U	10U	10U
Chloroform	1000U	500U	500U	5U	10U	10U	10U	5U
Chloromethane	1000U	500U	500U	10U	10U	10U	10U	10U
1,1-Dichloroethane	1000U	150	170	5U	10U	10U	10U	5U
1,2-Dichloroethane	1000U	500U	500U	5U	10U	10U	10U	5U
1,1-Dichloroethene	1000U	170	180	5U	10U	10U	10U	5U
1,2-Dichloroethene	7100	6700	7200	5U	10U	10U	10U	5U
1,2-Dichloropropane	1000U	500U	500U	5U	10U	10U	10U	5U
cis-1,3-Dichloropropene	1000U	500U	500U	5U	10U	10U	10U	5U
trans-1,3-Dichloropropene	1000U	500U	500U	5U	10U	10U	10U	5U
Ethylbenzene	1000U	500U	500U	5U	10U	10U	10U	5U
2-Hexanone	1000U	500U	500U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	1000U	500U	500U	10U	10U	10U	10U	10U
Methylene chloride	1000U	500U	500U	12	10U	2	10U	13
Styrene	1000U	500U	500U	5U	10U	10U	10U	5U
1,1,2,2-Tetrachloroethane	1000U	500U	500U	5U	10U	10U	10U	5U
Tetrachloroethene	910	890	890	5U	10U	10U	10U	5U
Toluene	1000U	500U	500U	5U	10U	10U	10U	5U
1,1,1-Trichloroethane	280	290	310	5U	10U	10U	10U	5U
1,1,2-Trichloroethane	1000U	500U	500U	5U	10U	10U	10U	5U
Trichloroethene	1000	920	1000	5U	10U	10U	10U	5U
Vinyl acetate	1000U	500U	500U	10U	10U	10U	10U	10U
Vinyl chloride	1000U	500U	500U	10U	10U	10U	10U	10U
Xylenes	1000U	500U	500U	5U	10U	10U	10U	5U

(CONTINUED)

APPENDIX E.2

13

Volatile Organic Compounds, 1994

Sampling Point . Unit . Location . Date Sampled	GW-380			GW-381				GW-382
	AQF			AQF				AQF
	NHP			NHP				NHP
	05/11/94	09/21/94	11/15/94	02/09/94	05/17/94	09/27/94	11/21/94	02/08/94
Acetone	10U	10U	10U	500U	200U	200U	500U	500U
Benzene	10U	10U	10U	250U	200U	200U	500U	250U
Bromodichloromethane	10U	10U	10U	250U	200U	200U	500U	250U
Bromoform	10U	10U	10U	250U	200U	200U	500U	250U
Bromomethane	10U	10U	10U	500U	200U	200U	500U	500U
2-Butanone	10U	10U	10U	500U	200U	200U	500U	500U
Carbon disulfide	10U	10U	10U	250U	200U	200U	500U	250U
Carbon tetrachloride	10U	10U	10U	6400	2500	4900	5400	5800
Chlorobenzene	10U	10U	10U	250U	200U	200U	500U	250U
Chlorodibromomethane	10U	10U	10U	250U	200U	200U	500U	250U
Chloroethane	10U	10U	10U	500U	200U	200U	500U	500U
Chloroform	10U	1	10U	720	640	660	470	210
Chloromethane	10U	10U	10U	500U	200U	200U	500U	500U
1,1-Dichloroethane	10U	10U	10U	250U	200U	200U	500U	250U
1,2-Dichloroethane	10U	10U	10U	250U	200U	200U	500U	250U
1,1-Dichloroethene	10U	10U	10U	250U	200U	200U	500U	250U
1,2-Dichloroethene	10U	10U	10U	250U	200U	200U	500U	250U
1,2-Dichloropropane	10U	10U	10U	250U	200U	200U	500U	250U
cis-1,3-Dichloropropene	10U	10U	10U	250U	200U	200U	500U	250U
trans-1,3-Dichloropropene	10U	10U	10U	250U	200U	200U	500U	250U
Ethylbenzene	10U	10U	10U	250U	200U	200U	500U	250U
2-Hexanone	10U	10U	10U	500U	200U	200U	500U	500U
4-Methyl-2-pentanone	10U	10U	10U	500U	200U	200U	500U	500U
Methylene chloride	10U	1	10U	250U	200U	200U	500U	250U
Styrene	10U	10U	10U	250U	200U	200U	500U	250U
1,1,2,2-Tetrachloroethane	10U	10U	10U	250U	200U	200U	500U	250U
Tetrachloroethene	10U	2	10U	250U	200U	200U	500U	330
Toluene	10U	10U	10U	250U	200U	200U	500U	250U
1,1,1-Trichloroethane	10U	10U	10U	250U	200U	200U	500U	250U
1,1,2-Trichloroethane	10U	10U	10U	250U	200U	200U	500U	250U
Trichloroethene	10U	10U	10U	250U	200U	200U	500U	250U
Vinyl acetate	10U	10U	10U	500U	200U	200U	500U	500U
Vinyl chloride	10U	10U	10U	500U	200U	200U	500U	500U
Xylenes	10U	10U	10U	250U	200U	200U	500U	250U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

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Sampling Point . Unit . Location . Date Sampled	GW-382			GW-383				GW-384
	AQF			AQT				AQT
	NHP			NHP				NHP
	05/16/94	09/26/94	11/18/94	02/05/94	05/13/94	09/22/94	11/17/94	02/01/94
Acetone	500U	490	500U	12	40U	20U	10U	10U
Benzene	500U	500U	500U	5U	40U	20U	10U	5U
Bromodichloromethane	500U	500U	500U	5U	40U	20U	10U	5U
Bromoform	500U	500U	500U	5U	40U	20U	10U	5U
Bromomethane	500U	500U	500U	10U	40U	20U	10U	10U
2-Butanone	500U	500U	500U	14	40U	20U	10U	10U
Carbon disulfide	500U	500U	500U	5U	40U	20U	10U	5U
Carbon tetrachloride	6800	6100	6200	4	40U	2	10U	5U
Chlorobenzene	500U	500U	500U	5U	40U	20U	10U	5U
Chlorodibromomethane	500U	500U	500U	5U	40U	20U	10U	5U
Chloroethane	500U	500U	500U	10U	40U	20U	10U	10U
Chloroform	240	220	210	2	40U	2	10U	5U
Chloromethane	500U	500U	500U	10U	40U	20U	10U	10U
1,1-Dichloroethane	500U	500U	500U	5U	40U	20U	10U	5U
1,2-Dichloroethane	500U	500U	500U	5U	40U	20U	10U	5U
1,1-Dichloroethene	500U	500U	500U	2	40U	20U	1	5U
1,2-Dichloroethene	500U	500U	500U	100	62	89	100	4
1,2-Dichloropropane	500U	500U	500U	5U	40U	20U	10U	5U
cis-1,3-Dichloropropene	500U	500U	500U	5U	40U	20U	10U	5U
trans-1,3-Dichloropropene	500U	500U	500U	5U	40U	20U	10U	5U
Ethylbenzene	500U	500U	500U	5U	40U	20U	10U	5U
2-Hexanone	500U	500U	500U	10U	40U	20U	10U	10U
4-Methyl-2-pentanone	500U	500U	500U	10U	40U	20U	10U	10U
Methylene chloride	500U	500U	500U	11	40U	20U	10U	5U
Styrene	500U	500U	500U	5U	40U	20U	10U	5U
1,1,2,2-Tetrachloroethane	500U	500U	500U	5U	40U	20U	10U	5U
Tetrachloroethene	230	310	250	410	200	380	180	5U
Toluene	500U	500U	500U	5U	40U	20U	10U	5U
1,1,1-Trichloroethane	500U	500U	500U	5U	40U	20U	10U	5U
1,1,2-Trichloroethane	500U	500U	500U	5U	40U	20U	10U	5U
Trichloroethene	500U	43	44	160	72	150	76	5U
Vinyl acetate	500U	500U	500U	10U	40U	20U	10U	10U
Vinyl chloride	500U	500U	500U	10U	40U	20U	2	10U
Xylenes	500U	500U	500U	5U	40U	20U	10U	5U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

15

Sampling Point . Unit . Location . Date Sampled	GW-384			GW-385				GW-505
	AQT			AQT				AQT
	NHP			NHP				RG
	06/03/94	08/03/94	11/02/94	01/31/94	06/02/94	08/03/94	11/01/94	03/01/94
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	10U	10U	10U	5U	10U	10U	10U	5U
Bromodichloromethane	10U	10U	10U	5U	10U	10U	10U	5U
Bromoform	10U	10U	10U	5U	10U	10U	10U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	10U	10U	10U	5U	10U	10U	10U	5U
Carbon tetrachloride	10U	10U	10U	5U	10U	10U	10U	5U
Chlorobenzene	10U	10U	10U	5U	10U	10U	10U	5U
Chlorodibromomethane	10U	10U	10U	5U	10U	10U	10U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	10U	10U	10U	5U	10U	10U	10U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	10U	10U	5U	10U	10U	10U	5U
1,2-Dichloroethane	10U	10U	10U	5U	10U	10U	10U	5U
1,1-Dichloroethene	10U	10U	10U	5U	10U	10U	10U	5U
1,2-Dichloroethene	10U	10U	5	5U	10U	10U	10U	5U
1,2-Dichloropropane	10U	10U	10U	5U	10U	10U	10U	5U
cis-1,3-Dichloropropene	10U	10U	10U	5U	10U	10U	10U	5U
trans-1,3-Dichloropropene	10U	10U	10U	5U	10U	10U	10U	5U
Ethylbenzene	10U	10U	10U	5U	10U	10U	10U	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	10U	10U	10U	5U	10U	10U	10U	5U
Styrene	10U	10U	10U	5U	10U	10U	10U	5U
1,1,2,2-Tetrachloroethane	10U	10U	10U	5U	10U	10U	10U	5U
Tetrachloroethene	10U	10U	2	5U	10U	10U	10U	5U
Toluene	10U	10U	10U	5U	10U	10U	10U	5U
1,1,1-Trichloroethane	10U	10U	10U	5U	10U	10U	10U	5U
1,1,2-Trichloroethane	10U	10U	10U	5U	10U	10U	10U	5U
Trichloroethene	10U	10U	10U	5U	10U	10U	10U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	10U	10U	10U	5U	10U	10U	10U	5U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

16

Sampling Point	GW-508	GW-603				GW-604		
Unit	AQT	AQF				AQF		
Location	RG	EXP-J				EXP-J		
Date Sampled	03/02/94	01/31/94	05/27/94	09/20/94	12/04/94	02/01/94	05/31/94	09/20/94
Acetone	2500U	10U	10U	10U	10U	10U	10U	10U
Benzene	5600	5U	10U	10U	10U	5U	10U	10U
Bromodichloromethane	1300U	5U	10U	10U	10U	5U	10U	10U
Bromoform	1300U	5U	10U	10U	10U	5U	10U	10U
Bromomethane	2500U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	2500U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	1300U	5U	10U	10U	10U	5U	10U	10U
Carbon tetrachloride	1300U	5U	10U	10U	10U	5U	10U	10U
Chlorobenzene	1300U	5U	10U	10U	10U	5U	10U	10U
Chlorodibromomethane	1300U	5U	10U	10U	10U	5U	10U	10U
Chloroethane	2500U	10U	10U	10U	10U	10U	10U	10U
Chloroform	1300U	5U	10U	10U	10U	1	2	1
Chloromethane	2500U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	1300U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloroethane	1300U	5U	10U	10U	10U	5U	10U	10U
1,1-Dichloroethene	1300U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloroethene	1300U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloropropane	1300U	5U	10U	10U	10U	5U	10U	10U
cis-1,3-Dichloropropene	1300U	5U	10U	10U	10U	5U	10U	10U
trans-1,3-Dichloropropene	1300U	5U	10U	10U	10U	5U	10U	10U
Ethylbenzene	2600	5U	10U	10U	10U	5U	10U	10U
2-Hexanone	2500U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	2500U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	1300U	5U	10U	10U	10U	5U	10U	10U
Styrene	1300U	5U	10U	10U	10U	5U	10U	10U
1,1,2,2-Tetrachloroethane	1300U	5U	10U	10U	10U	5U	10U	10U
Tetrachloroethene	1300U	5U	10U	10U	10U	5U	10U	10U
Toluene	2500U	5U	10U	10U	10U	5U	10U	10U
1,1,1-Trichloroethane	1300U	5U	10U	10U	10U	5U	10U	10U
1,1,2-Trichloroethane	1300U	5U	10U	10U	10U	5U	10U	10U
Trichloroethene	1300U	5U	10U	10U	10U	5U	10U	10U
Vinyl acetate	2500U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	2500U	10U	10U	10U	10U	10U	10U	10U
Xylenes	18000	5U	10U	10U	10U	5U	10U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

17

Sampling Point	GW-604	GW-605				GW-606		
Unit	AQF	AQF				AQF		
Location	EXP-J	EXP-I				EXP-I		
Date Sampled	12/04/94	02/02/94	06/03/94	09/25/94	12/06/94	02/03/94	06/06/94	09/25/94
Acetone	10U	10U	10U	10U	10U	50U	10U	10U
Benzene	10U	5U	10U	10U	10U	25U	10U	10U
Bromodichloromethane	10U	5U	10U	10U	10U	25U	10U	10U
Bromoform	10U	5U	10U	10U	10U	25U	10U	10U
Bromomethane	10U	10U	10U	10U	10U	50U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	50U	10U	10U
Carbon disulfide	10U	5U	10U	10U	10U	25U	10U	10U
Carbon tetrachloride	10U	60	93	260	100	720	120	1100
Chlorobenzene	10U	5U	10U	10U	10U	25U	10U	10U
Chlorodibromomethane	10U	5U	10U	10U	10U	25U	10U	10U
Chloroethane	10U	10U	10U	10U	10U	50U	10U	10U
Chloroform	10U	9	18	30	13	290	97	250
Chloromethane	10U	10U	10U	10U	10U	50U	10U	10U
1,1-Dichloroethane	10U	0.9	10U	2	10U	25U	10U	10U
1,2-Dichloroethane	10U	5U	10U	10U	10U	25U	10U	10U
1,1-Dichloroethene	10U	5U	10U	10U	10U	25U	10U	10U
1,2-Dichloroethene	10U	10	10	19	18	25U	10U	1
1,2-Dichloropropane	10U	5U	10U	10U	10U	25U	10U	10U
cis-1,3-Dichloropropene	10U	5U	10U	10U	10U	25U	10U	10U
trans-1,3-Dichloropropene	10U	5U	10U	10U	10U	25U	10U	10U
Ethylbenzene	10U	5U	10U	10U	10U	25U	10U	10U
2-Hexanone	10U	10U	10U	10U	10U	50U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	50U	10U	10U
Methylene chloride	10U	5U	10U	10U	10U	62	10U	10U
Styrene	10U	5U	10U	10U	10U	25U	10U	10U
1,1,2,2-Tetrachloroethane	10U	5U	10U	10U	10U	25U	10U	10U
Tetrachloroethene	10U	11	8	21	18	8	2	9
Toluene	10U	5U	10U	10U	10U	25U	10U	10U
1,1,1-Trichloroethane	10U	5U	10U	10U	10U	25U	10U	10U
1,1,2-Trichloroethane	10U	5U	10U	10U	10U	25U	10U	10U
Trichloroethene	10U	4	2	6	6	25U	10U	10U
Vinyl acetate	10U	10U	10U	10U	10U	50U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	50U	10U	10U
Xylenes	10U	5U	10U	10U	10U	25U	10U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

18

Sampling Point	GW-606	GW-617				GW-618		
Unit	AQF	AQF				AQF		
Location	EXP-I	EXP-E				EXP-E		
Date Sampled	12/07/94	02/05/94	05/05/94	08/21/94	12/02/94	02/07/94	05/05/94	08/21/94
Acetone	10U	10U	10U	10U	10U	11	10U	10U
Benzene	10U	5U	10U	10U	10U	5U	10U	10U
Bromodichloromethane	10U	5U	10U	10U	10U	5U	10U	10U
Bromoform	10U	5U	10U	10U	10U	5U	10U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	13	10U	10U	10U	10U	10U	10U
Carbon disulfide	10U	5U	10U	10U	10U	5U	10U	10U
Carbon tetrachloride	780	5U	10U	10U	10U	5U	10U	10U
Chlorobenzene	10U	5U	10U	10U	10U	5U	10U	10U
Chlorodibromomethane	10U	5U	10U	10U	10U	5U	10U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	280	5U	10U	10U	10U	5U	10U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,1-Dichloroethene	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloroethene	10U	5	3	9	16	11	28	34
1,2-Dichloropropane	10U	5U	10U	10U	10U	5U	10U	10U
cis-1,3-Dichloropropene	10U	5U	10U	10U	10U	5U	10U	10U
trans-1,3-Dichloropropene	10U	5U	10U	10U	10U	5U	10U	10U
Ethylbenzene	10U	5U	10U	10U	10U	5U	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	58	12	10U	10U	10U	10	10U	10U
Styrene	10U	5U	10U	10U	10U	5U	10U	10U
1,1,2,2-Tetrachloroethane	10U	5U	10U	10U	10U	5U	10U	10U
Tetrachloroethene	10U	4	1	3	14	9	36	7
Toluene	10U	5U	10U	10U	10U	5U	10U	10U
1,1,1-Trichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,1,2-Trichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
Trichloroethene	10U	4	10U	3	13	13	29	7
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	5
Xylenes	10U	5U	10U	10U	10U	5U	10U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

19

Sampling Point	GW-618	GW-619				GW-620		
Unit	AQF	AQF				AQF		
Location	EXP-E	FTF				FTF		
Date Sampled	12/03/94	02/07/94	05/09/94	08/22/94	12/03/94	02/07/94	05/09/94	08/23/94
Acetone	10U	10U	40U	10U	10U	57	40U	40U
Benzene	10U	5U	40U	10U	10U	25U	40U	40U
Bromodichloromethane	10U	5U	40U	10U	10U	25U	40U	40U
Bromoform	10U	5U	40U	10U	10U	25U	40U	40U
Bromomethane	10U	10U	40U	10U	10U	50U	40U	40U
2-Butanone	10U	16	40U	10U	10U	89	40U	40U
Carbon disulfide	10U	5U	40U	10U	10U	25U	40U	40U
Carbon tetrachloride	10U	5U	40U	10U	10U	25U	40U	40U
Chlorobenzene	10U	5U	40U	10U	10U	25U	40U	40U
Chlorodibromomethane	10U	5U	40U	10U	10U	25U	40U	40U
Chloroethane	10U	10U	40U	10U	10U	50U	40U	40U
Chloroform	10U	5U	40U	10U	10U	25U	40U	40U
Chloromethane	10U	10U	40U	10U	10U	50U	40U	40U
1,1-Dichloroethane	10U	5U	40U	10U	10U	25U	40U	40U
1,2-Dichloroethane	10U	5U	40U	10U	10U	25U	40U	40U
1,1-Dichloroethene	10U	5U	40U	10U	10U	25U	40U	40U
1,2-Dichloroethene	30	84	400	31	25	370	410	390
1,2-Dichloropropane	10U	5U	40U	10U	10U	25U	40U	40U
cis-1,3-Dichloropropene	10U	5U	40U	10U	10U	25U	40U	40U
trans-1,3-Dichloropropene	10U	5U	40U	10U	10U	25U	40U	40U
Ethylbenzene	10U	5U	40U	10U	10U	25U	40U	40U
2-Hexanone	10U	10U	40U	10U	10U	50U	40U	40U
4-Methyl-2-pentanone	10U	10U	40U	10U	10U	50U	40U	40U
Methylene chloride	10U	11	40U	10U	10U	52	40U	40U
Styrene	10U	5U	40U	10U	10U	25U	40U	40U
1,1,2,2-Tetrachloroethane	10U	5U	40U	10U	10U	25U	40U	40U
Tetrachloroethene	26	170	390	66	49	440	500	500
Toluene	10U	5U	40U	10U	10U	25U	40U	40U
1,1,1-Trichloroethane	10U	5U	40U	10U	10U	25U	40U	40U
1,1,2-Trichloroethane	10U	5U	40U	10U	10U	25U	40U	40U
Trichloroethene	24	41	150	21	13	150	160	150
Vinyl acetate	10U	10U	40U	10U	10U	50U	40U	40U
Vinyl chloride	10U	10U	40U	10U	10U	50U	40U	40U
Xylenes	10U	5U	40U	10U	10U	25U	40U	40U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

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Sampling Point	GW-620	GW-631	GW-632	GW-633	GW-634	GW-733		
Unit	AQF	AQT	AQT	AQT	AQT	AQF		
Location	FTF	RG	RG	RG	RG	EXP-J		
Date Sampled	12/03/94	03/01/94	03/02/94	03/03/94	03/01/94	01/30/94	06/02/94	09/24/94
Acetone	10U	10U	1000U	10U	200U	10U	10U	10U
Benzene	10U	5U	1200U	6	260	5U	10U	10U
Bromodichloromethane	10U	5U	500U	5U	100U	5U	10U	10U
Bromoform	10U	5U	500U	1	100U	5U	10U	10U
Bromomethane	10U	10U	1000U	10U	200U	10U	10U	10U
2-Butanone	10U	10U	1000U	10U	200U	10U	10U	10U
Carbon disulfide	10U	5U	500U	5U	100U	5U	10U	10U
Carbon tetrachloride	10U	5U	500U	5U	100U	5U	10	46
Chlorobenzene	10U	5U	500U	5U	100U	5U	10U	10U
Chlorodibromomethane	10U	5U	500U	5U	100U	5U	10U	10U
Chloroethane	10U	10U	1000U	10U	200U	10U	10U	10U
Chloroform	10U	5U	500U	12	100U	4	3	4
Chloromethane	10U	10U	1000U	10U	200U	10U	10U	10U
1,1-Dichloroethane	10U	5U	500U	5U	100U	5U	10U	10U
1,2-Dichloroethane	10U	5U	500U	5U	100U	5U	10U	10U
1,1-Dichloroethene	10U	5U	500U	1	100U	5U	10U	10U
1,2-Dichloroethene	470	5U	500U	5U	100U	5U	10U	10U
1,2-Dichloropropane	10U	5U	500U	5U	100U	5U	10U	10U
cis-1,3-Dichloropropene	10U	5U	500U	5U	100U	5U	10U	10U
trans-1,3-Dichloropropene	10U	5U	500U	5U	100U	5U	10U	10U
Ethylbenzene	10U	5U	450	5U	670	5U	10U	10U
2-Hexanone	10U	10U	1000U	10U	200U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	1000U	10U	200U	10U	10U	10U
Methylene chloride	10U	5U	500U	12	100U	5U	10U	10U
Styrene	10U	5U	500U	5U	100U	5U	10U	10U
1,1,2,2-Tetrachloroethane	10U	5U	500U	5U	100U	5U	10U	10U
Tetrachloroethene	750	2	500U	57	100U	5U	10U	1
Toluene	10U	5U	4400	5	500	5U	10U	10U
1,1,1-Trichloroethane	10U	5U	500U	5U	100U	5U	10U	10U
1,1,2-Trichloroethane	10U	5U	500U	5U	100U	5U	10U	10U
Trichloroethene	190	5U	500U	4	100U	5U	10U	10U
Vinyl acetate	10U	10U	1000U	10U	200U	10U	10U	10U
Vinyl chloride	10U	10U	1000U	10U	200U	10U	10U	10U
Xylenes	10U	5U	4000	5U	2400	5U	10U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

21

Sampling Point	GW-733	GW-735				GW-744		
Unit	AQF	AQT				AQT		
Location	EXP-J	EXP-J				GRIDK1		
Date Sampled	12/06/94	02/02/94	05/31/94	09/20/94	12/05/94	01/27/94	05/26/94	07/30/94
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	10U	5U	10U	10U	10U	5U	10U	10U
Bromodichloromethane	10U	5U	10U	10U	10U	5U	10U	10U
Bromoform	10U	5U	10U	10U	10U	5U	10U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	10U	5U	10U	10U	10U	5U	10U	10U
Carbon tetrachloride	52	5U	10U	10U	10U	5U	10U	10U
Chlorobenzene	10U	5U	10U	10U	10U	5U	10U	10U
Chlorodibromomethane	10U	5U	10U	10U	10U	5U	10U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	4	5U	10U	10U	10U	5U	10U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,1-Dichloroethene	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloroethene	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloropropane	10U	5U	10U	10U	10U	5U	10U	10U
cis-1,3-Dichloropropene	10U	5U	10U	10U	10U	5U	10U	10U
trans-1,3-Dichloropropene	10U	5U	10U	10U	10U	5U	10U	10U
Ethylbenzene	10U	5U	10U	10U	10U	5U	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	10U	5U	10U	10U	10U	5U	10U	10U
Styrene	10U	5U	10U	10U	10U	5U	10U	10U
1,1,2,2-Tetrachloroethane	10U	5U	10U	10U	10U	5U	10U	10U
Tetrachloroethene	2	5U	10U	10U	10U	5U	10U	10U
Toluene	10U	5U	10U	10U	10U	5U	10U	10U
1,1,1-Trichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,1,2-Trichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
Trichloroethene	10U	5U	10U	10U	10U	5U	10U	10U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	10U	5U	10U	10U	10U	5U	10U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

22

Sampling Point	GW-744	GW-745				GW-746		
Unit	AQT	AQT				AQT		
Location	GRIDK1	GRIDK1				GRIDK1		
Date Sampled	10/26/94	01/27/94	05/26/94	07/30/94	10/26/94	01/27/94	05/27/94	07/31/94
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	10U	5U	10U	10U	10U	5U	10U	10U
Bromodichloromethane	10U	5U	10U	10U	10U	5U	10U	10U
Bromoform	10U	5U	10U	10U	10U	5U	10U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	10U	5U	10U	10U	10U	5U	10U	10U
Carbon tetrachloride	10U	5U	10U	10U	10U	5U	10U	10U
Chlorobenzene	10U	5U	10U	10U	10U	5U	10U	10U
Chlorodibromomethane	10U	5U	10U	10U	10U	5U	10U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	10U	5U	10U	10U	10U	5U	10U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,1-Dichloroethene	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloroethene	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloropropane	10U	5U	10U	10U	10U	5U	10U	10U
cis-1,3-Dichloropropene	10U	5U	10U	10U	10U	5U	10U	10U
trans-1,3-Dichloropropene	10U	5U	10U	10U	10U	5U	10U	10U
Ethylbenzene	10U	1	10U	10U	10U	5U	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	10U	5U	10U	10U	10U	5U	10U	10U
Styrene	10U	5U	10U	10U	10U	5U	10U	10U
1,1,2,2-Tetrachloroethane	10U	5U	10U	10U	10U	5U	10U	10U
Tetrachloroethene	10U	5U	10U	10U	10U	5U	10U	10U
Toluene	10U	5U	10U	10U	10U	5U	10U	10U
1,1,1-Trichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,1,2-Trichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
Trichloroethene	10U	5U	10U	10U	10U	5U	10U	10U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	10U	5U	10U	10U	10U	5U	10U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

23

Sampling Point	GW-746	GW-747				GW-748		
Unit	AQT	AQT				AQT		
Location	GRIDK1	GRIDK2				GRIDK2		
Date Sampled	10/27/94	01/28/94	05/27/94	07/31/94	10/27/94	01/28/94	05/31/94	07/31/94
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	10U	5U	10U	10U	10U	5U	10U	10U
Bromodichloromethane	10U	5U	10U	10U	10U	5U	10U	10U
Bromoform	10U	5U	10U	10U	10U	5U	10U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	10U	5U	10U	10U	10U	5U	10U	10U
Carbon tetrachloride	10U	5U	10U	10U	10U	5U	10U	10U
Chlorobenzene	10U	5U	10U	10U	10U	5U	10U	10U
Chlorodibromomethane	10U	5U	10U	10U	10U	5U	10U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	10U	5U	10U	10U	10U	5U	10U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,1-Dichloroethene	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloroethene	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloropropane	10U	5U	10U	10U	10U	5U	10U	10U
cis-1,3-Dichloropropene	10U	5U	10U	10U	10U	5U	10U	10U
trans-1,3-Dichloropropene	10U	5U	10U	10U	10U	5U	10U	10U
Ethylbenzene	10U	5U	10U	10U	10U	5U	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	10U	5U	10U	10U	10U	5U	10U	10U
Styrene	10U	5U	10U	10U	10U	5U	10U	10U
1,1,2,2-Tetrachloroethane	10U	5U	10U	10U	10U	5U	10U	10U
Tetrachloroethene	10U	5U	10U	10U	10U	5U	10U	10U
Toluene	10U	5U	10U	10U	10U	5U	10U	10U
1,1,1-Trichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,1,2-Trichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
Trichloroethene	10U	5U	10U	10U	10U	5U	10U	10U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	10U	5U	10U	10U	10U	5U	10U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

24

Sampling Point	GW-748	GW-749				GW-750		
Unit	AQT	AQT				AQT		
Location	GRIDK2	GRIDK2				EXP-J		
Date Sampled	10/27/94	01/30/94	05/31/94	07/31/94	10/31/94	01/30/94	06/01/94	08/01/94
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	10U	5U	10U	10U	10U	5U	10U	10U
Bromodichloromethane	10U	5U	10U	10U	10U	5U	10U	10U
Bromoform	10U	5U	10U	10U	10U	5U	10U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	13	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	10U	5U	10U	10U	10U	5U	10U	10U
Carbon tetrachloride	10U	5U	10U	10U	10U	5U	10U	10U
Chlorobenzene	10U	5U	10U	10U	10U	5U	10U	10U
Chlorodibromomethane	10U	5U	10U	10U	10U	5U	10U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	10U	5U	10U	10U	10U	5U	10U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,1-Dichloroethene	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloroethene	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloropropane	10U	5U	10U	10U	10U	5U	10U	10U
cis-1,3-Dichloropropene	10U	5U	10U	10U	10U	5U	10U	10U
trans-1,3-Dichloropropene	10U	5U	10U	10U	10U	5U	10U	10U
Ethylbenzene	10U	5U	10U	10U	10U	5U	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	2	5U	10U	10U	10U	5U	10U	10U
Styrene	10U	5U	10U	10U	10U	5U	10U	10U
1,1,2,2-Tetrachloroethane	10U	5U	10U	10U	10U	5U	10U	10U
Tetrachloroethene	10U	5U	10U	10U	10U	5U	10U	10U
Toluene	10U	5U	10U	10U	10U	5U	10U	10U
1,1,1-Trichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,1,2-Trichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
Trichloroethene	10U	5U	10U	10U	10U	5U	10U	10U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	10U	5U	10U	10U	10U	5U	10U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

25

Sampling Point	GW-750	GW-751				GW-752		
Unit	AQT	AQT				AQT		
Location	EXP-J	GRIDJ3				GRIDJ3		
Date Sampled	10/31/94	01/26/94	05/25/94	07/29/94	10/25/94	01/26/94	05/25/94	07/30/94
Acetone	10U	7	10U	10U	10U	5	10U	10U
Benzene	10U	5U	10U	10U	10U	5U	10U	10U
Bromodichloromethane	10U	5U	10U	10U	10U	5U	10U	10U
Bromoform	10U	5U	10U	10U	10U	5U	10U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	9	10U	10U	10U	9	10U	10U
Carbon disulfide	10U	5U	10U	10U	10U	5U	10U	10U
Carbon tetrachloride	10U	5U	10U	10U	10U	5U	10U	10U
Chlorobenzene	10U	5U	10U	10U	10U	5U	10U	10U
Chlorodibromomethane	10U	5U	10U	10U	10U	5U	10U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	10U	5U	10U	10U	10U	5U	10U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,1-Dichloroethene	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloroethene	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloropropane	10U	5U	10U	10U	10U	5U	10U	10U
cis-1,3-Dichloropropene	10U	5U	10U	10U	10U	5U	10U	10U
trans-1,3-Dichloropropene	10U	5U	10U	10U	10U	5U	10U	10U
Ethylbenzene	10U	5U	10U	10U	10U	5U	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	10U	2	10U	10U	10U	2	10U	10U
Styrene	10U	5U	10U	10U	10U	5U	10U	10U
1,1,2,2-Tetrachloroethane	10U	5U	10U	10U	10U	5U	10U	10U
Tetrachloroethene	10U	5U	10U	10U	10U	5U	10U	10U
Toluene	10U	5U	10U	10U	10U	5U	10U	10U
1,1,1-Trichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,1,2-Trichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
Trichloroethene	10U	5U	10U	10U	10U	5U	10U	10U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	10U	5U	10U	10U	10U	5U	10U	10U

(CONTINUED)

Volatile Organic Compounds, 1994

Sampling Point	GW-752	GW-758				GW-759		
Unit	AQT	AQT				AQT		
Location	GRIDJ3	GRIDG1				GRIDG1		
Date Sampled	10/25/94	02/05/94	05/06/94	08/29/94	11/02/94	02/05/94	05/06/94	08/29/94
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	10U	5U	10U	10U	10U	5U	10U	10U
Bromodichloromethane	10U	5U	10U	10U	10U	5U	10U	10U
Bromoform	10U	5U	10U	10U	10U	5U	10U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	12	10U	10U	10U	10U	10U	10U
Carbon disulfide	10U	5U	10U	10U	10U	5U	10U	10U
Carbon tetrachloride	10U	5U	10U	10U	10U	5U	10U	10U
Chlorobenzene	10U	5U	10U	10U	10U	5U	10U	10U
Chlorodibromomethane	10U	5U	10U	10U	10U	5U	10U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	10U	5U	10U	10U	10U	5U	10U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,1-Dichloroethene	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloroethene	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloropropane	10U	5U	10U	10U	10U	5U	10U	10U
cis-1,3-Dichloropropene	10U	5U	10U	10U	10U	5U	10U	10U
trans-1,3-Dichloropropene	10U	5U	10U	10U	10U	5U	10U	10U
Ethylbenzene	10U	5U	10U	10U	10U	5U	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	10U	11	10U	10U	10U	11	10U	10U
Styrene	10U	5U	10U	10U	10U	5U	10U	10U
1,1,2,2-Tetrachloroethane	10U	5U	10U	10U	10U	5U	10U	10U
Tetrachloroethene	10U	5U	10U	10U	10U	5U	10U	10U
Toluene	10U	5U	10U	10U	10U	5U	10U	10U
1,1,1-Trichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,1,2-Trichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
Trichloroethene	10U	5U	10U	10U	10U	5U	10U	10U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	10U	5U	10U	10U	10U	5U	10U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

27

Sampling Point	GW-759	GW-760				GW-761		
Unit	AQT	AQT				AQT		
Location	GRIDG1	GRIDG2				GRIDG2		
Date Sampled	11/02/94	02/08/94	05/09/94	08/30/94	11/22/94	02/05/94	05/09/94	08/30/94
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	10U	5U	10U	10U	10U	5U	10U	10U
Bromodichloromethane	10U	5U	10U	10U	10U	5U	10U	10U
Bromoform	10U	5U	10U	10U	10U	5U	10U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	10U	5U	10U	10U	10U	5U	10U	10U
Carbon tetrachloride	10U	5U	10U	10U	10U	5U	10U	10U
Chlorobenzene	10U	5U	10U	10U	10U	5U	10U	10U
Chlorodibromomethane	10U	5U	10U	10U	10U	5U	10U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	10U	5U	10U	10U	10U	5U	10U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,1-Dichloroethene	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloroethene	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloropropane	10U	5U	10U	10U	10U	5U	10U	10U
cis-1,3-Dichloropropene	10U	5U	10U	10U	10U	5U	10U	10U
trans-1,3-Dichloropropene	10U	5U	10U	10U	10U	5U	10U	10U
Ethylbenzene	10U	5U	10U	10U	10U	5U	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	10U	5U	10U	10U	10U	12	10U	10U
Styrene	10U	5U	10U	10U	10U	5U	10U	10U
1,1,2,2-Tetrachloroethane	10U	5U	10U	10U	10U	5U	10U	10U
Tetrachloroethene	10U	5U	10U	10U	10U	5U	10U	10U
Toluene	10U	5U	10U	10U	10U	5U	10U	10U
1,1,1-Trichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,1,2-Trichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
Trichloroethene	10U	5U	10U	10U	10U	5U	10U	10U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	10U	5U	10U	10U	10U	5U	10U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

28

Sampling Point	GW-761	GW-762				GW-763		
Unit	AQT	AQT				AQT		
Location	GRIDG2	GRIDJ3				GRIDJ3		
Date Sampled	11/03/94	02/03/94	05/05/94	09/21/94	11/09/94	02/03/94	05/05/94	09/21/94
Acetone	10U	100U	50U	50U	100U	10U	10U	10U
Benzene	10U	50U	50U	50U	100U	5U	10U	10U
Bromodichloromethane	10U	50U	50U	50U	100U	5U	10U	10U
Bromoform	10U	50U	50U	50U	100U	5U	10U	10U
Bromomethane	10U	100U	50U	50U	100U	10U	10U	10U
2-Butanone	10U	100U	50U	50U	100U	10U	10U	10U
Carbon disulfide	10U	50U	50U	50U	100U	5U	10U	10U
Carbon tetrachloride	10U	50U	50U	50U	100U	5U	10U	10U
Chlorobenzene	10U	50U	50U	50U	100U	5U	10U	10U
Chlorodibromomethane	10U	50U	50U	50U	100U	5U	10U	10U
Chloroethane	10U	100U	50U	50U	100U	10U	10U	10U
Chloroform	10U	50U	50U	50U	100U	5U	10U	10U
Chloromethane	10U	100U	50U	50U	100U	10U	10U	10U
1,1-Dichloroethane	10U	50U	50U	50U	100U	5U	10U	10U
1,2-Dichloroethane	10U	50U	50U	50U	100U	5U	10U	10U
1,1-Dichloroethene	10U	50U	50U	13	100U	5U	10U	1
1,2-Dichloroethene	10U	50U	52	58	82	5U	68	43
1,2-Dichloropropane	10U	50U	50U	50U	100U	5U	10U	10U
cis-1,3-Dichloropropene	10U	50U	50U	50U	100U	5U	10U	10U
trans-1,3-Dichloropropene	10U	50U	50U	50U	100U	5U	10U	10U
Ethylbenzene	10U	50U	50U	50U	100U	5U	10U	10U
2-Hexanone	10U	100U	50U	50U	100U	10U	10U	10U
4-Methyl-2-pentanone	10U	100U	50U	50U	100U	10U	10U	10U
Methylene chloride	10U	130	50U	50U	100U	12	10U	10U
Styrene	10U	50U	50U	50U	100U	5U	10U	10U
1,1,2,2-Tetrachloroethane	10U	50U	50U	50U	100U	5U	10U	10U
Tetrachloroethene	10U	400	700	1100	820	6	8	8
Toluene	10U	50U	50U	50U	100U	5U	10U	10U
1,1,1-Trichloroethane	10U	50U	50U	3	100U	5U	10U	10U
1,1,2-Trichloroethane	10U	50U	50U	50U	100U	5U	10U	10U
Trichloroethene	10U	18	40	53	75	2	2	2
Vinyl acetate	10U	100U	50U	50U	100U	10U	10U	10U
Vinyl chloride	10U	100U	50U	50U	100U	25	29	16
Xylenes	10U	50U	50U	50U	100U	5U	10U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

29

Sampling Point	GW-763	GW-764				GW-765		
Unit	AQT	AQT				AQT		
Location	GRIDJ3	GRIDE1				GRIDE1		
Date Sampled	11/09/94	02/03/94	05/05/94	08/24/94	11/01/94	02/04/94	05/05/94	08/24/94
Acetone	10U	10U	10U	10U	7	10U	10U	10U
Benzene	10U	5U	10U	10U	10U	5U	10U	10U
Bromodichloromethane	10U	5U	10U	10U	10U	5U	10U	10U
Bromoform	10U	5U	10U	10U	10U	5U	10U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	13	10U	10U	10U
Carbon disulfide	10U	5U	10U	10U	10U	5U	10U	10U
Carbon tetrachloride	10U	5U	10U	10U	10U	5U	10U	10U
Chlorobenzene	10U	5U	10U	10U	10U	5U	10U	10U
Chlorodibromomethane	10U	5U	10U	10U	10U	5U	10U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	10U	5U	10U	10U	10U	5U	10U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,1-Dichloroethene	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloroethene	70	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloropropane	10U	5U	10U	10U	10U	5U	10U	10U
cis-1,3-Dichloropropene	10U	5U	10U	10U	10U	5U	10U	10U
trans-1,3-Dichloropropene	10U	5U	10U	10U	10U	5U	10U	10U
Ethylbenzene	10U	5U	10U	10U	10U	5U	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	10U	5U	10U	10U	10U	12	10U	10U
Styrene	10U	5U	10U	10U	10U	5U	10U	10U
1,1,2,2-Tetrachloroethane	10U	5U	10U	10U	10U	5U	10U	10U
Tetrachloroethene	9	5U	10U	10U	10U	5U	10U	10U
Toluene	10U	1	10U	10U	10U	5U	10U	10U
1,1,1-Trichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,1,2-Trichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
Trichloroethene	3	5U	10U	10U	10U	5U	10U	10U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	26	10U	10U	10U	10U	10U	10U	10U
Xylenes	10U	5U	10U	10U	10U	5U	10U	10U

(CONTINUED)

Volatile Organic Compounds, 1994

Sampling Point	GW-765	GW-766				GW-767		
Unit	AQT	AQT				AQT		
Location	GRIDE1	GRIDI2				GRIDI2		
Date Sampled	11/02/94	01/27/94	04/25/94	08/09/94	10/31/94	01/27/94	04/25/94	08/09/94
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	10U	5U	5U	10U	10U	5U	5U	10U
Bromodichloromethane	10U	5U	5U	10U	10U	5U	5U	10U
Bromoform	10U	5U	5U	10U	10U	5U	5U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	10U	5U	5U	10U	10U	5U	5U	10U
Carbon tetrachloride	10U	5U	5U	10U	10U	5U	5U	10U
Chlorobenzene	10U	5U	5U	10U	10U	5U	5U	10U
Chlorodibromomethane	10U	5U	5U	10U	10U	5U	5U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	10U	5U	5U	10U	10U	5U	5U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	5U	5U	10U	10U	5U	5U	10U
1,2-Dichloroethane	10U	5U	5U	10U	10U	5U	5U	10U
1,1-Dichloroethene	10U	5U	5U	10U	10U	5U	5U	10U
1,2-Dichloroethene	10U	5U	5U	10U	10U	5U	5U	10U
1,2-Dichloropropane	10U	5U	5U	10U	10U	5U	5U	10U
cis-1,3-Dichloropropene	10U	5U	5U	10U	10U	5U	5U	10U
trans-1,3-Dichloropropene	10U	5U	5U	10U	10U	5U	5U	10U
Ethylbenzene	10U	5U	5U	10U	10U	5U	5U	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	10U	5U	5U	10U	10U	5U	5U	10U
Styrene	10U	5U	5U	10U	10U	5U	5U	10U
1,1,2,2-Tetrachloroethane	10U	5U	5U	10U	10U	5U	5U	10U
Tetrachloroethene	10U	5U	5U	10U	10U	5U	5U	10U
Toluene	10U	1	5U	10U	10U	5U	5U	10U
1,1,1-Trichloroethane	10U	5U	5U	10U	10U	5U	5U	10U
1,1,2-Trichloroethane	10U	5U	5U	10U	10U	5U	5U	10U
Trichloroethene	10U	5U	5U	10U	10U	5U	5U	10U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	10U	0.7	5U	10U	10U	5U	5U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

31

Sampling Point	GW-767	GW-768				GW-769		
Unit	AQT	AQT				AQT		
Location	GRIDI2	GRIDI1				GRIDG3		
Date Sampled	10/31/94	01/26/94	04/22/94	08/09/94	10/31/94	02/08/94	05/10/94	08/31/94
Acetone	10U	5	10U	10U	10U	10U	10U	10U
Benzene	10U	5U	5U	10U	10U	5U	10U	10U
Bromodichloromethane	10U	5U	5U	10U	10U	5U	10U	10U
Bromoform	10U	5U	5U	10U	10U	5U	10U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10	10U	10U	10U	10U	10U	10U
Carbon disulfide	10U	5U	5U	10U	10U	5U	10U	10U
Carbon tetrachloride	10U	5U	5U	10U	10U	5	4	5
Chlorobenzene	10U	5U	5U	10U	10U	5U	10U	10U
Chlorodibromomethane	10U	5U	5U	10U	10U	5U	10U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	10U	5U	5U	10U	10U	0.7	10U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	5U	5U	10U	10U	5U	10U	10U
1,2-Dichloroethane	10U	5U	5U	10U	10U	5U	10U	10U
1,1-Dichloroethene	10U	5U	5U	10U	10U	5U	10U	10U
1,2-Dichloroethene	10U	5U	5U	10U	10U	5U	10U	10U
1,2-Dichloropropane	10U	5U	5U	10U	10U	5U	10U	10U
cis-1,3-Dichloropropene	10U	5U	5U	10U	10U	5U	10U	10U
trans-1,3-Dichloropropene	10U	5U	5U	10U	10U	5U	10U	10U
Ethylbenzene	10U	5U	5U	10U	10U	5U	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	10U	2	5U	10U	10U	5U	10U	10U
Styrene	10U	5U	5U	10U	10U	5U	10U	10U
1,1,2,2-Tetrachloroethane	10U	5U	5U	10U	10U	5U	10U	10U
Tetrachloroethene	10U	5U	5U	10U	10U	3	10U	3
Toluene	10U	5U	5U	10U	10U	5U	10U	10U
1,1,1-Trichloroethane	10U	5U	5U	10U	10U	5U	10U	10U
1,1,2-Trichloroethane	10U	5U	5U	10U	10U	5U	10U	10U
Trichloroethene	10U	5U	5U	10U	10U	0.8	10U	10U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	10U	5U	5U	10U	10U	5U	10U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

32

Sampling Point	GW-769	GW-770				GW-771		
Unit	AQT	AQT				AQT		
Location	GRIDG3	GRIDG3				GRIDC1		
Date Sampled	11/07/94	02/08/94	05/10/94	08/31/94	11/07/94	02/02/94	05/02/94	08/24/94
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	10U	5U	10U	10U	10U	5U	10U	10U
Bromodichloromethane	10U	5U	10U	10U	10U	5U	10U	10U
Bromoform	10U	5U	10U	10U	10U	5U	10U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	10U	5U	10U	10U	10U	5U	10U	10U
Carbon tetrachloride	7	5U	10U	10U	2	5U	10U	10U
Chlorobenzene	10U	5U	10U	10U	10U	5U	10U	10U
Chlorodibromomethane	10U	5U	10U	10U	10U	5U	10U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	10U	8	5	4	5	5U	10U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,1-Dichloroethene	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloroethene	10U	5U	10U	10U	10U	5U	10U	10U
1,2-Dichloropropane	10U	5U	10U	10U	10U	5U	10U	10U
cis-1,3-Dichloropropene	10U	5U	10U	10U	10U	5U	10U	10U
trans-1,3-Dichloropropene	10U	5U	10U	10U	10U	5U	10U	10U
Ethylbenzene	10U	5U	10U	10U	10U	5U	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	10U	5U	10U	10U	10U	5U	10U	10U
Styrene	10U	5U	10U	10U	10U	5U	10U	10U
1,1,2,2-Tetrachloroethane	10U	5U	10U	10U	10U	5U	10U	10U
Tetrachloroethene	3	5U	10U	10U	10U	5U	10U	10U
Toluene	10U	5U	10U	10U	10U	1	10U	10U
1,1,1-Trichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
1,1,2-Trichloroethane	10U	5U	10U	10U	10U	5U	10U	10U
Trichloroethene	1	5U	10U	10U	10U	5U	10U	10U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	10U	5U	10U	10U	10U	5U	10U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

33

Sampling Point	GW-771	GW-772				GW-773		
Unit	AQT	AQT				AQT		
Location	GRIDC1	GRIDC1				GRIDH2		
Date Sampled	11/01/94	02/03/94	05/02/94	08/24/94	11/01/94	01/28/94	04/26/94	08/10/94
Acetone	8	10U	10U	10U	10U	10U	10U	10U
Benzene	10U	5U	10U	10U	10U	5U	5U	10U
Bromodichloromethane	10U	5U	10U	10U	10U	5U	5U	10U
Bromoform	10U	5U	10U	10U	10U	5U	5U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	12	10U	10U	10U	12	10U	10U	10U
Carbon disulfide	10U	5U	10U	10U	10U	5U	5U	10U
Carbon tetrachloride	10U	5U	10U	10U	10U	5U	5U	10U
Chlorobenzene	10U	5U	10U	10U	10U	5U	5U	10U
Chlorodibromomethane	10U	5U	10U	10U	10U	5U	5U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	10U	5U	10U	10U	10U	5U	5U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	5U	10U	10U	10U	5U	5U	10U
1,2-Dichloroethane	10U	5U	10U	10U	10U	5U	5U	10U
1,1-Dichloroethene	10U	5U	10U	10U	10U	5U	5U	10U
1,2-Dichloroethene	10U	5U	10U	10U	10U	5U	5U	10U
1,2-Dichloropropane	10U	5U	10U	10U	10U	5U	5U	10U
cis-1,3-Dichloropropene	10U	5U	10U	10U	10U	5U	5U	10U
trans-1,3-Dichloropropene	10U	5U	10U	10U	10U	5U	5U	10U
Ethylbenzene	10U	5U	10U	10U	10U	5U	5U	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	10U	5U	10U	10U	10U	5U	5U	10U
Styrene	10U	5U	10U	10U	10U	5U	5U	10U
1,1,2,2-Tetrachloroethane	10U	5U	10U	10U	10U	5U	5U	10U
Tetrachloroethene	10U	5U	10U	10U	10U	5U	5U	10U
Toluene	10U	1	10U	10U	10U	5U	5U	10U
1,1,1-Trichloroethane	10U	5U	10U	10U	10U	5U	5U	10U
1,1,2-Trichloroethane	10U	5U	10U	10U	10U	5U	5U	10U
Trichloroethene	10U	5U	10U	10U	10U	5U	5U	10U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	10U	5U	10U	10U	10U	5U	5U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

34

Sampling Point	GW-773	GW-774				GW-775		
Unit	AQT	AQT				AQT		
Location	GRIDH2	GRIDH2				GRIDH3		
Date Sampled	11/01/94	01/28/94	04/26/94	08/10/94	11/01/94	01/31/94	04/26/94	08/11/94
Acetone	10U	10U	10U	10U	10U	17	10U	10U
Benzene	10U	5U	5U	10U	10U	5U	5U	10U
Bromodichloromethane	10U	5U	5U	10U	10U	5U	5U	10U
Bromoform	10U	5U	5U	10U	10U	5U	5U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	10U	5U	5U	10U	10U	5U	5U	10U
Carbon tetrachloride	10U	5U	5U	10U	10U	5U	5U	10U
Chlorobenzene	10U	5U	5U	10U	10U	5U	5U	10U
Chlorodibromomethane	10U	5U	5U	10U	10U	5U	5U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	10U	5U	5U	10U	10U	5U	5U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	5U	5U	10U	10U	5U	5U	10U
1,2-Dichloroethane	10U	5U	5U	10U	10U	5U	5U	10U
1,1-Dichloroethene	10U	5U	5U	10U	10U	5U	5U	10U
1,2-Dichloroethene	10U	5U	5U	10U	10U	5U	5U	10U
1,2-Dichloropropane	10U	5U	5U	10U	10U	5U	5U	10U
cis-1,3-Dichloropropene	10U	5U	5U	10U	10U	5U	5U	10U
trans-1,3-Dichloropropene	10U	5U	5U	10U	10U	5U	5U	10U
Ethylbenzene	10U	5U	5U	10U	10U	5U	5U	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	10U	5U	5U	10U	10U	5U	5U	3
Styrene	10U	5U	5U	10U	10U	5U	5U	10U
1,1,2,2-Tetrachloroethane	10U	5U	5U	10U	10U	5U	5U	10U
Tetrachloroethene	10U	5U	5U	10U	10U	5U	5U	10U
Toluene	10U	5U	5U	10U	10U	5U	5U	10U
1,1,1-Trichloroethane	10U	5U	5U	10U	10U	5U	5U	10U
1,1,2-Trichloroethane	10U	5U	5U	10U	10U	5U	5U	10U
Trichloroethene	10U	5U	5U	10U	10U	5U	2	2
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	10U	5U	5U	10U	10U	5U	5U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

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Sampling Point	GW-775	GW-776				GW-777		
Unit	AQT	AQT				AQT		
Location	GRIDH3	GRIDH3				GRIDB2		
Date Sampled	11/01/94	01/31/94	04/29/94	08/11/94	11/01/94	05/20/94	08/14/94	10/31/94
Acetone	15	10U	10U	10U	6	10U	10U	10U
Benzene	10U	5U	10U	10U	10U	10U	10U	10U
Bromodichloromethane	10U	5U	10U	10U	10U	10U	10U	10U
Bromoform	10U	5U	10U	10U	10U	10U	10U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	7	10U	10U	10U	11	10U	10U	10U
Carbon disulfide	10U	5U	10U	10U	10U	10U	10U	10U
Carbon tetrachloride	10U	5U	10U	10U	10U	10U	10U	10U
Chlorobenzene	10U	5U	10U	10U	10U	10U	10U	10U
Chlorodibromomethane	10U	5U	10U	10U	10U	10U	10U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	10U	5U	10U	10U	1	10U	10U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	5U	10U	10U	10U	10U	10U	10U
1,2-Dichloroethane	10U	5U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethene	10U	5U	10U	10U	10U	10U	10U	10U
1,2-Dichloroethene	10U	5U	10U	10U	10U	10U	10U	10U
1,2-Dichloropropane	10U	5U	10U	10U	10U	10U	10U	10U
cis-1,3-Dichloropropene	10U	5U	10U	10U	10U	10U	10U	10U
trans-1,3-Dichloropropene	10U	5U	10U	10U	10U	10U	10U	10U
Ethylbenzene	10U	5U	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	2	5U	10U	10U	1	10U	10U	10U
Styrene	10U	5U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	10U	5U	10U	10U	10U	10U	10U	10U
Tetrachloroethene	10U	5U	2	2	2	10U	10U	10U
Toluene	10U	5U	10U	10U	10U	10U	10U	10U
1,1,1-Trichloroethane	10U	5U	10U	10U	10U	10U	10U	10U
1,1,2-Trichloroethane	10U	5U	10U	10U	10U	10U	10U	10U
Trichloroethene	3	3	4	4	4	10U	10U	10U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	10U	5U	10U	10U	10U	10U	10U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

36

Sampling Point . Unit . Location . Date Sampled	GW-778			GW-779			GW-780	
	AQT			AQT			AQT	
	GRIDB2			GRIDF2			GRIDF2	
	05/20/94	08/14/94	10/31/94	06/09/94	09/09/94	11/29/94	06/09/94	09/09/94
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	10U	10U	10U	10U	10U	10U	10U	10U
Bromodichloromethane	10U	10U	10U	10U	10U	10U	10U	10U
Bromoform	10U	10U	10U	10U	10U	10U	10U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	10U	10U	10U	10U	10U	10U	10U	10U
Carbon tetrachloride	10U	10U	10U	10U	10U	10U	10U	10U
Chlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U
Chlorodibromomethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	10U	10U	10U	10U	10U	10U	10U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichloroethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethene	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichloroethene	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichloropropane	10U	10U	10U	10U	10U	10U	10U	10U
cis-1,3-Dichloropropene	10U	10U	10U	10U	10U	10U	10U	10U
trans-1,3-Dichloropropene	10U	10U	10U	10U	10U	10U	10U	10U
Ethylbenzene	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	10U	10U	10U	10U	10U	10U	10U	10U
Styrene	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Tetrachloroethene	10U	10U	10U	10U	10U	10U	10U	10U
Toluene	10U	10U	10U	10U	10U	10U	10U	10U
1,1,1-Trichloroethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2-Trichloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Trichloroethene	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	10U	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

37

Sampling Point	GW-780	GW-781				GW-782			GW-783
Unit	AQT	AQT				AQT			AQT
Location	GRIDF2	GRIDE3				GRIDE3			GRIDE3
Date Sampled	11/29/94	06/15/94	09/09/94	12/01/94	06/16/94	09/12/94	12/02/94	06/16/94	
Acetone	10U	10U	10U	10U	10U	10U	20U	10U	
Benzene	10U	10U	10U	10U	10U	10U	20U	10U	
Bromodichloromethane	10U	10U	10U	10U	10U	10U	20U	10U	
Bromoform	10U	10U	10U	10U	10U	10U	20U	10U	
Bromomethane	10U	10U	10U	10U	10U	10U	20U	10U	
2-Butanone	10U	10U	10U	10U	10U	10U	20U	10U	
Carbon disulfide	10U	10U	10U	10U	10U	10U	20U	10U	
Carbon tetrachloride	10U	10U	10U	10U	18	16	5	1	
Chlorobenzene	10U	10U	10U	10U	10U	10U	20U	10U	
Chlorodibromomethane	10U	10U	10U	10U	10U	10U	20U	10U	
Chloroethane	10U	10U	10U	10U	10U	10U	20U	10U	
Chloroform	10U	10U	10U	10U	5	4	20U	0.8	
Chloromethane	10U	10U	10U	10U	10U	10U	20U	10U	
1,1-Dichloroethane	10U	69	2	60	63	52	160	10	
1,2-Dichloroethane	10U	10U	10U	10U	10U	10U	20U	10U	
1,1-Dichloroethene	10U	12	10U	9	31	25	44	4	
1,2-Dichloroethene	10U	1	10U	10U	17	15	16	17	
1,2-Dichloropropane	10U	10U	10U	10U	10U	10U	20U	10U	
cis-1,3-Dichloropropene	10U	10U	10U	10U	10U	10U	20U	10U	
trans-1,3-Dichloropropene	10U	10U	10U	10U	10U	10U	20U	10U	
Ethylbenzene	10U	10U	10U	10U	10U	10U	20U	10U	
2-Hexanone	10U	10U	10U	10U	10U	10U	20U	10U	
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	20U	10U	
Methylene chloride	10U	10U	10U	10U	10U	10U	20U	10U	
Styrene	10U	10U	10U	10U	10U	10U	20U	10U	
1,1,2,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	20U	10U	
Tetrachloroethene	10U	24	3	19	140	130	210	29	
Toluene	10U	10U	10U	10U	10U	10U	20U	10U	
1,1,1-Trichloroethane	10U	13	10U	11	15	11	25	2	
1,1,2-Trichloroethane	10U	10U	10U	10U	10U	10U	20U	10U	
Trichloroethene	10U	4	10U	3	30	29	49	12	
Vinyl acetate	10U	10U	10U	10U	10U	10U	20U	10U	
Vinyl chloride	10U	1	10U	10U	1	10U	20U	10U	
Xylenes	10U	10U	10U	10U	10U	10U	20U	10U	

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

38

Sampling Point	GW-783		GW-784			GW-785		
Unit	AQT		AQT			AQT		
Location	GRIDE3		GRIDD1			GRIDD1		
Date Sampled	09/12/94	12/02/94	06/06/94	09/01/94	11/28/94	06/07/94	09/06/94	11/28/94
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	10U	10U	10U	10U	10U	10U	10U	10U
Bromodichloromethane	10U	10U	10U	10U	10U	10U	10U	10U
Bromoform	10U	10U	10U	10U	10U	10U	10U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	10U	10U	10U	10U	10U	10U	10U	10U
Carbon tetrachloride	1	4	10U	10U	10U	10U	10U	10U
Chlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U
Chlorodibromomethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	1	2	10U	10U	10U	10U	10U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	14	26	10U	10U	10U	10U	10U	10U
1,2-Dichloroethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethene	5	10	10U	10U	10U	10U	10U	10U
1,2-Dichloroethene	25	30	10U	10U	10U	10U	10U	10U
1,2-Dichloropropane	10U	10U	10U	10U	10U	10U	10U	10U
cis-1,3-Dichloropropene	10U	10U	10U	10U	10U	10U	10U	10U
trans-1,3-Dichloropropene	10U	10U	10U	10U	10U	10U	10U	10U
Ethylbenzene	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	10U	10U	10U	10U	10U	10U	10U	10U
Styrene	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Tetrachloroethene	53	57	10U	10U	10U	10U	10U	10U
Toluene	10U	10U	10U	10U	10U	10U	10U	10U
1,1,1-Trichloroethane	2	4	10U	10U	10U	10U	10U	10U
1,1,2-Trichloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Trichloroethene	20	23	10U	10U	10U	10U	10U	10U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	10U	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

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Sampling Point . Unit . Location . Date Sampled	GW-786			GW-787			GW-788	
	AQT			AQT			AQT	
	GRIDE2			GRIDE2			GRIDF3	
	06/08/94	09/07/94	11/28/94	06/08/94	09/07/94	11/29/94	06/10/94	09/09/94
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	10U	10U	10U	10U	10U	10U	10U	10U
Bromodichloromethane	10U	10U	10U	10U	10U	10U	10U	10U
Bromoform	10U	10U	10U	10U	10U	10U	10U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	10U	10U	10U	10U	10U	10U	10U	10U
Carbon tetrachloride	10U	10U	10U	10U	10U	10U	10U	10U
Chlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U
Chlorodibromomethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	10U	10U	10U	10U	10U	10U	10U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichloroethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethene	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichloroethene	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichloropropane	10U	10U	10U	10U	10U	10U	10U	10U
cis-1,3-Dichloropropene	10U	10U	10U	10U	10U	10U	10U	10U
trans-1,3-Dichloropropene	10U	10U	10U	10U	10U	10U	10U	10U
Ethylbenzene	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	0.7	10U	10U	10U	10U	10U	10U	10U
Styrene	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Tetrachloroethene	10U	10U	10U	10U	10U	10U	10U	10U
Toluene	10U	10U	10U	10U	10U	10U	10U	10U
1,1,1-Trichloroethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2-Trichloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Trichloroethene	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	10U	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

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Sampling Point	GW-788	GW-789			GW-791			GW-792
Unit	AQT	AQT			AQT			AQT
Location	GRIDF3	GRIDF3			GRIDD2			GRIDD2
Date Sampled	11/30/94	06/15/94	09/09/94	11/30/94	06/07/94	09/06/94	12/01/94	06/07/94
Acetone	10U	10U	10U	10U	10U	250U	250U	10U
Benzene	10U	10U	10U	10U	10U	250U	250U	10U
Bromodichloromethane	10U	10U	10U	10U	10U	250U	250U	10U
Bromoform	10U	10U	10U	10U	10U	250U	250U	10U
Bromomethane	10U	10U	10U	10U	10U	250U	250U	10U
2-Butanone	10U	10U	10U	10U	10U	250U	250U	10U
Carbon disulfide	10U	10U	10U	10U	10U	250U	250U	10U
Carbon tetrachloride	10U	10U	10U	10U	10U	250U	250U	10U
Chlorobenzene	10U	10U	10U	10U	10U	250U	250U	10U
Chlorodibromomethane	10U	10U	10U	10U	10U	250U	250U	10U
Chloroethane	10U	10U	10U	10U	10U	250U	250U	10U
Chloroform	10U	0.7	10U	10U	10U	250U	250U	10U
Chloromethane	10U	10U	10U	10U	10U	250U	250U	10U
1,1-Dichloroethane	10U	10U	10U	10U	10U	250U	250U	10U
1,2-Dichloroethane	10U	10U	10U	10U	10U	250U	250U	10U
1,1-Dichloroethene	10U	10U	10U	10U	10U	250U	250U	10U
1,2-Dichloroethene	10U	10U	10U	10U	10U	250U	250U	10U
1,2-Dichloropropane	10U	10U	10U	10U	10U	250U	250U	10U
cis-1,3-Dichloropropene	10U	10U	10U	10U	10U	250U	250U	10U
trans-1,3-Dichloropropene	10U	10U	10U	10U	10U	250U	250U	10U
Ethylbenzene	10U	10U	10U	10U	10U	250U	250U	10U
2-Hexanone	10U	10U	10U	10U	10U	250U	250U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	250U	250U	10U
Methylene chloride	10U	10U	10U	10U	10U	250U	250U	10U
Styrene	10U	10U	10U	10U	10U	250U	250U	10U
1,1,2,2-Tetrachloroethane	10U	10U	10U	10U	10U	3500	250U	10U
Tetrachloroethene	10U	10U	10U	10U	420	250U	3300	14
Toluene	10U	10U	10U	10U	10U	250U	250U	10U
1,1,1-Trichloroethane	10U	10U	10U	10U	10U	250U	250U	10U
1,1,2-Trichloroethane	10U	10U	10U	10U	10U	250U	250U	10U
Trichloroethene	10U	1	10U	10U	11	250U	250U	10U
Vinyl acetate	10U	10U	10U	10U	10U	250U	250U	10U
Vinyl chloride	10U	10U	10U	10U	10U	250U	250U	10U
Xylenes	10U	10U	10U	10U	10U	250U	250U	10U

(CONTINUED)

APPENDIX E.2
Volatile Organic Compounds, 1994

41

Sampling Point	GW-792		GW-816		GW-817	
Unit	AQT		AQT		AQT	
Location	GRIDD2		EXP-SR		GRIDK3	
Date Sampled	09/07/94	12/01/94	09/21/94	11/28/94	09/21/94	11/28/94
Acetone	10U	10U	8	10U	10U	10U
Benzene	10U	10U	10U	10U	10U	10U
Bromodichloromethane	10U	10U	10U	10U	10U	10U
Bromoform	10U	10U	10U	10U	10U	10U
Bromomethane	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	11	10U	12	10U
Carbon disulfide	10U	10U	10U	10U	10U	10U
Carbon tetrachloride	10U	10U	10U	10U	10U	10U
Chlorobenzene	10U	10U	10U	10U	10U	10U
Chlorodibromomethane	10U	10U	10U	10U	10U	10U
Chloroethane	10U	10U	10U	10U	10U	10U
Chloroform	10U	10U	10U	10U	10U	10U
Chloromethane	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	10U	10U	10U	10U	10U
1,2-Dichloroethane	10U	10U	10U	10U	10U	10U
1,1-Dichloroethene	10U	10U	10U	10U	10U	10U
1,2-Dichloroethene	10U	10U	10U	10U	10U	10U
1,2-Dichloropropane	10U	10U	10U	10U	10U	10U
cis-1,3-Dichloropropene	10U	10U	10U	10U	10U	10U
trans-1,3-Dichloropropene	10U	10U	10U	10U	10U	10U
Ethylbenzene	10U	10U	10U	10U	10U	10U
2-Hexanone	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U
Methylene chloride	10U	10U	10U	10U	1	10U
Styrene	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U
Tetrachloroethene	10	8	10U	10U	10U	10U
Toluene	10U	10U	10U	10U	10U	10U
1,1,1-Trichloroethane	10U	10U	10U	10U	10U	10U
1,1,2-Trichloroethane	10U	10U	10U	10U	10U	10U
Trichloroethene	10U	10U	10U	10U	10U	10U
Vinyl acetate	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U
Xylenes	10U	10U	10U	10U	10U	10U

APPENDIX E.2
Volatile Organic Compounds, 1994

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Sampling Point . Unit . Location . Date Sampled	IRS		LRSPW	
	CREEK		CREEK	
	EXP-SW		EXP-SW	
	09/07/94	12/27/94	09/07/94	12/27/94
Acetone	10U	10U	10U	6
Benzene	10U	10U	10U	10U
Bromodichloromethane	10U	10U	10U	10U
Bromoform	10U	10U	10U	10U
Bromomethane	10U	10U	10U	10U
2-Butanone	10U	10U	10U	9
Carbon disulfide	10U	10U	10U	10U
Carbon tetrachloride	11	13	14	16
Chlorobenzene	10U	10U	10U	10U
Chlorodibromomethane	10U	10U	10U	10U
Chloroethane	10U	10U	10U	10U
Chloroform	2	2	2	2
Chloromethane	10U	10U	10U	10U
1,1-Dichloroethane	10U	10U	10U	10U
1,2-Dichloroethane	10U	10U	10U	10U
1,1-Dichloroethene	10U	10U	10U	10U
1,2-Dichloroethene	10U	10U	10U	10U
1,2-Dichloropropane	10U	10U	10U	10U
cis-1,3-Dichloropropene	10U	10U	10U	10U
trans-1,3-Dichloropropene	10U	10U	10U	10U
Ethylbenzene	10U	10U	10U	10U
2-Hexanone	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U
Methylene chloride	10U	10U	10U	10U
Styrene	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	10U	10U	10U	10U
Tetrachloroethene	5	5	4	4
Toluene	10U	4	10U	3
1,1,1-Trichloroethane	10U	10U	10U	10U
1,1,2-Trichloroethane	10U	10U	10U	10U
Trichloroethene	10U	1	10U	1
Vinyl acetate	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U
Xylenes	10U	10U	10U	10U

APPENDIX E.3

BASE, NEUTRAL, AND ACID EXTRACTABLE ORGANIC COMPOUNDS

APPENDIX E.3

1

Base, Neutral, and Acid Extractable Organic Compounds, 1994

Sampling Point . Unit . Location . Date Sampled	GW-169		GW-170		GW-171		GW-172	
	AQF		AQF		AQF		AQF	
	EXP-UV		EXP-UV		EXP-UV		EXP-UV	
	08/11/94	12/06/94	08/11/94	11/17/94	09/27/94	11/15/94	09/26/94	11/14/94
1,2,4-Trichlorobenzene	10U	10U	10U	10U	10U	10U	10U	14U
1,2-Dichlorobenzene	10U	10U	10U	10U	10U	10U	10U	14U
1,3-Dichlorobenzene	10U	10U	10U	10U	10U	10U	10U	14U
1,4-Dichlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U
2,4,5-Trichlorophenol	25U	25U	25U	25U	25U	25U	25U	35U
2,4,6-Trichlorophenol	10U	10U	10U	10U	10U	10U	10U	14U
2,4-Dichlorophenol	10U	10U	10U	10U	10U	10U	10U	14U
2,4-Dimethylphenol	10U	10U	10U	10U	10U	10U	10U	14U
2,4-Dinitrophenol	25U	25U	25U	25U	25U	25U	25U	35U
2,4-Dinitrotoluene	10U	10U	10U	10U	10U	10U	10U	14U
2,6-Dinitrotoluene	10U	10U	10U	10U	10U	10U	10U	14U
2-Chloronaphthalene	10U	10U	10U	10U	10U	10U	10U	14U
2-Chlorophenol	10U	10U	10U	10U	10U	10U	10U	14U
2-Methylnaphthalene	10U	10U	10U	10U	10U	10U	10U	14U
2-Methylphenol	10U	10U	10U	10U	10U	10U	10U	14U
2-Nitroaniline	25U	25U	25U	25U	25U	25U	25U	35U
2-Nitrophenol	10U	10U	10U	10U	10U	10U	10U	14U
3,3-Dichlorobenzidine	10U	10U	10U	10U	10U	10U	10U	14U
3-Nitroaniline	25U	25U	25U	25U	25U	25U	25U	35U
4,6-Dinitro-2-methylphenol	25U	25U	25U	25U	25U	25U	25U	35U
4-Bromophenyl phenyl ether	10U	10U	10U	10U	10U	10U	10U	14U
4-Chloro-3-methylphenol	10U	10U	10U	10U	10U	10U	10U	14U
4-Chloroaniline	10U	10U	10U	10U	10U	10U	10U	14U
4-Chlorophenyl phenyl ether	10U	10U	10U	10U	10U	10U	10U	14U
4-Methylphenol	10U	10U	10U	10U	10U	10U	10U	14U
4-Nitroaniline	25U	25U	25U	25U	25U	25U	25U	35U
4-Nitrophenol	25U	25U	25U	25U	25U	25U	25U	35U
Acenaphthene	10U	10U	10U	10U	10U	10U	10U	14U
Acenaphthylene	10U	10U	10U	10U	10U	10U	10U	14U
Anthracene	10U	10U	10U	10U	10U	10U	10U	14U
Benzo(a)anthracene	10U	10U	10U	10U	10U	10U	10U	14U
Benzo(a)pyrene	10U	10U	10U	10U	10U	10U	10U	14U
Benzo(b)fluoranthene	10U	10U	10U	10U	10U	10U	10U	14U
Benzo(g,h,i)perylene	10U	10U	10U	10U	10U	10U	10U	14U
Benzo(k)fluoranthene	10U	10U	10U	10U	10U	10U	10U	14U

(CONTINUED)

APPENDIX E.3

2

Base, Neutral, and Acid Extractable Organic Compounds, 1994

Sampling Point	GW-169		GW-170		GW-171		GW-172	
Unit	AQF		AQF		AQF		AQF	
Location	EXP-UV		EXP-UV		EXP-UV		EXP-UV	
Date Sampled	08/11/94	12/06/94	08/11/94	11/17/94	09/27/94	11/15/94	09/26/94	11/14/94
Benzoic acid	.	.	.	.	.	.	.	.
Benzyl alcohol	10U	10U	10U	10U	10U	10U	10U	14U
bis(2-Chloroethoxy)methane	10U	10U	10U	10U	10U	10U	10U	14U
bis(2-Chloroethyl)ether	10U	10U	10U	10U	10U	10U	10U	14U
bis(2-Chloroisopropyl)ether	10U	10U	10U	10U	10U	10U	10U	14U
bis(2-Ethylhexyl)phthalate	10U	10U	10U	10U	10U	10U	10U	3
Butyl benzyl phthalate	10U	10U	10U	10U	10U	10U	10U	14U
Carbazole	10U	10U	10U	10U	10U	10U	10U	14U
Chrysene	10U	10U	10U	10U	10U	10U	10U	14U
di-n-Butylphthalate	4	10U	4	2	10U	3	10U	3
di-n-Octylphthalate	10U	10U	10U	10U	10U	10U	10U	14U
Dibenzo(a,h)anthracene	10U	10U	10U	10U	10U	10U	10U	14U
Dibenzofuran	10U	10U	10U	10U	10U	10U	10U	14U
Diethylphthalate	10U	10U	10U	10U	10U	10U	10U	14U
Dimethylphthalate	10U	10U	10U	10U	10U	10U	10U	14U
Fluoranthene	10U	10U	10U	10U	10U	10U	10U	14U
Fluorene	10U	10U	10U	10U	10U	10U	10U	14U
Hexachlorobenzene	10U	10U	10U	10U	10U	10U	10U	14U
Hexachlorobutadiene	10U	10U	10U	10U	10U	10U	10U	14U
Hexachlorocyclopentadiene	10U	10U	10U	10U	10U	10U	10U	14U
Hexachloroethane	10U	10U	10U	10U	10U	10U	10U	14U
Indeno(1,2,3-cd)pyrene	10U	10U	10U	10U	10U	10U	10U	14U
Isophorone	10U	10U	10U	10U	10U	10U	10U	14U
n-Nitrosodi-n-propylamine	10U	10U	10U	10U	10U	10U	10U	14U
n-Nitrosodiphenylamine	10U	10U	10U	10U	10U	10U	10U	14U
Naphthalene	10U	10U	10U	10U	10U	10U	10U	14U
Nitrobenzene	10U	10U	10U	10U	10U	10U	10U	14U
Pentachlorophenol	25U	25U	25U	25U	25U	25U	25U	2
Phenanthrene	10U	10U	10U	10U	10U	10U	10U	14U
Phenol	4	10U	3	10U	10U	10U	10U	14U
Pyrene	10U	10U	10U	10U	10U	10U	10U	14U

(CONTINUED)

APPENDIX E.3

3

Base, Neutral, and Acid Extractable Organic Compounds, 1994

Sampling Point . Unit . Location . Date Sampled	GW-230		GW-232	
	AQF		AQF	
	EXP-UV		EXP-UV	
	09/28/94	11/15/94	08/11/94	11/17/94
1,2,4-Trichlorobenzene	10U	10U	10U	10U
1,2-Dichlorobenzene	10U	10U	10U	10U
1,3-Dichlorobenzene	10U	10U	10U	10U
1,4-Dichlorobenzene	10U	17	10U	10U
2,4,5-Trichlorophenol	25U	25U	25U	25U
2,4,6-Trichlorophenol	10U	10U	10U	10U
2,4-Dichlorophenol	10U	10U	10U	10U
2,4-Dimethylphenol	10U	10U	10U	10U
2,4-Dinitrophenol	25U	25U	25U	25U
2,4-Dinitrotoluene	10U	10U	10U	10U
2,6-Dinitrotoluene	10U	10U	10U	10U
2-Chloronaphthalene	10U	10U	10U	10U
2-Chlorophenol	10U	10U	10U	10U
2-Methylnaphthalene	10U	10U	10U	10U
2-Methylphenol	10U	10U	10U	10U
2-Nitroaniline	25U	25U	25U	25U
2-Nitrophenol	10U	10U	10U	10U
3,3-Dichlorobenzidine	10U	10U	10U	10U
3-Nitroaniline	25U	25U	25U	25U
4,6-Dinitro-2-methylphenol	25U	25U	25U	25U
4-Bromophenyl phenyl ether	10U	10U	10U	10U
4-Chloro-3-methylphenol	10U	10U	10U	10U
4-Chloroaniline	10U	10U	10U	10U
4-Chlorophenyl phenyl ether	10U	10U	10U	10U
4-Methylphenol	10U	10U	10U	10U
4-Nitroaniline	25U	25U	25U	25U
4-Nitrophenol	25U	25U	25U	25U
Acenaphthene	10U	10U	10U	10U
Acenaphthylene	10U	10U	10U	10U
Anthracene	10U	10U	10U	10U
Benzo(a)anthracene	10U	10U	10U	10U
Benzo(a)pyrene	10U	10U	10U	10U
Benzo(b)fluoranthene	10U	10U	10U	10U
Benzo(g,h,i)perylene	10U	10U	10U	10U
Benzo(k)fluoranthene	10U	10U	10U	10U

(CONTINUED)

APPENDIX E.3

4

Base, Neutral, and Acid Extractable Organic Compounds, 1994

Sampling Point . Unit . Location . Date Sampled	GW-230		GW-232	
	AQF		AQF	
	EXP-UV		EXP-UV	
	09/28/94	11/15/94	08/11/94	11/17/94
Benzoic acid	.	.	.	.
Benzyl alcohol	10U	10U	10U	10U
bis(2-Chloroethoxy)methane	10U	10U	10U	10U
bis(2-Chloroethyl)ether	10U	10U	10U	10U
bis(2-Chloroisopropyl)ether	10U	10U	10U	10U
bis(2-Ethylhexyl)phthalate	10U	10U	10U	10U
Butyl benzyl phthalate	10U	10U	10U	10U
Carbazole	10U	10U	10U	10U
Chrysene	10U	10U	10U	10U
di-n-Butylphthalate	10U	3	3	2
di-n-Octylphthalate	10U	10U	10U	10U
Dibenzo(a,h)anthracene	10U	10U	10U	10U
Dibenzofuran	10U	10U	10U	10U
Diethylphthalate	10U	10U	10U	10U
Dimethylphthalate	10U	10U	10U	10U
Fluoranthene	10U	10U	10U	10U
Fluorene	10U	10U	10U	10U
Hexachlorobenzene	10U	10U	10U	10U
Hexachlorobutadiene	10U	10U	10U	10U
Hexachlorocyclopentadiene	10U	10U	10U	10U
Hexachloroethane	10U	10U	10U	10U
Indeno(1,2,3-cd)pyrene	10U	10U	10U	10U
Isophorone	10U	10U	10U	10U
n-Nitrosodi-n-propylamine	10U	10U	10U	10U
n-Nitrosodiphenylamine	10U	10U	10U	10U
Naphthalene	10U	10U	10U	10U
Nitrobenzene	10U	10U	10U	10U
Pentachlorophenol	25U	25U	25U	25U
Phenanthrene	10U	10U	10U	10U
Phenol	10U	10U	4	10U
Pyrene	10U	10U	10U	10U

Base, Neutral, and Acid Extractable Organic Compounds, 1994

Sampling Point	LRS	LRSPW
• Unit	CREEK	CREEK
• Location	EXP-SW	EXP-SW
• Date Sampled	12/27/94	12/27/94
1,2,4-Trichlorobenzene	10U	12U
1,2-Dichlorobenzene	10U	12U
1,3-Dichlorobenzene	10U	12U
1,4-Dichlorobenzene	10U	12U
2,4,5-Trichlorophenol	25U	30U
2,4,6-Trichlorophenol	10U	12U
2,4-Dichlorophenol	10U	12U
2,4-Dimethylphenol	10U	12U
2,4-Dinitrophenol	25U	30U
2,4-Dinitrotoluene	10U	12U
2,6-Dinitrotoluene	10U	12U
2-Chloronaphthalene	10U	12U
2-Chlorophenol	10U	12U
2-Methylnaphthalene	10U	12U
2-Methylphenol	10U	12U
2-Nitroaniline	25U	30U
2-Nitrophenol	10U	12U
3,3-Dichlorobenzidine	10U	12U
3-Nitroaniline	25U	30U
4,6-Dinitro-2-methylphenol	25U	30U
4-Bromophenyl phenyl ether	10U	12U
4-Chloro-3-methylphenol	10U	12U
4-Chloroaniline	10U	12U
4-Chlorophenyl phenyl ether	10U	12U
4-Methylphenol	10U	12U
4-Nitroaniline	25U	30U
4-Nitrophenol	25U	30U
Acenaphthene	10U	12U
Acenaphthylene	10U	12U
Anthracene	10U	12U
Benzo(a)anthracene	10U	12U
Benzo(a)pyrene	10U	12U
Benzo(b)fluoranthene	10U	12U
Benzo(g,h,i)perylene	10U	12U
Benzo(k)fluoranthene	10U	12U

(CONTINUED)

Base, Neutral, and Acid Extractable Organic Compounds, 1994

Sampling Point	LRS	LRSPW
.		
Unit	CREEK	CREEK
.		
Location	EXP-SW	EXP-SW
.		
Date Sampled	12/27/94	12/27/94
Benzoic acid	.	.
Benzyl alcohol	10U	12U
bis(2-Chloroethoxy)methane	10U	12U
bis(2-Chloroethyl)ether	10U	12U
bis(2-Chloroisopropyl)ether	10U	12U
bis(2-Ethylhexyl)phthalate	10U	12U
Butyl benzyl phthalate	10U	12U
Carbazole	10U	12U
Chrysene	10U	12U
di-n-Butylphthalate	8	8
di-n-Octylphthalate	10U	12U
Dibenzo(a,h)anthracene	10U	12U
Dibenzofuran	10U	12U
Diethylphthalate	10U	12U
Dimethylphthalate	10U	12U
Fluoranthene	10U	12U
Fluorene	10U	12U
Hexachlorobenzene	10U	12U
Hexachlorobutadiene	10U	12U
Hexachlorocyclopentadiene	10U	12U
Hexachloroethane	10U	12U
Indeno(1,2,3-cd)pyrene	10U	12U
Isophorone	10U	12U
n-Nitrosodi-n-propylamine	10U	12U
n-Nitrosodiphenylamine	10U	12U
Naphthalene	10U	12U
Nitrobenzene	10U	12U
Pentachlorophenol	25U	30U
Phenanthrene	10U	12U
Phenol	10U	12U
Pyrene	10U	12U

APPENDIX E.4

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

APPENDIX E.4

1

Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-148	GW-149	GW-151				GW-153	GW-154
Unit	AQF	AQF	AQF				AQF	AQF
Location	NHP	NHP	NHP				NHP	NHP
Date Sampled	11/14/94	11/14/94	02/05/94	05/12/94	09/22/94	11/16/94	11/14/94	11/15/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	8.82	13.94	15.2	14.55	15.13	15.2	20.65	9.87
Water Temp (degrees C)	21	19	14.1	17.5	16.6	16.4	15.4	20.6
pH (pH units)	6.8	7.4	7.4	7.7	7.4	7.4	7.9	7.3
Sp. Cond. (umho/cm)	795	505	448	481	465	502	392	648
Dissolved Oxygen (ppm)	5.2	8.6	5.1	0.9	0.5	0.8	3.9	2.7
Oxidation/Reduction (mV)	106	-92	248	169	109	109	23	158
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.1	7.7	7.7	7.7	7.7	7.6	8	7.6
Sp. Cond. (umho/cm)	798	506	507	464	470	488	419	649
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	504	316	278	304	394	250	270	400
TSS (mg/L)	8	2	2	<1	<1	<1	25	3
Turbidity (NTU)	15	2.7	2	1.4	0.4	0.8	56	6
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	5.13	3.73	0.17	0.36	-0.18	2.06	0.70	443.00
Gross Alpha (CE+/-)	3.40	3.10	1.20	1.00	1.50	1.70	2.40	51.00
Gross Beta (pCi/L)	12.50	11.30	2.36	1.89	1.12	6.04	5.44	221.00
Gross Beta (CE+/-)	3.70	3.60	2.30	2.50	2.60	2.80	3.20	24.00

(CONTINUED)

APPENDIX E.4

2

Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point . Unit . Location . Date Sampled	GW-169			GW-170			GW-171	
	AQF			AQF			AQF	
	EXP-UV			EXP-UV			EXP-UV	
	01/31/94	08/11/94	12/06/94	02/02/94	08/11/94	11/17/94	09/27/94	11/15/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	21.95	29.78	29.1	29.9	32.52	33.4	13.35	14.9
Water Temp (degrees C)	12.6	16.1	13.7	11	16.2	14.6	15.2	15.8
pH (pH units)	7.1	7.3	6.3	7.7	7.9	7.4	6.6	5.9
Sp. Cond. (umho/cm)	227	256	234	393	390	528	443	451
Dissolved Oxygen (ppm)	11.6	5.1	6.3	8.2	1.02	1.1	2.2	1.1
Oxidation/Reduction (mV)	52	112	155	110	124	165	-55	-56
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.4	7.1	7	7.6	8.2	7.7	7	6.8
Sp. Cond. (umho/cm)	279	250	219	468	432	473	436	462
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	222	576	126	258	282	268	302	274
TSS (mg/L)	2154	1	<1	<1	2	<1	42	16
Turbidity (NTU)	105	4.6	1.8	1.1	1.7	0.9	54	25
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	3.81	0.50	-0.98	1.38	1.42	-0.79	0.79	-0.63
Gross Alpha (CE+/-)	2.20	1.30	1.20	1.70	1.60	1.90	1.40	1.90
Gross Beta (pCi/L)	8.27	1.36	3.17	8.17	2.59	7.07	6.90	7.50
Gross Beta (CE+/-)	3.00	2.60	2.50	2.80	2.60	3.00	3.10	3.00

(CONTINUED)

APPENDIX E.4

3

Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-172		GW-191				GW-192	
Unit	AQF		AQT				AQT	
Location	EXP-UV		B4				B4	
Date Sampled	09/26/94	11/14/94	02/04/94	05/02/94	08/20/94	11/29/94	02/05/94	05/04/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	21.15	22.4	4.34	5.1	4.9	5.65	4.95	4.8
Water Temp (degrees C)	16	16.2	11.5	15.6	19	10.1	11.5	14.7
pH (pH units)	6.9	6.7	7.1	7.5	7.2	8	6.6	6.6
Sp. Cond. (umho/cm)	759	705	468	459	480	444	614	611
Dissolved Oxygen (ppm)	0.3	2	2.3	6.6	2.6	11.3	2.1	1.7
Oxidation/Reduction (mV)	-65	-48	201	156	34	202	11	-19
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.1	7.2	7.5	7.7	7.6	7.6	6.9	6.8
Sp. Cond. (umho/cm)	648	665	561	492	562	539	676	636
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	446	372	338	338	342	374	374	426
TSS (mg/L)	<1	2	143	18	188	58	21	23
Turbidity (NTU)	1	17	8	13	140	115	15	14
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	2.59	0.32	-0.19	2.63	-0.02	2.01	-0.51	0.73
Gross Alpha (CE+/-)	1.80	2.10	2.20	1.40	3.80	1.90	2.00	0.74
Gross Beta (pCi/L)	1.56	4.76	2.13	2.80	5.20	4.97	1.60	1.64
Gross Beta (CE+/-)	2.80	2.90	2.80	2.40	5.80	2.80	2.70	2.30

(CONTINUED)

APPENDIX E.4

4

Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-192		GW-194				GW-195	
Unit	AQT		AQT				AQT	
Location	B4		B4				B4	
Date Sampled	08/21/94	12/02/94	02/04/94	05/02/94	08/20/94	12/01/94	02/05/94	05/04/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	4.4	5.21	6.27	6.4	6.35	6.19	6.95	6.88
Water Temp (degrees C)	19.1	13.1	6.8	14.8	20	16	12.7	14.2
pH (pH units)	7.2	7.1	6.9	7.1	7.2	6.7	6.5	6.3
Sp. Cond. (umho/cm)	783	593	422	450	405	484	356	362
Dissolved Oxygen (ppm)	3.2	2.4	3.7	2.7	6	3.1	1.3	1
Oxidation/Reduction (mV)	-80	92	238	150	36	168	246	220
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7	6.9	7.4	7.6	7.5	7.7	6.9	6.9
Sp. Cond. (umho/cm)	718	666	481	440	480	452	407	371
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	436	396	308	310	304	296	282	284
TSS (mg/L)	23	8	103	120	44	22	384	259
Turbidity (NTU)	15	6.7	30	100	19	48	180	85
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.01	0.18	5.32	2.61	-0.84	1.10	10.50	0.34
Gross Alpha (CE+/-)	2.10	1.10	3.00	1.40	1.70	1.60	3.80	0.50
Gross Beta (pCi/L)	0.14	1.19	14.50	3.68	-1.30	2.66	38.00	11.40
Gross Beta (CE+/-)	2.70	2.40	3.50	2.50	2.70	2.60	4.50	3.10

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APPENDIX E.4

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-195		GW-199				GW-206	
Unit	AQT		AQT				AQT	
Location	B4		GRID11				EXP-SR	
Date Sampled	08/20/94	12/01/94	01/14/94	04/22/94	08/08/94	10/27/94	01/30/94	06/15/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	7.5	7.41	15.67	16.45	17.6	17.51	9.1	8.63
Water Temp (degrees C)	19.4	13.5	12.7	15	17.2	12.9	13	15.7
pH (pH units)	6.5	6.5	6.7	6.7	6	7.5	6.3	7
Sp. Cond. (umho/cm)	346	368	287	338	405	464	407	406
Dissolved Oxygen (ppm)	1.5	6.8	4.2	5.5	2.5	9	1.3	3.1
Oxidation/Reduction (mV)	158	190	135	182	118	179	-48	-95
	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
pH (pH units)	6.8	6.9	6.8	6.7	6.5	6.9	6.8	7.2
Sp. Cond. (umho/cm)	406	381	385	371	383	418	378	408
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	272	264	254	226	270	326	226	452
TSS (mg/L)	96	147	62	58	256	300	1384	156
Turbidity (NTU)	35	74	27	30	22	39	450	120
	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.02	1.67	2.20	0.18	1.00	2.88	25.60	2.02
Gross Alpha (CE+/-)	3.50	1.70	1.50	1.30	2.40	1.90	6.00	1.50
Gross Beta (pCi/L)	12.90	21.80	4.29	3.11	10.40	9.78	31.90	5.42
Gross Beta (CE+/-)	6.50	4.20	2.60	2.70	5.50	3.10	4.20	2.60

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APPENDIX E.4

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point . Unit . Location . Date Sampled	GW-206		GW-207				GW-208	
	AQT		AQT				AQT	
	EXP-SR		EXP-SR				EXP-SR	
	09/28/94	11/28/94	01/28/94	05/24/94	09/13/94	12/03/94	01/30/94	05/26/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	9.85	9.75	0	0	0	1.21	0	0
Water Temp (degrees C)	17.7	16.7	15.3	17.6	17.2	15	14.8	17.2
pH (pH units)	6.8	6.9	7.3	7.5	7.4	7.6	7.1	7.4
Sp. Cond. (umho/cm)	462	530	544	526	577	522	546	537
Dissolved Oxygen (ppm)	1.3	1.3	0.7	0.8	1	0.7	0.2	1.3
Oxidation/Reduction (mV)	-51	-31	11	-23	-60	18	-32	24
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	6.9	6.7	7.6	7.6	7.6	7.7	7.8	7.2
Sp. Cond. (umho/cm)	405	458	578	614	550	582	611	572
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	286	320	362	344	322	354	418	418
TSS (mg/L)	153	55	2	<1	<1	<1	3	<1
Turbidity (NTU)	110	60	1.1	2.8	2.5	0.3	3.4	5.1
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.90	0.73	1.32	1.50	1.33	2.85	1.93	1.55
Gross Alpha (CE+/-)	1.70	1.50	2.00	1.20	3.40	2.30	2.10	1.20
Gross Beta (pCi/L)	6.54	5.19	6.19	3.06	-1.30	6.21	6.92	3.38
Gross Beta (CE+/-)	2.80	2.80	2.80	2.50	5.30	3.10	3.00	2.60

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-208		GW-220				GW-222	GW-223
Unit	AQT		AQF				AQF	AQF
Location	EXP-SR		NHP				NHP	NHP
Date Sampled	09/16/94	12/04/94	02/05/94	05/12/94	09/22/94	11/16/94	11/15/94	11/15/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	0	2.79	15.73	15.8	15.85	15.95	10.24	10.15
Water Temp (degrees C)	16.5	15.6	14.9	16.5	16	15.5	18.8	17.3
pH (pH units)	7.3	7.5	7.2	7.7	7.5	7.3	7	7
Sp. Cond. (umho/cm)	597	621	505	452	460	471	690	646
Dissolved Oxygen (ppm)	1	0.6	6.1	1.3	0.67	0.8	0.8	1
Oxidation/Reduction (mV)	-42	-29	256	173	157	146	-65	-22
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.6	7.5	7.5	7.8	7.7	7.6	7.3	7.2
Sp. Cond. (umho/cm)	566	607	553	454	473	477	728	676
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	406	410	304	284	362	280	416	412
TSS (mg/L)	2	1	99	10	21	34	1	<1
Turbidity (NTU)	4.5	6.5	60	7.2	24	38	20	1.2
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-1.05	0.71	1.10	-0.19	1.08	1.94	19.70	4.25
Gross Alpha (CE+/-)	3.00	2.10	1.50	0.82	1.80	1.70	5.10	3.10
Gross Beta (pCi/L)	1.24	2.54	3.04	2.84	2.15	7.87	23.70	5.07
Gross Beta (CE+/-)	5.40	2.90	2.40	2.60	2.60	2.90	4.60	3.20

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-230		GW-232			GW-240		
Unit	AQF		AQF			AQF		
Location	EXP-UV		EXP-UV			NHP		
Date Sampled	09/28/94	11/15/94	02/01/94	08/11/94	11/17/94	02/04/94	05/11/94	09/22/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	17.7	18.68	28.1	30.55	31.6	20.5	20.8	21.25
Water Temp (degrees C)	16.2	15.5	12.1	17	14.1	13.8	16.6	16
pH (pH units)	6.8	6.3	9.2	9.2	9.2	7.2	7.8	7.6
Sp. Cond. (umho/cm)	990	985	749	852	924	437	389	486
Dissolved Oxygen (ppm)	0.5	0.4	4.9	1.3	1	10.2	5.7	4.5
Oxidation/Reduction (mV)	-34	42	93	59	145	237	145	169
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.3	7.2	9.3	9.2	9.3	7.7	8	7.8
Sp. Cond. (umho/cm)	950	953	903	868	897	493	386	491
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	624	518	572	176	558	258	242	370
TSS (mg/L)	<1	<1	3	<1	<1	6	<1	<1
Turbidity (NTU)	0.5	0.7	1.4	1.6	2	4.3	1.8	1
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	1.19	1.23	-1.12	2.04	-0.43	2.62	0.17	1.15
Gross Alpha (CE+/-)	1.60	2.50	1.50	2.10	2.70	2.40	1.20	2.00
Gross Beta (pCi/L)	3.49	7.27	4.31	1.92	8.42	9.19	11.50	2.62
Gross Beta (CE+/-)	2.90	3.00	2.50	2.60	3.20	3.20	3.20	2.60

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-240	GW-251				GW-252		
Unit	AQF	AQF				AQF		
Location	NHP	S2				S2		
Date Sampled	11/16/94	02/07/94	05/09/94	08/22/94	12/03/94	05/13/94	08/14/94	10/29/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	23.3	13.55	16	16	17.9	20.55	25.66	36.1
Water Temp (degrees C)	15.3	14.2	14.9	16.7	14.6	14.7	19.1	15.2
pH (pH units)	7.3	6.5	6	7.1	6.6	7.2	7.5	6.7
Sp. Cond. (umho/cm)	527	951	1038	926	665	198	405	310
Dissolved Oxygen (ppm)	4.2	0.6	0.9	0.7	0.5	8.6	8.1	8.4
Oxidation/Reduction (mV)	143	164	268	197	154	193	126	82
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.6	6.7	6.8	6.7	6.9	7.5	8	7.5
Sp. Cond. (umho/cm)	539	966	1060	913	689	294	374	369
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	318	682	704	632	434	178	270	206
TSS (mg/L)	<1	223	99	193	74	8	28	8
Turbidity (NTU)	1.4	140	62	160	50	11	15	16
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	5.82	9.09	9.66	9.75	7.89	0.15	2.62	2.02
Gross Alpha (CE+/-)	2.50	3.60	3.30	3.60	2.70	0.84	2.00	1.30
Gross Beta (pCi/L)	9.58	9.97	10.10	6.22	8.01	0.57	4.18	5.09
Gross Beta (CE+/-)	3.00	3.00	3.10	3.10	2.90	2.50	2.70	2.70

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point . Unit . Location . Date Sampled	GW-255			GW-261			GW-262	
	AQF			AQT			AQT	
	S2			SY			SY	
	05/13/94	08/14/94	10/29/94	05/11/94	08/13/94	10/28/94	05/11/94	08/13/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	24.9	28.7	42.4	18.25	18.76	19.29	17.55	18.1
Water Temp (degrees C)	15.5	16.1	14.7	18.7	20.4	18.5	20.2	21.6
pH (pH units)	7.2	6.9	7.1	6.9	7.1	6.9	8.1	8.1
Sp. Cond. (umho/cm)	423	449	443	346	383	383	356	436
Dissolved Oxygen (ppm)	4.6	4.3	5.2	3.8	2.7	1.4	3	6.7
Oxidation/Reduction (mV)	187	153	131	224	171	196	-158	-30
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.5	7.5	7.5	7.3	7.2	7.1	8	8.4
Sp. Cond. (umho/cm)	470	448	489	384	374	381	373	384
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	308	320	294	254	306	230	260	276
TSS (mg/L)	146	288	50	7	1	16	4	122
Turbidity (NTU)	150	260	80	2.4	1.5	2.1	3	250
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	2.55	4.57	4.78	0.53	-0.35	4.51	-0.00	1.06
Gross Alpha (CE+/-)	1.70	2.50	2.00	1.30	1.60	1.90	1.10	1.90
Gross Beta (pCi/L)	0.77	7.19	9.18	1.57	0.70	9.74	0.55	4.38
Gross Beta (CE+/-)	2.40	2.90	3.00	2.40	2.50	3.10	2.30	2.70

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-262	GW-263				GW-264			GW-337
Unit	AQT	AQT				AQT			AQT
Location	SY	SY				SY			WC
Date Sampled	10/28/94	05/12/94	08/13/94	10/31/94	05/12/94	08/13/94	10/29/94	02/08/94	
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.	.
Depth to Water (ft)	18.77	26.15	28.8	31.5	27.45	29.65	32	10.82	
Water Temp (degrees C)	17.7	18.3	23.9	16.8	19.1	21.9	15.9	16.1	
pH (pH units)	7.9	7.1	7.6	6.7	7	7.3	6.8	6.6	
Sp. Cond. (umho/cm)	414	440	551	626	865	955	992	497	
Dissolved Oxygen (ppm)	2.2	5.7	5.6	5	3.5	1.6	3.8	1.4	
Oxidation/Reduction (mV)	-93	178	66	243	-134	-103	-85	293	
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.	.
pH (pH units)	7.9	7.4	7.7	7.7	7.7	7.9	7.2	7	
Sp. Cond. (umho/cm)	390	490	537	519	849	902	996	500	
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.	
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.	
TDS (mg/L)	246	324	326	320	624	658	632	304	
TSS (mg/L)	3	42	2	1430	56	28	5	3	
Turbidity (NTU)	3.8	36	2.1	1600	3.3	6.2	5.5	4.1	
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	2.99	0.58	2.76	14.10	0.91	-1.08	4.00	0.17	
Gross Alpha (CE+/-)	1.60	1.20	2.30	4.50	1.50	1.80	2.20	1.20	
Gross Beta (pCi/L)	6.82	0.62	5.22	26.50	1.21	3.52	7.04	2.82	
Gross Beta (CE+/-)	2.80	2.40	2.80	4.60	2.50	2.60	2.90	2.30	

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-337			GW-338				GW-380
Unit	AQT			AQT				AQF
Location	WC			WC				NHP
Date Sampled	05/10/94	08/25/94	12/08/94	02/05/94	05/04/94	08/20/94	12/02/94	02/04/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	10.8	10.65	10.53	8.9	8.25	8.35	8.65	9.55
Water Temp (degrees C)	18.4	20.5	17.5	9.1	13.7	19.9	13.7	12.2
pH (pH units)	6.7	6.6	6.7	7.1	7	7.2	7.4	6.8
Sp. Cond. (umho/cm)	488	485	545	451	434	445	468	1137
Dissolved Oxygen (ppm)	3.4	1.4	0.9	7.3	2	3.6	5.7	10.4
Oxidation/Reduction (mV)	291	216	195	205	196	126	178	280
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.3	7	6.9	7.6	7.4	7.5	7.5	7.1
Sp. Cond. (umho/cm)	502	469	514	511	476	528	502	1170
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	324	334	322	304	324	344	302	628
TSS (mg/L)	68	29	37	5	<1	105	1	141
Turbidity (NTU)	34	30	50	6.5	3	240	4.2	16
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.72	2.00	2.95	0.33	1.76	-2.00	0.34	7.97
Gross Alpha (CE+/-)	1.40	2.70	1.80	2.00	1.10	3.20	1.10	5.00
Gross Beta (pCi/L)	4.41	7.04	7.18	2.43	3.13	0.62	0.96	9.79
Gross Beta (CE+/-)	2.60	5.30	2.80	2.80	2.40	5.60	2.40	3.40

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-380			GW-381				GW-382
Unit	AQF			AQF				AQF
Location	NHP			NHP				NHP
Date Sampled	05/11/94	09/21/94	11/15/94	02/09/94	05/17/94	09/27/94	11/21/94	02/08/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	10.2	11.6	11.67	10.19	10.75	10.6	11.5	10.89
Water Temp (degrees C)	18.8	20.3	21.3	16.1	17.5	17.5	17.7	15.6
pH (pH units)	7.4	6.6	6.6	7.2	7.6	7.5	7.2	7.4
Sp. Cond. (umho/cm)	560	801	724	723	620	568	743	508
Dissolved Oxygen (ppm)	4.6	0.7	2	5.4	1.6	0.5	0.5	4.2
Oxidation/Reduction (mV)	74	-60	-31	101	-103	-108	-30	119
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.5	6.3	6.7	7.6	7.7	7.4	7.4	7.7
Sp. Cond. (umho/cm)	594	733	690	696	663	657	664	476
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	386	646	430	354	374	422	384	262
TSS (mg/L)	56	385	28	4	7	8	8	<1
Turbidity (NTU)	76	480	405	12	17	29	30	2.4
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	1.37	1.03	4.67	0.39	1.96	-0.41	1.09	0.35
Gross Alpha (CE+/-)	1.60	2.70	2.50	1.50	1.60	1.70	1.60	1.30
Gross Beta (pCi/L)	3.85	9.33	12.60	3.50	1.01	2.62	3.11	3.61
Gross Beta (CE+/-)	2.60	5.50	3.30	2.30	2.40	2.60	2.50	2.40

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-382			GW-383				GW-384
Unit	AQF			AQT				AQT
Location	NHP			NHP				NHP
Date Sampled	05/16/94	09/26/94	11/18/94	02/05/94	05/13/94	09/22/94	11/17/94	02/01/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	11.1	7.2	11.65	8.2	9.55	10.1	6.3	12.7
Water Temp (degrees C)	19.8	16.8	16.6	16.1	16.4	18.2	17.5	14.9
pH (pH units)	7.7	7.7	7.5	7.1	7.6	7.4	7.2	7.1
Sp. Cond. (umho/cm)	484	480	501	548	518	521	546	588
Dissolved Oxygen (ppm)	1.9	0.7	1	5.7	0.8	0.48	0.6	0.4
Oxidation/Reduction (mV)	-21	19	-14	23	-60	-52	-54	-60
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	8	7.6	7.8	7.7	7.6	7.6	7.5	7.4
Sp. Cond. (umho/cm)	490	495	506	559	571	519	544	648
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	292	362	264	318	362	400	308	394
TSS (mg/L)	10	<1	2	2	5	<1	2	3
Turbidity (NTU)	4.4	4.2	0.4	8.1	14	2	6.4	3.9
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	1.08	0.35	0.65	1.68	0.59	-1.00	1.07	1.87
Gross Alpha (CE+/-)	1.30	1.70	1.30	1.60	1.20	1.50	1.50	2.10
Gross Beta (pCi/L)	1.41	-0.33	2.68	2.96	2.68	2.62	4.24	4.70
Gross Beta (CE+/-)	2.50	2.50	2.50	2.30	2.60	2.60	2.60	2.80

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APPENDIX E.4

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-384			GW-385				GW-505
Unit	AQT			AQT				AQT
Location	NHP			NHP				RG
Date Sampled	06/03/94	08/03/94	11/02/94	01/31/94	06/02/94	08/03/94	11/01/94	03/01/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	12.6	12.7	12.65	2.83	4.17	3.58	4.41	4.7
Water Temp (degrees C)	17.7	17.9	15.8	12.2	17.9	17.3	14.7	10.7
pH (pH units)	7.1	6.9	7.2	9	9	9.1	9.3	5.9
Sp. Cond. (umho/cm)	665	669	594	674	733	675	655	265
Dissolved Oxygen (ppm)	1.2	0.3	0.4	6.3	8	3.7	0.6	1.7
Oxidation/Reduction (mV)	-95	-71	-73	158	100	109	109	240
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.8	7.3	7.3	9.1	9.1	9.1	9.1	6.1
Sp. Cond. (umho/cm)	679	622	657	750	753	700	725	260
TPH - DRO (mg/L)	.	.	.	.	.	.	.	<0.1
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	392	360	406	474	468	408	440	142
TSS (mg/L)	2	3	1	4	9	5	<1	259
Turbidity (NTU)	1.8	2.9	4.5	2.5	9.1	2.4	0.6	200
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.57	0.71	1.71	0.98	-0.84	-0.01	0.39	15.30
Gross Alpha (CE+/-)	1.10	1.50	1.90	2.20	1.20	1.80	1.90	3.90
Gross Beta (pCi/L)	0.23	1.49	1.74	1.45	-2.07	1.34	1.24	10.00
Gross Beta (CE+/-)	2.30	2.40	2.80	2.70	2.20	2.60	2.80	3.60

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-508	GW-603				GW-604		
Unit	AQT	AQF				AQF		
Location	RG	EXP-J				EXP-J		
Date Sampled	03/02/94	01/31/94	05/27/94	09/20/94	12/04/94	02/01/94	05/31/94	09/20/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	9.9	52	58.9	59.4	59	55.35	59.3	59.6
Water Temp (degrees C)	13.7	13.3	15.5	15.2	14.6	12.3	16.2	15.6
pH (pH units)	4.7	6.9	7.4	7.2	7.2	7.3	8.1	7.6
Sp. Cond. (umho/cm)	381	515	516	508	570	393	317	297
Dissolved Oxygen (ppm)	7.7	6	3.3	2	2.8	4.9	4.1	3.9
Oxidation/Reduction (mV)	56	321	170	123	29	155	147	113
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	5.2	7.5	7.3	7.5	7.5	7.4	8.2	7.9
Sp. Cond. (umho/cm)	389	555	540	551	585	473	314	317
TPH - DRO (mg/L)	24.47	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	200	322	336	294	330	286	166	146
TSS (mg/L)	62	3	1	24	2	12	1	3
Turbidity (NTU)	9.5	2.5	2.6	14	4.4	18	1.3	4.4
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	2.48	3.26	0.55	-0.68	2.99	2.08	-0.34	-1.56
Gross Alpha (CE+/-)	2.40	2.20	0.83	3.00	2.40	2.00	1.10	2.60
Gross Beta (pCi/L)	-1.23	6.51	5.91	0.30	6.11	3.75	0.32	-5.00
Gross Beta (CE+/-)	3.00	2.90	2.70	5.40	3.10	2.80	2.40	5.20

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-604	GW-605				GW-606		
Unit	AQF	AQF				AQF		
Location	EXP-J	EXP-I				EXP-I		
Date Sampled	12/04/94	02/02/94	06/03/94	09/25/94	12/06/94	02/03/94	06/06/94	09/25/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	59.32	10.9	11	10.88	10.78	13.05	14.15	14.02
Water Temp (degrees C)	14.6	15.8	19.1	17.6	17.8	14.2	17.2	16.5
pH (pH units)	7.9	7	7.4	7	7.1	7.4	7.4	7.4
Sp. Cond. (umho/cm)	322	520	578	580	622	558	620	592
Dissolved Oxygen (ppm)	3.9	0.9	0.4	1	0.6	8.3	0.4	0.6
Oxidation/Reduction (mV)	91	76	135	78	115	110	8	56
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	8.1	7.2	7.8	7.2	7.4	7.6	7.8	7.6
Sp. Cond. (umho/cm)	303	625	625	566	595	623	601	591
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	178	370	346	424	342	366	372	444
TSS (mg/L)	1	<1	9	4	<1	<1	<1	<1
Turbidity (NTU)	4.8	1.5	6.8	6.9	4.5	0.8	1	0.4
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	2.85	112.00	95.30	104.00	128.00	7.82	5.84	5.07
Gross Alpha (CE+/-)	2.10	8.80	13.00	14.00	16.00	2.90	2.30	2.50
Gross Beta (pCi/L)	1.40	56.70	66.40	39.50	110.00	5.43	3.66	6.26
Gross Beta (CE+/-)	2.70	5.00	8.40	5.80	13.00	2.60	2.40	2.70

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-606	GW-617				GW-618		
Unit	AQF	AQF				AQF		
Location	EXP-I	EXP-E				EXP-E		
Date Sampled	12/07/94	02/05/94	05/05/94	08/21/94	12/02/94	02/07/94	05/05/94	08/21/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	13.92	13	13.15	13.8	14.63	12.85	12.9	13.5
Water Temp (degrees C)	15.2	13.7	16.3	17.9	19.3	16	16.7	17.5
pH (pH units)	7.5	5.9	5.4	6.5	5.9	6.5	6.5	6.4
Sp. Cond. (umho/cm)	639	208	173	215	236	635	602	625
Dissolved Oxygen (ppm)	1.2	7.1	6.9	5.1	4.7	0.4	1.9	0.8
Oxidation/Reduction (mV)	175	141	191	55	188	53	67	48
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.7	6.5	6.2	6	6.3	6.9	6.9	6.8
Sp. Cond. (umho/cm)	626	232	173	176	227	633	612	633
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	346	138	124	118	106	340	376	392
TSS (mg/L)	2	17	3	12355	6	<1	<1	26
Turbidity (NTU)	1.5	16	5.1	3500	7.7	0.7	7	0.5
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	4.44	2.77	1.10	10.40	-0.16	-0.01	1.07	-0.58
Gross Alpha (CE+/-)	2.10	2.30	0.85	9.40	0.81	1.20	0.89	2.00
Gross Beta (pCi/L)	5.52	1.41	2.47	46.30	1.56	2.57	1.48	-1.12
Gross Beta (CE+/-)	2.70	2.70	2.40	14.00	2.50	2.30	2.30	2.60

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-618	GW-619				GW-620		
Unit	AQF	AQF				AQF		
Location	EXP-E	FTF				FTF		
Date Sampled	12/03/94	02/07/94	05/09/94	08/22/94	12/03/94	02/07/94	05/09/94	08/23/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	14.36	21.44	22.65	22.2	25.9	22.95	24	25
Water Temp (degrees C)	13.8	15.3	16.1	17.5	15.1	15.2	19	18
pH (pH units)	6.6	10.3	9.7	10.7	10	11.9	10.1	11.1
Sp. Cond. (umho/cm)	624	259	261	378	279	1915	233	533
Dissolved Oxygen (ppm)	1.9	2.4	2.3	3.1	1.7	4.6	3.4	5.7
Oxidation/Reduction (mV)	120	10	73	-15	13	-106	82	-7
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	6.9	9.2	8.7	8.8	9.5	11.4	11.3	11.7
Sp. Cond. (umho/cm)	671	135	185	192	166	526	480	970
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	366	86	136	146	98	292	170	104
TSS (mg/L)	<1	68	76	43	80	122	126	86
Turbidity (NTU)	0.8	24	35	15	65	22	52	74
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.36	0.32	0.49	1.00	0.49	0.61	0.34	1.90
Gross Alpha (CE+/-)	1.20	1.20	1.20	2.00	1.10	1.50	1.20	1.60
Gross Beta (pCi/L)	3.60	14.90	15.20	6.24	15.30	26.00	12.70	14.80
Gross Beta (CE+/-)	2.50	3.40	3.50	3.20	3.60	4.40	3.30	3.50

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-620	GW-631	GW-632	GW-633	GW-634	GW-733		
Unit	AQF	AQT	AQT	AQT	AQT	AQF		
Location	FTF	RG	RG	RG	RG	EXP-J		
Date Sampled	12/03/94	03/01/94	03/02/94	03/03/94	03/01/94	01/30/94	06/02/94	09/24/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	26.8	6.7	6.9	6.37	8.1	52.7	57.3	57.7
Water Temp (degrees C)	14.7	10.5	11.3	13.2	9.6	12.5	18.1	17.3
pH (pH units)	8	4.9	5.4	5.4	5.3	7.5	8	7.7
Sp. Cond. (umho/cm)	245	270	276	4800	80	354	384	351
Dissolved Oxygen (ppm)	2.8	2.7	8.5	2.09	0.9	3.6	1.06	5
Oxidation/Reduction (mV)	123	257	92	197	84	-20	128	24
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	8.2	4.9	5.8	5.7	5.4	7.9	8	7.6
Sp. Cond. (umho/cm)	258	269	258	5160	81	353	349	338
TPH - DRO (mg/L)	.	<0.1	2.46	<0.1	6.89	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	162	152	158	4316	46	198	250	260
TSS (mg/L)	138	5	29	39	7	10	33	2
Turbidity (NTU)	55	4	4.6	20	3.6	4.5	22	26
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	1.35	3.64	0.73	13.00	0.73	0.00	0.51	-0.18
Gross Alpha (CE+/-)	1.40	2.50	2.10	31.00	1.70	1.60	1.30	1.30
Gross Beta (pCi/L)	11.10	12.00	-1.05	261.00	-0.68	3.62	2.46	1.03
Gross Beta (CE+/-)	3.20	3.70	3.00	45.00	3.00	2.60	2.50	2.30

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-733	GW-735				GW-744		
Unit	AQF	AQT				AQT		
Location	EXP-J	EXP-J				GRIDK1		
Date Sampled	12/06/94	02/02/94	05/31/94	09/20/94	12/05/94	01/27/94	05/26/94	07/30/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	56.7	20.2	23.15	23	22.21	5.05	7.35	6.35
Water Temp (degrees C)	14.6	12.6	16.7	17	16	15.8	17.2	18.9
pH (pH units)	8	6.9	7.1	6.9	7.2	7.2	7.2	7.1
Sp. Cond. (umho/cm)	388	521	629	590	616	447	441	482
Dissolved Oxygen (ppm)	2.4	0.05	0.4	0.7	0.4	0.9	1	0.5
Oxidation/Reduction (mV)	128	88	63	25	98	-45	-88	-113
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	8	7.3	7.7	7.3	7.2	7.7	7.5	7.6
Sp. Cond. (umho/cm)	354	637	645	608	603	446	438	435
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	192	396	378	376	482	258	286	272
TSS (mg/L)	38	4	1	<1	90	<1	<1	<1
Turbidity (NTU)	25	5.3	1.5	65	190	0.8	2.1	2.6
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	3.29	-0.38	-0.01	0.67	9.03	0.76	0.73	-0.39
Gross Alpha (CE+/-)	1.80	1.40	1.30	3.30	3.60	1.10	0.91	1.30
Gross Beta (pCi/L)	3.61	3.04	2.36	-1.13	14.70	3.98	3.15	2.36
Gross Beta (CE+/-)	2.60	2.40	2.50	5.30	3.60	2.50	2.50	2.40

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-744	GW-745				GW-746		
Unit	AQT	AQT				AQT		
Location	GRIDK1	GRIDK1				GRIDK1		
Date Sampled	10/26/94	01/27/94	05/26/94	07/30/94	10/26/94	01/27/94	05/27/94	07/31/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	7.22	7.27	10	8.38	9.04	3.37	6	4.82
Water Temp (degrees C)	16.6	14.8	17	18.5	16.7	13.1	16.1	20.3
pH (pH units)	7.6	7.4	7	6.9	7.3	5.8	5.5	5.1
Sp. Cond. (umho/cm)	431	432	431	514	454	184	179	137
Dissolved Oxygen (ppm)	0.7	5.2	4.8	1.2	1.3	5.4	3.9	5.1
Oxidation/Reduction (mV)	-77	45	47	41	-4	148	194	245
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.7	7.5	7.4	7.4	7.4	6.4	6.5	5.6
Sp. Cond. (umho/cm)	426	445	452	460	456	174	162	118
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	256	256	288	296	280	98	122	106
TSS (mg/L)	<1	<1	<1	<1	<1	71	3	13
Turbidity (NTU)	0.3	3.1	1.7	2.5	1.2	60	4.6	7
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	3.70	1.45	0.20	-0.01	1.11	0.79	-0.17	-0.01
Gross Alpha (CE+/-)	2.40	1.30	0.71	1.40	1.90	0.96	1.10	1.20
Gross Beta (pCi/L)	7.45	4.85	2.22	3.38	5.81	1.11	1.79	4.31
Gross Beta (CE+/-)	3.00	2.60	2.50	2.50	2.80	2.40	2.50	2.70

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-746	GW-747				GW-748		
Unit	AQT	AQT				AQT		
Location	GRIDK1	GRIDK2				GRIDK2		
Date Sampled	10/27/94	01/28/94	05/27/94	07/31/94	10/27/94	01/28/94	05/31/94	07/31/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	6.64	2.61	6.4	4.52	6	4.86	7.6	5.8
Water Temp (degrees C)	16	15.1	16.1	18.1	15.5	15.3	18.3	18
pH (pH units)	6	7.5	7.3	7.1	7.9	7.4	7.4	6.8
Sp. Cond. (umho/cm)	169	435	479	400	396	499	505	502
Dissolved Oxygen (ppm)	4.3	0.8	0.5	0.5	0.8	5.6	4.5	0.8
Oxidation/Reduction (mV)	199	127	-10	-36	58	134	139	115
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	6	7.8	7.4	7.7	7.7	7.9	8	7.5
Sp. Cond. (umho/cm)	150	440	412	410	410	509	540	518
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	90	284	288	262	246	334	338	340
TSS (mg/L)	14	<1	<1	<1	<1	149	68	40
Turbidity (NTU)	17	1	1.3	2	1.1	160	27	12
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	5.21	-0.16	-0.38	0.80	0.92	2.14	1.51	-0.19
Gross Alpha (CE+/-)	2.70	1.70	1.20	1.70	1.90	2.10	1.70	1.30
Gross Beta (pCi/L)	13.40	3.42	2.28	3.87	5.74	5.10	1.40	2.83
Gross Beta (CE+/-)	3.40	2.60	2.50	2.50	2.80	2.70	2.40	2.40

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-748	GW-749				GW-750		
Unit	AQT	AQT				AQT		
Location	GRIDK2	GRIDK2				EXP-J		
Date Sampled	10/27/94	01/30/94	05/31/94	07/31/94	10/31/94	01/30/94	06/01/94	08/01/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	6.96	3.85	7.65	6.2	7.42	6.45	13.1	9.95
Water Temp (degrees C)	16	9.5	18.6	20.3	18.9	14.3	16.3	16.9
pH (pH units)	7.6	6.9	7.3	6.1	7.3	7.3	7.2	7.2
Sp. Cond. (umho/cm)	493	411	673	436	618	466	519	469
Dissolved Oxygen (ppm)	1.4	4.7	6.2	1.1	3.5	0.4	1.2	0.6
Oxidation/Reduction (mV)	67	-70	-42	-79	-52	-45	-48	-34
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.4	7.3	7.8	7	7.5	7.5	7.6	7.5
Sp. Cond. (umho/cm)	535	471	665	550	657	491	503	462
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	346	296	396	334	408	306	290	294
TSS (mg/L)	88	5	3	6	2	<1	<1	<1
Turbidity (NTU)	38	3.6	2.5	4.7	3.4	0.9	1.5	0.6
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.79	5.10	6.98	-0.01	4.16	0.96	-0.01	-0.55
Gross Alpha (CE+/-)	2.00	2.50	2.80	1.40	2.60	1.90	1.20	1.20
Gross Beta (pCi/L)	4.73	6.99	3.18	2.51	7.23	5.58	2.29	3.16
Gross Beta (CE+/-)	2.80	2.80	2.50	2.40	2.90	2.80	2.50	2.50

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APPENDIX E.4

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-750	GW-751				GW-752		
Unit	AQT	AQT				AQT		
Location	EXP-J	GRIDJ3				GRIDJ3		
Date Sampled	10/31/94	01/26/94	05/25/94	07/29/94	10/25/94	01/26/94	05/25/94	07/30/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	13.5	4.2	5.2	4.23	5.5	4.06	4.7	4.2
Water Temp (degrees C)	16	15.5	18.2	17.4	17	13	16.9	19.5
pH (pH units)	7.4	7.2	7.5	7.3	7.7	5.3	5.2	5.2
Sp. Cond. (umho/cm)	453	380	377	404	393	259	234	324
Dissolved Oxygen (ppm)	0.3	2	0.4	0.8	0.7	0.8	0.4	1.2
Oxidation/Reduction (mV)	-48	40	-46	-77	-38	89	114	119
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.6	7.9	7.5	7.7	7.7	6	5.7	5.7
Sp. Cond. (umho/cm)	493	379	395	365	390	240	253	268
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	300	200	216	268	234	128	154	174
TSS (mg/L)	<1	2	<1	1	<1	1	1	<1
Turbidity (NTU)	3.4	1.3	0.5	0.5	0.1	1.1	1.2	0.7
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	1.10	1.92	1.06	0.18	3.99	-0.01	0.65	-0.83
Gross Alpha (CE+/-)	1.90	1.40	1.00	1.40	2.30	0.65	0.81	0.99
Gross Beta (pCi/L)	5.73	3.13	3.16	3.70	8.06	2.39	2.83	3.56
Gross Beta (CE+/-)	2.80	2.50	2.50	2.50	3.00	2.50	2.60	2.60

(CONTINUED)

APPENDIX E.4

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-752	GW-758				GW-759		
Unit	AQT	AQT				AQT		
Location	GRIDJ3	GRIDG1				GRIDG1		
Date Sampled	10/25/94	02/05/94	05/06/94	08/29/94	11/02/94	02/05/94	05/06/94	08/29/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	5	15.39	15.9	16.25	17.33	21.38	20.65	18.1
Water Temp (degrees C)	18.9	15.1	16.5	17.3	16.4	13.4	17.4	17.5
pH (pH units)	5.5	7.3	7.6	7.4	7.1	6.8	7.7	7.4
Sp. Cond. (umho/cm)	244	463	405	440	454	451	433	465
Dissolved Oxygen (ppm)	0.6	0.4	0.4	0.6	0.7	1.6	9.3	0.5
Oxidation/Reduction (mV)	146	48	55	-22	-77	96	117	30
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	5.6	7.7	7.6	7.6	7.6	7.9	7.6	7.8
Sp. Cond. (umho/cm)	229	481	448	463	465	481	467	469
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	150	286	300	322	292	280	310	336
TSS (mg/L)	<1	5	1	12	4	9	232	58
Turbidity (NTU)	3.9	4.1	2	32	0.4	30	200	75
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.99	-0.74	-0.75	0.71	4.87	0.52	2.01	0.90
Gross Alpha (CE+/-)	1.70	0.90	0.91	0.88	2.70	2.20	1.70	0.96
Gross Beta (pCi/L)	4.49	2.43	0.08	4.42	7.67	2.19	3.35	3.47
Gross Beta (CE+/-)	2.80	2.30	2.30	2.40	3.20	2.80	2.50	2.40

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-759	GW-760				GW-761		
Unit	AQT	AQT				AQT		
Location	GRIDG1	GRIDG2				GRIDG2		
Date Sampled	11/02/94	02/08/94	05/09/94	08/30/94	11/22/94	02/05/94	05/09/94	08/30/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	22.5	9.9	11	12.3	12.17	9.54	10.61	11.33
Water Temp (degrees C)	17	15.2	19.6	21.1	18.7	13.3	16.7	20.4
pH (pH units)	7	7.9	7.6	7.5	7.2	6.1	7.1	6.8
Sp. Cond. (umho/cm)	483	663	687	835	776	187	165	181
Dissolved Oxygen (ppm)	2.5	9.7	5.4	0.5	4.7	4.3	3.2	2.6
Oxidation/Reduction (mV)	-6	156	165	122	216	183	159	192
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.6	7.9	7.8	7.8	7.8	7.2	7.3	7.3
Sp. Cond. (umho/cm)	484	725	735	855	766	198	179	189
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	302	460	518	774	502	134	154	110
TSS (mg/L)	5	3	33	8	47	3	3	91
Turbidity (NTU)	5.5	5.2	34	5.5	16	4.6	4.4	110
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	4.44	-0.78	0.18	0.38	0.39	0.32	0.16	0.81
Gross Alpha (CE+/-)	2.60	1.10	1.30	0.78	1.50	1.10	1.10	0.86
Gross Beta (pCi/L)	4.84	2.55	2.73	2.05	1.10	2.06	-0.81	2.61
Gross Beta (CE+/-)	3.00	2.30	2.50	2.30	2.50	2.30	2.30	2.40

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APPENDIX E.4

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-761	GW-762				GW-763		
Unit	AQT	AQT				AQT		
Location	GRIDG2	GRIDJ3				GRIDJ3		
Date Sampled	11/03/94	02/03/94	05/05/94	09/21/94	11/09/94	02/03/94	05/05/94	09/21/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	11.7	13.1	12.95	13.9	13.83	10.2	10	7.6
Water Temp (degrees C)	17.5	15.2	17.7	19.3	18.5	15	17.5	19.8
pH (pH units)	6.8	7.1	7.3	7.2	6.8	6.8	6.9	6.8
Sp. Cond. (umho/cm)	182	676	554	610	601	831	709	759
Dissolved Oxygen (ppm)	5.4	5.7	1.2	0.25	0.4	3.9	1.5	0.28
Oxidation/Reduction (mV)	190	86	54	-3	-17	-34	-90	-102
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.1	7.6	7.6	7.3	7.4	7.1	7.4	6.9
Sp. Cond. (umho/cm)	191	617	583	606	635	677	699	688
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	136	376	370	338	360	406	418	372
TSS (mg/L)	44	14	5	4	9	33	48	37
Turbidity (NTU)	2.7	10	4.5	4	16	60	3.4	80
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.84	0.36	0.57	0.96	-0.20	-0.20	-0.39	-0.01
Gross Alpha (CE+/-)	1.80	1.00	1.40	1.60	1.40	1.50	1.10	1.40
Gross Beta (pCi/L)	1.42	5.19	3.98	5.09	3.99	1.56	0.31	-0.00
Gross Beta (CE+/-)	2.80	2.70	2.60	2.70	2.80	2.30	2.30	2.40

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-763	GW-764				GW-765		
Unit	AQT	AQT				AQT		
Location	GRIDJ3	GRIDE1				GRIDE1		
Date Sampled	11/09/94	02/03/94	05/05/94	08/24/94	11/01/94	02/04/94	05/05/94	08/24/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	10.86	20.34	20.35	20.58	20.9	19.64	20.8	20.45
Water Temp (degrees C)	22.6	16.1	17.5	19.1	16.6	12.7	17.7	19.3
pH (pH units)	6.4	7.5	7.5	7.6	7.5	6.9	7.3	7.1
Sp. Cond. (umho/cm)	710	341	343	364	360	509	524	551
Dissolved Oxygen (ppm)	6.9	0.9	2.9	0.9	2.2	1.4	2	1.3
Oxidation/Reduction (mV)	-57	10	91	-26	-70	182	96	51
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7	7.8	7.9	8.2	7.8	7.4	7.3	7.4
Sp. Cond. (umho/cm)	690	373	354	322	355	583	545	563
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	366	246	254	228	236	350	358	354
TSS (mg/L)	18	11	9	2	<1	161	9	60
Turbidity (NTU)	100	2.3	1.5	6.1	5.2	120	15	7.3
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	1.53	-0.01	-0.19	0.88	8.35	5.20	1.65	0.54
Gross Alpha (CE+/-)	1.90	1.40	1.10	0.94	3.20	3.10	1.60	0.82
Gross Beta (pCi/L)	0.23	1.80	2.90	2.37	9.71	9.05	3.59	3.86
Gross Beta (CE+/-)	2.50	2.30	2.50	2.30	3.40	3.20	2.50	2.40

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-765	GW-766					GW-767	
Unit	AQT	AQT					AQT	
Location	GRIDE1	GRIDI2					GRIDI2	
Date Sampled	11/02/94	01/27/94	04/25/94	08/09/94	10/31/94	11/08/94	01/27/94	04/25/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	20.37	9.95	11.4	11.85	12.25	12.2	11.1	12.3
Water Temp (degrees C)	16	16.1	18	20.9	20.8	21.3	15.1	18.8
pH (pH units)	7.1	7.7	9.2	9.1	9.6	8.2	7	5.5
Sp. Cond. (umho/cm)	496	306	248	243	188	274	43	54
Dissolved Oxygen (ppm)	8.4	7.2	4	2.73	4.8	1.6	45	6.1
Oxidation/Reduction (mV)	136	191	137	80	21	102	345	189
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.3	8.4	8.6	9	8.7	.	5.6	5.3
Sp. Cond. (umho/cm)	569	325	297	235	277	.	43	45
TPH - DRO (mg/L)	.	<0.01	<0.1	0.003	.	<0.01	<0.1	<0.1
TPH - GRO (mg/L)	.	.	<0.005	<0.005	.	0.007	.	<0.005
TDS (mg/L)	370	178	194	184	188	.	32	50
TSS (mg/L)	196	6	<1	117	2	.	1	1
Turbidity (NTU)	200	2.7	1.5	33	0.7	.	2.9	1.8
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	2.51	0.54	-0.59	0.88	1.52	.	0.58	-0.00
Gross Alpha (CE+/-)	2.40	0.97	1.20	1.40	1.60	.	0.83	1.10
Gross Beta (pCi/L)	3.68	3.36	6.96	3.31	5.04	.	0.65	-0.00
Gross Beta (CE+/-)	2.90	2.50	3.00	2.60	2.70	.	2.40	2.60

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point . Unit . Location . Date Sampled	GW-767			GW-768				GW-769
	AQT			AQT				AQT
	GRID12			GRID11				GRIDG3
	08/09/94	10/31/94	11/08/94	01/26/94	04/22/94	08/09/94	10/31/94	02/08/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Depth to Water (ft)	13	13.54	13.05	17.85	17.85	18.6	18.97	10.6
Water Temp (degrees C)	20.7	21.3	19.7	12.8	16.2	16.1	19.2	17.7
pH (pH units)	5.2	5	4.9	7.6	8.1	7.5	7.8	7.4
Sp. Cond. (umho/cm)	58	50	66	496	475	548	527	465
Dissolved Oxygen (ppm)	5.1	5.3	8.1	7.2	3.8	4.9	11	4.4
Oxidation/Reduction (mV)	204	157	232	175	167	209	108	82
	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
pH (pH units)	5.6	5.5	.	8.3	8	7.8	8.1	7.6
Sp. Cond. (umho/cm)	<50	41	.	515	535	475	526	452
TPH - DRO (mg/L)	<0.1	.	<0.1	.	.	.	.	.
TPH - GRO (mg/L)	<0.005	.	0.005	.	.	.	.	.
TDS (mg/L)	50	58	.	308	310	328	328	274
TSS (mg/L)	11	46	.	94	4	10	2	1
Turbidity (NTU)	7	18	.	72	2	1.7	4.5	1.5
	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.00	2.20	.	1.07	0.43	1.14	2.00	0.35
Gross Alpha (CE+/-)	0.94	1.60	.	1.30	1.60	1.50	1.90	1.30
Gross Beta (pCi/L)	-0.36	3.98	.	3.36	3.72	0.93	4.36	2.64
Gross Beta (CE+/-)	2.60	2.70	.	2.50	2.70	2.40	2.70	2.30

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-769			GW-770				GW-771
Unit	AQT			AQT				AQT
Location	GRIDG3			GRIDG3				GRIDC1
Date Sampled	05/10/94	08/31/94	11/07/94	02/08/94	05/10/94	08/31/94	11/07/94	02/02/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Depth to Water (ft)	11.2	11.55	12.2	12.8	13.2	14	15.2	8.85
Water Temp (degrees C)	19.5	21.2	18.6	16.9	17	21	16	15.2
pH (pH units)	7.4	7.3	7	7.2	7.2	7.1	7.1	7.3
Sp. Cond. (umho/cm)	430	466	458	312	258	322	368	358
Dissolved Oxygen (ppm)	0.6	0.7	0.8	9.1	6.2	4.1	3.2	1.7
Oxidation/Reduction (mV)	21	-27	-18	144	183	199	172	117
	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
pH (pH units)	7.6	7.5	7.5	7.6	7.5	7.8	7.3	7.9
Sp. Cond. (umho/cm)	470	462	486	303	300	340	351	437
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	278	266	292	182	188	218	232	280
TSS (mg/L)	<1	<1	1	6	5	1	20	3
Turbidity (NTU)	2	1.4	0.6	4.5	1.3	2	55	2.5
	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.55	0.53	1.57	-0.52	-0.00	3.20	2.61	-0.01
Gross Alpha (CE+/-)	0.95	0.81	1.80	1.00	1.10	2.90	2.00	1.40
Gross Beta (pCi/L)	2.92	3.63	4.50	2.42	0.72	5.38	1.43	3.29
Gross Beta (CE+/-)	2.50	2.40	2.80	2.30	2.40	5.30	2.60	2.40

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-771			GW-772				GW-773
Unit	AQT			AQT				AQT
Location	GRIDC1			GRIDC1				GRIDH2
Date Sampled	05/02/94	08/24/94	11/01/94	02/03/94	05/02/94	08/24/94	11/01/94	01/28/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	9.85	9.45	12.07	10.75	11.28	11.2	13.5	5.75
Water Temp (degrees C)	17	19.1	16.8	15.3	15.6	20.2	16.8	15
pH (pH units)	7.4	7.4	7.1	6	6.3	6.2	5.9	6.5
Sp. Cond. (umho/cm)	397	409	402	328	404	354	343	322
Dissolved Oxygen (ppm)	1.6	1.8	3.5	0.5	1.2	0.4	1.3	1.3
Oxidation/Reduction (mV)	35	5	30	-27	-35	-60	-60	100
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.7	7.6	7.5	6.4	6.4	6.4	6.4	7.8
Sp. Cond. (umho/cm)	414	420	433	350	425	340	367	335
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	288	294	274	208	240	224	212	216
TSS (mg/L)	<1	1	<1	5	4	6	<1	<1
Turbidity (NTU)	1.5	2.9	1.5	7	11	6.9	2.4	1.1
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.86	1.58	7.22	-0.51	1.73	1.21	0.35	-0.91
Gross Alpha (CE+/-)	0.78	1.20	2.90	1.20	1.10	1.00	1.80	1.40
Gross Beta (pCi/L)	1.96	3.00	15.90	0.71	5.19	1.98	-0.26	2.48
Gross Beta (CE+/-)	2.40	2.30	3.90	2.30	2.60	2.30	2.70	2.50

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-773			GW-774				GW-775
Unit	AQT			AQT				AQT
Location	GRIDH2			GRIDH2				GRIDH3
Date Sampled	04/26/94	08/10/94	11/01/94	01/28/94	04/26/94	08/10/94	11/01/94	01/31/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	11.5	13.75	15.77	8.15	14.65	15.78	17.05	11.32
Water Temp (degrees C)	17.6	17.7	14.2	15.7	18.4	22.7	13.8	16.3
pH (pH units)	7.5	7.6	7.3	6.6	6.9	7	7	7.3
Sp. Cond. (umho/cm)	303	333	284	385	367	423	365	421
Dissolved Oxygen (ppm)	0.6	1.8	1.5	0.6	1.2	6.8	1.2	0.7
Oxidation/Reduction (mV)	125	-7	86	207	150	80	109	165
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.8	8.1	7.7	7.4	7.4	7.7	7.6	7.8
Sp. Cond. (umho/cm)	325	328	328	402	381	387	401	464
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	204	214	214	262	246	262	260	290
TSS (mg/L)	<1	8	<1	52	2	26	8	18
Turbidity (NTU)	0.6	0.5	1	26	1.1	12	240	0.4
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.62	-0.35	0.66	2.24	-0.43	1.24	1.03	1.28
Gross Alpha (CE+/-)	1.20	0.98	1.30	2.10	1.30	1.50	1.50	1.90
Gross Beta (pCi/L)	0.48	1.11	2.21	4.50	-0.08	0.70	1.17	2.67
Gross Beta (CE+/-)	2.50	2.40	2.50	2.70	2.50	2.40	2.50	2.70

(CONTINUED)

Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-775			GW-776				GW-777
Unit	AQT			AQT				AQT
Location	GRIDH3			GRIDH3				GRIDB2
Date Sampled	04/26/94	08/11/94	11/01/94	01/31/94	04/29/94	08/11/94	11/01/94	05/20/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	14.55	15.95	16.53	12.05	15.1	16.6	17.11	7.4
Water Temp (degrees C)	20.1	20	17.3	16.7	20	22.3	16.8	16.7
pH (pH units)	7.2	7.4	6.9	7.1	8.3	7.1	7	7.6
Sp. Cond. (umho/cm)	427	460	434	524	548	565	538	356
Dissolved Oxygen (ppm)	0.9	1.2	1.5	4.3	4	3	3.7	1.7
Oxidation/Reduction (mV)	165	138	167	96	168	3	53	24
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.7	7.8	7.6	7.4	7.6	7.9	7.5	7.7
Sp. Cond. (umho/cm)	465	451	474	571	550	553	579	402
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	308	308	292	364	366	380	360	252
TSS (mg/L)	<1	2	<1	63	16	60	24	6
Turbidity (NTU)	0.8	2.7	0.9	56	14	150	16	5.6
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.21	-0.38	0.35	4.81	-0.25	0.58	0.58	1.79
Gross Alpha (CE+/-)	1.40	1.10	1.30	2.50	1.70	1.40	1.90	1.30
Gross Beta (pCi/L)	-0.17	1.89	3.68	8.33	0.66	1.88	5.67	2.36
Gross Beta (CE+/-)	2.50	2.50	2.60	3.00	2.60	2.50	3.10	2.50

(CONTINUED)

Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-777		GW-778			GW-779		
Unit	AQT		AQT			AQT		
Location	GRIDB2		GRIDB2			GRIDF2		
Date Sampled	08/14/94	10/31/94	05/20/94	08/14/94	10/31/94	06/09/94	09/08/94	11/29/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	8.45	9.22	7.8	8.95	10	9.95	10.1	9.85
Water Temp (degrees C)	18.9	16.4	17.2	24.9	19.2	18.3	17.8	14.6
pH (pH units)	7.3	7.4	6.9	6.8	6.7	8.8	8.8	8.5
Sp. Cond. (umho/cm)	386	402	323	414	405	382	489	408
Dissolved Oxygen (ppm)	2	8.5	3.4	3.3	3.9	3.5	2.4	2.3
Oxidation/Reduction (mV)	-24	111	57	99	136	142	65	140
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	8	7.7	7.2	7.5	7.2	8.9	8.7	8.6
Sp. Cond. (umho/cm)	397	404	388	392	396	379	370	383
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	288	258	244	298	286	266	230	260
TSS (mg/L)	<1	10	13	91	76	3	2	1
Turbidity (NTU)	2.8	3.4	8.7	90	70	4.4	6.4	5.5
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-1.23	2.56	0.70	0.51	4.43	0.18	2.18	-0.37
Gross Alpha (CE+/-)	1.40	1.90	0.87	1.70	2.30	0.82	1.60	1.20
Gross Beta (pCi/L)	0.63	5.54	2.69	0.93	6.39	1.42	4.32	1.96
Gross Beta (CE+/-)	2.40	2.80	2.50	2.50	2.80	2.20	2.60	2.40

(CONTINUED)

Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point . Unit . Location . Date Sampled	GW-780			GW-781			GW-782	
	AQT			AQT			AQT	
	GRIDF2			GRIDE3			GRIDE3	
	06/09/94	09/08/94	11/29/94	06/15/94	09/09/94	12/01/94	06/16/94	09/12/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Depth to Water (ft)	12.1	12.1	11.9	8.22	8.75	8.35	9.35	9.7
Water Temp (degrees C)	18.7	20.4	16.2	21.7	21	16.3	18.2	20.4
pH (pH units)	6.9	7	6.8	8.1	8.1	8.2	7	7
Sp. Cond. (umho/cm)	881	808	878	436	442	673	541	560
Dissolved Oxygen (ppm)	2.9	1.7	1.5	5.2	1.3	2.6	0.6	1.1
Oxidation/Reduction (mV)	36	-50	9	72	85	164	155	33
.	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
pH (pH units)	7.3	7.4	7.2	8.1	8.3	8.3	7.4	7.4
Sp. Cond. (umho/cm)	821	807	831	442	394	409	538	530
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	516	542	480	280	266	268	340	342
TSS (mg/L)	174	4	<1	10	11	82	3	<1
Turbidity (NTU)	2.2	5.7	5.3	4.6	5	48	3.5	1.2
.	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.01	2.08	-0.98	2.24	0.23	1.50	24.60	29.90
Gross Alpha (CE+/-)	1.10	1.70	1.20	1.40	1.60	2.20	5.10	5.70
Gross Beta (pCi/L)	3.37	3.53	0.78	3.65	2.37	4.17	7.45	7.99
Gross Beta (CE+/-)	2.50	2.50	2.30	2.60	3.00	3.00	2.90	3.00

(CONTINUED)

Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-782	GW-783				GW-784			GW-785
Unit	AQT	AQT				AQT			AQT
Location	GRIDE3	GRIDE3				GRIDD1			GRIDD1
Date Sampled	12/02/94	06/16/94	09/12/94	12/02/94	06/06/94	09/01/94	11/28/94	06/07/94	
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.	.
Depth to Water (ft)	9.3	10.7	10.8	10.62	13.45	12.45	11.95	12.9	
Water Temp (degrees C)	16	19.3	23.6	16.3	18.9	22	16.4	18.8	
pH (pH units)	7.5	7.1	7	7.5	7	7.2	7	5.9	
Sp. Cond. (umho/cm)	532	622	592	546	492	530	516	202	
Dissolved Oxygen (ppm)	0.9	5.8	4.6	2.8	1.9	1.4	1.3	1.6	
Oxidation/Reduction (mV)	118	143	78	71	-16	5	20	-60	
	.	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.	.
pH (pH units)	7.6	7.5	7.4	7.4	7.7	7.5	7.5	6.2	
Sp. Cond. (umho/cm)	556	496	524	581	518	473	510	158	
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.	.
TDS (mg/L)	326	316	342	350	382	342	364	92	
TSS (mg/L)	2	2	9	33	1	10	4	54	
Turbidity (NTU)	2.4	3	19	50	1.1	2	50	33	
	.	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	27.00	3.18	0.21	2.54	0.92	1.93	-0.74	-0.01	
Gross Alpha (CE+/-)	5.40	1.60	1.50	1.70	1.10	1.50	1.20	0.64	
Gross Beta (pCi/L)	9.31	1.61	1.22	5.16	4.01	4.97	1.25	3.64	
Gross Beta (CE+/-)	2.90	2.40	2.90	2.50	2.40	2.60	2.30	2.50	

(CONTINUED)

Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point . Unit . Location . Date Sampled	GW-785		GW-786			GW-787		
	AQT		AQT			AQT		
	GRIDD1		GRIDE2			GRIDE2		
	09/06/94	11/28/94	06/08/94	09/07/94	11/28/94	06/08/94	09/07/94	11/29/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Depth to Water (ft)	12.45	12	10.45	11.4	10.75	16.2	16.5	17.4
Water Temp (degrees C)	21	15.6	18.8	18.4	16.2	17.3	20.1	14.2
pH (pH units)	5.8	5.8	7.3	7.4	7.3	5.5	5.4	5.4
Sp. Cond. (umho/cm)	211	170	518	453	471	44	38	45
Dissolved Oxygen (ppm)	0.8	3.8	3.7	1.8	3.6	8.7	5.4	6.9
Oxidation/Reduction (mV)	-30	4	12	-15	-36	145	182	284
	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
pH (pH units)	6.3	6.3	7.8	7.7	7.7	6.8	6.1	6
Sp. Cond. (umho/cm)	163	158	455	454	465	36	41	36
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	110	134	282	330	324	48	80	56
TSS (mg/L)	17	98	7	2	2	140	10	<1
Turbidity (NTU)	9.5	70	0.6	2.1	1.3	120	20	14
	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.00	1.15	-0.18	2.79	-0.18	3.27	1.37	-0.16
Gross Alpha (CE+/-)	0.89	1.50	0.62	1.70	1.20	1.60	1.30	1.10
Gross Beta (pCi/L)	1.33	1.57	2.77	5.21	2.91	7.94	1.43	0.16
Gross Beta (CE+/-)	2.50	2.40	2.30	2.70	2.50	2.90	2.50	2.30

(CONTINUED)

Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point . Unit . Location . Date Sampled	GW-788			GW-789			GW-791	
	AQT			AQT			AQT	
	GRIDF3			GRIDF3			GRIDD2	
	06/10/94	09/08/94	11/30/94	06/15/94	09/09/94	11/30/94	06/07/94	09/06/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Depth to Water (ft)	0	1.2	0	3.55	3.75	3.55	23.2	23.2
Water Temp (degrees C)	20.1	21.2	16.1	22	20.5	16.3	23.9	24.5
pH (pH units)	8.1	8.5	8.3	7.4	7.3	7.4	7.2	7.2
Sp. Cond. (umho/cm)	574	566	515	389	390	373	438	460
Dissolved Oxygen (ppm)	5	1.8	3.6	2.2	0.9	4	1.3	1.2
Oxidation/Reduction (mV)	152	-5	116	133	152	156	-26	-37
	.	.	.	.	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
pH (pH units)	8.3	8.5	8.5	7.8	7.7	7.7	7.5	7.7
Sp. Cond. (umho/cm)	608	538	547	386	387	393	444	452
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	402	402	434	252	284	290	288	312
TSS (mg/L)	12	93	89	122	57	160	<1	1
Turbidity (NTU)	1	135	110	110	76	112	1.4	2
	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	1.82	4.28	3.19	1.32	4.28	2.09	0.35	1.79
Gross Alpha (CE+/-)	1.70	3.20	2.70	1.00	3.20	2.40	0.87	1.50
Gross Beta (pCi/L)	5.82	9.13	7.59	4.23	5.30	9.18	2.29	4.25
Gross Beta (CE+/-)	2.70	5.20	3.20	2.70	5.20	3.30	2.30	2.60

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Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point	GW-791	GW-792			GW-816		GW-817	
Unit	AQT	AQT			AQT		AQT	
Location	GRIDD2	GRIDD2			EXP-SR		GRIDK3	
Date Sampled	12/01/94	06/07/94	09/07/94	12/01/94	09/21/94	11/28/94	09/21/94	11/28/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	23.55	25.05	25.2	25	12.85	12.92	8	7.38
Water Temp (degrees C)	15.6	27.2	24.8	19.7	19.3	16.3	19.5	15.6
pH (pH units)	7.3	5.9	6	6	6.5	7	7.2	7.9
Sp. Cond. (umho/cm)	676	219	259	327	434	430	445	429
Dissolved Oxygen (ppm)	8.3	2.7	5.4	2.1	1.6	2.3	1	2.3
Oxidation/Reduction (mV)	186	112	138	214	-48	19	-47	143
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	7.5	6.8	6.5	6.4	6.7	7	7.4	7.9
Sp. Cond. (umho/cm)	462	220	202	222	377	422	419	441
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	290	174	218	174	198	294	230	338
TSS (mg/L)	1	5	8	10	81	2	35	54
Turbidity (NTU)	0.1	18	10.1	3.2	95	7	20	36
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.65	0.33	2.28	1.52	5.34	-0.54	-0.99	0.18
Gross Alpha (CE+/-)	2.10	0.82	1.60	2.10	4.40	1.10	2.90	1.40
Gross Beta (pCi/L)	2.86	2.57	4.21	4.89	16.10	5.07	-8.45	8.74
Gross Beta (CE+/-)	2.90	2.30	2.60	3.00	6.40	2.80	5.00	3.00

Field Measurements, Miscellaneous Parameters, and Radiochemistry, 1994

Sampling Point . Unit . Location . Date Sampled	LRS		LRSPW	
	CREEK		CREEK	
	EXP-SW		EXP-SW	
	09/07/94	12/27/94	09/07/94	12/27/94
FIELD MEASUREMENTS	.	.	.	.
	.	.	.	.
Depth to Water (ft)	.	.	.	.
Water Temp (degrees C)	24.2	15.6	25.2	15.6
pH (pH units)	7.7	8.5	7.8	8.5
Sp. Cond. (umho/cm)	480	360	500	360
Dissolved Oxygen (ppm)	5	7.8	4.5	7.8
Oxidation/Reduction (mV)	.	.	.	.
	.	.	.	.
MISCELLANEOUS PARAMETERS	.	.	.	.
	.	.	.	.
pH (pH units)	7.8	7.5	7.8	7.5
Sp. Cond. (umho/cm)	512	482	516	445
TPH - DRO (mg/L)	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.
TDS (mg/L)	346	324	370	310
TSS (mg/L)	10	<1	8	<1
Turbidity (NTU)	0.4	0.3	1.2	0.2
	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.
	.	.	.	.
Gross Alpha (pCi/L)	5.59	7.00	5.59	6.25
Gross Alpha (CE+/-)	2.40	2.40	2.50	2.20
Gross Beta (pCi/L)	7.76	9.16	7.37	10.30
Gross Beta (CE+/-)	2.90	2.90	2.90	3.00

APPENDIX E.5
RADIONUCLIDES

APPENDIX E.5
Radionuclides, 1994

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Sampling Point	GW-169		GW-170		GW-171		GW-172	
Unit	AQF		AQF		AQF		AQF	
Location	EXP-UV		EXP-UV		EXP-UV		EXP-UV	
Date Sampled	08/11/94	12/06/94	08/11/94	11/17/94	09/27/94	11/15/94	09/26/94	11/14/94
Gross Alpha (pCi/L)	0.50	-0.98	1.42	-0.79	0.79	-0.63	2.59	0.32
Gross Alpha (CE+/-)	1.30	1.20	1.60	1.90	1.40	1.90	1.80	2.10
Gross Beta (pCi/L)	1.36	3.17	2.59	7.07	6.90	7.50	1.56	4.76
Gross Beta (CE+/-)	2.60	2.50	2.60	3.00	3.10	3.00	2.80	2.90
RADIONUCLIDES	.	.	.	.	.	.	.	.
Americium 241 (pCi/L)	0.38	0.00	0.63	1.74	0.00	0.28	0.00	1.70
Americium 241 (CE+/-)	0.46	1.80	0.55	1.40	2.00	0.56	1.90	1.40
Iodine 129 (Bq/L)	0.01	0.10	0.01	0.10	0.01	0.01	0.01	0.10
Iodine 129 (CE +/-)	0.81	1.80	0.75	1.40	0.76	0.86	0.80	1.40
Iodine 131 (Bq/L)	0.01	.	0.01	.	.	.	.	.
Iodine 131 (CE +/-)	0.10	.	0.09	.	.	.	.	.
Neptunium 237 (pCi/L)	0.00	-0.47	0.00	-0.64	0.20	-0.47	0.36	-0.67
Neptunium 237 (CE+/-)	0.26	0.70	0.23	0.78	0.39	0.84	0.51	0.82
Potassium 40 (pCi/L)	.	.	.	328.00	.	.	.	215.00
Potassium 40 (CE+/-)	.	.	.	370.00	.	.	.	510.00
Plutonium 238 (pCi/L)	0.20	0.29	0.00	-0.15	-0.64	-0.15	0.20	-0.16
Plutonium 238 (CE+/-)	0.28	0.72	0.31	0.51	1.00	0.51	1.00	0.54
Plutonium 239 (pCi/L)	0.10	0.00	0.09	0.00	0.00	0.15	0.00	0.00
Plutonium 239 (CE+/-)	0.20	0.51	0.18	0.51	0.74	0.29	0.68	0.54
Radium (Bq/L)	0.04	-0.02	0.04	0.02	0.01	0.02	0.05	0.07
Radium (CE+/-)	0.04	0.02	0.04	0.04	0.03	0.03	0.04	0.05
Strontium (pCi/L)	7.03	-36.30	14.30	-13.10	267.00	20.00	-11.30	-19.80
Strontium (CE+/-)	5.90	27.00	6.70	22.00	45.00	26.00	29.00	22.00
Technetium 99 (pCi/L)	33.30	33.30	7.55	18.00	11.70	76.50	50.70	58.90
Technetium 99 (CE+/-)	18.00	38.00	17.00	37.00	36.00	39.00	38.00	38.00
Thorium 234 (pCi/L)	148.00	.	105.00	363.00	.	.	655.00	.
Thorium 234 (CE +/-)	100.00	.	75.00	400.00	.	.	830.00	.
Tritium (Bq/L)	18.00	70.00	16.00	3.90	-8.00	1.70	-3.00	5.80
Tritium (CE+/-)	24.00	31.00	24.00	9.30	27.00	9.10	26.00	9.40
Uranium 234 (pCi/L)	0.25	2.23	0.73	0.17	0.57	-0.23	0.16	0.19
Uranium 234 (CE+/-)	0.50	1.20	0.58	0.78	0.57	0.79	0.33	0.84
Uranium 235 (pCi/L)	1.11	-5.67	-0.07	-19.20	18.70	14.90	41.90	14.40
Uranium 235 (CE+/-)	13.00	92.00	8.80	43.00	110.00	43.00	110.00	44.00
Uranium 238 (pCi/L)	0.00	0.66	0.36	0.00	0.29	0.00	0.65	0.19
Uranium 238 (CE+/-)	0.29	0.59	0.33	0.60	0.40	0.79	0.65	0.38

(CONTINUED)

APPENDIX E.5
Radionuclides, 1994

2

Sampling Point . Unit . Location . Date Sampled	GW-230		GW-232	
	AQF		AQF	
	EXP-UV		EXP-UV	
	09/28/94	11/15/94	08/11/94	11/17/94
Gross Alpha (pCi/L)	1.19	1.23	2.04	-0.43
Gross Alpha (CE+/-)	1.60	2.50	2.10	2.70
Gross Beta (pCi/L)	3.49	7.27	1.92	8.42
Gross Beta (CE+/-)	2.90	3.00	2.60	3.20
	.	.	.	.
RADIONUCLIDES	.	.	.	.
	.	.	.	.
Americium 241 (pCi/L)	-0.34	1.36	0.25	1.40
Americium 241 (CE+/-)	1.80	1.20	0.45	1.30
Iodine 129 (Bq/L)	0.10	0.10	0.01	0.01
Iodine 129 (CE +/-)	1.00	1.60	0.77	0.83
Iodine 131 (Bq/L)	.	.	0.00	.
Iodine 131 (CE +/-)	.	.	0.09	.
Neptunium 237 (pCi/L)	0.00	-0.16	-0.09	-0.66
Neptunium 237 (CE+/-)	0.63	0.96	0.36	0.80
Potassium 40 (pCi/L)	.	.	.	789.00
Potassium 40 (CE+/-)	.	.	.	370.00
Plutonium 238 (pCi/L)	-0.60	0.00	0.00	-0.31
Plutonium 238 (CE+/-)	0.98	0.60	0.34	0.68
Plutonium 239 (pCi/L)	0.00	0.00	0.00	0.15
Plutonium 239 (CE+/-)	0.69	0.52	0.34	0.31
Radium (Bq/L)	0.02	0.03	0.01	0.00
Radium (CE+/-)	0.03	0.03	0.03	0.02
Strontium (pCi/L)	64.70	25.90	14.20	7.72
Strontium (CE+/-)	34.00	26.00	6.70	24.00
Technetium 99 (pCi/L)	-1.02	9.18	13.70	7.02
Technetium 99 (CE+/-)	37.00	37.00	17.00	37.00
Thorium 234 (pCi/L)	367.00	.	.	508.00
Thorium 234 (CE +/-)	360.00	.	.	420.00
Tritium (Bq/L)	-30.00	3.80	6.00	3.10
Tritium (CE+/-)	33.00	9.20	23.00	9.10
Uranium 234 (pCi/L)	0.33	0.36	0.17	-0.20
Uranium 234 (CE+/-)	0.47	0.89	0.34	0.70
Uranium 235 (pCi/L)	54.90	5.72	-2.03	6.73
Uranium 235 (CE+/-)	51.00	44.00	8.80	44.00
Uranium 238 (pCi/L)	0.17	0.00	0.17	0.20
Uranium 238 (CE+/-)	0.33	0.63	0.20	0.41

APPENDIX F
FIELD DUPLICATE DATA

EXPLANATION

SAMPLING POINT:

GW - Monitoring Well
LRS - Lake Reality Sump (Surface Water Location)
LRSPW - Lake Reality Emergency Spillway (Surface Water Location)

UNIT:

AQF - Knox Aquifer
AQT - ORR Aquitards

LOCATION:

B4 - Beta-4 Security Pits
EXP - Exit Pathway:
Maynardville Limestone Transverse (-E, -I, -J)
Offsite, in Union Valley (-UV)
Along Scarboro Road in the gap through Pine Ridge (-SR)
Surface Water Sampling Location (-SW)
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
WC - Waste Coolant Processing Area

ALL DATA:

. - Not analyzed or not reported.

ORGANIC COMPOUNDS:

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

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

EXPLANATION (cont'd)

METALS, ANIONS, 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 analyzed but 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)
COD	-	Chemical Oxygen Demand
TOC	-	Total Organic Carbon
TOX	-	Total Organic Halogens
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 ANIONS

Field Duplicate Data: Trace Metals and Anions, 1994

Sampling Point	GW-171		GW-207						GW-208	
Unit	AQF		AQT						AQT	
Location	EXP-UV		EXP-SR						EXP-SR	
Date Sampled	11/15/94		05/24/94		09/13/94		12/03/94		01/30/94	
Type	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.54	<0.02	0.048	0.054	<0.02	<0.02	<0.02	<0.02	<0.02	0.031
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.21	0.21	0.055	0.046	0.048	0.048	0.047	0.048	0.043	0.04
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.077	0.09	0.11	0.1	0.11	0.11	0.11	0.14	0.26	0.23
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	55	56	62	51	56	57	55	56	79	74
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	0.013	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	7.5	7.2	0.24	0.19	0.21	0.21	0.23	0.21	0.89	0.53
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	13	13	44	36	39	40	36	37	25	24
Manganese	11	11	0.012	0.0098	0.0099	0.0098	0.0098	0.0096	0.016	0.014
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	0.011	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	6.7	7.1	3.4	3.2	3.1	2.8	4.1	3.8	3	2.9
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	0.0062	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Sodium	6.5	7.4	12	9.9	10	10	10	11	16	15
Strontium	0.093	0.1	0.59	0.49	0.5	0.5	0.5	0.51	1.5	1.4
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	<0.001	<0.001	<0.015	<0.015	<0.015	<0.015	<0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0058	0.0084	0.0036	0.0045	<0.002	<0.002	<0.002	<0.002	2.3	1.9
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	228	.	271	.	271	.	267	.	226	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	13	.	1	.	1.2	.	1.1	.	7.3	.
Fluoride	<0.1	.	0.1	.	0.2	.	0.2	.	0.3	.
Nitrate-N	0.35	.	<0.2	.	<0.2	.	<0.2	.	<0.12	.
Sulfate	6.1	.	51	.	54	.	47	.	98	.
TSS (mg/L)	18	.	<1	.	<1	.	<1	.	3	.
Turbidity (NTU)	23	.	3	.	2.3	.	0.2	.	3.6	.

(CONTINUED)

Field Duplicate Data: Trace Metals and Anions, 1994

Sampling Point	GW-220		GW-230		GW-240		GW-251			
Unit	AQF		AQF		AQF		AQF			
Location	NHP		EXP-UV		NHP		S2			
Date Sampled	05/12/94		09/28/94		09/22/94		02/07/94		05/09/94	
Type	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.45	0.022	0.042	0.025	0.06	0.047	8.5	0.087	4	0.083
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.11	0.099	0.37	0.37	0.039	0.04	0.15	0.13	0.15	0.13
Beryllium	<0.0003	<0.0003	0.00035	<0.0003	<0.0003	<0.0003	0.0016	0.00041	0.001	0.00045
Boron	0.067	0.071	0.076	0.077	0.14	0.15	0.1	0.077	0.045	0.025
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.15	0.14	0.18	0.16
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.15	0.15	0.16	0.16
Calcium	65	61	130	130	50	49	100	100	120	120
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.021	<0.01	0.016	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.021	<0.01	0.011	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.041	0.029	0.036	0.03
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.92	0.41	0.73	0.47
Iron	0.33	0.011	0.27	0.26	0.018	<0.005	11	0.047	5.1	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.046	<0.004	0.02	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.053	<0.05	<0.05	<0.05
Magnesium	26	25	30	30	18	18	18	18	21	21
Manganese	0.022	0.0032	0.58	0.58	0.0021	0.0016	5.1	4.5	5.1	4.8
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<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	0.011	<0.01	0.066	0.047	0.062	0.055
Potassium	2.6	2.5	3.8	3.8	1.7	2.7	5.6	3.9	4.7	3.5
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	3.9	3.9	28	28	31	32	18	18	21	21
Strontium	0.43	0.43	0.73	0.72	0.064	0.065	0.19	0.19	0.24	0.22
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.002	0.002	<0.015	<0.015	<0.015	<0.015	0.007	0.007	0.008	0.005
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.016	<0.005	0.0085	<0.005
Zinc	0.076	0.0053	1.8	2	0.0068	0.0034	0.13	0.072	0.1	0.076
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	236	.	379	.	159	.	165	.	173	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	10	.	87	.	37	.	9.9	.	10.4	.
Fluoride	<0.1	.	<0.1	.	0.3	.	1.3	.	1.5	.
Nitrate-N	0.7	.	<0.2	.	2.8	.	73.96	.	89	.
Sulfate	11	.	8.8	.	42	.	15.7	.	18.1	.
TSS (mg/L)	10	.	<1	.	<1	.	191	.	105	.
Turbidity (NTU)	7.4	.	0.5	.	1	.	150	.	62	.

(CONTINUED)

Field Duplicate Data: Trace Metals and Anions, 1994

Sampling Point	GW-255		GW-262		GW-264		GW-384		GW-618	
Unit	AQF		AQT		AQT		AQT		AQF	
Location	S2		SY		SY		NHP		EXP-E	
Date Sampled	08/14/94		05/11/94		10/29/94		08/03/94		08/21/94	
Type	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	8.1	<0.02	0.091	<0.02	0.32	<0.02	<0.02	<0.02	0.043	0.07
Antimony	<0.05	<0.05	<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	<0.05	0.073
Barium	0.12	0.05	0.26	0.29	0.045	0.04	0.48	0.47	0.059	0.059
Beryllium	0.0016	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.044	0.041	0.03	0.039	0.093	0.062	0.089	0.079	0.19	0.18
Cadmium (AAS)	0.0027	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.02	0.011
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.022	0.0094
Calcium	62	56	56	56	160	170	110	110	98	98
Chromium (AAS)	0.028	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	0.018	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.0069	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.23	0.0057	0.0052	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	16	<0.005	0.13	0.033	0.83	0.39	1.5	1.4	0.15	0.16
Lead (AAS)	0.038	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	33	27	6.3	6.3	42	43	13	13	9.7	9.6
Manganese	1.2	<0.001	0.09	0.096	0.049	0.043	0.5	0.5	1.9	1.9
Mercury (CVAA)	0.00038	<0.0002	<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	<0.01	<0.01
Nickel	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	3	1.4	1.8	1.7	4.2	4	2.8	2.7	3.6	3.8
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	3.9	3.8	13	14	32	31	14	14	17	17
Strontium	0.048	0.045	0.16	0.15	0.39	0.39	0.52	0.52	0.2	0.2
Thorium	<0.2	<0.2	<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	<0.015	<0.015	<0.001	<0.001	0.001	0.001
Vanadium	0.023	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.085	0.0086	0.0093	0.011	0.0084	0.011	<0.002	<0.002	0.0052	0.011
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	224	.	190	.	408	.	281	.	274	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	7.2	.	1.1	.	21	.	31	.	26.4	.
Fluoride	<0.1	.	0.1	.	<0.1	.	0.2	.	0.4	.
Nitrate-N	1.3	.	<0.2	.	<0.2	.	<0.2	.	1.76	.
Sulfate	12	.	8.5	.	130	.	17	.	24.6	.
TSS (mg/L)	292	.	4	.	4	.	4	.	8	.
Turbidity (NTU)	240	.	4	.	5.2	.	3.1	.	0.5	.

(CONTINUED)

Field Duplicate Data: Trace Metals and Anions, 1994

Sampling Point	GW-618		GW-633		GW-744		GW-751			
Unit	AQF		AQT		AQT		AQT			
Location	EXP-E		RG		GRIDK1		GRIDJ3			
Date Sampled	12/03/94		03/03/94		10/26/94		01/26/94		05/25/94	
Type	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	0.28	<0.2	0.022	0.027	0.11	<0.02	0.029	0.03
Antimony	<0.05	<0.05	<0.5	<0.5	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.059	0.06	4.7	12	0.19	0.19	0.55	0.55	0.57	0.56
Beryllium	<0.0003	<0.0003	<0.003	<0.003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.19	0.2	<0.04	<0.04	0.14	0.08	0.057	0.12	0.034	0.099
Cadmium (AAS)	0.021	0.012	0.0052	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	0.02	0.012	<0.03	<0.03	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Calcium	98	99	1100	2700	57	57	52	52	57	57
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.1	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.0051	0.0084	<0.04	<0.04	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.21	0.23	0.46	<0.05	0.28	0.26	0.18	0.15	0.21	0.2
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	9.2	9.3	84	190	9	8.9	9.2	9.3	10	9.9
Manganese	1.8	1.8	1.7	1.2	0.18	0.18	0.01	0.01	0.012	0.013
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.1	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	3.8	3.3	7.2	7.6	3	3	2.9	3.2	3	3
Selenium	<0.05	<0.05	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.06	<0.06	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Sodium	18	18	50	44	30	29	8.7	8.8	8.4	8.6
Strontium	0.19	0.19	2.8	6.6	1.1	1.1	0.43	0.43	0.46	0.45
Thorium	<0.2	<0.2	<2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	0.01	0.022	<0.015	<0.015	<0.001	<0.001	0.001	<0.001
Vanadium	<0.005	<0.005	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	<0.002	<0.002	0.081	0.3	0.0031	0.0028	<0.002	<0.002	0.0045	0.0081
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	281	.	126	.	204	.	184	.	187	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	28	.	<100	.	4.1	.	10	.	13	.
Fluoride	0.2	.	<0.1	.	0.1	.	0.93	.	<0.1	.
Nitrate-N	0.96	.	804	.	<0.2	.	<0.12	.	<0.2	.
Sulfate	23	.	<100	.	24	.	5.9	.	5	.
TSS (mg/L)	<1	.	32	.	<1	.	2	.	<1	.
Turbidity (NTU)	0.7	.	24	.	0.5	.	1.4	.	0.5	.

(CONTINUED)

Field Duplicate Data: Trace Metals and Anions, 1994

Sampling Point	GW-758				GW-762				GW-766	
Unit	AQT				AQT				AQT	
Location	GRIDG1				GRIDJ3				GRIDI2	
Date Sampled	02/05/94		08/29/94		02/03/94		11/09/94		04/25/94	
Type	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	0.082	<0.02	0.024	<0.02	0.58	<0.02	0.28	<0.02	0.053	0.045
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.13	0.12	0.15	0.12	0.61	0.61	0.59	0.57	0.28	0.26
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.049	0.045	0.048	0.029	0.1	0.1	0.044	0.05	0.033	0.082
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	68	67	70	68	80	85	88	85	40	38
Chromium (AAS)	<0.01	<0.01	<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	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.0045	0.0062	<0.004	<0.004	0.011	<0.004	0.0051	<0.004	<0.004	<0.004
Iron	0.6	0.27	3.4	0.052	0.67	0.18	0.7	0.21	0.01	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	9.3	9.1	9.6	9.4	26	27	25	24	7.2	6.9
Manganese	0.25	0.24	0.28	0.24	0.18	0.18	0.14	0.12	0.002	0.002
Mercury (CVAA)	<0.0002	<0.0002	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	3.2	3.5	2.7	2.7	4.3	3.4	3.9	3.6	3.5	3.2
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	0.0093	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Sodium	14	14	13	14	8.6	8.6	7.9	7.6	13	13
Strontium	0.48	0.46	0.49	0.46	0.78	0.79	0.86	0.83	0.5	0.47
Thorium	<0.2	<0.2	<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	<0.015	<0.015	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0063	0.0035	0.0034	0.017	0.018	0.083	0.017	0.011	0.0078	0.0092
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	201	.	202	.	287	.	283	.	128	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	14	.
Chloride	18.3	.	16	.	54	.	1	.	4.5	.
Fluoride	<0.1	.	0.2	.	<0.1	.	0.1	.	<0.1	.
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Sulfate	17.8	.	26	.	29	.	18	.	8.4	.
TSS (mg/L)	5	.	10	.	11	.	9	.	<1	.
Turbidity (NTU)	5.5	.	40	.	11	.	17	.	1.4	.

(CONTINUED)

Field Duplicate Data: Trace Metals and Anions, 1994

Sampling Point . Unit . Location . Date Sampled . Type	GW-771				GW-773		GW-775			
	AQT				AQT		AQT			
	GRIDC1				GRIDH2		GRIDH3			
	05/02/94		11/01/94		01/28/94		08/11/94		11/01/94	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	0.038	<0.02	<0.02	0.029	0.097	0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<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	<0.05	<0.05
Barium	0.17	0.17	0.17	0.17	0.37	0.38	0.18	0.17	0.17	0.17
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.065	0.043	0.057	0.096	0.097	0.027	0.051	0.11	0.038	0.031
Cadmium (AAS)	<0.002	<0.002	<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	<0.003	<0.003
Calcium	75	74	73	72	58	60	80	76	77	77
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.023	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.023	<0.01
Cobalt	<0.005	<0.005	<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	0.0042	<0.004	<0.004	0.0052	<0.004	<0.004
Iron	0.12	0.12	0.17	0.071	0.057	0.037	0.076	0.012	0.14	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	7.7	7.6	7.4	7.3	6.9	7	6.8	6.7	6.5	6.5
Manganese	0.23	0.24	0.23	0.22	0.03	0.031	0.0025	0.0018	0.0051	0.0047
Mercury (CVAA)	<0.0002	<0.0002	0.00041	<0.0002	<0.00023	<0.00023	<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	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.018	<0.01
Potassium	1.2	1.1	1.1	1.1	1.3	1.3	2.5	3.8	6.1	2.8
Selenium	<0.05	<0.05	<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	<0.006	<0.006
Sodium	5.4	5.2	5.6	5.6	4.6	4.5	4.2	4.5	4.3	3.9
Strontium	0.16	0.16	0.16	0.16	0.13	0.13	0.23	0.22	0.21	0.21
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	0.002	<0.015	<0.015	<0.001	<0.001	<0.001	<0.001	<0.015	<0.015
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0087	<0.002	0.0027	<0.002	0.0067	0.0038	0.0061	0.0026	0.0054	0.007
ANIONS (mg/L)	.	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	205	.	203	.	171	.	166	.	173	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	9.2	.	5.6	.	3.6	.	28	.	8.8	.
Fluoride	<0.1	.	<0.1	.	0.1	.	<0.1	.	<0.1	.
Nitrate-N	<0.2	.	<0.2	.	<0.12	.	0.61	.	0.45	.
Sulfate	12.4	.	16	.	11	.	29	.	28	.
TSS (mg/L)	<1	.	<1	.	<1	.	2	.	<1	.
Turbidity (NTU)	1.5	.	1.2	.	0.9	.	2.5	.	1	.

(CONTINUED)

Field Duplicate Data: Trace Metals and Anions, 1994

Sampling Point . Unit . Location . Date Sampled . Type	GW-779		GW-784		GW-786	
	AQT		AQT		AQT	
	GRIDF2		GRIDD1		GRIDE2	
	11/29/94		09/01/94		06/08/94	
	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.
Aluminum	0.38	<0.02	0.14	<0.02	<0.02	<0.02
Antimony	<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
Barium	0.2	0.2	0.22	0.23	0.37	0.35
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.18	0.19	0.02	0.043	0.04	0.024
Cadmium (AAS)	<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
Calcium	5.9	5.8	80	84	70	68
Chromium (AAS)	<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
Cobalt	<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
Iron	0.16	<0.005	0.65	0.56	0.13	0.079
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	2.1	2	8.5	8.9	12	12
Manganese	0.0043	0.0025	0.3	0.31	0.023	0.024
Mercury (CVAA)	<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
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	2.9	2.8	2.3	2.2	2.6	2.2
Selenium	<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
Sodium	84	85	7.3	7.6	8.9	8.7
Strontium	0.36	0.36	0.38	0.4	0.18	0.18
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.015	<0.015	<0.015	<0.015	0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0028	<0.002	0.011	0.0078	0.0035	0.005
ANIONS (mg/L)	.	.	.	.	.	.
Alkalinity-HCO ₃	198	.	216	.	227	.
Alkalinity-CO ₃	4	.	<1	.	<1	.
Chloride	3.2	.	25	.	11	.
Fluoride	0.5	.	<0.1	.	<0.1	.
Nitrate-N	0.35	.	<0.2	.	<0.2	.
Sulfate	8.7	.	17	.	11	.
TSS (mg/L)	1	.	6	.	4	.
Turbidity (NTU)	6.2	.	1.8	.	0.6	.

APPENDIX F.2
VOLATILE ORGANIC COMPOUNDS

APPENDIX F.2

1

Field Duplicate Data: Volatile Organic Compounds, 1994

Sampling Point	GW-171	GW-207				GW-208	GW-220	GW-230	GW-240
Unit	AQF	AQT				AQT	AQF	AQF	AQF
Location.	EXP-UV	EXP-SR				EXP-SR	NHP	EXP-UV	NHP
Date Sampled	11/15/94	05/24/94	09/13/94	12/03/94	01/30/94	05/12/94	09/28/94	09/22/94	
Acetone	10U	10U	10U	10U	25	10U	10U	10U	
Benzene	10U	10U	10U	10U	5U	10U	10U	10U	
Bromodichloromethane	10U	10U	10U	10U	5U	10U	10U	10U	
Bromoform	10U	10U	10U	10U	5U	10U	10U	10U	
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U	
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U	
Carbon disulfide	10U	10U	10U	10U	5U	10U	10U	10U	
Carbon tetrachloride	10U	10U	10U	10U	5U	240	10U	15	
Chlorobenzene	10U	10U	10U	10U	5U	10U	10U	10U	
Chlorodibromomethane	10U	10U	10U	10U	5U	10U	10U	10U	
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	
Chloroform	10U	10U	10U	10U	5U	18	10U	2	
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	
1,1-Dichloroethane	10U	10U	10U	10U	5U	10U	10U	10U	
1,2-Dichloroethane	10U	10U	10U	10U	5U	10U	10U	10U	
1,1-Dichloroethene	10U	10U	10U	10U	5U	10U	10U	10U	
1,2-Dichloroethene	10U	10U	10U	10U	5U	1	6	10U	
1,2-Dichloropropane	10U	10U	10U	10U	5U	10U	10U	10U	
cis-1,3-Dichloropropene	10U	10U	10U	10U	5U	10U	10U	10U	
trans-1,3-Dichloropropene	10U	10U	10U	10U	5U	10U	10U	10U	
Ethylbenzene	10U	10U	10U	10U	5U	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	10U	10U	10U	10U	5U	10U	10U	10U	
Styrene	10U	10U	10U	10U	5U	10U	10U	10U	
1,1,2,2-Tetrachloroethane	10U	10U	10U	10U	5U	10U	10U	10U	
Tetrachloroethene	10U	10U	10U	10U	5U	20	10U	1	
Toluene	10U	10U	10U	10U	5U	10U	1	10U	
1,1,1-Trichloroethane	10U	10U	10U	10U	5U	10U	10U	10U	
1,1,2-Trichloroethane	10U	10U	10U	10U	5U	10U	10U	10U	
Trichloroethene	10U	10U	10U	10U	5U	5	10U	10U	
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U	
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U	
Xylenes	10U	10U	10U	10U	5U	10U	10U	10U	

(CONTINUED)

APPENDIX F.2

2

Field Duplicate Data: Volatile Organic Compounds, 1994

Sampling Point	GW-251		GW-255	GW-262	GW-264	GW-384	GW-618	
Unit	AQF		AQF	AQT	AQT	AQT	AQF	
Location.	S2		S2	SY	SY	NHP	EXP-E	
Date Sampled	02/07/94	05/09/94	08/14/94	05/11/94	10/29/94	08/03/94	08/21/94	12/03/94
Acetone	9	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	10U	10U	10U	10U	10U	10U	10U
Bromodichloromethane	5U	10U	10U	10U	10U	10U	10U	10U
Bromoform	5U	10U	10U	10U	10U	10U	10U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	10U	10U	10U	10U	10U	10U	10U
Carbon tetrachloride	0.7	12	10U	10U	10U	10U	10U	10U
Chlorobenzene	5U	10U	10U	10U	10U	10U	10U	10U
Chlorodibromomethane	5U	10U	10U	10U	10U	10U	10U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	2	9	1	10U	10U	10U	10U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichloroethane	5U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethene	5U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichloroethene	5U	5	10U	10U	10U	10U	35	30
1,2-Dichloropropane	5U	10U	10U	10U	10U	10U	10U	10U
cis-1,3-Dichloropropene	5U	10U	10U	10U	10U	10U	10U	10U
trans-1,3-Dichloropropene	5U	10U	10U	10U	10U	10U	10U	10U
Ethylbenzene	5U	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	10	10U	10U	10U	10U	10U	10U	10U
Styrene	5U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	10U	10U	10U	10U	10U	10U	10U
Tetrachloroethene	26	240	10U	10U	10U	10U	6	27
Toluene	5U	10U	10U	10U	10U	10U	10U	10U
1,1,1-Trichloroethane	5U	10U	10U	10U	10U	10U	10U	10U
1,1,2-Trichloroethane	5U	10U	10U	10U	10U	10U	10U	10U
Trichloroethene	8	95	10U	10U	10U	10U	8	23
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	5	10U
Xylenes	5U	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

APPENDIX F.2

3

Field Duplicate Data: Volatile Organic Compounds, 1994

Sampling Point	GW-633	GW-744	GW-751		GW-758		GW-762	
Unit	AQT	AQT	AQT		AQT		AQT	
Location.	RG	GRIDK1	GRIDJ3		GRIDG1		GRIDJ3	
Date Sampled	03/03/94	10/26/94	01/26/94	05/25/94	02/05/94	08/29/94	02/03/94	11/09/94
Acetone	10U	10U	4	10U	10U	10U	100U	100U
Benzene	6	10U	5U	10U	5U	10U	50U	100U
Bromodichloromethane	5U	10U	5U	10U	5U	10U	50U	100U
Bromoform	5U	10U	5U	10U	5U	10U	50U	100U
Bromomethane	10U	10U	10U	10U	10U	10U	100U	100U
2-Butanone	10U	10U	11	10U	13	10U	100U	100U
Carbon disulfide	5U	10U	5U	10U	5U	10U	50U	100U
Carbon tetrachloride	5U	10U	5U	10U	5U	10U	50U	100U
Chlorobenzene	5U	10U	5U	10U	5U	10U	50U	100U
Chlorodibromomethane	5U	10U	5U	10U	5U	10U	50U	100U
Chloroethane	10U	10U	10U	10U	10U	10U	100U	100U
Chloroform	12	10U	5U	10U	5U	10U	50U	100U
Chloromethane	10U	10U	10U	10U	10U	10U	100U	100U
1,1-Dichloroethane	5U	10U	5U	10U	5U	10U	50U	100U
1,2-Dichloroethane	5U	10U	5U	10U	5U	10U	50U	100U
1,1-Dichloroethene	1	10U	5U	10U	5U	10U	50U	100U
1,2-Dichloroethene	5U	10U	5U	10U	5U	10U	50U	81
1,2-Dichloropropane	5U	10U	5U	10U	5U	10U	50U	100U
cis-1,3-Dichloropropene	5U	10U	5U	10U	5U	10U	50U	100U
trans-1,3-Dichloropropene	5U	10U	5U	10U	5U	10U	50U	100U
Ethylbenzene	5U	10U	5U	10U	5U	10U	50U	100U
2-Hexanone	10U	10U	10U	10U	10U	10U	100U	100U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	100U	100U
Methylene chloride	12	10U	2	10U	12	10U	120	100U
Styrene	5U	10U	5U	10U	5U	10U	50U	100U
1,1,2,2-Tetrachloroethane	5U	10U	5U	10U	5U	10U	50U	100U
Tetrachloroethene	57	10U	5U	10U	5U	10U	430	800
Toluene	6	10U	5U	10U	5U	10U	50U	100U
1,1,1-Trichloroethane	5U	10U	5U	10U	5U	10U	50U	100U
1,1,2-Trichloroethane	5U	10U	5U	10U	5U	10U	50U	100U
Trichloroethene	4	10U	5U	10U	5U	10U	19	72
Vinyl acetate	10U	10U	10U	10U	10U	10U	100U	100U
Vinyl chloride	10U	10U	10U	10U	10U	10U	100U	100U
Xylenes	5U	10U	5U	10U	5U	10U	50U	100U

(CONTINUED)

APPENDIX F.2

4

Field Duplicate Data: Volatile Organic Compounds, 1994

Sampling Point	GW-766	GW-771		GW-773	GW-775		GW-779	GW-784
Unit	AQT	AQT		AQT	AQT		AQT	AQT
Location.	GRID12	GRIDC1		GRIDH2	GRIDH3		GRIDF2	GRIDD1
Date Sampled	04/25/94	05/02/94	11/01/94	01/28/94	08/11/94	11/01/94	11/29/94	09/01/94
Acetone	10U	10U	7	10U	10U	6	10U	10U
Benzene	5U	10U	10U	5U	10U	10U	10U	10U
Bromodichloromethane	5U	10U	10U	5U	10U	10U	10U	10U
Bromoform	5U	10U	10U	5U	10U	10U	10U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	12	10U	10U	12	10U	10U
Carbon disulfide	5U	10U	10U	5U	10U	10U	10U	10U
Carbon tetrachloride	5U	10U	10U	5U	10U	10U	10U	10U
Chlorobenzene	5U	10U	10U	5U	10U	10U	10U	10U
Chlorodibromomethane	5U	10U	10U	5U	10U	10U	10U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	10U	10U	5U	10U	10U	10U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	10U	10U	5U	10U	10U	10U	10U
1,2-Dichloroethane	5U	10U	10U	5U	10U	10U	10U	10U
1,1-Dichloroethene	5U	10U	10U	5U	10U	10U	10U	10U
1,2-Dichloroethene	5U	10U	10U	5U	10U	10U	10U	10U
1,2-Dichloropropane	5U	10U	10U	5U	10U	10U	10U	10U
cis-1,3-Dichloropropene	5U	10U	10U	5U	10U	10U	10U	10U
trans-1,3-Dichloropropene	5U	10U	10U	5U	10U	10U	10U	10U
Ethylbenzene	5U	10U	10U	5U	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	10U	10U	5U	4	2	10U	10U
Styrene	5U	10U	10U	5U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	10U	10U	5U	10U	10U	10U	10U
Tetrachloroethene	5U	10U	10U	5U	10U	10U	10U	10U
Toluene	5U	10U	10U	5U	10U	10U	10U	10U
1,1,1-Trichloroethane	5U	10U	10U	5U	10U	10U	10U	10U
1,1,2-Trichloroethane	5U	10U	10U	5U	10U	10U	10U	10U
Trichloroethene	5U	10U	10U	5U	2	3	10U	10U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	10U	10U	5U	10U	10U	10U	10U

(CONTINUED)

Field Duplicate Data: Volatile Organic Compounds, 1994

Sampling Point	GW-786
.	
Unit	AQT
.	
Location.	GRIDE2
Date Sampled	06/08/94
Acetone	10U
Benzene	10U
Bromodichloromethane	10U
Bromoform	10U
Bromomethane	10U
2-Butanone	10U
Carbon disulfide	10U
Carbon tetrachloride	10U
Chlorobenzene	10U
Chlorodibromomethane	10U
Chloroethane	10U
Chloroform	10U
Chloromethane	10U
1,1-Dichloroethane	10U
1,2-Dichloroethane	10U
1,1-Dichloroethene	10U
1,2-Dichloroethene	10U
1,2-Dichloropropane	10U
cis-1,3-Dichloropropene	10U
trans-1,3-Dichloropropene	10U
Ethylbenzene	10U
2-Hexanone	10U
4-Methyl-2-pentanone	10U
Methylene chloride	10U
Styrene	10U
1,1,2,2-Tetrachloroethane	10U
Tetrachloroethene	10U
Toluene	10U
1,1,1-Trichloroethane	10U
1,1,2-Trichloroethane	10U
Trichloroethene	10U
Vinyl acetate	10U
Vinyl chloride	10U
Xylenes	10U

APPENDIX F.3

BASE, NEUTRAL, AND ACID EXTRACTABLE ORGANIC COMPOUNDS

APPENDIX F.3

1

Field Duplicate Data: BNAs, 1994

Sampling Point	GW-171	GW-230
.		
Unit	AQF	AQF
.		
Location	EXP-UV	EXP-UV
.		
Date Sampled	11/15/94	09/28/94
1,2,4-Trichlorobenzene	10U	10U
1,2-Dichlorobenzene	10U	10U
1,3-Dichlorobenzene	10U	10U
1,4-Dichlorobenzene	10U	10U
2,4,5-Trichlorophenol	25U	25U
2,4,6-Trichlorophenol	10U	10U
2,4-Dichlorophenol	10U	10U
2,4-Dimethylphenol	10U	10U
2,4-Dinitrophenol	25U	25U
2,4-Dinitrotoluene	10U	10U
2,6-Dinitrotoluene	10U	10U
2-Chloronaphthalene	10U	10U
2-Chlorophenol	10U	10U
2-Methylnaphthalene	10U	10U
2-Methylphenol	10U	10U
2-Nitroaniline	25U	25U
2-Nitrophenol	10U	10U
3,3-Dichlorobenzidine	10U	10U
3-Nitroaniline	25U	25U
4,6-Dinitro-2-methylphenol	25U	25U
4-Bromophenyl phenyl ether	10U	10U
4-Chloro-3-methylphenol	10U	10U
4-Chloroaniline	10U	10U
4-Chlorophenyl phenyl ether	10U	10U
4-Methylphenol	10U	10U
4-Nitroaniline	25U	25U
4-Nitrophenol	25U	25U
Acenaphthene	10U	10U
Acenaphthylene	10U	10U
Anthracene	10U	10U
Benzo(a)anthracene	10U	10U
Benzo(a)pyrene	10U	10U
Benzo(b)fluoranthene	10U	10U
Benzo(g,h,i)perylene	10U	10U
Benzo(k)fluoranthene	10U	10U

(CONTINUED)

APPENDIX F.3

2

Field Duplicate Data: BNAs, 1994

Sampling Point	GW-171	GW-230
Unit	AQF	AQF
Location	EXP-UV	EXP-UV
Date Sampled	11/15/94	09/28/94
Benzoic acid	.	.
Benzyl alcohol	10U	10U
bis(2-Chloroethoxy)methane	10U	10U
bis(2-Chloroethyl)ether	10U	10U
bis(2-Chloroisopropyl)ether	10U	10U
bis(2-Ethylhexyl)phthalate	10U	10U
Butyl benzyl phthalate	10U	10U
Carbazole	10U	10U
Chrysene	10U	10U
di-n-Butylphthalate	4	10U
di-n-Octylphthalate	10U	10U
Dibenzo(a,h)anthracene	10U	10U
Dibenzofuran	10U	10U
Diethylphthalate	1	10U
Dimethylphthalate	10U	10U
Fluoranthene	10U	10U
Fluorene	10U	10U
Hexachlorobenzene	10U	10U
Hexachlorobutadiene	10U	10U
Hexachlorocyclopentadiene	10U	10U
Hexachloroethane	10U	10U
Indeno(1,2,3-cd)pyrene	10U	10U
Isophorone	10U	10U
n-Nitrosodi-n-propylamine	10U	10U
n-Nitrosodiphenylamine	10U	10U
Naphthalene	10U	10U
Nitrobenzene	10U	10U
Pentachlorophenol	25U	25U
Phenanthrene	10U	10U
Phenol	10U	10U
Pyrene	10U	10U

APPENDIX F.4

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

APPENDIX F.4

1

Field Duplicate Data: Field, Miscellaneous, and Radiochemistry, 1994

Sampling Point	GW-171	GW-207				GW-208	GW-220	GW-230	GW-240
Unit	AQF	AQT				AQT	AQF	AQF	AQF
Location	EXP-UV	EXP-SR				EXP-SR	NHP	EXP-UV	NHP
Date Sampled	11/15/94	05/24/94	09/13/94	12/03/94	01/30/94	05/12/94	09/28/94	09/22/94	
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.	.
Depth to Water (ft)	.	.	.	.	.	.	.	.	.
Water Temp (degrees C)	15.7	17.6	16.7	15	14.3	16.7	16.2	16	
pH (pH units)	5.9	7.5	7.3	7.6	7	7.7	6.8	7.6	
Sp. Cond. (umho/cm)	456	510	538	521	569	452	953	484	
Dissolved Oxygen (ppm)	1	0.7	1	0.7	0.2	1.3	0.6	4.4	
Oxidation/Reduction (mV)	-46	-16	-58	12	-34	172	-42	165	
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.	.
pH (pH units)	6.8	7.6	7.6	7.7	7.7	7.7	7.3	7.7	
Sp. Cond. (umho/cm)	493	615	548	583	611	454	949	480	
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.	
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.	
TDS (mg/L)	290	350	324	348	404	290	574	358	
TSS (mg/L)	18	<1	<1	<1	3	10	<1	<1	
Turbidity (NTU)	23	3	2.3	0.2	3.6	7.4	0.5	1	
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	1.26	-0.01	-0.69	1.19	0.87	0.35	1.06	1.30	
Gross Alpha (CE+/-)	2.20	0.54	3.00	2.10	1.90	1.00	1.70	1.90	
Gross Beta (pCi/L)	8.11	5.20	0.30	4.62	4.55	2.44	5.96	4.06	
Gross Beta (CE+/-)	3.10	2.70	5.40	3.00	2.80	2.50	3.10	2.70	

(CONTINUED)

APPENDIX F.4

2

Field Duplicate Data: Field, Miscellaneous, and Radiochemistry, 1994

Sampling Point	GW-251		GW-255	GW-262	GW-264	GW-384	GW-618	
Unit	AQF		AQF	AQT	AQT	AQT	AQF	
Location	S2		S2	SY	SY	NHP	EXP-E	
Date Sampled	02/07/94	05/09/94	08/14/94	05/11/94	10/29/94	08/03/94	08/21/94	12/03/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	.	.	.	.	.	.	.	.
Water Temp (degrees C)	14.2	14.9	16.6	18.2	15.8	17.8	17.4	16.1
pH (pH units)	6.5	6	6.9	8	6.7	6.9	6.4	6.6
Sp. Cond. (umho/cm)	952	1054	446	349	938	622	622	661
Dissolved Oxygen (ppm)	0.6	0.9	3.9	18.7	6	0.3	0.8	1
Oxidation/Reduction (mV)	165	270	151	-110	-71	-70	44	118
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	6.6	6.7	7.5	8	7.2	7.3	6.9	6.9
Sp. Cond. (umho/cm)	968	1050	453	379	1003	624	638	669
TPH - DRO (mg/L)	.	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	680	718	322	270	654	340	396	370
TSS (mg/L)	191	105	292	4	4	4	8	<1
Turbidity (NTU)	150	62	240	4	5.2	3.1	0.5	0.7
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	13.60	9.59	3.76	1.81	3.79	-0.01	-1.16	0.18
Gross Alpha (CE+/-)	4.00	3.20	2.30	1.60	1.90	1.20	1.90	1.10
Gross Beta (pCi/L)	9.87	10.50	3.91	2.43	5.33	3.38	3.85	4.24
Gross Beta (CE+/-)	2.90	3.10	2.70	2.50	2.70	2.60	3.00	2.60

(CONTINUED)

APPENDIX F.4

3

Field Duplicate Data: Field, Miscellaneous, and Radiochemistry, 1994

Sampling Point	GW-633	GW-744	GW-751		GW-758		GW-762	
Unit	AQT	AQT	AQT		AQT		AQT	
Location	RG	GRIDK1	GRIDJ3		GRIDG1		GRIDJ3	
Date Sampled	03/03/94	10/26/94	01/26/94	05/25/94	02/05/94	08/29/94	02/03/94	11/09/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	.	.	.	.	.	.	.	.
Water Temp (degrees C)	13.2	16.5	15.6	18.1	15	17.6	15.8	18.4
pH (pH units)	5.8	7.6	7.3	7.4	7.3	7.4	7	6.8
Sp. Cond. (umho/cm)	4810	431	384	361	462	444	690	598
Dissolved Oxygen (ppm)	4.24	0.7	1.5	0.3	0.4	0.5	4.6	0.3
Oxidation/Reduction (mV)	149	-76	32	-50	42	-35	84	-8
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	5.7	7.6	7.9	7.5	7.7	7.7	7.6	7.4
Sp. Cond. (umho/cm)	4880	428	379	398	482	459	617	634
TPH - DRO (mg/L)	0.03	.	.	.	.	.	.	.
TPH - GRO (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	4498	254	198	220	288	330	380	364
TSS (mg/L)	32	<1	2	<1	5	10	11	9
Turbidity (NTU)	24	0.5	1.4	0.5	5.5	40	11	17
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-2.03	4.09	0.35	0.51	0.18	0.37	4.01	0.55
Gross Alpha (CE+/-)	22.00	2.50	0.88	0.78	1.20	0.74	2.30	1.60
Gross Beta (pCi/L)	123.00	7.60	4.78	3.57	4.61	3.15	7.96	3.75
Gross Beta (CE+/-)	38.00	3.00	2.60	2.60	2.50	2.30	2.80	2.80

(CONTINUED)

APPENDIX F.4

4

Field Duplicate Data: Field, Miscellaneous, and Radiochemistry, 1994

Sampling Point	GW-766	GW-771		GW-773	GW-775		GW-779	GW-784
Unit	AQT	AQT		AQT	AQT		AQT	AQT
Location	GRIDI2	GRIDC1		GRIDH2	GRIDH3		GRIDF2	GRIDD1
Date Sampled	04/25/94	05/02/94	11/01/94	01/28/94	08/11/94	11/01/94	11/29/94	09/01/94
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	.	.	.	.	.	.	.	.
Water Temp (degrees C)	18.2	17	16.9	14.9	20.1	17.2	15.3	18.7
pH (pH units)	9.2	7.5	7.1	7	7.4	7	8.5	7.2
Sp. Cond. (umho/cm)	260	398	407	329	450	434	420	494
Dissolved Oxygen (ppm)	4.1	1.2	2.6	1	0.9	1.3	3.2	1.5
Oxidation/Reduction (mV)	139	25	15	70	140	157	141	-20
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
pH (pH units)	8.7	7.6	7.5	7.8	7.9	7.6	8.6	7.4
Sp. Cond. (umho/cm)	296	416	433	332	452	471	386	470
TPH - DRO (mg/L)	0.002	.	.	.	.	.	.	.
TPH - GRO (mg/L)	<0.005	.	.	.	.	.	.	.
TDS (mg/L)	200	294	270	226	324	298	248	334
TSS (mg/L)	<1	<1	<1	<1	2	<1	1	6
Turbidity (NTU)	1.4	1.5	1.2	0.9	2.5	1	6.2	1.8
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.00	0.86	6.78	1.69	-0.38	0.82	-0.01	2.34
Gross Alpha (CE+/-)	1.30	0.78	3.00	1.90	1.00	1.70	1.40	1.70
Gross Beta (pCi/L)	5.93	2.12	11.50	4.06	2.36	3.73	2.74	3.45
Gross Beta (CE+/-)	2.90	2.40	3.50	2.60	2.50	2.90	2.50	2.50

(CONTINUED)

APPENDIX F.4

5

Field Duplicate Data: Field, Miscellaneous, and Radiochemistry, 1994

Sampling Point	GW-786
• Unit	AQT
• Location	GRIDE2
• Date Sampled	06/08/94
FIELD MEASUREMENTS	.
	.
Depth to Water (ft)	.
Water Temp (degrees C)	19.2
pH (pH units)	7.2
Sp. Cond. (umho/cm)	466
Dissolved Oxygen (ppm)	2.4
Oxidation/Reduction (mV)	13
	.
MISCELLANEOUS PARAMETERS	.
	.
pH (pH units)	7.8
Sp. Cond. (umho/cm)	460
TPH - DRO (mg/L)	.
TPH - GRO (mg/L)	.
TDS (mg/L)	282
TSS (mg/L)	4
Turbidity (NTU)	0.6
	.
RADIOCHEMICAL PARAMETERS	.
	.
Gross Alpha (pCi/L)	0.71
Gross Alpha (CE+/-)	1.00
Gross Beta (pCi/L)	3.08
Gross Beta (CE+/-)	2.30

APPENDIX F.5
RADIONUCLIDES

APPENDIX F.5

1

Field Duplicate Data: Radionuclides, 1994

Sampling Point	GW-171	GW-230
Unit	AQF	AQF
Location	EXP-UV	EXP-UV
Date Sampled	11/15/94	09/28/94
Gross Alpha (pCi/L)	1.26	1.06
Gross Alpha (CE+/-)	2.20	1.70
Gross Beta (pCi/L)	8.11	5.96
Gross Beta (CE+/-)	3.10	3.10
RADIONUCLIDES	.	.
Americium 241 (pCi/L)	0.81	0.00
Americium 241 (CE+/-)	0.93	2.00
Iodine 129 (Bq/L)	0.10	0.01
Iodine 129 (CE +/-)	1.60	0.83
Neptunium 237 (pCi/L)	1.12	0.00
Neptunium 237 (CE+/-)	1.30	0.65
Plutonium 238 (pCi/L)	-0.15	-0.62
Plutonium 238 (CE+/-)	0.52	1.00
Plutonium 239 (pCi/L)	0.00	0.00
Plutonium 239 (CE+/-)	0.52	0.71
Radium (Bq/L)	0.04	0.03
Radium (CE+/-)	0.04	0.03
Strontium (pCi/L)	18.00	-53.80
Strontium (CE+/-)	25.00	26.00
Technetium 99 (pCi/L)	26.60	26.70
Technetium 99 (CE+/-)	37.00	37.00
Tritium (Bq/L)	8.70	-17.00
Tritium (CE+/-)	9.60	29.00
Uranium 234 (pCi/L)	0.00	0.16
Uranium 234 (CE+/-)	0.72	0.31
Uranium 235 (pCi/L)	-4.43	54.30
Uranium 235 (CE+/-)	44.00	110.00
Uranium 238 (pCi/L)	0.00	0.00
Uranium 238 (CE+/-)	0.62	0.54

APPENDIX G

ION-CHARGE BALANCE CALCULATIONS

EXPLANATION

SAMPLING POINT:

GW - Monitoring Well
LRS - Lake Reality Sump (Surface Water Location)
LRSPW - Lake Reality Emergency Spillway (Surface Water Location)

UNIT:

AQF - Knox Aquifer
AQT - ORR Aquitards

LOCATION:

B4 - Beta-4 Security Pits
EXP - Exit Pathway:
Maynardville Limestone Transverse (-E, -I, -J)
Offsite, in Union Valley (-UV)
Along Scarboro Road in the gap through Pine Ridge (-SR)
Surface Water Sampling Location (-SW)
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
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 Martin Marietta Energy Systems (1993).

EXPLANATION

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

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

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

Monitoring Well	Location	Unit	Sampling Date	RPD
GW-172	EXP-UV	AQF	11/14/94	-16.6
GW-192	B4	AQT	2/5/94	47.1
GW-206	EXP-SR	AQT	11/28/94	-13.0
GW-251	S2	AQF	2/7/94	-13.0
GW-251	S2	AQF	5/9/94	-10.3
GW-251	S2	AQF	8/22/94	-29.1
GW-251	S2	AQF	12/3/94	23.3
GW-252	S2	AQF	5/13/94	25.3
GW-380	NHP	AQF	9/21/94	10.4
GW-508	RG	AQT	3/2/94	-13.8
GW-619	FTF	AQF	2/7/94	31.5
GW-619	FTF	AQF	5/9/94	24.3
GW-619	FTF	AQF	8/22/94	27.7
GW-619	FTF	AQF	12/3/94	12.7
GW-620	FTF	AQF	2/7/94	57.8
GW-620	FTF	AQF	8/23/94	-37.8
GW-633	RG	AQT	3/3/94	40.9
GW-634	RG	AQT	3/1/94	-12.8
GW-746	GRIDK1	AQT	1/27/94	11.8

EXPLANATION (cont'd)

Monitoring Well	Location	Unit	Sampling Date	RPD
GW-746	GRIDK1	AQT	5/27/94	11.2
GW-746	GRIDK1	AQT	7/31/94	-18.5
GW-767	GRIDI2	AQT	8/9/94	-12.8
GW-767	GRIDI2	AQT	10/31/94	-14.8
GW-768	GRIDI1	AQT	8/9/94	78.9
GW-772	GRIDC1	AQT	2/3/94	-26.0
GW-772	GRIDC1	AQT	5/2/94	-31.4
GW-772	GRIDC1	AQT	8/24/94	-20.6
GW-772	GRIDC1	AQT	11/1/94	-16.5
GW-777	GRIDB2	AQT	10/31/94	-94.1
GW-778	GRIDB2	AQT	10/31/94	11.4
GW-785	GRIDD1	AQT	6/7/94	-41.4
GW-785	GRIDD1	AQT	9/6/94	-37.1
GW-785	GRIDD1	AQT	11/28/94	-36.8
GW-817	GRIDK3	AQT	11/28/94	74.6

APPENDIX G
Ion-Charge Balance Calculations, 1994

1

Sampling Point	GW-148	GW-149	GW-151				GW-153	GW-154	GW-169			GW-170		
Unit	AQF	AQF	AQF				AQF	AQF	AQF			AQF		
Location	NHP	NHP	NHP				NHP	NHP	EXP-UV			EXP-UV		
Date Sampled	11/14/94	11/14/94	02/05/94	05/12/94	09/22/94	11/16/94	11/14/94	11/15/94	01/31/94	08/11/94	12/06/94	02/02/94	08/11/94	11/17/94
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	6.99	2.20	2.89	2.89	2.79	2.74	2.15	5.49	2.20	1.85	1.85	2.64	2.35	2.40
Magnesium	0.71	0.82	2.22	2.22	2.06	1.97	1.40	1.32	0.24	0.18	0.18	2.14	1.89	1.89
Potassium	0.06	0.17	0.06	0.05	0.05	0.06	0.07	0.17	0.06	0.07	0.08	0.06	0.06	0.05
Sodium	0.61	2.35	0.32	0.33	0.33	0.30	0.78	0.40	0.05	0.61	0.11	0.70	0.57	0.65
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	8.36	5.54	5.50	5.50	5.24	5.08	4.39	7.38	2.55	2.70	2.22	5.54	4.86	4.99
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	6.73	5.14	4.58	4.56	4.42	4.36	3.04	5.40	2.44	2.40	2.04	4.26	4.28	4.42
Chloride	1.16	0.28	0.44	0.39	0.37	0.39	0.73	0.10	0.06	0.07	0.05	0.37	0.23	0.34
Fluoride	0.00	0.02	0.00	0.01	0.00	0.01	0.01	0.02	0.00	0.00	0.00	0.01	0.01	0.01
Nitrate Nitrogen	0.03	0.00	0.07	0.08	0.09	0.09	0.11	0.03	0.07	0.04	0.06	0.06	0.05	0.07
Sulfate	0.60	0.08	0.35	0.33	0.46	0.40	0.46	1.50	0.11	0.25	0.10	0.35	0.37	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	8.52	5.51	5.44	5.37	5.33	5.24	4.35	7.05	2.68	2.76	2.25	5.04	4.95	5.21
CHARGE BALANCE (%)	-1	0	1	1	-1	-2	1	2	-2	-1	-1	5	-1	-2
TDS (mg/L)	504	316	278	304	394	250	270	400	222	576	126	258	282	268
TSS (mg/L)	8	2	2	<1	<1	<1	25	3	2154	1	<1	<1	2	<1
Turbidity (NTU)	15	2.7	2	1.4	0.4	0.8	56	6	105	4.6	1.8	1.1	1.7	0.9

(CONTINUED)

APPENDIX G

2

Ion-Charge Balance Calculations, 1994

Sampling Point	GW-171		GW-172		GW-191				GW-192				GW-194	
Unit	AQF		AQF		AQT				AQT				AQT	
Location	EXP-UV		EXP-UV		B4				B4				B4	
Date Sampled	09/27/94	11/15/94	09/26/94	11/14/94	02/04/94	05/02/94	08/20/94	11/29/94	02/05/94	05/04/94	08/21/94	12/02/94	02/04/94	05/02/94
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	2.69	2.64	4.84	4.89	4.34	4.39	4.34	4.14	4.69	5.99	6.49	5.99	3.84	4.04
Magnesium	1.07	0.99	1.73	1.73	0.90	0.99	1.07	0.99	0.82	1.15	1.48	1.07	0.50	0.53
Potassium	0.17	0.18	0.06	0.09	0.04	0.07	0.08	0.08	0.03	0.03	0.04	0.05	0.03	0.02
Sodium	0.26	0.30	0.43	0.44	0.35	0.40	0.38	0.42	0.33	0.32	0.30	0.35	0.31	0.29
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	4.19	4.11	7.06	7.14	5.64	5.85	5.87	5.63	5.88	7.49	8.30	7.46	4.68	4.89
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	4.38	4.30	6.41	9.15	5.46	5.36	5.24	5.40	1.72	6.81	7.93	6.85	4.56	4.58
Chloride	0.29	0.31	0.62	0.73	0.23	0.17	0.16	0.19	0.34	0.42	0.31	0.39	0.23	0.12
Fluoride	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.02	0.01	0.00	0.00
Nitrate Nitrogen	0.00	0.02	0.00	0.03	0.00	0.00	0.00	0.03	0.00	0.00	0.03	0.00	0.00	0.00
Sulfate	0.12	0.13	0.07	0.06	0.17	0.20	0.29	0.27	0.04	0.04	0.34	0.05	0.25	0.22
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	4.79	4.76	7.11	9.98	5.85	5.73	5.69	5.88	2.12	7.29	8.63	7.31	5.03	4.92
CHARGE BALANCE (%)	-7	-7	-0	-17	-2	1	2	-2	47	1	-2	1	-4	-0
TDS (mg/L)	302	274	446	372	338	338	342	374	374	426	436	396	308	310
TSS (mg/L)	42	16	<1	2	143	18	188	58	21	23	23	8	103	120
Turbidity (NTU)	54	25	1	17	8	13	140	115	15	14	15	6.7	30	100

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1994

3

Sampling Point	GW-194		GW-195				GW-199				GW-206			
Unit	AQT		AQT				AQT				AQT			
Location	B4		B4				GRID11				EXP-SR			
Date Sampled	08/20/94	12/01/94	02/05/94	05/04/94	08/20/94	12/01/94	01/14/94	04/22/94	08/08/94	10/27/94	01/30/94	06/15/94	09/28/94	11/28/94
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	4.19	4.19	3.39	3.29	3.39	3.34	2.50	2.45	2.84	2.89	2.54	2.50	2.59	2.54
Magnesium	0.56	0.53	0.51	0.49	0.53	0.49	0.90	0.90	1.15	1.15	1.40	1.65	1.40	1.32
Potassium	0.03	0.03	0.03	0.02	0.02	0.02	0.06	0.06	0.07	0.08	0.14	0.14	0.15	0.15
Sodium	0.31	0.31	0.27	0.26	0.27	0.27	0.32	0.42	0.37	0.33	0.33	0.20	0.20	0.32
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	5.10	5.07	4.20	4.07	4.21	4.13	3.77	3.83	4.44	4.45	4.41	4.48	4.35	4.33
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	4.60	4.58	3.80	3.72	3.68	3.66	3.14	2.84	3.62	3.84	3.30	4.26	4.42	5.16
Chloride	0.10	0.12	0.14	0.14	0.11	0.11	0.25	0.34	0.14	0.12	0.39	0.09	0.17	0.26
Fluoride	0.01	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.00
Nitrate Nitrogen	0.00	0.03	0.02	0.02	0.04	0.05	0.02	0.04	0.00	0.03	0.00	0.00	0.00	0.00
Sulfate	0.29	0.25	0.26	0.25	0.33	0.27	0.54	0.50	0.56	0.60	0.42	0.33	0.16	0.21
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	5.00	4.97	4.22	4.13	4.17	4.09	3.96	3.72	4.33	4.60	4.11	4.69	4.74	5.63
CHARGE BALANCE (%)	1	1	-0	-1	1	0	-2	1	1	-2	4	-2	-4	-13
TDS (mg/L)	304	296	282	284	272	264	254	226	270	326	226	452	286	320
TSS (mg/L)	44	22	384	259	96	147	62	58	256	300	1384	156	153	55
Turbidity (NTU)	19	48	180	85	35	74	27	30	22	39	450	120	110	60

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1994

Sampling Point	GW-207					GW-208					GW-220					GW-222	GW-223
Unit	AQT					AQT					AQF					AQF	AQF
Location	EXP-SR					EXP-SR					NHP					NHP	NHP
Date Sampled	01/28/94	05/24/94	09/13/94	12/03/94	01/30/94	05/26/94	09/16/94	12/04/94	02/05/94	05/12/94	09/22/94	11/16/94	11/15/94	11/15/94	11/15/94	11/15/94	11/15/94
CATIONS (meq/L)																	
Calcium	2.89	3.04	2.79	2.74	3.89	3.44	3.74	3.59	3.39	3.04	3.09	2.79	5.49	5.99	5.99		
Magnesium	3.13	3.54	3.21	2.96	2.06	1.97	2.14	1.89	1.89	2.06	1.89	1.97	1.15	1.15	1.15		
Potassium	0.07	0.10	0.07	0.10	0.08	0.08	0.07	0.09	0.09	0.07	0.06	0.07	0.09	0.05	0.05		
Sodium	0.43	0.52	0.44	0.44	0.65	0.65	0.70	0.70	0.17	0.17	0.23	0.19	0.83	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	0.00		
Total Cations	6.52	7.20	6.51	6.24	6.68	6.15	6.65	6.27	5.54	5.34	5.28	5.02	7.56	7.57	7.57		
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	0.00		
Alkalinity-HCO3	5.20	5.44	5.42	5.38	4.54	4.54	4.50	4.44	5.34	4.76	4.58	4.48	6.10	5.80	5.80		
Chloride	0.14	0.03	0.03	0.04	0.13	0.03	0.04	0.07	0.25	0.25	0.28	0.26	1.30	0.76	0.76		
Fluoride	0.02	0.01	0.01	0.01	0.02	0.02	0.02	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01		
Nitrate Nitrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.04	0.06	0.06	0.00	0.02	0.02		
Sulfate	1.37	1.08	1.10	0.98	2.02	2.17	2.08	2.00	0.25	0.21	0.40	0.31	0.23	0.62	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	0.00	0.00	0.00		
Total Anions	6.72	6.55	6.56	6.41	6.70	6.75	6.63	6.52	5.90	5.27	5.32	5.11	7.63	7.21	7.21		
CHARGE BALANCE (%)	-2	5	-0	-1	-0	-5	0	-2	-3	1	-0	-1	-0	2	2		
TDS (mg/L)	362	344	322	354	418	418	406	410	304	284	362	280	416	412	412		
TSS (mg/L)	2	<1	<1	<1	3	<1	2	1	99	10	21	34	1	<1	<1		
Turbidity (NTU)	1.1	2.8	2.5	0.3	3.4	5.1	4.5	6.5	60	7.2	24	38	20	1.2	1.2		

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1994

5

Sampling Point	GW-230		GW-232			GW-240				GW-251				GW-252
Unit	AQF		AQF			AQF				AQF				AQF
Location	EXP-UV		EXP-UV			NHP				S2				S2
Date Sampled	09/28/94	11/15/94	02/01/94	08/11/94	11/17/94	02/04/94	05/11/94	09/22/94	11/16/94	02/07/94	05/09/94	08/22/94	12/03/94	05/13/94
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	6.49	6.49	0.06	0.06	0.06	2.40	1.90	2.35	2.54	4.99	5.99	5.49	4.09	1.80
Magnesium	2.47	2.47	0.07	0.07	0.07	1.40	1.40	1.40	1.40	1.40	1.73	1.81	1.15	1.97
Potassium	0.10	0.11	0.06	0.07	0.07	0.13	0.26	0.06	0.12	0.09	0.09	0.08	0.07	0.05
Sodium	1.22	1.22	8.70	9.57	9.14	0.74	0.74	1.31	1.22	0.78	0.91	0.74	0.48	0.32
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	10.27	10.28	8.89	9.77	9.35	4.66	4.29	5.11	5.28	7.27	8.72	8.12	5.79	4.13
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	1.60	1.60	1.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
Alkalinity-HCO3	7.61	7.63	7.01	7.09	7.15	4.00	3.52	3.28	3.18	3.34	3.48	3.62	3.12	2.20
Chloride	2.43	2.76	0.26	0.16	0.19	0.65	0.51	1.02	1.30	0.28	0.29	0.27	0.17	0.06
Fluoride	0.00	0.00	0.11	0.12	0.10	0.01	0.01	0.02	0.02	0.07	0.08	0.08	0.07	0.01
Nitrate Nitrogen	0.00	0.03	0.00	0.00	0.00	0.07	0.04	0.16	0.21	5.37	6.50	10.49	0.00	0.09
Sulfate	0.18	0.06	0.60	0.60	0.62	0.31	0.13	0.79	0.98	0.33	0.38	0.33	0.23	0.10
Hydroxyl Ion	0.00	0.00	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	10.22	10.49	9.60	9.59	9.69	5.04	4.21	5.27	5.68	9.40	10.72	14.79	3.60	2.46
CHARGE BALANCE (%)	0	-1	-4	1	-2	-4	1	-2	-4	-13	-10	-29	23	25
TDS (mg/L)	624	518	572	176	558	258	242	370	318	682	704	632	434	178
TSS (mg/L)	<1	<1	3	<1	<1	6	<1	<1	<1	223	99	193	74	8
Turbidity (NTU)	0.5	0.7	1.4	1.6	2	4.3	1.8	1	1.4	140	62	160	50	11

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1994

6

Sampling Point	GW-252		GW-255			GW-261			GW-262			GW-263		
Unit	AQF		AQF			AQT			AQT			AQT		
Location	S2		S2			SY			SY			SY		
Date Sampled	08/14/94	10/29/94	05/13/94	08/14/94	10/29/94	05/11/94	08/13/94	10/28/94	05/11/94	08/13/94	10/28/94	05/12/94	08/13/94	10/31/94
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	1.75	1.85	2.64	2.84	3.04	2.45	2.40	2.74	2.79	3.14	3.39	3.04	3.04	3.29
Magnesium	1.81	1.73	2.30	2.30	2.39	1.07	1.07	1.07	0.51	0.54	0.54	1.15	1.23	1.23
Potassium	0.05	0.05	0.03	0.04	0.04	0.05	0.05	0.05	0.04	0.05	0.05	0.04	0.05	0.05
Sodium	0.57	0.37	0.14	0.17	0.17	0.42	0.48	0.48	0.57	0.61	0.57	0.87	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	4.17	3.99	5.12	5.35	5.63	3.98	3.99	4.35	3.91	4.34	4.55	5.11	5.24	5.49
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	3.94	3.60	4.50	4.48	4.80	3.06	3.00	3.04	3.80	3.68	4.02	3.96	4.14	3.58
Chloride	0.09	0.07	0.14	0.20	0.16	0.17	0.17	0.17	0.03	0.05	0.05	1.10	1.02	1.24
Fluoride	0.02	0.01	0.00	0.00	0.00	0.01	0.01	0.02	0.01	0.01	0.01	0.00	0.01	0.01
Nitrate Nitrogen	0.14	0.13	0.12	0.09	0.14	0.00	0.00	0.02	0.00	0.00	0.00	0.02	0.03	0.04
Sulfate	0.11	0.12	0.17	0.27	0.25	0.70	0.71	0.77	0.18	0.29	0.29	0.33	0.46	0.40
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	4.29	3.93	4.93	5.04	5.34	3.95	3.89	4.02	4.02	4.03	4.37	5.41	5.65	5.26
CHARGE BALANCE (%)	-1	1	2	3	3	0	1	4	-1	4	2	-3	-4	2
TDS (mg/L)	270	206	308	320	294	254	306	230	260	276	246	324	326	320
TSS (mg/L)	28	8	146	288	50	7	1	16	4	122	3	42	2	1430
Turbidity (NTU)	15	16	150	260	80	2.4	1.5	2.1	3	250	3.8	36	2.1	1600

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1994

7

Sampling Point	GW-264			GW-337				GW-338				GW-380		
Unit	AQT			AQT				AQT				AQF		
Location	SY			WC				WC				NHP		
Date Sampled	05/12/94	08/13/94	10/29/94	02/08/94	05/10/94	08/25/94	12/08/94	02/05/94	05/04/94	08/20/94	12/02/94	02/04/94	05/11/94	09/21/94
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	6.49	6.49	7.98	4.24	4.44	4.74	4.44	4.19	4.24	4.49	4.49	3.04	1.40	2.64
Magnesium	3.13	3.21	3.45	0.77	0.73	0.90	0.71	0.77	0.81	0.82	0.80	1.97	1.07	1.32
Potassium	0.09	0.09	0.10	0.06	0.05	0.08	0.05	0.05	0.04	0.06	0.06	0.03	0.02	0.03
Sodium	1.39	1.26	1.35	0.18	0.18	0.24	0.19	0.25	0.24	0.23	0.27	5.66	3.31	3.22
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	11.09	11.04	12.88	5.25	5.40	5.96	5.38	5.27	5.34	5.60	5.62	10.70	5.80	7.21
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	0.00	0.00
Alkalinity-HCO3	7.77	7.77	8.13	4.92	5.06	4.84	4.78	4.72	4.84	4.94	4.80	3.48	3.40	2.64
Chloride	0.65	0.56	0.59	0.49	0.54	0.45	0.45	0.22	0.23	0.16	0.18	7.22	2.61	2.14
Fluoride	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.02
Nitrate Nitrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.04	0.04	0.04	0.07	0.16	0.05	0.18
Sulfate	1.96	2.12	2.29	0.12	0.11	0.25	0.15	0.26	0.29	0.35	0.29	0.31	0.13	0.87
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	10.38	10.47	11.02	5.52	5.70	5.54	5.40	5.24	5.39	5.49	5.34	11.17	6.19	5.85
CHARGE BALANCE (%)	3	3	8	-3	-3	4	-0	0	-0	1	3	-2	-3	10
TDS (mg/L)	624	658	632	304	324	334	322	304	324	344	302	628	386	646
TSS (mg/L)	56	28	5	3	68	29	37	5	<1	105	1	141	56	385
Turbidity (NTU)	3.3	6.2	5.5	4.1	34	30	50	6.5	3	240	4.2	16	76	480

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1994

8

Sampling Point	GW-380	GW-381				GW-382				GW-383				GW-384
Unit	AQF	AQF				AQF				AQT				AQT
Location	NHP	NHP				NHP				NHP				NHP
Date Sampled	11/15/94	02/09/94	05/17/94	09/27/94	11/21/94	02/08/94	05/16/94	09/26/94	11/18/94	02/05/94	05/13/94	09/22/94	11/17/94	02/01/94
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	2.50	3.89	3.84	4.14	3.94	2.59	2.69	2.69	2.59	4.24	4.34	4.14	3.79	4.79
Magnesium	1.23	1.73	1.89	1.81	1.73	2.22	2.39	2.22	2.14	0.90	0.99	0.90	0.81	0.99
Potassium	0.04	0.04	0.04	0.05	0.07	0.03	0.03	0.04	0.04	0.09	0.07	0.07	0.09	0.07
Sodium	2.96	1.09	1.35	1.09	1.00	0.29	0.30	0.31	0.30	0.74	0.65	0.74	0.78	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	6.72	6.75	7.12	7.09	6.74	5.13	5.41	5.26	5.07	5.97	6.05	5.86	5.48	6.45
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	2.64	4.66	4.40	4.80	5.00	4.22	4.18	4.14	4.14	4.54	4.52	4.44	4.40	5.62
Chloride	4.43	2.14	2.41	2.06	2.00	0.51	0.55	0.51	0.54	0.74	0.90	0.79	0.82	1.21
Fluoride	0.01	0.00	0.00	0.01	0.00	0.01	0.01	0.02	0.01	0.01	0.00	0.01	0.01	0.00
Nitrate Nitrogen	0.14	0.00	0.00	0.00	0.03	0.23	0.25	0.28	0.26	0.00	0.00	0.00	0.02	0.00
Sulfate	0.92	0.10	0.08	0.10	0.11	0.29	0.31	0.32	0.33	0.37	0.35	0.46	0.40	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	8.13	6.90	6.89	6.96	7.14	5.25	5.30	5.26	5.27	5.65	5.77	5.69	5.63	7.16
CHARGE BALANCE (%)	-9	-1	2	1	-3	-1	1	0	-2	3	2	1	-1	-5
TDS (mg/L)	430	354	374	422	384	262	292	362	264	318	362	400	308	394
TSS (mg/L)	28	4	7	8	8	<1	10	<1	2	2	5	<1	2	3
Turbidity (NTU)	405	12	17	29	30	2.4	4.4	4.2	0.4	8.1	14	2	6.4	3.9

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1994

9

Sampling Point	GW-384			GW-385				GW-505	GW-508	GW-603				GW-604
Unit	AQT			AQT				AQT	AQT	AQF				AQF
Location	NHP			NHP				RG	RG	EXP-J				EXP-J
Date Sampled	06/03/94	08/03/94	11/02/94	01/31/94	06/02/94	08/03/94	11/01/94	03/01/94	03/02/94	01/31/94	05/27/94	09/20/94	12/04/94	02/01/94
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	4.99	5.49	5.99	0.05	0.17	0.06	0.06	1.45	0.47	3.74	3.44	3.69	3.69	3.04
Magnesium	1.07	1.07	1.15	0.02	0.05	0.02	0.02	0.50	0.78	1.97	1.97	2.14	2.06	1.56
Potassium	0.08	0.07	0.07	0.05	0.06	0.06	0.06	0.04	0.03	0.12	0.14	0.15	0.19	0.04
Sodium	0.61	0.61	0.61	8.27	7.40	7.40	8.70	0.37	1.31	0.13	0.13	0.14	0.15	0.11
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Total Cations	6.75	7.24	7.82	8.38	7.68	7.53	8.84	2.36	2.59	5.97	5.69	6.12	6.09	4.75
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	1.12	1.08	1.04	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	5.80	5.74	5.68	6.47	6.41	6.37	6.27	1.14	0.24	5.52	5.76	5.72	5.86	4.72
Chloride	0.87	0.87	1.02	0.18	0.06	0.07	0.13	0.85	2.74	0.22	0.14	0.18	0.28	0.14
Fluoride	0.00	0.01	0.00	0.13	0.13	0.13	0.11	0.01	0.02	0.01	0.01	0.01	0.01	0.00
Nitrate Nitrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.09	0.06	0.07	0.08	0.06
Sulfate	0.29	0.35	0.31	0.40	0.37	0.37	0.37	0.52	0.42	0.37	0.33	0.25	0.25	0.21
Hydroxyl Ion	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	6.96	6.97	7.00	8.31	8.06	8.00	7.86	2.59	3.41	6.21	6.30	6.22	6.47	5.13
CHARGE BALANCE (%)	-2	2	6	0	-2	-3	6	-5	-14	-2	-5	-1	-3	-4
TDS (mg/L)	392	360	406	474	468	408	440	142	200	322	336	294	330	286
TSS (mg/L)	2	3	1	4	9	5	<1	259	62	3	1	24	2	12
Turbidity (NTU)	1.8	2.9	4.5	2.5	9.1	2.4	0.6	200	9.5	2.5	2.6	14	4.4	18

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APPENDIX G
Ion-Charge Balance Calculations, 1994

10

Sampling Point	GW-604			GW-605				GW-606				GW-617		
Unit	AQF			AQF				AQF				AQF		
Location	EXP-J			EXP-I				EXP-I				EXP-E		
Date Sampled	05/31/94	09/20/94	12/04/94	02/02/94	06/03/94	09/25/94	12/06/94	02/03/94	06/06/94	09/25/94	12/07/94	02/05/94	05/05/94	08/21/94
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	1.70	2.05	1.75	4.34	4.19	4.24	3.89	3.39	3.39	3.44	3.24	1.35	1.05	1.15
Magnesium	1.15	1.40	1.15	1.40	1.32	1.40	1.32	2.80	2.88	2.88	2.71	0.53	0.50	0.40
Potassium	0.05	0.03	0.06	0.08	0.09	0.09	0.11	0.07	0.09	0.08	0.10	0.02	0.02	0.04
Sodium	0.07	0.07	0.07	0.61	0.57	0.65	0.61	0.20	0.22	0.20	0.20	0.28	0.19	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	2.96	3.54	3.04	6.43	6.16	6.38	5.93	6.46	6.58	6.61	6.26	2.18	1.77	1.78
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	3.02	3.32	3.02	5.36	5.24	5.28	5.34	4.64	4.62	4.74	4.66	0.92	0.72	0.94
Chloride	0.05	0.06	0.09	0.62	0.56	0.58	0.54	1.27	1.10	1.14	1.18	0.19	0.14	0.19
Fluoride	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	0.01
Nitrate Nitrogen	0.04	0.04	0.06	0.03	0.02	0.00	0.02	0.05	0.07	0.05	0.06	0.20	0.16	0.09
Sulfate	0.10	0.09	0.13	0.56	0.54	0.55	0.62	0.65	0.65	0.72	0.77	0.80	0.62	0.53
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	3.21	3.52	3.31	6.57	6.36	6.41	6.52	6.61	6.44	6.66	6.69	2.10	1.65	1.75
CHARGE BALANCE (%)	-4	0	-4	-1	-2	-0	-5	-1	1	-0	-3	2	3	1
TDS (mg/L)	166	146	178	370	346	424	342	366	372	444	346	138	124	118
TSS (mg/L)	1	3	1	<1	9	4	<1	<1	<1	<1	2	17	3	12355
Turbidity (NTU)	1.3	4.4	4.8	1.5	6.8	6.9	4.5	0.8	1	0.4	1.5	16	5.1	3500

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1994

11

Sampling Point	GW-617	GW-618				GW-619				GW-620				GW-631
Unit	AQF	AQF				AQF				AQF				AQT
Location	EXP-E	EXP-E				FTF				FTF				RG
Date Sampled	12/02/94	02/07/94	05/05/94	08/21/94	12/03/94	02/07/94	05/09/94	08/22/94	12/03/94	02/07/94	05/09/94	08/23/94	12/03/94	03/01/94
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	0.95	4.44	4.74	4.94	4.94	2.15	2.45	2.30	2.74	10.98	2.35	2.50	1.75	0.55
Magnesium	0.40	0.71	0.75	0.81	0.76	0.12	0.16	0.18	0.16	0.00	0.03	0.37	0.72	0.63
Potassium	0.04	0.10	0.09	0.09	0.11	0.46	0.43	0.43	0.51	0.87	0.36	0.33	0.16	0.05
Sodium	0.23	0.74	0.74	0.78	0.78	0.13	0.13	0.13	0.15	0.26	0.14	0.13	0.11	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	0.01
Total Cations	1.61	5.99	6.32	6.62	6.59	2.86	3.17	3.05	3.56	12.11	2.87	3.33	2.74	2.03
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.20	0.12	0.16	0.24	0.44	0.16	0.08	0.00	0.00
Alkalinity-HCO3	1.18	5.66	5.46	5.54	5.68	1.10	1.62	1.32	2.20	0.00	0.00	2.00	2.52	0.20
Chloride	0.34	0.57	0.59	0.81	0.79	0.06	0.06	0.06	0.08	0.05	0.06	0.06	0.09	1.44
Fluoride	0.00	0.02	0.01	0.02	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00
Nitrate Nitrogen	0.03	0.08	0.10	0.13	0.07	0.06	0.06	0.09	0.11	0.12	0.11	0.09	0.14	0.52
Sulfate	0.37	0.43	0.46	0.50	0.50	0.06	0.07	0.08	0.09	0.11	0.09	0.13	0.14	0.04
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.01	0.03	2.51	2.00	5.01	0.00	0.00
Total Anions	1.92	6.75	6.62	7.00	7.04	1.49	1.93	1.73	2.76	3.24	2.41	7.38	2.89	2.20
CHARGE BALANCE (%)	-9	-6	-2	-3	-3	32	24	28	13	58	9	-38	-3	-4
TDS (mg/L)	106	340	376	392	366	86	136	146	98	292	170	104	162	152
TSS (mg/L)	6	<1	<1	26	<1	68	76	43	80	122	126	86	138	5
Turbidity (NTU)	7.7	0.7	7	0.5	0.8	24	35	15	65	22	52	74	55	4

(CONTINUED)

APPENDIX G

12

Ion-Charge Balance Calculations, 1994

Sampling Point	GW-632	GW-633	GW-634	GW-733				GW-735				GW-744		
Unit	AQT	AQT	AQT	AQF				AQT				AQT		
Location	RG	RG	RG	EXP-J				EXP-J				GRIDK1		
Date Sampled	03/02/94	03/03/94	03/01/94	01/30/94	06/02/94	09/24/94	12/06/94	02/02/94	05/31/94	09/20/94	12/05/94	01/27/94	05/26/94	07/30/94
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	1.15	134.73	0.11	2.15	2.20	2.10	2.00	6.99	5.49	5.49	4.94	2.64	2.64	2.74
Magnesium	0.58	15.63	0.19	1.32	1.56	1.48	1.32	0.82	0.75	0.76	0.66	0.72	0.74	0.75
Potassium	0.05	0.25	0.03	0.05	0.05	0.05	0.06	0.07	0.07	0.07	0.09	0.08	0.08	0.08
Sodium	0.18	1.91	0.17	0.18	0.20	0.19	0.20	0.20	0.17	0.18	0.16	1.31	1.26	1.22
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	1.95	152.52	0.51	3.69	4.01	3.82	3.57	8.08	6.48	6.49	5.84	4.76	4.73	4.79
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	1.28	2.52	0.40	3.14	3.12	3.22	3.32	5.80	5.84	5.90	5.56	4.22	4.14	4.10
Chloride	0.45	0.00	0.25	0.16	0.31	0.24	0.27	0.39	0.37	0.31	0.31	0.27	0.14	0.12
Fluoride	0.00	0.00	0.00	0.02	0.01	0.01	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.01
Nitrate Nitrogen	0.61	61.48	0.00	0.00	0.02	0.02	0.02	0.01	0.00	0.00	0.00	0.16	0.00	0.00
Sulfate	0.00	0.00	0.00	0.29	0.21	0.29	0.21	0.50	0.48	0.46	0.50	0.52	0.48	0.52
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	2.34	64.00	0.65	3.60	3.67	3.79	3.83	6.70	6.68	6.66	6.37	5.17	4.76	4.74
CHARGE BALANCE (%)	-9	41	-13	1	4	0	-4	9	-2	-1	-4	-4	-0	0
TDS (mg/L)	158	4316	46	198	250	260	192	396	378	376	482	258	286	272
TSS (mg/L)	29	39	7	10	33	2	38	4	1	<1	90	<1	<1	<1
Turbidity (NTU)	4.6	20	3.6	4.5	22	26	25	5.3	1.5	65	190	0.8	2.1	2.6

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1994

13

Sampling Point	GW-744	GW-745				GW-746				GW-747				GW-748
Unit	AQT	AQT				AQT				AQT				AQT
Location	GRIDK1	GRIDK1				GRIDK1				GRIDK2				GRIDK2
Date Sampled	10/26/94	01/27/94	05/26/94	07/30/94	10/26/94	01/27/94	05/27/94	07/31/94	10/27/94	01/28/94	05/27/94	07/31/94	10/27/94	01/28/94
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	2.79	2.79	2.94	3.09	3.44	1.10	1.15	0.41	1.10	2.54	2.64	2.05	2.54	3.79
Magnesium	0.72	0.77	0.82	0.82	0.90	0.49	0.57	0.31	0.58	0.82	0.90	0.66	0.90	0.70
Potassium	0.07	0.10	0.09	0.08	0.08	0.03	0.05	0.04	0.05	0.05	0.06	0.05	0.06	0.00
Sodium	1.26	1.00	0.96	1.00	1.04	0.34	0.31	0.30	0.37	1.26	1.22	1.83	1.70	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	4.85	4.67	4.81	5.00	5.47	1.97	2.07	1.07	2.10	4.68	4.83	4.58	5.20	4.97
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	4.10	3.80	3.78	3.90	3.96	0.78	0.86	0.70	0.92	4.16	4.16	4.04	4.00	4.26
Chloride	0.12	0.54	0.42	0.34	0.34	0.31	0.34	0.37	0.28	0.15	0.11	0.06	0.08	0.39
Fluoride	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01
Nitrate Nitrogen	0.00	0.21	0.00	0.00	0.00	0.02	0.01	0.04	0.02	0.00	0.00	0.00	0.00	0.00
Sulfate	0.50	0.60	0.56	0.60	0.60	0.44	0.44	0.46	0.56	0.73	0.48	0.37	0.44	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	4.72	5.16	4.77	4.84	4.90	1.55	1.65	1.56	1.78	5.05	4.76	4.48	4.53	5.41
CHARGE BALANCE (%)	1	-5	0	2	5	12	11	-19	8	-4	1	1	7	-4
TDS (mg/L)	256	256	288	296	280	98	122	106	90	284	288	262	246	334
TSS (mg/L)	<1	<1	<1	<1	<1	71	3	13	14	<1	<1	<1	<1	149
Turbidity (NTU)	0.3	3.1	1.7	2.5	1.2	60	4.6	7	17	1	1.3	2	1.1	160

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1994

14

Sampling Point . Unit . Location . Date Sampled	GW-748			GW-749				GW-750				GW-751		
	AQT			AQT				AQT				AQT		
	GRIDK2			GRIDK2				EXP-J				GRIDJ3		
	05/31/94	07/31/94	10/27/94	01/30/94	05/31/94	07/31/94	10/31/94	01/30/94	06/01/94	08/01/94	10/31/94	01/26/94	05/25/94	07/29/94
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	4.14	4.74	5.49	3.59	5.49	4.44	6.49	3.64	3.74	3.99	4.29	2.64	2.79	3.09
Magnesium	0.75	0.77	0.82	0.58	0.79	0.65	0.90	0.90	0.90	0.90	1.07	0.77	0.82	0.90
Potassium	0.03	0.03	0.03	0.08	0.05	0.06	0.05	0.12	0.12	0.12	0.14	0.08	0.08	0.08
Sodium	0.48	0.42	0.52	0.28	0.48	0.32	0.61	0.23	0.22	0.22	0.30	0.39	0.37	0.37
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	5.40	5.96	6.86	4.53	6.80	5.48	8.05	4.89	4.99	5.23	5.79	3.88	4.06	4.45
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	4.32	4.54	4.64	3.40	5.10	4.64	5.42	4.66	4.74	4.60	4.84	3.66	3.72	3.74
Chloride	0.45	0.48	0.42	0.39	0.82	0.56	0.73	0.11	0.11	0.11	0.13	0.37	0.34	0.31
Fluoride	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.03	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	0.00	0.00
Sulfate	0.69	0.85	0.77	0.65	0.92	0.81	0.87	0.44	0.42	0.42	0.40	0.12	0.10	0.23
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	5.87	5.83	4.44	6.83	6.02	7.03	5.20	5.27	5.12	5.36	4.18	4.16	4.28
CHARGE BALANCE (%)	-1	1	8	1	-0	-5	7	-3	-3	1	4	-4	-1	2
TDS (mg/L)	338	340	346	296	396	334	408	306	290	294	300	200	216	268
TSS (mg/L)	68	40	88	5	3	6	2	<1	<1	<1	<1	2	<1	1
Turbidity (NTU)	27	12	38	3.6	2.5	4.7	3.4	0.9	1.5	0.6	3.4	1.3	0.5	0.5

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1994

Sampling Point	GW-751	GW-752				GW-758				GW-759				GW-760
Unit	AQT	AQT				AQT				AQT				AQT
Location	GRIDJ3	GRIDJ3				GRIDG1				GRIDG1				GRIDG2
Date Sampled	10/25/94	01/26/94	05/25/94	07/30/94	10/25/94	02/05/94	05/06/94	08/29/94	11/02/94	02/05/94	05/06/94	08/29/94	11/02/94	02/08/94
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	3.04	1.50	1.35	1.55	1.40	3.34	3.24	3.39	3.29	3.34	3.39	3.59	3.54	5.49
Magnesium	0.82	0.30	0.30	0.30	0.28	0.72	0.78	0.77	0.71	0.78	0.82	0.82	0.81	0.99
Potassium	0.08	0.05	0.04	0.05	0.05	0.06	0.07	0.07	0.07	0.05	0.05	0.06	0.05	0.04
Sodium	0.37	0.39	0.43	0.41	0.42	0.57	0.61	0.61	0.65	0.52	0.52	0.52	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	4.32	2.23	2.11	2.31	2.15	4.69	4.70	4.84	4.72	4.70	4.79	4.99	4.92	6.94
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	3.76	0.86	0.80	1.10	0.84	3.96	3.88	4.04	3.94	3.90	3.86	3.96	3.90	3.20
Chloride	0.37	0.99	1.50	1.16	1.30	0.52	0.45	0.49	0.48	0.56	0.65	0.65	0.71	3.53
Fluoride	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.00
Nitrate Nitrogen	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
Sulfate	0.44	0.14	0.10	0.21	0.08	0.37	0.37	0.38	0.42	0.39	0.40	0.56	0.46	0.44
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	4.59	1.99	2.40	2.46	2.22	4.85	4.71	4.91	4.84	4.86	4.91	5.18	5.07	7.20
CHARGE BALANCE (%)	-3	6	-6	-3	-2	-2	-0	-1	-1	-2	-1	-2	-1	-2
TDS (mg/L)	234	128	154	174	150	286	300	322	292	280	310	336	302	460
TSS (mg/L)	<1	1	1	<1	<1	5	1	12	4	9	232	58	5	3
Turbidity (NTU)	0.1	1.1	1.2	0.7	3.9	4.1	2	32	0.4	30	200	75	5.5	5.2

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1994

Sampling Point .	GW-760				GW-761				GW-762				GW-763			
	AQT				AQT				AQT				AQT			
	GRID2				GRID2				GRIDJ3				GRIDJ3			
	05/09/94	08/30/94	11/22/94	02/05/94	05/09/94	08/30/94	11/03/94	02/03/94	05/05/94	09/21/94	11/09/94	02/03/94	05/05/94	09/21/94		
CATIONS (meq/L)																
Calcium	5.99	5.99	5.49	1.35	1.40	1.40	1.25	4.09	4.04	4.19	4.49	5.49	5.49	5.49	5.49	
Magnesium	1.23	1.32	0.99	0.21	0.23	0.22	0.21	2.14	2.14	2.14	2.14	1.15	1.07	1.07	1.07	
Potassium	0.04	0.05	0.05	0.03	0.00	0.02	0.02	0.10	0.09	0.09	0.10	0.00	0.02	0.03	0.03	
Sodium	0.52	0.52	0.48	0.25	0.25	0.27	0.23	0.37	0.37	0.37	0.35	0.44	0.42	0.44	0.44	
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	0.00	
Total Cations	7.79	7.88	7.00	1.84	1.88	1.90	1.70	6.71	6.64	6.79	7.08	7.08	7.00	7.00	7.02	
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	0.00	
Alkalinity-HCO3	3.26	3.36	3.36	1.52	1.56	1.56	1.58	5.74	5.66	5.70	5.64	6.02	5.74	6.37	6.37	
Chloride	3.89	3.92	3.24	0.13	0.11	0.10	0.08	0.79	0.79	0.76	0.03	1.24	1.16	1.13	1.13	
Fluoride	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	
Nitrate Nitrogen	0.05	0.08	0.06	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Sulfate	0.41	0.60	0.42	0.20	0.20	0.42	0.29	0.27	0.27	0.37	0.37	0.04	0.02	0.15	0.15	
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	0.00	
Total Anions	7.62	7.97	7.08	1.85	1.87	2.09	1.96	6.80	6.72	6.84	6.04	7.31	6.92	7.66	7.66	
CHARGE BALANCE (%)																
	1	-1	-1	-0	0	-5	-7	-1	-1	-0	8	-2	1	-4	-4	
TDS (mg/L)	518	774	502	134	154	110	136	376	370	338	360	406	418	372	372	
TSS (mg/L)	33	8	47	3	3	91	44	14	5	4	9	33	48	37	37	
Turbidity (NTU)	34	5.5	16	4.6	4.4	110	2.7	10	4.5	4	16	60	3.4	80	80	

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1994

Sampling Point	GW-763	GW-764				GW-765				GW-766				GW-767
Unit	AQT	AQT				AQT				AQT				AQT
Location	GRIDJ3	GRIDE1				GRIDE1				GRIDI2				GRIDI2
Date Sampled	11/09/94	02/03/94	05/05/94	08/24/94	11/01/94	02/04/94	05/05/94	08/24/94	11/02/94	01/27/94	04/25/94	08/09/94	10/31/94	01/27/94
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	5.99	2.30	2.35	2.30	2.25	4.69	4.89	4.99	4.94	2.15	1.95	1.55	1.55	0.14
Magnesium	1.07	0.50	0.51	0.52	0.48	0.79	0.82	0.90	0.81	0.56	0.58	0.66	0.55	0.08
Potassium	0.03	0.07	0.05	0.06	0.06	0.03	0.02	0.02	0.03	0.08	0.09	0.10	0.10	0.00
Sodium	0.43	1.13	1.17	1.22	1.17	0.38	0.37	0.44	0.42	0.61	0.57	0.57	0.52	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	7.52	4.00	4.08	4.09	3.95	5.89	6.11	6.35	6.20	3.40	3.19	2.87	2.72	0.36
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	0.28	0.40	0.16	0.00
Alkalinity-HCO3	5.50	3.82	3.64	3.20	3.78	5.64	5.64	5.76	5.62	3.00	2.50	1.90	2.60	0.22
Chloride	1.21	0.08	0.08	0.09	0.13	0.28	0.28	0.28	0.28	0.37	0.12	0.10	0.09	0.14
Fluoride	0.02	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.00
Nitrate Nitrogen	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Sulfate	0.16	0.19	0.17	0.31	0.29	0.21	0.17	0.29	0.25	0.27	0.17	0.27	0.25	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	0.01	0.01	0.00
Total Anions	6.92	4.09	3.89	3.61	4.21	6.13	6.08	6.33	6.16	3.68	3.08	2.67	3.11	0.42
CHARGE BALANCE (%)	4	-1	2	6	-3	-2	0	0	0	-4	2	4	-7	-8
TDS (mg/L)	366	246	254	228	236	350	358	354	370	178	194	184	188	32
TSS (mg/L)	18	11	9	2	<1	161	9	60	196	6	<1	117	2	1
Turbidity (NTU)	100	2.3	1.5	6.1	5.2	120	15	7.3	200	2.7	1.5	33	0.7	2.9

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1994

Sampling Point .	GW-767				GW-768				GW-769				GW-770			
	AQT				AQT				AQT				AQT			
	GRID2				GRID1				GRID3				GRID3			
	04/25/94	08/09/94	10/31/94	01/26/94	04/22/94	08/09/94	10/31/94	02/08/94	05/10/94	08/31/94	11/07/94	02/08/94	05/10/94	08/31/94		
CATIONS (meq/L)																
Calcium	0.14	0.15	0.12	1.75	2.00	2.10	2.00	3.89	3.64	3.74	3.69	2.84	2.30	2.64		
Magnesium	0.10	0.10	0.07	0.53	0.61	0.64	0.63	0.90	0.99	0.90	0.82	0.33	0.30	0.32		
Potassium	0.02	0.02	0.03	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.07	0.06	0.07	0.06		
Sodium	0.12	0.13	0.12	3.05	3.09	3.00	3.18	0.29	0.30	0.31	0.27	0.25	0.20	0.21		
Hydrogen Ion	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	0.00		
Total Cations	0.38	0.40	0.34	5.40	5.76	5.82	5.88	5.17	5.00	5.04	4.85	3.48	2.87	3.23		
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	0.18	0.22	0.22	5.24	6.00	0.24	5.24	4.16	4.06	4.08	3.94	2.56	2.40	2.92		
Chloride	0.13	0.11	0.11	0.14	0.08	0.09	0.10	0.48	0.49	0.48	0.65	0.20	0.11	0.12		
Fluoride	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.01	0.01	0.01		
Nitrate Nitrogen	0.00	0.03	0.00	0.00	0.02	0.00	0.03	0.00	0.00	0.00	0.00	0.04	0.19	0.05		
Sulfate	0.06	0.16	0.13	0.40	0.27	0.33	0.37	0.35	0.35	0.42	0.44	0.48	0.41	0.50		
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	0.37	0.52	0.46	5.79	6.39	0.69	5.76	4.99	4.89	4.97	5.02	3.29	3.13	3.60		
CHARGE BALANCE (%)																
	1	-13	-15	-3	-5	79	1	2	1	1	-2	3	-4	-5		
TDS (mg/L)	50	50	58	308	310	328	328	274	278	266	292	182	188	218		
TSS (mg/L)	1	11	46	94	4	10	2	1	<1	<1	1	6	5	1		
Turbidity (NTU)	1.8	7	18	72	2	1.7	4.5	1.5	2	1.4	0.6	4.5	1.3	2		

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1994

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Sampling Point	GW-770	GW-771				GW-772				GW-773				GW-774
Unit	AQT	AQT				AQT				AQT				AQT
Location	GRIDG3	GRIDC1				GRIDC1				GRIDH2				GRIDH2
Date Sampled	11/07/94	02/02/94	05/02/94	08/24/94	11/01/94	02/03/94	05/02/94	08/24/94	11/01/94	01/28/94	04/26/94	08/10/94	11/01/94	01/28/94
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	3.24	3.54	3.64	3.59	3.59	0.65	0.70	0.65	0.55	2.94	2.79	2.79	2.69	3.64
Magnesium	0.33	0.61	0.61	0.63	0.59	0.48	0.58	0.52	0.41	0.58	0.55	0.59	0.58	0.52
Potassium	0.08	0.05	0.03	0.03	0.04	0.04	0.03	0.03	0.04	0.04	0.03	0.04	0.04	0.04
Sodium	0.23	0.23	0.22	0.24	0.25	0.87	1.13	1.13	1.04	0.20	0.19	0.22	0.22	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	3.88	4.43	4.49	4.50	4.47	2.03	2.44	2.33	2.05	3.75	3.57	3.64	3.54	4.40
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	2.92	4.14	4.08	4.02	4.12	2.12	2.40	2.04	2.34	3.42	3.40	3.40	3.24	4.02
Chloride	0.13	0.31	0.26	0.22	0.16	1.07	2.12	1.30	0.34	0.31	0.08	0.08	0.13	0.25
Fluoride	0.01	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	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Sulfate	0.52	0.25	0.29	0.35	0.33	0.27	0.16	0.20	0.18	0.25	0.10	0.21	0.23	0.18
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	3.64	4.70	4.63	4.60	4.61	3.46	4.68	3.54	2.85	4.00	3.59	3.70	3.60	4.45
CHARGE BALANCE (%)	3	-3	-1	-1	-1	-26	-31	-21	-16	-3	-0	-1	-1	-1
TDS (mg/L)	232	280	288	294	274	208	240	224	212	216	204	214	214	262
TSS (mg/L)	20	3	<1	1	<1	5	4	6	<1	<1	<1	8	<1	52
Turbidity (NTU)	55	2.5	1.5	2.9	1.5	7	11	6.9	2.4	1.1	0.6	0.5	1	26

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1994

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Sampling Point	GW-774			GW-775				GW-776				GW-777		
Unit	AQT			AQT				AQT				AQT		
Location	GRIDH2			GRIDH3				GRIDH3				GRIDB2		
Date Sampled	04/26/94	08/10/94	11/01/94	01/31/94	04/26/94	08/11/94	11/01/94	01/31/94	04/29/94	08/11/94	11/01/94	05/20/94	08/14/94	10/31/94
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	3.49	3.39	3.49	4.04	3.94	3.89	4.04	4.94	4.69	4.69	4.89	3.29	3.39	0.10
Magnesium	0.49	0.50	0.51	0.53	0.52	0.56	0.56	0.39	0.49	0.44	0.42	0.62	0.60	0.02
Potassium	0.05	0.05	0.06	0.06	0.06	0.10	0.08	0.09	0.08	0.08	0.08	0.05	0.05	0.00
Sodium	0.18	0.19	0.20	0.19	0.18	0.20	0.18	0.61	0.61	0.52	0.57	0.42	0.42	0.01
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	4.20	4.14	4.27	4.82	4.70	4.75	4.87	6.03	5.86	5.73	5.96	4.38	4.46	0.13
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	3.96	3.94	3.94	3.28	3.38	3.32	3.48	3.66	3.86	3.72	3.96	4.10	4.10	4.10
Chloride	0.11	0.10	0.14	0.79	0.90	0.76	0.25	1.24	1.24	1.10	0.31	0.06	0.14	0.08
Fluoride	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
Nitrate Nitrogen	0.00	0.02	0.00	0.04	0.04	0.04	0.03	0.13	0.09	0.09	0.09	0.00	0.04	0.00
Sulfate	0.12	0.23	0.25	0.65	0.60	0.60	0.58	0.81	0.92	0.92	0.81	0.21	0.33	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	4.19	4.30	4.32	4.75	4.93	4.73	4.34	5.84	6.13	5.82	5.17	4.37	4.61	4.46
CHARGE BALANCE (%)	0	-2	-1	1	-2	0	6	2	-2	-1	7	0	-2	-94
TDS (mg/L)	246	262	260	290	308	308	292	364	366	380	360	252	288	258
TSS (mg/L)	2	26	8	18	<1	2	<1	63	16	60	24	6	<1	10
Turbidity (NTU)	1.1	12	240	0.4	0.8	2.7	0.9	56	14	150	16	5.6	2.8	3.4

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1994

Sampling Point Unit Location Date Sampled	GW-778				GW-779				GW-780				GW-781				GW-782			
	AQT				AQT				AQT				AQT				AQT			
	GRIDE2				GRIDE2				GRIDE2				GRIDE3				GRIDE3			
	05/20/94	08/14/94	10/31/94	06/09/94	09/08/94	11/29/94	06/09/94	09/08/94	11/29/94	06/09/94	09/08/94	11/29/94	06/15/94	09/09/94	12/01/94	06/16/94	09/12/94			
CATIONS (meq/L)																				
Calcium	2.74	3.19	3.04	0.27	0.28	0.30	5.99	6.49	5.99	0.70	0.60	0.90	4.44	0.35	0.46	1.23	3.84			
Magnesium	0.81	0.82	0.76	0.17	0.17	0.17	1.40	1.48	1.32	0.42	0.35	0.35	1.23	0.13	0.15	0.12	1.23			
Potassium	0.04	0.04	0.04	0.08	0.06	0.07	0.07	0.06	0.07	0.14	0.13	0.15	0.12	0.13	0.15	0.12	0.13			
Sodium	0.57	0.57	0.57	3.83	3.70	3.78	0.70	0.70	0.70	3.44	3.31	3.18	0.48	0.00	0.00	0.00	0.42			
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	0.00	0.00	0.00			
Total Cations	4.15	4.62	4.40	4.35	4.22	4.33	8.15	8.72	8.07	4.70	4.39	4.69	6.27	5.62						
ANIONS (meq/L)																				
Alkalinity-CO3	0.00	0.00	0.00	0.48	0.20	0.08	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00			
Alkalinity-HCO3	3.10	3.30	3.32	3.48	3.64	4.00	5.38	5.24	5.50	4.24	3.96	4.02	4.98	3.96	4.02	4.98	4.86			
Chloride	0.25	0.37	0.05	0.08	0.09	0.09	2.60	2.79	3.84	0.31	0.20	0.25	0.54	0.20	0.25	0.54	0.62			
Fluoride	0.00	0.01	0.01	0.03	0.03	0.03	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00			
Nitrate Nitrogen	0.08	0.07	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00			
Sulfate	0.48	0.54	0.14	0.23	0.27	0.18	0.33	0.33	0.27	0.29	0.25	0.17	0.35	0.25	0.17	0.35	0.29			
Hydroxyl Ion	0.00	0.00	0.00	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 Anions	3.91	4.28	3.50	4.30	4.24	4.40	8.30	8.37	9.60	4.84	4.45	4.44	5.90	4.44	4.44	5.90	5.77			
CHARGE BALANCE (%)	3	4	11	1	-0	-1	-1	2	-9	-2	-1	3	3	-1	3	3	-1			
TDS (mg/L)	244	298	286	266	230	260	516	542	480	280	266	268	340	266	268	340	342			
TSS (mg/L)	13	91	76	3	2	1	174	4	<1	10	11	82	3	11	82	3	<1			
Turbidity (NTU)	8.7	90	70	4.4	6.4	5.5	2.2	5.7	5.3	4.6	5	48	3.5	5	48	3.5	1.2			

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APPENDIX G
Ion-Charge Balance Calculations, 1994

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Sampling Point	GW-782	GW-783			GW-784			GW-785			GW-786			GW-787
Unit	AQT	AQT			AQT			AQT			AQT			AQT
Location	GRIDE3	GRIDE3			GRIDD1			GRIDD1			GRIDE2			GRIDE2
Date Sampled	12/02/94	06/16/94	09/12/94	12/02/94	06/06/94	09/01/94	11/28/94	06/07/94	09/06/94	11/28/94	06/08/94	09/07/94	11/28/94	06/08/94
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	3.99	4.49	4.99	4.89	4.14	4.04	4.14	0.10	0.09	0.10	3.44	3.29	3.54	0.11
Magnesium	1.23	0.53	0.67	0.72	0.72	0.72	0.73	0.12	0.12	0.12	0.99	0.99	1.07	0.10
Potassium	0.13	0.04	0.07	0.09	0.08	0.07	0.07	0.04	0.04	0.04	0.05	0.05	0.06	0.03
Sodium	0.48	0.65	0.61	0.61	0.34	0.33	0.31	0.42	0.48	0.43	0.37	0.39	0.41	0.21
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	5.84	5.71	6.33	6.30	5.28	5.15	5.26	0.68	0.73	0.68	4.86	4.71	5.08	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	5.00	4.24	4.78	5.22	4.28	4.38	4.30	1.08	1.02	0.94	4.48	4.50	4.42	0.22
Chloride	0.62	0.48	0.56	0.54	0.71	0.71	0.76	0.56	0.56	0.54	0.37	0.31	0.31	0.08
Fluoride	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	0.00
Nitrate Nitrogen	0.04	0.09	0.09	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
Sulfate	0.31	0.46	0.48	0.44	0.25	0.33	0.25	0.00	0.00	0.00	0.25	0.27	0.14	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	5.97	5.26	5.91	6.26	5.24	5.42	5.31	1.64	1.58	1.48	5.09	5.08	4.87	0.46
CHARGE BALANCE (%)	-1	4	3	0	0	-2	-0	-41	-37	-37	-2	-4	2	-1
TDS (mg/L)	326	316	342	350	382	342	364	92	110	134	282	330	324	48
TSS (mg/L)	2	2	9	33	1	10	4	54	17	98	7	2	2	140
Turbidity (NTU)	2.4	3	19	50	1.1	2	50	33	9.5	70	0.6	2.1	1.3	120

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APPENDIX G
Ion-Charge Balance Calculations, 1994

23

Sampling Point	GW-787		GW-788			GW-789			GW-791			GW-792		
Unit	AQT		AQT			AQT			AQT			AQT		
Location	GRIDE2		GRIDF3			GRIDF3			GRIDD2			GRIDD2		
Date Sampled	09/07/94	11/29/94	06/10/94	09/08/94	11/30/94	06/15/94	09/09/94	11/30/94	06/07/94	09/06/94	12/01/94	06/07/94	09/07/94	12/01/94
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	0.22	0.09	0.55	0.41	0.42	3.19	3.24	3.19	3.34	3.39	3.49	1.45	1.45	1.40
Magnesium	0.17	0.09	0.25	0.21	0.20	0.77	0.72	0.72	1.15	1.15	1.15	0.26	0.25	0.25
Potassium	0.00	0.04	0.14	0.14	0.14	0.07	0.07	0.10	0.08	0.06	0.06	0.04	0.02	0.04
Sodium	0.17	0.14	5.22	5.22	5.22	0.25	0.26	0.28	0.33	0.34	0.36	0.36	0.35	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	0.56	0.36	6.15	5.98	5.98	4.28	4.30	4.29	4.91	4.95	5.06	2.10	2.06	2.07
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.04	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	0.26	0.20	5.44	5.04	4.92	3.60	3.60	3.48	4.60	4.72	4.66	1.32	0.94	0.72
Chloride	0.08	0.08	0.17	0.22	0.23	0.16	0.16	0.17	0.14	0.21	0.15	0.06	0.11	0.11
Fluoride	0.00	0.00	0.07	0.08	0.07	0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.01
Nitrate Nitrogen	0.03	0.04	0.00	0.03	0.05	0.07	0.06	0.09	0.00	0.04	0.00	0.24	0.36	0.34
Sulfate	0.14	0.00	0.60	0.56	0.50	0.40	0.42	0.37	0.23	0.31	0.23	0.54	0.56	0.56
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	0.50	0.32	6.29	5.97	5.89	4.22	4.24	4.11	4.97	5.28	5.03	2.17	1.98	1.74
CHARGE BALANCE (%)	5	6	-1	0	1	1	1	2	-1	-3	0	-1	2	9
TDS (mg/L)	80	56	402	402	434	252	284	290	288	312	290	174	218	174
TSS (mg/L)	10	<1	12	93	89	122	57	160	<1	1	1	5	8	10
Turbidity (NTU)	20	14	1	135	110	110	76	112	1.4	2	0.1	18	10.1	3.2

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1994

Sampling Point . Unit . Location . Date Sampled	GW-816		GW-817	
	AQT		AQT	
	EXP-SR		GRIDK3	
	09/21/94	11/28/94	09/21/94	11/28/94
CATIONS (meq/L)	.	.	.	.
	.	.	.	.
Calcium	2.40	2.50	3.69	3.34
Magnesium	1.15	1.32	0.69	0.61
Potassium	0.15	0.16	0.05	0.13
Sodium	0.19	0.20	0.22	0.44
Hydrogen Ion	0.00	0.00	0.00	0.00
.	.	.	.	.
Total Cations	3.89	4.18	4.65	4.52
	.	.	.	.
ANIONS (meq/L)	.	.	.	.
	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00
Alkalinity-HCO3	4.06	4.44	4.30	0.00
Chloride	0.13	0.18	0.13	0.16
Fluoride	0.01	0.00	0.00	0.00
Nitrate Nitrogen	0.00	0.04	0.00	0.04
Sulfate	0.14	0.03	0.35	0.46
Hydroxyl Ion	0.00	0.00	0.00	0.00
.	.	.	.	.
Total Anions	4.32	4.68	4.78	0.66
	.	.	.	.
CHARGE BALANCE (%)	-5	-6	-1	75
	.	.	.	.
TDS (mg/L)	198	294	230	338
TSS (mg/L)	81	2	35	54
Turbidity (NTU)	95	7	20	36

APPENDIX G
Ion-Charge Balance Calculations, 1994

Sampling Point . Unit . Location . Date Sampled	LRS		LRSPW	
	CREEK		CREEK	
	EXP-SW		EXP-SW	
	09/07/94	12/27/94	09/07/94	12/27/94
CATIONS (meq/L)	.	.	.	.
	.	.	.	.
Calcium	3.19	3.29	3.24	2.84
Magnesium	0.90	0.90	0.99	0.90
Potassium	0.07	0.06	0.08	0.05
Sodium	0.87	0.52	1.00	0.43
Hydrogen Ion	0.00	0.00	0.00	0.00
.	.	.	.	.
Total Cations	5.03	4.78	5.31	4.22
	.	.	.	.
ANIONS (meq/L)	.	.	.	.
	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00
Alkalinity-HCO3	3.06	3.42	2.56	2.96
Chloride	0.51	0.37	0.56	0.34
Fluoride	0.04	0.03	0.05	0.04
Nitrate Nitrogen	0.21	0.24	0.24	0.27
Sulfate	1.50	0.87	1.94	0.90
Hydroxyl Ion	0.00	0.00	0.00	0.00
.	.	.	.	.
Total Anions	5.31	4.93	5.35	4.50
	.	.	.	.
CHARGE BALANCE (%)	-3	-2	-0	-3
	.	.	.	.
TDS (mg/L)	346	324	370	310
TSS (mg/L)	10	<1	8	<1
Turbidity (NTU)	0.4	0.3	1.2	0.2

APPENDIX H

TRACE METAL CONCENTRATIONS THAT EXCEED MAXIMUM CONTAMINANT LEVELS

EXPLANATION

SAMPLING POINT:

GW - Monitoring Well
LRS - Lake Reality Sump (Surface Water Location)
LRSPW - Lake Reality Emergency Spillway (Surface Water Location)

UNIT:

AQF - Knox Aquifer
AQT - ORR Aquitards

LOCATION:

B4 - Beta-4 Security Pits
EXP - Exit Pathway:
 Maynardville Limestone Transverse (-E, -I, -J)
 Offsite, in Union Valley (-UV)
 Along Scarboro Road in the gap through Pine Ridge (-SR)
 Surface Water Sampling Location (-SW)
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
WC - Waste Coolant Processing Area

NOTES:

mg/L - milligrams per liter
 . - Total Metal Concentration less than the
 Maximum Contaminant Level (MCL)
TOT - Total Concentration (Unfiltered Sample)
DIS - Dissolved Concentration (Filtered Sample)
TSS - Total Suspended Solids

EXPLANATION (cont'd)

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.

APPENDIX H

1

Trace Metal Concentrations That Exceed
Maximum Contaminant Levels, 1994

Sampling Point	GW-154		GW-191		GW-199		GW-206		GW-251	
Unit	AQF		AQT		AQT		AQT		AQF	
Location	NHP		B4		GRID11		EXP-SR		S2	
Date Sampled	11/15/94		08/20/94		08/08/94		01/30/94		02/07/94	
Type	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Barium	.	.	.	.	.	.	.	.	.	.
Cadmium (AAS)	.	.	.	.	.	.	.	.	0.15	0.15
Cadmium	.	.	.	.	.	.	.	.	0.15	0.15
Chromium (AAS)	.	.	0.11	<0.01	0.18	<0.01	.	.	.	.
Chromium	.	.	.	.	0.11	<0.01	.	.	.	.
Lead (AAS)	0.056	<0.004	.	.	0.22	<0.004	0.095	<0.004	.	.
Lead	0.051	<0.05	.	.	0.19	<0.05	0.085	<0.05	.	.
Mercury (CVAA)	0.019	0.00026	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	3	0	188	0	256	0	1384	0	223	0
Turbidity (NTU)	6	6	140	140	22	22	450	450	140	140

(CONTINUED)

Sampling Point	GW-251						GW-263		GW-380	
Unit	AQF						AQT		AQF	
Location	S2						SY		NHP	
Date Sampled	05/09/94		08/22/94		12/03/94		10/31/94		02/04/94	
Type	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Barium	.	.	.	.	.	.	.	.	.	.
Cadmium (AAS)	0.16	0.16	0.1	0.096	0.072	0.072	.	.	.	.
Cadmium	0.16	0.16	0.11	0.11	0.073	0.07	.	.	.	.
Chromium (AAS)	.	.	.	.	.	.	56	<0.01	0.66	<0.01
Chromium	.	.	.	.	.	.	49	<0.01	0.5	<0.01
Lead (AAS)	.	.	.	.	.	.	0.1	<0.004	.	.
Lead	.	.	.	.	.	.	.	.	0.064	<0.05
Mercury (CVAA)	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	99	0	193	0	74	0	1430	0	141	0
Turbidity (NTU)	62	62	160	160	50	50	1600	1600	16	16

(CONTINUED)

APPENDIX H

2

Trace Metal Concentrations That Exceed
Maximum Contaminant Levels, 1994

Sampling Point	GW-380						GW-505		GW-603	
Unit	AQF						AQT		AQF	
Location	NHP						RG		EXP-J	
Date Sampled	05/11/94		09/21/94		11/15/94		03/01/94		09/20/94	
Type	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Barium	.	.	.	.	.	.	.	.	.	.
Cadmium (AAS)	.	.	.	.	.	.	.	.	.	.
Cadmium	.	.	.	.	.	.	.	.	.	.
Chromium (AAS)	3.1	<0.01	9.7	0.035	1.7	0.027	0.63	<0.01	0.15	<0.01
Chromium	2.1	<0.01	9	0.037	1.8	0.022	0.51	<0.01	0.14	<0.01
Lead (AAS)	.	.	.	.	.	.	.	.	.	.
Lead	.	.	.	.	.	.	.	.	.	.
Mercury (CVAA)	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	56	0	385	0	28	0	259	0	24	0
Turbidity (NTU)	76	76	480	480	405	405	200	200	14	14

(CONTINUED)

Sampling Point	GW-603		GW-617		GW-618					
Unit	AQF		AQF		AQF					
Location	EXP-J		EXP-E		EXP-E					
Date Sampled	12/04/94		08/21/94		02/07/94		05/05/94		08/21/94	
Type	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Barium	.	.	.	.	.	.	.	.	.	.
Cadmium (AAS)	.	.	.	.	0.022	0.015	0.018	0.011	0.021	0.012
Cadmium	.	.	.	.	0.021	0.016	0.016	0.0089	0.02	0.012
Chromium (AAS)	0.21	<0.01	0.31	<0.01	.	.	.	.	.	.
Chromium	0.18	<0.01	0.25	<0.01	.	.	.	.	.	.
Lead (AAS)	.	.	.	.	.	.	.	.	.	.
Lead	.	.	.	.	.	.	.	.	.	.
Mercury (CVAA)	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	2	0	12355	0	<1	0	<1	0	26	0
Turbidity (NTU)	4.4	4.4	3500	3500	0.7	0.7	7	7	0.5	0.5

(CONTINUED)

APPENDIX H

3

Trace Metal Concentrations That Exceed
Maximum Contaminant Levels, 1994

Sampling Point	GW-618		GW-633		GW-746		GW-760			
Unit	AQF		AQT		AQT		AQT			
Location	EXP-E		RG		GRIDK1		GRIDG2			
Date Sampled	12/03/94		03/03/94		10/27/94		05/09/94		08/30/94	
Type	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Barium	.	.	5.3	12	.	.	.	.	.	.
Cadmium (AAS)	0.022	0.011	.	.	.	.	.	.	.	.
Cadmium	0.022	0.011	.	.	.	.	.	.	.	.
Chromium (AAS)	.	.	.	.	0.3	<0.01	0.22	<0.01	0.25	<0.01
Chromium	.	.	.	.	0.33	<0.01	0.2	<0.01	0.24	<0.01
Lead (AAS)	.	.	.	.	.	.	.	.	.	.
Lead	.	.	.	.	.	.	.	.	.	.
Mercury (CVAA)	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	<1	0	39	0	14	0	33	0	8	0
Turbidity (NTU)	0.8	0.8	20	20	17	17	34	34	5.5	5.5

(CONTINUED)

Sampling Point	GW-760		GW-761		GW-764		GW-776			
Unit	AQT		AQT		AQT		AQT			
Location	GRIDG2		GRIDG2		GRIDE1		GRIDH3			
Date Sampled	11/22/94		11/03/94		11/01/94		01/31/94		04/29/94	
Type	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Barium	.	.	.	.	.	.	.	.	.	.
Cadmium (AAS)	.	.	.	.	.	.	.	.	.	.
Cadmium	.	.	.	.	.	.	.	.	.	.
Chromium (AAS)	0.39	<0.01	0.88	<0.01	.	.	.	.	2.6	<0.01
Chromium	0.39	<0.01	0.69	<0.01	.	.	0.11	<0.01	2.3	<0.01
Lead (AAS)	.	.	.	.	.	.	.	.	.	.
Lead	.	.	.	.	.	.	.	.	.	.
Mercury (CVAA)	.	.	.	.	0.0032	<0.0002	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	47	0	44	0	<1	0	63	0	16	0
Turbidity (NTU)	16	16	2.7	2.7	5.2	5.2	56	56	14	14

(CONTINUED)

APPENDIX H

4

Trace Metal Concentrations That Exceed
Maximum Contaminant Levels, 1994

Sampling Point	GW-776				GW-778				GW-780	
Unit	AQT				AQT				AQT	
Location	GRIDH3				GRIDB2				GRIDF2	
Date Sampled	08/11/94		11/01/94		05/20/94		08/14/94		09/08/94	
Type	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Barium	.	.	.	.	.	.	.	.	.	.
Cadmium (AAS)	.	.	.	.	.	.	.	.	.	.
Cadmium	.	.	.	.	.	.	.	.	.	.
Chromium (AAS)	1.6	<0.01	1.1	0.07	0.16	<0.01	0.13	<0.01	1.1	<0.01
Chromium	1.3	<0.01	1.1	0.078	0.13	<0.01	0.12	<0.01	0.8	<0.01
Lead (AAS)	.	.	.	.	.	.	.	.	.	.
Lead	.	.	.	.	.	.	.	.	.	.
Mercury (CVAA)	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	60	0	24	0	13	0	91	0	4	0
Turbidity (NTU)	150	150	16	16	8.7	8.7	90	90	5.7	5.7

(CONTINUED)

Sampling Point	GW-783		GW-784		GW-787	
Unit	AQT		AQT		AQT	
Location	GRIDE3		GRIDD1		GRIDE2	
Date Sampled	12/02/94		06/06/94		06/08/94	
Type	TOT	DIS	TOT	DIS	TOT	DIS
Barium	.	.	.	.	.	.
Cadmium (AAS)	.	.	.	.	.	.
Cadmium	.	.	0.0054	<0.003	.	.
Chromium (AAS)	0.87	<0.01	.	.	0.15	<0.01
Chromium	0.88	<0.01	.	.	.	.
Lead (AAS)	.	.	.	.	.	.
Lead	.	.	.	.	.	.
Mercury (CVAA)	.	.	.	.	.	.
.	.	.	.	.	.	.
TSS (mg/L)	33	0	1	0	140	0
Turbidity (NTU)	50	50	1.1	1.1	120	120

APPENDIX I
QA/QC DATA SUMMARIES

EXPLANATION

SAMPLING POINT:

- GW - Monitoring Well
- LRS - Lake Reality Sump (Surface Water Location)
- LRSPW - Lake Reality Emergency Spillway (Surface Water Location)

LOCATION:

- B4 - Beta-4 Security Pits
- EXP - Exit Pathway:
 - Maynardville Limestone Transverse (-E, -I, -J)
 - Offsite, in Union Valley (-UV)
 - Along Scarboro Road in the gap through Pine Ridge (-SR)
 - Surface Water Sampling Location (-SW)
- 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
- WC - Waste Coolant Processing Area

NOTES:

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

UNITS:

- ug/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 I.1

**CORRELATION OF GROUNDWATER AND SURFACE WATER
SAMPLES TO ASSOCIATED BLANKS**

APPENDIX I.1
Correlation of Samples to Associated Blanks
First Quarter 1994

Sampling Point	Location	Date Sampled	Sample No.	Trip Blank No.	Lab Blank No.
GW-151	NHP	02/05/94	940207-075	940207-077	940210-020
GW-169	EXP-UV	01/31/94	940131-205	940131-207	940203-051
GW-170	EXP-UV	02/02/94	940202-089	940202-091	940208-001
GW-191	B4	02/04/94	940204-083	940204-087	940209-261
GW-192	B4	02/05/94	940207-002	940207-010	940210-020
GW-194	B4	02/04/94	940204-085	940204-087	940209-261
GW-195	B4	02/05/94	940207-004	940207-010	940210-020
GW-199	GRID11	01/14/94	940114-089	940114-091	940120-001
GW-206	EXP-SR	01/30/94	940131-009	940131-015	940202-049
GW-207	EXP-SR	01/28/94	940128-102	940128-104	940202-049
GW-208	EXP-SR	01/30/94	940131-011	940131-015	940202-045
GW-220	NHP	02/05/94	940207-073	940207-077	940210-020
GW-232	EXP-UV	02/01/94	940202-018	940202-020	940208-001
GW-240	NHP	02/04/94	940204-078	940204-082	940209-261
GW-251	S2	02/07/94	940208-008	940208-012	940211-055
GW-337	WC	02/08/94	940208-050	940208-052	940214-006
GW-338	WC	02/05/94	940207-008	940207-010	940210-020
GW-380	NHP	02/04/94	940204-080	940204-082	940209-261
GW-381	NHP	02/09/94	940209-189	940209-191	940215-029
GW-382	NHP	02/08/94	940208-104	940208-106	940214-006
GW-383	NHP	02/05/94	940207-071	940207-077	940210-020
GW-384	NHP	02/01/94	940201-056	940201-058	940203-051
GW-385	NHP	01/31/94	940131-147	940131-149	940203-051
GW-505	RG	03/01/94	940301-085	940301-087	940303-047
GW-508	RG	03/02/94	940302-107	940302-111	940303-047
GW-603	EXP-J	01/31/94	940131-128	940131-130	940202-045
GW-604	EXP-J	02/01/94	940201-067	940201-069	940203-051
GW-605	EXP-I	02/02/94	940202-083	940202-087	940203-051
GW-606	EXP-I	02/03/94	940203-128	940203-130	940209-261
GW-617	EXP-E	02/05/94	940207-006	940207-010	940210-020
GW-618	EXP-E	02/07/94	940208-006	940208-012	940211-055
GW-619	FTF	02/07/94	940208-002	940208-012	940211-055
GW-620	FTF	02/07/94	940208-004	940208-012	940211-055
GW-631	RG	03/01/94	940301-081	940301-087	940303-047
GW-632	RG	03/02/94	940302-109	940302-111	940307-001
GW-633	RG	03/03/94	940303-052	940303-056	940307-001
GW-634	RG	03/01/94	940301-083	940301-087	940303-047
GW-733	EXP-J	01/30/94	940131-002	940131-008	940202-049
GW-735	EXP-J	02/02/94	940202-085	940202-087	940203-051
GW-744	GRIDK1	01/27/94	940128-002	940128-008	940201-051
GW-745	GRIDK1	01/27/94	940128-004	940128-008	940201-051
GW-746	GRIDK1	01/27/94	940128-006	940128-008	940201-051
GW-747	GRIDK2	01/28/94	940128-105	940128-109	940202-049
GW-748	GRIDK2	01/28/94	940128-107	940128-109	940202-049
GW-749	GRIDK2	01/30/94	940131-004	940131-008	940202-049
GW-750	EXP-J	01/30/94	940131-006	940131-008	940202-049

APPENDIX I.1
Correlation of Samples to Associated Blanks
First Quarter 1994

Sampling Point	Location	Date Sampled	Sample No.	Trip Blank No.	Lab Blank No.
GW-751	GRIDJ3	01/26/94	940126-065	940126-071	940127-655
GW-752	GRIDJ3	01/26/94	940126-069	940126-071	940127-655
GW-758	GRIDG1	02/05/94	940207-015	940207-019	940210-020
GW-759	GRIDG1	02/05/94	940207-011	940207-019	940210-020
GW-760	GRIDG2	02/08/94	940209-049	940209-055	940214-006
GW-761	GRIDG2	02/05/94	940207-013	940207-019	940210-020
GW-762	GRIDJ3	02/03/94	940204-003	940204-007	940209-261
GW-763	GRIDJ3	02/03/94	940204-001	940204-007	940209-261
GW-764	GRIDE1	02/03/94	940203-123	940203-127	940208-001
GW-765	GRIDE1	02/04/94	940204-075	940204-077	940209-261
GW-766	GRIDI2	01/27/94	940128-009	940128-013	940201-051
GW-767	GRIDI2	01/27/94	940128-011	940128-013	940202-049
GW-768	GRIDI1	01/26/94	940127-001	940127-003	940127-655
GW-769	GRIDG3	02/08/94	940209-051	940209-055	940214-006
GW-770	GRIDG3	02/08/94	940209-053	940209-055	940214-006
GW-771	GRIDC1	02/02/94	940202-092	940202-094	940208-001
GW-772	GRIDC1	02/03/94	940203-125	940203-127	940208-001
GW-773	GRIDH2	01/28/94	940128-112	940128-116	940203-051
GW-774	GRIDH2	01/28/94	940128-110	940128-116	940202-049
GW-775	GRIDH3	01/31/94	940131-124	940131-126	940202-045
GW-776	GRIDH3	01/31/94	940131-122	940131-126	940202-045

APPENDIX I.1
Correlation of Samples to Associated Blanks
Second Quarter 1994

Sampling Point	Location	Date Sampled	Sample No.	Trip Blank No.	Lab Blank No.
GW-151	NHP	05/12/94	940513-001	940513-007	940516-084
GW-191	B4	05/02/94	940503-051	940503-053	940509-075
GW-192	B4	05/04/94	940504-152	940504-156	940505-070
GW-194	B4	05/02/94	940503-049	940503-053	940504-050
GW-195	B4	05/04/94	940504-154	940504-156	940505-070
GW-199	GRID11	04/22/94	940422-100	940422-102	940422-085
GW-206	EXP	06/15/94	940615-074	940615-076	940616-018
GW-207	EXP	05/24/94	940525-002	940525-006	940527-113
GW-208	EXP	05/26/94	940527-067	940527-069	940531-062
GW-220	NHP	05/12/94	940513-003	940513-007	940516-084
GW-240	NHP	05/11/94	940512-002	940512-006	940516-064
GW-251	S2	05/09/94	940509-085	940509-089	940513-063
GW-252	S2	05/13/94	940513-072	940513-076	940516-101
GW-255	S2	05/13/94	940513-074	940513-076	940516-101
GW-261	SY	05/11/94	940511-117	940511-119	940516-064
GW-262	SY	05/11/94	940511-113	940511-119	940516-064
GW-263	SY	05/12/94	940512-054	940512-058	940516-084
GW-264	SY	05/12/94	940512-056	940512-058	940516-084
GW-337	WC	05/10/94	940510-069	940510-071	940516-082
GW-338	WC	05/04/94	940504-150	940504-156	940505-070
GW-380	NHP	05/11/94	940512-004	940512-006	940516-064
GW-381	NHP	05/17/94	940517-085	940517-087	940520-009
GW-382	NHP	05/16/94	940517-003	940517-005	940520-009
GW-383	NHP	05/13/94	940513-086	940513-088	940516-101
GW-384	NHP	06/03/94	940603-079	940603-081	940608-024
GW-385	NHP	06/02/94	940602-301	940602-303	940606-060
GW-603	EXP	05/27/94	940527-084	940527-086	940531-062
GW-604	EXP	05/31/94	940531-089	940531-091	940602-282
GW-605	EXP	06/03/94	940603-102	940603-104	940608-024
GW-606	EXP	06/06/94	940606-195	940606-197	940609-319
GW-617	EXP	05/05/94	940505-039	940505-043	940509-075
GW-618	EXP	05/05/94	940505-041	940505-043	940509-075
GW-619	FTF	05/09/94	940509-081	940509-089	940513-063
GW-620	FTF	05/09/94	940509-083	940509-089	940516-101
GW-733	EXP	06/02/94	940602-298	940602-300	940606-060
GW-735	NHP	05/31/94	940531-087	940531-091	940602-282
GW-744	GRIDK1	05/26/94	940526-075	940526-079	940531-062
GW-745	GRIDK1	05/26/94	940526-077	940526-079	940531-062
GW-746	GRIDK1	05/27/94	940527-100	940527-104	940602-282
GW-747	GRIDK2	05/27/94	940527-102	940527-104	940602-282
GW-748	GRIDK2	05/31/94	940531-082	940531-086	940602-282
GW-749	GRIDK2	05/31/94	940531-084	940531-086	940602-282
GW-750	GRIDK2	06/01/94	940601-017	940601-020	940606-060
GW-751	GRIDJ3	05/25/94	940526-003	940526-007	940527-113
GW-752	GRIDJ3	05/25/94	940526-001	940526-007	940527-113
GW-758	GRIDG1	05/06/94	940506-061	940506-065	940511-099

APPENDIX I.1
Correlation of Samples to Associated Blanks
Second Quarter 1994

Sampling Point	Location	Date Sampled	Sample No.	Trip Blank No.	Lab Blank No.
GW-759	GRIDG1	05/06/94	940506-063	940506-065	940511-099
GW-760	GRIDG2	05/09/94	940509-076	940509-080	940513-063
GW-761	GRIDG2	05/09/94	940509-078	940509-080	940513-063
GW-762	GRIDJ3	05/05/94	940505-065	940505-069	940509-075
GW-763	GRIDJ3	05/05/94	940505-067	940505-069	940509-075
GW-764	GRIDE1	05/05/94	940505-074	940505-076	940509-075
GW-765	GRIDE1	05/05/94	940505-072	940505-076	940509-075
GW-766	GRIDI2	04/25/94	940425-094	940425-098	940428-071
GW-767	GRIDI2	04/25/94	940425-092	940425-098	940426-088
GW-768	GRIDI1	04/22/94	940422-098	940422-102	940422-085
GW-769	GRIDG3	05/10/94	940510-077	940510-081	940513-077
GW-770	GRIDG3	05/10/94	940510-079	940510-081	940513-063
GW-771	GRIDC1	05/02/94	940503-039	940503-045	940505-070
GW-772	GRIDC1	05/02/94	940503-043	940503-045	940504-050
GW-773	GRIDH2	04/26/94	940427-001	940427-007	940428-071
GW-774	GRIDH2	04/26/94	940427-003	940427-007	940428-071
GW-775	GRIDH3	04/26/94	940427-005	940427-007	940428-071
GW-776	GRIDH3	04/29/94	940429-067	940429-069	940502-116
GW-777	GRIDB2	05/20/94	940520-119	940520-121	940526-027
GW-778	GRIDB2	05/20/94	940520-123	940520-121	940526-027
GW-779	GRIDF2	06/09/94	940609-174	940609-178	940610-075
GW-780	GRIDF2	06/09/94	940609-176	940609-178	940613-001
GW-781	GRIDE3	06/15/94	940615-083	940615-085	940616-018
GW-782	GRIDE3	06/16/94	940616-096	940616-100	940617-005
GW-783	GRIDE3	06/16/94	940616-098	940616-100	940617-005
GW-784	GRIDD1	06/06/94	940606-116	940606-118	940608-024
GW-785	GRIDD1	06/07/94	940607-126	940607-128	940609-319
GW-786	GRIDE2	06/08/94	940608-136	940608-140	940610-006
GW-787	GRIDE2	06/08/94	940608-134	940608-140	940610-006
GW-788	GRIDF3	06/10/94	940610-096	940610-098	940613-001
GW-789	GRIDF3	06/15/94	940615-081	940615-085	940616-018
GW-791	GRIDD2	06/07/94	940607-122	940607-128	940609-319
GW-792	GRIDD2	06/07/94	940607-124	940607-128	940609-319

APPENDIX I.1
Correlation of Samples to Associated Blanks
Third Quarter 1994

Sampling Point	Location	Date Sampled	Sample No.	Trip Blank No.	Lab Blank No.
GW-151	NHP	09/22/94	940922-114	940922-124	940928-001
GW-169	EXP-UV	08/11/94	940812-047	940812-049	940816-001
GW-170	EXP-UV	08/11/94	940812-045	940812-049	940816-001
GW-171	EXP-UV	09/27/94	940927-106	940927-108	940928-082
GW-172	EXP-UV	09/26/94	940926-124	940926-126	940928-001
GW-191	B4	08/20/94	940822-105	940822-107	940822-001
GW-192	B4	08/21/94	940822-041	940822-079	940823-004
GW-194	B4	08/20/94	940822-101	940822-107	940822-001
GW-195	B4	08/20/94	940822-099	940822-107	940822-001
GW-199	GRID11	08/08/94	940809-018	940809-020	940809-035
GW-206	EXP-SR	09/28/94	940928-074	940928-076	941003-001
GW-207	EXP-SR	09/13/94	940914-007	940914-011	940914-085
GW-208	EXP-SR	09/16/94	940916-090	940916-092	940922-001
GW-220	NHP	09/22/94	940922-116	940922-124	940927-058
GW-230	EXP-UV	09/28/94	940928-100	940928-102	941003-001
GW-232	EXP-UV	08/11/94	940812-050	940812-052	940816-001
GW-240	NHP	09/22/94	940922-118	940922-124	940927-058
GW-251	S2	08/22/94	940822-192	940822-194	940825-025
GW-252	S2	08/14/94	940815-116	940815-126	940818-003
GW-255	S2	08/14/94	940815-118	940815-126	940818-003
GW-261	SY	08/13/94	940815-081	940815-089	940816-001
GW-262	SY	08/13/94	940815-100	940815-089	940816-001
GW-263	SY	08/13/94	940815-085	940815-089	940816-001
GW-264	SY	08/13/94	940815-087	940815-089	940816-001
GW-337	WC	08/25/94	940825-065	940825-067	940829-041
GW-338	WC	08/20/94	940822-103	940822-107	940823-004
GW-380	NHP	09/21/94	940922-009	940922-015	940928-056
GW-381	NHP	09/27/94	940927-060	940927-062	940928-001
GW-382	NHP	09/26/94	940927-013	940927-015	940928-001
GW-383	NHP	09/22/94	940922-122	940922-124	940927-058
GW-384	NHP	08/03/94	940803-052	940803-058	940804-031
GW-385	NHP	08/03/94	940803-056	940803-058	940808-002
GW-603	EXP-J	09/20/94	940920-081	940920-083	940922-001
GW-604	EXP-J	09/20/94	940920-079	940920-083	940922-001
GW-605	EXP-I	09/25/94	940926-068	940926-072	940927-058
GW-606	EXP-I	09/25/94	940926-070	940926-072	940927-058
GW-617	EXP-E	08/21/94	940822-043	940822-079	940823-004
GW-618	EXP-E	08/21/94	940822-045	940822-079	940823-004
GW-619	FTF	08/22/94	940822-195	940822-194	940825-025
GW-620	FTF	08/23/94	940823-143	940823-145	940825-025
GW-733	EXP-J	09/24/94	940926-065	940926-067	940927-058
GW-735	EXP-J	09/20/94	940920-077	940920-083	940922-001
GW-744	GRIDK1	07/30/94	940801-044	940801-059	940804-031
GW-745	GRIDK1	07/30/94	940801-046	940801-059	940804-031
GW-746	GRIDK1	07/31/94	940801-048	940801-050	940804-031
GW-747	GRIDK2	07/31/94	940801-051	940801-050	940804-031

APPENDIX I.1
Correlation of Samples to Associated Blanks
Third Quarter 1994

Sampling Point	Location	Date Sampled	Sample No.	Trip Blank No.	Lab Blank No.
GW-748	GRIDK2	07/31/94	940801-053	940801-050	940804-031
GW-749	GRIDK2	07/31/94	940801-055	940801-050	940804-031
GW-750	EXP-J	08/01/94	940802-042	940802-044	940804-031
GW-751	GRIDJ3	07/29/94	940729-061	940729-063	940801-060
GW-752	GRIDJ3	07/30/94	940801-057	940801-059	940804-031
GW-758	GRIDG1	08/29/94	940829-123	940829-125	940830-046
GW-759	GRIDG1	08/29/94	940829-128	940829-125	940830-046
GW-760	GRIDG2	08/30/94	940830-075	940830-079	940831-018
GW-761	GRIDG2	08/30/94	940830-077	940830-079	940831-018
GW-762	GRIDJ3	09/21/94	940922-011	940922-015	940928-001
GW-763	GRIDJ3	09/21/94	940922-013	940922-015	940928-056
GW-764	GRIDE1	08/24/94	940825-011	940825-015	940830-005
GW-765	GRIDE1	08/24/94	940825-009	940825-015	940829-041
GW-766	GRIDI2	08/09/94	940810-063	940810-069	940815-079
GW-767	GRIDI2	08/09/94	940810-065	940810-069	940815-079
GW-768	GRIDI1	08/09/94	940810-067	940810-069	940815-079
GW-769	GRIDG3	08/31/94	940831-076	940831-080	940901-132
GW-770	GRIDG3	08/31/94	940831-078	940831-080	940906-003
GW-771	GRIDC1	08/24/94	940825-013	940825-015	940830-005
GW-772	GRIDC1	08/24/94	940825-007	940825-015	940829-041
GW-773	GRIDH2	08/10/94	940810-123	940810-127	940815-079
GW-774	GRIDH2	08/10/94	940810-125	940810-127	940815-079
GW-775	GRIDH3	08/11/94	940812-029	940812-036	940815-079
GW-776	GRIDH3	08/11/94	940812-033	940812-036	940815-079
GW-777	GRIDB2	08/14/94	940815-122	940815-126	940818-106
GW-778	GRIDB2	08/14/94	940815-124	940815-126	940818-106
GW-779	GRIDF2	09/08/94	940909-091		
GW-779	GRIDF2	09/09/94	940909-111	940909-127	940914-001
GW-780	GRIDF2	09/08/94	940909-087		
GW-780	GRIDF2	09/09/94	940909-112	940909-127	940914-001
GW-781	GRIDE3	09/09/94	940909-116	940909-127	940913-018
GW-782	GRIDE3	09/12/94	940912-080	940912-084	940915-001
GW-783	GRIDE3	09/12/94	940912-082	940912-084	940914-001
GW-784	GRIDD1	09/01/94	940901-171	940901-175	940907-011
GW-785	GRIDD1	09/06/94	940907-012	940907-016	940909-009
GW-786	GRIDE2	09/07/94	940908-003	940908-007	940909-110
GW-787	GRIDE2	09/07/94	940908-005	940908-007	940909-110
GW-788	GRIDF3	09/08/94	940909-089		
GW-788	GRIDF3	09/09/94	940909-113	940909-127	940912-076
GW-789	GRIDF3	09/09/94	940909-114	940909-127	940912-076
GW-791	GRIDD2	09/06/94	940907-014	940907-016	940912-004
GW-792	GRIDD2	09/07/94	940908-001	940908-007	940909-110
GW-816	EXP-SR	09/21/94	940921-056	940921-060	940928-056
GW-817	GRIDK3	09/21/94	940921-058	940921-060	940928-056
LRS	EXP-SW	09/07/94	940908-083	940908-087	940912-076
LRSPW	EXP-SW	09/07/94	940908-081	940908-087	940912-076

APPENDIX I.1
Correlation of Samples to Associated Blanks
Fourth Quarter 1994

Sampling Point	Location	Date Sampled	Sample No.	Trip Blank No.	Lab Blank No.
GW-148	NHP	11/14/94	941115-008	941115-010	941118-025
GW-149	NHP	11/14/94	941115-004	941115-010	941118-025
GW-151	NHP	11/16/94	941116-087	941116-089	941118-028
GW-153	NHP	11/14/94	941115-006	941115-010	941118-025
GW-154	NHP	11/15/94	941116-006	941116-008	941118-025
GW-169	EXP-UV	12/06/94	941206-173	941206-170	941208-013
GW-170	EXP-UV	11/17/94	941117-130	941117-134	941121-012
GW-171	EXP-UV	11/15/94	941116-014	941116-020	941118-028
GW-172	EXP-UV	11/14/94	941115-016	941115-018	941118-025
GW-191	B4	11/29/94	941129-148	941129-150	941201-001
GW-192	B4	12/02/94	941205-002	941205-008	941206-080
GW-194	B4	12/01/94	941201-047	941201-049	941205-139
GW-195	B4	12/01/94	941201-045	941201-049	941205-139
GW-199	GRID11	10/27/94	941027-031	941027-033	941101-012
GW-206	EXP-SR	11/28/94	941128-138	941128-144	941130-008
GW-207	EXP-SR	12/03/94	941205-048	941205-056	941207-019
GW-208	EXP-SR	12/04/94	941205-025	941205-027	941207-019
GW-220	NHP	11/16/94	941116-085	941116-089	941118-028
GW-222	NHP	11/15/94	941116-002	941116-008	941118-025
GW-223	NHP	11/15/94	941116-004	941116-008	941118-025
GW-230	EXP-UV	11/15/94	941116-018	941116-020	941118-028
GW-232	EXP-UV	11/17/94	941117-132	941117-134	941121-012
GW-240	NHP	11/16/94	941116-083	941116-089	941118-028
GW-251	S2	12/03/94	941205-035	941205-047	941207-019
GW-252	S2	10/29/94	941031-008	941031-016	941102-071
GW-255	S2	10/29/94	941031-010	941031-016	941102-071
GW-261	SY	10/28/94	941028-037	941028-039	941101-012
GW-262	SY	10/28/94	941028-035	941028-039	941101-012
GW-263	SY	10/31/94	941031-072	941031-079	941102-071
GW-264	SY	10/29/94	941031-012	941031-016	941102-071
GW-337	WC	12/08/94	941208-068	941208-070	941209-042
GW-338	WC	12/02/94	941205-006	941205-008	941206-080
GW-380	NHP	11/15/94	941116-009	941116-008	941118-028
GW-381	NHP	11/21/94	941121-213	941121-215	941122-010
GW-382	NHP	11/18/94	941118-037	941118-039	941121-011
GW-383	NHP	11/17/94	941118-006	941118-008	941121-011
GW-384	NHP	11/02/94	941102-076	941102-078	941103-103
GW-385	NHP	11/01/94	941101-056	941101-058	941103-053
GW-603	EXP-J	12/04/94	941205-052	941205-056	941207-019
GW-604	EXP-J	12/04/94	941205-054	941205-056	941207-019
GW-605	EXP-I	12/06/94	941206-175	941206-179	941208-013
GW-606	EXP-I	12/07/94	941207-119	941207-121	941209-038
GW-617	EXP-E	12/02/94	941205-004	941205-008	941206-080
GW-618	EXP-E	12/03/94	941205-037	941205-047	941207-019
GW-619	FTF	12/03/94	941205-043	941205-047	941207-019
GW-620	FTF	12/03/94	941205-041	941205-047	941207-019

APPENDIX I.1
Correlation of Samples to Associated Blanks
Fourth Quarter 1994

Sampling Point	Location	Date Sampled	Sample No.	Trip Blank No.	Lab Blank No.
GW-733	EXP-J	12/06/94	941206-177	941206-179	941208-013
GW-735	EXP-J	12/05/94	941206-039	941206-041	941207-044
GW-744	GRIDK1	10/26/94	941026-044	941026-050	941027-015
GW-745	GRIDK1	10/26/94	941026-048	941026-050	941027-015
GW-746	GRIDK1	10/27/94	941027-090	941027-096	941101-012
GW-747	GRIDK2	10/27/94	941027-092	941027-096	941101-012
GW-748	GRIDK2	10/27/94	941027-094	941027-096	941101-012
GW-749	GRIDK2	10/31/94	941101-001	941101-005	941103-053
GW-750	EXP-J	10/31/94	941101-003	941101-005	941103-053
GW-751	GRIDJ3	10/25/94	941025-045	941025-049	941026-001
GW-752	GRIDJ3	10/25/94	941025-047	941025-049	941026-001
GW-758	GRIDG1	11/02/94	941103-004	941103-003	941104-040
GW-759	GRIDG1	11/02/94	941103-006	941103-003	941104-040
GW-760	GRIDG2	11/22/94	941122-067	941122-069	941123-002
GW-761	GRIDG2	11/03/94	941103-058	941103-060	941108-010
GW-762	GRIDJ3	11/09/94	941110-001	941110-003	941114-032
GW-763	GRIDJ3	11/09/94	941110-006	941110-003	941114-032
GW-764	GRIDE1	11/01/94	941102-012	941102-009	941103-103
GW-765	GRIDE1	11/02/94	941103-001	941103-003	941104-040
GW-766	GRIDI2	10/31/94	941031-080	941031-086	941102-071
GW-766	GRIDI2	11/08/94	941109-012		
GW-767	GRIDI2	10/31/94	941031-082	941031-086	941102-071
GW-767	GRIDI2	11/08/94	941109-013		
GW-768	GRIDI1	10/31/94	941031-084	941031-086	941103-053
GW-769	GRIDG3	11/07/94	941107-104	941107-108	941108-010
GW-770	GRIDG3	11/07/94	941107-106	941107-108	941108-010
GW-771	GRIDC1	11/01/94	941102-007	941102-009	941103-103
GW-772	GRIDC1	11/01/94	941102-014	941102-009	941103-103
GW-773	GRIDH2	11/01/94	941102-059	941102-061	941103-053
GW-774	GRIDH2	11/01/94	941102-062	941102-061	941103-053
GW-775	GRIDH3	11/01/94	941102-064	941102-061	941103-103
GW-776	GRIDH3	11/01/94	941102-068	941102-061	941103-103
GW-777	GRIDB2	10/31/94	941031-074	941031-079	941102-071
GW-778	GRIDB2	10/31/94	941031-076	941031-079	941102-071
GW-779	GRIDF2	11/29/94	941130-040	941130-046	941201-001
GW-780	GRIDF2	11/29/94	941130-038	941130-046	941201-001
GW-781	GRIDE3	12/01/94	941202-014	941202-020	941205-085
GW-782	GRIDE3	12/02/94	941202-060	941202-064	941206-080
GW-783	GRIDE3	12/02/94	941202-062	941202-064	941206-080
GW-784	GRIDD1	11/28/94	941129-004	941129-010	941130-008
GW-785	GRIDD1	11/28/94	941129-006	941129-010	941130-008
GW-786	GRIDE2	11/28/94	941129-008	941129-010	941130-008
GW-787	GRIDE2	11/29/94	941130-044	941130-046	941201-001
GW-788	GRIDF3	11/30/94	941130-121	941130-123	941202-013
GW-789	GRIDF3	11/30/94	941130-119	941130-123	941202-013
GW-791	GRIDD2	12/01/94	941202-016	941202-020	941205-085

APPENDIX I.1
Correlation of Samples to Associated Blanks
Fourth Quarter 1994

Sampling Point	Location	Date Sampled	Sample No.	Trip Blank No.	Lab Blank No.
GW-792	GRIDD2	12/01/94	941202-018	941202-020	941205-085
GW-816	EXP-SR	11/28/94	941128-140	941128-144	941130-008
GW-817	GRIDK3	11/28/94	941128-142	941128-144	941130-008
LRS	EXP-SW	12/27/94	941228-013	94128-015	941231-009
LRSPW	EXP-SW	12/27/94	941228-011	941228-015	941231-009

APPENDIX I.2
TRIP BLANK DATA SUMMARY

APPENDIX I.2
VOCs Detected in Trip Blank Samples, CY 1994

	1st Quarter		2nd Quarter		3rd Quarter		4th Quarter		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Total Samples	36		46		41		43		166	
Samples without VOCs	16	44	46	100	32	78	31	72	125	75
Samples with VOCs	20	56	0	-	9	22	12	28	41	25
Compound										
Acetone	10	28	-	-	7	17	7	16	24	14
Benzene	1	3	-	-	-	-	-	-	1	1
Bromodichloromethane	-	-	-	-	-	-	-	-	0	-
Bromoform	-	-	-	-	-	-	-	-	0	-
Bromomethane	-	-	-	-	-	-	-	-	0	-
2-Butanone	5	14	-	-	2	5	5	12	12	7
Carbon disulfide	-	-	-	-	-	-	-	-	0	-
Carbon tetrachloride	-	-	-	-	-	-	-	-	0	-
Chlorobenzene	-	-	-	-	-	-	-	-	0	-
Chlorodibromomethane	-	-	-	-	-	-	-	-	0	-
Chloroethane	-	-	-	-	-	-	-	-	0	-
Chloroform	1	3	-	-	-	-	-	-	1	1
Chloromethane	-	-	-	-	-	-	-	-	0	-
1,1-Dichloroethane	-	-	-	-	-	-	-	-	0	-
1,2-Dichloroethane	-	-	-	-	-	-	-	-	0	-
1,1-Dichloroethene	-	-	-	-	-	-	-	-	0	-
1,2-Dichloroethene	-	-	-	-	-	-	-	-	0	-
1,2-Dichloropropane	-	-	-	-	-	-	-	-	0	-
cis-1,3-Dichloropropene	-	-	-	-	-	-	-	-	0	-
trans-1,3-Dichloropropene	-	-	-	-	-	-	-	-	0	-
Ethylbenzene	-	-	-	-	-	-	-	-	0	-
2-Hexanone	-	-	-	-	-	-	-	-	0	-
4-Methyl-2-pentanone	-	-	-	-	-	-	-	-	0	-
Methylene chloride	15	42	-	-	1	2	3	7	19	11
Styrene	1	3	-	-	-	-	-	-	1	1
1,1,2,2-Tetrachloroethane	-	-	-	-	-	-	-	-	0	-
Tetrachloroethene	1	3	-	-	-	-	-	-	1	1
Toluene	4	11	-	-	-	-	5	12	9	5
1,1,1-Trichloroethane	-	-	-	-	1	2	-	-	1	1
1,1,2-Trichloroethane	-	-	-	-	-	-	-	-	0	-
Trichloroethene	1	3	-	-	-	-	-	-	1	1
Vinyl acetate	-	-	-	-	-	-	-	-	0	-
Vinyl chloride	-	-	-	-	-	-	-	-	0	-
Xylenes	-	-	-	-	-	-	-	-	0	-

APPENDIX I.2

1

VOCs Detected in Trip Blank Samples, First Quarter 1994

Sample No.	940114- 091	940126- 071	940127- 003	940128- 008	940128- 013	940128- 104	940128- 109	940128- 116
Acetone	10U	5	11	10U	10	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Butanone	10U	9	9	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Methylene chloride	1	2	2	5U	5U	5U	5U	5U
Styrene	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
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample No.	940131- 008	940131- 015	940131- 126	940131- 130	940131- 149	940131- 207	940201- 058	940201- 069
Acetone	10U	10U	10U	10U	23	10U	10U	10U
Benzene	5U	5	5U	5U	5U	5U	5U	5U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	0.9	5U	5U	5U	5U	5U	5U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	7	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	2	5U	5U	5U	5U	5U	5U
Toluene	5U	2	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	3	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample No.	940202- 020	940202- 091	940202- 094	940203- 127	940203- 130	940204- 007	940204- 077	940204- 082
Acetone	10U	11	14	10U	10U	16	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Methylene chloride	5U	5U	1	5U	12	12	13	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	1	1	1	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX I.2

2

VOCs Detected in Trip Blank Samples, First Quarter 1994

Sample No.	940204- 087	940207- 010	940207- 019	940207- 077	940208- 012	940208- 052	940208- 106	940209- 055
Acetone	10U	10U	10U	11	10	9	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Butanone	10U	13	13	13	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Methylene chloride	11	12	12	12	11	11	5U	5U
Styrene	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
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample No.	940209- 191	940301- 087	940302- 111	940303- 056
Acetone	10U	10U	10U	10U
Benzene	5U	5U	5U	5U
2-Butanone	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U
Methylene chloride	5U	5U	2	2
Styrene	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U
Toluene	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U

VOCs Detected in Trip Blank Samples, Second Quarter 1994

Volatile organic compounds were not detected in any second quarter trip blank sample.

APPENDIX I.2

VOCs Detected in Trip Blank Samples, Third Quarter 1994

4

Sample No.	940729- 063	940801- 050	940801- 059	940802- 044	940803- 058	940809- 020	940810- 069	940810- 127
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	10U	10U	10U	10U	10U	10U	10U	10U
1,1,1-Trichloroethane	10U	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

Sample No.	940812- 036	940812- 049	940812- 052	940815- 089	940815- 126	940822- 079	940822- 107	940822- 194
Acetone	10U	63	47	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	10U	10U	10U	10U	10U	10U	10U	10U
1,1,1-Trichloroethane	10U	10U	10U	10U	10U	10U	1	10U

(CONTINUED)

Sample No.	940823- 145	940825- 015	940825- 067	940829- 125	940830- 079	940831- 080	940901- 175	940907- 016
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	10U	10U	10U	10U	10U	10U	10U	10U
1,1,1-Trichloroethane	10U	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

Sample No.	940908- 007	940909- 127	940912- 084	940914- 011	940916- 092	940920- 083	940921- 060	940922- 015
Acetone	10U	10U	10U	10U	10U	10U	10U	5
2-Butanone	10U	10U	10U	10U	10U	10U	11	11
Methylene chloride	10U	10U	10U	10U	10U	10U	10U	1
1,1,1-Trichloroethane	10U	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

APPENDIX I.2

5

VOCs Detected in Trip Blank Samples, Third Quarter 1994

Sample No.	940922- 124	940926- 067	940926- 072	940926- 126	940927- 015	940927- 062	940927- 108	940928- 076
Acetone	10U	10U	10U	12	11	10U	10U	19
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	10U	10U	10U	10U	10U	10U	10U	10U
1,1,1-Trichloroethane	10U	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

Sample No.	940928- 102
Acetone	15
2-Butanone	10U
Methylene chloride	10U
1,1,1-Trichloroethane	10U

APPENDIX I.2

6

VOCs Detected in Trip Blank Samples, Fourth Quarter 1994

Sample No.	941025- 049	941026- 050	941027- 033	941027- 096	941028- 039	941031- 016	941031- 079	941031- 086
Acetone	10U	10U	12	10	10	10U	10U	10U
2-Butanone	10U	10U	11	15	17	10U	10U	10U
Methylene chloride	10U	1	10U	10U	2	10U	10U	10U
Toluene	10U	4	10U	10U	10U	10U	10U	10U

(CONTINUED)

Sample No.	941101- 005	941101- 058	941102- 009	941102- 061	941102- 078	941103- 003	941107- 108	941110- 003
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	9	10U	10U	10U	10U	10U
Methylene chloride	10U	10U	6	10U	10U	10U	10U	10U
Toluene	10U	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

Sample No.	941115- 010	941115- 018	941116- 008	941116- 020	941116- 089	941117- 134	941118- 008	941118- 039
Acetone	9	10U	10U	10U	10U	10U	19	19
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	10U	10U	10U	10U	10U	10U	10U	10U
Toluene	2	2	10U	10U	10U	1	10U	10U

(CONTINUED)

Sample No.	941121- 215	941122- 069	941128- 144	941129- 010	941129- 150	941130- 046	941130- 123	941201- 049
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	10U	10U	10U	10U	10U	10U	10U	10U
Toluene	10U	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

APPENDIX I.2

7

VOCs Detected in Trip Blank Samples, Fourth Quarter 1994

Sample No.	941202- 020	941202- 064	941205- 008	941205- 027	941205- 047	941205- 056	941206- 041	941206- 179
Acetone	10U	10U	10U	10U	10U	10U	26	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	10U	10U	10U	10U	10U	10U	10U	10U
Toluene	10U	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

Sample No.	941207- 121	941208- 070	941228- 015
Acetone	10U	10U	10U
2-Butanone	10U	10U	9
Methylene chloride	10U	10U	10U
Toluene	10U	10U	3

APPENDIX I.3
LABORATORY BLANK DATA SUMMARY

APPENDIX I.3
VOCs Detected in Laboratory Blank Samples, CY 1994

	1st Quarter		2nd Quarter		3rd Quarter		4th Quarter		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Total Samples	14		27		32		27		100	
Samples without VOCs	6	43	24	89	28	88	22	81	80	80
Samples with VOCs	8	57	3	11	4	13	5	19	20	20
Compound										
Acetone	4	29		-	1	3	4	15	9	9
Benzene		-		-		-		-	0	-
Bromodichloromethane		-		-		-		-	0	-
Bromoform		-		-		-		-	0	-
Bromomethane		-		-		-		-	0	-
2-Butanone	2	14		-		-	4	15	6	6
Carbon disulfide		-		-		-		-	0	-
Carbon tetrachloride		-		-		-		-	0	-
Chlorobenzene		-		-		-		-	0	-
Chlorodibromomethane		-		-		-		-	0	-
Chloroethane		-		-		-		-	0	-
Chloroform		-	1	4		-		-	1	1
Chloromethane		-		-		-		-	0	-
1,1-Dichloroethane		-		-		-		-	0	-
1,2-Dichloroethane		-		-		-		-	0	-
1,1-Dichloroethene		-		-		-		-	0	-
1,2-Dichloroethene		-		-		-		-	0	-
1,2-Dichloropropane		-		-		-		-	0	-
cis-1,3-Dichloropropene		-		-		-		-	0	-
trans-1,3-Dichloropropene		-		-		-		-	0	-
Ethylbenzene		-		-		-		-	0	-
2-Hexanone	1	7		-	1	3		-	2	2
4-Methyl-2-pentanone	1	7		-		-		-	1	1
Methylene chloride	7	50	2	7	2	6	2	7	13	13
Styrene		-		-		-		-	0	-
1,1,2,2-Tetrachloroethane		-	1	4		-		-	1	1
Tetrachloroethene		-		-		-		-	0	-
Toluene	1	7		-		-	3	11	4	4
1,1,1-Trichloroethane		-		-	1	3		-	1	1
1,1,2-Trichloroethane		-		-		-		-	0	-
Trichloroethene		-		-	1	3		-	1	1
Vinyl acetate	1	7		-		-		-	1	1
Vinyl chloride		-		-		-		-	0	-
Xylenes		-		-		-		-	0	-

APPENDIX I.3

1

VOCs Detected in Laboratory Blank Samples, First Quarter 1994

Sample No.	940120- 001	940127- 655	940201- 051	940202- 045	940202- 049	940203- 051	940208- 001	940209- 261
Acetone	10U	4	12	10U	10U	10U	10U	12
2-Butanone	10U	10	10U	10U	10U	10U	10U	10U
2-Hexanone	10U	2	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	2	10U	10U	10U	10U	10U	10U
Methylene chloride	1	2	5U	5U	5U	5U	2	12
Toluene	5U	5U	5U	5U	5U	5U	1	5U
Vinyl acetate	5	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

Sample No.	940210- 020	940211- 055	940214- 006	940215- 029	940303- 047	940307- 001
Acetone	10U	9	10U	10U	10U	10U
2-Butanone	10U	13	10U	10U	10U	10U
2-Hexanone	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U
Methylene chloride	12	11	5U	5U	5U	1
Toluene	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U

APPENDIX I.3

2

VOCs Detected in Laboratory Blank Samples, Second Quarter 1994

Sample No.	940422- 085	940426- 088	940428- 071	940502- 116	940504- 050	940505- 070	940509- 075	940511- 099
Chloroform	5U	5U	5U	10U	10U	10U	10U	10U
Methylene chloride	5U	5	5U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	5U	5U	10U	10U	10U	10U	10U

(CONTINUED)

Sample No.	940513- 063	940513- 077	940516- 064	940516- 082	940516- 084	940516- 101	940520- 009	940526- 027
Chloroform	10U	3	10U	10U	10U	10U	10U	10U
Methylene chloride	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	10U	4	10U	10U	10U	10U	10U	10U

(CONTINUED)

Sample No.	940527- 113	940531- 062	940602- 282	940606- 060	940608- 024	940609- 319	940610- 006	940610- 075
Chloroform	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	10U	10U	10U	10U	10U	10U	2	10U
1,1,2,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

Sample No.	940613- 001	940616- 018	940617- 005
Chloroform	10U	10U	10U
Methylene chloride	10U	10U	10U
1,1,2,2-Tetrachloroethane	10U	10U	10U

3

[illegible]

(CONTINUED)

Sample No.	940822-001	940823-004	940825-025	940829-041	940830-005	940830-046	940831-018	940901-132
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	10U	10U	10U	10U	10U	10U	10U	10U
1,1,1-Trichloroethane	1	10U	10U	10U	10U	10U	10U	10U
Trichloroethene	0.7	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

[illegible]

(CONTINUED)

[illegible]

APPENDIX I.3

4

VOCs Detected in Laboratory Blank Samples, Fourth Quarter 1994

Sample No.	941026- 001	941027- 015	941101- 012	941102- 071	941103- 053	941103- 103	941104- 040	941108- 010
Acetone	10U	10U	7	10U	10U	13	10U	10U
2-Butanone	10U	10U	8	10U	10U	10	10U	10U
Methylene chloride	10U	10U	2	10U	10U	1	10U	10U
Toluene	10U	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

Sample No.	941114- 032	941118- 025	941118- 028	941121- 011	941121- 012	941122- 010	941123- 002	941130- 008
Acetone	10U	8	10U	10U	10U	10U	10U	10U
2-Butanone	10U	6	10U	10U	10U	10U	10U	10U
Methylene chloride	10U	10U	10U	10U	10U	10U	10U	10U
Toluene	10U	2	10U	10U	1	10U	10U	10U

(CONTINUED)

Sample No.	941201- 001	941202- 013	941205- 085	941205- 139	941206- 080	941207- 019	941207- 044	941208- 013
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	10U	10U	10U	10U	10U	10U	10U	10U
Toluene	10U	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

Sample No.	941209- 038	941209- 042	941231- 009
Acetone	10U	10U	12
2-Butanone	10U	10U	8
Methylene chloride	10U	10U	10U
Toluene	10U	10U	3

APPENDIX I.4

EQUIPMENT RINSATE DATA SUMMARY

APPENDIX I.4

1

Equipment Rinsate Data Summary, First Quarter 1994

Sampling Group	ER EF 1	ER EF 2	ER EF 3	ER EF 4	ER EF 5	ER EF 6		ER UST 1
Associated Well	GW-337	GW-769	GW-776	GW-381	GW-384	GW-605	GW-606	GW-633
Pump Number	11	8	8	6	6	11	2	11
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	15	10U	21	10U	10U	10U	10U	10U
2-Butanone	13	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	10	5U	5U	5U	5U	1	5U	5U
Toluene	5U	5U	5U	5U	5U	1	1	5U
NITRATE/METALS (mg/L)	.	.	.	.	.	.	.	.
Nitrate (as N)	.	.	.	.	.	.	.	0.6
Aluminum	.	.	.	<0.067	.	.	.	0.045
Antimony	.	.	.	<0.17	.	.	.	<0.05
Arsenic	.	.	.	<0.17	.	.	.	<0.05
Barium	.	.	.	<0.0033	.	.	.	0.033
Beryllium	.	.	.	<0.001	.	.	.	<0.0003
Boron	.	.	.	<0.013	.	.	.	0.014
Cadmium	.	.	.	<0.01	.	.	.	<0.003
Calcium	.	.	.	0.15	.	.	.	31
Chromium	.	.	.	<0.033	.	.	.	<0.01
Cobalt	.	.	.	<0.017	.	.	.	<0.005
Copper	.	.	.	<0.013	.	.	.	0.0048
Iron	.	.	.	0.02	.	.	.	0.17
Magnesium	.	.	.	0.039	.	.	.	8.6
Manganese	.	.	.	<0.0033	.	.	.	0.0025
Molybdenum	.	.	.	<0.033	.	.	.	<0.01
Nickel	.	.	.	<0.033	.	.	.	<0.01
Potassium	.	.	.	<2	.	.	.	1.5
Selenium	.	.	.	<0.17	.	.	.	<0.05
Silver	.	.	.	<0.02	.	.	.	<0.006
Sodium	.	.	.	0.17	.	.	.	4.6
Strontium	.	.	.	0.0017	.	.	.	0.08
Thorium	.	.	.	<0.67	.	.	.	<0.2
Vanadium	.	.	.	<0.017	.	.	.	<0.005
Zinc	.	.	.	<0.0067	.	.	.	0.81
RADIOCHEMISTRY (pCi/L)	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	.	.	.	.	.	.	.	2.36
Gross Alpha (CE+/-)	.	.	.	.	.	.	.	2.2
Gross Beta (pCi/L)	.	.	.	.	.	.	.	2.18
Gross Beta (CE+/-)	.	.	.	.	.	.	.	3.2

APPENDIX I.4

2

Equipment Rinsate Data Summary, Second Quarter 1994

Sampling Group	ER EF 1	ER EF 2	ER EF 3	ER EF 4	ER EF 5	ER EF 6	ER EF 7	ER EF 8
Associated Well	GW-778	GW-337	GW-769	GW-783	GW-776	GW-381	GW-384	GW-606
Pump Number	11	11	8	10	8	6	8	6
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
None Detected	.	.	.	.	.	.	.	.
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	.	.	.	.	.	<0.02	.	.
Antimony	.	.	.	.	.	<0.05	.	.
Arsenic	.	.	.	.	.	<0.05	.	.
Barium	.	.	.	.	.	<0.001	.	.
Beryllium	.	.	.	.	.	<0.0003	.	.
Boron	.	.	.	.	.	0.0049	.	.
Cadmium	.	.	.	.	.	<0.003	.	.
Calcium	.	.	.	.	.	<0.008	.	.
Chromium	.	.	.	.	.	<0.01	.	.
Cobalt	.	.	.	.	.	<0.005	.	.
Copper	.	.	.	.	.	<0.004	.	.
Iron	.	.	.	.	.	0.017	.	.
Magnesium	.	.	.	.	.	0.027	.	.
Manganese	.	.	.	.	.	<0.001	.	.
Molybdenum	.	.	.	.	.	<0.01	.	.
Nickel	.	.	.	.	.	<0.01	.	.
Potassium	.	.	.	.	.	<0.6	.	.
Selenium	.	.	.	.	.	<0.05	.	.
Silver	.	.	.	.	.	<0.006	.	.
Sodium	.	.	.	.	.	0.1	.	.
Strontium	.	.	.	.	.	<0.0004	.	.
Thorium	.	.	.	.	.	<0.2	.	.
Vanadium	.	.	.	.	.	<0.005	.	.
Zinc	.	.	.	.	.	0.012	.	.
RADIOCHEMISTRY (pCi/L)	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	.	.	.	.	.	.	.	.
Gross Alpha (CE+/-)	.	.	.	.	.	.	.	.
Gross Beta (pCi/L)	.	.	.	.	.	.	.	.
Gross Beta (CE+/-)	.	.	.	.	.	.	.	.

Equipment Rinsate Data Summary, Third Quarter 1994

Sampling Group	ER EF 1	ER EF 2	ER EF 3	ER EF 4	ER EF 5	ER EF 6	ER EF 7	ER EF 8
Associated Well	GW-778	GW-337	GW-769	GW-783	GW-776	GW-381	GW-384	GW-606
Pump Number	11	4	6	6	11	8	8	5
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	39	10U	40	10U	10U
NITRATE/METALS (mg/L)	.	.	.	.	.	.	.	.
Nitrate (as N)	.	.	.	.	.	.	.	.
Aluminum	.	.	.	.	.	0.024	.	.
Antimony	.	.	.	.	.	<0.05	.	.
Arsenic	.	.	.	.	.	<0.05	.	.
Barium	.	.	.	.	.	<0.001	.	.
Beryllium	.	.	.	.	.	0.0003	.	.
Boron	.	.	.	.	.	0.052	.	.
Cadmium	.	.	.	.	.	<0.003	.	.
Calcium	.	.	.	.	.	0.33	.	.
Chromium	.	.	.	.	.	<0.01	.	.
Cobalt	.	.	.	.	.	<0.005	.	.
Copper	.	.	.	.	.	<0.004	.	.
Iron	.	.	.	.	.	<0.005	.	.
Magnesium	.	.	.	.	.	0.033	.	.
Manganese	.	.	.	.	.	0.0011	.	.
Molybdenum	.	.	.	.	.	<0.01	.	.
Nickel	.	.	.	.	.	<0.01	.	.
Potassium	.	.	.	.	.	<0.6	.	.
Selenium	.	.	.	.	.	<0.05	.	.
Silver	.	.	.	.	.	<0.006	.	.
Sodium	.	.	.	.	.	0.23	.	.
Strontium	.	.	.	.	.	0.0013	.	.
Thorium	.	.	.	.	.	<0.2	.	.
Vanadium	.	.	.	.	.	<0.005	.	.
Zinc	.	.	.	.	.	<0.002	.	.

(CONTINUED)

APPENDIX I.4

4

Equipment Rinsate Data Summary, Third Quarter 1994

Sampling Group . Associated Well . Pump Number	ER EF 9	
	GW-170	GW-230
	2	5
VOLATILE ORGANICS (ug/L)	.	.
Acetone	39	100
NITRATE/METALS (mg/L)	.	.
Nitrate (as N)	0.51	0.23
Aluminum	<0.4	0.049
Antimony	<1	<0.05
Arsenic	<1	<0.05
Barium	0.026	0.032
Beryllium	<0.006	<0.0003
Boron	0.083	0.12
Cadmium	<0.06	<0.003
Calcium	28	30
Chromium	<0.2	<0.01
Cobalt	<0.1	<0.005
Copper	<0.08	<0.004
Iron	<0.1	0.021
Magnesium	8.1	8.2
Manganese	<0.02	0.0066
Molybdenum	<0.2	<0.01
Nickel	<0.2	<0.01
Potassium	<12	1.4
Selenium	<1	<0.05
Silver	<0.12	<0.006
Sodium	8200	4
Strontium	0.074	0.083
Thorium	<4	<0.2
Vanadium	<0.1	<0.005
Zinc	1.1	0.79

APPENDIX I.4

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Equipment Rinsate Data Summary, Third Quarter 1994

Sampling Group . Associated Well . Pump Number	ER EF 9	
	GW-170	GW-230
	2	5
Gross Alpha (pCi/L)	1.15	1.50
Gross Alpha (CE+/-)	1.40	1.50
Gross Beta (pCi/L)	5.01	1.37
Gross Beta (CE+/-)	2.90	2.80
RADIONUCLIDES	.	.
	.	.
Americium 241 (pCi/L)	1.87	0.00
Americium 241 (CE+/-)	0.79	1.80
Iodine 129 (Bq/L)	0.02	0.02
Iodine 129 (CE +/-)	0.95	0.94
Iodine 131 (Bq/L)	-0.02	.
Iodine 131 (CE +/-)	0.11	.
Neptunium 237 (pCi/L)	0.00	0.00
Neptunium 237 (CE+/-)	0.28	0.64
Plutonium 238 (pCi/L)	0.11	-0.41
Plutonium 238 (CE+/-)	0.22	0.81
Plutonium 239 (pCi/L)	0.11	0.00
Plutonium 239 (CE+/-)	0.22	0.70
Potassium 40 (pCi/L)	.	881.00
Potassium 40 (CE+/-)	.	550.00
Radium (Bq/L)	0.08	0.01
Radium (CE+/-)	0.05	0.03
Strontium (pCi/L)	21.10	216.00
Strontium (CE+/-)	7.30	43.00
Technetium 99 (pCi/L)	-6.88	35.60
Technetium 99 (CE+/-)	17.00	38.00
Tritium (Bq/L)	9.00	120.00
Tritium (CE+/-)	24.00	20.00
Uranium 234 (pCi/L)	-0.13	0.35
Uranium 234 (CE+/-)	0.26	0.49
Uranium 235 (pCi/L)	-2.44	-26.20
Uranium 235 (CE+/-)	12.00	52.00
Uranium 238 (pCi/L)	0.06	0.00
Uranium 238 (CE+/-)	0.13	0.60

APPENDIX I.4

6

Equipment Rinsate Data Summary, Fourth Quarter 1994

Sampling Group	ER EF 1	ER EF 2		ER EF 3		ER EF 4	ER EF 5	ER EF 6
Associated Well	GW-778	GW-337	GW-620	GW-760	GW-769	GW-783	GW-776	GW-381
Pump Number	6	8	8	6	8	4	4	7
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	11	10U
2-Butanone	10U	10U	10U	10U	10U	10U	11	10U
Methylene chloride	10U	10U	10U	10U	10U	10U	2	10U
Toluene	10U	10U	10U	10U	10U	10U	10U	10U
	.	.	.	.	.	.	.	.
NITRATE/METALS (mg/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Nitrate (as N)	.	.	.	.	.	.	.	.
Aluminum	.	.	.	.	.	.	.	<0.02
Antimony	.	.	.	.	.	.	.	<0.05
Arsenic	.	.	.	.	.	.	.	<0.05
Barium	.	.	.	.	.	.	.	0.042
Beryllium	.	.	.	.	.	.	.	<0.0003
Boron	.	.	.	.	.	.	.	0.055
Cadmium	.	.	.	.	.	.	.	<0.003
Calcium	.	.	.	.	.	.	.	1.1
Chromium	.	.	.	.	.	.	.	<0.01
Cobalt	.	.	.	.	.	.	.	<0.005
Copper	.	.	.	.	.	.	.	0.0058
Iron	.	.	.	.	.	.	.	1.1
Magnesium	.	.	.	.	.	.	.	0.25
Manganese	.	.	.	.	.	.	.	0.023
Molybdenum	.	.	.	.	.	.	.	<0.01
Nickel	.	.	.	.	.	.	.	<0.01
Potassium	.	.	.	.	.	.	.	<0.6
Selenium	.	.	.	.	.	.	.	<0.05
Silver	.	.	.	.	.	.	.	<0.006
Sodium	.	.	.	.	.	.	.	0.21
Strontium	.	.	.	.	.	.	.	0.0052
Thorium	.	.	.	.	.	.	.	<0.2
Vanadium	.	.	.	.	.	.	.	<0.005
Zinc	.	.	.	.	.	.	.	0.01

(CONTINUED)

Equipment Rinsate Data Summary, Fourth Quarter 1994

Sampling Group	ER EF 7	ER EF 8	ER EF 9
• Associated Well	GW-384	GW-606	GW-170
• Pump Number	5	6	8
VOLATILE ORGANICS (ug/L)	.	.	.
	.	.	.
Acetone	10U	10U	10U
2-Butanone	15	10U	10U
Methylene chloride	10U	10U	10U
Toluene	10U	10U	1
NITRATE/METALS (mg/L)	.	.	.
	.	.	.
Nitrate (as N)	.	.	0.22
Aluminum	.	.	<0.02
Antimony	.	.	<0.05
Arsenic	.	.	<0.05
Barium	.	.	0.0099
Beryllium	.	.	<0.0003
Boron	.	.	0.027
Cadmium	.	.	<0.003
Calcium	.	.	5.8
Chromium	.	.	<0.01
Cobalt	.	.	<0.005
Copper	.	.	0.0073
Iron	.	.	0.87
Magnesium	.	.	1.2
Manganese	.	.	0.0026
Molybdenum	.	.	<0.01
Nickel	.	.	<0.01
Potassium	.	.	0.77
Selenium	.	.	<0.05
Silver	.	.	<0.006
Sodium	.	.	0.61
Strontium	.	.	0.029
Thorium	.	.	<0.2
Vanadium	.	.	<0.005
Zinc	.	.	0.11

Equipment Rinsate Data Summary, Fourth Quarter 1994

Sampling Group	ER EF 9
Associated Well	GW-170
Pump Number	8
Gross Alpha (pCi/L)	-0.99
Gross Alpha (CE+/-)	1.70
Gross Beta (pCi/L)	2.21
Gross Beta (CE+/-)	2.70
RADIONUCLIDES	.
Americium 241 (pCi/L)	0.66
Americium 241 (CE+/-)	0.94
Neptunium 237 (pCi/L)	-0.65
Neptunium 237 (CE+/-)	0.79
Plutonium 238 (pCi/L)	0.15
Plutonium 238 (CE+/-)	0.68
Plutonium 239 (pCi/L)	0.00
Plutonium 239 (CE+/-)	0.52
Radium (Bq/L)	0.03
Radium (CE+/-)	0.03
Strontium (pCi/L)	6.89
Strontium (CE+/-)	24.00
Technetium 99 (pCi/L)	81.60
Technetium 99 (CE+/-)	39.00
Tritium (Bq/L)	6.70
Tritium (CE+/-)	9.50
Uranium 234 (pCi/L)	-0.14
Uranium 234 (CE+/-)	0.48
Uranium 235 (pCi/L)	-32.10
Uranium 235 (CE+/-)	93.00
Uranium 238 (pCi/L)	0.14
Uranium 238 (CE+/-)	0.28

APPENDIX I.5
FIELD BLANK DATA SUMMARY

APPENDIX I.5
Field Blank Data Summary, 1994

1

Sampling Group	FB EF 2			
Date Sampled	02/09/94	05/09/94	08/22/94	12/05/94
VOLATILE ORGANICS (ug/L)	.	.	.	.
Acetone	10U	10U	48	10U
Bromodichloromethane	5U	10U	2	10U
Chloroform	5U	10U	24	10U
1,2-Dichloropropane	5U	10U	4	10U
1,1,1-Trichloroethane	5U	10U	1	10U

APPENDIX J

VALIDATED RESULTS OF VOLATILE ORGANIC COMPOUND ANALYSES

EXPLANATION

SAMPLING POINT:

GW - Monitoring Well
LRS - Lake Reality Sump (Surface Water Location)
LRSPW - Lake Reality Emergency Spillway (Surface Water Location)

UNIT:

AQF - Knox Aquifer
AQT - ORR Aquitards

LOCATION:

B4 - Beta-4 Security Pits
EXP - Exit Pathway:
 Maynardville Limestone Transverse (-E, -I, -J)
 Offsite, in Union Valley (-UV)
 Along Scarboro Road in the gap through Pine Ridge (-SR)
 Surface Water Sampling Location (-SW)
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
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
 - 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.

EXPLANATION (cont'd)

Anomalous VOC results were not identified for this report. In the Part 1 GWQR for CY 1993, a result was assumed to be anomalous if a compound was detected in only one of at least four consecutive samples collected at a sampling point. For CY 1994, anomalous VOC results will be identified in part 2 of the GWQR.

APPENDIX J
Validated VOC Results, 1994

1

Sampling Point	GW-148	GW-149	GW-151				GW-153	GW-154
Unit	AQF	AQF	AQF				AQF	AQF
Location	NHP	NHP	NHP				NHP	NHP
Date Sampled	11/14/94	11/14/94	02/05/94	05/12/94	09/22/94	11/16/94	11/14/94	11/15/94
Acetone	FP1	FP1	.	.	.	.	FP1	FP1
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	FP1	.	FP2	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	450	560	370	300	100	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	20	20	19	15	8	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	3	.	1	2	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	FP1	.	.	.	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	.	21	21	27	15	4	.
Toluene	FP1	FP1	.	.	.	.	FP1	FP1
1,1,1-Trichloroethane	.	.	.	1	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	.	3	.	3	.	1	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

2

Sampling Point . Unit . Location . Date Sampled	GW-169			GW-170			GW-171	
	AQF			AQF			AQF	
	EXP-UV			EXP-UV			EXP-UV	
	01/31/94	08/11/94	12/06/94	02/02/94	08/11/94	11/17/94	09/27/94	11/15/94
Acetone	.	.	.	.	FP2	.	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	4	2	200	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	.	95	69	12	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	.	.	0.9	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	.	FP1	3	.	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	2	1	2	10	7	11	.	.
Toluene	.	.	.	FP1	.	FP1	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	3	0.8	1	2	3	3	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

3

Sampling Point . Unit . Location . Date Sampled	GW-172		GW-191				GW-192	
	AQF		AQT				AQT	
	EXP-UV		B4				B4	
	09/26/94	11/14/94	02/04/94	05/02/94	08/20/94	11/29/94	02/05/94	05/04/94
Acetone	.	.	.	.	.	.	12	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	.	.	.	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	1	2
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	.	.	.	.	.	17	23
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	FP1	.	.	.	FP1	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	.	.	.	.	.	3	4
Toluene	.	FP1	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	FP1	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	.	.	.	FP1	.	3	4
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

4

Sampling Point	GW-192		GW-194				GW-195	
Unit	AQT		AQT				AQT	
Location	B4		B4				B4	
Date Sampled	08/21/94	12/02/94	02/04/94	05/02/94	08/20/94	12/01/94	02/05/94	05/04/94
Acetone	.	.	FP1	.	.	.	7	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	.	.	FP2	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	.	.	.	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	2	1	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	19	15	.	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	FP1	.	.	.	FP1	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	.	.	.	.	.	.	.
Toluene	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	FP1	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	2	1	.	.	.	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

5

Sampling Point . Unit . Location . Date Sampled	GW-195		GW-199				GW-206	
	AQT		AQT				AQT	
	B4		GRID11				EXP-SR	
	08/20/94	12/01/94	01/14/94	04/22/94	08/08/94	10/27/94	01/30/94	06/15/94
Acetone	.	.	.	.	.	.	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	.	FP1	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	.	.	.	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	FP1	.	.	FP1	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	.	.	.	.	.	.	.
Toluene	.	.	.	.	.	.	.	0.4
1,1,1-Trichloroethane	FP1	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	.	.	.	.	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

6

Sampling Point	GW-206		GW-207				GW-208	
Unit	AQT		AQT				AQT	
Location	EXP-SR		EXP-SR				EXP-SR	
Date Sampled	09/28/94	11/28/94	01/28/94	05/24/94	09/13/94	12/03/94	01/30/94	05/26/94
Acetone	.	.	.	.	.	.	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	.	.	.	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	.	.	.	.	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	.	.	.	.	.	.	.
Toluene	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	.	.	.	.	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

7

Sampling Point	GW-208		GW-220				GW-222	GW-223
Unit	AQT		AQF				AQF	AQF
Location	EXP-SR		NHP				NHP	NHP
Date Sampled	09/16/94	12/04/94	02/05/94	05/12/94	09/22/94	11/16/94	11/15/94	11/15/94
Acetone	.	.	.	.	.	.	.	FP1
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	FP2	.	.	.	.	FP1
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	260	250	430	540	.	1
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	15	17	23	29	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	.	.	1	.	.	6	15
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	FP1	.	.	.	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	.	23	20	38	53	6	15
Toluene	.	.	.	.	.	.	FP1	FP1
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	.	4	5	8	9	2	4
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

8

Sampling Point	GW-230		GW-232			GW-240		
Unit	AQF		AQF			AQF		
Location	EXP-UV		EXP-UV			NHP		
Date Sampled	09/28/94	11/15/94	02/01/94	08/11/94	11/17/94	02/04/94	05/11/94	09/22/94
Acetone	.	.	.	.	.	.	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	11	10	14
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	.	.	.	2	.	2
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	6	17	.	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	FP1	.	.	FP1	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	.	.	.	.	.	.	1
Toluene	1	.	FP1	.	FP1	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	.	.	.	.	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

9

Sampling Point	GW-240	GW-251				GW-252		
Unit	AQF	AQF				AQF		
Location	NHP	S2				S2		
Date Sampled	11/16/94	02/07/94	05/09/94	08/22/94	12/03/94	05/13/94	08/14/94	10/29/94
Acetone	.	.	.	.	.	.	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	8	0.9	13	6	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	1	2	9	8	4	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	.	5	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	FP1	.	.	.	.	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	27	240	130	49	.	.	.
Toluene	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	8	99	49	17	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

10

Sampling Point . Unit . Location . Date Sampled	GW-255			GW-261			GW-262	
	AQF			AQT			AQT	
	S2			SY			SY	
	05/13/94	08/14/94	10/29/94	05/11/94	08/13/94	10/28/94	05/11/94	08/13/94
Acetone	.	.	.	.	.	FP1	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	.	FP1	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	1	1	1	.	.	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	.	.	.	.	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	.	.	.	.	.	.	.
Toluene	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	.	.	.	.	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

11

Sampling Point	GW-262	GW-263				GW-264			GW-337
Unit	AQT	AQT				AQT			AQT
Location	SY	SY				SY			WC
Date Sampled	10/28/94	05/12/94	08/13/94	10/31/94	05/12/94	08/13/94	10/29/94	02/08/94	
Acetone	FP1	.	.	.	.	15	.	.	.
Benzene	.	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.	.
2-Butanone	FP1	.	.	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.	.
Chloroform	.	.	.	.	.	.	.	.	.
Chloromethane	.	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.	160
1,2-Dichloroethane	.	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.	200
1,2-Dichloroethene	.	.	.	.	.	.	.	.	7600
1,2-Dichloropropane	.	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.	.
Methylene chloride	FP1	.	.	.	.	.	.	.	.
Styrene	.	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.	.
Tetrachloroethene	.	.	.	.	.	.	.	.	830
Toluene	.	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.	270
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.	.
Trichloroethene	.	.	.	.	.	.	.	.	920
Vinyl acetate	.	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.	280
Xylenes	.	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

12

Sampling Point	GW-337			GW-338				GW-380
Unit	AQT			AQT				AQF
Location	WC			WC				NHP
Date Sampled	05/10/94	08/25/94	12/08/94	02/05/94	05/04/94	08/20/94	12/02/94	02/04/94
Acetone	.	.	.	10	.	.	.	FP1
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	FP2	.	.	.	14
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	.	.	.	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	150	170	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	170	180	.	.	.	.	.
1,2-Dichloroethene	7100	6700	7200	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	.	FP1	.	2	.	FP1
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	910	890	890	.	.	.	.	.
Toluene	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	280	290	310	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	1000	920	1000	.	.	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

Validated VOC Results, 1994

Sampling Point . Unit . Location . Date Sampled	GW-380			GW-381				GW-382
	AQF			AQF				AQF
	NHP			NHP				NHP
	05/11/94	09/21/94	11/15/94	02/09/94	05/17/94	09/27/94	11/21/94	02/08/94
Acetone	.	.	.	.	.	.	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	6400	2500	4900	5400	5800
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	1	.	720	640	660	470	210
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	FP2	.	.	.	.	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	2	.	.	.	.	.	330
Toluene	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	.	.	.	.	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
xylene	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

14

Sampling Point . Unit . Location . Date Sampled	GW-382			GW-383				GW-384
	AQF			AQT				AQT
	NHP			NHP				NHP
	05/16/94	09/26/94	11/18/94	02/05/94	05/13/94	09/22/94	11/17/94	02/01/94
Acetone	.	490	.	FP2	.	.	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	FP2	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	6800	6100	6200	4	.	2	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	240	220	210	2	.	2	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	2	.	.	1	.
1,2-Dichloroethene	.	.	.	100	62	89	100	4
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	.	FP1	.	.	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	230	310	250	410	200	380	180	.
Toluene	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	43	44	160	72	150	76	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	2	.
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

15

Sampling Point . Unit . Location . Date Sampled	GW-384			GW-385				GW-505
	AQT			AQT				AQT
	NHP			NHP				RG
	06/03/94	08/03/94	11/02/94	01/31/94	06/02/94	08/03/94	11/01/94	03/01/94
Acetone	.	.	.	.	.	.	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	.	.	.	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	.	5	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	.	.	.	.	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	.	2	.	.	.	.	.
Toluene	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	.	.	.	.	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

16

Sampling Point	GW-508	GW-603				GW-604		
Unit	AQT	AQF				AQF		
Location	RG	EXP-J				EXP-J		
Date Sampled	03/02/94	01/31/94	05/27/94	09/20/94	12/04/94	02/01/94	05/31/94	09/20/94
Acetone	.	.	.	.	.	.	.	.
Benzene	5600	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	.	.	.	1	2	1
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	2600	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	.	.	.	.	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	.	.	.	.	.	.	.
Toluene	25000	.	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	.	.	.	.	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	18000	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

17

Sampling Point	GW-604	GW-605				GW-606		
Unit	AQF	AQF				AQF		
Location	EXP-J	EXP-I				EXP-I		
Date Sampled	12/04/94	02/02/94	06/03/94	09/25/94	12/06/94	02/03/94	06/06/94	09/25/94
Acetone	.	.	.	.	.	.	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	60	93	260	100	720	120	1100
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	9	18	30	13	290	97	250
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	0.9	.	2	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	10	10	19	18	.	.	1
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	.	.	.	FP1	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	11	8	21	18	8	2	9
Toluene	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	4	2	6	6	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

18

Sampling Point	GW-606	GW-617				GW-618		
Unit	AQF	AQF				AQF		
Location	EXP-I	EXP-E				EXP-E		
Date Sampled	12/07/94	02/05/94	05/05/94	08/21/94	12/02/94	02/07/94	05/05/94	08/21/94
Acetone	.	.	.	.	.	FP1	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	FP2	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	780	.	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	280	.	.	.	.	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	5	3	9	16	11	28	34
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	58	FP1	.	.	.	FP1	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	4	1	3	14	9	36	7
Toluene	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	4	.	3	13	13	29	7
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	5
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

19

Sampling Point	GW-618	GW-619				GW-620		
Unit	AQF	AQF				AQF		
Location	EXP-E	FTF				FTF		
Date Sampled	12/03/94	02/07/94	05/09/94	08/22/94	12/03/94	02/07/94	05/09/94	08/23/94
Acetone	.	.	.	.	.	FP1	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	FP1	.	.	.	FP1	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	.	.	.	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	30	84	400	31	25	370	410	390
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	FP1	.	.	.	FP1	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	26	170	390	66	49	440	500	500
Toluene	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	24	41	150	21	13	150	160	150
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

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Sampling Point	GW-620	GW-631	GW-632	GW-633	GW-634	GW-733		
Unit	AQF	AQT	AQT	AQT	AQT	AQF		
Location	FTF	RG	RG	RG	RG	EXP-J		
Date Sampled	12/03/94	03/01/94	03/02/94	03/03/94	03/01/94	01/30/94	06/02/94	09/24/94
Acetone	.	.	.	.	.	.	.	.
Benzene	.	.	12000	6	260	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	1	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	50	10	46
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	.	12	.	4	3	4
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	1	.	.	.	.
1,2-Dichloroethene	470	.	.	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	450	.	670	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	.	FP2	.	.	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	750	2	.	57	.	.	.	1
Toluene	.	.	4400	5	500	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	190	.	.	4	.	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	4000	.	2400	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

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Sampling Point	GW-733	GW-735				GW-744		
Unit	AQF	AQT				AQT		
Location	EXP-J	EXP-J				GRIDK1		
Date Sampled	12/06/94	02/02/94	05/31/94	09/20/94	12/05/94	01/27/94	05/26/94	07/30/94
Acetone	.	.	.	.	.	.	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	52	.	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	4	.	.	.	.	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	.	.	.	.	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	2	.	.	.	.	.	.	.
Toluene	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	.	.	.	.	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

22

Sampling Point	GW-744	GW-745				GW-746		
Unit	AQT	AQT				AQT		
Location	GRIDK1	GRIDK1				GRIDK1		
Date Sampled	10/26/94	01/27/94	05/26/94	07/30/94	10/26/94	01/27/94	05/27/94	07/31/94
Acetone	.	.	.	.	.	.	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	.	.	.	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	1	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	.	.	.	.	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	.	.	.	.	.	.	.
Toluene	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	.	.	.	.	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

23

Sampling Point	GW-746	GW-747				GW-748		
Unit	AQT	AQT				AQT		
Location	GRIDK1	GRIDK2				GRIDK2		
Date Sampled	10/27/94	01/28/94	05/27/94	07/31/94	10/27/94	01/28/94	05/31/94	07/31/94
Acetone	.	.	.	.	.	.	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	.	.	.	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	.	.	.	.	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	.	.	.	.	.	.	.
Toluene	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	.	.	.	.	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

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APPENDIX J
Validated VOC Results, 1994

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Sampling Point	GW-748	GW-749				GW-750		
Unit	AQT	AQT				AQT		
Location	GRIDK2	GRIDK2				EXP-J		
Date Sampled	10/27/94	01/30/94	05/31/94	07/31/94	10/31/94	01/30/94	06/01/94	08/01/94
Acetone	.	.	.	.	.	.	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	FP1	.	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	.	.	.	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	FP1	.	.	.	.	.	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	.	.	.	.	.	.	.
Toluene	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	.	.	.	.	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

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APPENDIX J
Validated VOC Results, 1994

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Sampling Point	GW-750	GW-751				GW-752		
Unit	AQT	AQT				AQT		
Location	EXP-J	GRIDJ3				GRIDJ3		
Date Sampled	10/31/94	01/26/94	05/25/94	07/29/94	10/25/94	01/26/94	05/25/94	07/30/94
Acetone	.	FP1	.	.	.	FP1	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	FP1	.	.	.	FP1	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	.	.	.	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	FP1	.	.	.	FP1	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	.	.	.	.	.	.	.
Toluene	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	.	.	.	.	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

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APPENDIX J
Validated VOC Results, 1994

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Sampling Point	GW-752	GW-758				GW-759		
Unit	AQT	AQT				AQT		
Location	GRIDJ3	GRIDG1				GRIDG1		
Date Sampled	10/25/94	02/05/94	05/06/94	08/29/94	11/02/94	02/05/94	05/06/94	08/29/94
Acetone	.	.	.	.	.	.	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	FP2	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	.	.	.	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	FP1	.	.	.	FP1	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	.	.	.	.	.	.	.
Toluene	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	.	.	.	.	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

27

Sampling Point	GW-759	GW-760				GW-761		
Unit	AQT	AQT				AQT		
Location	GRIDG1	GRIDG2				GRIDG2		
Date Sampled	11/02/94	02/08/94	05/09/94	08/30/94	11/22/94	02/05/94	05/09/94	08/30/94
Acetone	.	.	.	.	.	.	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	.	.	.	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	.	.	.	FPI	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	.	.	.	.	.	.	.
Toluene	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	.	.	.	.	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

28

Sampling Point	GW-761	GW-762				GW-763		
Unit	AQT	AQT				AQT		
Location	GRIDG2	GRIDJ3				GRIDJ3		
Date Sampled	11/03/94	02/03/94	05/05/94	09/21/94	11/09/94	02/03/94	05/05/94	09/21/94
Acetone	.	.	.	.	.	.	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	.	.	.	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	13	.	.	.	1
1,2-Dichloroethene	.	.	52	58	82	.	68	43
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	130	.	.	.	FP1	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	400	700	1100	820	6	8	8
Toluene	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	3	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	18	40	53	75	2	2	2
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	25	29	16
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

29

Sampling Point	GW-763	GW-764				GW-765		
Unit	AQT	AQT				AQT		
Location	GRIDJ3	GRIDE1				GRIDE1		
Date Sampled	11/09/94	02/03/94	05/05/94	08/24/94	11/01/94	02/04/94	05/05/94	08/24/94
Acetone	.	.	.	.	FP1	.	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	FP1	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	.	.	.	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	70	.	.	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	.	.	.	FP1	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	9	.	.	.	.	.	.	.
Toluene	.	FP1	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	3	.	.	.	.	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	26	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

30

Sampling Point	GW-765	GW-766				GW-767		
Unit	AQT	AQT				AQT		
Location	GRIDE1	GRIDI2				GRIDI2		
Date Sampled	11/02/94	01/27/94	04/25/94	08/09/94	10/31/94	01/27/94	04/25/94	08/09/94
Acetone	.	.	.	.	.	.	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	.	.	.	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	.	.	.	.	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	.	.	.	.	.	.	.
Toluene	.	1	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	.	.	.	.	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	0.7	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

31

Sampling Point	GW-767	GW-768				GW-769		
Unit	AQT	AQT				AQT		
Location	GRIDI2	GRIDI1				GRIDG3		
Date Sampled	10/31/94	01/26/94	04/22/94	08/09/94	10/31/94	02/08/94	05/10/94	08/31/94
Acetone	.	FP1	.	.	.	.	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	FP1	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	5	4	5
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	.	.	.	0.7	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	FP1	.	.	.	.	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	.	.	.	.	3	.	3
Toluene	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	.	.	.	.	0.8	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

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APPENDIX J
Validated VOC Results, 1994

32

Sampling Point	GW-769	GW-770				GW-771		
Unit	AQT	AQT				AQT		
Location	GRIDG3	GRIDG3				GRIDC1		
Date Sampled	11/07/94	02/08/94	05/10/94	08/31/94	11/07/94	02/02/94	05/02/94	08/24/94
Acetone	.	.	.	.	.	.	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	7	.	.	.	2	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	8	5	4	5	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	.	.	.	.	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	3	.	.	.	.	.	.	.
Toluene	.	.	.	.	.	FP1	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	1	.	.	.	.	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

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APPENDIX J
Validated VOC Results, 1994

33

Sampling Point	GW-771	GW-772				GW-773		
Unit	AQT	AQT				AQT		
Location	GRIDC1	GRIDC1				GRIDH2		
Date Sampled	11/01/94	02/03/94	05/02/94	08/24/94	11/01/94	01/28/94	04/26/94	08/10/94
Acetone	FP1	.	.	.	.	.	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	FP1	.	.	.	FP1	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	.	.	.	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	.	.	.	.	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	.	.	.	.	.	.	.
Toluene	.	FP1	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	.	.	.	.	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

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APPENDIX J
Validated VOC Results, 1994

34

Sampling Point	GW-773	GW-774				GW-775		
Unit	AQT	AQT				AQT		
Location	GRIDH2	GRIDH2				GRIDH3		
Date Sampled	11/01/94	01/28/94	04/26/94	08/10/94	11/01/94	01/31/94	04/26/94	08/11/94
Acetone	.	.	.	.	.	17	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	.	.	.	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	.	.	.	.	.	3
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	.	.	.	.	.	.	.
Toluene	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	.	.	.	.	.	2	2
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

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Sampling Point	GW-775	GW-776					GW-777		
Unit	AQT	AQT					AQT		
Location	GRIDH3	GRIDH3					GRIDB2		
Date Sampled	11/01/94	01/31/94	04/29/94	08/11/94	11/01/94	05/20/94	08/14/94	10/31/94	
Acetone	FP1	.	.	.	FP1	.	.	.	
Benzene	.	.	.	.	.	.	.	.	
Bromodichloromethane	.	.	.	.	.	.	.	.	
Bromoform	.	.	.	.	.	.	.	.	
Bromomethane	.	.	.	.	.	.	.	.	
2-Butanone	FP1	.	.	.	FP1	.	.	.	
Carbon disulfide	.	.	.	.	.	.	.	.	
Carbon tetrachloride	.	.	.	.	.	.	.	.	
Chlorobenzene	.	.	.	.	.	.	.	.	
Chlorodibromomethane	.	.	.	.	.	.	.	.	
Chloroethane	.	.	.	.	.	.	.	.	
Chloroform	.	.	.	.	1	.	.	.	
Chloromethane	.	.	.	.	.	.	.	.	
1,1-Dichloroethane	.	.	.	.	.	.	.	.	
1,2-Dichloroethane	.	.	.	.	.	.	.	.	
1,1-Dichloroethene	.	.	.	.	.	.	.	.	
1,2-Dichloroethene	.	.	.	.	.	.	.	.	
1,2-Dichloropropane	.	.	.	.	.	.	.	.	
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.	
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.	
Ethylbenzene	.	.	.	.	.	.	.	.	
2-Hexanone	.	.	.	.	.	.	.	.	
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.	
Methylene chloride	FP1	.	.	.	FP1	.	.	.	
Styrene	.	.	.	.	.	.	.	.	
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.	
Tetrachloroethene	.	.	2	2	2	.	.	.	
Toluene	.	.	.	.	.	.	.	.	
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.	
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.	
Trichloroethene	3	3	4	4	4	.	.	.	
Vinyl acetate	.	.	.	.	.	.	.	.	
Vinyl chloride	.	.	.	.	.	.	.	.	
Xylenes	.	.	.	.	.	.	.	.	

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

36

Sampling Point	GW-778			GW-779			GW-780	
Unit	AQT			AQT			AQT	
Location	GRIDB2			GRIDF2			GRIDF2	
Date Sampled	05/20/94	08/14/94	10/31/94	06/09/94	09/09/94	11/29/94	06/09/94	09/09/94
Acetone	.	.	.	.	.	.	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	.	.	.	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	.	.	.	.	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	.	.	.	.	.	.	.
Toluene	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	.	.	.	.	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

37

Sampling Point	GW-780	GW-781				GW-782			GW-783
Unit	AQT	AQT				AQT			AQT
Location	GRIDF2	GRIDE3				GRIDE3			GRIDE3
Date Sampled	11/29/94	06/15/94	09/09/94	12/01/94	06/16/94	09/12/94	12/02/94	06/16/94	
Acetone	.	.	.	.	.	.	.	.	.
Benzene	.	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	18	16	5	1	.
Chlorobenzene	.	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.	.
Chloroform	.	.	.	.	5	4	.	0.8	.
Chloromethane	.	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	69	2	60	63	52	160	10	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	12	.	9	31	25	44	4	.
1,2-Dichloroethene	.	1	.	.	17	15	16	17	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.	.
Methylene chloride	.	.	.	.	.	.	.	.	.
Styrene	.	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.	.
Tetrachloroethene	.	24	3	19	140	130	210	29	.
Toluene	.	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	.	13	.	11	15	11	25	2	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.	.
Trichloroethene	.	4	.	3	30	29	49	12	.
Vinyl acetate	.	.	.	.	.	.	.	.	.
Vinyl chloride	.	1	.	.	1	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

38

Sampling Point	GW-783		GW-784			GW-785		
Unit	AQT		AQT			AQT		
Location	GRIDE3		GRIDD1			GRIDD1		
Date Sampled	09/12/94	12/02/94	06/06/94	09/01/94	11/28/94	06/07/94	09/06/94	11/28/94
Acetone	.	.	.	.	.	.	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	1	4	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	1	2	.	.	.	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	14	26	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	5	10	.	.	.	.	.	.
1,2-Dichloroethene	25	30	.	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	.	.	.	.	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	53	57	.	.	.	.	.	.
Toluene	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	2	4	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	20	23	.	.	.	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

39

Sampling Point . Unit . Location . Date Sampled	GW-786			GW-787			GW-788	
	AQT			AQT			AQT	
	GRIDE2			GRIDE2			GRIDF3	
	06/08/94	09/07/94	11/28/94	06/08/94	09/07/94	11/29/94	06/10/94	09/09/94
Acetone	.	.	.	.	.	.	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	.	.	.	.	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	FPI	.	.	.	.	.	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.	.	.
Tetrachloroethene	.	.	.	.	.	.	.	.
Toluene	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	.	.	.	.	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

40

Sampling Point	GW-788	GW-789			GW-791			GW-792
Unit	AQT	AQT			AQT			AQT
Location	GRIDF3	GRIDF3			GRIDD2			GRIDD2
Date Sampled	11/30/94	06/15/94	09/09/94	11/30/94	06/07/94	09/06/94	12/01/94	06/07/94
Acetone	.	.	.	.	.	.	.	.
Benzene	.	.	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.	.	.
2-Butanone	.	.	.	.	.	.	.	.
Carbon disulfide	.	.	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.	.	.
Chloroform	.	0.7	.	.	.	.	.	.
Chloromethane	.	.	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloroethene	.	.	.	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.	.	.
Methylene chloride	.	.	.	.	.	.	.	.
Styrene	.	.	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	3500	.	.
Tetrachloroethene	.	.	.	.	420	.	3300	14
Toluene	.	.	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.	.	.
Trichloroethene	.	1	.	.	11	.	.	.
Vinyl acetate	.	.	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1994

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Sampling Point . Unit . Location . Date Sampled	GW-792		GW-816		GW-817	
	AQT		AQT		AQT	
	GRIDD2		EXP-SR		GRIDK3	
	09/07/94	12/01/94	09/21/94	11/28/94	09/21/94	11/28/94
Acetone	.	.	FP1	.	.	.
Benzene	.	.	.	.	.	.
Bromodichloromethane	.	.	.	.	.	.
Bromoform	.	.	.	.	.	.
Bromomethane	.	.	.	.	.	.
2-Butanone	.	.	FP2	.	FP2	.
Carbon disulfide	.	.	.	.	.	.
Carbon tetrachloride	.	.	.	.	.	.
Chlorobenzene	.	.	.	.	.	.
Chlorodibromomethane	.	.	.	.	.	.
Chloroethane	.	.	.	.	.	.
Chloroform	.	.	.	.	.	.
Chloromethane	.	.	.	.	.	.
1,1-Dichloroethane	.	.	.	.	.	.
1,2-Dichloroethane	.	.	.	.	.	.
1,1-Dichloroethene	.	.	.	.	.	.
1,2-Dichloroethene	.	.	.	.	.	.
1,2-Dichloropropane	.	.	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.	.	.
Ethylbenzene	.	.	.	.	.	.
2-Hexanone	.	.	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.	.	.
Methylene chloride	.	.	.	.	1	.
Styrene	.	.	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.	.	.
Tetrachloroethene	10	8	.	.	.	.
Toluene	.	.	.	.	.	.
1,1,1-Trichloroethane	.	.	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.	.	.
Trichloroethene	.	.	.	.	.	.
Vinyl acetate	.	.	.	.	.	.
Vinyl chloride	.	.	.	.	.	.
Xylenes	.	.	.	.	.	.

APPENDIX J
Validated VOC Results, 1994

42

Sampling Point . Unit . Location . Date Sampled	LRS		LRSPW	
	CREEK		CREEK	
	EXP-SW		EXP-SW	
	09/07/94	12/27/94	09/07/94	12/27/94
Acetone	.	.	.	FP1
Benzene	.	.	.	.
Bromodichloromethane	.	.	.	.
Bromoform	.	.	.	.
Bromomethane	.	.	.	.
2-Butanone	.	.	.	FP1
Carbon disulfide	.	.	.	.
Carbon tetrachloride	11	13	14	16
Chlorobenzene	.	.	.	.
Chlorodibromomethane	.	.	.	.
Chloroethane	.	.	.	.
Chloroform	2	2	2	2
Chloromethane	.	.	.	.
1,1-Dichloroethane	.	.	.	.
1,2-Dichloroethane	.	.	.	.
1,1-Dichloroethene	.	.	.	.
1,2-Dichloroethene	.	.	.	.
1,2-Dichloropropane	.	.	.	.
cis-1,3-Dichloropropene	.	.	.	.
trans-1,3-Dichloropropene	.	.	.	.
Ethylbenzene	.	.	.	.
2-Hexanone	.	.	.	.
4-Methyl-2-pentanone	.	.	.	.
Methylene chloride	.	.	.	.
Styrene	.	.	.	.
1,1,2,2-Tetrachloroethane	.	.	.	.
Tetrachloroethene	5	5	4	4
Toluene	.	FP1	.	FP1
1,1,1-Trichloroethane	.	.	.	.
1,1,2-Trichloroethane	.	.	.	.
Trichloroethene	.	1	.	1
Vinyl acetate	.	.	.	.
Vinyl chloride	.	.	.	.
Xylenes	.	.	.	.

APPENDIX K
RADIOCHEMICAL DATA SUMMARY

EXPLANATION

SAMPLING POINT:

- GW - Monitoring Well
- LRS - Lake Reality Sump (Surface Water Location)
- LRSPW - Lake Reality Emergency Spillway (Surface Water Location)

UNIT:

- AQF - Knox Aquifer
- AQT - ORR Aquitards

LOCATION:

- B4 - Beta-4 Security Pits
- EXP - Exit Pathway:
 - Maynardville Limestone Transverse (-E, -I, -J)
 - Offsite, in Union Valley (-UV)
 - Along Scarboro Road in the gap through Pine Ridge (-SR)
 - Surface Water Sampling Location (-SW)
- 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
- WC - Waste Coolant Processing Area

NOTES:

- pCi/L - picoCuries per liter
- CE+/- - 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, 1994

Sampling Point . Unit . Location . Type	GW-148		GW-149		GW-151		GW-153		GW-154	
	AQF		AQF		AQF		AQF		AQF	
	NHP		NHP		NHP		NHP		NHP	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA MEAN ACTIVITY	5.13	3.40	3.73	3.10	0.60	0.70	0.70	2.40	443.00	51.00
First Quarter	.	.	.	.	0.17	1.20	.	.	.	.
Second Quarter	.	.	.	.	0.36	1.00	.	.	.	.
Third Quarter	.	.	.	.	-0.18	1.50	.	.	.	.
Fourth Quarter	5.13	3.40	3.73	3.10	2.06	1.70	0.70	2.40	443.00	51.00
GROSS BETA MEAN ACTIVITY	12.50	3.70	11.30	3.60	2.85	1.30	5.44	3.20	221.00	24.00
First Quarter	.	.	.	.	2.36	2.30	.	.	.	.
Second Quarter	.	.	.	.	1.89	2.50	.	.	.	.
Third Quarter	.	.	.	.	1.12	2.60	.	.	.	.
Fourth Quarter	12.50	3.70	11.30	3.60	6.04	2.80	5.44	3.20	221.00	24.00

(CONTINUED)

Sampling Point . Unit . Location . Type	GW-169		GW-170		GW-171		GW-172		GW-191	
	AQF		AQF		AQF		AQF		AQT	
	EXP-UV		EXP-UV		EXP-UV		EXP-UV		B4	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA MEAN ACTIVITY	1.11	0.90	0.67	1.00	0.08	1.20	1.46	1.40	1.11	1.20
First Quarter	3.81	2.20	1.38	1.70	.	.	.	.	-0.19	2.20
Second Quarter	.	.	.	.	.	.	.	.	2.63	1.40
Third Quarter	0.50	1.30	1.42	1.60	0.79	1.40	2.59	1.80	-0.02	3.80
Fourth Quarter	-0.98	1.20	-0.79	1.90	-0.63	1.90	0.32	2.10	2.01	1.90
GROSS BETA MEAN ACTIVITY	4.27	1.60	5.94	1.60	7.20	2.20	3.16	2.00	3.78	1.90
First Quarter	8.27	3.00	8.17	2.80	.	.	.	.	2.13	2.80
Second Quarter	.	.	.	.	.	.	.	.	2.80	2.40
Third Quarter	1.36	2.60	2.59	2.60	6.90	3.10	1.56	2.80	5.20	5.80
Fourth Quarter	3.17	2.50	7.07	3.00	7.50	3.00	4.76	2.90	4.97	2.80

(CONTINUED)

APPENDIX K

2

Gross Alpha and Gross Beta Activity Data Summary, 1994

Sampling Point	GW-192		GW-194		GW-195		GW-199		GW-206	
Unit	AQT		AQT		AQT		AQT		AQT	
Location	B4		B4		B4		GRID11		EXP-SR	
Type	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA										
MEAN ACTIVITY	0.10	0.80	2.05	1.00	3.12	1.40	1.56	0.90	7.31	1.60
	.	.	.	.	.	.	.	.	.	.
First Quarter	-0.51	2.00	5.32	3.00	10.50	3.80	2.20	1.50	25.60	6.00
Second Quarter	0.73	0.74	2.61	1.40	0.34	0.50	0.18	1.30	2.02	1.50
Third Quarter	-0.01	2.10	-0.84	1.70	-0.02	3.50	1.00	2.40	0.90	1.70
Fourth Quarter	0.18	1.10	1.10	1.60	1.67	1.70	2.88	1.90	0.73	1.50
	.	.	.	.	.	.	.	.	.	.
GROSS BETA										
MEAN ACTIVITY	1.14	1.30	4.89	1.40	21.03	2.40	6.90	1.80	12.26	1.60
	.	.	.	.	.	.	.	.	.	.
First Quarter	1.60	2.70	14.50	3.50	38.00	4.50	4.29	2.60	31.90	4.20
Second Quarter	1.64	2.30	3.68	2.50	11.40	3.10	3.11	2.70	5.42	2.60
Third Quarter	0.14	2.70	-1.30	2.70	12.90	6.50	10.40	5.50	6.54	2.80
Fourth Quarter	1.19	2.40	2.66	2.60	21.80	4.20	9.78	3.10	5.19	2.80

(CONTINUED)

Sampling Point	GW-207		GW-208		GW-220		GW-222		GW-223	
Unit	AQT		AQT		AQF		AQF		AQF	
Location	EXP-SR		EXP-SR		NHP		NHP		NHP	
Type	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA										
MEAN ACTIVITY	1.75	1.20	0.79	1.10	0.98	0.80	19.70	5.10	4.25	3.10
	.	.	.	.	.	.	.	.	.	.
First Quarter	1.32	2.00	1.93	2.10	1.10	1.50	.	.	.	.
Second Quarter	1.50	1.20	1.55	1.20	-0.19	0.82	.	.	.	.
Third Quarter	1.33	3.40	-1.05	3.00	1.08	1.80	.	.	.	.
Fourth Quarter	2.85	2.30	0.71	2.10	1.94	1.70	19.70	5.10	4.25	3.10
	.	.	.	.	.	.	.	.	.	.
GROSS BETA										
MEAN ACTIVITY	3.54	1.80	3.52	1.80	3.98	1.30	23.70	4.60	5.07	3.20
	.	.	.	.	.	.	.	.	.	.
First Quarter	6.19	2.80	6.92	3.00	3.04	2.40	.	.	.	.
Second Quarter	3.06	2.50	3.38	2.60	2.84	2.60	.	.	.	.
Third Quarter	-1.30	5.30	1.24	5.40	2.15	2.60	.	.	.	.
Fourth Quarter	6.21	3.10	2.54	2.90	7.87	2.90	23.70	4.60	5.07	3.20

(CONTINUED)

APPENDIX K

3

Gross Alpha and Gross Beta Activity Data Summary, 1994

Sampling Point	GW-230		GW-232		GW-240		GW-251		GW-252	
Unit	AQF		AQF		AQF		AQF		AQF	
Location	EXP-UV		EXP-UV		NHP		S2		S2	
Type	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA										
MEAN ACTIVITY	1.21	1.50	0.16	1.20	2.44	1.00	9.10	1.70	1.60	0.80
First Quarter	.	.	.	.	.	.	.	.	.	.
Second Quarter	.	.	-1.12	1.50	2.62	2.40	9.09	3.60	.	.
Third Quarter	1.19	1.60	2.04	2.10	0.17	1.20	9.66	3.30	0.15	0.84
Fourth Quarter	1.23	2.50	-0.43	2.70	5.82	2.50	7.89	2.70	2.02	1.30
GROSS BETA										
MEAN ACTIVITY	5.38	2.10	4.88	1.60	8.22	1.50	8.58	1.50	3.28	1.50
First Quarter	.	.	.	.	.	.	.	.	.	.
Second Quarter	.	.	4.31	2.50	9.19	3.20	9.97	3.00	.	.
Third Quarter	3.49	2.90	1.92	2.60	11.50	3.20	10.10	3.10	0.57	2.50
Fourth Quarter	7.27	3.00	8.42	3.20	2.62	2.60	6.22	3.10	4.18	2.70

(CONTINUED)

Sampling Point	GW-255		GW-261		GW-262		GW-263		GW-264	
Unit	AQF		AQT		AQT		AQT		AQT	
Location	S2		SY		SY		SY		SY	
Type	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA										
MEAN ACTIVITY	3.97	1.20	1.56	0.90	1.35	0.90	5.81	1.70	1.28	1.10
First Quarter	.	.	.	.	.	.	.	.	.	.
Second Quarter	2.55	1.70	0.53	1.30	-0.00	1.10	0.58	1.20	0.91	1.50
Third Quarter	4.57	2.50	-0.35	1.60	1.06	1.90	2.76	2.30	-1.08	1.80
Fourth Quarter	4.78	2.00	4.51	1.90	2.99	1.60	14.10	4.50	4.00	2.20
GROSS BETA										
MEAN ACTIVITY	5.71	1.60	4.00	1.50	3.92	1.50	10.78	2.00	3.92	1.50
First Quarter	.	.	.	.	.	.	.	.	.	.
Second Quarter	0.77	2.40	1.57	2.40	0.55	2.30	0.62	2.40	1.21	2.50
Third Quarter	7.19	2.90	0.70	2.50	4.38	2.70	5.22	2.80	3.52	2.60
Fourth Quarter	9.18	3.00	9.74	3.10	6.82	2.80	26.50	4.60	7.04	2.90

(CONTINUED)

APPENDIX K

4

Gross Alpha and Gross Beta Activity Data Summary, 1994

Sampling Point	GW-337		GW-338		GW-380		GW-381		GW-382	
Unit	AQT		AQT		AQF		AQF		AQF	
Location	WC		WC		NHP		NHP		NHP	
Type	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA										
MEAN ACTIVITY	1.46	0.90	0.11	1.00	3.76	1.60	0.76	0.80	0.61	0.70
	.	.	.	.	.	.	.	.	.	.
First Quarter	0.17	1.20	0.33	2.00	7.97	5.00	0.39	1.50	0.35	1.30
Second Quarter	0.72	1.40	1.76	1.10	1.37	1.60	1.96	1.60	1.08	1.30
Third Quarter	2.00	2.70	-2.00	3.20	1.03	2.70	-0.41	1.70	0.35	1.70
Fourth Quarter	2.95	1.80	0.34	1.10	4.67	2.50	1.09	1.60	0.65	1.30
	.	.	.	.	.	.	.	.	.	.
GROSS BETA										
MEAN ACTIVITY	5.36	1.70	1.79	1.80	8.89	1.90	2.56	1.20	1.84	1.20
	.	.	.	.	.	.	.	.	.	.
First Quarter	2.82	2.30	2.43	2.80	9.79	3.40	3.50	2.30	3.61	2.40
Second Quarter	4.41	2.60	3.13	2.40	3.85	2.60	1.01	2.40	1.41	2.50
Third Quarter	7.04	5.30	0.62	5.60	9.33	5.50	2.62	2.60	-0.33	2.50
Fourth Quarter	7.18	2.80	0.96	2.40	12.60	3.30	3.11	2.50	2.68	2.50

(CONTINUED)

Sampling Point	GW-383		GW-384		GW-385		GW-505		GW-508	
Unit	AQT		AQT		AQT		AQT		AQT	
Location	NHP		NHP		NHP		RG		RG	
Type	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA										
MEAN ACTIVITY	0.58	0.70	0.93	0.80	0.13	0.90	15.30	3.90	2.48	2.40
	.	.	.	.	.	.	.	.	.	.
First Quarter	1.68	1.60	1.87	2.10	0.98	2.20	15.30	3.90	2.48	2.40
Second Quarter	0.59	1.20	-0.57	1.10	-0.84	1.20	.	.	.	.
Third Quarter	-1.00	1.50	0.71	1.50	-0.01	1.80	.	.	.	.
Fourth Quarter	1.07	1.50	1.71	1.90	0.39	1.90	.	.	.	.
	.	.	.	.	.	.	.	.	.	.
GROSS BETA										
MEAN ACTIVITY	3.13	1.30	2.04	1.30	0.49	1.30	10.00	3.60	-1.23	3.00
	.	.	.	.	.	.	.	.	.	.
First Quarter	2.96	2.30	4.70	2.80	1.45	2.70	10.00	3.60	-1.23	3.00
Second Quarter	2.68	2.60	0.23	2.30	-2.07	2.20	.	.	.	.
Third Quarter	2.62	2.60	1.49	2.40	1.34	2.60	.	.	.	.
Fourth Quarter	4.24	2.60	1.74	2.80	1.24	2.80	.	.	.	.

(CONTINUED)

APPENDIX K

5

Gross Alpha and Gross Beta Activity Data Summary, 1994

Sampling Point	GW-603		GW-604		GW-605		GW-606		GW-617	
Unit	AQF		AQF		AQF		AQF		AQF	
Location	EXP-J		EXP-J		EXP-I		EXP-I		EXP-E	
Type	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA										
MEAN ACTIVITY	1.53	1.10	0.76	1.00	109.83	6.60	5.79	1.20	3.53	2.40
	.	.	.	.	.	.	.	.	.	.
First Quarter	3.26	2.20	2.08	2.00	112.00	8.80	7.82	2.90	2.77	2.30
Second Quarter	0.55	0.83	-0.34	1.10	95.30	13.00	5.84	2.30	1.10	0.85
Third Quarter	-0.68	3.00	-1.56	2.60	104.00	14.00	5.07	2.50	10.40	9.40
Fourth Quarter	2.99	2.40	2.85	2.10	128.00	16.00	4.44	2.10	-0.16	0.81
	.	.	.	.	.	.	.	.	.	.
GROSS BETA										
MEAN ACTIVITY	4.71	1.80	0.12	1.70	68.15	4.30	5.22	1.30	12.94	3.70
	.	.	.	.	.	.	.	.	.	.
First Quarter	6.51	2.90	3.75	2.80	56.70	5.00	5.43	2.60	1.41	2.70
Second Quarter	5.91	2.70	0.32	2.40	66.40	8.40	3.66	2.40	2.47	2.40
Third Quarter	0.30	5.40	-5.00	5.20	39.50	5.80	6.26	2.70	46.30	14.00
Fourth Quarter	6.11	3.10	1.40	2.70	110.00	13.00	5.52	2.70	1.56	2.50

(CONTINUED)

Sampling Point	GW-618		GW-619		GW-620		GW-631		GW-632	
Unit	AQF		AQF		AQF		AQT		AQT	
Location	EXP-E		FTF		FTF		RG		RG	
Type	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA										
MEAN ACTIVITY	0.21	0.70	0.58	0.70	1.05	0.70	3.64	2.50	0.73	2.10
	.	.	.	.	.	.	.	.	.	.
First Quarter	-0.01	1.20	0.32	1.20	0.61	1.50	3.64	2.50	0.73	2.10
Second Quarter	1.07	0.89	0.49	1.20	0.34	1.20	.	.	.	.
Third Quarter	-0.58	2.00	1.00	2.00	1.90	1.60	.	.	.	.
Fourth Quarter	0.36	1.20	0.49	1.10	1.35	1.40	.	.	.	.
	.	.	.	.	.	.	.	.	.	.
GROSS BETA										
MEAN ACTIVITY	1.63	1.20	12.91	1.70	16.15	1.80	12.00	3.70	-1.05	3.00
	.	.	.	.	.	.	.	.	.	.
First Quarter	2.57	2.30	14.90	3.40	26.00	4.40	12.00	3.70	-1.05	3.00
Second Quarter	1.48	2.30	15.20	3.50	12.70	3.30	.	.	.	.
Third Quarter	-1.12	2.60	6.24	3.20	14.80	3.50	.	.	.	.
Fourth Quarter	3.60	2.50	15.30	3.60	11.10	3.20	.	.	.	.

(CONTINUED)

APPENDIX K

6

Gross Alpha and Gross Beta Activity Data Summary, 1994

Sampling Point . Unit . Location . Type	GW-633		GW-634		GW-733		GW-735		GW-744	
	AQT		AQT		AQF		AQT		AQT	
	RG		RG		EXP-J		EXP-J		GRIDK1	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA MEAN ACTIVITY	13.00	31.00	0.73	1.70	0.91	0.80	2.33	1.30	1.20	0.80
First Quarter	13.00	31.00	0.73	1.70	0.00	1.60	-0.38	1.40	0.76	1.10
Second Quarter	.	.	.	.	0.51	1.30	-0.01	1.30	0.73	0.91
Third Quarter	.	.	.	.	-0.18	1.30	0.67	3.30	-0.39	1.30
Fourth Quarter	.	.	.	.	3.29	1.80	9.03	3.60	3.70	2.40
GROSS BETA MEAN ACTIVITY	261.00	45.00	-0.68	3.00	2.68	1.30	4.74	1.80	4.24	1.30
First Quarter	261.00	45.00	-0.68	3.00	3.62	2.60	3.04	2.40	3.98	2.50
Second Quarter	.	.	.	.	2.46	2.50	2.36	2.50	3.15	2.50
Third Quarter	.	.	.	.	1.03	2.30	-1.13	5.30	2.36	2.40
Fourth Quarter	.	.	.	.	3.61	2.60	14.70	3.60	7.45	3.00

(CONTINUED)

Sampling Point . Unit . Location . Type	GW-745		GW-746		GW-747		GW-748		GW-749	
	AQT		AQT		AQT		AQT		AQT	
	GRIDK1		GRIDK1		GRIDK2		GRIDK2		GRIDK2	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA MEAN ACTIVITY	0.69	0.70	1.46	0.80	0.29	0.80	1.06	0.90	4.06	1.20
First Quarter	1.45	1.30	0.79	0.96	-0.16	1.70	2.14	2.10	5.10	2.50
Second Quarter	0.20	0.71	-0.17	1.10	-0.38	1.20	1.51	1.70	6.98	2.80
Third Quarter	-0.01	1.40	-0.01	1.20	0.80	1.70	-0.19	1.30	-0.01	1.40
Fourth Quarter	1.11	1.90	5.21	2.70	0.92	1.90	0.79	2.00	4.16	2.60
GROSS BETA MEAN ACTIVITY	4.07	1.30	5.15	1.40	3.83	1.30	3.52	1.30	4.98	1.30
First Quarter	4.85	2.60	1.11	2.40	3.42	2.60	5.10	2.70	6.99	2.80
Second Quarter	2.22	2.50	1.79	2.50	2.28	2.50	1.40	2.40	3.18	2.50
Third Quarter	3.38	2.50	4.31	2.70	3.87	2.50	2.83	2.40	2.51	2.40
Fourth Quarter	5.81	2.80	13.40	3.40	5.74	2.80	4.73	2.80	7.23	2.90

(CONTINUED)

APPENDIX K

7

Gross Alpha and Gross Beta Activity Data Summary, 1994

Sampling Point	GW-750		GW-751		GW-752		GW-758		GW-759	
Unit	AQT		AQT		AQT		AQT		AQT	
Location	EXP-J		GRIDJ3		GRIDJ3		GRIDG1		GRIDG1	
Type	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA										
MEAN ACTIVITY	0.38	0.80	1.79	0.80	0.20	0.60	1.02	0.80	1.97	1.00
	.	.	.	.	.	.	.	.	.	.
First Quarter	0.96	1.90	1.92	1.40	-0.01	0.65	-0.74	0.90	0.52	2.20
Second Quarter	-0.01	1.20	1.06	1.00	0.65	0.81	-0.75	0.91	2.01	1.70
Third Quarter	-0.55	1.20	0.18	1.40	-0.83	0.99	0.71	0.88	0.90	0.96
Fourth Quarter	1.10	1.90	3.99	2.30	0.99	1.70	4.87	2.70	4.44	2.60
	.	.	.	.	.	.	.	.	.	.
GROSS BETA										
MEAN ACTIVITY	4.19	1.30	4.51	1.30	3.32	1.30	3.65	1.30	3.46	1.30
	.	.	.	.	.	.	.	.	.	.
First Quarter	5.58	2.80	3.13	2.50	2.39	2.50	2.43	2.30	2.19	2.80
Second Quarter	2.29	2.50	3.16	2.50	2.83	2.60	0.08	2.30	3.35	2.50
Third Quarter	3.16	2.50	3.70	2.50	3.56	2.60	4.42	2.40	3.47	2.40
Fourth Quarter	5.73	2.80	8.06	3.00	4.49	2.80	7.67	3.20	4.84	3.00

(CONTINUED)

Sampling Point	GW-760		GW-761		GW-762		GW-763		GW-764	
Unit	AQT		AQT		AQT		AQT		AQT	
Location	GRIDG2		GRIDG2		GRIDJ3		GRIDJ3		GRIDE1	
Type	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA										
MEAN ACTIVITY	0.04	0.60	0.53	0.60	0.42	0.70	0.23	0.80	2.26	0.90
	.	.	.	.	.	.	.	.	.	.
First Quarter	-0.78	1.10	0.32	1.10	0.36	1.00	-0.20	1.50	-0.01	1.40
Second Quarter	0.18	1.30	0.16	1.10	0.57	1.40	-0.39	1.10	-0.19	1.10
Third Quarter	0.38	0.78	0.81	0.86	0.96	1.60	-0.01	1.40	0.88	0.94
Fourth Quarter	0.39	1.50	0.84	1.80	-0.20	1.40	1.53	1.90	8.35	3.20
	.	.	.	.	.	.	.	.	.	.
GROSS BETA										
MEAN ACTIVITY	2.11	1.20	1.32	1.20	4.56	1.40	0.52	1.20	4.20	1.30
	.	.	.	.	.	.	.	.	.	.
First Quarter	2.55	2.30	2.06	2.30	5.19	2.70	1.56	2.30	1.80	2.30
Second Quarter	2.73	2.50	-0.81	2.30	3.98	2.60	0.31	2.30	2.90	2.50
Third Quarter	2.05	2.30	2.61	2.40	5.09	2.70	-0.00	2.40	2.37	2.30
Fourth Quarter	1.10	2.50	1.42	2.80	3.99	2.80	0.23	2.50	9.71	3.40

(CONTINUED)

APPENDIX K

8

Gross Alpha and Gross Beta Activity Data Summary, 1994

Sampling Point	GW-765		GW-766		GW-767		GW-768		GW-769	
Unit	AQT		AQT		AQT		AQT		AQT	
Location	GRIDE1		GRIDI2		GRIDI2		GRIDI1		GRIDG3	
Type	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA										
MEAN ACTIVITY	2.48	1.10	0.59	0.70	0.69	0.60	1.16	0.80	0.48	0.60
	.	.	.	.	.	.	.	.	.	.
First Quarter	5.20	3.10	0.54	0.97	0.58	0.83	1.07	1.30	0.35	1.30
Second Quarter	1.65	1.60	-0.59	1.20	-0.00	1.10	0.43	1.60	-0.55	0.95
Third Quarter	0.54	0.82	0.88	1.40	-0.00	0.94	1.14	1.50	0.53	0.81
Fourth Quarter	2.51	2.40	1.52	1.60	2.20	1.60	2.00	1.90	1.57	1.80
	.	.	.	.	.	.	.	.	.	.
GROSS BETA										
MEAN ACTIVITY	5.05	1.40	4.67	1.40	1.07	1.30	3.09	1.30	3.42	1.30
	.	.	.	.	.	.	.	.	.	.
First Quarter	9.05	3.20	3.36	2.50	0.65	2.40	3.36	2.50	2.64	2.30
Second Quarter	3.59	2.50	6.96	3.00	-0.00	2.60	3.72	2.70	2.92	2.50
Third Quarter	3.86	2.40	3.31	2.60	-0.36	2.60	0.93	2.40	3.63	2.40
Fourth Quarter	3.68	2.90	5.04	2.70	3.98	2.70	4.36	2.70	4.50	2.80

(CONTINUED)

Sampling Point	GW-770		GW-771		GW-772		GW-773		GW-774	
Unit	AQT		AQT		AQT		AQT		AQT	
Location	GRIDG3		GRIDC1		GRIDC1		GRIDH2		GRIDH2	
Type	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA										
MEAN ACTIVITY	1.32	1.00	2.41	0.90	0.69	0.70	-0.30	0.60	1.02	0.80
	.	.	.	.	.	.	.	.	.	.
First Quarter	-0.52	1.00	-0.01	1.40	-0.51	1.20	-0.91	1.40	2.24	2.10
Second Quarter	-0.00	1.10	0.86	0.78	1.73	1.10	-0.62	1.20	-0.43	1.30
Third Quarter	3.20	2.90	1.58	1.20	1.21	1.00	-0.35	0.98	1.24	1.50
Fourth Quarter	2.61	2.00	7.22	2.90	0.35	1.80	0.66	1.30	1.03	1.50
	.	.	.	.	.	.	.	.	.	.
GROSS BETA										
MEAN ACTIVITY	2.49	1.70	6.04	1.40	1.91	1.20	1.57	1.20	1.57	1.30
	.	.	.	.	.	.	.	.	.	.
First Quarter	2.42	2.30	3.29	2.40	0.71	2.30	2.48	2.50	4.50	2.70
Second Quarter	0.72	2.40	1.96	2.40	5.19	2.60	0.48	2.50	-0.08	2.50
Third Quarter	5.38	5.30	3.00	2.30	1.98	2.30	1.11	2.40	0.70	2.40
Fourth Quarter	1.43	2.60	15.90	3.90	-0.26	2.70	2.21	2.50	1.17	2.50

(CONTINUED)

APPENDIX K

9

Gross Alpha and Gross Beta Activity Data Summary, 1994

Sampling Point . Unit . Location . Type	GW-775		GW-776		GW-777		GW-778		GW-779	
	AQT		AQT		AQT		AQT		AQT	
	GRIDH3		GRIDH3		GRIDB2		GRIDB2		GRIDF2	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA MEAN ACTIVITY	0.26	0.70	1.43	1.00	1.04	0.90	1.88	1.00	0.66	0.70
	.	.	.	.	.	.	.	.	.	.
First Quarter	1.28	1.90	4.81	2.50	.	.	.	.	.	.
Second Quarter	-0.21	1.40	-0.25	1.70	1.79	1.30	0.70	0.87	0.18	0.82
Third Quarter	-0.38	1.10	0.58	1.40	-1.23	1.40	0.51	1.70	2.18	1.60
Fourth Quarter	0.35	1.30	0.58	1.90	2.56	1.90	4.43	2.30	-0.37	1.20
	.	.	.	.	.	.	.	.	.	.
GROSS BETA MEAN ACTIVITY	2.02	1.30	4.14	1.40	2.84	1.50	3.34	1.50	2.57	1.40
	.	.	.	.	.	.	.	.	.	.
First Quarter	2.67	2.70	8.33	3.00	.	.	.	.	.	.
Second Quarter	-0.17	2.50	0.66	2.60	2.36	2.50	2.69	2.50	1.42	2.20
Third Quarter	1.89	2.50	1.88	2.50	0.63	2.40	0.93	2.50	4.32	2.60
Fourth Quarter	3.68	2.60	5.67	3.10	5.54	2.80	6.39	2.80	1.96	2.40

(CONTINUED)

Sampling Point . Unit . Location . Type	GW-780		GW-781		GW-782		GW-783		GW-784	
	AQT		AQT		AQT		AQT		AQT	
	GRIDF2		GRIDE3		GRIDE3		GRIDE3		GRIDD1	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA MEAN ACTIVITY	0.36	0.80	1.32	1.00	27.17	3.10	1.98	0.90	0.70	0.70
	.	.	.	.	.	.	.	.	.	.
First Quarter	.	.	.	.	.	.	.	.	.	.
Second Quarter	-0.01	1.10	2.24	1.40	24.60	5.10	3.18	1.60	0.92	1.10
Third Quarter	2.08	1.70	0.23	1.60	29.90	5.70	0.21	1.50	1.93	1.50
Fourth Quarter	-0.98	1.20	1.50	2.20	27.00	5.40	2.54	1.70	-0.74	1.20
	.	.	.	.	.	.	.	.	.	.
GROSS BETA MEAN ACTIVITY	2.56	1.40	3.40	1.70	8.25	1.70	2.66	1.50	3.41	1.40
	.	.	.	.	.	.	.	.	.	.
First Quarter	.	.	.	.	.	.	.	.	.	.
Second Quarter	3.37	2.50	3.65	2.60	7.45	2.90	1.61	2.40	4.01	2.40
Third Quarter	3.53	2.50	2.37	3.00	7.99	3.00	1.22	2.90	4.97	2.60
Fourth Quarter	0.78	2.30	4.17	3.00	9.31	2.90	5.16	2.50	1.25	2.30

(CONTINUED)

APPENDIX K

10

Gross Alpha and Gross Beta Activity Data Summary, 1994

Sampling Point	GW-785		GW-786		GW-787		GW-788		GW-789	
Unit	AQT		AQT		AQT		AQT		AQT	
Location	GRIDD1		GRIDE2		GRIDE2		GRIDF3		GRIDF3	
Type	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA										
MEAN ACTIVITY	0.38	0.60	0.81	0.70	1.50	0.80	3.10	1.50	2.56	1.40
	.	.	.	.	.	.	.	.	.	.
First Quarter	.	.	.	.	.	.	.	.	.	.
Second Quarter	-0.01	0.64	-0.18	0.62	3.27	1.60	1.82	1.70	1.32	1.00
Third Quarter	-0.00	0.89	2.79	1.70	1.37	1.30	4.28	3.20	4.28	3.20
Fourth Quarter	1.15	1.50	-0.18	1.20	-0.16	1.10	3.19	2.70	2.09	2.40
	.	.	.	.	.	.	.	.	.	.
GROSS BETA										
MEAN ACTIVITY	2.18	1.40	3.63	1.40	3.18	1.50	7.51	2.20	6.24	2.20
	.	.	.	.	.	.	.	.	.	.
First Quarter	.	.	.	.	.	.	.	.	.	.
Second Quarter	3.64	2.50	2.77	2.30	7.94	2.90	5.82	2.70	4.23	2.70
Third Quarter	1.33	2.50	5.21	2.70	1.43	2.50	9.13	5.20	5.30	5.20
Fourth Quarter	1.57	2.40	2.91	2.50	0.16	2.30	7.59	3.20	9.18	3.30

(CONTINUED)

Sampling Point	GW-791		GW-792		GW-816		GW-817		LRS	
Unit	AQT		AQT		AQT		AQT		CREEK	
Location	GRIDD2		GRIDD2		EXP-SR		GRIDK3		EXP-SW	
Type	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA										
MEAN ACTIVITY	0.93	0.90	1.38	0.90	2.40	2.30	-0.41	1.60	6.30	1.70
	.	.	.	.	.	.	.	.	.	.
First Quarter	.	.	.	.	.	.	.	.	.	.
Second Quarter	0.35	0.87	0.33	0.82	.	.	.	.	.	.
Third Quarter	1.79	1.50	2.28	1.60	5.34	4.40	-0.99	2.90	5.59	2.40
Fourth Quarter	0.65	2.10	1.52	2.10	-0.54	1.10	0.18	1.40	7.00	2.40
	.	.	.	.	.	.	.	.	.	.
GROSS BETA										
MEAN ACTIVITY	3.13	1.50	3.89	1.50	10.58	3.50	0.14	2.90	8.46	2.10
	.	.	.	.	.	.	.	.	.	.
First Quarter	.	.	.	.	.	.	.	.	.	.
Second Quarter	2.29	2.30	2.57	2.30	.	.	.	.	.	.
Third Quarter	4.25	2.60	4.21	2.60	16.10	6.40	-8.45	5.00	7.76	2.90
Fourth Quarter	2.86	2.90	4.89	3.00	5.07	2.80	8.74	3.00	9.16	2.90

(CONTINUED)

APPENDIX K

11

Gross Alpha and Gross Beta Activity Data Summary, 1994

Sampling Point	LRSPW	
Unit	CREEK	
Location	EXP-SW	
Type	pCi/L	CE +/-
GROSS ALPHA MEAN ACTIVITY	5.92	1.70
First Quarter	.	.
Second Quarter	.	.
Third Quarter	5.59	2.50
Fourth Quarter	6.25	2.20
GROSS BETA MEAN ACTIVITY	8.84	2.10
First Quarter	.	.
Second Quarter	.	.
Third Quarter	7.37	2.90
Fourth Quarter	10.30	3.00

APPENDIX L
NITRATE CONCENTRATIONS

EXPLANATION

SAMPLING POINT:

GW - Monitoring Well
LRS - Lake Reality Sump (Surface Water Location)
LRSPW - Lake Reality Emergency Spillway (Surface Water Location)

UNIT:

AQF - Knox Aquifer
AQT - ORR Aquitards

LOCATION:

B4 - Beta-4 Security Pits
EXP - Exit Pathway:
 Maynardville Limestone Transverse (-E, -I, -J)
 Offsite, in Union Valley (-UV)
 Along Scarboro Road in the gap through Pine Ridge (-SR)
 Surface Water Sampling Location (-SW)
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
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, 1994

SAMPLING POINT	UNIT	LOCATION	1994 AVERAGE	QUARTERLY CONCENTRATION (MG/L)			
				First	Second	Third	Fourth
GW-148	AQF	NHP	0.36	.	.	.	0.36
GW-149	AQF	NHP	ND	.	.	.	<0.2
GW-151	AQF	NHP	1.12	0.99	1.1	1.2	1.2
GW-153	AQF	NHP	1.5	.	.	.	1.5
GW-154	AQF	NHP	0.42	.	.	.	0.42
GW-169	AQF	EXP-UV	0.8	0.94	.	0.59	0.87
GW-170	AQF	EXP-UV	0.84	0.8	.	0.77	0.96
GW-171	AQF	EXP-UV	0.34	.	.	<0.2	0.34
GW-172	AQF	EXP-UV	0.48	.	.	<0.2	0.48
GW-191	AQT	B4	0.38	<0.2	<0.2	<0.2	0.38
GW-192	AQT	B4	0.36	<0.2	<0.2	0.36	<0.2
GW-194	AQT	B4	0.38	<0.2	<0.2	<0.2	0.38
GW-195	AQT	B4	0.46	0.27	0.3	0.59	0.69
GW-199	AQT	GRID11	0.4	0.3	0.5	<0.2	0.41
GW-206	AQT	EXP-SR	ND	<0.12	<0.2	<0.2	<0.2
GW-207	AQT	EXP-SR	ND	<0.12	<0.2	<0.2	<0.2
GW-208	AQT	EXP-SR	ND	<0.12	<0.2	<0.2	<0.2
GW-220	AQF	NHP	0.81	0.99	0.6	0.83	0.82
GW-222	AQF	NHP	ND	.	.	.	<0.2
GW-223	AQF	NHP	0.35	.	.	.	0.35
GW-230	AQF	EXP-UV	0.48	.	.	<0.2	0.48
GW-232	AQF	EXP-UV	ND	<0.12	.	<0.2	<0.2
GW-240	AQF	NHP	1.69	0.96	0.6	2.3	2.9
GW-251	AQF	S2	104.38	75.24	91	146.9	<0.2
GW-252	AQF	S2	1.67	.	1.3	1.9	1.8
GW-255	AQF	S2	1.63	.	1.7	1.3	1.9
GW-261	AQT	SY	0.27	.	<0.2	<0.2	0.27
GW-262	AQT	SY	ND	.	<0.2	<0.2	<0.2
GW-263	AQT	SY	0.41	.	0.3	0.41	0.51
GW-264	AQT	SY	ND	.	<0.2	<0.2	<0.2
GW-337	AQT	WC	0.36	<0.2	<0.2	<0.2	0.36
GW-338	AQT	WC	0.62	0.56	0.5	0.5	0.93
GW-380	AQF	NHP	1.83	2.2	0.7	2.5	1.9
GW-381	AQF	NHP	0.39	<0.2	<0.2	<0.2	0.39
GW-382	AQF	NHP	3.57	3.22	3.5	3.97	3.6
GW-383	AQT	NHP	0.22	<0.2	<0.2	<0.2	0.22
GW-384	AQT	NHP	ND	<0.12	<0.2	<0.2	<0.2
GW-385	AQT	NHP	ND	<0.12	<0.2	<0.2	<0.2
GW-505	AQT	RG	1	1	.	.	.
GW-508	AQT	RG	ND	<0.2	.	.	.
GW-603	AQF	EXP-J	1.05	1.3	0.8	1	1.1
GW-604	AQF	EXP-J	0.69	0.84	0.5	0.6	0.82
GW-605	AQF	EXP-I	0.34	0.39	0.3	<0.2	0.32
GW-606	AQF	EXP-I	0.83	0.7	1	0.72	0.89
GW-617	AQF	EXP-E	1.7	2.79	2.3	1.27	0.44

APPENDIX L
Annual Average Nitrate Concentrations, 1994

SAMPLING POINT	UNIT	LOCATION	1994 AVERAGE	QUARTERLY CONCENTRATION (MG/L)			
				First	Second	Third	Fourth
GW-618	AQF	EXP-E	1.31	1.1	1.4	1.79	0.94
GW-619	AQF	FTF	1.11	0.79	0.8	1.23	1.6
GW-620	AQF	FTF	1.61	1.72	1.5	1.21	2
GW-631	AQT	RG	7.3	7.3	.	.	.
GW-632	AQT	RG	8.5	8.5	.	.	.
GW-633	AQT	RG	861	861	.	.	.
GW-634	AQT	RG	ND	<0.2	.	.	.
GW-733	AQF	EXP-J	0.32	<0.12	0.3	0.32	0.35
GW-735	AQT	EXP-J	0.2	0.2	<0.2	<0.2	<0.2
GW-744	AQT	GRIDK1	2.2	2.2	<0.2	<0.2	<0.2
GW-745	AQT	GRIDK1	3	3	<0.2	<0.2	<0.2
GW-746	AQT	GRIDK1	0.33	0.35	0.2	0.5	0.27
GW-747	AQT	GRIDK2	ND	<0.12	<0.2	<0.2	<0.2
GW-748	AQT	GRIDK2	ND	<0.12	<0.2	<0.2	<0.2
GW-749	AQT	GRIDK2	ND	<0.12	<0.2	<0.2	<0.2
GW-750	AQT	EXP-J	ND	<0.12	<0.2	<0.2	<0.2
GW-751	AQT	GRIDJ3	0.4	<0.12	<0.2	<0.2	0.4
GW-752	AQT	GRIDJ3	ND	<0.12	<0.2	<0.2	<0.2
GW-758	AQT	GRIDG1	ND	<0.2	<0.2	<0.2	<0.2
GW-759	AQT	GRIDG1	ND	<0.2	<0.2	<0.2	<0.2
GW-760	AQT	GRIDG2	0.79	0.5	0.7	1.1	0.87
GW-761	AQT	GRIDG2	0.24	<0.2	<0.2	0.24	<0.2
GW-762	AQT	GRIDJ3	ND	<0.2	<0.2	<0.2	<0.2
GW-763	AQT	GRIDJ3	0.42	<0.2	<0.2	<0.2	0.42
GW-764	AQT	GRIDE1	ND	<0.2	<0.2	<0.2	<0.2
GW-765	AQT	GRIDE1	ND	<0.2	<0.2	<0.2	<0.2
GW-766	AQT	GRIDI2	ND	<0.12	<0.2	<0.2	<0.2
GW-767	AQT	GRIDI2	0.25	0.14	<0.2	0.36	<0.2
GW-768	AQT	GRIDI1	0.35	<0.12	0.3	<0.2	0.39
GW-769	AQT	GRIDG3	ND	<0.2	<0.2	<0.2	<0.2
GW-770	AQT	GRIDG3	1.21	0.6	2.7	0.74	0.8
GW-771	AQT	GRIDC1	ND	<0.2	<0.2	<0.2	<0.2
GW-772	AQT	GRIDC1	ND	<0.2	<0.2	<0.2	<0.2
GW-773	AQT	GRIDH2	0.2	0.2	<0.2	<0.2	<0.2
GW-774	AQT	GRIDH2	0.27	<0.12	<0.2	0.27	<0.2
GW-775	AQT	GRIDH3	0.55	0.55	0.6	0.59	0.47
GW-776	AQT	GRIDH3	1.38	1.8	1.3	1.2	1.2
GW-777	AQT	GRIDB2	0.6	.	<0.2	0.6	<0.2
GW-778	AQT	GRIDB2	1.05	.	1.1	1	<0.2
GW-779	AQT	GRIDF2	0.34	.	<0.2	<0.2	0.34
GW-780	AQT	GRIDF2	ND	.	<0.2	<0.2	<0.2
GW-781	AQT	GRIDE3	ND	.	<0.2	<0.2	<0.2
GW-782	AQT	GRIDE3	0.49	.	0.47	<0.2	0.51
GW-783	AQT	GRIDE3	1.17	.	1.2	1.3	1
GW-784	AQT	GRIDD1	ND	.	<0.2	<0.2	<0.2

APPENDIX L
Annual Average Nitrate Concentrations, 1994

SAMPLING POINT	UNIT	LOCATION	1994 AVERAGE	QUARTERLY CONCENTRATION (MG/L)			
				First	Second	Third	Fourth
GW-785	AQT	GRIDD1	ND	.	<0.2	<0.2	<0.2
GW-786	AQT	GRIDE2	ND	.	<0.2	<0.2	<0.2
GW-787	AQT	GRIDE2	0.5	.	0.49	0.39	0.62
GW-788	AQT	GRIDF3	0.56	.	<0.2	0.42	0.69
GW-789	AQT	GRIDF3	1.05	.	0.94	0.9	1.3
GW-791	AQT	GRIDD2	0.5	.	<0.2	0.5	<0.2
GW-792	AQT	GRIDD2	4.43	.	3.4	5.1	4.8
GW-816	AQT	EXP-SR	0.52	.	.	<0.2	0.52
GW-817	AQT	GRIDK3	0.56	.	.	<0.2	0.56
LRS	CREEK	EXP-SW	3.15	.	.	2.9	3.4
LRSPW	CREEK	EXP-SW	3.6	.	.	3.4	3.8

APPENDIX M
GROUNDWATER ELEVATIONS

EXPLANATION

LOCATION:

B-8110	-	Building 8110
B4	-	Beta-4 Security Pits
CPT	-	Coal Pile Trench
EXP	-	Exit Pathway: Maynardville Limestone Transverse (-E, -I, -J) Offsite, in Union Valley (-UV) Along Scarboro Road in the gap through Pine Ridge (-SR) Surface Water Sampling Location (-SW)
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
S3	-	S-3 Site
SY	-	Y-12 Salvage Yard
T0134	-	Tank 0134-U
T2331	-	Tank 2331-U
UOV	-	Uranium Oxide Vault
WC	-	Waste Coolant Processing Area
Y12	-	Y-12 Plant

SAMPLED IN 94:

Y	-	Wells included in the 1994 groundwater monitoring program.
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NOTES:

CTP Elev.	-	The elevation of the centerpoint of the monitored interval.
January	-	Measuring event from January 11 to 24, 1994.
August	-	Measuring event from August 22 to 31, 1994.
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, 1994

Sampling Pt.	Location	Sampled in 94	CTP Elev.	January Depth	January Elev.	August Depth	August Elev.	+/- Ft
Water Table Interval								
55-1A	Y12		970.05	10.1	976.57	10.4	976.27	0.3
55-1B	Y12		950.25	10.1	976.16	.	.	.
55-1C	Y12		913.45	10.9	975.83	11.6	975.13	0.7
55-2A	Y12		965.12	7.8	968.94	.	.	.
55-2B	Y12		951.87	7.3	969.95	.	.	.
55-3A	Y12		960.44	10.8	961.66	.	.	.
55-3B	Y12		936.71	11.6	961.72	.	.	.
55-3C	Y12		897.51	12.0	962.34	12.5	961.84	0.5
55-6A	Y12		977.37	7.2	981.84	8.5	980.54	1.3
56-1A	Y12		952.72	8.1	961.15	8.1	961.15	0.0
56-2A	Y12		950.47	7.4	955.90	7.7	955.60	0.3
56-2B	Y12		926.81	6.9	955.38	.	.	.
56-3A	Y12		947.95	10.2	952.83	.	.	.
56-3B	Y12		932.16	9.9	953.50	.	.	.
56-3C	Y12		910.11	10.0	952.86	.	.	.
56-4A	Y12		951.05	10.1	951.97	.	.	.
56-6A	Y12		940.12	10.0	950.28	.	.	.
56-7A	Y12		938.57	15.8	942.65	.	.	.
56-8A	Y12		936.85	18.7	943.76	.	.	.
58-2A	Y12		929.78	7.3	930.86	.	.	.
59-1A	Y12		934.26	3.5	942.25	.	.	.
59-1B	Y12		911.62	2.4	943.29	.	.	.
60-1A	Y12		909.19	12.0	917.66	13.3	916.36	1.3
60-1B	Y12		903.06	12.2	917.60	.	.	.
60-2A	Y12		917.52	10.1	919.59	.	.	.
GW-105	S3		1000.81	7.1	1010.25	8.6	1008.75	1.5
GW-106	S3		950.15	3.9	1012.11	4.8	1011.21	0.9
GW-107	S3		985.43	7.1	991.09	6.9	991.29	-0.2
GW-108	S3		945.81	8.4	989.78	.	.	.
GW-132	S3		622.76	149.8	904.12	.	.	.
GW-135	S3		497.92	174.9	1002.88	.	.	.
GW-148	NHP	Y	896.68	8.4	898.96	8.7	898.66	0.3
GW-150	NHP		904.53	14.1	901.46	14.1	901.46	0.0
GW-152	NHP		904.31	19.2	901.98	20.1	901.08	0.9
GW-154	NHP	Y	900.65	8.6	902.90	9.7	901.80	1.1
GW-167	EXP		902.12	23.5	907.88	30.5	900.88	7.0
GW-169	EXP-UV	Y	898.25	22.4	909.47	31.6	900.27	9.2
GW-171	EXP-UV	Y	889.95	7.2	912.90	11.9	908.20	4.7
GW-183	FF		925.21	9.1	936.92	.	.	.
GW-191	B4	Y	954.35	3.2	1007.94	4.6	1006.54	1.4
GW-192	B4	Y	994.04	3.7	1004.93	5.4	1003.23	1.7
GW-193	T2331		919.16	7.9	926.10	.	.	.
GW-196	B4		1010.44	12.4	1024.83	.	.	.
GW-198	RDS		940.54	18.7	945.82	.	.	.
GW-199	GRID11	Y	938.56	16.5	944.58	17.3	943.78	0.8

APPENDIX M
Groundwater Elevations, 1994

Sampling Pt.	Location	Sampled in 94	CTP Elev.	January Depth	January Elev.	August Depth	August Elev.	+/- Ft
GW-201	RDS		947.87	18.9	949.99	19.5	949.39	0.6
GW-202	RDS		947.12	9.7	958.32	.	.	.
GW-204	T0134		943.57	9.3	949.27	.	.	.
GW-206	EXP-SR	Y	881.20	9.2	885.30	.	.	.
GW-218	UOV		911.82	13.2	922.61	15.8	920.01	2.6
GW-219	UOV		923.47	9.8	925.84	14.1	921.54	4.3
GW-252	S2	Y	978.06	13.6	1010.61	.	.	.
GW-253	S2		958.50	1.2	1002.79	.	.	.
GW-255	S2	Y	950.37	16.5	1010.63	28.1	999.03	11.6
GW-261	SY	Y	1027.37	17.2	1032.79	18.8	1031.19	1.6
GW-263	SY	Y	1028.23	26.4	1031.33	29.1	1028.63	2.7
GW-281	FF		937.01	2.9	943.18	.	.	.
GW-283	FF		927.22	4.7	933.92	.	.	.
GW-284	FF		942.30	7.6	934.01	.	.	.
GW-285	FF		930.63	8.5	933.96	.	.	.
GW-332	WC		959.10	9.4	971.67	.	.	.
GW-333	WC		960.72	10.5	973.33	.	.	.
GW-334	WC		956.73	10.8	972.93	11.9	971.83	1.1
GW-335	WC		969.45	8.8	973.08	10.1	971.78	1.3
GW-338	WC	Y	969.62	7.9	979.37	.	.	.
GW-349	S2		976.33	3.0	990.50	5.3	988.20	2.3
GW-350	S2		955.15	2.9	990.61	.	.	.
GW-380	NHP	Y	904.51	9.8	903.75	10.8	902.75	1.0
GW-383	NHP	Y	885.90	9.3	899.20	9.6	898.90	0.3
GW-384	NHP	Y	859.78	12.7	895.68	12.7	895.68	0.0
GW-617	EXP-E	Y	970.21	12.8	972.31	14.1	971.01	1.3
GW-618	EXP-E	Y	951.14	12.4	972.54	13.8	971.14	1.4
GW-619	FTF	Y	978.94	20.5	994.78	25.8	989.44	5.3
GW-620	FTF	Y	944.49	23.4	991.97	26.8	988.54	3.4
GW-633	RG	Y	987.27	1.2	995.30	.	.	.
GW-634	RG	Y	998.06	7.9	999.25	8.6	998.55	0.7
GW-656	T0134		940.00	9.8	944.99	.	.	.
GW-657	T2331		920.25	5.5	925.03	.	.	.
GW-658	FF		929.04	9.8	935.01	.	.	.
GW-659	FF		931.14	5.9	935.26	.	.	.
GW-686	CPT		954.43	.	.	12.8	950.96	.
GW-691	CPT		954.09	.	.	12.0	956.59	.
GW-692	CPT		917.55	.	.	10.1	954.28	.
GW-699	B-8110		957.99	.	.	16.1	955.04	.
GW-707	T2331		915.41	5.6	925.31	.	.	.
GW-708	T2331		922.83	4.3	926.57	.	.	.
GW-735	EXP-J	Y	847.99	19.8	904.48	23.3	900.98	3.5
GW-746	GRIDK1	Y	895.06	4.1	902.78	6.4	900.48	2.3
GW-749	GRIDK2	Y	908.09	4.9	916.29	7.2	913.99	2.3
GW-752	GRIDJ3	Y	899.41	3.5	909.28	4.7	908.08	1.2
GW-754	GRIDJ2		907.08	7.5	921.09	11.6	916.99	4.1
GW-756	GRIDJ1		913.94	5.7	922.22	6.5	921.42	0.8

APPENDIX M
Groundwater Elevations, 1994

Sampling Pt.	Location	Sampled in 94	CTP Elev.	January Depth	January Elev.	August Depth	August Elev.	+/- Ft
GW-759	GRIDG1	Y	966.94	14.6	979.41	18.8	975.21	4.2
GW-761	GRIDG2	Y	955.46	8.0	960.23	12.5	955.73	4.5
GW-763	GRIDJ3	Y	901.38	.	.	10.3	904.55	.
GW-765	GRIDE1	Y	979.38	19.7	988.83	19.6	988.94	-0.1
GW-816	EXP-SR	Y	.	.	.	13.1	885.11	.
GW-817	GRIDK3	Y	.	.	.	7.8	910.32	.

Bedrock Interval

55-2C	Y12		903.65	7.4	969.45	.	.	.
56-1C	Y12		896.75	6.3	963.19	6.7	962.79	0.4
56-2C	Y12		888.25	9.1	955.84	9.3	955.64	0.2
56-4C	Y12		885.90	9.9	952.72	.	.	.
59-1C	Y12		874.67	2.1	943.77	.	.	.
GW-109	S3		881.99	3.6	993.39	3.8	993.19	0.2
GW-149	NHP	Y	861.51	14.0	893.72	14.0	893.72	0.0
GW-151	NHP	Y	822.31	14.1	901.87	14.9	901.07	0.8
GW-153	NHP	Y	866.03	19.5	901.94	.	.	.
GW-168	EXP		809.75	26.5	904.45	30.8	900.15	4.3
GW-170	EXP-UV	Y	800.25	29.6	902.84	32.8	899.64	3.2
GW-172	EXP-UV	Y	803.67	13.4	911.39	.	.	.
GW-200	RDS		915.34	15.5	953.59	16.9	952.19	1.4
GW-220	NHP	Y	874.64	15.6	900.04	.	.	.
GW-222	NHP	Y	887.32	9.0	902.82	.	.	.
GW-223	NHP	Y	824.22	9.1	902.52	10.0	901.62	0.9
GW-230	EXP-UV	Y	546.11	11.5	909.35	14.9	905.95	3.4
GW-232	EXP-UV	Y	523.17	28.4	902.82	.	.	.
GW-239	EXP		509.86	27.9	903.60	.	.	.
GW-240	NHP	Y	894.25	20.3	902.60	21.3	901.60	1.0
GW-251	S2	Y	958.60	10.5	993.10	18.4	985.20	7.9
GW-262	SY	Y	983.17	17.3	1032.37	18.1	1031.57	0.8
GW-264	SY	Y	990.79	27.3	1031.00	29.8	1028.50	2.5
GW-381	NHP	Y	858.55	10.0	903.36	10.6	902.76	0.6
GW-382	NHP	Y	764.16	10.7	902.47	.	.	.
GW-385	NHP	Y	754.67	3.1	905.77	.	.	.
GW-603	EXP-J	Y	890.11	56.2	905.12	59.2	902.12	3.0
GW-604	EXP-J	Y	853.23	55.8	905.06	59.6	901.26	3.8
GW-605	EXP-I	Y	882.92	10.8	908.08	10.9	907.98	0.1
GW-606	EXP-I	Y	753.63	12.6	906.79	14.0	905.39	1.4
GW-733	EXP-J	Y	707.39	54.5	904.54	57.5	901.54	3.0
GW-734	EXP-J		907.72	37.8	902.13	39.4	900.53	1.6
GW-744	GRIDK1	Y	842.80	5.8	901.63	7.2	900.23	1.4
GW-745	GRIDK1	Y	877.28	5.5	901.56	.	.	.
GW-747	GRIDK2	Y	844.83	3.9	917.06	5.8	915.16	1.9
GW-748	GRIDK2	Y	897.89	5.3	915.87	.	.	.
GW-750	EXP-J	Y	849.01	7.9	910.96	12.9	905.96	5.0
GW-751	GRIDJ3	Y	854.58	3.9	908.15	5.4	906.65	1.5

APPENDIX M
Groundwater Elevations, 1994

Sampling Pt.	Location	Sampled in 94	CTP Elev.	January Depth	January Elev.	August Depth	August Elev.	+/- Ft
GW-753	GRIDJ2		859.58	4.2	923.49	9.0	918.69	4.8
GW-755	GRIDJ1		872.56	6.9	923.46	8.2	922.16	1.3
GW-758	GRIDG1	Y	945.35	12.8	979.90	16.7	976.00	3.9
GW-760	GRIDG2	Y	912.31	8.8	961.22	13.3	956.72	4.5
GW-762	GRIDJ3	Y	859.30	.	.	13.6	901.74	.
GW-764	GRIDE1	Y	947.27	20.5	989.41	20.5	989.37	0.0
GW-766	GRIDI2	Y	903.87	10.3	938.07	11.9	936.47	1.6
GW-767	GRIDI2	Y	932.82	10.1	938.44	11.9	936.64	1.8
GW-768	GRIDI1	Y	897.50	17.4	942.33	19.1	940.63	1.7
GW-769	GRIDG3	Y	887.28	8.9	935.36	11.6	932.66	2.7
GW-770	GRIDG3	Y	928.42	10.9	933.65	13.7	930.85	2.8
GW-771	GRIDC1	Y	959.97	.	.	11.6	999.60	.
GW-772	GRIDC1	Y	999.20	.	.	12.9	999.76	.
GW-773	GRIDH2	Y	907.87	7.9	955.86	14.4	949.36	6.5
GW-774	GRIDH2	Y	940.54	9.6	953.56	15.8	947.36	6.2
GW-777	GRIDB2	Y	946.34	.	.	8.3	994.00	.
GW-778	GRIDB2	Y	983.46	.	.	8.2	993.64	.
GW-779	GRIDF2	Y	902.93	.	.	9.9	953.19	.
GW-780	GRIDF2	Y	948.62	.	.	12.0	951.40	.
GW-781	GRIDE3	Y	882.01	.	.	8.0	939.72	.
GW-783	GRIDE3	Y	935.86	.	.	10.3	938.02	.
GW-784	GRIDD1	Y	948.11	.	.	10.6	998.67	.
GW-785	GRIDD1	Y	987.42	.	.	9.5	999.93	.
GW-786	GRIDE2	Y	926.33	.	.	10.3	977.50	.
GW-787	GRIDE2	Y	973.11	.	.	15.8	972.05	.
GW-788	GRIDF3	Y	871.99	.	.	0.4	936.67	.
GW-789	GRIDF3	Y	917.12	.	.	3.3	934.00	.
GW-791	GRIDD2	Y	924.45	.	.	23.1	966.30	.
GW-792	GRIDD2	Y	966.52	.	.	24.8	965.73	.

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Y-12

OAK RIDGE Y-12 PLANT

ANNUAL REPORT OF 1994 GROUNDWATER
MONITORING DATA FOR THE KERR HOLLOW
QUARRY AND CHESTNUT RIDGE SEDIMENT
DISPOSAL BASIN, Y-12 PLANT,
OAK RIDGE, TENNESSEE

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Y-12

OAK RIDGE Y-12 PLANT

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1.0 INTRODUCTION

This document was prepared to meet calendar year (CY) 1994 annual reporting requirements of the Tennessee Department of Environment and Conservation (TDEC) Hazardous Waste Management Regulation 1200-1-11-.05(6)(a) for detection monitoring at facilities accorded interim status under the Resource Conservation and Recovery Act (RCRA). The interim status units for which this document was prepared are Kerr Hollow Quarry (KHQ) and the Chestnut Ridge Sediment Disposal Basin (CRSDB) (Fig. 1-1). This document was prepared in accordance with the above-stated RCRA requirements, which are consistent with the Federal Facility Agreement (FFA) negotiated among personnel from the TDEC, the U.S. Environmental Protection Agency (EPA), and the U.S. Department of Energy (DOE) effective January 1, 1992. The FFA denotes the Comprehensive Environmental Response, Compensation, and Liability Act as the lead regulatory requirement on the Oak Ridge Reservation (ORR), with RCRA as an applicable or relevant and appropriate requirement.

Closure activities at KHQ under RCRA were completed in October 1993 in accordance with a TDEC-approved closure plan (DOE 1993). Because the site was closed with some of the wastes remaining in place, a RCRA postclosure permit application will be prepared and is scheduled to be submitted to the TDEC by June 30, 1995. The CRSDB was closed in 1989 under a TDEC-approved RCRA closure plan (Martin Marietta Energy Systems, Inc. [Energy Systems] 1988a). A revised RCRA postclosure permit application (PCPA) for the CRSDB was submitted by DOE personnel to TDEC staff in September 1994 (Geraghty and Miller, Inc. 1994). The PCPA proposes continued detection monitoring at the facility and evaluation of data using the current alternative statistical method employed for interim status detection monitoring.

The hydrologic and chemical data presented in this report were collected quarterly by the Oak Ridge Y-12 Plant Groundwater Protection Program (GWPP) staff as part of the Comprehensive Groundwater Monitoring Program for the Y-12 Plant. Water level measurements in monitoring wells were taken on a quarterly basis and measured prior to purging the well for sampling purposes. Measurements were made with an electronic tape device.

The Y-12 Plant GWPP staff initiated a semiannual program of water level measurements in August 1992, independent of, and spaced as far between, sampling events as possible. This program involves approximately 600 wells and allows examination of piezometric data in a comprehensive manner without interference due to purging events. The KHQ site was incorporated into this program in January 1993. The CRSDB was incorporated into the program in August 1992. Data from this program, rather than data collected during sampling, were used to generate the water table maps presented in this report.

Figure 1-1. Location Map for Kerr Hollow Quarry and the Chestnut Ridge Sediment Disposal Basin

3.0 SUMMARY OF PAST AND PLANNED RELEVANT GROUNDWATER MONITORING REPORTS

Monitoring at the subject sites has been ongoing since CY 1986. The first-year data were collected in CY 1986 and presented in Document Y/TS-242/P2 (Energy Systems 1987).

In November 1986, each of the wells presented in this report, with the exception of two replacement wells installed in September 1991 at the CRSDB (see Sect. 7.0), was certified for groundwater monitoring purposes. At that time, the designation of upgradient and downgradient was based on the topographic relationship of the wells at both sites because no water elevation data had been collected prior to certification. Following a year of data collection, the wells were reevaluated for upgradient and downgradient designations using the hydrostatic head measurements obtained throughout the year. As a result of this investigation, the gradient designations of wells were changed at both of the sites.

During CY 1987, wells at both sites were monitored semiannually for parameters used as indicators of groundwater contamination in TDEC Rule 1200-1-11-.05(6)(c)(2)iii and annually for parameters establishing groundwater quality in TDEC Rule 1200-1-11-.05(6)(c)(2)ii. The results were presented in Document Y/TS-388 (Energy Systems 1988b).

During CYs 1988 and 1989 (Documents Y/TS-511 and Y/TS-625, respectively), the wells at both sites were monitored semiannually for parameters used as indicators of groundwater contamination (Energy Systems 1989 and 1990). In addition, wells at the CRSDB were monitored semiannually for parameters establishing groundwater quality.

During CYs 1990, 1991, 1992, and 1993 (Documents Y/TS-724, Y/TS-833, Y/TS-958, and Y/TS-1172, respectively), the wells at both sites were monitored semiannually for parameters used as indicators of groundwater contamination (Energy Systems 1991; Shevenell and Switek 1992; McMahon and Mercier 1992; Jago et al. 1993; Jago 1994). In addition, in CY 1990, the wells were incorporated into the Y-12 Plant Comprehensive Groundwater Monitoring Program. In CY 1991, the Groundwater Quality Assessment Report (GWQAR) for the Chestnut Ridge Hydrogeologic Regime (HSW, Inc. 1992) was expanded to include monitoring data throughout the regime for purposes of consistency within the Y-12 Plant GWPP and to keep the regulatory community informed of groundwater monitoring actions at the Y-12 Plant. In CY 1993, the titles of the GWQARs were changed to Groundwater Quality Reports (GWQRs) to reflect the integration of multiple regulatory, DOE Order, and programmatic requirements into the scope of the Y-12 Plant Comprehensive Groundwater Monitoring Program. The GWQRs continue to be prepared consistent with RCRA interim status assessment reporting requirements. The documents, however, now include data necessary to comply with RCRA postclosure permit annual reporting requirements as well as serve as a forum to present data collected under a variety of additional monitoring drivers.

The CY 1994 GWQR for the Chestnut Ridge Hydrologic Regime will be issued in two parts. Part 1 will provide results of all monitoring data collected in CY 1994 under the auspices of the Y-12 Plant GWPP. Part 2 will provide additional details of data interpretations and contaminant plume assessment for the Chestnut Ridge Security Pits, the only confirmed source of contaminant release to groundwater in the hydrologic regime.

Figure 4-2. Water Table Map for Kerr Hollow Quarry for Conditions on August 29, 1994

Figure 4-3. Hydrographs for Water Table Wells at Kerr Hollow Quarry, CY 1994

Figure 4-4. Hydrographs for Wells GW-147 and GW-231, Northwestern Well Cluster at Kerr Hollow Quarry, CY 1994

Figure 4-6. Hydrographs for Wells GW-143 and GW-144, Southern Well Cluster at Kerr Hollow Quarry, CY 1994

table elevations. The water table map (Fig. 4-2) suggests that there is groundwater flow in a southerly, and locally southwesterly, direction predominantly toward Well GW-144, which consistently has the lowest piezometric head. Water level data from other studies suggest that the groundwater table is closely linked to the water level of the quarry and that the quarry reservoir has local control on hydraulic conditions (Haase et al. 1987a; Haase et al. 1988; Early and Switek 1989). Although no water level data for the quarry reservoir are available for 1993, the configuration of the water table is similar to that observed in CYs 1992 and 1993 and is consistent with the interpretations of past studies (Shevenell and Switek 1992; Jago et al. 1993; Jago 1994).

4.2 Chestnut Ridge Sediment Disposal Basin

Ten groundwater monitoring wells have been installed at the CRSDB (Fig. 4-7). Wells 1095 and 1096 were installed in 1983, and six additional wells (GW-155, GW-156, GW-157, GW-158, GW-159, and GW-241) were installed in 1985. Wells GW-303 and GW-304 were completed in 1987 and 1988, respectively. During routine monitoring well maintenance inspections in 1991, Wells GW-155 and GW-157 were found to be deteriorated beyond capabilities to rehabilitate them. These wells were subsequently plugged and abandoned and replaced by two new wells (GW-731 and GW-732) with TDEC staff concurrence (Munkeboe 1991). Wells GW-731 and GW-732 were completed and sampled in September 1991. Construction details of the wells are summarized elsewhere (Haase et al. 1987b; Geraghty and Miller 1988; EDGe Group, Inc. 1989; SAIC 1991a and 1991b). An exploratory core hole (CH-157) drilled for subsurface characterization is also located near the site (Haase et al. 1987b). Wells GW-156, GW-159, GW-731, and GW-732 comprise the formal detection monitoring network for the CRSDB.

All of the groundwater investigation wells except GW-158 and GW-303 are finished within a zone at the top of bedrock that is characterized by weathered dolostone and chert and pervasive, solutionally enlarged fractures and solution cavities (Haase et al. 1987b). Well GW-158 is finished in bedrock within a fractured interval at a depth of 440 ft and forms a well cluster with Well GW-241 south of the site. Well GW-303 is completed within bedrock over a depth interval from 300 to 321 ft and forms a well cluster with Well 1095 to the north of the site.

The water table map in this report (Fig. 4-8) was generated from data collected during the August, CY 1994, comprehensive semiannual water level monitoring event. Hydrographs for the water table wells, prepared from quarterly groundwater sampling data, are shown in Fig. 4-9. Hydrographs for the southern well cluster (Wells GW-158 and GW-241) are shown in Fig. 4-10.

The hydrographs for the water table wells demonstrate that Well GW-241 had the highest piezometric head during the period from January to September. From approximately October through November, Well GW-159 had the highest head. This pattern is inconsistent with that observed for most of CYs 1989 and 1990, but is consistent with trends since that time. In CYs 1989 and 1990, Well GW-241 consistently had the highest piezometric head for the entire year when an unusually high amount of precipitation was also recorded (Early and Switek 1990 and 1991). Well GW-241 had the highest piezometric head during the first three quarters of CYs 1991 and 1992 (Shevenell and Switek 1992). Data from CYs 1992, 1993, and 1994 are similar and reflect a slight shift in groundwater flow direction to the north during the driest period of the year. The hydrographs for the southern well cluster, Wells GW-158 and GW-241 (Fig. 4-10), show a reversal in vertical hydraulic gradient during the third and fourth quarters.

Figure 4-7. Locations of Monitoring Wells at the Chestnut Ridge Sediment Disposal Basin

Figure 4-9. Hydrographs for Water Table Wells at the Chestnut Ridge Sediment Disposal Basin, CY 1994

Figure 4-10. Hydrographs for Wells GW-158 and GW-241, Southern Well Cluster at the Chestnut Ridge Sediment Disposal Basin, CY 1994

This pattern is consistent with past observations, which indicate that during periods of heavy precipitation a downward vertical hydraulic gradient exists at this cluster. Conversely, during periods of low precipitation, an upward hydraulic gradient exists (Haase et al. 1988; Early and Switek 1990; Shevenell and Switek 1992).

The water table elevation map (Fig. 4-8) is presented for conditions that existed on August 29 and 30, 1994. The CY 1994 data indicate that hydraulic head generally decreased to the east and north. Based on the piezometric data, an interpretation of groundwater flow similar to that in CYs 1992 and 1993 (Jago et al. 1993; Jago 1994) may be made. Groundwater flow is east-northeast, parallel or subparallel to geologic strike, and is likely controlled by strike-parallel fractures and solutionally enlarged flow paths. In addition, the water level contours suggest that groundwater flow from the west and south may be directed toward the location of the disposal basin, which was possibly constructed in a sinkhole. The overall trend of water table contours is generally consistent with that reported for CYs 1988 through 1993 (Early and Switek 1989, 1990, and 1991; Shevenell and Switek 1992; Jago et al. 1993; Jago 1994). In addition, the configuration of the water table in August 1994, as shown in Fig. 4-8, is believed to be representative of conditions throughout CY 1994.

5.1 Kerr Hollow Quarry

In the first quarter CY 1994 sampling event (first, 180-day reporting period), a statistically significant increase occurred for specific conductance in Well GW-142, based on within-well comparisons. Also, based on within-well comparisons, Well GW-144 exhibited a statistically significant increase for pH. Relative to base year upgradient values, Well-231 exhibited a statistically significant decrease for pH. During the second quarter of CY 1994, the statistically significant result for specific conductance within Well GW-142 observed in the first quarter monitoring event was repeated. The first quarter CY 1994 statistically significant increase for pH within Well GW-144 was not repeated in the second quarter; rather, a statistically significant decrease was observed. The first quarter CY 1994 statistically significant result for pH in Well GW-231 was repeated in the second quarter; in addition, a statistically significant decrease relative to the base year was observed. A statistically significant increase for TOC within Well GW-145 (upgradient well) was observed only in the second quarter monitoring event.

In the third quarter CY 1994 sampling event (second, 180-day reporting period), upgradient Well GW-145 again showed a statistically significant increase for TOC based on within-well comparisons. Statistically significant decreases for pH relative to the upgradient base year values and within-well comparisons were observed for Well GW-231. Results from the fourth quarter CY 1994 monitoring event demonstrated that the statistically significant result for TOC within upgradient Well GW-145 observed in the second and third quarter CY 1994 monitoring events was repeated. The second and third quarter CY 1994 statistically significant results for pH in Well GW-231 were again repeated. However, the mean pH values for the third and fourth quarters were identical (7.5 standard units) and were actually higher than the mean value for the second quarter event (7.4 standard units). Thus, a downward trend in pH was not observed during CY 1994. A statistically significant decrease for pH within Well GW-144, not observed in the third quarter monitoring event, was noted for the fourth quarter monitoring event. Also, a statistically significant decrease for pH in Well GW-142, as compared to base year upgradient values, was observed only in the fourth quarter CY 1994 monitoring event.

Between August and December 1994, an evaluation of all metals data collected at the site from the first quarter of CY 1990 through CY 1993 was conducted, and the results were reported in the CY 1993 Part 2 GQWR for the Chestnut Ridge Hydrogeologic Regime (HSW, Inc. 1994). The evaluation indicated that total strontium and total uranium are consistently elevated (greater than 50% of samples) above Y-12 Plant background screening levels typical for groundwater in uncontaminated areas (i.e., Well GW-303, Fig. 5-1). Well GW-145 has exhibited both strontium and uranium, Well GW-142 has exhibited total uranium, and Well GW-146 has shown total strontium above screening levels (Fig. 5-1). Given that annual average gross alpha and gross beta results have never exceeded primary drinking water standards, the elevated total uranium and strontium observed in these wells may reflect natural levels of these elements in groundwater at this particular site. Isotopic uranium and strontium analyses are planned for CY 1995 to verify this possibility. Trending of volatile organic compound (VOC) analytical results indicate that very low levels of three VOCs (tetrachloroethene [PERC], carbon tetrachloride, and chloroform) were sporadically observed in two wells (GW-142 and GW-144) over time. The occurrences of these compounds relate very strongly to the period during which underwater shredding, container breaching, and debris removal actions were being conducted at the quarry (September 1990 through October 1993); therefore, they may represent the effects of closure activities at the site. Chloroform is also a common degradation product of carbon tetrachloride. No VOCs have been detected in Well GW-142 since the third quarter of CY 1993 (Table 5-1). In Well GW-144, the only positive VOC result (2.0 ug/L) in CY 1994 occurred in the second quarter.

Figure 5-1. Total Uranium and Strontium Trends in Wells at KHQ

Table 5-1. Detected VOCs in Wells at KHQ Since First Quarter CY 1990 (in ug/L)

WELL Quarter/Year	GW-142		GW-144		
	chloroform	PERC	carbon tet.	chloroform	PERC
Q4/94*	U	U	U	U	U
Q3/94*	U	U	U	U	U
Q2/94*	U	U	2.0	U	U
Q1/94*	U	U	U	U	U
Q4/93	U	U	3.0	U	U
Q3/93	1.0	U	3.0	U	U
Q2/93	4.0	U	U	U	U
Q1/93	U	U	U	U	U
Q4/92	U	U	5.0	0.8	U
Q3/92	U	U	2.0	U	U
Q2/92	U	2.0	2.0	U	U
Q1/92	U	U	U	U	U
Q4/91	U	0.8	1.0	U	1.0
Q3/91	U	0.7	2.0	2.0	2.0
Q2/91	U	U	5.0	1.0	U
Q1/91	U	0.7	U	U	U
Q4/90	U	U	2.0	U	U
Q3/90	U	0.9	6.0	1.0	U
Q2/90	U	U	U	U	U
Q1/90	U	U	U	U	U

* Unvalidated result

6.0 EXCEPTIONS TO THE METHODOLOGY

Instances of missing values in the groundwater data set tabulated in this report and the background data set compiled in CY 1986 are reflected in the sample size (N). The background sample size should be N=16 (4 quarterly samples consisting of 4 replicate measurements each). The CY 1994 sample sizes should be N=4, because the statistical calculations are done separately on data from both the first and second, 180-day reporting periods (1 semiannual sample consisting of 4 replicate measurements). The exceptions for this report are as follows:

1. Samples to be analyzed for TOC were not purged prior to analysis through April 4, 1987; thus CY 1986 background values are not available. Total organic carbon results from CY 1987 are used as the background values in this report.
2. There are 12, not 16, 1987 background TOC results for the CRSDB because the first quarter CY 1987 sampling event occurred prior to April 4, 1987 (See Item 1).
3. There are 8, not 16, CY 1987 background TOC results for KHQ because the CY 1987 sampling program for this unit specified a semiannual sampling frequency.
4. After two years of statistical evaluation, the CY 1986 TOX values at both sites were determined to be abnormally high. Therefore, comparison to CY 1987 data was deemed to be more appropriate for this parameter.
5. There are 4, not 16, CY 1987 background TOX results for the CRSDB because the CY 1987 sampling program for this unit specified only an annual sample for this parameter.
6. There are 8, not 16, 1987 background TOX results for KHQ because the CY 1987 sampling program for this unit specified a semiannual sampling frequency.
7. In CY 1991, two of the downgradient wells at the CRSDB, Wells GW-155 and GW-157, were found unsuitable for monitoring purposes; therefore, these wells were plugged, abandoned, and replaced by Wells GW-731 and GW-732 (see Sect. 7.0). As a result, no within-well comparisons were possible for two of the three formal downgradient detection monitoring wells at the site during CY 1994.
8. T-statistics could not be calculated for the following comparisons because the variances used in the calculations were both equal to zero:
 - First through fourth quarter CY 1994 versus CY 1987 upgradient TOX levels for downgradient Well GW-142 at KHQ,
 - First and second quarter CY 1994 versus CY 1987 upgradient TOC levels for downgradient Well GW-731 at the CRSDB, and
 - Fourth quarter CY 1994 versus CY 1987 TOC levels within upgradient Well GW-159 at the CRSDB.

9. In the fourth quarter of CY 1994, total uranium values were analyzed using inductively coupled plasma/mass spectroscopy (EPA Method 200.8) in addition to the historically used fluorometric method. New method detection limits established in the fourth quarter of CY 1994 for the fluorometric analytical method were higher than tolerance limits for the CRSDB. Comparison of fourth quarter CY 1994 total uranium values obtained using EPA Method 200.8 to tolerance limits for the CRSDB are as follows:

GW-156 = 0.0020 mg/L; does not exceed tolerance limit of (0.009 mg/L).

GW-159 = 0.0012 mg/L; does not exceed tolerance limit of (0.009 mg/L).

GW-731 = <0.0005 mg/L; does not exceed tolerance limit of (0.009 mg/L).

GW-732 = 0.0067 mg/L; does not exceed tolerance limit of (0.009 mg/L).

GW-732 (duplicate) = 0.0068 mg/L; does not exceed tolerance limit of (0.009 mg/L).

Anomalous TOC and TOX data collected in CY 1986 were discussed in Document Y/TS-282 (Haase et al. 1987c). Anomalous TOC data collected in CY 1986 are also addressed in the original postclosure permit application for the CRSDB issued March 18, 1988, and reissued March 10, 1989 (Lee Wan and Associates, Inc. 1989). The use of CY 1987 TOC and TOX data as base year data for statistical evaluations, rather than the anomalous CY 1986 data, is stated in the annual report for CY 1989 (Energy Systems 1990). Formal written concurrence from TDEC staff for use of the CY 1987 TOC and TOX data was requested on August 15, 1991 (Bostock 1991c) and subsequently received.

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1.0 INTRODUCTION

This document was prepared to meet calendar year (CY) 1994 annual reporting requirements of the Tennessee Department of Environment and Conservation (TDEC) Hazardous Waste Management Regulation 1200-1-11-.05(6)(a) for detection monitoring at facilities accorded interim status under the Resource Conservation and Recovery Act (RCRA). The interim status units for which this document was prepared are Kerr Hollow Quarry (KHQ) and the Chestnut Ridge Sediment Disposal Basin (CRSDB) (Fig. 1-1). This document was prepared in accordance with the above-stated RCRA requirements, which are consistent with the Federal Facility Agreement (FFA) negotiated among personnel from the TDEC, the U.S. Environmental Protection Agency (EPA), and the U.S. Department of Energy (DOE) effective January 1, 1992. The FFA denotes the Comprehensive Environmental Response, Compensation, and Liability Act as the lead regulatory requirement on the Oak Ridge Reservation (ORR), with RCRA as an applicable or relevant and appropriate requirement.

Closure activities at KHQ under RCRA were completed in October 1993 in accordance with a TDEC-approved closure plan (DOE 1993). Because the site was closed with some of the wastes remaining in place, a RCRA postclosure permit application will be prepared and is scheduled to be submitted to the TDEC by June 30, 1995. The CRSDB was closed in 1989 under a TDEC-approved RCRA closure plan (Martin Marietta Energy Systems, Inc. [Energy Systems] 1988a). A revised RCRA postclosure permit application (PCPA) for the CRSDB was submitted by DOE personnel to TDEC staff in September 1994 (Geraghty and Miller, Inc. 1994). The PCPA proposes continued detection monitoring at the facility and evaluation of data using the current alternative statistical method employed for interim status detection monitoring.

The hydrologic and chemical data presented in this report were collected quarterly by the Oak Ridge Y-12 Plant Groundwater Protection Program (GWPP) staff as part of the Comprehensive Groundwater Monitoring Program for the Y-12 Plant. Water level measurements in monitoring wells were taken on a quarterly basis and measured prior to purging the well for sampling purposes. Measurements were made with an electronic tape device.

The Y-12 Plant GWPP staff initiated a semiannual program of water level measurements in August 1992, independent of, and spaced as far between, sampling events as possible. This program involves approximately 600 wells and allows examination of piezometric data in a comprehensive manner without interference due to purging events. The KHQ site was incorporated into this program in January 1993. The CRSDB was incorporated into the program in August 1992. Data from this program, rather than data collected during sampling, were used to generate the water table maps presented in this report.

Figure 1-1. Location Map for Kerr Hollow Quarry and the Chestnut Ridge Sediment Disposal Basin

SOURCE: King and Haase, 1987

0 2000
SCALE (ft)

SYSTEM	GROUP (Formation)	HYDRO UNIT	MAP SYMBOL	THICKNESS (FT)
ORDOVICIAN	CHICKAMAUGA (Undifferentiated)	ORR AQUITARDS	Och	1500 TO 2000
	MISSING SECTION (Subaerial Erosion)			
	KNOX (Undifferentiated)	KNOX AQUIFER	Ock	2500 TO 3000
CAMBRIAN	CONASAUGA (Maynardville Limestone)		Cmn	418 TO 450

Figure 2-1. Topographic and Geologic Map of the Kerr Hollow Quarry and Chestnut Ridge Sediment Disposal Basin Sites

3.0 SUMMARY OF PAST AND PLANNED RELEVANT GROUNDWATER MONITORING REPORTS

Monitoring at the subject sites has been ongoing since CY 1986. The first-year data were collected in CY 1986 and presented in Document Y/TS-242/P2 (Energy Systems 1987).

In November 1986, each of the wells presented in this report, with the exception of two replacement wells installed in September 1991 at the CRSDB (see Sect. 7.0), was certified for groundwater monitoring purposes. At that time, the designation of upgradient and downgradient was based on the topographic relationship of the wells at both sites because no water elevation data had been collected prior to certification. Following a year of data collection, the wells were reevaluated for upgradient and downgradient designations using the hydrostatic head measurements obtained throughout the year. As a result of this investigation, the gradient designations of wells were changed at both of the sites.

During CY 1987, wells at both sites were monitored semiannually for parameters used as indicators of groundwater contamination in TDEC Rule 1200-1-11-.05(6)(c)(2)iii and annually for parameters establishing groundwater quality in TDEC Rule 1200-1-11-.05(6)(c)(2)ii. The results were presented in Document Y/TS-388 (Energy Systems 1988b).

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During CYs 1990, 1991, 1992, and 1993 (Documents Y/TS-724, Y/TS-833, Y/TS-958, and Y/TS-1172, respectively), the wells at both sites were monitored semiannually for parameters used as indicators of groundwater contamination (Energy Systems 1991; Shevenell and Switek 1992; McMahon and Mercier 1992; Jago et al. 1993; Jago 1994). In addition, in CY 1990, the wells were incorporated into the Y-12 Plant Comprehensive Groundwater Monitoring Program. In CY 1991, the Groundwater Quality Assessment Report (GWQAR) for the Chestnut Ridge Hydrogeologic Regime (HSW, Inc. 1992) was expanded to include monitoring data throughout the regime for purposes of consistency within the Y-12 Plant GWPP and to keep the regulatory community informed of groundwater monitoring actions at the Y-12 Plant. In CY 1993, the titles of the GWQARs were changed to Groundwater Quality Reports (GWQRs) to reflect the integration of multiple regulatory, DOE Order, and programmatic requirements into the scope of the Y-12 Plant Comprehensive Groundwater Monitoring Program. The GWQRs continue to be prepared consistent with RCRA interim status assessment reporting requirements. The documents, however, now include data necessary to comply with RCRA postclosure permit annual reporting requirements as well as serve as a forum to present data collected under a variety of additional monitoring drivers.

The CY 1994 GWQR for the Chestnut Ridge Hydrologic Regime will be issued in two parts. Part 1 will provide results of all monitoring data collected in CY 1994 under the auspices of the Y-12 Plant GWPP. Part 2 will provide additional details of data interpretations and contaminant plume assessment for the Chestnut Ridge Security Pits, the only confirmed source of contaminant release to groundwater in the hydrologic regime.

Figure 4-2. Water Table Map for Kerr Hollow Quarry for Conditions on August 29, 1994

Figure 4-3. Hydrographs for Water Table Wells at Kerr Hollow Quarry, CY 1994

Figure 4-4. Hydrographs for Wells GW-147 and GW-231, Northwestern Well Cluster at Kerr Hollow Quarry, CY 1994

Figure 4-6. Hydrographs for Wells GW-143 and GW-144, Southern Well Cluster at Kerr Hollow Quarry, CY 1994

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table elevations. The water table map (Fig. 4-2) suggests that there is groundwater flow in a southerly, and locally southwesterly, direction predominantly toward Well GW-144, which consistently has the lowest piezometric head. Water level data from other studies suggest that the groundwater table is closely linked to the water level of the quarry and that the quarry reservoir has local control on hydraulic conditions (Haase et al. 1987a; Haase et al. 1988; Early and Switek 1989). Although no water level data for the quarry reservoir are available for 1993, the configuration of the water table is similar to that observed in CYs 1992 and 1993 and is consistent with the interpretations of past studies (Shevenell and Switek 1992; Jago et al. 1993; Jago 1994).

4.2 Chestnut Ridge Sediment Disposal Basin

Ten groundwater monitoring wells have been installed at the CRSDB (Fig. 4-7). Wells 1095 and 1096 were installed in 1983, and six additional wells (GW-155, GW-156, GW-157, GW-158, GW-159, and GW-241) were installed in 1985. Wells GW-303 and GW-304 were completed in 1987 and 1988, respectively. During routine monitoring well maintenance inspections in 1991, Wells GW-155 and GW-157 were found to be deteriorated beyond capabilities to rehabilitate them. These wells were subsequently plugged and abandoned and replaced by two new wells (GW-731 and GW-732) with TDEC staff concurrence (Munkeboe 1991). Wells GW-731 and GW-732 were completed and sampled in September 1991. Construction details of the wells are summarized elsewhere (Haase et al. 1987b; Geraghty and Miller 1988; EDGe Group, Inc. 1989; SAIC 1991a and 1991b). An exploratory core hole (CH-157) drilled for subsurface characterization is also located near the site (Haase et al. 1987b). Wells GW-156, GW-159, GW-731, and GW-732 comprise the formal detection monitoring network for the CRSDB.

All of the groundwater investigation wells except GW-158 and GW-303 are finished within a zone at the top of bedrock that is characterized by weathered dolostone and chert and pervasive, solutionally enlarged fractures and solution cavities (Haase et al. 1987b). Well GW-158 is finished in bedrock within a fractured interval at a depth of 440 ft and forms a well cluster with Well GW-241 south of the site. Well GW-303 is completed within bedrock over a depth interval from 300 to 321 ft and forms a well cluster with Well 1095 to the north of the site.

The water table map in this report (Fig. 4-8) was generated from data collected during the August, CY 1994, comprehensive semiannual water level monitoring event. Hydrographs for the water table wells, prepared from quarterly groundwater sampling data, are shown in Fig. 4-9. Hydrographs for the southern well cluster (Wells GW-158 and GW-241) are shown in Fig. 4-10.

The hydrographs for the water table wells demonstrate that Well GW-241 had the highest piezometric head during the period from January to September. From approximately October through November, Well GW-159 had the highest head. This pattern is inconsistent with that observed for most of CYs 1989 and 1990, but is consistent with trends since that time. In CYs 1989 and 1990, Well GW-241 consistently had the highest piezometric head for the entire year when an unusually high amount of precipitation was also recorded (Early and Switek 1990 and 1991). Well GW-241 had the highest piezometric head during the first three quarters of CYs 1991 and 1992 (Shevenell and Switek 1992). Data from CYs 1992, 1993, and 1994 are similar and reflect a slight shift in groundwater flow direction to the north during the driest period of the year. The hydrographs for the southern well cluster, Wells GW-158 and GW-241 (Fig. 4-10), show a reversal in vertical hydraulic gradient during the third and fourth quarters.

Figure 4-7. Locations of Monitoring Wells at the Chestnut Ridge Sediment Disposal Basin

Figure 4-9. Hydrographs for Water Table Wells at the Chestnut Ridge Sediment Disposal Basin, CY 1994

Figure 4-10. Hydrographs for Wells GW-158 and GW-241, Southern Well Cluster at the Chestnut Ridge Sediment Disposal Basin, CY 1994

...
This pattern is consistent with past observations, which indicate that during periods of heavy precipitation a downward vertical hydraulic gradient exists at this cluster. Conversely, during periods of low precipitation, an upward hydraulic gradient exists (Haase et al. 1988; Early and Switek 1990; Shevenell and Switek 1992).

The water table elevation map (Fig. 4-8) is presented for conditions that existed on August 29 and 30, 1994. The CY 1994 data indicate that hydraulic head generally decreased to the east and north. Based on the piezometric data, an interpretation of groundwater flow similar to that in CYs 1992 and 1993 (Jago et al. 1993; Jago 1994) may be made. Groundwater flow is east-northeast, parallel or subparallel to geologic strike, and is likely controlled by strike-parallel fractures and solutionally enlarged flow paths. In addition, the water level contours suggest that groundwater flow from the west and south may be directed toward the location of the disposal basin, which was possibly constructed in a sinkhole. The overall trend of water table contours is generally consistent with that reported for CYs 1988 through 1993 (Early and Switek 1989, 1990, and 1991; Shevenell and Switek 1992; Jago et al. 1993; Jago 1994). In addition, the configuration of the water table in August 1994, as shown in Fig. 4-8, is believed to be representative of conditions throughout CY 1994.

5.1 Kerr Hollow Quarry

In the first quarter CY 1994 sampling event (first, 180-day reporting period), a statistically significant increase occurred for specific conductance in Well GW-142, based on within-well comparisons. Also, based on within-well comparisons, Well GW-144 exhibited a statistically significant increase for pH. Relative to base year upgradient values, Well-231 exhibited a statistically significant decrease for pH. During the second quarter of CY 1994, the statistically significant result for specific conductance within Well GW-142 observed in the first quarter monitoring event was repeated. The first quarter CY 1994 statistically significant increase for pH within Well GW-144 was not repeated in the second quarter; rather, a statistically significant decrease was observed. The first quarter CY 1994 statistically significant result for pH in Well GW-231 was repeated in the second quarter; in addition, a statistically significant decrease relative to the base year was observed. A statistically significant increase for TOC within Well GW-145 (upgradient well) was observed only in the second quarter monitoring event.

In the third quarter CY 1994 sampling event (second, 180-day reporting period), upgradient Well GW-145 again showed a statistically significant increase for TOC based on within-well comparisons. Statistically significant decreases for pH relative to the upgradient base year values and within-well comparisons were observed for Well GW-231. Results from the fourth quarter CY 1994 monitoring event demonstrated that the statistically significant result for TOC within upgradient Well GW-145 observed in the second and third quarter CY 1994 monitoring events was repeated. The second and third quarter CY 1994 statistically significant results for pH in Well GW-231 were again repeated. However, the mean pH values for the third and fourth quarters were identical (7.5 standard units) and were actually higher than the mean value for the second quarter event (7.4 standard units). Thus, a downward trend in pH was not observed during CY 1994. A statistically significant decrease for pH within Well GW-144, not observed in the third quarter monitoring event, was noted for the fourth quarter monitoring event. Also, a statistically significant decrease for pH in Well GW-142, as compared to base year upgradient values, was observed only in the fourth quarter CY 1994 monitoring event.

Between August and December 1994, an evaluation of all metals data collected at the site from the first quarter of CY 1990 through CY 1993 was conducted, and the results were reported in the CY 1993 Part 2 GQWR for the Chestnut Ridge Hydrogeologic Regime (HSW, Inc. 1994). The evaluation indicated that total strontium and total uranium are consistently elevated (greater than 50% of samples) above Y-12 Plant background screening levels typical for groundwater in uncontaminated areas (i.e., Well GW-303, Fig. 5-1). Well GW-145 has exhibited both strontium and uranium, Well GW-142 has exhibited total uranium, and Well GW-146 has shown total strontium above screening levels (Fig. 5-1). Given that annual average gross alpha and gross beta results have never exceeded primary drinking water standards, the elevated total uranium and strontium observed in these wells may reflect natural levels of these elements in groundwater at this particular site. Isotopic uranium and strontium analyses are planned for CY 1995 to verify this possibility. Trending of volatile organic compound (VOC) analytical results indicate that very low levels of three VOCs (tetrachloroethene [PERC], carbon tetrachloride, and chloroform) were sporadically observed in two wells (GW-142 and GW-144) over time. The occurrences of these compounds relate very strongly to the period during which underwater shredding, container breaching, and debris removal actions were being conducted at the quarry (September 1990 through October 1993); therefore, they may represent the effects of closure activities at the site. Chloroform is also a common degradation product of carbon tetrachloride. No VOCs have been detected in Well GW-142 since the third quarter of CY 1993 (Table 5-1). In Well GW-144, the only positive VOC result (2.0 ug/L) in CY 1994 occurred in the second quarter.

Figure 5-1. Total Uranium and Strontium Trends in Wells at KHQ

Table S-1. Detected VOCs in Wells at KHQ Since First Quarter CY 1990 (in ug/L)

WELL	GW-142				GW-144	
	Quarter/Year	chloroform	PERC	carbon tel.	chloroform	PERC
Q4/94*	U	U	U	U	U	U
Q3/94*	U	U	U	U	U	U
Q2/94*	U	U	U	2.0	U	U
Q1/94*	U	U	U	U	U	U
Q4/93	U	U	U	3.0	U	U
Q3/93	1.0	U	U	3.0	U	U
Q2/93	4.0	U	U	U	U	U
Q1/93	U	U	U	U	U	U
Q4/92	U	U	U	5.0	0.8	U
Q3/92	U	U	U	2.0	U	U
Q2/92	U	U	2.0	2.0	U	U
Q1/92	U	U	U	U	U	U
Q4/91	U	U	0.8	1.0	U	1.0
Q3/91	U	U	0.7	2.0	2.0	2.0
Q2/91	U	U	U	5.0	1.0	U
Q1/91	U	U	0.7	U	U	U
Q4/90	U	U	U	2.0	U	U
Q3/90	U	U	0.9	6.0	1.0	U
Q2/90	U	U	U	U	U	U
Q1/90	U	U	U	U	U	U

* Unvalidated result

6.0 EXCEPTIONS TO THE METHODOLOGY

Instances of missing values in the groundwater data set tabulated in this report and the background data set compiled in CY 1986 are reflected in the sample size (N).

The background sample size should be N=16 (4 quarterly samples consisting of 4 replicate measurements each). The CY 1994 sample sizes should be N=4, because the statistical calculations are done separately on data from both the first and second, 180-day reporting periods (1 semiannual sample consisting of 4 replicate measurements). The exceptions for this report are as follows:

1. Samples to be analyzed for TOC were not purged prior to analysis through April 4, 1987; thus CY 1986 background values are not available. Total organic carbon results from CY 1987 are used as the background values in this report.
2. There are 12, not 16, 1987 background TOC results for the CRSDB because the first quarter CY 1987 sampling event occurred prior to April 4, 1987 (See Item 1).
3. There are 8, not 16, CY 1987 background TOC results for KHQ because the CY 1987 sampling program for this unit specified a semiannual sampling frequency.
4. After two years of statistical evaluation, the CY 1986 TOX values at both sites were determined to be abnormally high. Therefore, comparison to CY 1987 data was deemed to be more appropriate for this parameter.
5. There are 4, not 16, CY 1987 background TOX results for the CRSDB because the CY 1987 sampling program for this unit specified only an annual sample for this parameter.
6. There are 8, not 16, 1987 background TOX results for KHQ because the CY 1987 sampling program for this unit specified a semiannual sampling frequency.
7. In CY 1991, two of the downgradient wells at the CRSDB, Wells GW-155 and GW-157, were found unsuitable for monitoring purposes; therefore, these wells were plugged, abandoned, and replaced by Wells GW-731 and GW-732 (see Sect. 7.0). As a result, no within-well comparisons were possible for two of the three formal downgradient detection monitoring wells at the site during CY 1994.
8. T-statistics could not be calculated for the following comparisons because the variances used in the calculations were both equal to zero:
 - First through fourth quarter CY 1994 versus CY 1987 upgradient TOX levels for downgradient Well GW-142 at KHQ,
 - First and second quarter CY 1994 versus CY 1987 upgradient TOC levels for downgradient Well GW-731 at the CRSDB, and
 - Fourth quarter CY 1994 versus CY 1987 TOC levels within upgradient Well GW-159 at the CRSDB.

9. In the fourth quarter of CY 1994, total uranium values were analyzed using inductively coupled plasma/mass spectroscopy (EPA Method 200.8) in addition to the historically used fluorometric method. New method detection limits established in the fourth quarter of CY 1994 for the fluorometric analytical method were higher than tolerance limits for the CRSDB. Comparison of fourth quarter CY 1994 total uranium values obtained using EPA Method 200.8 to tolerance limits for the CRSDB are as follows:

GW-156 = 0.0020 mg/L; does not exceed tolerance limit of (0.009 mg/L).

GW-159 = 0.0012 mg/L; does not exceed tolerance limit of (0.009 mg/L).

GW-731 = <0.0005 mg/L; does not exceed tolerance limit of (0.009 mg/L).

GW-732 = 0.0067 mg/L; does not exceed tolerance limit of (0.009 mg/L).

GW-732 (duplicate) = 0.0068 mg/L; does not exceed tolerance limit of (0.009 mg/L).

Anomalous TOC and TOX data collected in CY 1986 were discussed in Document Y/TS-282 (Haase et al. 1987c). Anomalous TOC data collected in CY 1986 are also addressed in the original postclosure permit application for the CRSDB issued March 18, 1988, and reissued March 10, 1989 (Lee Wan and Associates, Inc. 1989). The use of CY 1987 TOC and TOX data as base year data for statistical evaluations, rather than the anomalous CY 1986 data, is stated in the annual report for CY 1989 (Energy Systems 1990). Formal written concurrence from TDEC staff for use of the CY 1987 TOC and TOX data was requested on August 15, 1991 (Bostock 1991c) and subsequently received.

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APPENDIX A

**Tabulation of Groundwater Indicator and Quality Parameters
for Kerr Hollow Quarry and the Chestnut Ridge Sediment Disposal Basin**

APPENDIX A

**Tabulation of Groundwater Indicator and Quality Parameters
for Kerr Hollow Quarry and the Chestnut Ridge Sediment Disposal Basin**

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WELL		GW-142 UNFILTERED	GW-142 UNFILTERED	GW-144 UNFILTERED	GW-144 UNFILTERED FIELD DUPE	GW-144 UNFILTERED	GW-144 UNFILTERED FIELD DUPE	GW-145 UNFILTERED	GW-145 UNFILTERED	GW-231 UNFILTERED	GW-231 UNFILTERED
DATE SAMPLED		02/16/94	04/12/94	03/10/94	03/10/94	04/19/94	04/19/94	03/11/94	04/20/94	02/28/94	04/13/94
ALUMINUM	ICAP (MG/L)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.2	1.2	0.069	<0.02
ANTIMONY	ICAP (MG/L)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
ARSENIC	ICAP (MG/L)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
BARIUM	ICAP (MG/L)	0.42	0.42	0.046	0.042	0.048	0.048	0.092	0.13	0.031	0.05
BERYLLIUM	ICAP (MG/L)	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
BORON	ICAP (MG/L)	0.071	0.068	0.016	0.019	0.031	0.02	0.22	0.25	0.011	0.0092
CADMIUM	ICAP (MG/L)	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
CADMIUM	AAS (MG/L)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
CALCIUM	ICAP (MG/L)	45	42	40	43	44	43	49	57	21	24
CHROMIUM	ICAP (MG/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
CHROMIUM	AAS (MG/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
COBALT	ICAP (MG/L)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
COPPER	ICAP (MG/L)	<0.004	0.029	<0.004	<0.004	<0.004	0.0058	<0.004	<0.004	0.0056	<0.004
IRON	ICAP (MG/L)	1.3	6.1	0.019	0.011	0.01	0.017	0.14	1.1	0.087	0.014
LEAD	AAS (MG/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
MAGNESIUM	ICAP (MG/L)	30	31	14	14	15	15	36	43	9.7	13
MANGANESE	ICAP (MG/L)	0.047	0.078	0.0049	<0.001	<0.001	<0.001	0.026	0.083	0.024	<0.001
MERCURY	CVAA (MG/L)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
MOLYBDENUM	ICAP (MG/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.012	<0.01	<0.01
NICKEL	ICAP (MG/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
POTASSIUM	ICAP (MG/L)	3.7	4.5	2	2.1	2.2	2.3	12	13	0.74	1.1
SELENIUM	ICAP (MG/L)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SILVER	ICAP (MG/L)	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
SODIUM	ICAP (MG/L)	0.88	1.1	1.2	1.1	1.4	1.3	5.5	6.1	1.3	0.89
STRONTIUM	ICAP (MG/L)	0.48	0.5	0.09	0.087	0.095	0.094	7.1	7.9	0.019	0.022
THORIUM	ICAP (MG/L)	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
URANIUM	FLUORIMETRIC (MG/L)	0.024	0.01	0.002	0.003	0.002	0.002	0.013	0.014	<0.001	<0.001
VANADIUM	ICAP (MG/L)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
ZINC	ICAP (MG/L)	<0.002	0.011	<0.002	<0.002	0.0084	0.0025	<0.002	0.0027	0.0059	0.0065

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WELL	GW-142	GW-142	GW-144	GW-144 FIELD DUPE	GW-144	GW-144 FIELD DUPE	GW-145	GW-145	GW-231	GW-231
DATE SAMPLED	02/16/94	04/12/94	03/10/94	03/10/94	04/19/94	04/19/94	03/11/94	04/20/94	02/28/94	04/13/94
TIME SAMPLED	13:45:00	13:15:00	11:44:00	11:44:00	11:35:00	11:35:00	13:30:00	13:30:00	14:11:00	12:45:00
REQ. NO.	940217-013	940412-094	940310-137	940310-139	940419-091	940419-093	940311-071	940421-001	940301-018	940413-074
CONDUCTIVITY, FIELD MMT (UMHOS/CM)	478	410	284	295	352	346	483	518	191	219
PH, FIELD MMT. (PH UNITS)	7.1	7.9	7.9	7.9	7.8	7.7	7	7.9	7.5	7.5
STATIC WATER LEVEL (FT. - TOC)	-130.7	-131.35	77.45	.	-77.2	.	-2.65	2.15	10.95	9.4
WATER TEMP, FIELD MMT (DEG. CENT.)	15.5	15.6	13	13.2	16.6	16.2	14.1	17.2	11.7	12.3
DISSOLVED OXYGEN, FIELD MMT. (PPM)	3.6	2.8	6.5	6.4	5.5	5.6	8.3	11	4.3	2.6
REDOX, FIELD MMT. (MV)	181	104	246	249	228	235	169	216	114	205
CONDUCTIVITY (UMHOS/CM)	439	449	307	307	353	355	512	513	179	217
CONDUCTIVITY, REP. 2 (UMHOS/CM)	440	448	308	309	353	354	515	510	179	216
CONDUCTIVITY, REP. 3 (UMHOS/CM)	438	448	308	309	353	355	514	516	180	218
CONDUCTIVITY, REP. 4 (UMHOS/CM)	438	449	309	309	354	355	515	513	180	217
PH (PH UNITS)	7.9	7.8	8.2	8.2	7.8	7.8	8.3	8	7.7	7.4
PH, REP. 2 (PH UNITS)	7.9	7.8	8.2	8.2	7.8	7.8	8.3	8	7.8	7.4
PH, REP. 3 (PH UNITS)	7.9	7.8	8.2	8.2	7.8	7.8	8.3	8	7.7	7.4
PH, REP. 4 (PH UNITS)	7.9	7.8	8.2	8.2	7.8	7.8	8.3	8	7.7	7.4
TOTAL ORGANIC CARBON (MG/L)	<1	1	1	<1	2	2	<1	.	<1	1
TOTAL ORGANIC CARBON, REP 2 (MG/L)	<1	<1	<1	1	2	2	3	7	<1	1
TOTAL ORGANIC CARBON, REP 3 (MG/L)	1	1	<1	<1	2	2	1		<1	1
TOTAL ORGANIC CARBON, REP 4 (MG/L)	<1	<1	<1	1	2	2	<1	5	<1	1
TOTAL ORGANIC HALIDE (UG/L)	<10	<10	<10	<10	<10	15	<10	<10	<10	<10
TOTAL ORGANIC HALIDE, REP 2 (UG/L)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
TOTAL ORGANIC HALIDE, REP 3 (UG/L)	<10	<10	<10	<10	<10	<10	10.4	<10	<10	<10
TOTAL ORGANIC HALIDE, REP 4 (UG/L)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
ALKALINITY-CO3 (MG/L)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ALKALINITY-HCO3 (MG/L)	238	237	149	147	163	165	235	236	96	106
TURBIDITY (NTU)	16	31	0.6	0.8	0.7	0.6	18	28	1.4	2.2
TOTAL SUSPENDED SOLIDS (MG/L)	3	18	1	1	<1	<1	10	11	1	<1
DISSOLVED SOLIDS (MG/L)	244	230	192	186	190	194	292	302	118	90
FLUORIDE (MG/L)	0.5	0.6	0.1	0.1	0.1	0.1	2.6	3	<0.1	<0.1
CHLORIDE (MG/L)	2	1.5	3	2	2	2	9.2	10	2.4	2
SULFATE (MG/L)	4	4.9	6	6	7	7	30.7	36	3.2	3
NITRATE NITROGEN (MG/L)	0.2	<0.2	2.2	2	2.1	2.1	<0.2	0.2	1.52	1.1
PHENOLS (MS/L)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
GROSS ALPHA (PCI/L)	14.7	3.29	3.75	0.998	2.6	1.87	9.46	11.7	0.486	0.801
COUNTING ERROR (GROSS ALPHA)	3.4	1.6	2.1	1.8	1.5	1.3	3.6	3.2	1.4	0.86
GROSS BETA (PCI/L)	-6.79	4.59	2.44	2.52	2.97	0.77	17.6	14.3	5.18	-0.254
COUNTING ERROR (GROSS BETA)	4.3	2.9	2.5	2.5	2.4	2.2	3.8	3.4	2.7	2.7

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WELL	GW-142	GW-142	GW-144	GW-144 FIELD DUPE	GW-144	GW-144 FIELD DUPE	GW-145	GW-145	GW-231	GW-231
DATE SAMPLED	02/16/94	04/12/94	03/10/94	03/10/94	04/19/94	04/19/94	03/11/94	04/20/94	02/28/94	04/13/94
TIME SAMPLED	13:45:00	13:15:00	11:44:00	11:44:00	11:35:00	11:35:00	13:30:00	13:30:00	14:11:00	12:45:00
REQ. NO.	940217-013	940412-094	940310-137	940310-139	940419-091	940419-093	940311-071	940421-001	940301-018	940413-074
CONDUCTIVITY, FIELD MMT (UMHOS/CM)	478	410	284	295	352	346	483	518	191	219
PH, FIELD MMT. (PH UNITS)	7.1	7.9	7.9	7.9	7.8	7.7	7	7.9	7.5	7.5
STATIC WATER LEVEL (FT. - TOC)	-130.7	-131.35	-77.45	.	-77.2	.	-2.65	-2.15	10.95	-9.4
WATER TEMP, FIELD MMT (DEG. CENT.)	15.5	15.6	13	13.2	16.6	16.2	14.1	17.2	11.7	12.3
DISSOLVED OXYGEN, FIELD MMT. (PPM)	3.6	2.8	6.5	6.4	5.5	5.6	8.3	11	4.3	2.6
REDOX, FIELD MMT. (MV)	181	104	246	249	228	235	169	216	114	205
CONDUCTIVITY (UMHOS/CM)	439	449	307	307	353	355	512	513	179	217
CONDUCTIVITY, REP. 2 (UMHOS/CM)	440	448	308	309	353	354	515	510	179	216
CONDUCTIVITY, REP. 3 (UMHOS/CM)	438	448	308	309	353	355	514	516	180	218
CONDUCTIVITY, REP. 4 (UMHOS/CM)	438	449	309	309	354	355	515	513	180	217
PH (PH UNITS)	7.9	7.8	8.2	8.2	7.8	7.8	8.3	8	7.7	7.4
PH, REP. 2 (PH UNITS)	7.9	7.8	8.2	8.2	7.8	7.8	8.3	8	7.8	7.4
PH, REP. 3 (PH UNITS)	7.9	7.8	8.2	8.2	7.8	7.8	8.3	8	7.7	7.4
PH, REP. 4 (PH UNITS)	7.9	7.8	8.2	8.2	7.8	7.8	8.3	8	7.7	7.4
TOTAL ORGANIC CARBON (MG/L)	<1	1	1	<1	2	<1	<1	.	<1	1
TOTAL ORGANIC CARBON, REP 2 (MG/L)	<1	<1	<1	1	2	2	3	7	<1	1
TOTAL ORGANIC CARBON, REP 3 (MG/L)	1	1	<1	<1	2	2	1	<1	<1	1
TOTAL ORGANIC CARBON, REP 4 (MG/L)	<1	<1	<1	1	2	2	<1	5	<1	1
TOTAL ORGANIC HALIDE (UG/L)	<10	<10	<10	<10	<10	15	<10	<10	<10	<10
TOTAL ORGANIC HALIDE, REP 2 (UG/L)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
TOTAL ORGANIC HALIDE, REP 3 (UG/L)	<10	<10	<10	<10	<10	<10	10.4	<10	<10	<10
TOTAL ORGANIC HALIDE, REP 4 (UG/L)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
ALKALINITY-CO3 (MG/L)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ALKALINITY-HCO3 (MG/L)	238	237	149	147	163	165	235	236	96	106
TURBIDITY (NTU)	16	31	0.6	0.8	0.7	0.6	18	28	1.4	2.2
TOTAL SUSPENDED SOLIDS (MG/L)	3	18	1	1	<1	<1	10	11	1	<1
DISSOLVED SOLIDS (MG/L)	244	230	192	186	190	194	292	302	118	90
FLUORIDE (MG/L)	0.5	0.6	0.1	0.1	0.1	0.1	2.6	3	<0.1	<0.1
CHLORIDE (MG/L)	2	1.5	3	2	2	2	9.2	10	2.4	2
SULFATE (MG/L)	4	4.9	6	6	7	7	30.7	36	3.2	3
NITRATE NITROGEN (MG/L)	0.2	<0.2	2.2	2	2.1	2.1	<0.2	0.2	1.52	1.1
PHENOLS (MS/L)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
GROSS ALPHA (PCI/L)	14.7	3.29	3.75	0.998	2.6	1.87	9.46	11.7	0.486	0.801
COUNTING ERROR (GROSS ALPHA)	3.4	1.6	2.1	1.8	1.5	1.3	3.6	3.2	1.4	0.86
GROSS BETA (PCI/L)	-6.79	4.59	2.44	2.52	2.97	0.77	17.6	14.3	5.18	-0.254
COUNTING ERROR (GROSS BETA)	4.3	2.9	2.5	2.5	2.4	2.2	3.8	3.4	2.7	2.7

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WELL		GW-142	GW-142	GW-144	GW-144	GW-144	GW-144	GW-145	GW-145	GW-231	GW-231
DATE SAMPLED		02/16/94	04/12/94	03/10/94	FIELD DUPE 03/10/94	04/19/94	FIELD DUPE 04/19/94	03/11/94	04/20/94	02/28/94	04/13/94
CHLOROMETHANE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
BROMOMETHANE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
VINYL CHLORIDE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
CHLOROETHANE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
METHYLENE CHLORIDE	(UG/L)	5U	1	5U	5U	5U	5U	5U	5U	5U	.1
ACETONE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
CARBON DISULFIDE	(UG/L)	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1-DICHLOROETHENE	(UG/L)	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1-DICHLOROETHANE	(UG/L)	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-DICHLOROETHENE	(UG/L)	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
CHLOROFORM	(UG/L)	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-DICHLOROETHANE	(UG/L)	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-BUTANONE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,1-TRICHLOROETHANE	(UG/L)	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
CARBON TETRACHLORIDE	(UG/L)	5U	5U	5U	5U	2	2	5U	5U	5U	5U
VINYL ACETATE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
BROMODICHLOROMETHANE	(UG/L)	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-DICHLOROPROPANE	(UG/L)	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
CIS-1,3-DICHLOROPROPENE	(UG/L)	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
TRICHLOROETHENE	(UG/L)	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
CHLORODIBROMOMETHANE	(UG/L)	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-TRICHLOROETHANE	(UG/L)	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
BENZENE	(UG/L)	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
TRANS-1,3-DICHLOROPROPENE	(UG/L)	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
BROMOFORM	(UG/L)	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-METHYL-2-PENTANONE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-HEXANONE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
TETRACHLOROETHENE	(UG/L)	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-TETRACHLOROETHANE	(UG/L)	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
TOLUENE	(UG/L)	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
CHLOROBENZENE	(UG/L)	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
ETHYLBENZENE	(UG/L)	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
STYRENE	(UG/L)	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
XYLENES	(UG/L)	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U

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WELL		GW-142	GW-142	GW-144	GW-144	GW-144	GW-144	GW-145	GW-145	GW-231	GW-231
		UNFILTERED	UNFILTERED	UNFILTERED	UNFILTERED	UNFILTERED	UNFILTERED	UNFILTERED	UNFILTERED	UNFILTERED	UNFILTERED
DATE SAMPLED		07/21/94	10/22/94	07/26/94	07/26/94	10/25/94	10/25/94	07/26/94	10/26/94	07/23/94	10/23/94
ALUMINUM	ICAP (MG/L)	0.048	<0.02	<0.02	<0.02	<0.02	<0.02	0.95	1	0.02	<0.02
ANTIMONY	ICAP (MG/L)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
ARSENIC	ICAP (MG/L)	0.069	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
BARIUM	ICAP (MG/L)	0.43	0.42	0.041	0.041	0.044	0.045	0.18	0.14	0.082	0.097
BERYLLIUM	ICAP (MG/L)	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
BORON	ICAP (MG/L)	0.15	0.038	0.042	0.029	0.027	0.025	0.33	0.24	0.053	0.038
CADMIUM	ICAP (MG/L)	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
CADMIUM	AAS (MG/L)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
CALCIUM	ICAP (MG/L)	44	42	38	38	39	40	81	76	39	42
CHROMIUM	ICAP (MG/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
CHROMIUM	AAS (MG/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
COBALT	ICAP (MG/L)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
COPPER	ICAP (MG/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
IRON	ICAP (MG/L)	2.7	2.4	0.024	0.01	0.022	<0.005	0.95	1.4	<0.005	<0.005
LEAD	AAS (MG/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.0049	<0.004	<0.004
MAGNESIUM	ICAP (MG/L)	32	30	14	14	15	15	56	53	20	22
MANGANESE	ICAP (MG/L)	0.066	0.054	<0.001	<0.001	<0.001	<0.001	0.15	0.13	<0.001	0.0021
MERCURY	CVA (MG/L)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
MOLYBDENUM	ICAP (MG/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.013	0.013	<0.01	<0.01
NICKEL	ICAP (MG/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
POTASSIUM	ICAP (MG/L)	3.8	4.1	1.5	1.5	1.8	1.7	12	13	1	1.8
SELENIUM	ICAP (MG/L)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SILVER	ICAP (MG/L)	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
SODIUM	ICAP (MG/L)	1.1	0.92	0.99	0.98	1.1	1.1	5.1	8.7	0.98	1
STRONTIUM	ICAP (MG/L)	0.52	0.49	0.078	0.075	0.08	0.083	7.1	7.9	0.037	0.04
THORIUM	ICAP (MG/L)	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
URANIUM	FLUORIMETRIC (MG/L)	0.003	<0.015	0.002	0.002	<0.015	<0.015	0.01	<0.015	0.002	<0.015
VANADIUM	ICAP (MG/L)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
ZINC	ICAP (MG/L)	0.011	<0.002	0.0036	0.0025	<0.002	<0.002	0.021	0.009	0.0041	0.032

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WELL	GW-142	GW-142	GW-144	GW-144 FIELD DUPE	GW-144	GW-144 FIELD DUPE	GW-145	GW-145	GW-231	GW-231
DATE SAMPLED	07/21/94	10/22/94	07/26/94	07/26/94	10/25/94	10/25/94	07/26/94	10/26/94	07/23/94	10/23/94
TIME SAMPLED	13:00:00	13:30:00	10:30:00	10:30:00	12:26:00	12:26:00	14:10:00	11:15:00	9:24:00	9:54:00
REQ. NO.	940721-086	941024-024	940727-005	940727-006	941025-062	941025-064	940727-004	941026-110	940725-046	941024-027
CONDUCTIVITY, FIELD MMT (UMHOS/CM)	432	408	275	285	272	283	495	504	336	355
PH, FIELD MMT. (PH UNITS)	7.9	7.7	7.7	7.6	7.6	7.6	7.7	7.8	7.4	7.2
STATIC WATER LEVEL (FT. - TOC)	-134.8	-131.4	-79.6	.	-79.95	.	-4.95	-5.62	-14.13	-14.96
WATER TEMP, FIELD MMT (DEG. CENT.)	16.6	14.8	15.6	15.7	15.1	15	16.2	15.2	14.2	15
DISSOLVED OXYGEN, FIELD MMT. (PPM)	5.6	2.2	4.7	4.9	6.5	6.6	8.5	12.2	9	2.7
REDOX, FIELD MMT. (MV)	-114	-25	201	201	97	104	174	122	168	162
CONDUCTIVITY (UMHOS/CM)	421	426	280	280	301	304	506	524	330	357
CONDUCTIVITY, REP. 2 (UMHOS/CM)	421	429	282	281	303	304	498	521	326	358
CONDUCTIVITY, REP. 3 (UMHOS/CM)	421	429	278	282	303	304	504	526	325	359
CONDUCTIVITY, REP. 4 (UMHOS/CM)	423	429	280	281	304	304	498	524	327	357
PH (PH UNITS)	7.9	7.7	7.9	8	7.8	7.8	8.1	8.1	7.5	7.5
PH, REP. 2 (PH UNITS)	7.9	7.7	7.9	7.9	7.8	7.8	8	8.1	7.5	7.5
PH, REP. 3 (PH UNITS)	7.9	7.7	7.9	7.9	7.8	7.8	8	8.1	7.5	7.5
PH, REP. 4 (PH UNITS)	7.9	7.6	7.9	7.9	7.9	7.9	8	8.1	7.5	7.5
TOTAL ORGANIC CARBON (MG/L)	1.4	2	1	1.3	<1	<1	4.4	5.4	2.5	1.6
TOTAL ORGANIC CARBON, REP 2 (MG/L)	1.6	2.4	1.6	1.3	<1	<1	5.2	1.7	2	1.6
TOTAL ORGANIC CARBON, REP 3 (MG/L)	<1	2	<1	1.8	<1	<1	3.9	3.5	2.2	1.6
TOTAL ORGANIC CARBON, REP 4 (MG/L)	3.3	1.8	1.2	1.3	<1	<1	1.2	5.4	<1	1.1
TOTAL ORGANIC HALIDE (UG/L)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
TOTAL ORGANIC HALIDE, REP 2 (UG/L)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
TOTAL ORGANIC HALIDE, REP 3 (UG/L)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
TOTAL ORGANIC HALIDE, REP 4 (UG/L)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
ALKALINITY-CO3 (MG/L)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ALKALINITY-HCO3 (MG/L)	232	232	144	141	151	152	145	229	172	193
TURBIDITY (NTU)	21	39	1	1	0.1	0.1	22	20	0.9	0.1
TOTAL SUSPENDED SOLIDS (MG/L)	4	4	6	<1	<1	<1	293	24	<1	<1
DISSOLVED SOLIDS (MG/L)	240	234	166	164	174	164	298	278	198	188
FLUORIDE (MG/L)	0.7	0.6	0.1	0.1	0.1	0.1	2.5	2.3	<0.1	<0.1
CHLORIDE (MG/L)	1.5	1.3	2	2	1.9	1.9	8.6	9.3	1.5	1.6
SULFATE (MG/L)	8.7	4.8	9.5	9.5	4.3	4.3	32	37	3.6	2.7
NITRATE NITROGEN (MG/L)	<0.2	<0.2	1.3	1.3	1.1	1.1	<0.2	0.31	0.5	0.3
PHENOLS (MG/L)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
GROSS ALPHA (PCI/L)	1.53	2.03	1.54	0.485	8.43	5.68	10.1	15.5	-0.998	0.812
COUNTING ERROR (GROSS ALPHA)	1.8	1.6	1.9	1.6	2.8	2.3	3.7	4	1.2	1.3
GROSS BETA (PCI/L)	7	4.72	2.11	2.21	7.49	8.15	15.5	23.5	1.98	2.29
COUNTING ERROR (GROSS BETA)	2.7	2.5	2.4	2.4	3.1	3.1	3.5	4.4	2.4	2.4

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WELL		GW-142	GW-142	GW-144	GW-144	GW-144	GW-144	GW-145	GW-145	GW-231	GW-231
DATE SAMPLED		07/21/94	10/22/94	07/26/94	FIELD DUPE 07/26/94	10/25/94	FIELD DUPE 10/25/94	07/26/94	10/26/94	07/23/94	10/23/94
CHLOROMETHANE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
BROMOMETHANE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
VINYL CHLORIDE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
CHLOROETHANE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
METHYLENE CHLORIDE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
ACETONE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
CARBON DISULFIDE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1-DICHLOROETHENE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1-DICHLOROETHANE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-DICHLOROETHENE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
CHLOROFORM	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-DICHLOROETHANE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-BUTANONE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,1-TRICHLOROETHANE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
CARBON TETRACHLORIDE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
VINYL ACETATE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
BROMODICHLOROMETHANE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-DICHLOROPROPANE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
CIS-1,3-DICHLOROPROPENE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
TRICHLOROETHENE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
CHLORODIBROMOMETHANE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2-TRICHLOROETHANE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
BENZENE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
TRANS-1,3-DICHLOROPROPENE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
BROMOFORM	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
4-METHYL-2-PENTANONE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-HEXANONE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
TETRACHLOROETHENE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-TETRACHLOROETHANE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
TOLUENE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
CHLOROBENZENE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
ETHYLBENZENE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
STYRENE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
XYLENES	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U

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WELL		GW-156	GW-156	GW-159	GW-159	GW-731	GW-731	GW-732	GW-732
		UNFILTERED	UNFILTERED	UNFILTERED	UNFILTERED	UNFILTERED	UNFILTERED	UNFILTERED	UNFILTERED
DATE SAMPLED		02/12/94	04/07/94	02/10/94	04/04/94	02/11/94	04/04/94	02/12/94	04/06/94
ALUMINUM	ICAP (MG/L)	0.032	<0.02	0.2	0.076	0.046	0.048	1.8	0.69
ANTIMONY	ICAP (MG/L)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
ARSENIC	ICAP (MG/L)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
BARIUM	ICAP (MG/L)	0.02	0.032	0.013	0.012	0.0064	0.0042	0.019	0.021
BERYLLIUM	ICAP (MG/L)	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.00031	<0.0003
BORON	ICAP (MG/L)	0.022	0.0041	0.02	0.0047	0.03	0.0065	0.029	0.023
CADMIUM	ICAP (MG/L)	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
CADMIUM	AAS (MG/L)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
CALCIUM	ICAP (MG/L)	70	73	41	39	21	23	28	26
CHROMIUM	ICAP (MG/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
CHROMIUM	AAS (MG/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
COBALT	ICAP (MG/L)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
COPPER	ICAP (MG/L)	0.0042	<0.004	0.0055	0.0061	<0.004	<0.004	0.0057	0.005
IRON	ICAP (MG/L)	0.03	0.057	0.15	0.19	0.052	0.099	0.76	0.63
LEAD	AAS (MG/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
MAGNESIUM	ICAP (MG/L)	41	43	24	25	16	19	16	14
MANGANESE	ICAP (MG/L)	0.0014	0.0019	0.011	0.0078	0.0019	0.0022	0.0093	0.0098
MERCURY	CVAA (MG/L)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
MOLYBDENUM	ICAP (MG/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
NICKEL	ICAP (MG/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
POTASSIUM	ICAP (MG/L)	4	15	1.5	2.5	7.7	10	2.2	4.2
SELENIUM	ICAP (MG/L)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SILVER	ICAP (MG/L)	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
SODIUM	ICAP (MG/L)	3.8	9.4	4.3	0.72	3.4	3.1	1.4	2
STRONTIUM	ICAP (MG/L)	0.032	0.035	0.02	0.025	0.026	0.019	0.047	0.049
THORIUM	ICAP (MG/L)	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
URANIUM	FLUORIMETRIC (MG/L)	0.002	0.005	0.001	<0.001	<0.001	<0.001	0.002	<0.001
VANADIUM	ICAP (MG/L)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
ZINC	ICAP (MG/L)	0.013	0.019	0.0097	<0.002	0.006	<0.002	0.0076	0.0069

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WELL	GW-156	GW-156	GW-159	GW-159	GW-731	GW-731	GW-732	GW-732
DATE SAMPLED	02/12/94	04/07/94	02/10/94	04/04/94	02/11/94	04/04/94	02/12/94	04/06/94
TIME SAMPLED	11:45:00	12:30:00	11:30:00	11:35:00	11:30:00	18:00:00	9:48:00	11:10:00
REQ. NO.	940214-001	940408-018	940210-114	940405-004	940211-057	940405-008	940214-003	940406-052
CONDUCTIVITY, FIELD MMT (UMHOS/CM)	614	586	341	326	268	261	242	212
PH, FIELD MMT. (PH UNITS)	7.3	7.3	7.6	7.8	8.9	9.3	7.1	7.5
STATIC WATER LEVEL (FT. - TOC)	-121.75	-133.35	-116.3	-116.2	-122.1	-121.8	-133.6	-146
WATER TEMP, FIELD MMT (DEG. CENT.)	12.7	10	11.5	11.5	13.1	16.4	12.8	14.2
DISSOLVED OXYGEN, FIELD MMT. (PPM)	6.6	7.1	8.2	11.4	4.6	4.8	7.6	6.7
REDOX, FIELD MMT. (MV)	223	204	190	153	120	140	197	178
CONDUCTIVITY (UMHOS/CM)	628	689	360	384	250	256	247	234
CONDUCTIVITY, REP. 2 (UMHOS/CM)	626	688	365	384	248	258	247	234
CONDUCTIVITY, REP. 3 (UMHOS/CM)	629	688	359	384	249	256	247	233
CONDUCTIVITY, REP. 4 (UMHOS/CM)	629	688	369	386	249	259	247	232
PH (PH UNITS)	7.6	7.5	8	8	8.6	8.8	7.6	7.8
PH, REP. 2 (PH UNITS)	7.6	7.4	8	8	8.7	8.8	7.6	7.9
PH, REP. 3 (PH UNITS)	7.6	7.5	8	8	8.8	8.8	7.6	7.8
PH, REP. 4 (PH UNITS)	7.5	7.5	8	8	8.7	8.8	7.6	7.8
TOTAL ORGANIC CARBON (MG/L)	<1	<1	2	1	<1	<1	<1	1
TOTAL ORGANIC CARBON, REP 2 (MG/L)	7	2	2	1	<1	1	<1	4
TOTAL ORGANIC CARBON, REP 3 (MG/L)	2	<1	8	2	<1	5	28	2
TOTAL ORGANIC CARBON, REP 4 (MG/L)	15	1	2	2	<1	<1	<1	1
TOTAL ORGANIC HALIDE (UG/L)	<10	<10	<10	<10	<10	<10	<10	<10
TOTAL ORGANIC HALIDE, REP 2 (UG/L)	<10	<10	<10	<10	<10	<10	<10	<10
TOTAL ORGANIC HALIDE, REP 3 (UG/L)	<10	<10	<10	<10	<10	<10	<10	<10
TOTAL ORGANIC HALIDE, REP 4 (UG/L)	<10	<10	<10	<10	<10	<10	<10	<10
ALKALINITY-CO3 (MG/L)	<1	<1	<1	<1	8	14	<1	<1
ALKALINITY-HCO3 (MG/L)	354	370	191	193	122	121	134	125
TURBIDITY (NTU)	2	5	5.4	5.5	2.1	2.5	22	15
TOTAL SUSPENDED SOLIDS (MG/L)	13	3	20	4	1	2	91	39
DISSOLVED SOLIDS (MG/L)	366	400	204	220	152	160	152	164
FLUORIDE (MG/L)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CHLORIDE (MG/L)	1.8	3	1	1.1	1	1.1	1.1	1
SULFATE (MG/L)	5.2	10	8	7.9	6	5.1	1.1	2
NITRATE NITROGEN (MG/L)	0.31	0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
PHENOLS (MS/L)	.	.	.	.	.	.	.	.
GROSS ALPHA (PCI/L)	2.96	3.59	1.23	1.63	0.748	0.474	7.38	2.5
COUNTING ERROR (GROSS ALPHA)	2.1	2.6	1.7	1.5	1.6	1.2	2.6	2
GROSS BETA (PCI/L)	-16.1	13.7	-19	0.64	-8.39	7.43	-13.6	5.08
COUNTING ERROR (GROSS BETA)	4	3.7	3.8	2.5	4.2	3	4	3.2

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WELL	DATE SAMPLED	CHLOROMETHANE (UG/L)	BROMOMETHANE (UG/L)	VINYL CHLORIDE (UG/L)	CHLOROETHANE (UG/L)	METHYLENE CHLORIDE (UG/L)	ACETONE (UG/L)	CARBON DISULFIDE (UG/L)	1,1-DICHLOROETHENE (UG/L)	1,1-DICHLOROETHANE (UG/L)	1,2-DICHLOROETHENE (UG/L)	CHLOROFORM (UG/L)	1,2-DICHLOROETHANE (UG/L)	2-BUTANONE (UG/L)	1,1,1-TRICHLOROETHANE (UG/L)	CARBON TETRACHLORIDE (UG/L)	VINYL ACETATE (UG/L)	BROMODICHLOROETHANE (UG/L)	1,2-DICHLOROPROPANE (UG/L)	CIS-1,3-DICHLOROPROPENE (UG/L)	TRICHLOROETHENE (UG/L)	CHLORODIBROMOMETHANE (UG/L)	1,1,2-TRICHLOROETHANE (UG/L)	BENZENE (UG/L)	TRANS-1,3-DICHLOROPROPENE (UG/L)	BROMOFORM (UG/L)	4-METHYL-2-PENTANONE (UG/L)	2-HEXANONE (UG/L)	TETRACHLOROETHENE (UG/L)	1,1,2,2-TETRACHLOROETHANE (UG/L)	TOLUENE (UG/L)	CHLOROBENZENE (UG/L)	ETHYLBENZENE (UG/L)	STYRENE (UG/L)	XYLENES (UG/L)			
GW-156	02/12/94	100	100	100	50	50	100	50	50	50	50	50	50	100	100	50	100	50	50	50	50	50	50	50	50	50	50	100	50	50	50	50	50	50	50	50	50	50
GW-156	04/07/94	100	100	100	50	50	100	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	100	50	50	50	50	50	50	50	50	50	50
GW-159	02/10/94	100	100	100	50	50	100	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	100	50	50	50	50	50	50	50	50	50	50
GW-159	04/04/94	100	100	100	50	50	100	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	100	50	50	50	50	50	50	50	50	50	50
GW-731	02/11/94	100	100	100	50	50	100	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	100	50	50	50	50	50	50	50	50	50	50
GW-731	04/04/94	100	100	100	50	50	100	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	100	50	50	50	50	50	50	50	50	50	50
GW-732	02/12/94	100	100	100	50	50	100	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	100	50	50	50	50	50	50	50	50	50	50
GW-732	04/06/94	100	100	100	50	50	100	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	100	50	50	50	50	50	50	50	50	50	50

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WELL		GW-156	GW-156	GW-159	GW-159	GW-731	GW-731	GW-732	GW-732
DATE SAMPLED		02/12/94	04/07/94	02/10/94	04/04/94	02/11/94	04/04/94	02/12/94	04/06/94
ACENAPHTHENE	(UG/L)	20U	10U	20U	10U	20U	10U	20U	10U
2,4-DINITROPHENOL	(UG/L)	100U	50U	100U	50U	100U	50U	100U	50U
4-NITROPHENOL	(UG/L)	100U	50U	100U	50U	100U	50U	100U	50U
DIBENZOFURAN	(UG/L)	20U	10U	20U	10U	20U	10U	20U	10U
2,4-DINITROTOLUENE	(UG/L)	20U	10U	20U	10U	20U	10U	20U	10U
2,6-DINITROTOLUENE	(UG/L)	20U	10U	20U	10U	20U	10U	20U	10U
DIETHYLPHTHALATE	(UG/L)	20U	10U	20U	10U	20U	10U	20U	10U
4-CHLOROPHENYL PHENYL ETHER	(UG/L)	20U	10U	20U	10U	20U	10U	20U	10U
FLUORENE	(UG/L)	20U	10U	20U	10U	20U	10U	20U	10U
4-NITROANILINE	(UG/L)	100U	50U	100U	50U	100U	50U	100U	50U
4,6-DINITRO-2-METHYLPHENOL	(UG/L)	100U	50U	100U	50U	100U	50U	100U	50U
N-NITROSODIPHENYLAMINE	(UG/L)	20U	10U	20U	10U	20U	10U	20U	10U
4-BROMOPHENYL PHENYL ETHER	(UG/L)	20U	10U	20U	10U	20U	10U	20U	10U
HEXACHLOROBENZENE	(UG/L)	20U	10U	20U	10U	20U	10U	20U	10U
PENTACHLOROPHENOL	(UG/L)	100U	50U	100U	50U	100U	50U	100U	50U
PHENANTHRENE	(UG/L)	20U	10U	20U	10U	20U	10U	20U	10U
ANTHRACENE	(UG/L)	20U	10U	20U	10U	20U	10U	20U	10U
D1-N-BUTYLPHTHALATE	(UG/L)	17	10U	20U	10U	18	10U	20U	10U
FLUORANTHENE	(UG/L)	20U	10U	20U	10U	20U	10U	20U	10U
PYRENE	(UG/L)	20U	10U	20U	10U	20U	10U	20U	10U
BUTYL BENZYL PHTHALATE	(UG/L)	20U	10U	20U	10U	20U	10U	20U	10U
3,3'-DICHLOROBENZIDINE	(UG/L)	40U	20U	40U	20U	40U	20U	40U	20U
BENZO(A)ANTHRACENE	(UG/L)	20U	10U	20U	10U	20U	10U	20U	10U
BIS(2-ETHYLHEXYL)PHTHALATE	(UG/L)	20U	10U	20U	10U	20U	10U	20U	10U
CHRYSENE	(UG/L)	20U	10U	20U	10U	20U	10U	20U	10U
D1-N-OCTYLPHTHALATE	(UG/L)	20U	10U	20U	10U	20U	10U	20U	10U
BENZO(B)FLUORANTHENE	(UG/L)	20U	10U	20U	10U	20U	10U	20U	10U
BENZO(K)FLUORANTHENE	(UG/L)	20U	10U	20U	10U	20U	10U	20U	10U
BENZO(A)PYRENE	(UG/L)	20U	10U	20U	10U	20U	10U	20U	10U
INDENO(1,2,3-CD)PYRENE	(UG/L)	20U	10U	20U	10U	20U	10U	20U	10U
DIBENZO(A,H)ANTHRACENE	(UG/L)	20U	10U	20U	10U	20U	10U	20U	10U
BENZO(G,H,I)PERYLENE	(UG/L)	20U	10U	20U	10U	20U	10U	20U	10U

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WELL		GW-156 FILTERED	GW-156 FILTERED	GW-159 FILTERED	GW-159 FILTERED	GW-731 FILTERED	GW-731 FILTERED	GW-732 FILTERED	GW-732 FILTERED FIELD DUPE	GW-732 FILTERED	GW-732 FILTERED FIELD DUPE
DATE SAMPLED		07/09/94	10/20/94	07/08/94	10/17/94	07/09/94	10/18/94	07/09/94	07/09/94	10/19/94	10/19/94
ALUMINUM	ICAP (MG/L)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.038	0.12	0.29	<0.02
ANTIMONY	ICAP (MG/L)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
ARSENIC	ICAP (MG/L)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
BARIUM	ICAP (MG/L)	0.03	0.022	0.012	0.01	0.0018	0.0054	0.041	0.04	0.056	0.05
BERYLLIUM	ICAP (MG/L)	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
BORON	ICAP (MG/L)	0.068	0.014	0.054	0.038	0.04	0.026	0.056	0.035	0.021	0.017
CADMIUM	ICAP (MG/L)	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
CADMIUM	AAS (MG/L)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
CALCIUM	ICAP (MG/L)	73	68	41	38	8.3	19	28	29	25	24
CHROMIUM	ICAP (MG/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
CHROMIUM	AAS (MG/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
COBALT	ICAP (MG/L)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
COPPER	ICAP (MG/L)	<0.004	<0.004	<0.004	0.007	<0.004	0.007	<0.004	<0.004	<0.004	0.0048
IRON	ICAP (MG/L)	0.014	<0.005	<0.005	<0.005	0.01	0.046	0.015	0.05	0.13	0.0092
LEAD	AAS (MG/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
MAGNESIUM	ICAP (MG/L)	43	41	24	22	18	16	17	17	13	13
MANGANESE	ICAP (MG/L)	<0.001	0.0014	<0.001	<0.001	<0.001	0.0014	<0.001	<0.001	0.002	<0.001
MERCURY	CVAA (MG/L)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
MOLYBDENUM	ICAP (MG/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
NICKEL	ICAP (MG/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
POTASSIUM	ICAP (MG/L)	8.7	5.5	1.4	1.6	28	13	7.3	6.3	10	10
SELENIUM	ICAP (MG/L)	<0.05	<0.05	<0.05	<0.05	<0.05	0.052	<0.05	<0.05	<0.05	<0.05
SILVER	ICAP (MG/L)	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
SODIUM	ICAP (MG/L)	5.5	3.7	0.74	0.77	6.3	4.8	3.9	3.4	9.1	8.9
STRONTIUM	ICAP (MG/L)	0.034	0.029	0.017	0.015	0.0066	0.016	0.13	0.12	0.18	0.17
THORIUM	ICAP (MG/L)	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
URANIUM	FLUORIMETRIC (MG/L)	0.005	<0.015	0.001	<0.015	0.003	<0.015	0.001	0.001	<0.015	<0.015
VANADIUM	ICAP (MG/L)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
ZINC	ICAP (MG/L)	0.027	0.0038	0.0032	<0.002	<0.002	<0.002	0.0054	<0.002	<0.002	<0.002

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WELL		GW-156 UNFILTERED	GW-156 UNFILTERED	GW-159 UNFILTERED	GW-159 UNFILTERED	GW-731 UNFILTERED	GW-731 UNFILTERED	GW-732 UNFILTERED	GW-732 UNFILTERED FIELD DUPE	GW-732 UNFILTERED	GW-732 UNFILTERED FIELD DUPE
DATE SAMPLED		07/09/94	10/20/94	07/08/94	10/17/94	07/09/94	10/18/94	07/09/94	07/09/94	10/19/94	10/19/94
ALUMINUM	ICAP (MG/L)	0.28	0.21	0.036	0.034	<0.02	0.21	2.8	3	3.6	4.1
ANTIMONY	ICAP (MG/L)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
ARSENIC	ICAP (MG/L)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
BARIUM	ICAP (MG/L)	0.03	0.024	0.012	0.011	0.0035	0.0066	0.061	0.078	0.08	0.086
BERYLLIUM	ICAP (MG/L)	0.00054	<0.0003	<0.0003	<0.0003	0.00038	<0.0003	0.00057	0.00064	0.00068	0.00074
BORON	ICAP (MG/L)	0.079	0.0098	0.03	0.016	0.073	0.016	0.054	0.082	0.057	0.019
CADMIUM	ICAP (MG/L)	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
CADMIUM	AAS (MG/L)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
CALCIUM	ICAP (MG/L)	76	70	41	40	12	19	36	36	31	31
CHROMIUM	ICAP (MG/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
CHROMIUM	AAS (MG/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
COBALT	ICAP (MG/L)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
COPPER	ICAP (MG/L)	<0.004	<0.004	<0.004	<0.004	<0.004	0.0051	<0.004	0.0095	0.0085	0.007
IRON	ICAP (MG/L)	0.4	0.42	0.21	0.056	0.16	0.44	1.9	2.3	2.3	2.7
LEAD	AAS (MG/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.013	0.015	0.019	0.023
MAGNESIUM	ICAP (MG/L)	44	42	25	24	19	17	20	20	17	17
MANGANESE	ICAP (MG/L)	0.0089	0.0081	0.0016	0.0028	0.004	0.011	0.032	0.041	0.038	0.044
MERCURY	CVAA (MG/L)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
MOLYBDENUM	ICAP (MG/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
NICKEL	ICAP (MG/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
POTASSIUM	ICAP (MG/L)	7.6	5	1.9	1.7	28	21	7.1	10	9.5	10
SELENIUM	ICAP (MG/L)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SILVER	ICAP (MG/L)	<0.006	<0.006	<0.006	0.0064	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
SODIUM	ICAP (MG/L)	4.5	3.3	0.71	0.65	6.1	5.6	3.7	5.2	8.2	8.8
STRONTIUM	ICAP (MG/L)	0.037	0.029	0.018	0.018	0.012	0.019	0.17	0.21	0.21	0.23
THORIUM	ICAP (MG/L)	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
URANIUM	FLUORIMETRIC (MG/L)	0.007	<0.015	0.001	<0.015	0.004	<0.015	0.005	0.007	<0.015	<0.015
VANADIUM	ICAP (MG/L)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
ZINC	ICAP (MG/L)	0.072	0.024	0.012	<0.002	0.0026	0.0078	0.017	0.023	0.021	0.018

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WELL		GW-156	GW-156	GW-159	GW-159	GW-731	GW-731	GW-732	GW-732	GW-732	GW-732
DATE SAMPLED		07/09/94	10/20/94	07/08/94	10/17/94	07/09/94	10/18/94	07/09/94	FIELD DUPE 07/09/94	10/19/94	FIELD DUPE 10/19/94
CHLOROMETHANE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
BROMOMETHANE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
VINYL CHLORIDE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
CHLOROETHANE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
METHYLENE CHLORIDE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
ACETONE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
CARBON DISULFIDE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1-DICHLOROETHENE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1-DICHLOROETHANE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-DICHLOROETHENE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
CHLOROFORM	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-DICHLOROETHANE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-BUTANONE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,1-TRICHLOROETHANE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
CARBON TETRACHLORIDE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
VINYL ACETATE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
BROMODICHLOROMETHANE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-DICHLOROPROPANE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
CIS-1,3-DICHLOROPROPENE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
TRICHLOROETHENE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
CHLORODIBROMOMETHANE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2-TRICHLOROETHANE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
BENZENE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
TRANS-1,3-DICHLOROPROPENE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
BROMOFORM	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
4-METHYL-2-PENTANONE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-HEXANONE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
TETRACHLOROETHENE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-TETRACHLOROETHANE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
TOLUENE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
CHLOROBENZENE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
ETHYLBENZENE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
STYRENE	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
XYLENES	(UG/L)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U

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WELL		GW-156	GW-156	GW-159	GW-159	GW-731	GW-731	GW-732	GW-732	GW-732	GW-732
DATE SAMPLED		07/09/94	10/20/94	07/08/94	10/17/94	07/09/94	10/18/94	07/09/94	FIELD DUPE 07/09/94	10/19/94	FIELD DUPE 10/19/94
PHENOL	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
BIS(2-CHLOROETHYL)ETHER	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
2-CHLOROPHENOL	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
1,3-DICHLOROBENZENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
1,4-DICHLOROBENZENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
BENZYL ALCOHOL	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-DICHLOROBENZENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
2-METHYLPHENOL	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
BIS(2-CHLOROISOPROPYL)ETHER	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
4-METHYLPHENOL	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
N-NITROSDI-N-PROPYLAMINE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
HEXACHLOROETHANE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
NITROBENZENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
ISOPHORONE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
2-NITROPHENOL	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
2,4-DIMETHYLPHENOL	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
CARBAZOLE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
BIS(2-CHLOROETHOXY)METHANE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
2,4-DICHLOROPHENOL	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
1,2,4-TRICHLOROBENZENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
NAPHTHALENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
4-CHLOROANILINE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
HEXACHLOROBUTADIENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
4-CHLORO-3-METHYLPHENOL	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
2-METHYLNAPHTHALENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
HEXACHLOROCYCLOPENTADIENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
2,4,6-TRICHLOROPHENOL	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
2,4,5-TRICHLOROPHENOL	(UG/L)	25U	31U	25U	25U	25U	25U	25U	25U	25U	25U
2-CHLORONAPHTHALENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
2-NITROANILINE	(UG/L)	25U	31U	25U	25U	25U	25U	25U	25U	25U	25U
DIMETHYLPHTHALATE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
ACENAPHTHYLENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
3-NITROANILINE	(UG/L)	25U	31U	25U	25U	25U	25U	25U	25U	25U	25U

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WELL		GW-156	GW-156	GW-159	GW-159	GW-731	GW-731	GW-732	GW-732	GW-732	GW-732
DATE SAMPLED		07/09/94	10/20/94	07/08/94	10/17/94	07/09/94	10/18/94	07/09/94	FIELD DUPE 07/09/94	10/19/94	FIELD DUPE 10/19/94
ACENAPHTHENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
2,4-DINITROPHENOL	(UG/L)	25U	31U	25U	25U	25U	25U	25U	25U	25U	25U
4-NITROPHENOL	(UG/L)	25U	31U	25U	25U	25U	25U	25U	25U	25U	25U
DIBENZOFURAN	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
2,4-DINITROTOLUENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
2,6-DINITROTOLUENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
DIETHYLPHTHALATE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
4-CHLOROPHENYL PHENYL ETHER	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
FLUORENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
4-NITROANILINE	(UG/L)	25U	31U	25U	25U	25U	25U	25U	25U	25U	25U
4,6-DINITRO-2-METHYLPHENOL	(UG/L)	25U	31U	25U	25U	25U	25U	25U	25U	25U	25U
N-NITROSODIPHENYLAMINE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
4-BROMOPHENYL PHENYL ETHER	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
HEXACHLOROBENZENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
PENTACHLOROPHENOL	(UG/L)	25U	31U	25U	25U	25U	25U	25U	25U	25U	25U
PHENANTHRENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
ANTHRACENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
DI-N-BUTYLPHTHALATE	(UG/L)	10U	2	10U	10U	10U	10U	10U	10U	10U	10U
FLUORANTHENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
PYRENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
BUTYL BENZYL PHTHALATE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
3,3'-DICHLOROBENZIDINE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
BENZO(A)ANTHRACENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
BIS(2-ETHYLHEXYL)PHTHALATE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
CHRYSENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
DI-N-OCTYLPHTHALATE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
BENZO(B)FLUORANTHENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
BENZO(K)FLUORANTHENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
BENZO(A)PYRENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
INDENO(1,2,3-CD)PYRENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
DIBENZO(A,H)ANTHRACENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U
BENZO(G,H,I)PERYLENE	(UG/L)	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U

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Analytical Services Organization @ K-25 Site
Oak Ridge, TN 37831
Sample Analyses Results

AnalIS ID: 950127-050

Project: Y112 CR6

Customer Sample ID: GW-159

Customer: JAGO
Date Sampled: 17-OCT-1994
Sampled By:
Material Description: GROUNDWATER FROM CR-6
Program Manager: P BUCKLEY (# 27962)

Requisition Number:
Date Sample Received: 17-OCT-1994
Date Sample Completed: 30-JAN-1995
Date Sample Approved: 30-JAN-1995
☐ : Result has been Corrected for Spike

Procedure No.	Analysis	Result	Q Qual	Units	Analyst	QA File Number	Date Completed
***** Plasma Mass Spectrometry Laboratory *****							
EPA-200.8 ACD-070002	Uranium	0.0012		mg/L	VF BELT	A950128A	28-JAN-1995

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Analytical Services Organization @ K-25 Site
Oak Ridge, TN 37831
Sample Analyses Results

Analysis ID: 950127-052 Project: Y112 CR6 Customer Sample ID: GW-731

Customer: JAGO
Date Sampled: 18-OCT-1994
Sampled By:
Material Description: GROUNDWATER FROM CR-6
Program Manager: P BUCKLEY (# 27962)

Requisition Number:
Date Sample Received: 19-OCT-1994
Date Sample Completed: 30-JAN-1995
Date Sample Approved: 30-JAN-1995
[] : Result has been Corrected for Spike

Procedure No.	Analysis	Result	Q Qual	Units	Analyst	QA File Number	Date Completed
***** Plasma Mass Spectrometry Laboratory *****							
EPA-200.8	Uranium	< 0.0005		mg/L	VF BELT	A950128A	28-JAN-1995
ACD-070002							

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Analytical Services Organization @ K-25 Site
Oak Ridge, TN 37831
Sample Analyses Results

AnalIS ID: 950127-054 Project: Y112 CR6 Customer Sample ID: GW-732

Customer: JAGO
Date Sampled: 19-OCT-1994
Sampled By:
Material Description: GROUNDWATER FROM CR-6
Program Manager: P BUCKLEY (# 27962)

Requisition Number:
Date Sample Received: 19-OCT-1994
Date Sample Completed: 30-JAN-1995
Date Sample Approved: 30-JAN-1995
☒ : Result has been Corrected for Spike

Procedure No.	Analysis	Result	Q Qual	Units	Analyst	QA File Number	Date Completed
***** Plasma Mass Spectrometry Laboratory *****							
EPA-200.8	Uranium	0.0067		mg/L	VF BELT	A950128A	28-JAN-1995
AED-070002							

Spike Recovery Data

Analysis	Unspike Result	Amount Spike	Spike Result	Units	Amount Recovered	Percent Recovered
***** Plasma Mass Spectrometry Laboratory *****						
URANIUM		100	107 ug/L		107.	100.3

APPENDIX B

CY 1994 Statistical Determinations for Kerr Hollow Quarry and the
Chestnut Ridge Sediment Disposal Basin

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
CONDUCTIVITY (UMHOS/CM)
BY WELL - 1986 VERSUS 1ST QUARTER 1994
KERR HOLLOW QUARRY

----- U_D=DOWNGRADIENT -----

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	16	4	351.375	438.750	4430.783	0.917	2.572	2.552	**SIGNIF. INC.**
GW-144	16	4	367.938	308.000	1578.729	0.667	-2.956	2.552	NO SIGNIF. INC.
GW-231	16	4	332.938	179.500	3460.729	0.333	-5.111	2.552	NO SIGNIF. INC.

----- U_D=UPGRADIENT -----

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-145	16	4	601.500	514.000	1547.600	2.000	-4.358	2.552	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
CONDUCTIVITY (UMHOS/CM)
DOWNGRADIENT, 1ST QUARTER 1994 VERSUS UPGRADIENT, 1986
KERR HOLLOW QUARRY

WELL IDENTITY	N 'UP' 1986	N, 1994	MEAN, 'UP' 1986	MEAN, 1994	VARIANCE, 'UP' 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	16	4	601.500	438.750	1547.600	0.917	-8.106	2.552	NO SIGNIF. INC.
GW-144	16	4	601.500	308.000	1547.600	0.667	-14.619	2.552	NO SIGNIF. INC.
GW-231	16	4	601.500	179.500	1547.600	0.333	-21.020	2.552	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC CARBON (MG/L)
BY WELL - 1987 VERSUS 1ST QUARTER 1994
KERR HOLLOW QUARRY

-- U, D=DOWNGRADIENT --

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	8	4	3.625	1.000	7.982	0.000	-1.813	2.764	NO SIGNIF. INC.
GW-144	8	4	2.513	1.000	2.430	0.000	-1.894	2.764	NO SIGNIF. INC.
GW-231	8	4	3.300	1.000	5.677	0.000	-1.884	2.764	NO SIGNIF. INC.

-- U, D=UPGRADIENT --

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-145	8	4	1.425	1.500	1.094	1.000	0.119	2.764	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC CARBON (MG/L)
DOWNGRADIENT, 1ST QUARTER 1994 VERSUS UPGRADIENT, 1987
KERR HOLLOW QUARRY

WELL IDENTITY	N 'UP' 1987	N, 1994	MEAN, 'UP' 1987	MEAN, 1994	VARIANCE, 'UP' 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	8	4	1.425	1.000	1.094	0.000	-0.793	2.764	NO SIGNIF. INC.
GW-144	8	4	1.425	1.000	1.094	0.000	-0.793	2.764	NO SIGNIF. INC.
GW-231	8	4	1.425	1.000	1.094	0.000	-0.793	2.764	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC CARBON (MG/L)
BY WELL - 1987 VERSUS 1ST QUARTER 1994
KERR HOLLOW QUARRY

U_D=DOWNGRADIENT

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	8	4	3.625	1.000	7.982	0.000	-1.813	2.764	NO SIGNIF. INC.
GW-144	8	4	2.513	1.000	2.430	0.000	-1.894	2.764	NO SIGNIF. INC.
GW-231	8	4	3.300	1.000	5.677	0.000	-1.884	2.764	NO SIGNIF. INC.

U_D=UPGRADIENT

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-145	8	4	1.425	1.500	1.094	1.000	0.119	2.764	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC CARBON (MG/L)
DOWNGRADIENT, 1ST QUARTER 1994 VERSUS UPGRADIENT, 1987
KERR HOLLOW QUARRY

WELL IDENTITY	N 'UP' 1987	N, 1994	MEAN, 'UP' 1987	MEAN, 1994	VARIANCE, 'UP' 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	8	4	1.425	1.000	1.094	0.000	-0.793	2.764	NO SIGNIF. INC.
GW-144	8	4	1.425	1.000	1.094	0.000	-0.793	2.764	NO SIGNIF. INC.
GW-231	8	4	1.425	1.000	1.094	0.000	-0.793	2.764	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC HALIDE (UG/L)
BY WELL - 1987 VERSUS 1ST QUARTER 1994
KERR HOLLOW QUARRY

U_D=DOWNGRADIENT

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	8	4	10.000	10.000	0.000	0.000	.	2.764	
GW-144	8	4	13.125	10.000	40.411	0.000	-0.959	2.764	NO SIGNIF. INC.
GW-231	8	4	17.375	10.000	257.982	0.000	-0.896	2.764	NO SIGNIF. INC.

U_D=UPGRADIENT

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-145	8	4	11.125	10.100	10.125	0.040	-0.628	2.764	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC HALIDE (UG/L)
DOWNGRADIENT, 1ST QUARTER 1994 VERSUS UPGRADIENT, 1987
KERR HOLLOW QUARRY

WELL IDENTITY	N 'UP' 1987	N, 1994	MEAN, 'UP' 1987	MEAN, 1994	VARIANCE, 'UP' 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	8	4	11.125	10.000	10.125	0.000	-0.690	2.764	NO SIGNIF. INC.
GW-144	8	4	11.125	10.000	10.125	0.000	-0.690	2.764	NO SIGNIF. INC.
GW-231	8	4	11.125	10.000	10.125	0.000	-0.690	2.764	NO SIGNIF. INC.

SUMMARY OF STATISTICALLY SIGNIFICANT T-TEST RESULTS AT THE
KERR HOLLOW QUARRY

PARAMETER	WELL	RESULT	COMPARISON	
			MEAN (2nd quarter 1994)	MEAN (Base year)
Conductivity (μ mhos/cm)	GW-142	Significantly greater than 1986	448.500	351.375
Total organic carbon (mg/L)	GW-145	Significantly greater than 1987	5.500	1.425
Total organic halide (μ g/L)		No significant increases		
pH (pH unit)	GW-144	Significantly less than 1986	7.800	7.956
	GW-231	Significantly less than 1986	7.400	7.856
	GW-231	Significantly less than 1986 upgradient	7.400	8.263

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
CONDUCTIVITY (UMHOS/CM)
BY WELL - 1986 VERSUS 2ND QUARTER 1994
KERR HOLLOW QUARRY

----- U_D=DOWNGRADIENT -----

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	16	4	351.375	448.500	4430.783	0.333	2.859	2.552	**SIGNIF. INC.**
GW-144	16	4	367.938	353.250	1578.729	0.250	-0.724	2.552	NO SIGNIF. INC.
GW-231	16	4	332.938	217.000	3460.729	0.667	-3.862	2.552	NO SIGNIF. INC.

----- U_D=UPGRADIENT -----

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW 145	16	4	601.500	513.000	1547.600	6.000	-4.407	2.552	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
CONDUCTIVITY (UMHOS/CM)
DOWNGRADIENT, 2ND QUARTER 1994 VERSUS UPGRADIENT, 1986
KERR HOLLOW QUARRY

WELL IDENTITY	N 'UP' 1986	N, 1994	MEAN, 'UP' 1986	MEAN, 1994	VARIANCE, 'UP' 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	16	4	601.500	448.500	1547.600	0.333	-7.621	2.552	NO SIGNIF. INC.
GW-144	16	4	601.500	353.250	1547.600	0.250	-12.366	2.552	NO SIGNIF. INC.
GW-231	16	4	601.500	217.000	1547.600	0.667	-19.152	2.552	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC CARBON (MG/L)
BY WELL - 1987 VERSUS 2ND QUARTER 1994
KERR HOLLOW QUARRY

----- U_D=DOWNGRADIENT -----

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	8	4	3.625	1.000	7.982	0.000	-1.813	2.764	NO SIGNIF. INC.
GW-144	8	4	2.513	2.000	2.430	0.000	-0.642	2.764	NO SIGNIF. INC.
GW-231	8	4	3.300	1.000	5.677	0.000	-1.884	2.764	NO SIGNIF. INC.

----- U_D=UPGRADIENT -----

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-145	8	4	1.425	5.500	1.094	1.667	5.915	2.764	**SIGNIF. INC.**

SEMIANNUAL Y 12 RCRA REPORT
ONE TAILED T TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC CARBON (MG/L)
DOWNGRADIENT, 2ND QUARTER 1994 VERSUS UPGRADIENT, 1987
KERR HOLLOW QUARRY

WELL IDENTITY	N 'UP' 1987	N, 1994	MEAN, 'UP' 1987	MEAN, 1994	VARIANCE, 'UP' 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	8	4	1.425	1.000	1.094	0.000	-0.793	2.764	NO SIGNIF. INC.
GW-144	8	4	1.425	2.000	1.094	0.000	1.073	2.764	NO SIGNIF. INC.
GW-231	8	4	1.425	1.000	1.094	0.000	-0.793	2.764	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
TWO-TAILED T-TEST TO TEST FOR SIGNIFICANT DIFFERENCE IN
MEAN pH
BY WELL - 1986 VERSUS 2ND QUARTER 1994
KERR HOLLOW QUARRY

----- U_D=DOWNGRADIENT -----

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	16	4	8.175	7.800	0.231	0.000	-1.528	2.878	NO SIGNIF. DIFF.
GW-144	16	4	7.956	7.800	0.007	0.000	-3.762	2.878	**SIGNIF. DEC.**
GW-231	16	4	7.856	7.400	0.032	0.000	-5.001	2.878	**SIGNIF. DEC.**

----- U_D=UPGRADIENT -----

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-145	16	4	8.263	8.000	0.132	0.000	-1.417	2.878	NO SIGNIF. DIFF.

SEMIANNUAL Y-12 RCRA REPORT
TWO-TAILED T-TEST TO TEST FOR SIGNIFICANT DIFFERENCE IN
MEAN pH
DOWNGRADIENT, 2ND QUARTER 1994 VERSUS UPGRADIENT, 1986
KERR HOLLOW QUARRY

WELL IDENTITY	N 'UP' 1986	N, 1994	MEAN, 'UP' 1986	MEAN, 1994	VARIANCE, 'UP' 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	16	4	8.263	7.800	0.132	0.000	-2.496	2.878	NO SIGNIF. DIFF.
GW-144	16	4	8.263	7.800	0.132	0.000	-2.496	2.878	NO SIGNIF. DIFF.
GW-231	16	4	8.263	7.400	0.132	0.000	-4.655	2.878	**SIGNIF. DEC.**

SUMMARY OF STATISTICALLY SIGNIFICANT T-TEST RESULTS AT THE
KERR HOLLOW QUARRY

PARAMETER	WELL	RESULT	COMPARISON	
			MEAN (3rd quarter 1994)	MEAN (Base year)
Conductivity (μ mhos/cm)		No significant increases		
Total organic carbon (mg/L)	GW-145	Significantly greater than 1987	3.675	1.425
Total organic halide (μ g/L)		No significant increases		
pH (pH unit)	GW-231	Significantly less than 1986	7.500	7.856
	GW-231	Significantly less than 1986 upgradient	7.500	8.263

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
CONDUCTIVITY (UMHOS/CM)
BY WELL - 1986 VS 3RD QUARTER 1994
KERR HOLLOW QUARRY

----- U_D=DOWNGRADIENT -----

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	16	4	351.375	421.500	4430.783	1.000	2.064	2.552	NO SIGNIF. INC.
GW-144	16	4	367.938	280.000	1578.729	2.667	-4.336	2.552	NO SIGNIF. INC.
GW-231	16	4	332.938	327.000	3460.729	4.667	-0.198	2.552	NO SIGNIF. INC.

----- U_D=UPGRADIENT -----

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-145	16	4	601.500	501.500	1547.600	17.000	-4.976	2.552	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
CONDUCTIVITY (UMHOS/CM)
DOWNGRADIENT, 3RD QUARTER 1994 VS UPGRADIENT, 1986
KERR HOLLOW QUARRY

WELL IDENTITY	N 'UP' 1986	N, 1994	MEAN, 'UP' 1986	MEAN, 1994	VARIANCE, 'UP' 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	16	4	601.500	421.500	1547.600	1.000	-8.966	2.552	NO SIGNIF. INC.
GW-144	16	4	601.500	280.000	1547.600	2.667	-16.012	2.552	NO SIGNIF. INC.
GW-231	16	4	601.500	327.000	1547.600	4.667	-13.669	2.552	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC HALIDE (UG/L)
BY WELL - 1987 VS 3RD QUARTER 1994
KERR HOLLOW QUARRY

----- U_D=DOWNGRADIENT -----

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	8	4	10.000	10.000	0.000	0.000	.	2.764	
GW-144	8	4	13.125	10.000	40.411	0.000	-0.959	2.764	NO SIGNIF. INC.
GW-231	8	4	17.375	10.000	257.982	0.000	-0.896	2.764	NO SIGNIF. INC.

----- U_D=UPGRADIENT -----

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-145	8	4	11.125	10.000	10.125	0.000	-0.690	2.764	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC HALIDE (UG/L)
DOWNGRADIENT, 3RD QUARTER 1994 VS UPGRADIENT, 1987
KERR HOLLOW QUARRY

WELL IDENTITY	N 'UP' 1987	N, 1994	MEAN, 'UP' 1987	MEAN, 1994	VARIANCE, 'UP' 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	8	4	11.125	10.000	10.125	0.000	-0.690	2.764	NO SIGNIF. INC.
GW-144	8	4	11.125	10.000	10.125	0.000	-0.690	2.764	NO SIGNIF. INC.
GW-231	8	4	11.125	10.000	10.125	0.000	-0.690	2.764	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
TWO-TAILED T-TEST TO TEST FOR SIGNIFICANT DIFFERENCE IN
MEAN PH
BY WELL - 1986 VS 3RD QUARTER 1994
KERR HOLLOW QUARRY

----- U_D=DOWNGRADIENT -----

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	16	4	8.175	7.900	0.231	0.000	-1.120	2.878	NO SIGNIF. DIFF.
GW-144	16	4	7.956	7.900	0.007	0.000	-1.354	2.878	NO SIGNIF. DIFF.
GW-231	16	4	7.856	7.500	0.032	0.000	-3.905	2.878	**SIGNIF. DEC.**

----- U_D=UPGRADIENT -----

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-145	16	4	8.263	8.025	0.132	0.002	-1.279	2.878	NO SIGNIF. DIFF.

SEMIANNUAL Y-12 RCRA REPORT
TWO-TAILED T-TEST TO TEST FOR SIGNIFICANT DIFFERENCE IN
MEAN PH
DOWNGRADIENT, 3RD QUARTER 1994 VS UPGRADIENT, 1986
KERR HOLLOW QUARRY

WELL IDENTITY	N 'UP' 1986	N, 1994	MEAN, 'UP' 1986	MEAN, 1994	VARIANCE, 'UP' 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	16	4	8.263	7.900	0.132	0.000	-1.956	2.878	NO SIGNIF. DIFF.
GW-144	16	4	8.263	7.900	0.132	0.000	-1.956	2.878	NO SIGNIF. DIFF.
GW-231	16	4	8.263	7.500	0.132	0.000	-4.115	2.878	**SIGNIF. DEC.**

SUMMARY OF STATISTICALLY SIGNIFICANT T-TEST RESULTS AT THE
KERR HOLLOW QUARRY

PARAMETER	WELL	RESULT	COMPARISON	
			MEAN (4th quarter 1994)	MEAN (Base year)
Conductivity (μ mhos/cm)		No significant increases		
Total organic carbon (mg/L)	GW-145	Significantly greater than 1987	4.000	1.425
Total organic halide (μ g/L)		No significant increases		
pH (pH unit)	GW-144	Significantly less than 1986	7.825	7.956
	GW-231	Significantly less than 1986	7.500	7.856
	GW-142	Significantly less than 1986 upgradient	7.675	8.263
	GW-231	Significantly less than 1986 upgradient	7.500	8.263

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
CONDUCTIVITY (UMHOS/CM)
BY WELL - 1986 VS 4TH QUARTER 1994
KERR HOLLOW QUARRY

----- U_D=DOWNGRADIENT -----

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	16	4	351.375	428.250	4430.783	2.250	2.263	2.552	NO SIGNIF. INC.
GW-144	16	4	367.938	302.750	1578.729	1.583	-3.215	2.552	NO SIGNIF. INC.
GW-231	16	4	332.938	357.750	3460.729	0.917	0.826	2.552	NO SIGNIF. INC.

----- U_D=UPGRADIENT -----

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-145	16	4	601.500	523.750	1547.600	4.250	-3.872	2.552	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
CONDUCTIVITY (UMHOS/CM)
DOWNGRADIENT, 4TH QUARTER 1994 VS UPGRADIENT, 1986
KERR HOLLOW QUARRY

WELL IDENTITY	N 'UP' 1986	N, 1994	MEAN, 'UP' 1986	MEAN, 1994	VARIANCE, 'UP' 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	16	4	601.500	428.250	1547.600	2.250	-8.629	2.552	NO SIGNIF. INC.
GW-144	16	4	601.500	302.750	1547.600	1.583	-14.880	2.552	NO SIGNIF. INC.
GW-231	16	4	601.500	357.750	1547.600	0.917	-12.141	2.552	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC CARBON (MG/L)
BY WELL - 1987 VS 4TH QUARTER 1994
KERR HOLLOW QUARRY

----- U_D=DOWNGRADIENT -----

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	8	4	3.625	2.050	7.982	0.063	-1.086	2.764	NO SIGNIF. INC.
GW-144	8	4	2.513	1.000	2.430	0.000	-1.894	2.764	NO SIGNIF. INC.
GW-231	8	4	3.300	1.475	5.677	0.063	-1.491	2.764	NO SIGNIF. INC.

----- U_D=UPGRADIENT -----

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-145	8	4	1.425	4.000	1.094	3.153	3.214	2.764	**SIGNIF. INC.**

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC CARBON (MG/L)
DOWNGRADIENT, 4TH QUARTER 1994 VS UPGRADIENT, 1987
KERR HOLLOW QUARRY

WELL IDENTITY	N 'UP' 1987	N, 1994	MEAN, 'UP' 1987	MEAN, 1994	VARIANCE, 'UP' 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	8	4	1.425	2.050	1.094	0.063	1.152	2.764	NO SIGNIF. INC.
GW-144	8	4	1.425	1.000	1.094	0.000	-0.793	2.764	NO SIGNIF. INC.
GW-231	8	4	1.425	1.475	1.094	0.063	0.092	2.764	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC HALIDE (UG/L)
BY WELL - 1987 VS 4TH QUARTER 1994
KERR HOLLOW QUARRY

U_D=DOWNGRADIENT

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	8	4	10.000	10.000	0.000	0.000	-	2.764	
GW-144	8	4	13.125	10.000	40.411	0.000	-0.959	2.764	NO SIGNIF. INC.
GW-231	8	4	17.375	10.000	257.982	0.000	-0.896	2.764	NO SIGNIF. INC.

U_D=UPGRADIENT

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-145	8	4	11.125	10.000	10.125	0.000	-0.690	2.764	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC HALIDE (UG/L)
DOWNGRADIENT, 4TH QUARTER 1994 VS UPGRADIENT, 1987
KERR HOLLOW QUARRY

WELL IDENTITY	N 'UP' 1987	N, 1994	MEAN, 'UP' 1987	MEAN, 1994	VARIANCE, 'UP' 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	8	4	11.125	10.000	10.125	0.000	-0.690	2.764	NO SIGNIF. INC.
GW-144	8	4	11.125	10.000	10.125	0.000	-0.690	2.764	NO SIGNIF. INC.
GW-231	8	4	11.125	10.000	10.125	0.000	-0.690	2.764	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
TWO-TAILED T-TEST TO TEST FOR SIGNIFICANT DIFFERENCE IN
MEAN PH
BY WELL - 1986 VS 4TH QUARTER 1994
KERR HOLLOW QUARRY

----- U_D=DOWNGRADIENT -----

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	16	4	8.175	7.675	0.231	0.002	-2.035	2.878	NO SIGNIF. DIFF.
GW-144	16	4	7.956	7.825	0.007	0.002	-3.047	2.878	**SIGNIF. DEC.**
GW-231	16	4	7.856	7.500	0.032	0.000	-3.905	2.878	**SIGNIF. DEC.**

----- U_D=UPGRADIENT -----

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-145	16	4	8.263	8.100	0.132	0.000	-0.877	2.878	NO SIGNIF. DIFF.

SEMIANNUAL Y-12 RCRA REPORT
TWO-TAILED T-TEST TO TEST FOR SIGNIFICANT DIFFERENCE IN
MEAN PH
DOWNGRADIENT, 4TH QUARTER 1994 VS UPGRADIENT, 1986
KERR HOLLOW QUARRY

WELL IDENTITY	N 'UP' 1986	N, 1994	MEAN, 'UP' 1986	MEAN, 1994	VARIANCE, 'UP' 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-142	16	4	8.263	7.675	0.132	0.002	-3.165	2.878	**SIGNIF. DEC.**
GW-144	16	4	8.263	7.825	0.132	0.002	-2.357	2.878	NO SIGNIF. DIFF.
GW-231	16	4	8.263	7.500	0.132	0.000	-4.115	2.878	**SIGNIF. DEC.**

SUMMARY OF STATISTICALLY SIGNIFICANT T-TEST RESULTS AT THE
CHESTNUT RIDGE SEDIMENT DISPOSAL BASIN

PARAMETER	WELL	RESULT	COMPARISON	
			MEAN (1st quarter 1994)	MEAN (Base year)
Conductivity (μ mhos/cm)		No significant increases		
Total organic carbon (mg/L)	GW-159	Significantly greater than 1987	3.500	1.000
	GW-156	Significantly greater than 1987 upgradient	6.250	1.000
Total organic halide (μ g/L)		No significant increases		
pH (pH unit)	GW-156	Significantly less than 1986 upgradient	7.575	9.206
	GW-732	Significantly less than 1986 upgradient	7.600	9.206

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
CONDUCTIVITY (UMHOS/CM)
BY WELL - 1986 VERSUS 1ST QUARTER 1994
CHESTNUT RIDGE SEDIMENT DISPOSAL BASIN

----- U_D=DOWNGRADIENT -----

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-155	16	0	251.813	.	142.429	.	.	.	
GW-156	16	4	809.188	628.000	56848.563	2.000	-1.489	2.552	NO SIGNIF. INC.
GW-157	16	0	448.250	.	2680.600	.	.	.	
GW-731	0	4	.	249.000	.	0.667	.	.	
GW-732	0	4	.	247.000	.	0.000	.	.	

----- U_D=UPGRADIENT -----

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-159	16	4	929.938	363.250	1021079.66	21.583	-1.099	2.552	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
CONDUCTIVITY (UMHOS/CM)
DOWNGRADIENT, 1ST QUARTER 1994 VERSUS UPGRADIENT, 1986
CHESTNUT RIDGE SEDIMENT DISPOSAL BASIN

WELL IDENTITY	N 'UP' 1986	N, 1994	MEAN, 'UP' 1986	MEAN, 1994	VARIANCE, 'UP' 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-156	16	4	929.938	628.000	1021079.66	2.000	-0.586	2.552	NO SIGNIF. INC.
GW-731	16	4	929.938	249.000	1021079.66	0.667	-1.321	2.552	NO SIGNIF. INC.
GW-732	16	4	929.938	247.000	1021079.66	0.000	-1.324	2.552	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC CARBON (MG/L)
BY WELL - 1987 VERSUS 1ST QUARTER 1994
CHESTNUT RIDGE SEDIMENT DISPOSAL BASIN

----- U_D=DOWNGRADIENT -----

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-155	12	0	1.217	.	0.362	.	.	.	
GW-156	12	4	2.083	6.250	1.587	40.917	2.280	2.624	NO SIGNIF. INC.
GW-157	12	0	3.425	.	2.646	.	.	.	
GW-731	0	4	.	1.000	.	0.000	.	.	
GW-732	0	4	.	7.750	.	182.250	.	.	

----- U_D=UPGRADIENT -----

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-159	12	4	1.000	3.500	0.000	9.000	3.118	2.624	**SIGNIF. INC.**

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC CARBON (MG/L)
DOWNGRADIENT, 1ST QUARTER 1994 VERSUS UPGRADIENT, 1987
CHESTNUT RIDGE SEDIMENT DISPOSAL BASIN

WELL IDENTITY	N 'UP' 1987	N, 1994	MEAN, 'UP' 1987	MEAN, 1994	VARIANCE, 'UP' 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-156	12	4	1.000	6.250	0.000	40.917	3.071	2.624	**SIGNIF. INC.**
GW-731	12	4	1.000	1.000	0.000	0.000	.	2.624	
GW-732	12	4	1.000	7.750	0.000	182.250	1.871	2.624	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC HALIDE (UG/L)
BY WELL - 1987 VERSUS 1ST QUARTER 1994
CHESTNUT RIDGE SEDIMENT DISPOSAL BASIN

----- U_D=DOWNGRADIENT -----

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-155	4	0	17.500	.	91.667	.	.	.	
GW-156	4	4	25.000	10.000	900.000	0.000	-1.000	3.143	NO SIGNIF. INC.
GW-157	4	0	18.250	.	92.250	.	.	.	
GW-731	0	4	.	10.000	.	0.000	.	.	
GW-732	0	4	.	10.000	.	0.000	.	.	

----- U_D=UPGRADIENT -----

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-159	4	4	22.750	10.000	584.917	0.000	-1.054	3.143	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC HALIDE (UG/L)
DOWNGRADIENT, 1ST QUARTER 1994 VERSUS UPGRADIENT, 1987
CHESTNUT RIDGE SEDIMENT DISPOSAL BASIN

WELL IDENTITY	N 'UP', 1987	N, 1994	MEAN, 'UP', 1987	MEAN, 1994	VARIANCE, 'UP' 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-156	4	4	22.750	10.000	584.917	0.000	-1.054	3.143	NO SIGNIF. INC.
GW-731	4	4	22.750	10.000	584.917	0.000	-1.054	3.143	NO SIGNIF. INC.
GW-732	4	4	22.750	10.000	584.917	0.000	-1.054	3.143	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
TWO TAI ED T-TEST TO TEST FOR SIGNIFICANT DIFFERENCE IN
MEAN pH
BY WELL - 1986 VERSUS 1ST QUARTER 1994
CHESTNUT RIDGE SEDIMENT DISPOSAL BASIN

----- U_D=DOWNGRADIENT -----

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-155	16	0	7.825	.	0.059	.	.	.	
GW-156	16	4	8.125	7.575	0.377	0.002	-1.755	2.878	NO SIGNIF. DIFF.
GW-157	16	0	7.725	.	0.046	.	.	.	
GW-731	0	4	.	8.700	.	0.007	.	.	
GW-732	0	4	.	7.600	.	0.000	.	.	

----- U_D=UPGRADIENT -----

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-159	16	4	9.206	8.000	1.171	0.000	-2.184	2.878	NO SIGNIF. DIFF.

SEMIANNUAL Y-12 RCRA REPORT
TWO-TAILED T-TEST TO TEST FOR SIGNIFICANT DIFFERENCE IN
MEAN pH
DOWNGRADIENT, 1ST QUARTER 1994 VERSUS UPGRADIENT, 1986
CHESTNUT RIDGE SEDIMENT DISPOSAL BASIN

WELL IDENTITY	N 'UP' 1986	N, 1994	MEAN, 'UP' 1986	MEAN, 1994	VARIANCE, 'UP' 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-156	16	4	9.206	7.575	1.171	0.002	-2.953	2.878	**SIGNIF. DEC.**
GW-731	16	4	9.206	8.700	1.171	0.007	-0.916	2.878	NO SIGNIF. DIFF.
GW-732	16	4	9.206	7.600	1.171	0.000	-2.908	2.878	**SIGNIF. DEC.**

SUMMARY OF STATISTICALLY SIGNIFICANT T-TEST RESULTS AT THE
CHESTNUT RIDGE SEDIMENT DISPOSAL BASIN

PARAMETER	WELL	RESULT	COMPARISON	
			MEAN (2nd quarter 1994)	MEAN (Base year)
Conductivity (μ mhos/cm)		No significant increases		
Total organic carbon (mg/L)	GW-159	Significantly greater than 1987	1.500	1.000
	GW-732	Significantly greater than 1987 upgradient	2.000	1.000
Total organic halide (μ g/L)		No significant increases		
pH (pH unit)	GW-156	Significantly less than 1986 upgradient	7.475	9.206

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
CONDUCTIVITY (UMHOS/CM)
BY WELL - 1986 VERSUS 2ND QUARTER 1994
CHESTNUT RIDGE SEDIMENT DISPOSAL BASIN

U_D=DOWNGRADIENT

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-155	16	0	251.813	.	142.429	.	.	.	.
GW-156	16	4	809.188	688.250	56848.563	0.250	-0.994	2.552	NO SIGNIF. INC.
GW-157	16	0	448.250	.	2680.600	.	.	.	.
GW-731	0	4	.	257.250	.	2.250	.	.	.
GW-732	0	4	.	233.250	.	0.917	.	.	.

U_D=UPGRADIENT

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-159	16	4	929.938	384.500	1021079.66	1.000	-1.058	2.552	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
CONDUCTIVITY (UMHOS/CM)
DOWNGRADIENT, 2ND QUARTER 1994 VERSUS UPGRADIENT, 1986
CHESTNUT RIDGE SEDIMENT DISPOSAL BASIN

WELL IDENTITY	N 'UP' 1986	N, 1994	MEAN, 'UP' 1986	MEAN, 1994	VARIANCE, 'UP' 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-156	16	4	929.938	688.250	1021079.66	0.250	-0.469	2.552	NO SIGNIF. INC.
GW-731	16	4	929.938	257.250	1021079.66	2.250	-1.305	2.552	NO SIGNIF. INC.
GW-732	16	4	929.938	233.250	1021079.66	0.917	-1.351	2.552	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC CARBON (MG/L)
BY WELL - 1987 VERSUS 2ND QUARTER 1994
CHESTNUT RIDGE SEDIMENT DISPOSAL BASIN

U_D=DOWNGRADIENT

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-155	12	0	1.217	.	0.362	.	.	.	
GW-156	12	4	2.083	1.250	1.587	0.250	-1.266	2.624	NO SIGNIF. INC.
GW-157	12	0	3.425	.	2.646	.	.	.	
GW-731	0	4	.	2.000	.	4.000	.	.	
GW-732	0	4	.	2.000	.	2.000	.	.	

U_D=UPGRADIENT

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-159	12	4	1.000	1.500	0.000	0.333	3.240	2.624	**SIGNIF. INC.**

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC CARBON (MG/L)
DOWNGRADIENT, 2ND QUARTER 1994 VERSUS UPGRADIENT, 1987
CHESTNUT RIDGE SEDIMENT DISPOSAL BASIN

WELL IDENTITY	N 'UP' 1987	N, 1994	MEAN, 'UP' 1987	MEAN, 1994	VARIANCE, 'UP' 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-156	12	4	1.000	1.250	0.000	0.250	1.871	2.624	NO SIGNIF. INC.
GW-731	12	4	1.000	2.000	0.000	4.000	1.871	2.624	NO SIGNIF. INC.
GW-732	12	4	1.000	2.000	0.000	2.000	2.646	2.624	**SIGNIF. INC.**

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC HALIDE (UG/L)
DOWNGRAIDENT, 2ND QUARTER 1994 VERSUS UPGRADIENT, 1987
CHESTNUT RIDGE SEDIMENT DISPOSAL BASIN

----- U_D=DOWNGRAIDENT -----

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-155	4	0	17.500	.	91.667	.	.	.	
GW-156	4	4	25.000	10.000	900.000	0.000	-1.000	3.143	NO SIGNIF. INC.
GW-157	4	0	18.250	.	92.250	.	.	.	
GW-731	0	4	.	10.000	.	0.000	.	.	
GW-732	0	4	.	10.000	.	0.000	.	.	

----- U_D=UPGRADIENT -----

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-159	4	4	22.750	10.000	584.917	0.000	-1.054	3.143	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC HALIDE (UG/L)
BY WELL - 1987 VERSUS 2ND QUARTER 1994
CHESTNUT RIDGE SEDIMENT DISPOSAL BASIN

WELL IDENTITY	N 'UP' 1987	N, 1994	MEAN, 'UP' 1987	MEAN, 1994	VARIANCE, 'UP' 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-156	4	4	22.750	10.000	584.917	0.000	-1.054	3.143	NO SIGNIF. INC.
GW-731	4	4	22.750	10.000	584.917	0.000	-1.054	3.143	NO SIGNIF. INC.
GW-732	4	4	22.750	10.000	584.917	0.000	-1.054	3.143	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
TWO TAILED T-TEST TO TEST FOR SIGNIFICANT DIFFERENCE IN
MEAN pH
BY WELL - 1986 VERSUS 2ND QUARTER 1994
CHESTNUT RIDGE SEDIMENT DISPOSAL BASIN

U_D=DOWNGRADIENT

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-155	16	0	7.825	.	0.059	.	.	.	
GW-156	16	4	8.125	7.475	0.377	0.003	-2.074	2.878	NO SIGNIF. DIFF.
GW-157	16	0	7.725	.	0.046	.	.	.	
GW-731	0	4	.	8.800	.	0.000	.	.	
GW-732	0	4	.	7.825	.	0.002	.	.	

U_D=UPGRADIENT

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-159	16	4	9.206	8.000	1.171	0.000	-2.184	2.878	NO SIGNIF. DIFF.

SEMIANNUAL Y-12 RCRA REPORT
TWO-TAILED T-TEST TO TEST FOR SIGNIFICANT DIFFERENCE IN
MEAN pH
DOWNGRADIENT, 2ND QUARTER 1994 VERSUS UPGRADIENT, 1986
CHESTNUT RIDGE SEDIMENT DISPOSAL BASIN

WELL IDENTITY	N 'UP' 1986	N, 1994	MEAN, 'UP' 1986	MEAN, 1994	VARIANCE, 'UP' 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW 156	16	4	9.206	7.475	1.171	0.003	-3.134	2.878	**SIGNIF. DEC.**
GW-731	16	4	9.206	8.800	1.171	0.000	-0.736	2.878	NO SIGNIF. DIFF.
GW-732	16	4	9.206	7.825	1.171	0.002	-2.500	2.878	NO SIGNIF. DIFF.

SUMMARY OF STATISTICALLY SIGNIFICANT T-TEST RESULTS AT THE
CHESTNUT RIDGE SEDIMENT DISPOSAL BASIN

PARAMETER	WELL	RESULT	COMPARISON	
			MEAN (3rd quarter 1994)	MEAN (Base year)
Conductivity (μ mhos/cm)		No significant increases		
Total organic carbon (mg/L)	GW-159	Significant greater than 1987	2.125	1.000
	GW-156	Significantly greater than 1987 upgradient	2.525	1.000
	GW-731	Significantly greater than 1987 upgradient	1.375	1.000
	GW-732	Significantly greater than 1987 upgradient	1.750	1.000
Total organic halide (μ g/L)		No significant increases		
pH (pH unit)	GW-156	Significantly less than 1986 upgradient	7.400	9.206

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
CONDUCTIVITY (UMHOS/CM)
BY WELL - 1986 VS 3RD QUARTER 1994
C.R. SEDIMENT DISP.

----- U_D=DOWNGRADIENT -----

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-155	16	0	251.813	.	142.429	.	.	.	
GW-156	16	4	809.188	628.250	56848.563	24.917	-1.487	2.552	NO SIGNIF. INC.
GW-157	16	0	448.250	.	2680.600	.	.	.	
GW-731	0	4	.	263.500	.	3.667	.	.	
GW-732	0	4	.	271.500	.	1.667	.	.	

----- U_D=UPGRADIENT -----

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-159	16	4	929.938	345.500	1021079.66	30.333	-1.133	2.552	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
CONDUCTIVITY (UMHOS/CM)
DOWNGRADIENT, 3RD QUARTER 1994 VS UPGRADIENT, 1986
C.R. SEDIMENT DISP.

WELL IDENTITY	N 'UP' 1986	N, 1994	MEAN, 'UP' 1986	MEAN, 1994	VARIANCE, 'UP' 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-156	16	4	929.938	628.250	1021079.66	24.917	-0.585	2.552	NO SIGNIF. INC.
GW-731	16	4	929.938	263.500	1021079.66	3.667	-1.292	2.552	NO SIGNIF. INC.
GW-732	16	4	929.938	271.500	1021079.66	1.667	-1.277	2.552	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC CARBON (MG/L)
BY WELL - 1987 VS 3RD QUARTER 1994
C.R. SEDIMENT DISP.

----- U_D=DOWNGRADIENT -----

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-155	12	0	1.217	.	0.362	.	.	.	
GW-156	12	4	2.083	2.525	1.587	0.203	0.673	2.624	NO SIGNIF. INC.
GW-157	12	0	3.425	.	2.646	.	.	.	
GW-731	0	4	.	1.375	.	0.069	.	.	
GW-732	0	4	.	1.750	.	0.837	.	.	

----- U_D=UPGRADIENT -----

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-159	12	4	1.000	2.125	0.000	0.942	4.336	2.624	***SIGNIF. INC.**

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC CARBON (MG/L)
DOWNGRADIENT, 3RD QUARTER 1994 VS UPGRADIENT, 1987
C.R. SEDIMENT DISP.

WELL IDENTITY	N 'UP' 1987	N, 1994	MEAN, 'UP' 1987	MEAN, 1994	VARIANCE, 'UP' 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-156	12	4	1.000	2.525	0.000	0.203	12.680	2.624	***SIGNIF. INC.**
GW-731	12	4	1.000	1.375	0.000	0.069	5.335	2.624	***SIGNIF. INC.**
GW-732	12	4	1.000	1.750	0.000	0.837	3.068	2.624	***SIGNIF. INC.**

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC HALIDE (UG/L)
BY WELL - 1987 VS 3RD QUARTER 1994
C.R. SEDIMENT DISP.

----- U_D=DOWNGRADIENT -----

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-155	4	0	17.500	.	91.667	.	.	.	
GW-156	4	4	25.000	12.820	900.000	23.045	-0.802	3.143	NO SIGNIF. INC.
GW-157	4	0	18.250	.	92.250	.	.	.	
GW-731	0	4	.	12.520	.	12.469	.	.	
GW-732	0	4	.	12.410	.	23.232	.	.	

----- U_D=UPGRADIENT -----

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-159	4	4	22.750	10.000	584.917	0.000	-1.054	3.143	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC HALIDE (UG/L)
DOWNGRADIENT, 3RD QUARTER 1994 VS UPGRADIENT, 1987
C.R. SEDIMENT DISP.

WELL IDENTITY	N 'UP' 1987	N, 1994	MEAN, 'UP' 1987	MEAN, 1994	VARIANCE, 'UP' 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-156	4	4	22.750	12.820	584.917	23.045	-0.805	3.143	NO SIGNIF. INC.
GW-731	4	4	22.750	12.520	584.917	12.469	-0.837	3.143	NO SIGNIF. INC.
GW-732	4	4	22.750	12.410	584.917	23.232	-0.839	3.143	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
TWO-TAILED T-TEST TO TEST FOR SIGNIFICANT DIFFERENCE IN
MEAN PH
BY WELL - 1986 VS 3RD QUARTER 1994
C.R. SEDIMENT DISP.

----- U_D=DOWNGRADIENT -----

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-155	16	0	7.825	.	0.059	.	.	.	
GW-156	16	4	8.125	7.400	0.377	0.000	-2.315	2.878	NO SIGNIF. DIFF.
GW-157	16	0	7.725	.	0.046	.	.	.	
GW-731	0	4	.	9.450	.	0.003	.	.	
GW-732	0	4	.	8.275	.	0.002	.	.	

----- U_D=UPGRADIENT -----

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-159	16	4	9.206	7.900	1.171	0.000	-2.365	2.878	NO SIGNIF. DIFF.

SEMIANNUAL Y-12 RCRA REPORT
TWO-TAILED T-TEST TO TEST FOR SIGNIFICANT DIFFERENCE IN
MEAN PH
DOWNGRADIENT, 3RD QUARTER 1994 VS UPGRADIENT, 1986
C.R. SEDIMENT DISP.

WELL IDENTITY	N 'UP' 1986	N, 1994	MEAN, 'UP' 1986	MEAN, 1994	VARIANCE, 'UP' 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-156	16	4	9.206	7.400	1.171	0.000	-3.270	2.878	**SIGNIF. DEC.**
GW-731	16	4	9.206	9.450	1.171	0.003	0.441	2.878	NO SIGNIF. DIFF.
GW-732	16	4	9.206	8.275	1.171	0.002	-1.686	2.878	NO SIGNIF. DIFF.

SUMMARY OF STATISTICALLY SIGNIFICANT T-TEST RESULTS AT THE
CHESTNUT RIDGE SEDIMENT DISPOSAL BASIN

PARAMETER	WELL	RESULT	COMPARISON	
			MEAN (4th quarter 1994)	MEAN (Base year)
Conductivity (μ mhos/cm)		No significant increases		
Total organic carbon (mg/L)	GW-156	Significantly greater than 1987 upgradient	2.400	1.000
	GW-731	Significantly greater than 1987 upgradient	1.350	1.000
	GW-732	Significantly greater than 1987 upgradient	1.200	1.000
Total organic halide (μ g/L)		No significant increases		
pH (pH unit)	GW-156	Significantly less than 1986 upgradient	7.500	9.206

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
CONDUCTIVITY (UMHOS/CM)
BY WELL - 1986 VS 4TH QUARTER 1994
C.R. SEDIMENT DISP.

----- U_D=DOWNGRADIENT -----

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-155	16	0	251.813	.	142.429	.	.	.	
GW-156	16	4	809.188	635.750	56848.563	51.583	-1.425	2.552	NO SIGNIF. INC.
GW-157	16	0	448.250	.	2680.600	.	.	.	
GW-731	0	4	.	250.750	.	86.917	.	.	
GW-732	0	4	.	273.750	.	1.583	.	.	

----- U_D=UPGRADIENT -----

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-159	16	4	929.938	355.250	1021079.66	1.583	-1.114	2.552	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
CONDUCTIVITY (UMHOS/CM)
DOWNGRADIENT, 4TH QUARTER 1994 VS UPGRADIENT, 1986
C.R. SEDIMENT DISP.

WELL IDENTITY	N 'UP' 1986	N, 1994	MEAN, 'UP' 1986	MEAN, 1994	VARIANCE, 'UP' 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-156	16	4	929.938	635.750	1021079.66	51.583	-0.571	2.552	NO SIGNIF. INC.
GW-731	16	4	929.938	250.750	1021079.66	86.917	-1.317	2.552	NO SIGNIF. INC.
GW-732	16	4	929.938	273.750	1021079.66	1.583	-1.273	2.552	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC CARBON (MG/L)
BY WELL - 1987 VS 4TH QUARTER 1994
C.R. SEDIMENT DISP.

----- U_D=DOWNGRADIENT -----

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-155	12	0	1.217	.	0.362	.	.	.	
GW-156	12	4	2.083	2.400	1.587	0.507	0.471	2.624	NO SIGNIF. INC.
GW-157	12	0	3.425	.	2.646	.	.	.	
GW-731	0	4	.	1.350	.	0.123	.	.	
GW-732	0	4	.	1.200	.	0.020	.	.	

----- U_D=UPGRADIENT -----

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-159	12	4	1.000	1.000	0.000	0.000	.	2.624	

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC CARBON (MG/L)
DOWNGRADIENT, 4TH QUARTER 1994 VS UPGRADIENT, 1987
C.R. SEDIMENT DISP.

WELL IDENTITY	N 'UP' 1987	N, 1994	MEAN, 'UP' 1987	MEAN, 1994	VARIANCE, 'UP' 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-156	12	4	1.000	2.400	0.000	0.507	7.359	2.624	**SIGNIF. INC.**
GW-731	12	4	1.000	1.350	0.000	0.123	3.729	2.624	**SIGNIF. INC.**
GW-732	12	4	1.000	1.200	0.000	0.020	5.292	2.624	**SIGNIF. INC.**

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC HALIDE (UG/L)
BY WELL - 1987 VS 4TH QUARTER 1994
C.R. SEDIMENT DISP.

U_D=DOWNGRADIENT

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-155	4	0	17.500	.	91.667	.	.	.	
GW-156	4	4	25.000	10.000	900.000	0.000	-1.000	3.143	NO SIGNIF. INC.
GW-157	4	0	18.250	.	92.250	.	.	.	
GW-731	0	4	.	10.000	.	0.000	.	.	
GW-732	0	4	.	10.000	.	0.000	.	.	

U_D=UPGRADIENT

WELL IDENTITY	N, 1987	N, 1994	MEAN, 1987	MEAN, 1994	VARIANCE, 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-159	4	4	22.750	10.000	584.917	0.000	-1.054	3.143	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
ONE-TAILED T-TEST TO TEST FOR SIGNIFICANT INCREASE IN MEAN
TOTAL ORGANIC HALIDE (UG/L)
DOWNGRADIENT, 4TH QUARTER 1994 VS UPGRADIENT, 1987
C.R. SEDIMENT DISP.

WELL IDENTITY	N 'UP' 1987	N, 1994	MEAN, 'UP' 1987	MEAN, 1994	VARIANCE, 'UP' 1987	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-156	4	4	22.750	10.000	584.917	0.000	-1.054	3.143	NO SIGNIF. INC.
GW-731	4	4	22.750	10.000	584.917	0.000	-1.054	3.143	NO SIGNIF. INC.
GW-732	4	4	22.750	10.000	584.917	0.000	-1.054	3.143	NO SIGNIF. INC.

SEMIANNUAL Y-12 RCRA REPORT
TWO-TAILED T-TEST TO TEST FOR SIGNIFICANT DIFFERENCE IN
MEAN PH
BY WELL - 1986 VS 4TH QUARTER 1994
C.R. SEDIMENT DISP.

U_D=DOWNGRADIENT

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-155	16	0	7.825	.	0.059	.	.	.	
GW-156	16	4	8.125	7.500	0.377	0.000	-1.996	2.878	NO SIGNIF. DIFF.
GW-157	16	0	7.725	.	0.046	.	.	.	
GW-731	0	4	.	9.100	.	0.013	.	.	
GW-732	0	4	.	8.775	.	0.002	.	.	

U_D=UPGRADIENT

WELL IDENTITY	N, 1986	N, 1994	MEAN, 1986	MEAN, 1994	VARIANCE, 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-159	16	4	9.206	7.775	1.171	0.003	-2.591	2.878	NO SIGNIF. DIFF.

SEMIANNUAL Y-12 RCRA REPORT
TWO-TAILED T-TEST TO TEST FOR SIGNIFICANT DIFFERENCE IN
MEAN PH
DOWNGRADIENT, 4TH QUARTER 1994 VS UPGRADIENT, 1986
C.R. SEDIMENT DISP.

WELL IDENTITY	N 'UP' 1986	N, 1994	MEAN, 'UP' 1986	MEAN, 1994	VARIANCE, 'UP' 1986	VARIANCE, 1994	T-STATISTIC	T-CRITICAL	T-TEST RESULT
GW-156	16	4	9.206	7.500	1.171	0.000	-3.089	2.878	**SIGNIF. DEC.**
GW-731	16	4	9.206	9.100	1.171	0.013	-0.192	2.878	NO SIGNIF. DIFF.
GW-732	16	4	9.206	8.775	1.171	0.002	-0.781	2.878	NO SIGNIF. DIFF.

APPENDIX C

Alternative Statistical Determinations for the Chestnut Ridge Sediment Disposal Basin for CY 1994

**SUMMARY OF COMPARISONS TO TOLERANCE LIMITS AT THE CHESTNUT
RIDGE SEDIMENT DISPOSAL BASIN, FIRST 180-DAY PERIOD FOR CY 1994**

PARAMETER	WELL	RESULT	COMPARISON	
			RESULT	TOLERANCE LIMIT
Barium (mg/L)		No result exceeds tolerance limit		0.2207
Uranium (mg/L)		No result exceeds tolerance limit		0.009
Chromium (mg/L)		No result exceeds tolerance limit		0.038
Mercury (mg/L)		No result exceeds tolerance limit		0.0004
Nickel (mg/L)		No result exceeds tolerance limit		0.076
Silver (mg/L)		No result exceeds tolerance limit		0.045
Cadmium (mg/L)		No result exceeds tolerance limit		0.0061
Lead (mg/L)		No result exceeds tolerance limit		0.19

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WELL IDENTITY	BARIUM ICAP (MG/L)	DATE SAMPLED	COMMENT
GW-156	0.02	02/12/94	DOESN'T EXCEED TOLERANCE LIMIT (0.2207 MG/L)
GW-156	0.032	04/07/94	DOESN'T EXCEED TOLERANCE LIMIT (0.2207 MG/L)
GW-159	0.013	02/10/94	DOESN'T EXCEED TOLERANCE LIMIT (0.2207 MG/L)
GW-159	0.012	04/04/94	DOESN'T EXCEED TOLERANCE LIMIT (0.2207 MG/L)
GW-731	0.0064	02/11/94	DOESN'T EXCEED TOLERANCE LIMIT (0.2207 MG/L)
GW-731	0.0042	04/04/94	DOESN'T EXCEED TOLERANCE LIMIT (0.2207 MG/L)
GW-732	0.019	02/12/94	DOESN'T EXCEED TOLERANCE LIMIT (0.2207 MG/L)
GW-732	0.021	04/06/94	DOESN'T EXCEED TOLERANCE LIMIT (0.2207 MG/L)

WELL IDENTITY	URANIUM FLUORIMETRIC (MG/L)	DATE SAMPLED	COMMENT
GW-156	0.002	02/12/94	DOESN'T EXCEED TOLERANCE LIMIT (0.009 MG/L)
GW-156	0.005	04/07/94	DOESN'T EXCEED TOLERANCE LIMIT (0.009 MG/L)
GW-159	0.001	02/10/94	DOESN'T EXCEED TOLERANCE LIMIT (0.009 MG/L)
GW-159	<0.001	04/04/94	DOESN'T EXCEED TOLERANCE LIMIT (0.009 MG/L)
GW-731	<0.001	02/11/94	DOESN'T EXCEED TOLERANCE LIMIT (0.009 MG/L)
GW-731	<0.001	04/04/94	DOESN'T EXCEED TOLERANCE LIMIT (0.009 MG/L)
GW-732	0.002	02/12/94	DOESN'T EXCEED TOLERANCE LIMIT (0.009 MG/L)
GW-732	<0.001	04/06/94	DOESN'T EXCEED TOLERANCE LIMIT (0.009 MG/L)

WELL IDENTITY	CHROMIUM AAS (MG/L)	DATE SAMPLED	COMMENT
GW-156	<0.01	02/12/94	DOESN'T EXCEED TOLERANCE LIMIT (0.038 MG/L)
GW-156	<0.01	04/07/94	DOESN'T EXCEED TOLERANCE LIMIT (0.038 MG/L)
GW-159	<0.01	02/10/94	DOESN'T EXCEED TOLERANCE LIMIT (0.038 MG/L)
GW-159	<0.01	04/04/94	DOESN'T EXCEED TOLERANCE LIMIT (0.038 MG/L)
GW-731	<0.01	02/11/94	DOESN'T EXCEED TOLERANCE LIMIT (0.038 MG/L)
GW-731	<0.01	04/04/94	DOESN'T EXCEED TOLERANCE LIMIT (0.038 MG/L)
GW-732	<0.01	02/12/94	DOESN'T EXCEED TOLERANCE LIMIT (0.038 MG/L)
GW-732	<0.01	04/06/94	DOESN'T EXCEED TOLERANCE LIMIT (0.038 MG/L)

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WELL IDENTITY	MERCURY CVAA (MG/L)	DATE SAMPLED	COMMENT
GW-156	<0.0002	02/12/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0004 MG/L)
GW-156	<0.0002	04/07/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0004 MG/L)
GW-159	<0.0002	02/10/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0004 MG/L)
GW-159	<0.0002	04/04/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0004 MG/L)
GW-731	<0.0002	02/11/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0004 MG/L)
GW-731	<0.0002	04/04/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0004 MG/L)
GW-732	<0.0002	02/12/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0004 MG/L)
GW-732	<0.0002	04/06/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0004 MG/L)

WELL IDENTITY	NICKEL ICAP (MG/L)	DATE SAMPLED	COMMENT
GW-156	<0.01	02/12/94	DOESN'T EXCEED TOLERANCE LIMIT (0.076 MG/L)
GW-156	<0.01	04/07/94	DOESN'T EXCEED TOLERANCE LIMIT (0.076 MG/L)
GW-159	<0.01	02/10/94	DOESN'T EXCEED TOLERANCE LIMIT (0.076 MG/L)
GW-159	<0.01	04/04/94	DOESN'T EXCEED TOLERANCE LIMIT (0.076 MG/L)
GW-731	<0.01	02/11/94	DOESN'T EXCEED TOLERANCE LIMIT (0.076 MG/L)
GW-731	<0.01	04/04/94	DOESN'T EXCEED TOLERANCE LIMIT (0.076 MG/L)
GW-732	<0.01	02/12/94	DOESN'T EXCEED TOLERANCE LIMIT (0.076 MG/L)
GW-732	<0.01	04/06/94	DOESN'T EXCEED TOLERANCE LIMIT (0.076 MG/L)

WELL IDENTITY	SILVER ICAP (MG/L)	DATE SAMPLED	COMMENT
GW-156	<0.006	02/12/94	DOESN'T EXCEED TOLERANCE LIMIT (0.045 MG/L)
GW-156	<0.006	04/07/94	DOESN'T EXCEED TOLERANCE LIMIT (0.045 MG/L)
GW-159	<0.006	02/10/94	DOESN'T EXCEED TOLERANCE LIMIT (0.045 MG/L)
GW-159	<0.006	04/04/94	DOESN'T EXCEED TOLERANCE LIMIT (0.045 MG/L)
GW-731	<0.006	02/11/94	DOESN'T EXCEED TOLERANCE LIMIT (0.045 MG/L)
GW-731	<0.006	04/04/94	DOESN'T EXCEED TOLERANCE LIMIT (0.045 MG/L)
GW-732	<0.006	02/12/94	DOESN'T EXCEED TOLERANCE LIMIT (0.045 MG/L)
GW-732	<0.006	04/06/94	DOESN'T EXCEED TOLERANCE LIMIT (0.045 MG/L)

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WELL IDENTITY	CADMIUM AAS (MG/L)	DATE SAMPLED	COMMENT
GW-156	<0.002	02/12/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0061 MG/L)
GW-156	<0.002	04/07/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0061 MG/L)
GW-159	<0.002	02/10/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0061 MG/L)
GW-159	<0.002	04/04/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0061 MG/L)
GW-731	<0.002	02/11/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0061 MG/L)
GW-731	<0.002	04/04/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0061 MG/L)
GW-732	<0.002	02/12/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0061 MG/L)
GW-732	<0.002	04/06/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0061 MG/L)

WELL IDENTITY	LEAD AAS (MG/L)	DATE SAMPLED	COMMENT
GW-156	<0.004	02/12/94	DOESN'T EXCEED TOLERANCE LIMIT (0.19 MG/L)
GW-156	<0.004	04/07/94	DOESN'T EXCEED TOLERANCE LIMIT (0.19 MG/L)
GW-159	<0.004	02/10/94	DOESN'T EXCEED TOLERANCE LIMIT (0.19 MG/L)
GW-159	<0.004	04/04/94	DOESN'T EXCEED TOLERANCE LIMIT (0.19 MG/L)
GW-731	<0.004	02/11/94	DOESN'T EXCEED TOLERANCE LIMIT (0.19 MG/L)
GW-731	<0.004	04/04/94	DOESN'T EXCEED TOLERANCE LIMIT (0.19 MG/L)
GW-732	<0.004	02/12/94	DOESN'T EXCEED TOLERANCE LIMIT (0.19 MG/L)
GW-732	<0.004	04/06/94	DOESN'T EXCEED TOLERANCE LIMIT (0.19 MG/L)

**SUMMARY OF COMPARISONS TO TOLERANCE LIMITS AT THE CHESTNUT
RIDGE SEDIMENT DISPOSAL BASIN, SECOND 180-DAY PERIOD FOR CY 1994**

PARAMETER	WELL	RESULT	COMPARISON	
			RESULT	TOLERANCE LIMIT
Barium (mg/L)		No result exceeds tolerance limit		0.2207
Uranium (mg/L)		No result exceeds tolerance limit		0.009
Chromium (mg/L)		No result exceeds tolerance limit		0.038
Mercury (mg/L)		No result exceeds tolerance limit		0.0004
Nickel (mg/L)		No result exceeds tolerance limit		0.076
Silver (mg/L)		No result exceeds tolerance limit		0.045
Cadmium (mg/L)		No result exceeds tolerance limit		0.0061
Lead (mg/L)		No result exceeds tolerance limit		0.19

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WELL IDENTITY	BARIUM ICAP (MG/L)	DATE SAMPLED	COMMENT
GW-156	0.03	07/09/94	DOESN'T EXCEED TOLERANCE LIMIT (0.2207 MG/L)
GW-731	0.0035	07/09/94	DOESN'T EXCEED TOLERANCE LIMIT (0.2207 MG/L)
GW-732	0.061	07/09/94	DOESN'T EXCEED TOLERANCE LIMIT (0.2207 MG/L)
GW-159	0.012	07/08/94	DOESN'T EXCEED TOLERANCE LIMIT (0.2207 MG/L)
GW-159	0.011	10/17/94	DOESN'T EXCEED TOLERANCE LIMIT (0.2207 MG/L)
GW-731	0.0066	10/18/94	DOESN'T EXCEED TOLERANCE LIMIT (0.2207 MG/L)
GW-732	0.08	10/19/94	DOESN'T EXCEED TOLERANCE LIMIT (0.2207 MG/L)
GW-156	0.024	10/20/94	DOESN'T EXCEED TOLERANCE LIMIT (0.2207 MG/L)

WELL IDENTITY	URANIUM FLUOROMETRIC (MG/L)	DATE SAMPLED	COMMENT
GW-156	0.007	07/09/94	DOESN'T EXCEED TOLERANCE LIMIT (0.009 MG/L)
GW-731	0.004	07/09/94	DOESN'T EXCEED TOLERANCE LIMIT (0.009 MG/L)
GW-732	0.005	07/09/94	DOESN'T EXCEED TOLERANCE LIMIT (0.009 MG/L)
GW-159	0.001	07/08/94	DOESN'T EXCEED TOLERANCE LIMIT (0.009 MG/L)
GW-159	<0.015	10/17/94	NO COMPARISON POSSIBLE
GW-731	<0.015	10/18/94	NO COMPARISON POSSIBLE
GW-732	<0.015	10/19/94	NO COMPARISON POSSIBLE
GW-156	<0.015	10/20/94	NO COMPARISON POSSIBLE

WELL IDENTITY	CHROMIUM AAS (MG/L)	DATE SAMPLED	COMMENT
GW-156	<0.01	07/09/94	DOESN'T EXCEED TOLERANCE LIMIT (0.038 MG/L)
GW-731	<0.01	07/09/94	DOESN'T EXCEED TOLERANCE LIMIT (0.038 MG/L)
GW-732	<0.01	07/09/94	DOESN'T EXCEED TOLERANCE LIMIT (0.038 MG/L)
GW-159	<0.01	07/08/94	DOESN'T EXCEED TOLERANCE LIMIT (0.038 MG/L)
GW-159	<0.01	10/17/94	DOESN'T EXCEED TOLERANCE LIMIT (0.038 MG/L)
GW-731	<0.01	10/18/94	DOESN'T EXCEED TOLERANCE LIMIT (0.038 MG/L)
GW-732	<0.01	10/19/94	DOESN'T EXCEED TOLERANCE LIMIT (0.038 MG/L)
GW-156	<0.01	10/20/94	DOESN'T EXCEED TOLERANCE LIMIT (0.038 MG/L)

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WELL IDENTITY	MERCURY CVAA (MG/L)	DATE SAMPLED	COMMENT
GW-156	<0.0002	07/09/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0004 MG/L)
GW-731	<0.0002	07/09/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0004 MG/L)
GW-732	<0.0002	07/09/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0004 MG/L)
GW-159	<0.0002	07/08/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0004 MG/L)
GW-159	<0.0002	10/17/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0004 MG/L)
GW-731	<0.0002	10/18/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0004 MG/L)
GW-732	<0.0002	10/19/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0004 MG/L)
GW-156	<0.0002	10/20/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0004 MG/L)

WELL IDENTITY	NICKEL ICAP (MG/L)	DATE SAMPLED	COMMENT
GW-156	<0.01	07/09/94	DOESN'T EXCEED TOLERANCE LIMIT (0.076 MG/L)
GW-731	<0.01	07/09/94	DOESN'T EXCEED TOLERANCE LIMIT (0.076 MG/L)
GW-732	<0.01	07/09/94	DOESN'T EXCEED TOLERANCE LIMIT (0.076 MG/L)
GW-159	<0.01	07/08/94	DOESN'T EXCEED TOLERANCE LIMIT (0.076 MG/L)
GW-159	<0.01	10/17/94	DOESN'T EXCEED TOLERANCE LIMIT (0.076 MG/L)
GW-731	<0.01	10/18/94	DOESN'T EXCEED TOLERANCE LIMIT (0.076 MG/L)
GW-732	<0.01	10/19/94	DOESN'T EXCEED TOLERANCE LIMIT (0.076 MG/L)
GW-156	<0.01	10/20/94	DOESN'T EXCEED TOLERANCE LIMIT (0.076 MG/L)

WELL IDENTITY	SILVER ICAP (MG/L)	DATE SAMPLED	COMMENT
GW-156	<0.006	07/09/94	DOESN'T EXCEED TOLERANCE LIMIT (0.045 MG/L)
GW-731	<0.006	07/09/94	DOESN'T EXCEED TOLERANCE LIMIT (0.045 MG/L)
GW-732	<0.006	07/09/94	DOESN'T EXCEED TOLERANCE LIMIT (0.045 MG/L)
GW-159	<0.006	07/08/94	DOESN'T EXCEED TOLERANCE LIMIT (0.045 MG/L)
GW-159	0.0064	10/17/94	DOESN'T EXCEED TOLERANCE LIMIT (0.045 MG/L)
GW-731	<0.006	10/18/94	DOESN'T EXCEED TOLERANCE LIMIT (0.045 MG/L)
GW-732	<0.006	10/19/94	DOESN'T EXCEED TOLERANCE LIMIT (0.045 MG/L)
GW-156	<0.006	10/20/94	DOESN'T EXCEED TOLERANCE LIMIT (0.045 MG/L)

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WELL IDENTITY	CADMIUM AAS (MG/L)	DATE SAMPLED	COMMENT
GW-156	<0.002	07/09/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0061 MG/L)
GW-731	<0.002	07/09/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0061 MG/L)
GW-732	<0.002	07/09/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0061 MG/L)
GW-159	<0.002	07/08/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0061 MG/L)
GW-159	<0.002	10/17/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0061 MG/L)
GW-731	<0.002	10/18/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0061 MG/L)
GW-732	<0.002	10/19/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0061 MG/L)
GW-156	<0.002	10/20/94	DOESN'T EXCEED TOLERANCE LIMIT (0.0061 MG/L)

WELL IDENTITY	LEAD AAS (MG/L)	DATE SAMPLED	COMMENT
GW-156	<0.004	07/09/94	DOESN'T EXCEED TOLERANCE LIMIT (0.19 MG/L)
GW-731	<0.004	07/09/94	DOESN'T EXCEED TOLERANCE LIMIT (0.19 MG/L)
GW-732	0.013	07/09/94	DOESN'T EXCEED TOLERANCE LIMIT (0.19 MG/L)
GW-159	<0.004	07/08/94	DOESN'T EXCEED TOLERANCE LIMIT (0.19 MG/L)
GW-159	<0.004	10/17/94	DOESN'T EXCEED TOLERANCE LIMIT (0.19 MG/L)
GW-731	<0.004	10/18/94	DOESN'T EXCEED TOLERANCE LIMIT (0.19 MG/L)
GW-732	0.019	10/19/94	DOESN'T EXCEED TOLERANCE LIMIT (0.19 MG/L)
GW-156	<0.004	10/20/94	DOESN'T EXCEED TOLERANCE LIMIT (0.19 MG/L)

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