1 of 5

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CALENDAR YEAR 1993 GROUNDWATER QUALITY REPORT
FOR THE
CHESTNUT RIDGE HYDROGEOLOGIC REGIME,
Y-12 PLANT, OAK RIDGE, TENNESSEE

1993 Groundwater Quality Data
and Calculated Rate of
Contaminant Migration

February 1994

Prepared by

HSW ENVIRONMENTAL CONSULTANTS, INC.
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for

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Health, Safety, Environment, and Accountability Organization
Oak Ridge Y-12 Plant
Oak Ridge, Tennessee 37831

Managed by

MARTIN MARIETTA ENERGY SYSTEMS, INC.
for the U.S. Department of Energy
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TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1.0 INTRODUCTION	1-1
2.0 BACKGROUND INFORMATION	2-1
2.1 CERCLA Operable Units	2-1
2.1.1 Chestnut Ridge Security Pits	2-2
2.1.2 Ash Disposal Basin	2-3
2.1.3 United Nuclear Corporation Site	2-4
2.1.4 Rogers Quarry	2-5
2.2 RCRA Treatment, Storage, or Disposal Facilities	2-5
2.2.2 Chestnut Ridge Sediment Disposal Basin	2-6
2.2.3 Kerr Hollow Quarry	2-6
2.2.3 East Chestnut Ridge Waste Pile	2-7
2.3 Solid Waste Disposal Facilities	2-7
2.3.1 Industrial Landfill II	2-8
2.3.2 Industrial Landfill III	2-8
2.3.3 Industrial Landfill IV	2-9
2.3.4 Construction Debris Landfill VI	2-9
2.3.5 Industrial Landfill V and Construction Debris Landfill VII	2-9
3.0 1993 GROUNDWATER PROTECTION PROGRAM	3-1
3.1 Sampling Locations	3-1
3.1.1 RCRA Assessment Monitoring	3-1
3.1.2 RCRA Detection Monitoring	3-1
3.1.3 SWDF Detection Monitoring	3-2
3.1.4 Best-Management Practice Monitoring	3-2
3.2 Sampling Frequency	3-2
3.3 Sample Collection	3-3
3.4 Quality Assurance/Quality Control Sampling	3-3
3.5 Laboratory Analysis	3-4
3.6 Data Management	3-5
3.7 Analytical Results	3-6
4.0 HYDROGEOLOGIC FRAMEWORK	4-1
4.1 Geology	4-1
4.2 Groundwater System	4-3
4.2.1 Stormflow Zone	4-3
4.2.2 Vadose Zone	4-4
4.2.3 Groundwater Zone	4-5
4.2.3.1 Water-Table Interval	4-5
4.2.3.2 Intermediate Interval	4-6
4.2.3.3 Deep Interval	4-7
4.2.4 Aquiclude	4-7

TABLE OF CONTENTS (cont'd)

<u>Section</u>	<u>Page</u>
4.3 Groundwater Flow Directions	4-8
4.4 Rate of Contaminant Migration	4-8
4.4.1 Residuum	4-9
4.4.2 Bedrock	4-10
5.0 REFERENCES	5-1

Appendices

A	Figures
B	Tables
C	Monitoring-Well Construction Details
D	Sampling Sequence
E	Groundwater Quality Data
F	Field Duplicate Data
G	Ion-Charge Balance Calculations
H	Trace Metal Data Summary
I	QA/QC Data Summaries
J	Validated Results of Volatile Organic Compound Analyses
K	Radiochemical Data Summary
L	Groundwater Elevations

LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
1	Regional Location of the Y-12 Plant	A-1
2	Hydrogeologic Regimes at the Y-12 Plant	A-2
3	Waste-Management Sites and CERCLA Operable Units in the Chestnut Ridge Hydrogeologic Regime	A-3
4	Monitoring Wells Sampled During 1993	A-4
5	Topography and Bedrock Geology in the Chestnut Ridge Hydrogeologic Regime	A-5
6	Flow Systems in a Karst Aquifer	A-6
7	Schematic Profile of Hydrostratigraphic Units in the Chestnut Ridge Hydrogeologic Regime	A-7
8	Groundwater Elevations in the Chestnut Ridge Hydrogeologic Regime	A-8

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1	Waste-Management Sites and CERCLA Operable Units in the Chestnut Ridge Hydrogeologic Regime	B-1
2	Monitoring Wells Sampled During Calendar Year 1993	B-2
3	Construction Information for Monitoring Wells Sampled During 1993	B-9

ACRONYMS

ARAR	Appropriate, Relevant, and Applicable Requirement
BCV	Bear Creek Valley
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CY	Calendar Year
DOE	U.S. Department of Energy
EMD	Environmental Monitoring Database
EP	Extraction Procedure (Toxicity test)
EPA	U.S. Environmental Protection Agency
FFA	Federal Facility Agreement
GWPP	Groundwater Protection Program
ORNL	Oak Ridge National Laboratory
ORR	Oak Ridge Reservation
OU	Operable Unit
PCPA	Post-Closure Permit Application
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
RFI	RCRA Facility Investigation
ROD	Record of Decision
SWDF	Solid Waste Disposal Facility (non-RCRA)
SWMU	Solid Waste Management Unit (RCRA)
TDEC	Tennessee Department of Environment and Conservation
TSD	Treatment, Storage, and Disposal (Unit)
VOC	Volatile Organic Compound

1.0 INTRODUCTION

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

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

2.0 BACKGROUND INFORMATION

The Chestnut Ridge Regime is located south of the Y-12 Plant, and is flanked to the north by Bear Creek Valley (BCV) and to the south by Bethel Valley. The regime encompasses the portion of Chestnut Ridge extending from a gap in the ridge located southeast of the eastern end of the Y-12 Plant to a drainage basin on the ridge located southwest of the western end of the Y-12 Plant (Figure 2).

Groundwater quality monitoring during CY 1993 in the Chestnut Ridge Regime was performed at three classes of waste-management facilities:

- sites scheduled for investigation under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA);
- hazardous waste treatment, storage, and disposal (TSD) units subject to regulation under RCRA; and
- nonhazardous solid waste disposal facilities (SWDFs).

A brief description of each of the sites in the 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 January 1992, the DOE, the U.S. Environmental Protection Agency (EPA), and TDEC negotiated a Federal Facility Agreement (FFA) regarding environmental restoration at the ORR under CERCLA. This agreement changed the regulatory status of several RCRA TSD units and RCRA regulated solid waste management units (SWMUs) at the Y-12 Plant to CERCLA Operable Units (OUs). As such, the DOE appealed the applicability of RCRA post-closure care, corrective action, and groundwater monitoring requirements to CERCLA OUs.

In April 1993, the DOE, TDEC, and Martin Marietta Energy Systems, Inc. signed an Agreed Order for the S-3 Site RCRA post-closure permit, 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-management 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 1992).

The FFA established four source control OUs that lie within the Chestnut Ridge Regime (Table 1); one former RCRA TSD unit (the Chestnut Ridge Security Pits) and three former RCRA SWMUs (Ash Disposal Basin, United Nuclear Corporation Site, and Rogers Quarry). Because there was no evidence of intermingling contaminant plumes from these sites, no integrator OU was established for the Chestnut Ridge regime and groundwater and surface water are included in the RI/FS for each source control OU.

2.1.1 Chestnut Ridge Security Pits

The 1992 FFA designated the Chestnut Ridge Security Pits (Security Pits) as Chestnut Ridge OU 01. A RI work plan for this OU has been prepared and was submitted for review by the EPA (Region IV) and the TDEC in 1993 (U.S. Department of Energy 1993a). Located on the crest of Chestnut Ridge south of the central portion of the Y-12 Plant (Figure 3), the Security Pits were operated between 1973 and 1988. When in operation, the site was a series of trenches used for the disposal of hazardous and non-hazardous wastes. The disposal trenches were about 8 to 10 feet (ft) wide, 10 to 18 ft deep, and 700 to 800 ft long. Typically, several trenches were opened simultaneously to allow for the segregation of wastes in separate cells. Particularly

reactive materials were disposed in six auger holes, each about 2 ft in diameter and 10 ft deep, located at the eastern end of the site (Butz and Stoner 1983).

The Security Pits contain an estimated 3,950 tons of waste materials. Detailed waste inventories are classified, but an unclassified inventory listed ten major wastes types that included acids, fiberglass, beryllium, biological material, debris, heavy metals, inorganics, organics, thorium, and uranium (Martin Marietta Energy Systems, Inc. 1984).

Disposal of hazardous waste in the Security Pits ceased in December 1984 and disposal of nonhazardous waste ceased on November 8, 1988. A low-permeability cap was constructed over the disposal trenches in 1989 in accordance with a RCRA closure plan (Martin Marietta Energy Systems, Inc. 1988). Also in 1989, a RCRA Part B Post-Closure Permit Application (PCPA) for the Security Pits was initially submitted to the TDEC.

In April 1993, the TDEC issued a RCRA post-closure permit for the S-3 Site, a former RCRA TSD unit, and a current source control OU located in the Bear Creek Regime that contained details of the integrated RCRA/CERCLA requirements. Modifications to some technical aspects of the permit and the effective date of the permit are currently in progress. Upon completion of these negotiations, pertinent aspects of the PCPA for the Security Pits will be modified accordingly and a revised PCPA will be re-submitted to the TDEC.

Groundwater monitoring at the Security Pits has been in progress since the mid-1980s. Monitoring wells were installed at the site in 1985 and periodically sampled as part of a Y-12 Plant characterization monitoring program. This initial monitoring program confirmed the presence of groundwater contamination at the site, and in January 1987, was replaced by assessment monitoring performed in accordance with the RCRA regulations for interim status TSD facilities. In addition to monitoring in support of the RI, assessment monitoring at the Security Pits will be continued pending final administrative disposition of the PCPA for the site, whereupon permit-specified monitoring requirements will be implemented.

2.1.2 Ash Disposal Basin

The Ash Disposal Basin, also known as the Filled Coal Ash Pond, is located on the southern flank of Chestnut Ridge about one-half mile south of the Y-12 Plant (Figure 3). The basin was created in 1955 by the construction of an earthen dam across a northern tributary of

McCoy Branch. Fly-ash slurry from the Y-12 Steam Plant was pumped into the Ash Disposal Basin until it was filled in July 1967 (Battelle Columbus Division 1988). Since then, the fly-ash slurry by-passed the Ash Disposal Basin through an emergency spillway on the eastern abutment and discharged directly into McCoy Branch, which was diverted to direct the slurry into Rogers Quarry (King *et al.* 1989). Ash disposal ceased in July 1993 per agreement with the TDEC.

Groundwater quality monitoring at the Ash Disposal Basin began in 1986 with the installation of several monitoring wells that were sampled as part of the Y-12 Plant characterization monitoring program. In 1987, the Ash Disposal Basin was identified as a RCRA SWMU (Welch *et al.* 1987), and wells at the site were subsequently sampled for the purposes of a site-specific RCRA Facility Investigation (RFI). In 1990, RFI monitoring activities at the site were incorporated into the Security Pits quarterly RCRA assessment monitoring schedule, as recommended in the *Comprehensive Groundwater Monitoring Plan for the Department of Energy Y-12 Plant* (Geraghty & Miller, Inc. 1990a).

The FFA designated the Ash Disposal Basin as Chestnut Ridge OU2. The RI work plan for this OU (U.S. Department of Energy 1993b) has been approved by the EPA and TDEC. Field activities for the RI were completed in June 1993 and included one round of groundwater sampling from wells at the site. Preparation of the RI report is in progress.

2.1.3 United Nuclear Corporation Site

The United Nuclear Corporation Site lies on the crest of Chestnut Ridge southeast of the west end of the Y-12 Plant (Figure 3). The site was a landfill used for disposal of nitrate-contaminated, low-level radioactive wastes and contaminated equipment packaged in 55-gallon drums and in boxes (Smith *et al.* 1983). Excavated to a depth of about 32 ft, the site contains approximately 30,000 barrels of waste; disposal activities ceased in 1984 (Grutzeck 1987). The site was capped and closed in 1992 in accordance with an approved CERCLA Record of Decision (ROD) and a RCRA closure plan (U.S. Department of Energy 1991; Martin Marietta Energy Systems, Inc. 1989).

The history of groundwater monitoring at the United Nuclear Corporation Site is very similar to that of the Ash Disposal Basin. Characterization monitoring at the site started in 1985 and continued until 1988, when monitoring in support of an RFI was initiated. In 1990,

monitoring wells at the site were incorporated into the ongoing quarterly assessment monitoring program for the Security Pits. Quarterly monitoring at the site in accordance with the ROD has continued since closure of the site under the management of the Y-12 Plant Environmental Restoration Surveillance and Maintenance Program (Martin Marietta Energy Systems, Inc. 1992).

2.1.4 Rogers Quarry

Rogers Quarry is located in the southwest portion of the Chestnut Ridge Regime about three miles west of Kerr Hollow Quarry (Figure 3). The quarry was used from the 1940s through the late-1950s as a source of stone-construction material, and was abandoned in the early 1960s when it filled with water. Until July 1993, the site received fly-ash slurry from the Y-12 Steam Plant that was discharged into McCoy Branch (King *et al.* 1989); disposal of fly ash in Rogers Quarry ceased as per an agreement with the TDEC.

The groundwater monitoring history for Rogers Quarry is like that for the Ash disposal Basin and the United Nuclear Corporation Site. Wells were installed at the site in 1985 and sampled as part of the Y-12 Plant characterization monitoring program. Although identified as a RCRA SWMU in 1987 (Welch *et al.* 1987), an RFI was not initiated at Rogers Quarry and groundwater monitoring since 1987 has been continued as a best-management practice of the Y-12 Plant GWPP. Monitoring results have not indicated groundwater contamination at the site.

The FFA designated Rogers Quarry as Chestnut Ridge OU4 (Table 1). An RI work plan for this OU was submitted for review by the EPA and TDEC in 1993 (U.S. Department of Energy 1993c).

2.2 RCRA Treatment, Storage, or Disposal Facilities

There are three RCRA regulated hazardous waste TSD facilities in the Chestnut Ridge Regime (Table 1): the Chestnut Ridge Sediment Disposal Basin (Sediment Disposal Basin), Kerr Hollow Quarry, and the East Chestnut Ridge Waste Pile. The Sediment Disposal Basin and Kerr Hollow Quarry are closed facilities granted RCRA interim status in 1986. The East Chestnut Ridge Waste Pile is a storage facility built and operated in accordance with an operating RCRA permit issued by the TDEC in 1987.

2.2.2 Chestnut Ridge Sediment Disposal Basin

The Sediment Disposal Basin is southeast of the east end of the Y-12 Plant (Figure 3). Beginning in 1973, the site received soil and sediment that was periodically dredged from New Hope Pond, a closed surface impoundment located at the east end of the Y-12 Plant. These soils and sediments contained polychlorinated biphenyls, mercury, and uranium. Between November 1987 and April 1988, the Sediment Disposal Basin also received mercury-contaminated soils from several locations in the Y-12 Plant. Results of Extraction Procedure (EP) Toxicity analyses showed that the soils did not exhibit the characteristics of a hazardous waste (Saunders 1983; Kimbrough and McMahon 1988a and 1988b). In 1989, the Sediment Disposal Basin was closed in accordance with a TDEC-approved RCRA closure plan. A RCRA Part-B PCPA is being prepared for the site and is scheduled for submittal to the TDEC by September 1994.

Detection monitoring in accordance with RCRA interim status requirements has been in progress at the Sediment Disposal Basin since 1987. No evidence of groundwater contamination has been detected. The ongoing detection monitoring program, or a modified compliance monitoring program, is expected to be continued after a RCRA Part B post-closure permit is issued for the site.

2.2.3 Kerr Hollow Quarry

The Kerr Hollow Quarry is located near the south-central portion of the Chestnut Ridge Regime (Figure 3) and was a source of stone construction material in the 1940s until it filled with water and was abandoned. From the early-1950s until November 1988, Kerr Hollow Quarry was used for the disposal of reactive materials from the Y-12 Plant and the Oak Ridge National Laboratory (ORNL).

Between 1989 and 1993, waste materials were removed from the quarry in an effort to obtain certified clean-closure status from the TDEC. These efforts were discontinued in 1993 and the site was closed with some of the wastes in place. Because clean closure of the site was not achieved, a RCRA Part-B PCPA for the site is being prepared and is scheduled for submittal to the TDEC by June 1995.

Detection monitoring in accordance with RCRA interim status requirements has been in progress at the Kerr Hollow Quarry since 1988. The monitoring data have not indicated groundwater contamination at the site. When issued by the TDEC, the post-closure permit for the site is expected to require groundwater monitoring under a RCRA compliance monitoring program.

2.2.3 East Chestnut Ridge Waste Pile

The East Chestnut Ridge Waste Piles a lined, hazardous waste management facility constructed in 1987 as a storage site for contaminated soils from the Y-12 Plant. The site is located in the western portion of the Chestnut Ridge Regime near the Sediment Disposal Basin (Figure 3).

As a lined facility, the East Chestnut Ridge Waste Pile is exempt from groundwater monitoring requirements under RCRA. Nevertheless, groundwater quality monitoring has been performed at the site since 1987 as a best-management practice of the Y-12 Plant GWPP.

2.3 Solid Waste Disposal Facilities

There are six nonhazardous waste landfills in the Chestnut Ridge Regime (Table 1); five TDEC-permitted SWDFs (Industrial Landfills II, IV, and V, and Construction Debris Landfills VI and VII) and one temporary storage facility (Industrial Landfill III). The five permitted landfills are classified as either Class II or Class IV facilities, as defined in the most recent (December 1993) *Rules of the Tennessee Department of Environment and Conservation, Division of Solid Waste Management, Chapter 1200-1-7, Solid Waste Processing and Disposal*.

Groundwater quality monitoring at each of the SWDFs in the Chestnut Ridge Regime is performed in accordance with the requirements for detection monitoring contained in paragraph 1200-1-7.02(7) of the TDEC solid waste regulations. Detection monitoring at some of the permitted SWDFs includes site-specific requirements (i.e., additional analytical parameters) specified in the operating permit for the site, as requested by the TDEC, or performed as a best-management practice of the Y-12 Plant GWPP.

Detection monitoring was initiated at Industrial Landfill II in 1982, at Industrial Landfill III in 1986, and at Industrial Landfill IV in 1987. Construction Debris Landfills VI and VII and Industrial Landfill V are newly permitted facilities. As required under the TDEC solid waste regulations and permit requirements, quarterly sampling to establish background water-quality conditions for detection monitoring purposes was initiated in May 1993 at Construction Debris Landfills VI and VII, and Industrial Landfill V. Background monitoring protocols will be modified in early-1994 to comply with recent amendments to TDEC Rule 1200-1-7-.04(7), effective January 1, 1994.

2.3.1 Industrial Landfill II

Industrial Landfill II, also known as the Y-12 Plant Centralized Sanitary Landfill II, is a Class II SWDF located near the western end of the Chestnut Ridge Regime (Figure 3). The landfill is used for disposal of combustible and decomposable solid waste and construction spoil material from the Y-12 Plant, the Oak Ridge K-25 Site, ORNL, and DOE prime contractors in Oak Ridge. These wastes include scrap metal, glass, paper products, plastics, wood, organic garbage, textile products, asphalt roofing materials, and special wastes such as asbestos and beryllium oxide.

2.3.2 Industrial Landfill III

Industrial Landfill III, also known as the Chestnut Ridge Borrow Area Waste Pile, is a closed facility located near the eastern end of the Chestnut Ridge Regime (Figure 3). The site is not actually a landfill but a temporary storage area for contaminated soils removed from the Oak Ridge Civic Center properties and the Oak Ridge Sewer Line Beltway. Soils in both areas contained mercury and other metals (and possibly some organic compounds) believed to have originated from the Y-12 Plant. Results of EP Toxicity analyses indicated that the soils do not exhibit the toxicity characteristic of a hazardous waste. A soil-sampling plan designed to determine if the soils are toxic hazardous wastes based on results of the Toxicity Characteristic Leaching Procedure was submitted to the TDEC for review in September 1992 (Science Applications International Corporation 1992).

Industrial landfill III is approximately 70 ft wide, 10 to 12 ft deep, and 200 ft long. The bottom and walls of the pit are lined with polyvinyl chloride and the bottom is sloped to facilitate drainage. Perimeter channels divert surface runoff and a plastic liner on top of the pile restricts infiltration. Approximately 3,000 cubic yards of soil are now stored at the facility.

2.3.3 Industrial Landfill IV

Industrial Landfill IV is a Class II SWDF located near the west end of the Chestnut Ridge Regime (Figure 3). This site has been operated since 1989 for disposal of non-hazardous, non-radioactive industrial wastes. Wastes disposed at the site include cardboard, plastics, rubber, scrap metal, wood, paper, and special wastes. Based on current waste volumes, the site is expected to receive approximately 12,000 cubic feet of waste per year.

2.3.4 Construction Debris Landfill VI

Construction Debris Landfill VI (formerly the Industrial Landfill II Expansion) is a new Class IV SWDF constructed in 1993. Located adjacent to Industrial Landfill II (Figure 3), the TDEC issued an operating permit for the site on October 26, 1993. Waste disposal at the site is expected to begin in April 1994.

2.3.5 Industrial Landfill V and Construction Debris Landfill VII

Industrial Landfill V and Construction Debris Landfill VII are new Class II and Class IV SWDFs, respectively, located adjacent to each other in the south-central part of the Chestnut Ridge Regime (Figure 3). Both sites are collectively known as the "Steam Plant Ash Disposal Landfill". Operating permits for each site were issued by the TDEC on April 26, 1993 and construction of each site is scheduled for completion in April 1994.

3.0 1993 GROUNDWATER PROTECTION PROGRAM

The following sections describe the groundwater sampling activities performed during CY 1993 in the Chestnut Ridge Regime under the lead of the Y-12 Plant GWPP. Included are details regarding the groundwater sampling locations, frequency, and procedures, analytical parameters, quality assurance/quality control (QA/QC) sampling, and data management.

3.1 Sampling Locations

Groundwater monitoring during 1993 involved the collection of groundwater samples from 75 monitoring wells (Table 2). Locations of these monitoring wells are shown on Figure 4, and data regarding the elevation of the screened or open hole interval for the wells are summarized in Table 3; detailed well construction information is contained in Appendix C.

Monitoring wells were sampled for the purposes of four monitoring programs: (1) RCRA assessment monitoring, (2) RCRA detection monitoring, (3) SWDF detection monitoring, and (4) best-management practice monitoring. Descriptions of the monitoring-well networks used for each program are provided in the following sections.

3.1.1 RCRA Assessment Monitoring

Assessment monitoring during 1993 involved 11 monitoring wells at the Security Pits (Table 2). As noted in Section 2.1.1, assessment monitoring at the Security Pits has been in progress since 1987 and will be discontinued when a RCRA post-closure permit (which is expected to require RCRA compliance monitoring) is issued for the site by the TDEC.

3.1.2 RCRA Detection Monitoring

Detection monitoring in accordance with the RCRA interim status regulations was performed during 1993 at the Sediment Disposal Basin and Kerr Hollow Quarry, and included a total of 15 monitoring wells (Table 2). As required in the approved detection monitoring plans for each site, results of selected indicator parameters (e.g., pH and specific conductance) were

statistically analyzed to identify any statistically significant changes in groundwater quality. Results of these statistical analyses were submitted to the TDEC in September 1993 and February 1994.

3.1.3 SWDF Detection Monitoring

As noted in Section 2.3, detection monitoring in accordance with the TDEC solid waste management regulations is performed at all of the SWDFs in the regime. In CY 1993, 31 monitoring wells at the SWDFs were sampled for detection or background monitoring purposes (Table 2).

3.1.4 Best-Management Practice Monitoring

Groundwater samples were collected from 18 monitoring wells during 1993 as a best-management practice of the Y-12 Plant GWPP (Table 2). Best-management practice monitoring is performed at sites where regulation-driven monitoring is not required. For example, groundwater quality monitoring at the East Chestnut Ridge Waste Pile has been performed since 1987 even though this hazardous waste TSD unit is a lined facility exempt from RCRA groundwater monitoring requirements.

3.2 Sampling Frequency

Groundwater samples were collected during each quarter of 1993. First through fourth quarter sampling events were performed from January 5 to March 30, from April 1 to June 27, from July 17 to September 30, and from October 4 to December 19, respectively.

Samples were collected during each quarterly sampling event from all but 10 of the wells included in the previously described monitoring programs. Well GW-607 at the Security Pits was sampled only during the first quarter because the well was plugged and abandoned in March 1993. Installation of 5 monitoring wells at Industrial Landfill V and Construction Debris Landfill VII (GW-796, GW-797, GW-798, GW-799, and GW-801) was completed in March 1993. These new monitoring wells and 4 existing wells (GW-557, GW-560, GW-562, and

GW-564) were incorporated into the quarterly sampling schedule beginning in the second quarter of the year.

3.3 Sample Collection

Groundwater samples were collected by personnel from the Oak Ridge K-25 Site Sampling and Environmental Support Department. Pre-defined sampling sequences were followed to minimize the potential for cross-contamination (Appendix D). Each quarterly sequence reflected sampling from the 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). At sites where no groundwater contamination is present, samples were collected from the farthest downgradient wells first.

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

3.4 Quality Assurance/Quality Control Sampling

Quality assurance/quality control samples included laboratory blanks, trip blanks, equipment rinsates, and duplicate groundwater samples. A total of 115 laboratory blanks, 183 trip blanks, 75 equipment rinsate samples, and 48 duplicate samples were analyzed during 1993. Similar numbers of QA/QC samples were analyzed during each quarterly sampling event: 75 to 36 laboratory blanks, 44 to 49 trip blanks, 15 to 23 equipment rinsates, and 11 to 13 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 volatile organic compounds (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. Duplicate groundwater samples were collected at a frequency of at least one per sampling group, or one for every 10 monitoring wells, whichever was greater.

3.5 Laboratory Analysis

Groundwater samples collected from each monitoring well were analyzed for the parameters and constituents specified on Table 2. As shown, samples from all of the wells were analyzed for a standard suite of analytes that included:

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

In addition to the standard suite of analyses, groundwater samples collected from wells at some sites in the Chestnut Ridge Regime were analyzed for other compounds or parameters as required by TDEC regulations, as requested by the TDEC, or as needed based on previous monitoring results (Table 2). For example, samples collected from wells at Construction Debris Landfill IV were analyzed for additional organic compounds and other required parameters specified by the TDEC solid waste management regulations. Samples from other wells, such as GW-295 at Industrial Landfill III, were analyzed for isotopic uranium and beta-emitting radionuclides because of elevated gross alpha and gross beta activity reported for samples collected from the well in 1992.

All of the laboratory blanks, trip blanks, and equipment rinsate samples were analyzed for the suite of VOCs listed on Table 2. Selected equipment rinsate samples also were analyzed for trace metals (Inductively Coupled Plasma analyses), organic compounds, gross alpha and gross

beta activity, and radionuclides. Duplicate groundwater samples were analyzed for the constituents and parameters specified for the well from which the duplicate sample was collected.

Analyses of the groundwater and QA/QC samples were performed by three different laboratories: the K-25 Analytical Chemistry Department, EcoTek Laboratory Services, Inc. (EcoTek), and the ORNL Chemistry Division. The bulk of the analyses were performed by the K-25 Analytical Chemistry Department. EcoTek performed the analyses for the additional organic compounds required by the TDEC for the SWDFs in the regime. Selected radiochemical analyses were performed by the ORNL Chemistry Division.

3.6 Data Management

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

Analytical results obtained from each quarterly sampling event were either downloaded directly into the EMD from data files provided by the analytical laboratory or were manually input from hardcopy documentation (laboratory reports and field data sheets). For manually input data, a double-entry procedure was followed whereby the hardcopy data were input twice into separate data files. A computer program then compared the two input data files and identified discrepancies, which were then accounted for and corrected. When all data from the quarterly sampling event were in the EMD, a computer program then verified that the parameter names were correct, correct units were reported, and that the results reported for each parameter were within an expected range or were valid numeric values. As a final step in the data entry/verification process, printouts of the data were visually checked against the laboratory reports and field data sheets for completeness and obvious data outliers. The appropriate laboratory was contacted to resolve incomplete data transfers, discrepancies between electronic and hardcopy versions of the data, and questions regarding data outliers.

Upon completion of data verification and entry into the EMD, a computer program was used to scan the monitoring data, flag questionable or suspect data based on pre-defined criteria,

and prepare a report for transmittal to the appropriate laboratory. This data evaluation program calculated ion-charge balances for each sample, identified changes in analytical detection limits, and validated analytical results for VOCs using the QA/QC sample data in accordance with an EPA validation procedure (U.S. Environmental Protection Agency 1988b).

3.7 Analytical Results

Groundwater quality data obtained during 1993 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 Maximum Contaminant Levels or background screening levels and radiochemical data are summarized in Appendix K. Analytical results for the QA/QC samples are summarized in Appendix I. A summary of the validated analytical results for VOCs is provided in Appendix J.

4.0 HYDROGEOLOGIC FRAMEWORK

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

Groundwater at the Y-12 Plant occurs in two broad hydrologic units with fundamentally different hydrologic characteristics: the Knox Aquifer and the ORR Aquitards. The Knox Aquifer is comprised of the Knox Group and the underlying Maynardville Limestone formation of the Conasauga Group. Groundwater flow in the Knox Aquifer is controlled by solution conduits and the bulk permeability is ten times greater than that of the ORR Aquitards. The ORR Aquitards include the remaining Conasauga Group formations, the Rome Formation, and the strata of the Chickamauga Group. Groundwater flow in the ORR Aquitards is controlled by short, intersecting fractures in a relatively impermeable matrix, and the bulk of the groundwater flows in a shallow zone near the water table.

Recharge on Chestnut Ridge is via vertical percolation through the regolith and probably includes more direct input via dolines. Annual recharge is about 2.6 inches, and it is possible that a portion of the recharge results from delayed unsaturated flow (Solomon *et al.* 1992). Groundwater discharge route(s) from the ridge has not been completely established, but based on knowledge of flow in similar karst systems and the results of dye-tracer tests in the Chestnut Ridge Regime, springs and seeps located along or across strike are the probable discharge points.

4.1 Geology

The geology in the area of the Y-12 Plant is generally characterized by sequences of southeast-dipping, fractured clastic (primarily shale and siltstone) and carbonate (limestone and dolostone) strata of Lower Cambrian to Lower Ordovician age (Figure 5). The primarily dolostone strata of the Knox Group form Chestnut Ridge, and the underlying interbedded

limestone and shale formations of the Conasauga Group from BCV to the north. Strike and dip of bedding in the Chestnut Ridge Regime is generally N 55°E and 45°SE, respectively.

With the exception of Kerr Hollow Quarry and Rogers Quarry, the sites in the Chestnut Ridge Regime are directly underlain by reddish-brown to yellow-orange residuum overlying the predominately dolostone formations of the Knox Group. The residuum is characteristically slightly acidic, predominantly composed of clays and iron sesquioxides (Jennings 1985), and contains semicontinuous relict beds of fractured chert and other lithologic inhomogeneities (such as silt bodies) that provide a weakly connected network through which saturated flow can occur (Solomon *et al.* 1992). The residuum is thin or non-existent near karst features such as dolines (sink holes), swallets (sinking streams), and solution pan features (Ketelle and Huff 1984). Depth to bedrock varies throughout the Chestnut Ridge Regime but is usually less than 100 ft.

The water table in the Chestnut Ridge Regime usually occurs in bedrock. The Knox Group consists of 3,000 to 3,500 ft of gray to blue-gray, thin- to thick-bedded cherty dolostone with interbeds of limestone (Figure 5). All but the southernmost portion of the Chestnut Ridge Regime is underlain by the Knox Group. The Chickamauga Group disconformably overlies the Knox Group and generally consists of thin- to medium-bedded argillaceous limestone and interbedded shale (Geraghty & Miller, Inc. 1989).

The most pervasive structural features in the Chestnut Ridge Regime are extensional, hybrid, and shear fractures (Solomon *et al.* 1992). Three major joint sets are evident in the Chestnut Ridge Regime, one that roughly parallels bedding, one steeply dipping set that parallels geologic strike, and one steeply dipping set that trends perpendicular to strike (Drier *et al.* 1987). Fracture densities ranging from about 1 to 60 per foot have been observed in rock outcrops near the ORNL (Dreier *et al.* 1987; Sledz and Huff 1981). Most fractures are short, ranging from tenths of inches to a few feet in length (Solomon *et al.* 1992). Within a fracture, groundwater may flow either 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).

Dissolution of carbonates along fractures has produced many karst features in the Chestnut Ridge Regime. Smith *et al.* (1983) identified a series of sinkholes along the crest of the ridge that show a prominent alignment parallel to strike. This linear trend may be the result of dissolution along a bedding plane or joint set (Ketelle and Huff 1984; Smith *et al.* 1983).

Conceptual groundwater flow patterns of a typical karst aquifer, such as the Knox Group, are illustrated on Figure 6. Two major flow systems are illustrated: diffuse flow and conduit flow. Granular flow in the rock matrix is negligible because a well-consolidated, lithified limestone or dolomite typically has extremely low primary porosity (Smith *et al.* 1976; Jennings 1985).

4.2 Groundwater System

Solomon *et al.* (1992) divide the groundwater flow system in both the Knox Aquifer and the ORR Aquitards into four subsystems: (1) the stormflow zone, (2) the vadose zone, (3) the groundwater zone (subdivided into water-table, intermediate, and deep intervals), and (4) the aquiclude (Figure 7). The divisions are based on the amount of water transmitted by each subsystem (i.e., flux), which decreases with depth; the largest water flux occurs in the stormflow zone and the smallest in the aquiclude.

The groundwater flow system is vertically gradational with no discrete boundaries separating the subsystems. The stormflow zone occurs in regolith as does much of the vadose zone, although in some areas the vadose zone includes weathered and fresh rock. About 90% of subsurface flow occurs in the stormflow zone. In the groundwater zone, flow volumes decrease and solute residence times increase sharply with depth. The bulk (98%) of groundwater flow occurs at shallow depths (<100 ft below ground surface), and most (80%) of this flow occurs in the water-table interval. Below the water-table interval, groundwater flow occurs along permeable fractures (or possibly fractured regions) within a relatively impermeable matrix. Variations in the number and aperture of the fractures within these regions occur along flow paths, and these differences determine lateral and vertical flow directions. Additionally, the vertical spacing between the permeable regions increases with depth, and permeable regions at depth are poorly connected in three dimensions (Solomon *et al.* 1992).

4.2.1 Stormflow Zone

Investigations in Bethel Valley and Melton Valley near ORNL show that groundwater occurs intermittently above the water table in a near surface "stormflow zone" that extends from

ground surface to a depth of about 6 ft (Moore 1989). A stormflow zone also may be present on Chestnut Ridge. 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). However, a stormflow zone may not exist in areas that have undergone substantial modification, such as the capped portions of the waste-management areas.

Water is present in the stormflow zone during, and for short periods after, significant rainfall events; most of the water is lost to evapotranspiration and much of 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 Knox Aquifer is about 100 ft. 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). Most recharge through the vadose zone is episodic and occurs along discrete permeable fractures that became saturated even though surrounding micropores remain unsaturated (Solomon *et al.* 1992).

The hydraulic conductivity of the unsaturated residual soils on Chestnut Ridge has been determined from slug tests in wells located at the United Nuclear Corporation Site (Mishu 1982), and in areas several miles west of the Chestnut Ridge Regime (Woodward-Clyde Consultants, Inc. 1984). Little variation was observed with depth, but conductivities determined by field and laboratory tests varied by approximately two orders-of-magnitude for comparable depth intervals.

Mean field conductivities ranged from 0.0057 to 0.49 ft/day and mean laboratory conductivities ranged from 2.8×10^{-5} to 9.1×10^{-3} ft/day. Results of the slug tests are similar to those obtained from infiltrometer tests. Moore (1988) reported a geometric mean hydraulic conductivity of about 0.006 ft/day for residuum on Chestnut Ridge based on results of infiltrometer studies near ORNL reported by Watson and Luxmoore (1986) and Wilson and Luxmoore (1988).

The hydraulic conductivity of the residuum overlying the Knox Aquifer varies with the degree of saturation (Luxmoore 1982; Daniels and Broderick 1983). Luxmoore (1982) demonstrated that hydraulic conductivity decreases by approximately one order-of-magnitude with a volumetric water content decrease to 90% of saturation, and two orders-of-magnitude with a volumetric water content decrease to 75% of saturation. Daniels and Broderick (1983), as summarized in Ketelle and Huff (1984), reported that hydraulic conductivity decreases by roughly one order-of-magnitude relative to maximum when saturation is 90%, and three orders-of-magnitude relative to maximum when saturation is 75%. Ketelle and Huff (1984) also noted that wide variations in soil permeability occur over short lateral distances. These findings are consistent with observations of permeability variation in residual soils found in other karst areas (Quinlan and Aley 1987).

4.2.3 Groundwater Zone

Solomon *et al.* (1992) divide the saturated zone in the Knox Aquifer and ORR Aquitards into water-table, intermediate, and deep intervals based on observed changes in hydrologic characteristics and groundwater geochemistry with depth (Figure 7).

4.2.3.1 Water-Table Interval

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

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

4.2.3.2 Intermediate Interval

Groundwater in the intermediate bedrock zone occurs in relatively permeable fractures in a relatively impermeable matrix, but permeable fractures are poorly connected (Solomon *et al.* 1992). 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, which outnumber the enlarged fractures and cavities, are interconnected, and provide the continuity for groundwater flow paths (Moore 1989).

Estimates of the hydraulic conductivity of the intermediate interval in the Knox Aquifer are provided by results of straddle packer tests performed in three core holes in the Chestnut Ridge Regime; two at the east end of the regime near the Sediment Disposal Basin and one at the west end of the regime near Industrial Landfill IV. The tested intervals were in the Copper Ridge Dolomite of the Knox Group and were generally less than 600 ft below the ground surface. Calculated hydraulic conductivities ranged from 0.0002 to 3.1 ft/day (King and Haase 1988) and averaged about 0.6 ft/day. The upper population represents more permeable water-producing intervals and the lower population represents less permeable matrix intervals.

The hydraulic conductivity of the water-producing intervals in the Knox Aquifer is much greater than indicated by the straddle packer tests owing to an interconnected network of solution cavities and solution enlarged fractures. For instance, groundwater flow rates determined from a tracer test performed by Ketelle and Huff (1984) ranged from about 490 to 1,250 ft/day. Preliminary results of a dye-tracer test performed by Geraghty & Miller, Inc. (1990b) at the Security Pits indicated flow rates of about 100 to 300 ft/day, although findings of the test were not confirmed by a second test performed at the site (Science Applications International Corporation 1993). However, results of the Ketelle and Huff (1984) and the Geraghty & Miller,

Inc. (1990b) tracer tests are within the range of conduit-flow rates typical in karst terrains (Quinlan and Ewers 1985).

4.2.3.3 Deep Interval

Identification of the deep interval is based on hydraulic and geochemical data for several deep (greater than 500 ft) monitor wells and coreholes. Solomon *et al.* (1992) report that the boundary between the intermediate interval and the deep interval in BCV occurs at depths of about 325 ft in the ORR Aquitards and 650 ft in the Knox Aquifer. The boundary is based on lower hydraulic conductivity and unusually high hydraulic heads (estimated from packer tests), although use of hydraulic conductivity may not always be a reliable indicator (Solomon *et al.* 1992).

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

Evaluation of data obtained from straddle packer tests and slug tests, and slow-recovery analyses, indicates that the geometric mean hydraulic conductivity of the deep interval is about 0.001 ft/day (Solomon *et al.* 1992). The low conductivities may reflect reduced fracture apertures or increased fracture spacings (Solomon *et al.* 1992).

4.2.4 Aquiclude

The aquiclude occurs below the deep groundwater interval and is generally marked by the presence of saline water with total dissolved solids concentrations of 40,000 to 300,000 milligrams per liter (mg/L) (Solomon *et al.* 1992). Information obtained southeast of the Chestnut Ridge Regime in Melton Valley indicates that the saline water typically occurs at depths

of about 600 to 700 ft below the ground surface (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).

Saline groundwater has not been encountered at depth in the Chestnut Ridge Regime. However, several wells completed at depths of about 500 to 1,000 ft below the ground surface in BCV monitor groundwater with total dissolved solids concentrations of several thousand mg/L to several tens of thousand mg/L, suggesting that the aquiclude may be present at greater depth near the Y-12 Plant than in Melton Valley (Solomon *et al.* 1992).

4.3 Groundwater Flow Directions

Directions of groundwater flow in the Chestnut Ridge Regime were evaluated from static water level measurements obtained in January and September 1993. Water levels were determined in 82 monitoring wells during January 1993 (the seasonally high water table) and in 74 wells in September 1993 (the seasonally low water table); depths to water and water-level elevations for each well are presented in Appendix L. Review of these data show that water level declines averaged about 8 ft in most of the wells, with the largest decreases (more than 20 ft) typically occurring in wells located along the crest of Chestnut Ridge. Additionally, the pattern of water level decrease was the same in all wells such that there were no significant changes in groundwater flow directions (i.e., no reversal of horizontal hydraulic gradients).

Groundwater elevations in the Chestnut Ridge Regime are illustrated on Figure 8. Monitoring wells were used for primary control for placement of elevation isopleths, but springs and streams also provided additional control. The water table in the Chestnut Ridge Regime generally reflects surface topography and radial groundwater flow directions; strike-parallel gradients range from 0.02 to 0.05 and strike-normal gradients range from 0.06 to 0.09.

4.4 Rate of Contaminant Migration

The following estimates of contaminant migration rates 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, and factors which may increase transport rates, such as dispersion, were not explicitly considered. Moreover, migration as free product, which may occur independent of the direction and rate of groundwater flow, and vapor-phase transport, a potentially significant mechanism for the introduction of VOCs to the groundwater, also were not considered.

4.4.1 Residuum

Two methods were used to estimate the vertical migration rate of dissolved compounds in the residuum overlying the Knox Aquifer: (1) direct calculation using the modified Darcy equation and (2) the arrival time method. Retardation is not considered in estimates calculated with the modified Darcy equation but is implied in the arrival time method.

Transport of dissolved compounds in groundwater is most commonly estimated using the modified Darcy equation:

$$v = Ki/n$$

where v is the migration rate, K is the saturated hydraulic conductivity, n is the effective porosity, and i is the hydraulic gradient. Using the geometric mean hydraulic conductivity (0.006 ft/day) reported by Moore (1988), an effective porosity of 0.0042 (Moore 1989), and a reduction of one to two orders-of-magnitude for hydraulic conductivity under unsaturated conditions (Luxmoore 1982), a migration rate of about 5 to 50 feet per year (ft/yr) is calculated.

Transport of dissolved compounds also were estimated based on the recharge rate (q) and the effective porosity (n) (i.e., $v=q/n$). Using a recharge rate of 2.6 inches (Solomon *et al.* 1992), an effective porosity of 0.0042 (Moore 1989), and a reduction of one to two orders-of-magnitude for hydraulic conductivity under unsaturated conditions (Luxmoore 1982), a vertical transport rate of about 60 ft/yr (0.12 ft/day) is calculated.

The rate of contaminant migration through the residuum to the water table also was estimated using historical data for monitoring well 1080 (now abandoned). Installed at the Security Pits in 1982, VOCs were first detected in the well in 1986. The top of the screened interval for this well was about 160 ft below the land surface. Using this depth and assuming

a 13-year travel time (i.e., the period from initial waste disposal at the Security Pits in 1973 to detection of the VOCs in 1986), a migration rate of about 12 ft/yr (0.033 ft/day) is calculated.

4.4.2 Bedrock

Two major types of groundwater flow are typical of karst systems: diffuse flow and conduit flow (Figure 6). Rates for diffuse flow may be approximated using the modified Darcy equation, and rates for conduit flow are best determined from dye-tracer tests. In using the Darcy equation for calculating diffuse flow, it is assumed that the flow system can be considered as an equivalent porous media. For systems with large hydraulic conductivity variations, such as karst flow systems, this assumption may not be appropriate. Additionally, 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 fracture aperture and wall roughness (Freeze and Cherry 1979).

Using the average hydraulic conductivity of 0.6 ft/day and an effective porosity of one percent (Smith *et al.* 1976), the Darcy velocity for diffuse flow ranges from about 1 to 3 ft/day for strike-parallel flow and about 3 to 5 ft/day for strike-perpendicular flow. The value used for effective porosity is representative for fractured limestones; however, the actual value may be different by more than an order of magnitude, which would result in an inversely proportional variation in the Darcy velocity.

Results of the Geraghty & Miller, Inc. (1990b) and Kettle and Huff (1984) dye tracer tests provide estimates of conduit flow rates in the Knox Group. Although not confirmed by a subsequent dye test, results of the (Geraghty & Miller, Inc. 1990b) tracer test indicated flow velocities of 100 to 300 ft/day. Kettle and Huff (1984) determined flow rates of about 490 to 1,250 ft/day in their tracer test on Chestnut Ridge west of the Chestnut Ridge Regime.

The wide range of potential contaminant migration rates reported in this section demonstrates the uncertainty in determining a representative rate of solute transport for this groundwater flow system. Long term transport of solutes in dual porosity and/or highly heterogeneous media is a complex physical and chemical process that is not fully explained by calculations using the modified Darcy equation or estimates based on dye tracer studies. It is probable that at various times and under various conditions, migration rates throughout the given

range occur; some contaminants move relatively rapidly through the flow system, while other more highly attenuated constituents move much more slowly. Moreover, even highly mobile compounds will diffuse into smaller pores from the large conduits and then, under a reverse concentration gradient, will slowly diffuse back out. Thus, although the actual transport rates may vary over several orders of magnitude, the apparently limited extent of groundwater contamination in the regime suggests that processes such as matrix diffusion are an important controlling factor in reducing the rate of contaminant migration relative to groundwater flow velocities.

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APPENDIX A
FIGURES

LOCATION:	Y-12 PLANT OAK RIDGE, TN.
DATE:	2-15-94
DWG ID.:	OR250-HC

FIGURE 1

REGIONAL LOCATION OF THE Y-12 PLANT

LOCATION:	Y-12 PLANT OAK RIDGE, TN.	FIGURE 2
DATE:	2-19-94	HYDROGEOLOGIC REGIMES AT THE Y-12 PLANT
DWG ID.:	OR321-HC	

LOCATION:
DATE:
DWG ID.:

Y-12 PLANT
OAK RIDGE, TN.
2-15-94
OR210-HC

WASTE-MANAGEMENT SITES AND CERCLA
OPERABLE UNITS IN THE CHESTNUT RIDGE
HYDROGEOLOGIC REGIME

FIGURE 3

0 2000
SCALE (ft)

EXPLANATION

- ~ 1200 TOPOGRAPHIC CONTOUR
- - - SURFACE DRAINAGE FEATURE
- o SPRING

EXPLANATION

GW-159	WATER-TABLE ZONE MONITORING WELL	SPRING
GW-303	BEDROCK ZONE MONITORING WELL	APPROXIMATE LOCATION OF GEOLOGIC CONTACT
---	BOUNDARY OF SITE	Emn MAYNARDVILLE LIMESTONE
- - -	SURFACE DRAINAGE FEATURE	OGk KNOX GROUP
		Och CHICKAMAUGA GROUP

FIGURE 4

MONITORING WELLS
SAMPLED DURING 1993

LOCATION:	Y-12 PLANT OAK RIDGE, TN.
DATE:	2-15-94
DWG ID.:	OR307-HC

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

SOURCE: King and Haase, 1987

FIGURE 5

LOCATION: Y-12 PLANT
OAK RIDGE, TN.
DATE: 2-15-94
DWG ID.: OR211-HC

TOPOGRAPHY AND BEDROCK GEOLOGY IN THE CHESTNUT RIDGE HYDROGEOLOGIC REGIME

MODIFIED FROM: Quinlan and Ewers, 1985
NOT TO SCALE

LOCATION:

Y-12 PLANT
OAK RIDGE, TN.

DATE:

2-15-94

DWG ID.:

OR212-HC

FIGURE 6

FLOW SYSTEMS
IN A KARST AQUIFER

HYDROSTRATIGRAPHIC UNITS PROPOSED BY SOLOMON et al. (1992)

LOCATION: Y-12 PLANT
OAK RIDGE, TN.
DATE: 2-15-94
DWG ID.: OR213-HC

FIGURE 7
SCHEMATIC PROFILE
OF HYDROSTRATIGRAPHIC UNITS
IN THE CHESTNUT RIDGE HYDROGEOLOGIC REGIME

Groundwater Elevations
January 11-22 1993

EXPLANATION

- GW-732 • Bedrock Monitoring Well
- 920 — Water-Level Isopleth (ft msl)
(dashed where inferred)
- - - Surface Drainage Feature
- q Spring

Groundwater Elevations
September 1 - 7, 1993

LOCATION:	Y-12 PLANT OAK RIDGE, TN.
DATE:	2-15-94
DWG ID.:	OR319-HC

FIGURE 8

GROUNDWATER ELEVATIONS
IN THE CHESTNUT RIDGE
HYDROGEOLOGIC REGIME

APPENDIX B
TABLES

**Table 1. Waste-Management Sites and CERCLA Operable Units
in the Chestnut Ridge Hydrogeologic Regime**

Site	Regulatory Classification	
	Historical ¹	Current ²
Chestnut Ridge Sediment Disposal Basin	TSD Unit	TSD Unit
East Chestnut Ridge Waste Pile	TSD Unit	TSD Unit
Kerr Hollow Quarry	TSD Unit	TSD Unit
Chestnut Ridge Security Pits	TSD Unit	CR OU 01
Ash Disposal Basin	SWMU	CR OU 02
United Nuclear Corporation Site	SWMU	CR OU 03
Rogers Quarry	SWMU	CR OU 04
Industrial Landfill II	SWDF	SWDF
Industrial Landfill III	SWDF	SWDF
Industrial Landfill IV	SWDF	SWDF
Industrial Landfill V	N/A	SWDF
Construction Debris Landfill VI	N/A	SWDF
Construction Debris Landfill VII	N/A	SWDF

Notes:

1 Regulatory classification before the 1992 Federal Facility Agreement.

TSD Unit	-	RCRA regulated land-based Treatment, Storage, or Disposal Facility.
SWDF	-	Solid Waste Disposal Facility (non-hazardous waste)
SWMU	-	RCRA regulated Solid Waste Management Unit
N/A	-	Not applicable (new facility)

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

CR OU 01	-	Chestnut Ridge Operable Unit 01 (Source Control and Groundwater OU)
CR OU 02	-	Chestnut Ridge Operable Unit 02 (Source Control and Groundwater OU)
CR OU 03	-	Chestnut Ridge Operable Unit 03 (Source Control and Groundwater OU)
CR OU 04	-	Chestnut Ridge Operable Unit 04 (Source Control and Groundwater OU)

Table 2. Monitoring Wells Sampled During Calendar Year 1993

Monitoring Program	Well No.	Location¹	Quarters Sampled²	Analytical Parameters
RCRA Assessment Monitoring				
	GW-175	CRSP	4	STD ³
	GW-177	CRSP	4	STD
	GW-181	CRSP	4	STD
	GW-511	CRSP	4	STD
	GW-607	CRSP	1	STD
	GW-608	CRSP	4	STD
	GW-609	CRSP	4	STD
	GW-610	CRSP	4	STD
	GW-611	CRSP	4	STD
	GW-742	CRSP	4	STD
	GW-743	CRSP	4	STD
RCRA Detection Monitoring				
	GW-142 ^a	KHQ	4	STD, REP ⁴ , PHEN ⁵
	GW-143 ^a	KHQ	4	STD, REP, PHEN
	GW-144	KHQ	4	STD, REP, PHEN
	GW-145	KHQ	4	STD, REP, PHEN
	GW-146 ^a	KHQ	4	STD, REP, PHEN
	GW-147	KHQ	4	STD, REP, PHEN
	GW-156	CRSDB	4	STD, REP, BNA ⁶
	GW-158 ^a	CRSDB	4	STD, REP, BNA
	GW-159 ^a	CRSDB	4	STD, REP, BNA
	GW-231	KHQ	4	STD, REP, PHEN
	GW-241	CRSDB	4	STD, REP, BNA
	GW-303 ^b	CRSDB	4	STD, REP, BNA
	GW-304	CRSDB	4	STD, REP, BNA
	GW-731	CRSDB	4	STD, REP, BNA
	GW-732	CRSDB	4	STD, REP, BNA

Table 2 (cont'd)

Monitoring Program	Well No.	Location ¹	Quarters Sampled ²	Analytical Parameters
SWDF Detection Monitoring				
	GW-141 ^a	LIV	4	STD, AOC ⁷ , ORP ⁸
	GW-160 ^a	LIII	4	STD, AOC, ORP
	GW-161 ^a	LIII	4	STD, AOC, ORP
	GW-217 ^a	LIV	4	STD, AOC, ORP
	GW-295	LIII	4	STD, AOC, ORP, U ⁹ , BETA ¹⁰
	GW-298	LIII	4	STD, AOC, ORP
	GW-299	LIII	4	STD, AOC, ORP
	GW-300	LIII	4	STD, AOC, ORP
	GW-301	LIII	4	STD, AOC, ORP
	GW-305 ^a	LIV	4	STD, AOC, ORP
	GW-521 ^a	LIV	4	STD, AOC, ORP
	GW-522 ^a	LIV	4	STD, AOC, ORP
	GW-539	LII	4	STD, AOC, ORP
	GW-540	CDLVI	4	STD, AOC, ORP
	GW-541	CDLVI	4	STD, AOC, ORP
	GW-542	CDLVI	4	STD, AOC, ORP
	GW-543	CDLVI	4	STD, AOC, ORP
	GW-544	CDLVI	4	STD, AOC, ORP
	GW-545	CDLVI	4	STD, AOC, ORP
	GW-546	CDLVI	4	STD, AOC, ORP
	GW-557	LV	3	STD, AOC, ORP, U, OMP ¹¹
	GW-560	CDLVII	3	STD, AOC, ORP, U, OMP, TPH ¹²
	GW-562	CDLVII	3	STD, AOC, ORP, U, OMP, TPH
	GW-564	CDLVII	3	STD, AOC, ORP, U, OMP, TPH
	GW-709	LII	4	STD, AOC, ORP
	GW-757	LII	4	STD, AOC, ORP
	GW-796	LV	3	STD, AOC, ORP, U, OMP

Table 2 (cont'd)

Monitoring Program	Well No.	Location ¹	Quarters Sampled ²	Analytical Parameters
SWDF Detection Monitoring (cont'd)				
	GW-797	LV	3	STD, AOC, ORP, OMP
	GW-798	CDLVII	3	STD, AOC, ORP, OMP
	GW-799	LV	3	STD, AOC, ORP, OMP, TPH
	GW-801	LV	3	STD, AOC, ORP, OMP
Best Management Practice Monitoring				
	1090	UNCS	4	STD, Ra ¹³
	GW-184	RQ	4	STD, BNA
	GW-186	RQ	4	STD, BNA
	GW-187	RQ	4	STD, BNA
	GW-188	RQ	4	STD, BNA
	GW-203	UNCS	4	STD, Ra, U
	GW-205	UNCS	4	STD, Ra, U
	GW-221	UNCS	4	STD, Ra, U
	GW-292	ECRWP	4	STD
	GW-293	ECRWP	4	STD
	GW-294	ECRWP	4	STD
	GW-296	ECRWP	4	STD
	GW-302	UNCS	4	STD, Ra, U
	GW-321	ADB	4	STD, TOC ¹⁴ , TOX ¹⁵
	GW-339	UNCS	4	STD, Ra
	GW-512	ADB	4	STD, TOC, TOX
	GW-513	ADB	4	STD, TOC, TOX
	GW-514	ADB	4	STD, TOC, TOX

Notes:

- 1 ADB - Ash Disposal Basin
 CDLVI - Construction Debris Landfill VI (formerly Industrial Landfill II Expansion)
 CDLVII - Construction Debris Landfill VII
 CRSDB - Chestnut Ridge Sediment Disposal Basin

Table 2 (cont'd)

1 (cont'd)

CRSP	-	Chestnut Ridge Security Pits
ECRWP	-	East Chestnut Ridge Waste Pile
KHQ	-	Kerr Hollow Quarry
LII	-	Industrial Landfill II
LIII	-	Industrial Landfill III
LIV	-	Industrial Landfill IV
LV	-	Industrial Landfill V
RQ	-	Rogers Quarry
UNCS	-	United Nuclear Corporation Site

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

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

- Inductively Coupled Plasma (ICP) Metals

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

- Atomic Absorption Spectroscopy (AAS) Metals

Cadmium
Chromium
Lead

- Other Metals

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

- Volatile Organic Compounds

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

Table 2 (cont'd)

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

• **Volatile Organic Compounds (cont'd)**

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

4 REP - Four replicate analyses of:

pH
Specific Conductivity
TOC
TOX

5 PHEN - Phenols

Table 2 (cont'd)

6 BNA - Base/Neutral/Acid Extractable Organic Compounds:

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

7 AOC - Additional Organic Compounds

Acrolein	Ethanol
Acrylonitrile	Ethyl methacrylate
2-Chloroethyl vinyl ether	Iodomethane
Dibromomethane	Trichlorofluoromethane
1,4-Dichloro-2-butene	1,2,3-Trichloropropane
Dichlorodifluoromethane	

Table 2 (cont'd)

8 ORP - Other Required Parameters

Chemical Oxygen Demand
Cyanide
Total Organic Carbon (TOC)
Total Organic Halogen (TOX)

9 U - Isotopic Uranium (^{234}U , ^{235}U , ^{238}U)

10 BETA - Beta-emitting isotopes:

- Strontium (total)
- Technetium (^{99}Tc)
- Tritium (^3H)

11 OMP - Other Miscellaneous Parameters:

Trans-1,2-dichloroethene
Ammonia (as N)
Gamma Activity; reported as activity of one or more of the following:

- Cesium
- Neptunium (^{237}Np)
- Potassium (^{40}K)
- Protactinium
- Ruthenium (^{106}Ru)
- Thorium (^{234}Th)

12 TPH - Total Petroleum Hydrocarbons

13 Ra - Radium (total)

14 TOC - Total Organic Carbon

15 TOX - Total Organic Halogen

a Background/Upgradient monitoring well

Table 3. Construction Information for Monitoring Wells Sampled During 1993¹

Well No.	Location ²	Aquifer ³		Monitored Interval ⁴			
		Zone	Unit	Depths		Elevations	
1090	UNCS	WT	OCk	unknown	- unknown	unknown	- unknown
GW-141 ^a	LIV	BDR	OCk	141.0	- 156.0	1,042.5	- 1,027.5
GW-142 ^b	KHQ	BDR	OCk	248.5	- 295.0	719.8	- 673.3
GW-143 ^b	KHQ	BDR	OCk	205.0	- 253.0	706.0	- 658.0
GW-144	KHQ	BDR	OCk	148.0	- 195.0	762.5	- 715.5
GW-145	KHQ	WT	OCk	86.0	- 110.0	751.3	- 727.3
GW-146 ^b	KHQ	BDR	OCk	190.0	- 220.0	647.0	- 617.0
GW-147	KHQ	BDR	OCk	52.0	- 69.0	796.4	- 779.4
GW-156	CRSDB	BDR	OCk	146.0	- 157.0	900.9	- 889.9
GW-158 ^b	CRSDB	BDR	OCk	356.0	- 441.0	625.2	- 540.2
GW-159 ^a	CRSDB	BDR	OCk	146.0	- 157.0	902.8	- 891.8
GW-160 ^{a,b}	LIII	WT	OCk	205.0	- 235.0	885.7	- 855.7
GW-161 ^{a,b}	LIII	BDR	OCk	350.0	- 400.0	740.9	- 690.9
GW-175	CRSP	BDR	OCk	148.3	- 166.7	933.6	- 915.2
GW-177	CRSP	BDR	OCk	132.0	- 145.0	1,023.5	- 1,010.5
GW-181 ^b	CRSP	BDR	OCk	155.0	- 168.0	935.6	- 922.6
GW-184	RQ	BDR	Och	101.5	- 130.0	823.2	- 794.7
GW-186	RQ	BDR	Och	142.0	- 171.0	686.3	- 657.3
GW-187	RQ	BDR	Och	139.0	- 162.0	692.6	- 669.6
GW-188	RQ	BDR	Och	49.0	- 68.0	785.3	- 766.3
GW-203 ^a	UNCS	BDR	OCk	144.0	- 156.0	958.3	- 946.3
GW-205	UNCS	BDR	OCk	154.0	- 164.0	947.5	- 937.5
GW-217 ^a	LIV	BDR	OCk	165.2	- 180.0	1,009.1	- 994.3
GW-221	UNCS	BDR	OCk	147.0	- 158.0	956.4	- 945.4
GW-231	KHQ	BDR	OCk	22.8	- 35.0	824.1	- 811.9

Table 3 (cont'd)

Well No.	Location ²	Aquifer ³		Monitored Interval ⁴				
		Zone	Unit	Depths		Elevations		
GW-241	CRSDB	WT	OCk	78.0	- 103.0	902.8	- 877.8	
GW-292	ECRWP	BDR	OCk	172.1	- 186.0	898.0	- 884.1	
GW-293 ^b	ECRWP	BDR	OCk	197.0	- 214.0	864.7	- 847.7	
GW-294	ECRWP	BDR	OCk	113.0	- 128.0	968.7	- 953.7	
GW-295	LIII	BDR	OCk	130.4	- 146.0	960.0	- 944.4	
GW-296	ECRWP	BDR	OCk	134.4	- 147.0	953.9	- 941.3	
GW-298	LIII	BDR	OCk	171.1	- 190.0	875.3	- 856.4	
GW-299	LIII	BDR	OCk	153.0	- 168.0	898.3	- 883.3	
GW-300	LIII	BDR	OCk	132.0	- 147.0	938.7	- 923.7	
GW-301	LIII	BDR	OCk	148.5	- 163.5	935.4	- 920.4	
GW-302	UNCS	BDR	OCk	121.5	- 134.8	1,018.1	- 1,004.8	
GW-303 ^b	CRSDB	BDR	OCk	300.0	- 321.0	704.4	- 683.4	
GW-304	CRSDB	BDR	OCk	148.5	- 167.0	894.3	- 875.8	
GW-305 ^a	LIV	BDR	OCk	165.3	- 179.6	1,015.8	- 1,001.5	
GW-321	ADB	BDR	OCk	84.0	- 98.6	839.1	- 824.5	
GW-339	UNCS	BDR	OCk	101.0	- 114.0	1,021.2	- 1,008.2	
GW-511	CRSP	BDR	OCk	140.0	- 153.7	950.7	- 937.0	
GW-512	ADB	WT	OCk	48.0	- 61.0	951.0	- 938.0	
GW-513	ADB	BDR	OCk	111.0	- 125.3	888.0	- 873.7	
GW-514 ^b	ADB	BDR	OCk	174.0	- 195.0	824.7	- 803.7	
GW-521 ^a	END	BDR	OCk	123.2	- 136.0	1,056.3	- 1,043.5	
GW-522 ^a	LIV	BDR	OCk	183.0	- 195.3	989.0	- 976.7	
GW-539	LII	BDR	OCk	136.4	- 156.0	954.0	- 934.4	
GW-540	CDLVI	BDR	OCk	158.5	- 171.5	910.9	- 897.9	
GW-541	CDLVI	BDR	OCk	86.7	- 104.5	969.1	- 951.3	
GW-542	CDLVI	WT	OCk	59.0	- 76.5	990.0	- 972.5	

Table 3 (cont'd)

Well No.	Location ²	Aquifer ³		Monitored Interval ⁴				
		Zone	Unit	Depths		Elevations		
GW-543	CDLVI	BDR	Ock	76.2	- 93.6	945.0	- 927.6	
GW-544	CDLVI	BDR	Ock	91.0	- 109.3	951.5	- 933.2	
GW-545	CDLVI	WT	Ock	55.2	- 67.0	1,000.2	- 988.4	
GW-546	CDLVI	WT	Ock	66.2	- 84.4	1,003.0	- 985.2	
GW-557	LV	WT	Ock	112.9	- 138.0	965.7	- 940.6	
GW-560	CDLVII	WT	Ock	45.2	- 69.0	891.0	- 867.2	
GW-562	CDLVII	WT	Ock	36.0	- 60.0	895.9	- 871.9	
GW-564	CDLVII	WT	Ock	52.0	- 81.0	883.1	- 854.1	
GW-607	CRSP	BDR	Ock	138.0	- 151.3	934.9	- 921.6	
GW-608 ^b	CRSP	BDR	Ock	148.0	- 220.0	923.0	- 851.0	
GW-609	CRSP	BDR	Ock	256.4	- 269.0	853.3	- 840.7	
GW-610	CRSP	BDR	Ock	105.1	- 117.4	951.7	- 939.4	
GW-611	CRSP	BDR	Ock	101.5	- 121.6	943.9	- 923.8	
GW-709	LII	BDR	Ock	68.7	- 80.6	835.1	- 823.2	
GW-731	CRSDB	BDR	Ock	164.0	- 178.7	881.8	- 867.1	
GW-732	CRSDB	BDR	Ock	178.3	- 190.0	882.4	- 870.7	
GW-742 ^b	CRSP	BDR	Ock	350.0	- 420.0	747.8	- 677.8	
GW-743	CRSP	BDR	Ock	150.1	- 161.1	948.6	- 937.6	
GW-757	LII	BDR	Ock	134.0	- 166.7	824.7	- 792.0	
GW-796	LV	BDR	Ock	122.9	- 136.5	925.9	- 912.3	
GW-797	LV	BDR	Ock	118.0	- 134.1	938.1	- 922.0	
GW-798	CDLVII	BDR	Ock	122.0	- 135.4	864.6	- 851.2	
GW-799	CDLVII	BDR	Ock	78.7	- 92.0	899.4	- 886.1	
GW-801	LV	BDR	Ock	175.8	- 188.9	918.2	- 905.1	

Table 3 (cont'd)

Notes:

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

- 2
 - ADB - Ash Disposal Basin
 - CDLVI - Construction Debris Landfill VI (formerly Industrial Landfill II Expansion)
 - CDLVII - Construction Debris Landfill VII
 - CRSDB - Chestnut Ridge Sediment Disposal Basin
 - CRSP - Chestnut Ridge Security Pits
 - ECRWP - East Chestnut Ridge Waste Pile
 - KHQ - Kerr Hollow Quarry
 - LII - Industrial Landfill II
 - LIII - Industrial Landfill III
 - LIV - Industrial Landfill IV
 - LV - Industrial Landfill V
 - RQ - Rogers Quarry
 - UNCS - United Nuclear Corporation Site

- 3
 - WT - Water Table
 - BDR - Bedrock
 - Och - Chicamauga Group
 - Ock - Knox Group

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

- a Background/Upgradient Well

- b Open borehole well construction.

APPENDIX C
MONITORING-WELL CONSTRUCTION DETAILS

EXPLANATION

LOCATION:

ADB	-	Ash Disposal Basin
CDLVI	-	Construction Debris Landfill VI (formerly Industrial Landfill II Expansion)
CDLVII	-	Construction Debris Landfill VII
CRSDB	-	Chestnut Ridge Sediment Disposal Basin
CRSP	-	Chestnut Ridge Security Pits
ECRWP	-	East Chestnut Ridge Waste Pile
KHQ	-	Kerr Hollow Quarry (located in Bethel Valley)
LII	-	Industrial Landfill II
LIII	-	Industrial Landfill III
LIV	-	Industrial Landfill IV
LV	-	Industrial Landfill V
RQ	-	Rogers Quarry (located in Bethel Valley)
UNCS	-	United Nuclear Corporation Site

CASING MATERIAL:

PVC	-	Polyvinyl chloride
SS	-	Stainless Steel

MONITORED INTERVAL:

BDR	-	Bedrock Interval
WT	-	Water-Table Interval
OCK	-	Knox Group
Och	-	Chickamauga Group
Top	-	Depth to top of filter pack or open-hole
Bottom	-	Depth to bottom of filter pack or open-hole
PVC/sl	-	Slotted
PVC/sw/.01	-	Spiral wound, 0.01 inch slot size
SS/sw/.01	-	Spiral wound, 0.01 inch slot size

NOTES:

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

APPENDIX C
Monitoring-Well Construction Details

1

Well No.	1090	GW-141	GW-142	GW-143	GW-144	GW-145	GW-146
Location	UNCS	LIV	KNQ	KNQ	KNQ	KNQ	KNQ
East Coordinate	53853.02	52463	64030	63522	63502	63266	63272
North Coordinate	28718.02	28755	24524	24257	24255	24441	24432
ELEVATIONS	.	.	.	.	.	.	.
Measuring Point	1103.88	1186.06	970.35	913.18	913.34	840.04	838.16
Surface	1101.58	1183.45	968.29	911.04	910.48	837.29	837
Weathered Rock	.	.	.	.	.	.	.
Fresh Rock	.	1126.45	.	893.04	.	.	826
Top Monitored Interval	1101.58	1042.45	719.79	706.04	762.48	751.29	647
Bottom Monitored Interval	1101.58	1027.45	673.29	658.04	715.48	727.29	617
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	.	65	20	20	40	12	13
Casing Diameter	.	10.75	12.5	10.625	12.5	12.5	12.5
Casing Material	.	.	PVC/440	PVC/440	PVC/440	PVC/440	PVC/440
WELL CASING BOREHOLE	.	.	.	.	.	.	.
Borehole Depth	96.7	156	250	205	195	110	190
Borehole Diameter	8	10	11	10	11	11	11
Weathered Rock - Depth	.	.	.	.	.	.	.
Fresh Rock - Depth	.	57	.	18	.	.	11
WELL CASING	.	.	.	.	.	.	.
Well Casing Depth	0	155.2	248.5	205	190	109	190
Well Casing Diameter	6.5	4.5	6.62	6.62	4.5	4.5	6.62
Well Casing Material	PVC/440	SS/304	Steel/F25	Steel/F25	PVC/440	PVC/440	Steel/F25
MONITORED INTERVAL	.	.	.	.	.	.	.
Aquifer Zone	WT	BDR	BDR	BDR	BDR	WT	BDR
Geologic Formation	OCK	OCK	OCK	OCK	OCK	OCK	OCK
Screened or Open	Screen	Screen	Open	Open	Screen	Screen	Open
Top - Depth	0	141	248.5	205	148	86	190
Bottom - Depth	0	156	295	253	195	110	220
Screen Material	PVC/al	SS/sw/.01	.	.	PVC/sw/.01	PVC/sw/.01	.
Screen Length	.	10.7	.	.	40.0	20.0	.
Open-Hole Length	.	.	46.5	48	.	.	30
Open-Hole Diameter	.	.	6	6	.	.	6

(CONTINUED)

APPENDIX C
Monitoring-Well Construction Details

2

Well No.	GW-147	GW-156	GW-158	GW-159	GW-160	GW-161	GW-175
Location	KNQ	CRSDB	CRSDB	CRSDB	LIII	LIII	CRSP
East Coordinate	63428	64020	63643	63496	62165	62146	58686
North Coordinate	24731	27626	27069	27764	27803	27805	28676
ELEVATIONS	.	.	.	.	.	.	.
Measuring Point	851.62	1049.13	983.05	1051.15	1093.09	1093.54	1084
Surface	848.41	1046.94	981.24	1048.79	1090.66	1090.91	1081.89
Weathered Rock	.	962.94	894.24	.	1030.66	1025.91	1035.89
Fresh Rock	842.41	953.94	888.24	948.79	.	995.41	983.39
Top Monitored Interval	796.41	900.94	625.24	902.79	885.66	740.91	933.59
Bottom Monitored Interval	779.41	889.94	540.24	891.79	855.66	690.91	915.19
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	4.6	94	94	123	112.5	108	61.3
Casing Diameter	10.625	10.75	10.75	10.75	12.5	12.5	10.75
Casing Material	PVC/440	.	.	.	.	.	unknown
WELL CASING BOREHOLE	.	.	.	.	.	.	.
Borehole Depth	69	157	356	157	205	350	166.7
Borehole Diameter	10	8.5	10	8.5	11	11	9.5
Weathered Rock - Depth	.	84	87	.	60	65	46
Fresh Rock - Depth	6	93	93	100	.	95.5	98.5
WELL CASING	.	.	.	.	.	.	.
Well Casing Depth	69	157	356	157	205	350	166.7
Well Casing Diameter	4.5	4.5	6.62	4.5	6.62	6.62	4.5
Well Casing Material	PVC/440	PVC/440	Steel/F25	PVC/440	Steel/F25	Steel/F25	SS/304
MONITORED INTERVAL	.	.	.	.	.	.	.
Aquifer Zone	BDR	BDR	BDR	BDR	WT	BDR	BDR
Geologic Formation	OCK	OCK	OCK	OCK	OCK	OCK	OCK
Screened or Open	Screen	Screen	Open	Screen	Open	Open	Screen
Top - Depth	52	146	356	146	205	350	148.3
Bottom - Depth	69	157	441	157	235	400	166.7
Screen Material	PVC/sw/.01	PVC/sw/.01	.	PVC/sw/.01	.	.	SS/sw/.01
Screen Length	15.0	10.0	.	10.0	.	.	15.8
Open-Hole Length	.	.	85	.	30	50	.
Open-Hole Diameter	.	.	6	.	6	11	.

(CONTINUED)

APPENDIX C
Monitoring-Well Construction Details

3

Well No.	GW-177	GW-181	GW-184	GW-186	GW-187	GW-188	GW-203
Location	CRSP	CRSP	RQ	RQ	RQ	RQ	UNCS
East Coordinate	57497	57736	57475	56862	55980	56174	54190.48
North Coordinate	28483	28048	23915	23387	23393	23663	28355.82
ELEVATIONS	.	.	.	.	.	.	.
Measuring Point	1157.95	1093.03	927.63	831.32	834.28	837.09	1105.26
Surface	1155.52	1090.55	924.65	828.31	831.59	834.33	1102.34
Weathered Rock	1093.52	1047.55	.	816.31	824.59	821.33	1016.34
Fresh Rock	1057.52	1012.55	916.65	813.81	816.59	820.33	1009.34
Top Monitored Interval	1023.52	935.55	823.15	686.31	692.59	785.33	958.34
Bottom Monitored Interval	1010.52	922.55	794.65	657.31	669.59	766.33	946.34
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	82	102	8	14.5	7	15	94
Casing Diameter	10.75	10.75	10.625	10.625	10.625	10.625	10.75
Casing Material	.	.	PVC/40	PVC/40	PVC/40	PVC/40	.
WELL CASING BOREHOLE	.	.	.	.	.	.	.
Borehole Depth	145	155	130	171	162	68	156
Borehole Diameter	8	9.5	10	10	10	10	8.5
Weathered Rock - Depth	62	43	.	12	7	13	86
Fresh Rock - Depth	98	78	8	14.5	15	14	93
WELL CASING	.	.	.	.	.	.	.
Well Casing Depth	143	155	127.5	170	162	67.5	156
Well Casing Diameter	4.5	6.62	4.5	4.5	4.5	4.5	4.5
Well Casing Material	SS/304	Steel/F25	PVC/40	PVC/40	PVC/40	PVC/40	PVC/40
MONITORED INTERVAL	.	.	.	.	.	.	.
Aquifer Zone	BDR	BDR	BDR	BDR	BDR	BDR	BDR
Geologic Formation	OCK	OCK	Och	Och	Och	Och	OCK
Screened or Open	Screen	Open	Screen	Screen	Screen	Screen	Screen
Top - Depth	132	155	101.5	142	139	49	144
Bottom - Depth	145	168	130	171	162	68	156
Screen Material	SS/sw/.01	.	PVC/sw/.01	PVC/sw/.01	PVC/sw/.01	PVC/sw/.01	PVC/sw/.01
Screen Length	10.0	.	20.0	20.0	15.0	15.0	10.0
Open-Hole Length	.	13	.	.	.	.	.
Open-Hole Diameter	.	6	.	.	.	.	.

(CONTINUED)

APPENDIX C
Monitoring-Well Construction Details

4

Well No.	GW-205	GW-217	GW-221	GW-231	GW-241	GW-292	GW-293
Location	UNCS	LIV	UNCS	KHQ	CRSDB	ECRWP	ECRWP
East Coordinate	54008.3	53020	54388.57	63410	63659	62146	62321
North Coordinate	28362.98	28758	28359.44	24725	27069	28141	28112
ELEVATIONS	.	.	.	.	.	.	.
Measuring Point	1103.97	1176.86	1106	849.47	982.64	1073	1063.9
Surface	1101.46	1174.29	1103.36	846.9	980.8	1070.11	1061.7
Weathered Rock	1001.46	1119.29	1067.36	.	913.8	1038.11	1004.7
Fresh Rock	955.46	1099.29	1013.36	836.4	886.2	1010.61	951.7
Top Monitored Interval	947.46	1009.09	956.36	824.1	902.8	898.01	864.7
Bottom Monitored Interval	937.46	994.29	945.36	811.9	877.8	884.11	847.7
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	154	81.7	92	11	.	51	57.8
Casing Diameter	10.75	10.75	6.625	10.625	.	10.75	10.75
Casing Material	.	.	.	PVC/#40	.	.	.
WELL CASING BOREHOLE	.	.	.	.	.	.	.
Borehole Depth	164	180	158	35	103	186	197
Borehole Diameter	10	10	6	11	8.5	10	10
Weathered Rock - Depth	100	55	36	.	67	32	57
Fresh Rock - Depth	146	75	90	10.5	94.6	59.5	110
WELL CASING	.	.	.	.	.	.	.
Well Casing Depth	164	177.4	158	35	100	184.8	197
Well Casing Diameter	4.5	4.5	4.5	4.5	4.5	4.5	6.62
Well Casing Material	PVC/#40	SS/#304	PVC/#40	PVC/#40	SS/#304	SS/#304	Steel/F25
MONITORED INTERVAL	.	.	.	.	.	.	.
Aquifer Zone	BDR	BDR	BDR	BDR	WT	BDR	BDR
Geologic Formation	OCK	OCK	OCK	OCK	OCK	OCK	OCK
Screened or Open	Screen	Screen	Screen	Screen	Screen	Screen	Open
Top - Depth	154	165.2	147	22.8	78	172.1	197
Bottom - Depth	164	180	158	35	103	186	214
Screen Material	PVC/sw/.01	SS/sw/.01	PVC/sw/.01	PVC/sw/.01	SS/sw/.01	SS/sw/.01	.
Screen Length	10.0	10.6	10.0	10.0	21.0	10.7	.
Open-Hole Length	.	.	.	.	.	.	17
Open-Hole Diameter	.	.	.	.	.	.	6

(CONTINUED)

APPENDIX C
Monitoring-Well Construction Details

5

Well No.	GW-294	GW-295	GW-296	GW-298	GW-299	GW-300	GW-301
Location	ECRWP	LIII	ECRWP	LIII	LIII	LIII	LIII
East Coordinate	62483	62184	62023	62445	62319	62041	61964
North Coordinate	27958	27802	27994	27495	27392	27487	27662
ELEVATIONS	.	.	.	.	.	.	.
Measuring Point	1083.57	1092.71	1090.99	1049.01	1053.86	1073.12	1086.38
Surface	1081.74	1090.42	1088.29	1046.4	1051.33	1070.69	1083.94
Weathered Rock	1019.74	1028.42	1021.29	981.4	985.33	968.69	989.94
Fresh Rock	994.74	996.42	1006.29	966.4	981.33	964.69	947.94
Top Monitored Interval	968.74	960.02	953.89	875.3	898.33	938.69	935.44
Bottom Monitored Interval	953.74	944.42	941.29	856.4	883.33	923.69	920.44
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	74.5	123	86.5	83.3	80	115	105
Casing Diameter	10.75	10.75	10.75	10.75	10.75	10.75	10.75
Casing Material	.	.	.	.	.	.	.
WELL CASING BOREHOLE	.	.	.	.	.	.	.
Borehole Depth	128	146	147	190	168	147	163.5
Borehole Diameter	10	10	10	10	10	10	10
Weathered Rock - Depth	62	62	67	65	66	102	94
Fresh Rock - Depth	87	94	82	80	70	106	136
WELL CASING	.	.	.	.	.	.	.
Well Casing Depth	128	146	146.8	186	166.6	145.4	161
Well Casing Diameter	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304
MONITORED INTERVAL	.	.	.	.	.	.	.
Aquifer Zone	BDR	BDR	BDR	BDR	BDR	BDR	BDR
Geologic Formation	OCK	OCK	OCK	OCK	OCK	OCK	OCK
Screened or Open	Screen	Screen	Screen	Screen	Screen	Screen	Screen
Top - Depth	113	130.4	134.4	171.1	153	132	148.5
Bottom - Depth	128	146	147	190	168	147	163.5
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	10.4	10.1	10.5	10.0	10.8	10.6	10.0
Open-Hole Length	.	.	.	.	.	.	.
Open-Hole Diameter	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX C
Monitoring-Well Construction Details

6

Well No.	GW-302	GW-303	GW-304	GW-305	GW-321	GW-339	GW-511
Location	UNCS	CRSDB	CRSDB	LIV	ADB	UNCS	CRSP
East Coordinate	54353.4	63488	63425	52962	57026	54146.52	57739
North Coordinate	28693.55	28099	27545	28548	26275	28658.72	28056
ELEVATIONS	.	.	.	.	.	.	.
Measuring Point	1141.67	1007.16	1045.49	1183.55	925.58	1124.59	1093.21
Surface	1139.59	1004.44	1042.82	1181.07	923.1	1122.18	1090.7
Weathered Rock	1076.59	967.44	1007.82	1128.07	.	1077.18	1050.2
Fresh Rock	1037.59	893.44	950.82	1097.07	.	1031.18	990.7
Top Monitored Interval	1018.09	704.44	894.32	1015.77	839.1	1021.18	950.7
Bottom Monitored Interval	1004.79	683.44	875.82	1001.47	824.5	1008.18	937
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	63.8	42.8	90	64	22	91	100
Casing Diameter	10.75	10.75	10.75	10.75	10.75	10.75	10.75
Casing Material	Steel	.	unknown	.	.	Steel	unknown
WELL CASING BOREHOLE	.	.	.	.	.	.	.
Borehole Depth	136	300	167	179.6	98.6	114	153.7
Borehole Diameter	9.5	10	9.75	10	8	9.5	9.6
Weathered Rock - Depth	63	37	35	53	.	45	40.5
Fresh Rock - Depth	102	111	92	84	.	91	100
WELL CASING	.	.	.	.	.	.	.
Well Casing Depth	134.8	300	167	179.6	98	114	157.7
Well Casing Diameter	4.5	7	4.5	4.5	4.5	4.5	4.5
Well Casing Material	SS/#304	Steel	SS/#304	SS/#304	SS/#304	SS/sw/.01	SS/#304
MONITORED INTERVAL	.	.	.	.	.	.	.
Aquifer Zone	BDR	BDR	BDR	BDR	BDR	BDR	BDR
Geologic Formation	OCK	OCK	OCK	OCK	OCK	OCK	OCK
Screened or Open	Screen	Open	Screen	Screen	Screen	Screen	Screen
Top - Depth	121.5	300	148.5	165.3	84	101	140
Bottom - Depth	134.8	321	167	179.6	98.6	114	153.7
Screen Material	SS/sw/.01	.	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01
Screen Length	10.3	.	10.0	10.7	10.7	10.3	10.0
Open-Hole Length	.	21	.	.	.	.	.
Open-Hole Diameter	.	6	.	.	.	.	.

(CONTINUED)

APPENDIX C
Monitoring-Well Construction Details

7

Well No.	GW-512	GW-513	GW-514	GW-521	GW-522	GW-539	GW-540
Location	ADB	ADB	ADB	LIV	LIV	LII	CDLVI
East Coordinate	57343	57332	57341	52040	52612	52278.26	52371.31
North Coordinate	27601	27607	27575	28541	28377	27192.53	27489.06
ELEVATIONS	.	.	.	.	.	.	.
Measuring Point	1001.54	1001.41	1001.22	1182.68	1175.31	1093	1072.12
Surface	998.99	998.99	998.66	1179.46	1172.04	1090.39	1069.38
Weathered Rock	943.99	931.99	954.66	.	1087.04	.	959.38
Fresh Rock	.	901.99	906.66	1125.46	1042.04	1016.39	919.38
Top Monitored Interval	950.99	887.99	824.66	1056.26	989.04	953.99	910.88
Bottom Monitored Interval	937.99	873.69	803.66	1043.46	976.74	934.39	897.88
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	.	98	105	60.5	90	79	154
Casing Diameter	.	10.75	10.75	10.75	10.75	10.75	10.75
Casing Material	.	unknown	unknown	unknown	unknown	Steel	Steel
WELL CASING BOREHOLE	.	.	.	.	.	.	.
Borehole Depth	61	125.3	174	136	195.5	156	171.5
Borehole Diameter	9.5	9.5	9.5	9.5	9.5	9.25	9.25
Weathered Rock - Depth	55	67	44	.	85	.	110
Fresh Rock - Depth	.	97	92	54	130	74	150
WELL CASING	.	.	.	.	.	.	.
Well Casing Depth	61	125.3	174	135.6	195.3	156	171.5
Well Casing Diameter	4.5	4.5	6.62	4.5	4.5	4.5	4.5
Well Casing Material	SS/#304	SS/#304	Steel/F25	SS/#304	SS/#304	SS/#304	SS/#304
MONITORED INTERVAL	.	.	.	.	.	.	.
Aquifer Zone	WT	BDR	BDR	BDR	BDR	BDR	BDR
Geologic Formation	Ock	Ock	Ock	Ock	Ock	Ock	Ock
Screened or Open	Screen	Screen	Open	Screen	Screen	Screen	Screen
Top - Depth	48	111	174	123.2	183	136.4	158.5
Bottom - Depth	61	125.3	195	136	195.3	156	171.5
Screen Material	SS/sw/.01	SS/sw/.01	.	SS/sw/.01	SS/sw/.01	SS/sl/.01	SS/sl/.01
Screen Length	10.0	10.0	.	10.3	10.4	15.9	10.3
Open-Hole Length	.	.	21	.	.	.	.
Open-Hole Diameter	.	.	6	.	.	.	.

(CONTINUED)

APPENDIX C
Monitoring-Well Construction Details

8

Well No.	GW-541	GW-542	GW-543	GW-544	GW-545	GW-546	GW-557
Location	CDLVI	CDLVI	CDLVI	CDLVI	CDLVI	CDLVI	LV
East Coordinate	51738.09	51641.74	51458.48	51819.56	51728.54	52366.34	59519.59
North Coordinate	27653.53	27466.22	27072.06	26963.22	27640.84	27473.75	26450.11
ELEVATIONS	.	.	.	.	.	.	.
Measuring Point	1058.4	1051.6	1023.8	1044.99	1058.02	1072.21	1081.16
Surface	1055.79	1049.03	1021.19	1042.53	1055.43	1069.64	1078.63
Weathered Rock	1002.29	.	1005.19	995.53	1000.93	995.14	.
Fresh Rock	986.29	.	984.19	990.03	.	.	.
Top Monitored Interval	969.09	990.03	944.99	951.53	1000.23	1003.44	965.73
Bottom Monitored Interval	951.29	972.53	927.59	933.23	988.43	985.24	940.63
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	64.1	.	29.3	54.5	.	.	85
Casing Diameter	10.75	.	10.75	10.75	.	.	10.75
Casing Material	Steel	.	Steel	Steel	.	.	Steel
WELL CASING BOREHOLE	.	.	.	.	.	.	.
Borehole Depth	104.5	76.5	93.6	109.3	67	84.5	138
Borehole Diameter	9.25	9.25	9.25	9.25	9.25	9.25	9.5
Weathered Rock - Depth	53.5	.	16	47	54.5	74.5	.
Fresh Rock - Depth	69.5	.	37	52.5	.	.	.
WELL CASING	.	.	.	.	.	.	.
Well Casing Depth	104.5	76.5	93.6	109.3	67	84.4	135.75
Well Casing Diameter	4.5	4.5	4.5	4.5	4.5	4.5	4
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304
MONITORED INTERVAL	.	.	.	.	.	.	.
Aquifer Zone	BDR	WT	BDR	BDR	WT	WT	WT
Geologic Formation	OCK	OCK	OCK	OCK	OCK	OCK	OCK
Screened or Open	Screen	Screen	Screen	Screen	Screen	Screen	Screen
Top - Depth	86.7	59	76.2	91	55.2	66.2	112.9
Bottom - Depth	104.5	76.5	93.6	109.3	67	84.4	138
Screen Material	SS/sl/.01	SS/sl/.01	SS/sl/.01	SS/sl/.01	SS/sl/.01	SS/sl/.01	SS/sw/.01
Screen Length	15.7	15.7	15.6	15.9	10.3	15.8	20.0
Open-Hole Length	.	.	.	.	.	.	.
Open-Hole Diameter	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX C
Monitoring-Well Construction Details

9

Well No.	GW-560	GW-562	GW-564	GW-607	GW-608	GW-609	GW-610
Location	CDLVII	CDLVII	CDLVII	CRSP	CRSP	CRSP	CRSP
East Coordinate	60743.42	61640.17	59865.28	58922.12	59724.35	60039.73	59471.94
North Coordinate	25692.28	26276.29	25872.94	27865.53	27889.43	28109.43	28549.31
ELEVATIONS	.	.	.	.	.	.	.
Measuring Point	938.92	934.49	937.77	1075.98	1073.95	1112.11	1059.44
Surface	936.17	931.86	935.12	1072.86	1071	1109.7	1056.78
Weathered Rock	.	.	.	.	958	.	1017.78
Fresh Rock	.	879.86	863.12	965.86	931	1002.7	1006.78
Top Monitored Interval	890.97	895.86	883.12	934.86	923	853.3	951.68
Bottom Monitored Interval	867.17	871.86	854.12	921.56	851	840.7	939.38
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	.	.	.	106.8	.	107	107.1
Casing Diameter	.	.	.	10.75	.	10.75	10.75
Casing Material	.	.	.	Steel	.	Steel	Steel
WELL CASING BOREHOLE	.	.	.	.	.	.	.
Borehole Depth	117	60	81	151.3	150	269	117.4
Borehole Diameter	9.5	9.5	9.5	9.5	15.5	9.5	9.5
Weathered Rock - Depth	.	.	.	.	113	.	39
Fresh Rock - Depth	.	52	72	107	140	107	50
WELL CASING	.	.	.	.	.	.	.
Well Casing Depth	69	58	75.3	151.3	148	269	117.4
Well Casing Diameter	4	4	4	4.5	10.75	4.5	4.5
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304	Steel	SS/#304	SS/#304
MONITORED INTERVAL	.	.	.	.	.	.	.
Aquifer Zone	WT	WT	WT	BDR	BDR	BDR	BDR
Geologic Formation	OCk	OCk	OCk	OCk	OCk	OCk	OCk
Screened or Open	Screen	Screen	Screen	Screen	Open	Screen	Screen
Top - Depth	45.2	36	52	138	148	256.4	105.1
Bottom - Depth	69	60	81	151.3	220	269	117.4
Screen Material	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	.	SS/sw/.01	SS/sw/.01
Screen Length	20.0	20.0	20.0	10.3	.	10.3	10.3
Open-Hole Length	.	.	.	.	72	.	.
Open-Hole Diameter	.	.	.	.	9.5	.	.

(CONTINUED)

APPENDIX C
Monitoring-Well Construction Details

10

Well No.	GW-611	GW-709	GW-731	GW-732	GW-742	GW-743	GW-757
Location	CRSP	LIJ	CRSDB	CRSDB	CRSP	CRSP	LIJ
East Coordinate	58058.92	52371.88	63863.14	64267.74	58908	58908	53302.52
North Coordinate	28855.52	25344.08	27463.65	27716.72	28038	28056	25409.5
ELEVATIONS	.	.	.	.	.	.	.
Measuring Point	1048.38	906.6	1049.18	1064.09	1100.97	1100.36	961.43
Surface	1045.43	903.84	1045.75	1060.65	1097.83	1098.72	958.65
Weathered Rock	1015.43	864.84	950.35	975.65	1029.83	1049.72	929.15
Fresh Rock	981.63	860.84	916.35	964.65	1001.83	1011.22	910.65
Top Monitored Interval	943.93	835.14	881.75	882.35	747.83	948.62	824.65
Bottom Monitored Interval	923.83	823.24	867.05	870.65	677.83	937.62	791.95
SURFACE/CONDUCTOR CASING	.	.	.	.	.	.	.
Casing Depth	75	50	122	100.7	92	82.9	46.8
Casing Diameter	10.75	11.75	11.75	11.75	11.75	11.75	10.75
Casing Material	Steel	Steel	Steel	Steel	.	.	.
WELL CASING BOREHOLE	.	.	.	.	.	.	.
Borehole Depth	121.6	80.6	175.4	189.5	350	161.1	166.5
Borehole Diameter	9.5	10.6	10.6	10.6	10.6	10.6	9.62
Weathered Rock - Depth	30	39	95.4	85	68	49	29.5
Fresh Rock - Depth	63.8	43	129.4	96	96	87.5	48
WELL CASING	.	.	.	.	.	.	.
Well Casing Depth	117.3	80.6	175.4	189.5	350	160.3	165.7
Well Casing Diameter	4.5	4.25	4.5	4.5	7	4.5	4.5
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304	Steel	SS/#304	SS/#304
MONITORED INTERVAL	.	.	.	.	.	.	.
Aquifer Zone	BDR	BDR	BDR	BDR	BDR	BDR	BDR
Geologic Formation	OCK	OCK	OCK	OCK	OCK	OCK	OCK
Screened or Open	Screen	Screen	Screen	Screen	Open	Screen	Screen
Top - Depth	101.5	68.7	164	178.3	350	150.1	134
Bottom - Depth	121.6	80.6	178.7	190	420	161.1	166.7
Screen Material	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	.	SS/sw/.01	SS/sw/.01
Screen Length	10.0	10.0	10.0	10.0	.	10.1	30.0
Open-Hole Length	.	.	.	.	70	.	.
Open-Hole Diameter	.	.	.	.	6.25	.	.

(CONTINUED)

APPENDIX C
Monitoring-Well Construction Details

11

Well No.	GW-796	GW-797	GW-798	GW-799	GW-801
Location	LV	LV	CDLVII	CDLVII	LV
East Coordinate	58206.4	58550.4	60310.2	59961.2	58779.9
North Coordinate	27923.9	27446.6	27264.1	26745.5	26807.8
ELEVATIONS	.	.	.	.	.
Measuring Point	1052.42	1059.8	1000.3	981.09	1096.96
Surface	1048.8	1056.1	986.6	978.1	1093.82
Weathered Rock	.	.	.	.	.
Fresh Rock	.	.	.	.	.
Top Monitored Interval	925.9	938.1	864.6	899.4	918.2
Bottom Monitored Interval	912.3	922	851.2	886.1	905.1
SURFACE/CONDUCTOR CASING	.	.	.	.	.
Casing Depth	107.6	95.02	99.7	65	115.4
Casing Diameter	10.75	10.75	10.75	10.75	10.75
Casing Material	.	.	.	.	Steel
WELL CASING BOREHOLE	.	.	.	.	.
Borehole Depth	139.7	134.1	135.5	92	188.9
Borehole Diameter	9.5	9.5	9.5	9.5	9.8
Weathered Rock - Depth	.	.	.	.	112.5
Fresh Rock - Depth	.	.	.	.	113.4
WELL CASING	.	.	.	.	.
Well Casing Depth	136.5	133.5	134.5	91	178.1
Well Casing Diameter	4.5	4.5	4.5	4.5	4.5
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304
MONITORED INTERVAL	.	.	.	.	.
Aquifer Zone	BDR	BDR	BDR	BDR	BDR
Geologic Formation	OCk	OCk	OCk	OCk	OCk
Screened or Open	Screen	Screen	Screen	Screen	Screen
Top - Depth	122.9	118	122	78.7	175.8
Bottom - Depth	136.5	134.1	135.4	92	188.9
Screen Material	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01
Screen Length	10.0	10.0	10.0	10.0	9.9
Open-Hole Length	.	.	.	.	.
Open-Hole Diameter	.	.	.	.	.

APPENDIX D
SAMPLING SEQUENCE

EXPLANATION

LOCATION:

ADB	-	Ash Disposal Basin
CDLVI	-	Construction Debris Landfill VI (formerly Industrial Landfill II Expansion)
CDLVII	-	Construction Debris Landfill VII
CRSDB	-	Chestnut Ridge Sediment Disposal Basin
CRSP	-	Chestnut Ridge Security Pits
ECRWP	-	East Chestnut Ridge Waste Pile
KHQ	-	Kerr Hollow Quarry (located in Bethel Valley)
LII	-	Industrial Landfill II
LIII	-	Industrial Landfill III
LIV	-	Industrial Landfill IV
LV	-	Industrial Landfill V
RQ	-	Rogers Quarry (located in Bethel Valley)
UNCS	-	United Nuclear Corporation Site

APPENDIX D
Sampling Sequence

Sampling Point	Location	Date	Time
First Quarter 1993			
GW-217	LIV	01/05/93	11:30
GW-305	LIV	01/05/93	14:30
GW-181	CRSP	01/05/93	15:20
GW-539	LII	01/06/93	10:30
GW-511	CRSP	01/06/93	11:42
GW-522	LIV	01/06/93	12:16
GW-607	CRSP	01/06/93	14:00
GW-521	LIV	01/06/93	14:37
GW-757	LII	01/07/93	9:20
GW-141	LIV	01/07/93	12:10
GW-709	LII	01/07/93	12:57
GW-742	CRSP	01/13/93	12:30
GW-743	CRSP	01/13/93	13:22
GW-203	UNCS	01/18/93	12:15
GW-205	UNCS	01/18/93	15:15
GW-221	UNCS	01/19/93	10:50
GW-339	UNCS	01/19/93	14:15
GW-302	UNCS	01/20/93	10:26
1090	UNCS	01/20/93	14:00
GW-296	ECRNP	01/25/93	11:00
GW-294	ECRNP	01/25/93	14:23
GW-292	ECRNP	01/26/93	11:48
GW-293	ECRNP	01/28/93	10:00
GW-161	LIII	02/08/93	16:50
GW-160	LIII	02/09/93	13:00
GW-300	LIII	02/10/93	12:51
GW-301	LIII	02/10/93	14:30
GW-299	LIII	02/10/93	16:30
GW-298	LIII	02/11/93	10:45
GW-295	LIII	02/11/93	12:30
GW-159	CRSDB	02/22/93	12:00
GW-304	CRSDB	02/22/93	14:00
GW-731	CRSDB	02/23/93	10:00
GW-732	CRSDB	02/23/93	11:26
GW-156	CRSDB	02/24/93	11:00
GW-303	CRSDB	02/25/93	14:00
GW-241	CRSDB	02/26/93	10:45
GW-184	RQ	03/02/93	10:00
GW-188	RQ	03/02/93	12:00
GW-187	RQ	03/03/93	10:12
GW-186	RQ	03/03/93	14:00
GW-147	KHQ	03/05/93	11:10
GW-231	KHQ	03/05/93	13:30
GW-142	KHQ	03/05/93	14:00
GW-145	KHQ	03/06/93	10:30

APPENDIX D
Sampling Sequence

Sampling Point	Location	Date	Time
GW-144	KHQ	03/06/93	14:00
GW-143	KHQ	03/06/93	16:30
GW-146	KHQ	03/09/93	8:30
GW-546	CDLVI	03/12/93	11:00
GW-541	CDLVI	03/12/93	12:30
GW-540	CDLVI	03/12/93	12:36
GW-542	CDLVI	03/16/93	10:44
GW-543	CDLVI	03/16/93	12:15
GW-513	ADB	03/16/93	13:42
GW-544	CDLVI	03/16/93	14:28
GW-545	CDLVI	03/17/93	9:45
GW-512	ADB	03/18/93	12:20
GW-514	ADB	03/20/93	9:08
GW-321	ADB	03/22/93	11:02
GW-158	CRSDB	03/24/93	12:15
GW-610	CRSP	03/25/93	11:16
GW-611	CRSP	03/27/93	10:30
GW-175	CRSP	03/27/93	13:30
GW-608	CRSP	03/28/93	13:20
GW-609	CRSP	03/28/93	14:00
GW-177	CRSP	03/30/93	13:45
Second Quarter 1993			
GW-296	ECRWP	04/01/93	10:21
GW-217	LIV	04/01/93	11:30
GW-294	ECRWP	04/01/93	13:10
GW-539	LII	04/01/93	14:00
GW-305	LIV	04/01/93	14:30
GW-292	ECRWP	04/02/93	10:42
GW-709	LII	04/02/93	12:00
GW-522	LIV	04/02/93	13:42
GW-521	LIV	04/05/93	11:58
GW-757	LII	04/05/93	13:15
GW-141	LIV	04/05/93	14:26
GW-293	ECRWP	04/06/93	13:51
GW-203	UNCS	05/11/93	11:45
GW-205	UNCS	05/11/93	14:45
GW-221	UNCS	05/12/93	14:00
GW-339	UNCS	05/13/93	10:00
GW-302	UNCS	05/13/93	11:05
1090	UNCS	05/13/93	13:25
GW-560	CDLVII	05/26/93	11:10
GW-562	CDLVII	05/26/93	12:06
GW-564	CDLVII	05/26/93	14:04
GW-557	LV	05/26/93	14:14
GW-799	LV	05/27/93	11:15

APPENDIX D
Sampling Sequence

Sampling Point	Location	Date	Time
GW-797	LV	05/27/93	11:40
GW-796	LV	05/27/93	13:50
GW-539	LII	05/28/93	11:05
GW-540	CDLVI	05/28/93	11:11
GW-546	CDLVI	06/01/93	10:30
GW-541	CDLVI	06/02/93	10:15
GW-545	CDLVI	06/02/93	12:00
GW-542	CDLVI	06/02/93	12:54
GW-513	ADB	06/02/93	13:17
GW-543	CDLVI	06/02/93	14:07
GW-544	CDLVI	06/02/93	16:30
GW-512	ADB	06/03/93	10:06
GW-181	CRSP	06/04/93	12:10
GW-511	CRSP	06/04/93	13:38
GW-514	ADB	06/05/93	10:34
GW-161	LIII	06/05/93	11:05
GW-295	LIII	06/05/93	12:55
GW-160	LIII	06/06/93	10:06
GW-300	LIII	06/06/93	12:05
GW-301	LIII	06/06/93	13:30
GW-321	ADB	06/09/93	12:48
GW-299	LIII	06/10/93	11:42
GW-298	LIII	06/10/93	14:30
GW-742	CRSP	06/11/93	9:45
GW-147	KHQ	06/11/93	12:00
GW-231	KHQ	06/11/93	13:00
GW-142	KHQ	06/11/93	14:10
GW-145	KHQ	06/12/93	10:45
GW-144	KHQ	06/12/93	13:48
GW-143	KHQ	06/12/93	17:00
GW-143	KHQ	06/13/93	9:30
GW-743	CRSP	06/13/93	9:54
GW-146	KHQ	06/13/93	10:15
GW-610	CRSP	06/13/93	11:55
GW-159	CRSDB	06/14/93	13:00
GW-177	CRSP	06/14/93	14:25
GW-304	CRSDB	06/14/93	16:00
GW-731	CRSDB	06/15/93	10:30
GW-611	CRSP	06/15/93	10:35
GW-732	CRSDB	06/15/93	11:55
GW-175	CRSP	06/15/93	13:40
GW-156	CRSDB	06/15/93	14:00
GW-608	CRSP	06/15/93	15:30
GW-609	CRSP	06/16/93	12:14
GW-303	CRSDB	06/17/93	13:40
GW-241	CRSDB	06/18/93	9:54
GW-560	CDLVII	06/22/93	10:48

APPENDIX D
Sampling Sequence

Sampling Point	Location	Date	Time
GW-562	CDLVII	06/22/93	13:20
GW-564	CDLVII	06/22/93	15:10
GW-557	LV	06/22/93	16:11
GW-799	LV	06/23/93	11:50
GW-798	CDLVII	06/23/93	14:10
GW-158	CRSDB	06/23/93	15:30
GW-797	LV	06/24/93	8:45
GW-184	RQ	06/24/93	9:53
GW-796	LV	06/24/93	10:28
GW-188	RQ	06/24/93	12:00
GW-187	RQ	06/25/93	10:07
GW-186	RQ	06/26/93	12:00
GW-303	CRSDB	06/26/93	14:15
GW-241	CRSDB	06/27/93	9:23
Third Quarter 1993			
GW-217	LIV	07/17/93	10:00
GW-305	LIV	07/17/93	13:16
GW-522	LIV	07/18/93	10:12
GW-521	LIV	07/18/93	12:26
GW-141	LIV	07/18/93	15:12
GW-539	LII	07/19/93	13:15
GW-709	LII	07/20/93	10:50
GW-757	LII	07/20/93	14:00
GW-184	RQ	07/22/93	10:54
GW-188	RQ	07/22/93	13:15
GW-187	RQ	07/23/93	12:25
GW-186	RQ	07/24/93	11:25
GW-801	LV	07/24/93	14:24
GW-203	UNCS	07/26/93	14:48
GW-205	UNCS	07/26/93	15:15
GW-221	UNCS	07/27/93	10:36
GW-339	UNCS	07/27/93	10:56
GW-302	UNCS	07/27/93	12:29
1090	UNCS	07/27/93	13:57
GW-159	CRSDB	08/10/93	12:00
GW-161	LIII	08/11/93	9:40
GW-304	CRSDB	08/11/93	9:40
GW-731	CRSDB	08/11/93	12:00
GW-295	LIII	08/12/93	9:15
GW-732	CRSDB	08/12/93	10:30
GW-160	LIII	08/12/93	10:36
GW-156	CRSDB	08/12/93	12:45
GW-300	LIII	08/12/93	13:00
GW-301	LIII	08/13/93	12:00
GW-299	LIII	08/14/93	9:45

APPENDIX D
Sampling Sequence

Sampling Point	Location	Date	Time
GW-298	LIII	08/14/93	12:30
GW-303	CRSDB	08/20/93	11:57
GW-241	CRSDB	08/21/93	9:34
GW-540	CDLVI	08/21/93	10:35
GW-546	CDLVI	08/21/93	11:50
GW-296	ECRWP	08/22/93	9:20
GW-294	ECRWP	08/22/93	11:30
GW-292	ECRWP	08/22/93	13:50
GW-293	ECRWP	08/22/93	14:20
GW-147	KHQ	08/24/93	11:40
GW-231	KHQ	08/24/93	13:30
GW-241	CRSDB	08/24/93	13:40
GW-142	KHQ	08/25/93	9:40
GW-147	KHQ	08/25/93	11:45
GW-145	KHQ	08/25/93	12:30
GW-146	KHQ	08/25/93	13:45
GW-303	CRSDB	08/25/93	15:30
GW-158	CRSDB	08/25/93	16:20
GW-144	KHQ	08/26/93	11:57
GW-143	KHQ	08/27/93	13:00
GW-560	CDLVII	08/28/93	10:02
GW-562	CDLVII	08/28/93	12:22
GW-564	CDLVII	08/29/93	10:03
GW-799	LV	08/29/93	10:36
GW-797	LV	08/29/93	13:30
GW-798	CDLVII	08/29/93	13:44
GW-796	LV	08/30/93	12:08
GW-801	LV	08/30/93	14:40
GW-513	ADB	08/31/93	13:44
GW-512	ADB	09/01/93	9:53
GW-181	CRSP	09/01/93	12:37
GW-511	CRSP	09/01/93	13:53
GW-610	CRSP	09/02/93	11:31
GW-514	ADB	09/02/93	11:34
GW-321	ADB	09/02/93	13:52
GW-608	CRSP	09/07/93	15:59
GW-742	CRSP	09/09/93	12:45
GW-743	CRSP	09/10/93	10:18
GW-611	CRSP	09/11/93	10:45
GW-175	CRSP	09/11/93	13:20
GW-541	CDLVI	09/15/93	12:05
GW-542	CDLVI	09/15/93	12:45
GW-545	CDLVI	09/16/93	9:00
GW-543	CDLVI	09/16/93	11:26
GW-544	CDLVI	09/16/93	13:30
GW-609	CRSP	09/24/93	11:35
GW-557	LV	09/29/93	11:33

APPENDIX D
Sampling Sequence

Sampling Point	Location	Date	Time
GW-177	CRSP	09/30/93	11:30
Fourth Quarter 1993			
GW-217	LIV	10/04/93	12:15
GW-539	LII	10/04/93	14:00
GW-305	LIV	10/04/93	14:20
GW-709	LII	10/05/93	11:05
GW-522	LIV	10/05/93	12:48
GW-757	LII	10/05/93	14:05
GW-521	LIV	10/06/93	10:25
GW-141	LIV	10/06/93	12:26
GW-203	UNCS	10/07/93	11:53
GW-205	UNCS	10/07/93	15:00
GW-221	UNCS	10/09/93	10:48
GW-339	UNCS	10/09/93	12:45
GW-302	UNCS	10/09/93	13:50
1090	UNCS	10/10/93	9:36
GW-296	ECRWP	10/14/93	9:32
GW-294	ECRWP	10/14/93	11:05
GW-292	ECRWP	10/14/93	13:03
GW-293	ECRWP	10/15/93	13:50
GW-161	LIII	11/10/93	15:30
GW-160	LIII	11/11/93	14:30
GW-300	LIII	11/12/93	9:53
GW-295	LIII	11/13/93	8:45
GW-301	LIII	11/13/93	12:30
GW-299	LIII	11/13/93	14:55
GW-298	LIII	11/15/93	12:30
GW-159	CRSDB	11/29/93	12:20
GW-304	CRSDB	11/29/93	14:40
GW-731	CRSDB	11/29/93	17:25
GW-732	CRSDB	11/30/93	9:54
GW-540	CDLVI	11/30/93	12:09
GW-156	CRSDB	11/30/93	12:30
GW-546	CDLVI	12/01/93	13:15
GW-560	CDLVII	12/02/93	10:56
GW-541	CDLVI	12/02/93	12:30
GW-562	CDLVII	12/02/93	13:15
GW-303	CRSDB	12/02/93	15:52
GW-545	CDLVI	12/03/93	10:20
GW-241	CRSDB	12/03/93	11:01
GW-542	CDLVI	12/03/93	12:00
GW-543	CDLVI	12/04/93	9:24
GW-184	RQ	12/05/93	11:25
GW-188	RQ	12/05/93	13:55
GW-158	CRSDB	12/05/93	14:00

APPENDIX D
Sampling Sequence

Sampling Point	Location	Date	Time
GW-544	CDLVI	12/06/93	11:30
GW-187	RQ	12/06/93	14:00
GW-186	RQ	12/06/93	17:45
GW-564	CDLVII	12/08/93	11:32
GW-557	LV	12/08/93	14:40
GW-799	LV	12/09/93	12:09
GW-798	CDLVII	12/09/93	14:32
GW-147	KHQ	12/14/93	11:40
GW-231	KHQ	12/14/93	12:43
GW-145	KHQ	12/14/93	15:55
GW-142	KHQ	12/15/93	9:00
GW-513	ADB	12/15/93	12:00
GW-512	ADB	12/15/93	13:16
GW-143	KHQ	12/15/93	15:30
GW-144	KHQ	12/15/93	16:00
GW-146	KHQ	12/16/93	9:00
GW-797	LV	12/16/93	12:30
GW-181	CRSP	12/16/93	13:01
GW-511	CRSP	12/16/93	14:22
GW-796	LV	12/16/93	14:43
GW-743	CRSP	12/16/93	15:46
GW-801	LV	12/16/93	17:02
GW-610	CRSP	12/17/93	10:21
GW-514	ADB	12/17/93	11:15
GW-321	ADB	12/17/93	14:00
GW-742	CRSP	12/18/93	15:00
GW-608	CRSP	12/18/93	16:34
GW-177	CRSP	12/19/93	10:10
GW-611	CRSP	12/19/93	10:50
GW-175	CRSP	12/19/93	13:10
GW-609	CRSP	12/19/93	13:33

APPENDIX E
GROUNDWATER QUALITY DATA

EXPLANATION

LOCATION:

ADB	-	Ash Disposal Basin
CDLVI	-	Construction Debris Landfill VI (formerly Industrial Landfill II Expansion)
CDLVII	-	Construction Debris Landfill VII
CRSDB	-	Chestnut Ridge Sediment Disposal Basin
CRSP	-	Chestnut Ridge Security Pits
ECRWP	-	East Chestnut Ridge Waste Pile
KHQ	-	Kerr Hollow Quarry (located in Bethel Valley)
LII	-	Industrial Landfill II
LIII	-	Industrial Landfill III
LIV	-	Industrial Landfill IV
LV	-	Industrial Landfill V
RQ	-	Rogers Quarry (located in Bethel Valley)
UNCS	-	United Nuclear Corporation Site

ALL DATA:

- Not Analyzed

ORGANIC COMPOUNDS:

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

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

METALS, MAJOR IONS, MISCELLANEOUS, AND RADIOCHEMICAL PARAMETERS:

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

Bicarbonate and carbonate alkalinity reported as CaCO_3 .

<	-	Compound 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

EXPLANATION (cont'd)

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 E.1

TRACE METALS AND MAJOR IONS

APPENDIX E.1
Groundwater Quality Data, 1993

1

Sampling Point . Location . Date Sampled	1090							
	UNCS							
	01/20/93		05/13/93		07/27/93		10/10/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.022	0.024	0.045	0.034	<0.02	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.027	0.026	0.026	0.026	0.028	0.028	0.025	0.025
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.027	0.023	0.037	0.025	<0.004	0.0063	0.006	<0.004
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.0056	<0.004	<0.004	<0.004
Iron	<0.005	<0.005	0.041	<0.005	<0.005	<0.005	0.02	0.011
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.023	0.022	0.025	0.025	0.024	0.024	0.023	0.023
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	0.001	0.001	0.005	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0048	0.0051	0.013	0.0071	0.007	0.0061	0.0065	0.019
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	259	.	259	.	252	.	247	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	60	57	52	52	56	55	56	54
Chloride	20	.	21	.	20.9	.	19	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	34	33	33	32	33	32	31	31
Manganese	0.001	<0.001	0.0019	0.0012	0.0012	0.0013	<0.001	<0.001
Nitrate-N	1.3	.	0.67	.	0.66	.	0.8	.
Potassium	<0.6	0.86	0.77	0.89	1.3	1.6	0.88	0.95
Sodium	7.5	7.3	9	8.7	9.7	9.6	8.7	8.5
Sulfate	15	.	7	.	5.8	.	9	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

2

Sampling Point . Location . Date Sampled	GW-141							
	LIV							
	01/07/93		04/05/93		07/18/93		10/06/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.99	<0.02	0.92	0.025	0.54	<0.02	0.41	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.021	0.023	0.021	0.019	0.02	0.017	0.021	0.019
Beryllium	0.00043	0.00035	0.0005	<0.0003	0.00035	<0.0003	<0.0003	<0.0003
Boron	0.025	0.0063	0.01	0.012	0.011	0.023	<0.004	<0.004
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.0084	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0085
Copper	0.0049	0.0048	<0.004	<0.004	0.0054	<0.004	<0.004	<0.004
Iron	0.79	0.02	1.1	<0.005	0.85	<0.005	0.57	<0.005
Lead (AAS)	<0.004	<0.004	0.0042	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	-0.00024	-0.00024	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.017	0.021	0.02	0.019	0.015	0.015	0.016	0.015
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	0.0056	<0.005	0.0077	<0.005
Zinc	0.029	0.034	0.031	0.01	0.027	0.013	0.015	0.0072
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	257	.	252	.	237	.	240	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	50	61	49	49	48	47	48	48
Chloride	1.7	.	1.6	.	1.3	.	2	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	30	36	30	30	29	29	29	29
Manganese	0.014	<0.001	0.019	<0.001	0.016	<0.001	0.023	<0.001
Nitrate-N	0.51	.	0.55	.	0.45	.	0.4	.
Potassium	1	0.63	0.98	0.66	0.89	<0.6	0.8	<0.6
Sodium	0.94	1.1	0.84	0.81	0.77	0.74	0.77	0.78
Sulfate	4.4	.	2.5	.	1.4	.	1	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

3

Sampling Point . Location . Date Sampled	GW-142							
	KHQ							
	03/05/93		06/11/93		08/25/93		12/15/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.03	0.043	0.022	<0.02	0.022	<0.02	0.028	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.45	0.43	0.48	0.47	0.49	0.46	0.45	0.44
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.093	0.23	0.059	0.04	0.041	0.044	0.054	0.052
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0096	0.0044	0.0076	<0.004	<0.004	<0.004
Iron	6.7	0.22	1.1	0.039	7.8	<0.005	2.9	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.19	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.56	0.56	0.5	0.49	0.56	0.53	0.52	0.51
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.004	0.002	0.019	0.019	0.032	0.03	0.019	0.02
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0088	0.0057	0.0055	0.0056	0.0092	0.005	0.031	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	230	.	241	.	238	.	233	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	44	44	46	45	52	50	44	43
Chloride	1	.	1.7	.	1	.	2	.
Fluoride	0.6	.	0.5	.	0.6	.	<0.1	.
Magnesium	30	31	30	29	32	32	31	31
Manganese	0.074	0.066	0.075	0.071	0.059	0.036	0.041	0.036
Nitrate-N	<0.2	.	<0.2	.	0.4	.	0.3	.
Potassium	3.9	4	3.7	3.6	4.1	4.3	3.7	3.7
Sodium	0.98	1.4	0.99	1	1	0.97	0.96	0.9
Sulfate	7	.	5.9	.	6	.	4	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

4

Sampling Point . Location . Date Sampled	GW-143							
	KHQ							
	03/06/93		06/12/93		08/27/93		12/15/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.057	0.023	0.028	0.024	<0.02	<0.02	0.04	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.031	0.025	0.029	0.026	0.022	0.022	0.024	0.023
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.89	0.96	0.9	0.91	1	1	0.97	0.93
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0057	<0.004	0.0042	<0.004	<0.004	<0.004
Iron	3.2	0.013	1.7	0.011	0.46	0.022	0.51	0.095
Lead (AAS)	0.035	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	2.6	2.4	2.3	2.3	2.2	2.2	2.3	2.2
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.003	0.002	0.002	0.002	0.003	0.004	0.002	0.002
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0082	0.0076	0.0064	0.0056	0.025	0.034	<0.002	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	195	.	206	.	202	.	203	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	29	27	29	29	30	30	27	27
Chloride	6	.	6.1	.	5	.	6	.
Fluoride	2.9	.	2.6	.	3.4	.	3	.
Magnesium	23	22	22	22	23	23	22	22
Manganese	0.032	0.02	0.027	0.025	0.0092	0.0092	0.015	0.015
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	16	17	16	16	18	18	17	16
Sodium	24	25	25	24	30	30	28	27
Sulfate	33	.	33.6	.	30	.	31	.

(CONTINUED)

APPENDIX B.1
Groundwater Quality Data, 1993

5

Sampling Point Location Date Sampled	GN-144							
	KRO							
	03/06/93		06/12/93		08/26/93		12/15/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	0.027	0.022	0.023	<0.02	<0.02	0.026
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.048	0.05	0.044	0.044	0.051	0.05	0.048	0.05
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.033	0.034	0.043	0.039	0.016	0.021	0.031	0.084
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	0.0043	0.0055	<0.004	0.0047	<0.004	<0.004	<0.004
Iron	0.21	1.8	0.028	<0.005	0.033	0.043	<0.005	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.1	0.1	0.091	0.09	0.1	0.098	0.099	0.098
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.004	0.004	0.003	0.003	0.003	0.003	0.004	0.004
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0055	0.0079	0.011	0.0061	0.026	0.048	0.024	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	158	.	153	.	162	.	156	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	41	41	40	40	47	45	40	41
Chloride	2	.	2.1	.	2	.	2	.
Fluoride	0.15	.	0.1	.	0.2	.	<0.1	.
Magnesium	15	15	14	14	16	16	15	16
Manganese	<0.001	0.028	<0.001	<0.001	0.0016	<0.001	<0.001	<0.001
Nitrate-N	1.2	.	1.4	.	0.9	.	1.1	.
Potassium	1.9	2	2	2	2.1	1.8	1.9	1.9
Sodium	1.2	1.2	1.3	1.2	1.2	1.3	1.1	1.2
Sulfate	6	.	6.2	.	8	.	7	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

6

Sampling Point . Location . Date Sampled	GW-145							
	KBQ							
	03/06/93		06/12/93		08/25/93		12/14/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.081	0.023	0.72	0.045	2.3	<0.02	0.32	0.046
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.11	0.1	0.12	0.1	0.31	0.2	0.1	0.099
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.24	0.23	0.3	0.23	0.23	0.24	0.25	0.32
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0063	<0.004	0.0098	0.0085	<0.004	<0.004
Iron	0.26	<0.005	0.88	<0.005	2.2	0.0055	0.27	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	0.0081	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	0.018	0.011	0.02	0.016	0.016	0.014	0.016	0.014
Nickel	<0.01	<0.01	<0.01	<0.01	0.011	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	0.054	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	7.3	7.1	7.1	7	7.1	7.1	7.5	7.5
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.014	0.014	0.012	0.012	0.008	0.009	0.013	0.013
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0077	<0.002	0.0078	0.0028	0.038	0.0099	0.0024	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	224	.	234	.	234	.	227	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	41	39	54	40	61	42	42	42
Chloride	8	.	9	.	10	.	10	.
Fluoride	2.4	.	2.4	.	1.9	.	2.4	.
Magnesium	33	31	39	32	44	34	35	35
Manganese	0.025	0.014	0.086	0.017	0.21	0.06	0.022	0.0075
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	12	12	12	12	13	12	12	12
Sodium	8	9.3	7.1	6.8	5.8	6.8	7.9	8.5
Sulfate	27	.	31.4	.	20	.	28	.

(CONTINUED)

2 of 5

APPENDIX E.1
Groundwater Quality Data, 1993

7

Sampling Point . Location . Date Sampled	GW-146							
	KHQ							
	03/09/93		06/13/93		08/25/93		12/16/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.022	0.032	0.06	<0.02	0.02	<0.02	0.54	0.029
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.06	0.064	0.075	0.064	0.076	0.072	0.084	0.045
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.47	0.47	0.49	0.46	0.5	0.5	0.52	0.51
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.016	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.024	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.005	<0.004	0.0052	<0.004	0.021	<0.004
Iron	0.81	<0.005	8.3	<0.005	6.7	0.014	64	<0.005
Lead (AAS)	<0.004	<0.004	0.0044	<0.004	<0.004	<0.004	0.033	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.013	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	7	6.7	6.7	6.4	7.6	7.3	7.3	6.7
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	0.002	0.001	0.002	0.001	0.001	0.002	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.005	0.0023	0.012	<0.002	0.02	0.024	0.085	0.0066
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	201	.	206	.	202	.	194	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	39	39	40	38	44	42	49	37
Chloride	12	.	11.9	.	12	.	13	.
Fluoride	2.9	.	2.6	.	3	.	2.7	.
Magnesium	31	31	32	32	35	35	35	32
Manganese	0.0068	0.0044	0.034	0.019	0.05	0.013	0.31	0.0083
Nitrate-N	0.37	.	<0.2	.	<0.2	.	0.3	.
Potassium	16	16	16	15	17	18	16	16
Sodium	12	12	11	11	12	12	12	12
Sulfate	65.2	.	63.3	.	64	.	71	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

8

Sampling Point . Location . Date Sampled	GW-147							
	KHQ							
	03/05/93		06/11/93		08/24/93		12/14/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	1.5	<0.02	0.16	<0.02	0.37	<0.02	0.94	0.042
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	0.073	0.062	0.064	0.051	0.069	0.064	0.067	0.061
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.06	0.034	0.052	0.062	0.033	0.04	0.055	0.041
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	1.4	0.0055	0.19	<0.005	0.5	<0.005	0.78	<0.005
Lead (AAS)	0.0042	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	0.013	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	1.6	1.8	1	1.2	0.98	1	1	1
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.003	0.004	0.002	0.003	0.002	0.002	0.003	0.003
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.02	0.0082	0.0093	0.0066	0.018	0.0099	0.0092	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	167	.	168	.	162	.	167	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	35	34	32	32	37	36	34	35
Chloride	2	.	1.6	.	1.5	.	2	.
Fluoride	1.3	.	0.9	.	0.6	.	0.6	.
Magnesium	20	20	18	18	20	20	20	20
Manganese	0.15	<0.001	0.021	0.0015	0.082	<0.001	0.087	0.0058
Nitrate-N	0.5	.	0.81	.	0.82	.	0.7	.
Potassium	4.3	4.1	3.2	3.7	3.5	4	3.5	3.3
Sodium	3.2	3.3	2.5	2.8	2.7	2.8	2.5	2.4
Sulfate	10	.	6	.	5.1	.	4	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

9

Sampling Point Location Date Sampled	GW-156							
	CRSDB							
	02/24/93		06/15/93		08/12/93		11/30/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	0.029	0.023	0.84	<0.02	0.044	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.017	0.017	0.021	0.021	0.02	0.022	0.02	0.024
Beryllium	0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.042	0.024	0.029	0.04	0.006	0.11	0.029	0.015
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.018	<0.004	<0.004	<0.004
Iron	0.13	0.0071	0.02	<0.005	1.7	<0.005	0.12	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	0.0054	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.018	<0.01	<0.01	<0.01	0.018	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	0.051	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.033	0.031	0.029	0.029	0.036	0.031	0.03	0.029
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.004	0.003	0.003	0.003	0.002	0.003	0.002	0.002
Vanadium	<0.005	<0.005	<0.005	<0.005	0.0054	<0.005	<0.005	<0.005
Zinc	0.049	0.043	0.064	0.069	0.14	0.057	0.039	0.037
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	345	.	358	.	346	.	340	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	73	71	71	70	87	69	66	66
Chloride	1.2	.	1.8	.	2.1	.	2	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	42	41	40	40	50	41	40	40
Manganese	0.0057	0.0018	0.0026	0.003	0.046	0.018	0.0036	0.0021
Nitrate-N	<0.2	.	<0.2	.	0.31	.	0.2	.
Potassium	2.2	2.2	4.5	4.8	2.8	3.6	2.3	2.5
Sodium	2.5	2.4	4.1	4.1	2	2.8	2.4	2.4
Sulfate	6.8	.	7.3	.	12	.	5	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

10

Sampling Point . Location . Date Sampled	GW-158							
	CRSDB							
	03/24/93		06/23/93		08/25/93		12/05/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.041	0.039	0.042	0.04	0.039	0.045	0.051	0.043
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.011	0.014	0.012	0.0089	<0.004	<0.004	0.029	0.042
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.0051	<0.004	<0.004	<0.004
Iron	1.4	0.0082	0.32	0.2	1.7	<0.005	0.96	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.023	0.022	0.02	0.019	0.024	0.03	0.022	0.021
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	0.001	0.001	0.001	0.001	0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0062	0.0023	0.0029	<0.002	0.0092	<0.002	0.0023	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	171	.	174	.	178	.	175	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	43	36	36	34	42	40	36	36
Chloride	<1	.	1.4	.	<1	.	<1	.
Fluoride	<0.1	.	<0.1	.	0.1	.	<0.1	.
Magnesium	22	20	20	19	22	22	21	21
Manganese	0.011	0.0081	0.0067	0.0063	0.016	0.013	0.011	0.0077
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	0.8	1.3	1.1	1.2	1	1.2	0.79	0.82
Sodium	0.51	0.73	0.55	0.53	0.5	0.52	0.64	0.62
Sulfate	9.9	.	13	.	9	.	9.2	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

11

Sampling Point . Location . Date Sampled	GW-159							
	CRSDB							
	02/22/93		06/14/93		08/10/93		11/29/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.15	0.021	0.093	0.045	0.23	0.024	0.099	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.011	0.012	0.011	0.01	0.011	0.011	0.011	0.013
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.026	0.023	0.034	0.013	0.0086	<0.004	0.0085	0.043
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0072	0.006	<0.004	<0.004	<0.004	<0.004
Iron	0.16	0.015	0.16	0.026	0.39	<0.005	0.16	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	0.064	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.018	0.021	0.018	0.016	0.019	0.02	0.02	0.017
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	0.001	0.002	0.002	0.001	0.001	0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0095	0.01	0.011	0.0071	0.0046	0.012	<0.002	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	187	.	191	.	184	.	187	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	40	37	40	39	43	39	40	38
Chloride	<1	.	1.1	.	1.8	.	1	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	23	22	23	23	25	23	24	23
Manganese	0.0075	<0.001	0.0094	0.0021	0.018	0.0036	0.0073	<0.001
Nitrate-N	0.25	.	<0.2	.	0.39	.	0.3	.
Potassium	1.7	3	1.7	2.1	1.2	1	1.5	1.2
Sodium	0.62	0.75	0.75	0.6	0.53	0.54	0.56	0.62
Sulfate	6.9	.	9.9	.	13	.	7	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

12

Sampling Point . Location . Date Sampled	GW-160							
	LIII							
	02/09/93		06/06/93		08/12/93		11/11/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	7.9	<0.02	4.5	0.031	0.73	<0.02	5.6	0.077
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	0.026	0.01	0.018	0.009	0.011	0.0093	0.024	0.011
Beryllium	0.0017	<0.0003	0.0012	<0.0003	<0.0003	<0.0003	0.0052	0.00051
Boron	0.0067	0.029	0.052	0.061	0.0047	0.0062	0.022	0.028
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	0.0033	<0.003	<0.003	<0.003	<0.003	<0.003	0.005	<0.003
Chromium (AAS)	0.032	<0.01	0.014	<0.01	<0.01	<0.01	0.01	<0.01
Chromium	0.013	<0.01	<0.01	<0.01	<0.01	<0.01	0.013	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0061	<0.005
Copper	0.016	<0.004	0.009	<0.004	<0.004	<0.004	0.013	<0.004
Iron	12	<0.005	15	0.052	2.8	0.093	8.1	0.028
Lead (AAS)	0.037	<0.004	0.021	<0.004	<0.004	<0.004	0.0096	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.017	<0.01	0.013	<0.01	<0.01	<0.01	0.014	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	0.0064	<0.006
Strontium	0.023	0.023	0.024	0.023	0.021	0.021	0.027	0.021
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	0.029	<0.005	0.023	<0.005	0.006	<0.005	0.022	<0.005
Zinc	0.099	0.0038	0.075	0.0059	0.017	0.012	0.047	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	232	.	232	.	228	.	237	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	54	48	49	47	49	49	47	45
Chloride	4.7	.	4.2	.	3.7	.	3.8	.
Fluoride	0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	32	29	30	28	29	30	29	27
Manganese	0.27	0.018	0.19	0.053	0.055	0.049	0.093	0.012
Nitrate-N	0.56	.	0.4	.	0.55	.	0.61	.
Potassium	2	1	1.6	0.9	1	1.2	1.6	0.82
Sodium	2	2	2	2	1.7	1.6	1.7	1.7
Sulfate	10	.	4.2	.	8.3	.	3.1	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

13

Sampling Point . Location . Date Sampled	GW-161							
	LIII							
	02/08/93		06/05/93		08/11/93		11/10/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	0.023	0.026	<0.02	0.22	0.039	0.043
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	0.0079	0.0078	0.0092	0.0092	0.0092	0.02	0.0097	0.0098
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.015	0.0047	0.048	0.037	0.0072	<0.004	0.013	0.013
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.0042	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.19	0.014	0.19	0.022	0.018	0.45	0.22	0.01
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	0.012	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.012	0.011	0.013	0.013	0.014	0.022	0.013	0.012
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0044	0.0045	0.0028	0.0042	0.007	0.012	<0.002	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	197	.	202	.	200	.	203	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	41	40	41	40	42	38	38	36
Chloride	1.6	.	1.6	.	2.2	.	2	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	24	24	25	24	25	24	23	22
Manganese	0.015	0.015	0.024	0.024	0.022	0.017	0.0086	0.0081
Nitrate-N	0.25	.	<0.2	.	<0.2	.	0.22	.
Potassium	<0.6	1	0.64	0.72	0.81	<0.6	0.69	0.61
Sodium	0.68	0.7	0.67	0.71	0.88	0.67	0.84	0.83
Sulfate	4	.	1.7	.	6.6	.	1.5	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

14

Sampling Point . Location . Date Sampled	GW-175							
	CRSP							
	03/27/93		06/15/93		09/11/93		12/19/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	0.038	0.021	0.02	0.03	0.064	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.046	0.039	0.038	0.04	0.043	0.044	0.049	0.048
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.0071	0.013	0.027	0.042	0.13	0.074	0.015	0.014
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	0.0054	<0.004	<0.004	<0.004	<0.004
Iron	0.016	<0.005	0.1	<0.005	0.056	<0.005	0.65	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.011	0.011	0.011	0.011	0.014	0.013	0.012	0.012
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	0.001	0.001	0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.014	0.011	0.013	0.015	0.0096	0.012	0.0067	0.0049
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	183	.	203	.	200	.	193	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	38	36	40	39	41	40	40	40
Chloride	2.2	.	1.9	.	2.1	.	2	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	22	21	24	23	24	24	25	24
Manganese	0.0013	<0.001	0.0021	0.0018	0.001	<0.001	0.0084	<0.001
Nitrate-N	0.35	.	<0.2	.	<0.2	.	0.3	.
Potassium	1	0.94	0.66	<0.6	<0.6	<0.6	<0.6	<0.6
Sodium	1.5	4.6	1.5	1.6	2	1.8	2.2	2.2
Sulfate	2.3	.	1.1	.	1	.	<1	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

15

Sampling Point . Location . Date Sampled	GW-177							
	CRSP							
	03/30/93		06/14/93		09/30/93		12/19/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	0.037	<0.02	0.056	<0.02	0.033	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.017	0.017	0.027	0.023	0.016	0.016	0.03	0.023
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	0.00032	<0.0003	<0.0003	<0.0003
Boron	0.012	0.014	0.036	0.017	0.031	0.027	0.037	0.028
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.005	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.047	<0.005	0.15	<0.005	0.015	0.0084	3.4	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.016	0.016	0.023	0.018	0.017	0.017	0.019	0.017
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.002	0.002	0.003	0.002	0.001	0.001	0.002	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0078	0.0082	0.0075	0.011	0.019	0.019	0.024	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	204	.	212	.	214	.	219	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	43	42	42	42	48	48	50	48
Chloride	2.4	.	1.7	.	3	.	3	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	25	25	25	25	29	28	30	29
Manganese	0.0023	0.0011	0.015	0.0071	<0.001	<0.001	0.029	0.0014
Nitrate-N	0.26	.	<0.2	.	0.4	.	0.3	.
Potassium	2.8	2.7	2.6	2.3	1.9	2	1.9	2.1
Sodium	1.1	1.1	0.99	1	1.4	1.4	1.3	1.3
Sulfate	8	.	11	.	12	.	6	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

16

Sampling Point . Location . Date Sampled	GW-181							
	CRSP							
	01/05/93		06/04/93		09/01/93		12/16/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.047	<0.02	0.046	0.023	0.03	0.024	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	0.058	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.008	0.008	0.0082	0.0078	0.0088	0.008	0.0082	0.0084
Beryllium	0.00042	0.00042	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.047	0.022	0.029	0.034	0.014	<0.004	0.027	0.034
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0069	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.26	0.029	0.21	0.01	1.1	<0.005	1.6	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	0.052	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.019	0.019	0.019	0.018	0.02	0.02	0.019	0.019
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0083	0.0078	0.012	0.0089	0.0056	0.0066	<0.002	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	165	.	169	.	167	.	170	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	35	35	32	32	37	36	35	36
Chloride	2	.	1.3	.	1.9	.	1	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	21	21	20	20	22	21	21	22
Manganese	0.0029	<0.001	0.0017	0.0013	0.0071	0.0036	0.0066	0.0032
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	1.4	1.4	1.3	1.3	1.3	1.2	1.2	1.3
Sodium	0.73	0.69	0.65	0.65	0.64	0.67	0.61	0.64
Sulfate	8	.	1.8	.	7.3	.	1	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

17

Sampling Point . Location . Date Sampled	GW-184							
	RQ							
	03/02/93		06/24/93		07/22/93		12/05/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	0.024	<0.02	<0.02	0.073	<0.02	0.11	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.02	0.02	0.019	0.02	0.021	0.022	0.019	0.018
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.025	0.059	0.037	0.027	0.026	0.023	0.07	0.038
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.0057	0.01	0.0056	0.011	0.0074	0.005	0.0068	<0.004
Iron	0.014	<0.005	0.022	0.024	0.081	0.016	0.76	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.14	0.15	0.14	0.15	0.18	0.18	0.14	0.14
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.012	0.02	0.015	0.016	0.0089	0.007	0.015	0.005
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	161	.	195	.	190	.	158	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	85	85	71	72	76	75	59	60
Chloride	1.5	.	1.8	.	1	.	1.6	.
Fluoride	<0.1	.	0.1	.	<0.1	.	<0.1	.
Magnesium	7.2	7.4	7.1	7.4	8.5	8.5	6.9	7
Manganese	<0.001	0.0013	0.0027	0.0025	0.0063	0.0045	0.0072	0.0012
Nitrate-N	6.9	.	2.7	.	2	.	4.22	.
Potassium	1.6	1.9	1.7	1.3	1.5	1.4	1.4	1.3
Sodium	1.7	1.7	1.5	1.5	1.9	2.1	1.5	1.5
Sulfate	20	.	24	.	25	.	19	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

18

Sampling Point . Location . Date Sampled	GW-186							
	RQ							
	03/03/93		06/26/93		07/24/93		12/06/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.11	0.11	0.13	0.13	0.13	0.13	0.13	0.12
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.15	0.17	0.12	0.11	0.14	0.14	0.14	0.16
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.76	0.77	0.99	0.99	0.88	0.84	0.77	0.73
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	0.056	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	1.5	1.5	1.7	1.7	1.8	1.8	1.6	1.6
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0034	0.0068	<0.002	0.0022	0.0064	0.0055	<0.002	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	404	.	410	.	411	.	413	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	110	110	110	110	110	110	100	98
Chloride	15	.	14.3	.	16	.	15	.
Fluoride	0.2	.	0.1	.	0.2	.	<0.1	.
Magnesium	31	32	33	33	34	34	31	30
Manganese	0.13	0.14	0.15	0.15	0.13	0.13	0.12	0.11
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	2.9	3.7	2.3	2.3	3.3	3.2	3.3	2.9
Sodium	52	52	31	31	37	36	39	38
Sulfate	63	.	70.6	.	64	.	68	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

19

Sampling Point . Location . Date Sampled	GW-187							
	RQ							
	03/03/93		06/25/93		07/23/93		12/06/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	0.022	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.27	0.28	0.24	0.25	0.27	0.27	0.37	0.38
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.54	0.57	0.54	0.52	0.54	0.54	0.64	0.79
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.026	0.062	0.082	0.052	0.083	0.055	0.062	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.91	0.92	0.85	0.86	0.9	0.9	0.98	1
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	<0.002	0.0068	0.0043	0.0034	0.007	0.0045	<0.002	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	291	.	294	.	295	.	337	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	53	59	49	49	52	52	58	59
Chloride	136	.	85	.	112	.	244	.
Fluoride	0.8	.	0.7	.	1	.	1.5	.
Magnesium	21	24	20	20	22	22	23	23
Manganese	0.0053	0.0042	0.0036	0.0041	0.0042	0.0047	0.0039	0.0041
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	1.4	2.4	2.3	1.9	1.9	2.1	1.8	2.1
Sodium	110	120	90	91	110	110	240	250
Sulfate	30	.	21	.	26	.	84	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

20

Sampling Point . Location . Date Sampled	GW-188							
	RQ							
	03/02/93		06/24/93		07/22/93		12/05/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.76	<0.02	<0.02	<0.02	3.8	<0.02	0.033	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.035	0.027	0.03	0.029	0.048	0.028	0.032	0.031
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	0.00055	<0.0003	<0.0003	<0.0003
Boron	0.13	0.12	0.11	0.11	0.13	0.12	0.24	0.12
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	0.011	<0.004	<0.004	0.0076	<0.004	<0.004	<0.004
Iron	0.96	<0.005	0.014	<0.005	4.9	0.0074	0.11	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	0.0058	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	1.9	1.7	1.8	1.8	1.6	1.8	1.9	1.9
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Vanadium	0.0056	<0.005	<0.005	<0.005	0.0081	<0.005	<0.005	<0.005
Zinc	0.0097	0.0065	0.0033	0.0047	0.079	0.017	<0.002	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	201	.	192	.	200	.	198	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	41	33	32	32	34	33	32	31
Chloride	6.5	.	5.2	.	5	.	3.5	.
Fluoride	0.7	.	0.6	.	0.6	.	0.6	.
Magnesium	27	24	24	24	23	23	25	24
Manganese	0.096	0.039	0.019	0.017	0.44	0.059	0.02	0.015
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	3.1	3.2	2.4	2.1	5.3	2.7	2	1.3
Sodium	24	27	11	12	29	21	12	12
Sulfate	29	.	22	.	26	.	15.5	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

21

Sampling Point . Location . Date Sampled	GW-203							
	UNCS							
	01/18/93		05/11/93		07/26/93		10/07/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	4.9	<0.02	0.42	<0.02	0.45	<0.02	0.086	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.027	0.0087	0.0084	0.0079	0.0087	0.007	0.0076	0.0072
Beryllium	0.0007	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.012	0.0059	0.014	0.013	<0.004	0.015	0.0068	<0.004
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.012	<0.004	<0.004	<0.004	<0.004	0.0056	<0.004	<0.004
Iron	4.6	<0.005	0.4	<0.005	0.61	<0.005	0.11	0.0079
Lead (AAS)	0.03	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.017
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.024	0.01	0.012	0.012	0.011	0.01	0.011	0.01
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	0.014	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.05	0.0046	0.0062	0.0051	0.016	0.011	0.038	0.033
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	133	.	133	.	134	.	134	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	40	26	30	29	29	29	31	29
Chloride	1.1	.	1.6	.	1.5	.	1	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	19	15	17	16	17	17	17	16
Manganese	0.1	0.0011	0.0077	0.0014	0.018	<0.001	0.0082	<0.001
Nitrate-N	1.03	.	1.08	.	1.2	.	1.5	.
Potassium	1.6	<0.6	0.81	0.81	0.78	0.7	0.99	0.98
Sodium	0.51	0.54	0.41	0.51	0.59	0.56	0.44	0.44
Sulfate	<1	.	<1	.	<1	.	2	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

22

Sampling Point . Location . Date Sampled	GW-205							
	UNCS							
	01/18/93		05/11/93		07/26/93		10/07/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.23	<0.02	0.68	<0.02	<0.02	<0.02	0.047	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.016	0.015	0.019	0.014	0.016	0.014	0.015	0.015
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.0045	<0.004	0.021	0.013	<0.004	0.01	<0.004	<0.004
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.004	<0.004
Iron	0.41	<0.005	5.7	<0.005	0.055	0.0066	0.53	0.02
Lead (AAS)	0.0041	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.011	0.011	0.015	0.012	0.011	0.011	0.011	0.011
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	0.001	0.001	0.002	0.001	<0.001	<0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0064	0.0031	0.01	0.0042	0.0061	0.015	0.01	0.019
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	151	.	154	.	154	.	151	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	33	30	35	32	32	30	34	33
Chloride	2.1	.	2.4	.	2.4	.	2	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	19	17	19	18	19	18	19	19
Manganese	0.022	<0.001	0.084	0.0014	0.0039	0.002	0.021	<0.001
Nitrate-N	0.26	.	0.3	.	0.27	.	0.3	.
Potassium	0.94	<0.6	0.87	0.81	1.2	1.2	1	0.89
Sodium	0.61	0.63	0.56	0.62	0.72	0.78	0.56	0.63
Sulfate	4.9	.	9.2	.	3.2	.	3	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

23

Sampling Point . Location . Date Sampled	GW-217							
	LIV							
	01/05/93		04/01/93		07/17/93		10/04/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.14	<0.02	0.28	<0.02	0.38	<0.02	0.046	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.027	0.026	0.029	0.027	0.026	0.026	0.027	0.024
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.099	0.11	0.11	0.14	0.15	0.12	0.15	0.15
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.0059	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.008	<0.004	0.0097	0.0049	0.0075	<0.004
Iron	0.11	0.012	0.52	<0.005	1.6	0.0072	0.15	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	-0.00024	-0.00024	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.011	0.01	0.012	0.011	0.015	0.012	0.012	0.013
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.01	0.01	0.012	0.0051	0.11	0.013	0.0097	0.004
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO ₃	145	.	148	.	151	.	150	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	27	26	35	27	36	29	29	28
Chloride	2.2	.	1.7	.	1.5	.	1.9	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	16	16	21	17	22	18	18	17
Manganese	0.0056	0.0032	0.02	<0.001	0.043	0.002	0.0037	0.0012
Nitrate-N	0.38	.	0.33	.	0.35	.	0.43	.
Potassium	4.5	4.4	4.1	4.4	3.8	3.8	4	4.2
Sodium	4.9	4.9	4.7	4.9	5	4.9	4.6	4.1
Sulfate	13	.	8.6	.	6.2	.	5.1	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

24

Sampling Point . Location . Date Sampled	GW-221							
	UNCS							
	01/19/93		05/12/93		07/27/93		10/09/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	0.029	<0.02	<0.02	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.009	0.008	0.0085	0.0087	0.0074	0.0067	0.0074	0.0074
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	<0.004	0.019	0.027	0.022	0.013	<0.004	<0.004	<0.004
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	<0.005	<0.005	0.043	<0.005	0.025	<0.005	0.036	0.0057
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.0095	0.0089	0.011	0.011	0.01	0.01	0.0098	0.0099
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0031	0.0031	0.0043	0.013	0.0076	0.0075	0.0053	0.029
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	147	.	145	.	151	.	151	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	28	30	30	32	32	31	31	31
Chloride	1.2	.	1.2	.	1.2	.	1	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	17	18	18	19	19	19	18	19
Manganese	<0.001	<0.001	0.0014	<0.001	<0.001	<0.001	<0.001	<0.001
Nitrate-N	0.7	.	0.62	.	0.64	.	0.7	.
Potassium	<0.6	<0.6	0.71	1	1.1	0.93	0.92	<0.6
Sodium	0.62	0.61	0.63	0.6	0.74	0.74	0.59	0.59
Sulfate	1	.	2.9	.	1.1	.	2	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

25

Sampling Point . Location . Date Sampled	GW-231							
	KHQ							
	03/05/93		06/11/93		08/24/93		12/14/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.03	<0.02	<0.02	<0.02	<0.02	0.043	<0.02	0.024
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.061	0.063	0.077	0.077	0.096	0.095	0.08	0.078
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.017	0.036	0.016	0.0089	0.014	0.011	0.016	0.038
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.0052	<0.005	0.016	<0.005	0.011	0.0075	<0.005	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	0.063	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.029	0.03	0.035	0.034	0.04	0.04	0.034	0.033
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0092	0.0072	0.01	0.0093	0.01	0.0099	<0.002	0.0041
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	116	.	167	.	183	.	145	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	29	29	38	38	45	44	34	32
Chloride	1	.	1.3	.	1.3	.	1	.
Fluoride	<0.1	.	<0.1	.	0.1	.	<0.1	.
Magnesium	15	15	19	19	22	22	18	17
Manganese	0.0018	<0.001	<0.001	0.0012	0.0026	<0.001	<0.001	<0.001
Nitrate-N	0.6	.	0.61	.	0.32	.	1.4	.
Potassium	1	0.99	0.89	0.85	1	1.2	0.99	1
Sodium	0.6	0.58	0.63	0.59	0.7	0.68	0.57	0.64
Sulfate	4	.	5	.	2.9	.	4	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

26

Sampling Point . Location . Date Sampled	GW-241							
	CRSDB							
	02/26/93		06/18/93		08/21/93		12/03/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	1.3	<0.02	5.2	0.032	3.6	<0.02	1.6	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.018	0.017	0.032	0.015	0.03	0.016	0.023	0.016
Beryllium	<0.0003	<0.0003	0.0008	<0.0003	0.00069	<0.0003	<0.0003	<0.0003
Boron	0.013	0.014	0.0092	0.0081	0.011	<0.004	0.0069	0.0089
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	0.018	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	0.0051	<0.005	0.0056	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.014	<0.004	0.014	<0.004	<0.004	<0.004
Iron	0.89	<0.005	6.8	0.032	7.3	<0.005	2.7	<0.005
Lead (AAS)	<0.004	<0.004	0.011	<0.004	0.011	<0.004	0.0041	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.016	<0.01	<0.01	<0.01	0.024	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.018	0.018	0.02	0.016	0.019	0.017	0.018	0.017
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001
Vanadium	<0.005	<0.005	0.016	<0.005	0.014	<0.005	0.0081	<0.005
Zinc	<0.002	<0.002	0.043	0.0034	0.047	0.019	0.014	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	148	.	147	.	151	.	150	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	29	30	33	28	33	30	30	29
Chloride	<1	.	1.8	.	<1	.	<1	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	17	17	19	16	20	18	18	17
Manganese	0.03	0.0025	0.27	0.0023	0.26	<0.001	0.11	<0.001
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	2.4	2.3	3.3	2.7	2.9	1.9	2.6	2.3
Sodium	0.57	0.6	0.6	0.6	0.56	0.54	0.6	0.62
Sulfate	1.2	.	2.9	.	2.1	.	1	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

27

Sampling Point . Location . Date Sampled	GW-292							
	ECRWP							
	01/26/93		04/02/93		08/22/93		10/14/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.026	0.12	<0.02	<0.02	<0.02	0.025	0.033	0.033
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.12	0.13	0.11	0.11	0.12	0.12	0.11	0.12
Beryllium	0.00031	0.00076	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.027	0.016	0.03	0.0075	0.0086	<0.004	0.03	0.026
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	0.0051	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.012	0.023	0.02	<0.005	0.059	0.016	0.0072	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.018	0.021	0.015	0.015	0.017	0.017	0.017	0.017
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0099	0.015	0.0078	0.0074	0.057	0.015	0.012	0.012
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	244	.	242	.	241	.	249	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	52	53	49	49	56	56	51	52
Chloride	9.8	.	9.7	.	8.7	.	9	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	31	30	29	29	32	32	30	30
Manganese	<0.001	0.03	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nitrate-N	0.44	.	0.36	.	0.42	.	0.5	.
Potassium	0.73	1	0.92	1.2	0.86	<0.6	0.66	0.71
Sodium	4.5	4.5	4.5	4.5	4.6	4.5	4.3	4.3
Sulfate	3.5	.	3.8	.	3.9	.	3	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

28

Sampling Point . Location . Date Sampled	GW-293							
	ECRWP							
	01/28/93		04/06/93		08/22/93		10/15/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)								
Aluminum	0.12	0.05	0.1	<0.02	<0.02	<0.02	0.06	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.18	0.17	0.21	0.2	0.21	0.21	0.22	0.2
Beryllium	0.00077	0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.027	0.028	0.024	0.019	<0.004	<0.004	0.025	0.025
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	0.025	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.0055	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.0082	<0.004	<0.004	<0.004
Iron	0.96	0.014	5	0.021	5.5	0.018	7	0.049
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.00022	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.021	0.019	0.017	0.016	0.018	0.017	0.017	0.017
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.01	0.0097	0.015	0.013	0.013	0.024	0.021	0.0065
MAJOR IONS (mg/L)								
Alkalinity-HCO3	246	.	237	.	241	.	246	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	53	52	51	50	55	56	52	51
Chloride	12	.	10.8	.	10.3	.	16	.
Fluoride	<0.1	.	<0.1	.	0.1	.	<0.1	.
Magnesium	30	30	31	31	32	32	30	30
Manganese	0.027	0.025	0.019	0.0051	0.013	0.0056	0.029	0.013
Nitrate-N	0.29	.	0.39	.	0.4	.	0.4	.
Potassium	1.4	1.4	1.5	1.5	1.2	1.6	1.6	1.6
Sodium	4.2	4.1	4	4.1	4.6	4.6	4.2	4.2
Sulfate	4.4	.	3.5	.	4.5	.	4	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

29

Sampling Point . Location . Date Sampled	GW-294							
	ECRWP							
	01/25/93		04/01/93		08/22/93		10/14/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	0.045	<0.02	0.021	<0.02	<0.02	0.025	0.033
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.011	0.011	0.0099	0.0094	0.014	0.013	0.011	0.011
Beryllium	<0.0003	0.00046	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.018	0.022	0.012	0.0096	0.011	0.0092	0.034	0.026
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.02	<0.005	0.054	<0.005	0.12	<0.005	0.014	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-0.00022	<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
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.024	0.023	0.02	0.02	0.023	0.023	0.023	0.023
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.011	0.011	0.014	0.011	0.081	0.026	0.019	0.015
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	212	.	213	.	221	.	220	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	47	47	45	46	53	53	50	50
Chloride	7	.	7	.	7.8	.	6	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	28	28	27	27	30	30	29	29
Manganese	0.0025	<0.001	0.0027	0.0012	0.0017	0.0012	<0.001	<0.001
Nitrate-N	3.07	.	2.4	.	2.91	.	3	.
Potassium	1.5	1.5	1.5	1.8	1.6	<0.6	1	1.1
Sodium	2.5	2.5	2.4	2.4	3.4	3.3	2.6	2.7
Sulfate	3.6	.	3.4	.	3.2	.	3	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

30

Sampling Point . Location . Date Sampled	GW-295							
	LIII							
	02/11/93		06/05/93		08/12/93		11/13/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
MTALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.85	<0.02	3.5	0.025	4.3	0.15	140	0.2
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	0.69	0.054
Barium	0.034	0.03	0.03	0.044	0.043	0.039	0.41	0.029
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	0.00059	<0.0003	0.029	<0.0003
Boron	0.0075	0.028	0.024	0.022	0.014	0.019	0.15	0.025
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.011	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	0.0031	<0.003	0.022	<0.003
Chromium (AAS)	0.29	<0.01	0.47	<0.01	0.31	<0.01	58	0.042
Chromium	0.093	<0.01	0.32	<0.01	0.32	<0.01	44	0.055
Cobalt	<0.005	<0.005	0.0097	<0.005	0.039	0.073	0.39	0.024
Copper	0.0065	<0.004	0.0099	<0.004	0.027	<0.004	1.1	<0.004
Iron	1.7	<0.005	6.6	0.011	21	8.6	470	0.47
Lead (AAS)	0.028	<0.004	0.043	<0.004	0.051	<0.004	1.7	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.003	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.67	0.11
Nickel	0.35	0.28	0.25	0.18	1.8	3.4	5.8	0.92
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.13	0.13	0.11	0.12	0.098	0.095	0.13	0.092
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	0.001	0.001	0.001	0.001	0.001	0.004	0.001
Vanadium	<0.005	<0.005	0.014	<0.005	0.019	<0.005	1.1	<0.005
Zinc	0.11	0.01	0.2	0.0076	0.16	0.047	3.8	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	128	.	130	.	86	.	145	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	70	69	56	53	56	57	84	60
Chloride	131	.	86	.	120	.	155	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	31	31	29	29	33	33	59	33
Manganese	0.084	0.039	0.19	0.063	0.73	1.1	11	1.2
Nitrate-N	<2.3	.	0.89	.	0.58	.	0.42	.
Potassium	6	5.6	4.6	4.1	5.6	5.1	16	5.9
Sodium	11	11	8	10	9.4	9	9.1	8
Sulfate	26	.	25.3	.	26	.	17.3	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

31

Sampling Point . Location . Date Sampled	GW-296							
	ECRWP							
	01/25/93		04/01/93		08/22/93		10/14/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.034	0.034	0.023	<0.02	<0.02	<0.02	0.047	0.035
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	0.011	0.011	0.0095	0.0096	0.013	0.013	0.011	0.01
Beryllium	<0.0003	0.00045	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.019	0.018	0.011	0.029	0.0099	0.0056	0.023	0.025
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.3	<0.005	0.038	<0.005	0.011	<0.005	0.025	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-0.00022	<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
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.017	0.018	0.015	0.015	0.017	0.017	0.016	0.016
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0071	0.0073	0.0086	0.0089	0.0099	0.015	0.01	0.0085
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	228	.	221	.	220	.	221	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	46	47	44	44	50	49	46	46
Chloride	2.5	.	3.4	.	2.4	.	3	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	27	28	26	26	29	28	27	27
Manganese	0.0025	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001
Nitrate-N	0.52	.	0.27	.	0.27	.	0.4	.
Potassium	0.77	0.84	0.82	0.96	0.61	0.83	0.66	0.69
Sodium	1.3	1.4	1.8	1.8	1.8	1.8	1.5	1.5
Sulfate	1.4	.	1.1	.	<1	.	1	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

32

Sampling Point . Location . Date Sampled	GW-298							
	LIII							
	02/11/93		06/10/93		08/14/93		11/15/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.19	<0.02	0.36	0.027	0.034	<0.02	0.11	0.024
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.017	0.013	0.017	0.025	0.015	0.016	0.014	0.012
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.0056	0.0077	0.038	0.029	0.015	<0.004	0.015	0.019
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0063	<0.004	0.0062	<0.004	<0.004	<0.004
Iron	0.69	<0.005	1.5	<0.005	0.15	<0.005	0.37	<0.005
Lead (AAS)	0.0065	<0.004	0.0073	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	0.011	0.015	0.012	0.011	<0.01	<0.01	<0.01	0.011
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.034	0.024	0.031	0.023	0.026	0.024	0.029	0.026
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.002	0.002	0.002	0.002	0.002	0.001	0.002	0.002
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.044	0.014	0.054	0.019	0.025	0.015	0.0084	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	167	.	170	.	173	.	173	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	69	38	57	36	38	36	40	33
Chloride	<1	.	<1	.	<1	.	1	.
Fluoride	0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	39	21	33	20	23	21	25	20
Manganese	0.019	0.0011	0.032	0.0023	0.0026	0.0023	0.0069	0.0016
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	0.95	1.6	<0.6	0.73	0.66	0.71	0.69	0.61
Sodium	1.1	0.91	1.9	1.8	0.81	0.86	0.63	0.69
Sulfate	7.3	.	8.7	.	5.7	.	7.1	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

33

Sampling Point . Location . Date Sampled	GW-299							
	LIII							
	02/10/93		06/10/93		08/14/93		11/13/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	0.025	<0.02	<0.02	<0.02	0.06	0.039
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.0076	0.0078	0.0084	0.011	0.009	0.0096	0.0093	0.009
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.0054	0.0091	0.057	0.013	<0.004	0.0087	0.028	0.016
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.0093	<0.005	0.01	<0.005	0.019	<0.005	0.06	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.015	0.014	0.014	0.014	0.015	0.016	0.016	0.015
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0074	0.0054	0.0065	0.0065	0.0058	0.015	<0.002	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	169	.	140	.	140	.	140	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	29	29	29	29	30	31	28	27
Chloride	2	.	1	.	1.1	.	1.2	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	17	17	17	17	18	19	17	16
Manganese	<0.001	<0.001	0.0023	<0.001	<0.001	<0.001	0.0016	<0.001
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	1	1	<0.6	<0.6	0.79	0.75	0.61	0.74
Sodium	1.1	1.2	0.81	0.8	0.92	1	0.87	0.74
Sulfate	10	.	3.4	.	3.8	.	3.2	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

34

Sampling Point . Location . Date Sampled	GW-300							
	LIII							
	02/10/93		06/06/93		08/12/93		11/12/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	0.023	0.026	0.033	<0.02	0.023	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.017	0.017	0.019	0.021	0.024	0.023	0.023	0.023
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.014	0.011	0.021	0.12	0.011	0.0071	0.016	0.015
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	0.01	<0.004	<0.004
Iron	0.0073	0.083	0.027	0.0072	0.02	<0.005	0.045	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	0.013	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.017	0.017	0.018	0.019	0.022	0.021	0.021	0.022
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0043	0.0095	0.0022	0.0061	0.018	0.02	<0.002	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	138	.	145	.	162	.	170	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	30	30	27	28	34	33	32	34
Chloride	2.1	.	<1	.	1.5	.	1	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	17	17	17	17	21	20	20	21
Manganese	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0013	<0.001
Nitrate-N	<0.2	.	<0.2	.	0.23	.	0.2	.
Potassium	0.74	<0.6	<0.6	0.62	<0.6	<0.6	<0.6	<0.6
Sodium	0.43	0.37	0.44	0.72	0.65	0.53	0.55	0.65
Sulfate	11	.	3.9	.	7.9	.	3	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

35

Sampling Point . Location . Date Sampled	GW-301							
	LIII							
	02/10/93		06/06/93		08/13/93		11/13/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.031	<0.02	0.97	0.031	<0.02	<0.02	0.52	0.071
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	0.017	0.016	0.022	0.019	0.0095	0.019	0.024	0.018
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0026	<0.0003
Boron	0.0087	0.012	0.017	0.02	0.0056	0.0066	0.3	0.021
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.066	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0059	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.046	<0.005	1.4	0.033	0.92	<0.005	1.1	0.019
Lead (AAS)	<0.004	<0.004	0.0063	<0.004	<0.004	<0.004	0.0045	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.016	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.018	0.018	0.024	0.02	0.014	0.02	0.026	0.02
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0055	<0.005
Zinc	0.0078	0.011	0.024	0.0075	0.0057	0.0088	0.026	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	168	.	171	.	175	.	171	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	36	34	39	33	43	35	39	33
Chloride	2	.	<1	.	1.6	.	1	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	21	20	24	21	26	22	24	21
Manganese	0.0027	0.0019	0.045	<0.001	0.023	<0.001	0.42	0.0022
Nitrate-N	0.41	.	0.31	.	0.41	.	0.38	.
Potassium	<0.6	<0.6	0.77	<0.6	0.83	0.73	1.2	0.66
Sodium	0.53	0.64	0.58	0.56	0.84	0.65	3.6	0.77
Sulfate	9.3	.	2.1	.	7	.	2	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

36

Sampling Point . Location . Date Sampled	GW-302							
	UNCS							
	01/20/93		05/13/93		07/27/93		10/09/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.032	0.025	0.46	0.042	0.028	<0.02	0.037	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.021	0.02	0.021	0.02	0.022	0.021	0.02	0.019
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.032	0.015	0.023	0.034	<0.004	<0.004	<0.004	0.0046
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	0.049	<0.01	0.12	<0.01	0.056	<0.01	0.039	<0.01
Chromium	0.03	<0.01	0.096	<0.01	0.065	<0.01	0.039	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.012	0.0068	<0.004	0.0046
Iron	0.41	<0.005	1.9	0.0083	0.82	0.042	0.78	0.05
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.058	0.05	0.17	0.15	0.16	0.12	0.2	0.23
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.016	0.016	0.018	0.018	0.018	0.018	0.018	0.018
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0061	0.0069	0.011	0.027	0.016	0.011	0.015	0.027
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO ₃	237	.	238	.	241	.	244	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	52	52	47	51	53	52	52	51
Chloride	28	.	21	.	18.3	.	22	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	31	31	30	31	32	32	31	30
Manganese	0.0075	0.003	0.035	0.0055	0.018	0.0066	0.024	0.0097
Nitrate-N	1.1	.	0.93	.	0.87	.	1.1	.
Potassium	0.69	0.68	1	0.83	1.4	1.5	1.2	1.1
Sodium	7.7	7.6	7.7	7.7	7.8	7.8	7.1	7
Sulfate	5.8	.	3.3	.	3.2	.	3	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

37

Sampling Point . Location . Date Sampled	GW-303							
	CRSDB							
	02/25/93		06/17/93		08/20/93		12/02/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.032	<0.02	<0.02	0.024	<0.02	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.018	0.018	0.016	0.017	0.017	0.017	0.018	0.018
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.071	0.032	0.013	0.017	0.0091	0.018	0.012	0.03
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	0.0062	0.0061	<0.004	<0.004	<0.004
Iron	0.32	0.28	0.29	0.2	0.51	0.33	0.35	0.27
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.014	<0.01	<0.01	<0.01	0.011	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	3	3	2.8	2.8	3.1	3.1	3	2.9
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	0.007	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0031	0.0066	<0.002	0.0043	0.0067	<0.002	<0.002	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	173	.	176	.	180	.	177	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	69	73	67	67	75	74	70	68
Chloride	1.9	.	1.1	.	1.7	.	2	.
Fluoride	0.96	.	0.9	.	0.8	.	1	.
Magnesium	38	40	36	37	41	41	40	38
Manganese	0.0058	0.0058	0.0061	0.006	0.011	0.011	0.0059	0.0057
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	4.6	4.9	4.8	4.6	4.6	4.3	4.6	4.3
Sodium	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.2
Sulfate	160	.	173	.	149	.	149	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

38

Sampling Point . Location . Date Sampled	GW-304							
	CRSDB							
	02/22/93		06/14/93		08/11/93		11/29/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.27	0.057	0.38	0.039	0.05	<0.02	0.92	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.012	0.012	0.013	0.011	0.014	0.013	0.014	0.012
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.024	0.047	0.15	0.15	0.0057	0.01	0.019	0.023
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0066	<0.004	0.0051	0.005	<0.004	<0.004
Iron	0.3	0.012	0.47	0.016	0.093	<0.005	1.7	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.018	0.018	0.018	0.016	0.018	0.017	0.02	0.019
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.011	0.012	0.017	0.015	0.019	0.013	0.015	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	182	.	199	.	182	.	184	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	38	37	41	37	39	39	42	37
Chloride	2	.	2.1	.	2.6	.	2	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	24	23	26	24	25	25	27	24
Manganese	0.014	<0.001	0.039	0.0013	0.029	0.022	0.072	<0.001
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	1.7	1.9	1.3	1.5	1.5	2	1.7	1.9
Sodium	4.6	4.6	4.6	4.3	4.4	4.4	4.3	4.6
Sulfate	23	.	22	.	23	.	19	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

39

Sampling Point . Location . Date Sampled	GW-305							
	LIV							
	01/05/93		04/01/93		07/17/93		10/04/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.027	<0.02	0.033	0.097	0.022	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.0072	0.0082	0.0075	0.0068	0.0075	0.0075	0.0082	0.0092
Beryllium	<0.0003	0.00056	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.021	0.022	0.0079	0.0064	0.026	<0.004	0.0046	0.0068
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0044	<0.004	<0.004	<0.004	0.0075	<0.004
Iron	0.16	0.12	0.043	<0.005	0.08	<0.005	0.043	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	-0.00024	-0.00024	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.033	0.049	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.013	0.016	0.03	0.029	0.015	0.018	0.012	0.016
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.012	0.014	0.0098	0.011	0.012	0.041	0.013	0.0046
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	131	.	126	.	136	.	134	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	24	25	26	25	26	27	26	25
Chloride	2.8	.	1.9	.	1.7	.	2.1	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	14	15	16	16	16	16	16	16
Manganese	0.012	0.016	0.0049	0.0018	0.0032	0.0043	<0.001	0.0011
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	0.23	.
Potassium	0.64	0.89	1	1	0.7	<0.6	0.64	0.69
Sodium	1.5	2	1.6	1.1	1.1	1.3	1.2	3.7
Sulfate	7.7	.	3.3	.	<1	.	3	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

40

Sampling Point . Location . Date Sampled	GW-321							
	ADS							
	03/22/93		06/09/93		09/02/93		12/17/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.66	<0.02	0.086	<0.02	0.21	0.085	0.034	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.049	0.048	0.054	0.053	0.056	0.056	0.053	0.054
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.034	0.017	0.022	0.012	0.012	0.006	0.027	0.03
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0041	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.69	0.037	0.13	0.0079	0.27	0.054	0.066	0.0051
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.014	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.017	0.016	0.017	0.016	0.019	0.019	0.017	0.018
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.11	0.013	0.035	0.01	0.026	0.057	0.015	0.0031
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO ₃	120	.	124	.	126	.	124	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	24	24	27	26	28	28	26	26
Chloride	<1	.	<1	.	1.6	.	1	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	14	13	15	14	15	15	14	15
Manganese	0.016	0.0066	0.0037	0.0016	0.0073	0.0038	0.0046	0.0046
Nitrate-N	0.24	.	<0.2	.	0.26	.	<0.2	.
Potassium	<0.6	<0.6	<0.6	0.67	<0.6	1.1	0.73	<0.6
Sodium	0.67	0.57	0.55	0.54	0.59	0.71	0.55	0.53
Sulfate	3.2	.	1.9	.	5.8	.	2	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

41

Sampling Point . Location . Date Sampled	GW-339							
	UMCS							
	01/19/93		05/13/93		07/27/93		10/09/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	0.056	0.036	0.058	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.02	0.021	0.02	0.02	0.022	0.021	0.019	0.022
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.0048	0.0048	0.021	0.025	0.01	0.0049	<0.004	<0.004
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	0.049	<0.01	0.022	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	0.039	<0.01	0.027	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0062	<0.004	0.019	0.0044	0.0058	<0.004
Iron	0.014	<0.005	0.23	<0.005	1.2	<0.005	0.13	0.0068
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	0.0054	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.017	0.02	0.052	0.044	0.15	0.052	0.13	0.15
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.021	0.022	0.023	0.023	0.024	0.022	0.023	0.025
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0095	0.0057	0.023	0.02	0.023	0.0091	0.05	0.022
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	250	.	251	.	255	.	261	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	52	52	57	57	57	55	58	57
Chloride	14.5	.	24	.	20.9	.	21	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	29	29	33	33	32	32	32	32
Manganese	<0.001	<0.001	0.0039	0.0013	0.034	0.0052	0.0051	0.0066
Nitrate-N	0.75	.	0.66	.	0.66	.	0.8	.
Potassium	1	0.83	1.1	1	1.3	1.5	1.1	1.2
Sodium	6.9	7	8.7	8.8	9.3	9.3	8.7	9.3
Sulfate	6.6	.	4.9	.	4.2	.	4	.

(CONTINUED)

APPENDIX B.1
Groundwater Quality Data, 1993

42

Sampling Point . Location . Date Sampled	GW-511							
	CRSP							
	01/06/93		06/04/93		09/01/93		12/16/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	<0.02	0.025	0.035	0.041	0.042	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.0074	0.0076	0.0075	0.0081	0.0081	0.0087	0.0083	0.0086
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.025	0.011	0.053	0.051	0.11	0.19	0.05	0.012
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	0.0043	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	<0.005	0.023	0.026	0.0063	0.019	<0.005	0.028	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.039	0.039	0.037	0.038	0.043	0.043	0.042	0.042
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0062	0.0082	<0.002	0.0071	0.0086	0.0072	<0.002	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	137	.	143	.	141	.	145	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	28	28	27	28	30	31	29	29
Chloride	2.7	.	2.4	.	3	.	3	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	17	17	17	17	18	18	17	17
Manganese	<0.001	0.0012	0.0019	0.0014	0.0011	0.0015	0.0018	0.002
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	4.4	4.3	3.6	3.7	3.8	4.5	3.7	3.8
Sodium	1.2	1.3	1.1	1.2	1.4	1.5	1.2	1.3
Sulfate	1.7	.	2.9	.	7.4	.	1	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

43

Sampling Point . Location . Date Sampled	GW-512							
	ADB							
	03/18/93		06/03/93		09/01/93		12/15/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	1	<0.02	0.35	<0.02	0.92	0.026	0.032	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.026	0.024	0.025	0.022	0.025	0.024	0.024	0.023
Beryllium	0.00064	<0.0003	0.00037	0.00031	0.00066	<0.0003	<0.0003	<0.0003
Boron	0.019	0.012	0.03	0.015	0.01	0.014	0.017	0.047
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	0.0048	0.0047	<0.004	<0.004	<0.004
Iron	1.6	<0.005	0.43	0.0081	1.2	<0.005	0.11	<0.005
Lead (AAS)	0.0043	0.0065	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.021	0.021	0.02	0.019	0.021	0.021	0.02	0.02
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	0.0065	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.034	0.015	0.016	0.015	0.034	0.014	0.012	0.0052
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	160	.	167	.	158	.	137	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	33	33	32	31	33	33	30	29
Chloride	<1	.	<1	.	1.7	.	1	.
Fluoride	<0.1	.	<0.1	.	0.1	.	<0.1	.
Magnesium	18	18	19	19	19	19	17	16
Manganese	0.043	<0.001	0.014	0.0011	0.035	<0.001	0.0036	0.0012
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	4.2	4.2	3.7	3.4	4	3.8	4.8	4.8
Sodium	1	1	0.93	0.86	0.93	0.94	1.3	1.4
Sulfate	2.7	.	1.9	.	9	.	8	.

(CONTINUED)

APPENDIX B.1
Groundwater Quality Data, 1993

44

Sampling Point . Location . Date Sampled	GW-513							
	ADB							
	03/16/93		06/02/93		08/31/93		12/15/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.065	0.02	0.31	<0.02	0.17	<0.02	0.023	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.0076	0.0074	0.0079	0.02	0.0088	0.0072	0.0076	0.0075
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.026	0.015	0.018	0.015	0.0097	0.0062	0.028	0.024
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	0.017	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.048	<0.005	0.22	0.02	0.18	0.04	0.018	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	0.025	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.02	0.02	0.019	0.019	0.022	0.021	0.02	0.02
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0071	0.011	0.011	0.015	0.0081	0.049	0.0022	0.017
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	168	.	177	.	177	.	176	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	36	36	36	34	38	38	36	37
Chloride	1.1	.	1.1	.	1.7	.	1	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	0.5	.
Magnesium	20	20	22	19	21	21	21	21
Manganese	0.0023	<0.001	0.0054	<0.001	0.0045	<0.001	0.0018	0.001
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	1.5	1.5	1.4	1.3	1.6	1.8	1.3	1.5
Sodium	1	0.94	0.87	0.62	1.8	1.9	0.97	1
Sulfate	2	.	1.9	.	8	.	1	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

45

Sampling Point . Location . Date Sampled	GW-514							
	ADB							
	03/20/93		06/05/93		09/02/93		12/17/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.028	<0.02	<0.02	0.029	<0.02	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.0074	0.0063	0.0057	0.006	0.0072	0.0071	0.0073	0.0067
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.025	0.023	0.021	0.017	0.0056	0.017	0.027	0.011
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.33	0.019	0.19	0.0094	0.43	0.094	0.21	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	0.25	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.029	0.022	0.021	0.02	0.023	0.023	0.022	0.022
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0048	0.0071	0.0026	0.012	0.0033	0.1	<0.002	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	174	.	181	.	180	.	178	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	39	39	37	37	41	41	38	39
Chloride	1	.	1.1	.	1.8	.	1	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	0.1	.
Magnesium	21	21	21	21	22	22	22	22
Manganese	0.011	0.012	0.014	0.013	0.0096	0.0097	0.0062	0.0058
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	0.83	0.99	1	1	0.91	1.2	0.96	0.99
Sodium	0.68	0.5	0.37	0.36	0.4	0.67	0.44	0.41
Sulfate	5	.	4.4	.	7.7	.	3	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

46

Sampling Point . Location . Date Sampled	GW-521							
	LIV							
	01/06/93		04/05/93		07/18/93		10/06/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.2	0.027	0.037	<0.02	0.08	<0.02	0.026	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.0073	0.0068	0.0072	0.007	0.0079	0.0075	0.0086	0.0085
Beryllium	0.00052	0.00076	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.012	0.0041	0.014	0.02	0.012	<0.004	<0.004	<0.004
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.0057	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.025	0.0043	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.15	<0.005	0.016	<0.005	0.14	<0.005	0.072	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	-0.00024	-0.00024	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.009	0.0089	0.0093	0.0092	0.0094	0.0094	0.011	0.011
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.02	0.0094	0.0048	0.0076	0.013	0.0076	0.004	0.0053
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	144	.	144	.	150	.	158	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	28	28	27	26	29	29	32	31
Chloride	1.3	.	1.1	.	1	.	1	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	17	17	17	17	18	18	20	19
Manganese	0.0041	<0.001	<0.001	<0.001	0.0037	<0.001	<0.001	<0.001
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	0.2	.
Potassium	<0.6	<0.6	<0.6	<0.6	0.7	<0.6	0.61	<0.6
Sodium	0.63	0.6	0.66	0.68	0.6	0.57	0.6	0.57
Sulfate	3.1	.	3.1	.	<1	.	2	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

47

Sampling Point . Location . Date Sampled	GW-522							
	LIV							
	01/06/93		04/02/93		07/18/93		10/05/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.66	<0.02	0.38	0.02	1	0.031	0.26	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.0086	0.0058	0.0078	0.007	0.0093	0.0068	0.007	0.0062
Beryllium	0.0011	<0.0003	<0.0003	<0.0003	0.00085	<0.0003	<0.0003	<0.0003
Boron	0.023	0.034	0.073	0.024	0.019	0.009	0.016	0.013
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.02	<0.004	<0.004	<0.004	0.0049	<0.004	<0.004	<0.004
Iron	0.43	<0.005	0.4	<0.005	2.2	<0.005	0.47	<0.005
Lead (AAS)	0.027	<0.004	<0.004	<0.004	0.0063	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	-0.00024	-0.00024	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.022	0.011	0.011	0.011	0.013	0.0098	0.01	0.0095
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005
Zinc	0.056	0.0094	0.016	0.0078	0.067	0.037	0.015	0.0059
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	151	.	151	.	136	.	125	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	75	29	32	30	43	29	27	25
Chloride	1.7	.	1.5	.	1.1	.	1.2	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	44	17	19	18	26	17	16	15
Manganese	0.036	<0.001	0.0087	0.0014	0.054	<0.001	0.011	0.0011
Nitrate-N	0.41	.	0.39	.	0.37	.	0.42	.
Potassium	0.68	<0.6	0.73	0.72	1.3	0.67	0.63	0.63
Sodium	0.7	0.73	0.63	0.62	0.55	0.44	0.51	0.5
Sulfate	<1	.	<1	.	<1	.	<1	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

48

Sampling Point . Location . Date Sampled	GW-539								
	LII								
	01/06/93		04/01/93		05/28/93	07/19/93		10/04/93	
	TOT	DIS	TOT	DIS	TOT	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.	.
Aluminum	0.1	0.025	1.3	0.081	0.17	0.16	<0.02	0.16	<0.02
Antimony	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.011	0.0091	0.017	0.0163	0.011	0.0094	0.0084	0.011	0.01
Beryllium	<0.0003	<0.0003	<0.0003	<0.0006	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.019	0.016	0.02	0.074	0.023	0.038	<0.004	0.0053	0.0046
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.004	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.006	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	0.12	<0.01	0.23	<0.02	0.042	0.02	<0.01	0.039	<0.01
Chromium	0.098	<0.01	0.16	<0.02	0.04	0.026	<0.01	0.03	<0.01
Cobalt	<0.005	0.0063	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	0.0078
Copper	0.012	0.0079	0.029	<0.008	<0.004	0.006	<0.004	0.0063	<0.004
Iron	0.82	0.007	7	0.02	0.87	0.66	<0.005	0.89	<0.005
Lead (AAS)	<0.004	<0.004	0.014	<0.008	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.049	0.033	0.26	0.111	0.12	0.092	0.038	0.079	0.028
Selenium	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.012	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.019	0.018	0.03	0.042	0.023	0.021	0.019	0.022	0.021
Thorium	<0.2	<0.2	<0.2	<0.4	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	0.001	0.001	0.001	.	0.001	0.001	0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.031	0.023	0.084	0.0189	0.024	0.023	0.0084	0.017	0.0077
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.	.
Alkalinity-HCO3	137	.	135	.	.	142	.	145	.
Alkalinity-CO3	<1	.	<1	.	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	<0.2	.	<0.2	.
Calcium	34	34	54	71	39	37	36	37	37
Chloride	32	.	25	.	.	23.9	.	32	.
Fluoride	<0.1	.	<0.1	.	.	<0.1	.	<0.1	.
Magnesium	19	19	23	42	22	21	21	21	21
Manganese	0.011	0.002	0.11	0.0058	0.017	0.01	0.0016	0.012	<0.001
Nitrate-N	<0.2	.	<0.2	.	.	0.31	.	0.38	.
Potassium	0.71	0.71	1.4	1.92	0.95	1.2	0.67	0.87	1.2
Sodium	1.8	1.7	2.4	5.5	3.1	2.8	2.1	2.5	2.2
Sulfate	6.1	.	7.8	.	.	8.1	.	7.8	.

APPENDIX E.1
Groundwater Quality Data, 1993

49

Sampling Point . Location . Date Sampled	GW-540							
	CDLVI							
	03/12/93		05/28/93		08/21/93		11/30/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	0.022	<0.02	<0.02	<0.02	<0.02	0.026	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.0084	0.0095	0.0089	0.0095	0.0092	0.0092	0.0094	0.008
Beryllium	0.00043	0.00068	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.022	0.03	0.035	0.033	0.0089	0.044	0.11	0.11
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.014	0.015	<0.005	<0.005	0.11	<0.005	0.23	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.013	0.016	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.026	0.025	0.024	0.024	0.025	0.025	0.025	0.025
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0083	0.014	0.0081	0.0096	0.025	0.024	0.0088	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	179	.	177	.	182	.	181	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	<0.2	.	<0.2	.	<0.2	.
Calcium	39	39	37	37	38	38	34	35
Chloride	1.4	.	1.5	.	1.6	.	2	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	22	22	21	21	23	23	23	23
Manganese	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0033	<0.001
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	0.2	.
Potassium	0.62	0.74	0.77	0.66	0.68	1	1	1
Sodium	2.2	2.1	1.8	1.9	1.9	1.9	3.8	3.3
Sulfate	4.6	.	4.5	.	3.7	.	5	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

50

Sampling Point . Location . Date Sampled	GW-541							
	CDLVI							
	03/12/93		06/02/93		09/15/93		12/02/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.081	<0.02	0.024	<0.02	0.096	<0.02	5.2	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.008	0.0068	0.0078	0.0073	0.0076	0.0069	0.033	0.0067
Beryllium	0.00042	0.00055	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.017	0.017	0.016	0.032	0.016	0.026	0.073	0.021
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.028	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	0.0045	0.0088	<0.004
Iron	0.099	0.01	0.035	<0.005	0.3	<0.005	5.3	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	0.0051	<0.004	0.018	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	0.033	0.033	0.027	0.026	0.036	0.037	0.043	0.034
Nickel	0.015	0.015	<0.01	<0.01	<0.01	<0.01	0.014	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.026	0.037	0.021	0.021	0.025	0.023	0.059	0.026
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.003	0.002	0.003	0.003	0.002	0.002	0.004	0.002
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0064	<0.005
Zinc	0.021	0.011	0.031	0.025	0.02	0.01	0.25	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	182	.	180	.	170	.	163	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	<0.2	.	<0.2	.	<0.2	.
Calcium	43	34	38	38	41	39	80	37
Chloride	<1	.	<1	.	2.6	.	1	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	23	19	20	20	21	21	25	20
Manganese	0.0022	<0.001	0.0018	0.0018	0.0048	0.0021	0.17	<0.001
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	0.89	1.8	0.9	0.75	<0.6	0.64	1	0.88
Sodium	0.59	1	0.41	0.44	0.46	0.5	0.51	0.59
Sulfate	12.7	.	12	.	18	.	11	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

51

Sampling Point . Location . Date Sampled	GW-542							
	CDLVI							
	03/16/93		06/02/93		09/15/93		12/03/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.18	0.14	0.1	0.049	0.18	<0.02	0.14	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	0.051	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.02	0.019	0.013	0.012	0.014	0.016	0.014	0.015
Beryllium	0.00055	0.00042	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.051	0.016	0.023	0.018	0.017	0.023	0.026	0.11
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	0.01	0.014	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.033	0.013	0.034	<0.005	0.16	<0.005	0.16	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.049	0.046	0.027	0.026	0.021	0.024	0.015	0.015
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.022	0.023	0.067	0.06	0.053	0.038	0.12	0.055
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	135	.	121	.	102	.	147	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	<0.2	.	<0.2	.	<0.2	.
Calcium	35	34	25	25	26	35	16	16
Chloride	1	.	1.1	.	2	.	1	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	13	13	11	11	13	19	7.4	7.9
Manganese	<0.001	<0.001	0.0027	0.002	0.0066	0.0017	0.0088	0.0066
Nitrate-N	<0.2	.	0.24	.	0.43	.	0.3	.
Potassium	2.6	2.6	1.8	1.5	1.1	0.66	1.8	1.8
Sodium	1.6	1.4	1.1	0.98	0.74	0.68	0.86	0.95
Sulfate	3.8	.	4.8	.	8.3	.	2	.

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APPENDIX E.1
Groundwater Quality Data, 1993

52

Sampling Point . Location . Date Sampled	GW-543							
	CDLVI							
	03/16/93		06/02/93		09/16/93		12/04/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.14	0.089	<0.02	<0.02	0.055	<0.02	0.028	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.0089	0.0091	0.0086	0.0087	0.0087	0.0087	0.011	0.0092
Beryllium	0.00055	0.00042	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.034	0.065	0.036	0.026	0.012	0.0069	0.047	0.031
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.0037	0.0027
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.1	0.036	0.02	<0.005	0.037	<0.005	0.067	0.043
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	0.061	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.024	0.024	0.022	0.022	0.023	0.023	0.024	0.023
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.013	0.027	0.021	0.014	0.017	0.019	0.025	0.02
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	225	.	223	.	229	.	234	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	<0.2	.	<0.2	.	<0.2	.
Calcium	49	49	44	43	48	48	47	45
Chloride	1.2	.	1.1	.	1.3	.	1.9	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	28	28	25	26	27	28	29	28
Manganese	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	0.23	.
Potassium	1.1	1.1	0.95	1	<0.6	<0.6	0.77	<0.6
Sodium	0.84	0.92	0.81	0.84	0.95	0.93	0.95	0.86
Sulfate	4	.	3	.	2.3	.	2.3	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

53

Sampling Point . Location . Date Sampled	GW-544							
	CDLVI							
	03/16/93		06/02/93		09/16/93		12/06/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.12	0.047	0.031	<0.02	<0.02	<0.02	0.069	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.011	0.01	0.011	0.01	0.0097	0.013	0.01	0.011
Beryllium	0.00055	0.00055	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.032	0.017	<0.004	0.017	0.013	0.021	0.062	0.05
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	0.013	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	0.013	0.011	<0.01	<0.01	<0.01	<0.01	0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.18	0.015	0.077	<0.005	0.059	<0.005	0.25	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.01	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.022	0.021	0.019	0.018	0.02	0.022	0.02	0.021
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	0.001	0.001	0.001	<0.001	<0.001	0.001	0.002
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.052	0.036	0.031	0.026	0.018	0.017	0.023	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	208	.	210	.	209	.	212	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	<0.2	.	<0.2	.	<0.2	.
Calcium	49	49	44	44	47	48	42	44
Chloride	13	.	10	.	11	.	10	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	27	28	25	25	27	28	26	27
Manganese	0.0073	<0.001	0.0046	<0.001	0.001	<0.001	0.0053	<0.001
Nitrate-N	0.5	.	0.35	.	0.5	.	0.5	.
Potassium	1.2	1.3	1.7	1.2	<0.6	1	1.1	1.1
Sodium	5.6	5.6	4.7	4.6	4.7	4.9	4.6	4.7
Sulfate	11	.	8.6	.	7	.	9	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

54

Sampling Point . Location . Date Sampled	GW-545							
	CDLVI							
	03/17/93		06/02/93		09/16/93		12/03/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.38	0.05	0.29	0.23	54	0.7	13	0.35
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	0.11	<0.05	<0.05	<0.05
Barium	0.021	0.0097	0.017	0.012	0.32	0.012	0.075	0.0093
Beryllium	0.0003	<0.0003	<0.0003	<0.0003	0.0059	<0.0003	0.0016	<0.0003
Boron	0.016	0.011	0.02	0.014	0.039	0.026	0.067	0.018
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	0.0021	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	0.022	<0.003	<0.003	<0.003
Chromium (AAS)	0.021	0.014	0.01	0.013	0.18	0.011	0.031	<0.01
Chromium	0.022	0.019	<0.01	<0.01	0.46	0.013	0.039	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	0.048	<0.005	0.012	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.29	0.0051	0.062	<0.004
Iron	0.6	0.011	0.16	<0.005	76	0.0058	23	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	0.57	<0.004	0.15	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	0.01	0.061	0.024	0.033	0.036
Nickel	<0.01	<0.01	<0.01	<0.01	0.28	<0.01	0.037	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.065	0.031	0.045	0.038	0.37	0.054	0.086	0.046
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	0.004	<0.001	0.001	<0.001
Vanadium	<0.005	<0.005	0.0054	0.0055	0.15	0.014	0.056	0.012
Zinc	0.01	0.0044	0.0076	0.0048	0.31	0.004	0.092	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	<1	.	<1	.	<1	.	<1	.
Alkalinity-CO3	54	.	26	.	36	.	28	.
Ammonia-N	.	.	<0.2	.	<0.2	.	<0.2	.
Calcium	14	6.1	19	12	330	28	58	22
Chloride	2	.	2.2	.	2	.	2	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	0.1	.
Magnesium	5.1	3	4.2	1.7	68	0.023	14	0.2
Manganese	0.013	0.0019	0.0041	<0.001	1.8	<0.001	0.57	<0.001
Nitrate-N	0.66	.	0.78	.	0.9	.	0.6	.
Potassium	26	23	14	15	26	20	14	12
Sodium	8	7.6	5.2	5.3	6	5.8	4.3	4
Sulfate	13	.	14	.	15	.	14	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

55

Sampling Point . Location . Date Sampled	GW-546							
	CDLVI							
	03/12/93		06/01/93		08/21/93		12/01/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	0.028	<0.02	1.7	<0.02	2.7	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.0044	0.0035	0.0053	0.005	0.012	0.0046	0.011	0.0052
Beryllium	0.00042	0.00068	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.036	0.012	0.03	0.016	0.0068	0.014	0.076	0.074
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.0067	<0.004	<0.004	<0.004
Iron	0.021	0.012	0.0094	<0.005	3.7	<0.005	3.6	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	0.0062	<0.004	0.0059	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	0.01	0.011	<0.01	<0.01	<0.01	0.019	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.02	0.019	0.019	0.018	0.028	0.017	0.038	0.021
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	0.0091	<0.005	0.0097	<0.005
Zinc	0.015	0.031	0.014	0.014	0.051	0.0099	0.024	0.0038
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	157	.	131	.	135	.	122	.
Alkalinity-CO3	<1	.	<1	.	<1	.	4	.
Ammonia-N	.	.	<0.2	.	<0.2	.	<0.2	.
Calcium	35	33	30	30	52	29	67	29
Chloride	1.4	.	1.7	.	2	.	1.8	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	19	18	16	16	31	17	43	18
Manganese	<0.001	<0.001	0.0042	<0.001	0.18	<0.001	0.15	0.002
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	1.9	2	1.7	1.7	3	1.6	2.7	1.6
Sodium	1.7	1.6	1.9	1.8	2.4	2.5	2.1	2
Sulfate	3.9	.	6.8	.	4.1	.	3.1	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

86

Sampling Point . Location . Date Sampled	GW-557						GW-560	
	LV						CDLVII	
	05/26/93		09/29/93		12/08/93		05/26/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.16	0.05	0.049	<0.02	0.099	<0.02	0.039	0.036
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	0.068	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.011	0.011	0.012	0.011	0.011	0.011	0.21	0.2
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.033	0.033	0.017	0.021	0.014	0.0084	0.016	0.016
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.01	0.013	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.2	<0.005	0.11	0.015	0.2	0.005	<0.005	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.017	0.015	0.011	<0.01	<0.01	<0.01	0.029	0.029
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.017	0.016	0.018	0.018	0.016	0.016	0.024	0.023
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.015	0.019	0.0087	0.01	0.011	<0.002	0.02	0.018
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO ₃	165	.	169	.	167	.	141	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.
Ammonia-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Calcium	36	35	37	38	36	34	34	33
Chloride	1.1	.	1	.	1.2	.	<1	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	20	20	21	21	20	20	13	13
Manganese	0.005	<0.001	0.0023	<0.001	0.0034	<0.001	0.001	<0.001
Nitrate-N	0.86	.	0.96	.	1.05	.	<0.2	.
Potassium	1.3	1.1	1.5	1.6	1.4	2.2	1	1.2
Sodium	0.64	0.6	0.59	0.6	0.63	0.68	0.44	0.45
Sulfate	1.1	.	1	.	1	.	3.6	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

57

Sampling Point . Location . Date Sampled	GW-560				GW-562			
	CDLVII				CDLVII			
	08/28/93		12/02/93		05/26/93		08/28/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.025	<0.02	<0.02	<0.02	3.8	0.023	0.5	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.24	0.24	0.23	0.23	0.019	0.01	0.013	0.011
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	0.00035	<0.0003	<0.0003	<0.0003
Boron	0.011	0.0087	0.063	0.013	0.029	0.033	0.0076	0.011
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.014	0.005	<0.004	<0.004
Iron	0.017	<0.005	0.11	<0.005	3.9	<0.005	0.76	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	0.0041	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	0.018	0.012	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.024	0.024	0.022	0.022	0.018	0.017	0.018	0.018
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	0.007	<0.005	<0.005	<0.005
Zinc	0.018	0.025	0.0099	<0.002	0.055	0.0094	0.012	0.003
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO ₃	146	.	148	.	172	.	176	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.
Ammonia-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Calcium	38	38	34	36	36	36	40	39
Chloride	<1	.	<1	.	1.6	.	1.4	.
Fluoride	0.2	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	15	15	14	15	21	20	22	21
Manganese	<0.001	<0.001	<0.001	<0.001	0.096	<0.001	0.023	<0.001
Nitrate-N	<0.2	.	0.2	.	<0.2	.	<0.2	.
Potassium	1.4	1.1	1.5	1.6	1.2	<0.6	<0.6	<0.6
Sodium	0.48	0.46	0.62	0.48	0.87	0.73	0.64	0.69
Sulfate	3.1	.	1	.	1.9	.	1.6	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

58

Sampling Point . Location . Date Sampled	GW-562		GW-564					
	CDLVII		CDLVII					
	12/02/93		05/26/93		08/29/93		12/08/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.8	<0.02	<0.02	<0.02	<0.02	0.029	<0.02	0.043
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	0.012	0.0097	0.012	0.011	0.013	0.013	0.012	0.012
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.02	0.014	0.015	0.021	0.019	0.0081	0.046	0.063
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.8	<0.005	0.083	<0.005	0.079	<0.005	0.028	0.18
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	0.017	0.018	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.017	0.018	0.017	0.018	0.019	0.019	0.019	0.019
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.013	<0.002	0.018	0.018	0.03	0.016	0.012	0.022
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	175	.	137	.	145	.	141	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Calcium	36	37	30	31	36	35	32	31
Chloride	2	.	1	.	1	.	1.2	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	21	21	14	14	16	16	15	14
Manganese	0.024	<0.001	0.0041	0.0023	<0.001	<0.001	<0.001	0.001
Nitrate-N	0.3	.	0.37	.	0.5	.	0.61	.
Potassium	0.95	1	1	0.96	1.3	1.1	1.2	0.96
Sodium	0.76	0.75	0.52	0.59	0.56	0.56	0.72	0.71
Sulfate	3	.	<1	.	2	.	1.1	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

59

Sampling Point . Location . Date Sampled	GW-607		GW-608					
	CRSP		CRSP					
	01/06/93		03/28/93		06/15/93		09/07/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	<0.02	<0.02	0.025	0.03	0.07	0.022
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.0086	0.008	0.0098	0.01	0.011	0.011	0.013	0.013
Beryllium	0.00042	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.017	0.0091	0.023	0.035	0.0045	0.053	0.13	0.14
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.025	<0.005	0.074	<0.005	0.088	0.06	0.22	0.02
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.022	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.023	0.022	0.012	0.012	0.012	0.012	0.014	0.014
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	0.001	0.001	0.001	0.001	0.001	0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0084	0.0089	0.0054	0.0042	0.002	0.003	0.0058	0.0071
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO ₃	135	.	143	.	146	.	145	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	29	28	31	31	30	30	32	32
Chloride	1.4	.	1.5	.	1.5	.	1.7	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	16	16	17	17	17	17	18	18
Manganese	<0.001	<0.001	0.0054	0.0058	0.0033	0.0024	0.0042	0.0019
Nitrate-N	<0.2	.	0.26	.	<0.2	.	0.24	.
Potassium	1.9	2.3	0.73	0.95	0.71	0.8	0.67	1
Sodium	0.77	0.82	0.52	0.56	0.53	0.58	0.68	0.7
Sulfate	3.9	.	2.4	.	2.3	.	2.6	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

60

Sampling Point . Location . Date Sampled	GW-608		GW-609					
	CRSP		CRSP					
	12/18/93		03/28/93		06/16/93		09/24/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.011	0.012	0.011	0.01	0.011	0.011	0.013	0.012
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.024	0.011	0.017	0.015	0.063	0.033	0.019	0.025
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.0049	<0.004	<0.004	<0.004
Iron	0.12	0.0073	<0.005	<0.005	<0.005	<0.005	0.0081	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.014	0.014	0.014	0.013	0.013	0.012	0.015	0.015
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	<0.002	<0.002	0.0093	0.0082	0.011	0.0081	0.013	0.015
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	151	.	185	.	197	.	192	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	32	31	39	39	38	38	42	42
Chloride	2	.	1.5	.	1.6	.	2.1	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	19	19	23	24	22	23	25	25
Manganese	0.003	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nitrate-N	0.3	.	0.96	.	0.96	.	1.1	.
Potassium	0.9	0.96	1.2	1.6	1.2	1	0.99	1.1
Sodium	0.57	0.54	0.84	0.88	0.8	0.72	0.75	0.83
Sulfate	2	.	2.2	.	3.5	.	6.4	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

61

Sampling Point . Location . Date Sampled	GW-609		GW-610					
	CRSP		CRSP					
	12/19/93		03/25/93		06/13/93		09/02/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	0.025	<0.02	<0.02	<0.02	0.024	4.5	0.025
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	0.012	0.012	0.088	0.086	0.097	0.092	0.16	0.082
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.00048	<0.0003
Boron	0.034	0.032	<0.004	0.011	0.006	0.023	0.1	0.1
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.0034	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.046	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.062	<0.004
Iron	0.048	<0.005	<0.005	<0.005	<0.005	<0.005	6.4	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.043	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.054
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.015	0.014	0.015	0.015	0.016	0.015	0.052	0.018
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	0.001	0.001	<0.001	<0.001	0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0094	<0.005
Zinc	0.01	0.0026	0.005	0.0032	0.0076	0.01	0.057	0.0075
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	191	.	216	.	216	.	209	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	40	39	42	40	44	43	89	44
Chloride	2	.	2.7	.	2.2	.	2.6	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	25	24	25	25	25	25	33	26
Manganese	<0.001	<0.001	0.0012	<0.001	0.0015	0.0014	0.17	0.01
Nitrate-N	1.1	.	0.63	.	<0.2	.	0.58	.
Potassium	1.6	1.6	0.95	<0.6	<0.6	0.95	<0.6	0.75
Sodium	0.81	0.87	1	1	0.84	0.93	1	1
Sulfate	2	.	5.7	.	<1	.	5.1	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

62

Sampling Point . Location . Date Sampled	GW-610		GW-611					
	CRSP		CRSP					
	12/17/93		03/27/93		06/15/93		09/11/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	<0.02	<0.02	0.28	0.027	0.21	0.021
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.081	0.079	0.015	0.015	0.02	0.017	0.019	0.016
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.04	0.037	0.0096	0.0053	0.093	0.02	0.1	0.093
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	0.0066	<0.004	0.0071	0.0041
Iron	<0.005	<0.005	0.083	<0.005	0.74	<0.005	0.79	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.016	0.016	0.019	0.019	0.022	0.018	0.022	0.018
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	<0.001	<0.001	<0.001	0.001	0.001	0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0073	0.005	0.019	0.014	0.058	0.034	0.033	0.027
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	209	.	267	.	281	.	254	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	43	44	61	59	68	58	64	58
Chloride	3	.	1.6	.	1.8	.	2.8	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	27	27	34	34	36	33	35	33
Manganese	<0.001	<0.001	0.0041	0.0022	0.021	0.0035	0.013	0.002
Nitrate-N	0.7	.	3.12	.	2.9	.	2.6	.
Potassium	<0.6	<0.6	0.87	0.73	<0.6	<0.6	<0.6	<0.6
Sodium	1	0.86	1.5	1.3	1.7	1.6	2.4	2.1
Sulfate	<1	.	2.2	.	12	.	3.3	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

63

Sampling Point . Location . Date Sampled	GW-611		GW-709					
	CRSP		LII					
	12/19/93		01/07/93		04/02/93		07/20/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.26	<0.02	0.17	<0.02	1.4	0.025	0.029	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05
Barium	0.018	0.016	0.27	0.22	0.25	0.26	0.24	0.22
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0006	<0.0003	<0.0003	<0.0003
Boron	0.017	0.029	0.013	0.0042	0.014	0.021	0.0084	<0.004
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	<0.006	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	0.0074	<0.008	<0.004	<0.004	<0.004
Iron	1.2	<0.005	0.2	<0.005	0.85	<0.005	0.073	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.012	<0.006	<0.006	<0.006
Strontium	0.022	0.019	0.032	0.029	0.033	0.031	0.03	0.028
Thorium	<0.2	<0.2	<0.2	<0.2	<0.4	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	0.001	0.001	0.001	0.001	0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005
Zinc	0.048	0.039	0.0098	0.017	0.024	0.027	0.01	0.015
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	274	.	172	.	177	.	170	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	65	59	33	34	40	34	27	35
Chloride	2	.	1.3	.	1.2	.	1	.
Fluoride	<0.1	.	<0.1	.	0.1	.	<0.1	.
Magnesium	37	35	19	19	21	19	21	20
Manganese	0.019	0.002	0.0052	0.0017	0.0052	0.0013	0.0013	<0.001
Nitrate-N	3	.	<0.2	.	<0.2	.	<0.2	.
Potassium	0.69	0.62	1.3	<0.6	1.4	0.9	1	<0.6
Sodium	2.3	2.2	0.59	0.62	0.51	0.53	0.46	0.42
Sulfate	2	.	1.7	.	2.1	.	1.2	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

64

Sampling Point . Location . Date Sampled	GW-709		GW-731					
	LII		CRSDB					
	10/05/93		02/23/93		06/15/93		08/11/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.021	<0.02	9.1	<0.02	8.9	0.044	1.5	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	0.066	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.27	0.24	0.036	0.0095	0.038	0.01	0.015	0.013
Beryllium	<0.0003	<0.0003	0.0035	0.00043	0.0022	<0.0003	0.00044	<0.0003
Boron	<0.004	0.0046	0.028	0.018	0.04	0.11	0.011	0.016
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	0.0037	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	0.01	<0.01	0.013	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	0.017	<0.01	0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	0.008	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.016	<0.004	0.026	0.0048	0.025	<0.004
Iron	0.041	0.007	15	0.021	12	0.061	3.1	<0.005
Lead (AAS)	<0.004	<0.004	0.036	<0.004	0.032	<0.004	0.0078	<0.004
Mercury (CVAA)	<0.0002	<0.0002	0.00023	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	0.029	0.011	0.029	<0.01	0.023	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.032	0.03	0.066	0.039	0.047	0.022	0.031	0.028
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	0.001	0.001	0.001	0.001	0.001	<0.001
Vanadium	<0.005	<0.005	0.033	<0.005	0.028	<0.005	<0.005	<0.005
Zinc	0.0084	0.022	0.23	0.0049	0.22	0.0072	0.1	0.0072
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	168	.	102	.	118	.	127	.
Alkalinity-CO3	<1	.	6	.	2	.	2	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	20	35	40	21	47	28	28	25
Chloride	2	.	1.1	.	1.1	.	1.7	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	22	21	20	13	25	18	19	17
Manganese	<0.001	<0.001	0.4	<0.001	0.38	0.0015	0.084	0.011
Nitrate-N	0.2	.	<0.2	.	<0.2	.	0.28	.
Potassium	1.1	0.98	5	3.4	3.2	1.3	2.2	1.8
Sodium	0.48	0.45	4.2	3.8	2.7	1.8	2.4	2.5
Sulfate	2	.	9.1	.	8.7	.	11	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

65

Sampling Point . Location . Date Sampled	GW-731		GW-732					
	CRSDB		CRSDB					
	11/29/93		02/23/93		06/15/93		08/12/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.11	<0.02	0.66	<0.02	3.9	<0.02	3.6	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.0076	0.007	0.013	0.012	0.038	0.021	0.036	0.023
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	0.00031	<0.0003	0.0004	<0.0003
Boron	0.072	0.077	0.041	0.032	0.024	0.03	0.0092	0.0055
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	0.013	0.0062	<0.004	<0.004	<0.004
Iron	0.22	<0.005	0.31	0.03	2.6	<0.005	2.2	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	0.012	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.027	0.025	0.032	0.028	0.087	0.057	0.085	0.064
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	0.002	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0046	0.0025	0.01	0.023	0.036	0.0035	0.017	0.0068
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	121	.	142	.	153	.	146	.
Alkalinity-CO3	4	.	<1	.	2	.	2	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	23	22	27	27	33	27	33	28
Chloride	1	.	<1	.	<1	.	1.4	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	15	15	16	15	20	17	20	17
Manganese	0.0034	<0.001	0.0043	<0.001	0.039	0.0015	0.031	0.0014
Nitrate-N	0.2	.	<0.2	.	<0.2	.	0.29	.
Potassium	5.3	5.1	3.1	3.4	5.9	6.4	5.1	4.5
Sodium	4	4.1	2.3	2.4	2.9	3	2.4	2.5
Sulfate	7	.	1.7	.	2.3	.	7.2	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

66

Sampling Point . Location . Date Sampled	GW-732		GW-742					
	CRSDB		CRSP					
	11/30/93		01/13/93		06/11/93		09/09/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	7.8	3.9	<0.02	<0.02	<0.02	0.027	0.02	0.032
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.066	0.055	0.1	0.1	0.11	0.11	0.098	0.095
Beryllium	0.00073	0.00043	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.019	0.011	0.011	0.0097	0.039	0.027	0.15	0.1
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0053	<0.004	<0.004	<0.004	<0.004	0.0065
Iron	3.5	1.8	5.1	0.39	0.37	<0.005	5.9	1
Lead (AAS)	0.022	0.011	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.16	0.15	0.017	0.03	0.017	0.025	0.019	0.019
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.002	0.004	0.001	0.001	<0.001	0.002	<0.001	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.016	0.012	0.0029	0.0025	0.0047	0.0032	0.0035	0.0069
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	138	.	167	.	165	.	171	.
Alkalinity-CO3	8	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	30	28	38	40	36	37	40	39
Chloride	1	.	<1	.	<1	.	<1	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	18	17	21	19	20	20	22	22
Manganese	0.046	0.021	0.088	0.052	0.032	0.03	0.13	0.1
Nitrate-N	0.3	.	<0.2	.	<0.2	.	<0.2	.
Potassium	9.6	10	1.5	1.4	1.8	2.3	1.3	1
Sodium	7.6	7.6	0.64	0.86	0.73	1.2	0.72	0.66
Sulfate	3	.	13	.	13	.	13	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

67

Sampling Point . Location . Date Sampled	GW-742		GW-743					
	CRSP		CRSP					
	12/18/93		01/13/93		06/13/93		09/10/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.048	0.026	<0.02	<0.02	<0.02	<0.02	0.048	0.034
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	0.061	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.11	0.11	0.0088	0.0089	0.0092	0.0092	0.01	0.011
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.017	0.023	0.018	0.011	0.039	0.022	0.13	0.11
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	0.0044	<0.004	<0.004	<0.004	<0.004
Iron	7.9	<0.005	0.0058	<0.005	0.014	<0.005	0.062	0.0067
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	0.016	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.016	0.016	0.018	0.018	0.017	0.017	0.021	0.021
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0023	<0.002	0.005	0.021	0.0061	0.0032	0.013	0.013
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	169	.	147	.	139	.	149	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<5	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	40	38	31	30	28	28	33	33
Chloride	<1	.	1.6	.	1.2	.	1.5	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	23	22	18	18	16	16	19	19
Manganese	0.072	0.023	<0.001	<0.001	<0.001	<0.001	0.0012	0.0086
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	0.9	1.1	1.3	1.1	0.92	0.81	<0.6	0.66
Sodium	0.48	0.56	0.97	0.86	0.84	0.83	1.1	1
Sulfate	12	.	6.5	.	2.9	.	3.5	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

68

Sampling Point . Location . Date Sampled	GW-743		GW-757					
	CRSP		LII					
	12/16/93		01/07/93		04/05/93		07/20/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.063	<0.02	<0.02	0.025	0.27	0.05	0.26	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	0.01	0.0096	0.19	0.18	0.16	0.16	0.16	0.16
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0008	<0.0003	<0.0003
Boron	0.072	0.054	0.0094	0.033	0.026	0.04	0.01	0.012
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.012	0.012
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.017	0.013
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	0.0045	<0.004	0.0054
Iron	0.07	<0.005	<0.005	<0.005	0.58	0.0085	0.28	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.02	0.019	0.65	0.62	0.7	0.69	0.61	0.6
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	0.004	0.004	0.005	0.006	0.005	0.006
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0096	0.0069	0.1	0.096	0.013	0.018	0.0098	0.017
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO ₃	143	.	144	.	141	.	144	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	31	31	32	30	29	29	26	26
Chloride	2	.	3.1	.	1.3	.	1.3	.
Fluoride	<0.1	.	1.5	.	1.7	.	1.8	.
Magnesium	18	18	17	16	16	15	14	14
Manganese	0.002	<0.001	0.0017	0.0021	0.0044	0.0016	0.0028	<0.001
Nitrate-N	1.3	.	<0.2	.	<0.2	.	<0.2	.
Potassium	0.79	0.88	0.96	1.7	1.7	1.6	2.2	1.8
Sodium	1.4	1.3	3.8	3.6	13	13	17	17
Sulfate	3	.	9.3	.	11	.	12	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

69

Sampling Point . Location . Date Sampled	GW-757		GW-796					
	LII		LV					
	10/05/93		05/27/93		08/30/93		12/16/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)								
	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Aluminum	0.14	<0.02	0.081	<0.02	<0.02	0.027	0.029	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.19	0.19	0.0073	0.0072	0.0093	0.0089	0.0079	0.0078
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.012	0.012	0.012	0.021	<0.004	<0.004	0.021	0.075
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	0.02	0.022	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	0.016	0.018	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.0072	0.0068	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.25	<0.005	0.064	<0.005	0.012	<0.005	0.046	0.028
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	0.012	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.67	0.68	0.023	0.024	0.013	0.013	0.012	0.012
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.005	0.004	0.001	0.001	<0.001	0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0059	0.0078	0.014	0.013	0.012	0.0049	0.0045	<0.002
	.	.	.	.	.	.	.	.
MAJOR IONS (mg/L)								
	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Alkalinity-HCO3	148	.	73	.	112	.	113	.
Alkalinity-CO3	<1	.	16	.	<1	.	<1	.
Ammonia-N	.	.	<0.2	.	<0.2	.	<0.2	.
Calcium	29	28	17	18	25	24	25	23
Chloride	2	.	1.3	.	1.5	.	1	.
Fluoride	1.8	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	16	15	9.5	9.6	14	14	14	14
Manganese	0.0016	<0.001	0.0025	<0.001	<0.001	<0.001	0.0011	<0.001
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	1.7	1.5	1.7	1.7	1.1	0.79	1.1	1.1
Sodium	12	12	4	4.1	1	1	1.1	1.2
Sulfate	10	.	4.2	.	2.6	.	1	.

(CONTINUED)

APPENDIX B.1
Groundwater Quality Data, 1993

70

Sampling Point . Location . Date Sampled	GW-797						GW-798	
	LV						CDLVII	
	05/27/93		08/29/93		12/16/93		06/23/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	2.8	0.057	0.027	<0.02	0.19	<0.02	0.021	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.018	0.0092	0.0075	0.0072	0.0076	0.007	0.0082	0.008
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.022	0.013	0.0041	0.012	0.039	0.022	<0.004	0.02
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.0072	<0.004	<0.004	<0.004	<0.004	0.0049	<0.004	<0.004
Iron	3.3	<0.005	0.036	0.016	0.21	0.0054	0.014	<0.005
Lead (AAS)	0.0095	<0.004	0.0045	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.042	0.031	0.018	0.019	0.029	0.018	0.016	0.016
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.034	0.023	0.011	0.027	0.0065	0.032	0.0071	0.0061
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	134	.	157	.	155	.	123	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Calcium	59	38	35	34	30	31	24	24
Chloride	<1	.	<1	.	1	.	1.4	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	21	18	19	19	18	18	13	13
Manganese	0.11	0.0012	0.0012	0.002	0.0047	<0.001	<0.001	0.0017
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	0.69	.
Potassium	2.2	2.3	1.2	1.2	2.3	1.2	3.4	3.9
Sodium	0.83	0.87	0.43	0.5	0.63	0.62	0.63	0.76
Sulfate	2.4	.	2	.	<1	.	9	.

(CONTINUED)

APPENDIX E.1
Groundwater Quality Data, 1993

71

Sampling Point . Location . Date Sampled	GW-798				GW-799			
	CDLVII				CDLVII			
	08/29/93		12/09/93		05/27/93		08/29/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.022	<0.02	0.066	<0.02	1.8	<0.02	0.084	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.01	0.0099	0.0088	0.009	0.008	0.0054	0.0057	0.0059
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.015	0.0081	0.0059	0.026	0.021	0.021	0.006	<0.004
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.0064	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.021	<0.005	0.12	<0.005	1.6	<0.005	0.13	0.0062
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.017	0.017	0.017	0.017	0.015	0.014	0.015	0.014
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.021	0.049	0.0069	<0.002	0.03	0.0045	0.011	0.0039
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	128	.	132	.	127	.	129	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Calcium	28	28	28	27	29	28	29	29
Chloride	<1	.	<1	.	<1	.	<1	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	15	15	16	15	16	16	16	16
Manganese	0.0016	<0.001	0.005	<0.001	0.028	<0.001	0.0033	<0.001
Nitrate-N	0.5	.	0.5	.	0.6	.	0.7	.
Potassium	2.2	2.5	2	1.8	1	0.74	1.1	0.92
Sodium	0.67	0.65	0.72	0.71	0.99	0.96	1.7	1.6
Sulfate	2	.	3	.	2.2	.	2	.

(CONTINUED)

APPENDIX B.1
Groundwater Quality Data, 1993

72

Sampling Point . Location . Date Sampled	GW-799		GW-801					
	CDLVII		LV					
	12/09/93		07/24/93		08/30/93		12/16/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.1	<0.02	0.061	<0.02	0.086	<0.02	0.077	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.0052	0.0052	0.0025	0.0021	0.0036	0.0029	0.0016	0.0016
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.01	0.037	0.025	0.0052	0.011	0.0081	0.011	0.022
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	0.018	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.13	<0.005	0.026	<0.005	0.078	<0.005	0.11	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.014	0.014	0.017	0.017	0.018	0.017	0.016	0.016
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0043	<0.002	0.0052	0.0052	0.011	0.0098	0.0052	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	130	.	145	.	143	.	144	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Calcium	27	26	28	27	31	30	28	30
Chloride	<1	.	1.4	.	1.6	.	2	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	15	15	18	17	18	18	17	18
Manganese	0.0029	<0.001	<0.001	<0.001	0.0013	<0.001	0.0013	<0.001
Nitrate-N	0.8	.	<0.2	.	<0.2	.	<0.2	.
Potassium	1.1	1.2	2.1	4.3	3.4	3.5	2.8	2.5
Sodium	2.2	2.3	0.96	1.4	1.3	1.2	1.1	1.1
Sulfate	3	.	3	.	2.8	.	2	.

APPENDIX E2
VOLATILE ORGANIC COMPOUNDS
AND
ADDITIONAL ORGANICS

APPENDIX E.2
VOC Data Summary

Compound	Number of Samples				Total
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	
Total Samples	66	73	75	74	288
VOCs Not Detected	20	48	39	44	151
VOCs Detected	46	25	36	30	137
Methylene chloride	24	12	20	25	81
4-Methyl-2-pentanone	25	2	0	11	38
Acetone	11	1	7	15	34
2-Butanone	3	5	6	18	32
1,1,1-Trichloroethane	7	7	7	7	28
Tetrachloroethene	4	3	3	3	13
1,1-Dichloroethane	2	1	2	3	8
Chloroform	0	2	5	0	7
1,1-Dichloroethene	2	0	2	3	7
1,2-Dichloroethene	2	1	1	2	6
Benzene	0	0	5	0	5
Trichloroethene	1	0	3	1	5
Carbon tetrachloride	0	0	2	2	4
Carbon disulfide	0	0	1	1	2
2-Hexanone	1	0	0	1	2
Xylenes	1	0	0	0	1
Bromodichloromethane	0	0	0	0	0
Bromoform	0	0	0	0	0
Bromomethane	0	0	0	0	0
Chlorobenzene	0	0	0	0	0
Chlorodibromomethane	0	0	0	0	0
Chloroethane	0	0	0	0	0
Chloromethane	0	0	0	0	0
1,2-Dichloroethane	0	0	0	0	0
1,2-Dichloropropane	0	0	0	0	0
cis-1,3-Dichloropropene	0	0	0	0	0
trans-1,3-Dichloropropene	0	0	0	0	0
Ethylbenzene	0	0	0	0	0
Styrene	0	0	0	0	0
1,1,2,2-Tetrachloroethane	0	0	0	0	0
Toluene	0	0	0	0	0
1,1,2-Trichloroethane	0	0	0	0	0
Vinyl acetate	0	0	0	0	0
Vinyl chloride	0	0	0	0	0

APPENDIX E.2
Groundwater Quality Data, 1993

2

Sampling Point . Location . Date Sampled	1090				GW-141			
	UNCS				LIV			
	01/20/93	05/13/93	07/27/93	10/10/93	01/07/93	04/05/93	07/18/93	10/06/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	0.7	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	2	10U	10U	10U	2	10U	10U	10U
Methylene chloride	5U	2	0.8	5U	5U	5U	1	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

3

Sampling Point . Location . Date Sampled	GW-142				GW-143			
	KHQ				KHQ			
	03/05/93	06/11/93	08/25/93	12/15/93	03/06/93	06/13/93	08/27/93	12/15/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	3	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	1	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	7	9	10U	9	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	0.8	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	4	1	5U	5U	5U	0.7	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	1	10U	10U	10U	10U
Methylene chloride	5U	5U	1	1	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	1	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

4

Sampling Point Location Date Sampled	GW-144				GW-145			
	KHQ				KHQ			
	03/06/93	06/12/93	08/26/93	12/15/93	03/06/93	06/12/93	08/25/93	12/14/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10	10U	10U	10U	10U	6
Benzene	5U	5U	1	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10	10U	10	10U	9	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	3	3	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	0.7	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	1
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

5

Sampling Point . Location . Date Sampled	GW-146				GW-147			
	KHQ				KHQ			
	03/09/93	06/13/93	08/25/93	12/16/93	03/05/93	06/11/93	08/24/93	12/14/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	1	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	8	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	2	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	2	5U	5U	5U	5U	5U	1	1
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

6

Sampling Point Location Date Sampled	GW-156				GW-158			
	CRSDB				CRSDB			
	02/24/93	06/15/93	08/12/93	11/30/93	03/24/93	06/23/93	08/25/93	12/05/93
VOIATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	1	5U	1	1
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

7

Sampling Point . Location . Date Sampled	GW-159				GW-160			
	CRSDB				LIII			
	02/22/93	06/14/93	08/10/93	11/29/93	02/09/93	06/06/93	08/12/93	11/11/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	2	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	3	10U	10U	10U
Methylene chloride	1	5U	5U	5U	2	1	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

Sampling Point . Location . Date Sampled	GW-161				GW-175			
	LIII				CRSP			
	02/08/93	06/05/93	08/11/93	11/10/93	03/27/93	06/15/93	09/11/93	12/19/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	0.6
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	4	5U	1	0.6
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	16	15	13	9
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5	4	3	3
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

9

Sampling Point . Location . Date Sampled	GW-177				GW-181			
	CRSP				CRSP			
	03/30/93	06/14/93	09/30/93	12/19/93	01/05/93	06/04/93	09/01/93	12/16/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	4	4	2	10U	4	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	11	8	10U	10U	8	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	8	9	11	16	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	2	5U	2	4	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	0.6	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	0.6	1	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	2	10U	10U	10U
Methylene chloride	5U	5U	2	0.6	5U	1	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	14	15	22	29	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

10

Sampling Point . Location . Date Sampled	GW-184				GW-186			
	RQ				RQ			
	03/02/93	06/24/93	07/22/93	12/05/93	03/03/93	06/26/93	07/24/93	12/06/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	2	5U	5U	1	5U	5U	1	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

11

Sampling Point . Location . Date Sampled	GW-187				GW-188			
	RQ				RQ			
	03/03/93	06/25/93	07/23/93	12/06/93	03/02/93	06/24/93	07/22/93	12/05/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	1	5U	1	5U	1	0.9
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

12

Sampling Point . Location . Date Sampled	GW-203				GW-205			
	UNCS				UNCS			
	01/18/93	05/11/93	07/26/93	10/07/93	01/18/93	05/11/93	07/26/93	10/07/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	9	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	1	5U	5U	2	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

13

Sampling Point . Location . Date Sampled	GW-217				GW-221			
	LTV				UNCS			
	01/05/93	04/01/93	07/17/93	10/04/93	01/19/93	05/12/93	07/27/93	10/09/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	5	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	13	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	2	10U	10U	1	2	10U	10U	10U
Methylene chloride	5U	5U	1	3	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

14

Sampling Point . Location . Date Sampled	GW-231				GW-241			
	KHQ				CRSDS			
	03/05/93	06/11/93	08/24/93	12/14/93	02/26/93	06/18/93	08/21/93	12/03/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	1	1	1
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

15

Sampling Point . Location . Date Sampled	GW-292				GW-293			
	ECRWP				ECRWP			
	01/26/93	04/02/93	08/22/93	10/14/93	01/28/93	04/06/93	08/22/93	10/15/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	0.7	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	2	10U	10U	10U
Methylene chloride	5U	5U	1	5U	5U	1	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

16

Sampling Point . Location . Date Sampled	GW-294				GW-295			
	ECRWP				LIII			
	01/25/93	04/01/93	08/22/93	10/14/93	02/11/93	06/05/93	08/12/93	11/13/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	4	10U	10U	10U	2	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	2	10U	10U	10U	1	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	2	1	5U	1
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

17

Sampling Point . Location . Date Sampled	GW-296				GW-298			
	ECRWP				LIII			
	01/25/93	04/01/93	08/22/93	10/14/93	02/11/93	06/10/93	08/14/93	11/15/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	1	10U	10U	10U	3	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	1	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	1	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	2	10U	10U	10U	2	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	2	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	1	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	2	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

18

Sampling Point . Location . Date Sampled	GW-299				GW-300			
	LIII				LIII			
	02/10/93	06/10/93	08/14/93	11/13/93	02/10/93	06/06/93	08/12/93	11/12/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	2	5U	5U	5U	5U	1	5U	1
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

19

Sampling Point . Location . Date Sampled	GW-301				GW-302			
	LIII				UNCS			
	02/10/93	06/06/93	08/13/93	11/13/93	01/20/93	05/13/93	07/27/93	10/09/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	1	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	2	10U	10U	10U
Methylene chloride	2	5U	5U	5U	5U	2	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

20

Sampling Point . Location . Date Sampled	GW-303				GW-304			
	CRSDB				CRSDB			
	02/25/93	06/17/93	08/20/93	12/02/93	02/22/93	06/14/93	08/11/93	11/29/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	3
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	1	5U	5U	5U	1	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

21

Sampling Point . Location . Date Sampled	GW-305				GW-321			
	LIV				ADB			
	01/05/93	04/01/93	07/17/93	10/04/93	03/22/93	06/09/93	09/02/93	12/17/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	2	10U	6	6	10U	10U	4	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	13	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	2	10U	10U	10U	4	10U	10U	10U
Methylene chloride	5U	5U	1	3	1	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	2	3	3	4	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

22

Sampling Point . Location . Date Sampled	GW-339				GW-511			
	UNCS				CRSP			
	01/19/93	05/13/93	07/27/93	10/09/93	01/06/93	06/04/93	09/01/93	12/16/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	2	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	0.6	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	1	10U	10U	10U	1	10U	10U	10U
Methylene chloride	5U	1	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

23

Sampling Point . Location . Date Sampled	GW-512				GW-513			
	ADS				ADS			
	03/18/93	06/03/93	09/01/93	12/15/93	03/16/93	06/02/93	08/31/93	12/15/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	0.7	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX B.2
Groundwater Quality Data, 1993

24

Sampling Point . Location . Date Sampled	GW-514				GW-521			
	ADB				LIV			
	03/20/93	06/05/93	09/02/93	12/17/93	01/06/93	04/05/93	07/18/93	10/06/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	3	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	1	10U	10U	10U	2	10U	10U	10U
Methylene chloride	2	5U	5U	5U	5U	5U	1	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	1	1	1	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX B.2
Groundwater Quality Data, 1993

25

Sampling Point . Location . Date Sampled	GW-522				GW-539			
	LIV				LII			
	01/06/93	04/02/93	07/18/93	10/05/93	01/06/93	04/01/93	07/19/93	10/04/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	2	10U	4	10U	10U	10U	10U	6
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	12
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	2	10U	10U	10U	2	10U	10U	1
Methylene chloride	5U	5U	1	5U	5U	5U	1	3
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

26

Sampling Point . Location . Date Sampled	GW-540				GW-541			
	CDLVI				CDLVI			
	03/12/93	05/28/93	08/21/93	11/30/93	03/12/93	06/02/93	09/15/93	12/02/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	3
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	4	10U	10U	10U	10U	10U	9
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	3
Methylene chloride	1	5U	1	5U	1	5U	5U	1
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX B.2
Groundwater Quality Data, 1993

27

Sampling Point . Location . Date Sampled	GW-542				GW-543			
	CDLVI				CDLVI			
	03/16/93	06/02/93	09/15/93	12/03/93	03/16/93	06/02/93	09/16/93	12/04/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	1	5U	5U	5U	5U	5U	5U	1
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

28

Sampling Point . Location . Date Sampled	GW-544				GW-545			
	CDLVI				CDLVI			
	03/16/93	06/02/93	09/16/93	12/06/93	03/17/93	06/02/93	09/16/93	12/03/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

3 of 5

APPENDIX E.2
Groundwater Quality Data, 1993

29

Sampling Point . Location . Date Sampled	GW-546				GW-557			GW-560
	CDLVI				LV			CDLVII
	03/12/93	06/01/93	08/21/93	12/01/93	05/26/93	09/29/93	12/08/93	05/26/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	3	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10	4	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	3	1	10U	10U	10U
Methylene chloride	1	5U	5U	2	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

30

Sampling Point . Location . Date Sampled	GW-560		GW-562			GW-564		
	CDLVII		CDLVII			CDLVII		
	08/28/93	12/02/93	05/26/93	08/28/93	12/02/93	05/26/93	08/29/93	12/08/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	10U	5	10U	10U	5	10U	10U	6
Benzene	0.8	5U	5U	1	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	14	3	10U	8	10U	10U	11
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	2	2	10U	2	10U	10U	2
Methylene chloride	5U	2	5U	5U	2	5U	5U	2
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

31

Sampling Point . Location . Date Sampled	GW-607	GW-608				GW-609		
	CRSP	CRSP				CRSP		
	01/06/93	03/28/93	06/15/93	09/07/93	12/18/93	03/28/93	06/16/93	09/24/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	2	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	8	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	0.2	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	2	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	24	7	9
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	2	1	10U	10U	10U	2	10U	10U
Methylene chloride	5U	3	5U	5U	0.5	3	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	2	1	2	1	27	5	7
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	3	2	3	2	2	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	3	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

32

Sampling Point	GW-609	GW-610				GW-611		
Location	CRSP	CRSP				CRSP		
Date Sampled	12/19/93	03/25/93	06/13/93	09/02/93	12/17/93	03/27/93	06/15/93	09/11/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	8	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	1	5U	5U	5U	5U	5U	5U	2
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	2
1,2-Dichloroethene	12	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	3	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	13	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	0.7	5U	5U	5U	5U	7	8	10
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	1	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

33

Sampling Point	GW-611	GW-709				GW-731		
Location	CRSP	LII				CRSDB		
Date Sampled	12/19/93	01/07/93	04/02/93	07/20/93	10/05/93	02/23/93	06/15/93	08/11/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	4	1	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	8	10U	10U	10U	8	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	2	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	2	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	2	5U	5U	1	5U	1	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	9	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

34

Sampling Point	GW-731	GW-732				GW-742		
Location	CRSDB	CRSDB				CRSP		
Date Sampled	11/29/93	02/23/93	06/15/93	08/12/93	11/30/93	01/13/93	06/11/93	09/09/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	4	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	9	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	2	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	1	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

35

Sampling Point	GW-742	GW-743				GW-757		
Location	CRSP	CRSP				LII		
Date Sampled	12/18/93	01/13/93	06/13/93	09/10/93	12/16/93	01/07/93	04/05/93	07/20/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	2	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

36

Sampling Point	GW-757	GW-796				GW-797			GW-798
Location	LII	LV				LV			CDELVII
Date Sampled	10/05/93	05/27/93	08/30/93	12/16/93	05/27/93	08/29/93	12/16/93	06/23/93	
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	7	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	1	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	0.9	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	2	2	2	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	3	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

37

Sampling Point . Location . Date Sampled	GW-798		GW-799			GW-801		
	CDLVII		CDLVII			IV		
	08/29/93	12/09/93	05/27/93	08/29/93	12/09/93	07/24/93	08/30/93	12/16/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	17	4	10U	10U	3	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10	10U	10U	8	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	1	10U	10U	1	10U	10U	10U
Methylene chloride	5U	2	5U	5U	1	1	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	7	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

APPENDIX E.2
Groundwater Quality Data, 1993

38

Sampling Point . Location . Date Sampled	GW-141				GW-160			
	LIV				LIII			
	01/07/93	04/05/93	07/18/93	10/06/93	02/09/93	06/06/93	08/12/93	11/11/93
Additional Organics (ug/L)	.	.	.	.	.	.	.	.
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U
Trans-1,2-Dichloroethene	5U	.	.	.	5U	.	.	.
Acrolein	50U	50U	50U	50U	50U	50U	50U	50U
Acrylonitrile	50U	50U	50U	50U	50U	50U	50U	50U
Dibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	10000U	10000U	10000U	10000U	10000U	10000U	10000U	10000U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sampling Point . Location . Date Sampled	GW-161				GW-217			
	LIII				LIV			
	02/08/93	06/05/93	08/11/93	11/10/93	01/05/93	04/01/93	07/17/93	10/04/93
Additional Organics (ug/L)	.	.	.	.	.	.	.	.
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U
Trans-1,2-Dichloroethene	5U	.	.	.	5U	.	.	.
Acrolein	50U	50U	50U	50U	50U	50U	50U	50U
Acrylonitrile	50U	50U	50U	50U	50U	50U	50U	50U
Dibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	10000U	10000U	10000U	10000U	10000U	10000U	10000U	10000U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX 2.2
Groundwater Quality Data, 1993

39

Sampling Point . Location . Date Sampled	GW-295				GW-298			
	LIII				LIII			
	02/11/93	06/05/93	08/12/93	11/13/93	02/11/93	06/10/93	08/14/93	11/15/93
Additional Organics (ug/L)	.	.	.	.	.	.	.	.
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U
Trans-1,2-Dichloroethene	5U	.	.	.	5U	.	.	.
Acrolein	50U	50U	50U	50U	50U	50U	50U	50U
Acrylonitrile	50U	50U	50U	50U	50U	50U	50U	50U
Dibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	10000U	10000U	10000U	10000U	10000U	10000U	10000U	10000U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sampling Point . Location . Date Sampled	GW-299				GW-300			
	LIII				LIII			
	02/10/93	06/10/93	08/14/93	11/13/93	02/10/93	06/06/93	08/12/93	11/12/93
Additional Organics (ug/L)	.	.	.	.	.	.	.	.
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U
Trans-1,2-Dichloroethene	5U	.	.	.	5U	.	.	.
Acrolein	50U	50U	50U	50U	50U	50U	50U	50U
Acrylonitrile	50U	50U	50U	50U	50U	50U	50U	50U
Dibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	10000U	10000U	10000U	10000U	10000U	10000U	10000U	10000U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

40

Sampling Point . Location . Date Sampled	GW-301				GW-305			
	LIII				LIV			
	02/10/93	06/06/93	08/13/93	11/13/93	01/05/93	04/01/93	07/17/93	10/04/93
Additional Organics (ug/L)	.	.	.	.	.	.	.	.
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U
Trans-1,2-Dichloroethene	5U	.	.	.	5U	.	.	.
Acrolein	50U	50U	50U	50U	50U	50U	50U	50U
Acrylonitrile	50U	50U	50U	50U	50U	50U	50U	50U
Dibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	10000U	10000U	10000U	10000U	10000U	10000U	10000U	10000U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sampling Point . Location . Date Sampled	GW-521				GW-522			
	LIV				LIV			
	01/06/93	04/05/93	07/18/93	10/06/93	01/06/93	04/02/93	07/18/93	10/05/93
Additional Organics (ug/L)	.	.	.	.	.	.	.	.
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U
Trans-1,2-Dichloroethene	5U	.	.	.	5U	.	.	.
Acrolein	50U	50U	50U	50U	50U	50U	50U	50U
Acrylonitrile	50U	50U	50U	50U	50U	50U	50U	50U
Dibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	10000U	10000U	10000U	10000U	10000U	10000U	10000U	10000U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

41

Sampling Point	GW-539					GW-540	GW-541	GW-542
Location	LII					CDLVI	CDLVI	CDLVI
Date Sampled	01/06/93	04/01/93	05/28/93	07/19/93	10/04/93	03/12/93	03/12/93	03/16/93
Additional Organics (ug/L)	.	.	.	.	.	.	.	.
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U
Trans-1,2-Dichloroethene	5U	.	.	5U	5U	5U	5U	5U
Acrolein	50U	50U	50U	50U	50U	50U	50U	50U
Acrylonitrile	50U	50U	50U	50U	50U	50U	50U	50U
Dibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	10000U	10000U	10000U	10000U	10000U	10000U	10000U	10000U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sampling Point	GW-543	GW-544	GW-545	GW-546	GW-557			GW-560
Location	CDLVI	CDLVI	CDLVI	CDLVI	LV			CDLVII
Date Sampled	03/16/93	03/16/93	03/17/93	03/12/93	06/22/93	09/29/93	12/08/93	06/22/93
Additional Organics (ug/L)	.	.	.	.	.	.	.	.
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U
Trans-1,2-Dichloroethene	5U	5U	5U	5U	.	5U	5U	.
Acrolein	50U	50U	50U	50U	50U	50U	50U	50U
Acrylonitrile	50U	50U	50U	50U	50U	50U	50U	50U
Dibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	10000U	10000U	10000U	10000U	10000U	10000U	10000U	10000U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

42

Sampling Point . Location . Date Sampled	GW-560		GW-562			GW-564		
	CDLVII		CDLVII			CDLVII		
	08/28/93	12/02/93	06/22/93	08/28/93	12/02/93	06/22/93	08/29/93	12/08/93
Additional Organics (ug/L)	.	.	.	.	.	.	.	.
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U
Trans-1,2-Dichloroethene	5U	5U	.	5U	5U	.	5U	5U
Acrolein	50U	50U	50U	50U	50U	50U	50U	50U
Acrylonitrile	50U	50U	50U	50U	50U	50U	50U	50U
Dibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	10000U	10000U	10000U	10000U	10000U	10000U	10000U	10000U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sampling Point . Location . Date Sampled	GW-709				GW-757			
	LII				LII			
	01/07/93	04/02/93	07/20/93	10/05/93	01/07/93	04/05/93	07/20/93	10/05/93
Additional Organics (ug/L)	.	.	.	.	.	.	.	.
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U
Trans-1,2-Dichloroethene	5U	.	.	.	5U	.	.	.
Acrolein	50U	50U	50U	50U	50U	50U	50U	50U
Acrylonitrile	50U	50U	50U	50U	50U	50U	50U	50U
Dibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	10000U	10000U	10000U	10000U	10000U	10000U	10000U	10000U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX E.2
Groundwater Quality Data, 1993

43

Sampling Point . Location . Date Sampled	GW-796			GW-797			GW-798	
	IV			IV			CDLVII	
	06/24/93	08/30/93	12/16/93	06/24/93	08/29/93	12/16/93	06/23/93	08/29/93
Additional Organics (ug/L)	.	.	.	.	.	.	.	.
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U
Trans-1,2-Dichloroethene	.	5U	5U	.	5U	5U	5U	5U
Acrolein	50U	50U	50U	50U	50U	50U	50U	50U
Acrylonitrile	50U	50U	50U	50U	50U	50U	50U	50U
Dibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	10000U	10000U	10000U	10000U	10000U	10000U	10000U	10000U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sampling Point . Location . Date Sampled	GW-798	GW-799				GW-801		
	CDLVII	CDLVII				IV		
	12/09/93	06/23/93	08/29/93	12/09/93	07/24/93	08/30/93	12/16/93	
Additional Organics (ug/L)	.	.	.	.	.	.	.	.
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U
Trans-1,2-Dichloroethene	5U	.	5U	5U	5U	5U	5U	5U
Acrolein	50U	50U	50U	50U	50U	50U	50U	50U
Acrylonitrile	50U	50U	50U	50U	50U	50U	50U	50U
Dibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	10000U	10000U	10000U	10000U	10000U	10000U	10000U	10000U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U

APPENDIX E.3

BASE, NEUTRAL, AND ACID EXTRACTABLE ORGANIC COMPOUNDS

APPENDIX E.3
Groundwater Quality Data, 1993

1

Sampling Point . Location . Date Sampled	GW-156				GW-158			
	CRSDB				CRSDB			
	02/24/93	06/15/93	08/12/93	11/30/93	03/24/93	06/23/93	08/25/93	12/05/93
BNAs (ug/L)	.	.	.	.	.	.	.	.
1,2,4-Trichlorobenzene	11U	10U	13U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	11U	10U	13U	10U	10U	10U	10U	10U
1,3-Dichlorobenzene	11U	10U	13U	10U	10U	10U	10U	10U
1,4-Dichlorobenzene	11U	10U	13U	10U	10U	10U	10U	10U
2,4,5-Trichlorophenol	56U	50U	63U	50U	50U	50U	50U	50U
2,4,6-Trichlorophenol	11U	10U	13U	10U	10U	10U	10U	10U
2,4-Dichlorophenol	11U	10U	13U	10U	10U	10U	10U	10U
2,4-Dimethylphenol	11U	10U	13U	10U	10U	10U	10U	10U
2,4-Dinitrophenol	56U	50U	63U	50U	50U	50U	50U	50U
2,4-Dinitrotoluene	11U	10U	13U	10U	10U	10U	10U	10U
2,6-Dinitrotoluene	11U	10U	13U	10U	10U	10U	10U	10U
2-Chloronaphthalene	11U	10U	13U	10U	10U	10U	10U	10U
2-Chlorophenol	11U	10U	13U	10U	10U	10U	10U	10U
2-Methylnaphthalene	11U	10U	13U	10U	10U	10U	10U	10U
2-Methylphenol	11U	10U	13U	10U	10U	10U	10U	10U
2-Nitroaniline	56U	50U	63U	50U	50U	50U	50U	50U
2-Nitrophenol	11U	10U	13U	10U	10U	10U	10U	10U
3,3-Dichlorobenzidine	22U	20U	25U	20U	20U	20U	20U	20U
3-Nitroaniline	56U	50U	63U	50U	50U	50U	50U	50U
4,6-Dinitro-2-methylphenol	56U	50U	63U	50U	50U	50U	50U	50U
4-Bromophenyl phenyl ether	11U	10U	13U	10U	10U	10U	10U	10U
4-Chloro-3-methylphenol	11U	10U	13U	10U	10U	10U	10U	10U
4-Chloroaniline	11U	10U	13U	10U	10U	10U	10U	10U
4-Chlorophenyl phenyl ether	11U	10U	13U	10U	10U	10U	10U	10U
4-Methylphenol	11U	10U	13U	10U	10U	10U	10U	10U
4-Nitroaniline	56U	50U	63U	50U	50U	50U	50U	50U
4-Nitrophenol	56U	50U	63U	50U	50U	50U	50U	50U
Acenaphthene	11U	10U	13U	10U	10U	10U	10U	10U
Acenaphthylene	11U	10U	13U	10U	10U	10U	10U	10U
Anthracene	11U	10U	13U	10U	10U	10U	10U	10U
Benzo(a)anthracene	11U	10U	13U	10U	10U	10U	10U	10U
Benzo(a)pyrene	11U	10U	13U	10U	10U	10U	10U	10U
Benzo(b)fluoranthene	11U	10U	13U	10U	10U	10U	10U	10U
Benzo(g,h,i)perylene	11U	10U	13U	10U	10U	10U	10U	10U
Benzo(k)fluoranthene	11U	10U	13U	10U	10U	10U	10U	10U
Benzoic acid	56U	50U	63U	50U	50U	50U	50U	50U
Benzyl alcohol	11U	10U	13U	10U	10U	10U	10U	10U
bis(2-Chloroethoxy)methane	11U	10U	13U	10U	10U	10U	10U	10U
bis(2-Chloroethyl)ether	11U	10U	13U	10U	10U	10U	10U	10U
bis(2-Chloroisopropyl)ether	11U	10U	13U	10U	10U	10U	10U	10U
bis(2-Ethylhexyl)phthalate	1	10U	13U	10U	1	2	11	10U

(CONTINUED)

APPENDIX E.3
Groundwater Quality Data, 1993

2

Sampling Point . Location . Date Sampled	GW-156				GW-158			
	CRSDB				CRSDB			
	02/24/93	06/15/93	08/12/93	11/30/93	03/24/93	06/23/93	08/25/93	12/05/93
Butyl benzyl phthalate	11U	10U	13U	10U	10U	10U	0.6	10U
Chrysene	11U	10U	13U	10U	10U	10U	10U	10U
di-n-Butylphthalate	11U	10U	13U	10U	5	10U	1	10U
di-n-Octylphthalate	11U	10U	13U	10U	10U	10U	0.2	10U
Dibenzo(a,h)anthracene	11U	10U	13U	10U	10U	10U	10U	10U
Dibenzofuran	11U	10U	13U	10U	10U	10U	10U	10U
Diethylphthalate	11U	10U	13U	10U	0.7	10U	0.5	10U
Dimethylphthalate	11U	10U	13U	10U	10U	10U	10U	10U
Fluoranthene	11U	10U	13U	10U	10U	10U	10U	10U
Fluorene	11U	10U	13U	10U	10U	10U	10U	10U
Hexachlorobenzene	11U	10U	13U	10U	10U	10U	10U	10U
Hexachlorobutadiene	11U	10U	13U	10U	10U	10U	10U	10U
Hexachlorocyclopentadiene	11U	10U	13U	10U	10U	10U	10U	10U
Hexachloroethane	11U	10U	13U	10U	10U	10U	10U	10U
Indeno(1,2,3-cd)pyrene	11U	10U	13U	10U	10U	10U	10U	10U
Isophorone	11U	10U	13U	10U	2	10U	10U	10U
n-Nitrosodi-n-propylamine	11U	10U	13U	10U	10U	10U	10U	10U
n-Nitrosodiphenylamine	11U	10U	13U	10U	10U	10U	10U	10U
Naphthalene	11U	10U	13U	10U	10U	10U	10U	10U
Nitrobenzene	11U	10U	13U	10U	10U	10U	10U	10U
Pentachlorophenol	56U	50U	63U	50U	50U	50U	50U	50U
Phenanthrene	11U	10U	13U	10U	10U	10U	10U	10U
Phenol	11U	10U	13U	10U	10U	10U	10U	10U
Pyrene	11U	10U	13U	10U	10U	10U	10U	10U

(CONTINUED)

APPENDIX E.3
Groundwater Quality Data, 1993

3

Sampling Point Location Date Sampled	GW-159				GW-184			GW-186
	CRSDB				RQ			RQ
	02/22/93	06/14/93	08/10/93	11/29/93	03/02/93	07/22/93	12/05/93	03/03/93
BNAs (ug/L)	.	.	.	.	.	.	.	.
1,2,4-Trichlorobenzene	10U	10U	10U	10U	11U	10U	10U	10U
1,2-Dichlorobenzene	10U	10U	10U	10U	11U	10U	10U	10U
1,3-Dichlorobenzene	10U	10U	10U	10U	11U	10U	10U	10U
1,4-Dichlorobenzene	10U	10U	10U	10U	11U	10U	10U	10U
2,4,5-Trichlorophenol	50U	50U	50U	50U	56U	50U	50U	50U
2,4,6-Trichlorophenol	10U	10U	10U	10U	11U	10U	10U	10U
2,4-Dichlorophenol	10U	10U	10U	10U	11U	10U	10U	10U
2,4-Dimethylphenol	10U	10U	10U	10U	11U	10U	10U	10U
2,4-Dinitrophenol	50U	50U	50U	50U	56U	50U	50U	50U
2,4-Dinitrotoluene	10U	10U	10U	10U	11U	10U	10U	10U
2,6-Dinitrotoluene	10U	10U	10U	10U	11U	10U	10U	10U
2-Chloronaphthalene	10U	10U	10U	10U	11U	10U	10U	10U
2-Chlorophenol	10U	10U	10U	10U	11U	10U	10U	10U
2-Methylnaphthalene	10U	10U	10U	10U	11U	10U	10U	10U
2-Methylphenol	10U	10U	10U	10U	11U	10U	10U	10U
2-Nitroaniline	50U	50U	50U	50U	56U	50U	50U	50U
2-Nitrophenol	10U	10U	10U	10U	11U	10U	10U	10U
3,3-Dichlorobenzidine	20U	20U	20U	20U	22U	20U	20U	20U
3-Nitroaniline	50U	50U	50U	50U	56U	50U	50U	50U
4,6-Dinitro-2-methylphenol	50U	50U	50U	50U	56U	50U	50U	50U
4-Bromophenyl phenyl ether	10U	10U	10U	10U	11U	10U	10U	10U
4-Chloro-3-methylphenol	10U	10U	10U	10U	11U	10U	10U	10U
4-Chloroaniline	10U	10U	10U	10U	11U	10U	10U	10U
4-Chlorophenyl phenyl ether	10U	10U	10U	10U	11U	10U	10U	10U
4-Methylphenol	10U	10U	10U	10U	11U	10U	10U	10U
4-Nitroaniline	50U	50U	50U	50U	56U	50U	50U	50U
4-Nitrophenol	50U	50U	50U	50U	56U	50U	50U	50U
Acenaphthene	10U	10U	10U	10U	11U	10U	10U	10U
Acenaphthylene	10U	10U	10U	10U	11U	10U	10U	10U
Anthracene	10U	10U	10U	10U	11U	10U	10U	10U
Benzo(a)anthracene	10U	10U	10U	10U	11U	10U	10U	10U
Benzo(a)pyrene	10U	10U	10U	10U	11U	10U	10U	10U
Benzo(b)fluoranthene	10U	10U	10U	10U	11U	10U	10U	10U
Benzo(g,h,i)perylene	10U	10U	10U	10U	11U	10U	10U	10U
Benzo(k)fluoranthene	10U	10U	10U	10U	11U	10U	10U	10U
Benzoic acid	50U	50U	50U	50U	56U	50U	50U	50U
Benzyl alcohol	10U	10U	10U	10U	11U	10U	10U	10U
bis(2-Chloroethoxy)methane	10U	10U	10U	10U	11U	10U	10U	10U
bis(2-Chloroethyl)ether	10U	10U	10U	10U	11U	10U	10U	10U
bis(2-Chloroisopropyl)ether	10U	10U	10U	10U	11U	10U	10U	10U
bis(2-Ethylhexyl)phthalate	6	10U	10U	10U	11U	10U	10U	10U

(CONTINUED)

APPENDIX E.3
Groundwater Quality Data, 1993

4

Sampling Point . Location . Date Sampled	GW-159				GW-184			GW-186
	CRSDB				RQ			RQ
	02/22/93	06/14/93	08/10/93	11/29/93	03/02/93	07/22/93	12/05/93	03/03/93
Butyl benzyl phthalate	10U	10U	10U	10U	11U	2	10U	10U
Chrysene	10U	10U	10U	10U	11U	10U	10U	10U
di-n-Butylphthalate	0.3	10U	10U	10U	11U	9	10U	10U
di-n-Octylphthalate	10U	10U	10U	10U	11U	10U	10U	10U
Dibenzo(a,h)anthracene	10U	10U	10U	10U	11U	10U	10U	10U
Dibenzofuran	10U	10U	10U	10U	11U	10U	10U	10U
Diethylphthalate	10U	10U	10U	10U	11U	10U	10U	10U
Dimethylphthalate	10U	10U	10U	10U	11U	10U	10U	10U
Fluoranthene	10U	10U	10U	10U	11U	10U	10U	10U
Fluorene	10U	10U	10U	10U	11U	10U	10U	10U
Hexachlorobenzene	10U	10U	10U	10U	11U	10U	10U	10U
Hexachlorobutadiene	10U	10U	10U	10U	11U	10U	10U	10U
Hexachlorocyclopentadiene	10U	10U	10U	10U	11U	10U	10U	10U
Hexachloroethane	10U	10U	10U	10U	11U	10U	10U	10U
Indeno(1,2,3-cd)pyrene	10U	10U	10U	10U	11U	10U	10U	10U
Isophorone	10U	10U	10U	10U	11U	10U	10U	10U
n-Nitrosodi-n-propylamine	10U	10U	10U	10U	11U	10U	10U	10U
n-Nitrosodiphenylamine	10U	10U	10U	10U	11U	10U	10U	10U
Naphthalene	10U	10U	10U	10U	11U	10U	10U	10U
Nitrobenzene	10U	10U	10U	10U	11U	10U	10U	10U
Pentachlorophenol	50U	50U	50U	50U	56U	50U	50U	50U
Phenanthrene	10U	10U	10U	10U	11U	10U	10U	10U
Phenol	10U	10U	10U	10U	11U	10U	10U	10U
Pyrene	10U	10U	10U	10U	11U	10U	10U	10U

(CONTINUED)

APPENDIX E.3
Groundwater Quality Data, 1993

5

Sampling Point Location Date Sampled	GW-186			GW-187			GW-188	
	RQ			RQ			RQ	
	06/26/93	07/24/93	12/06/93	03/03/93	07/23/93	12/06/93	03/02/93	07/22/93
BNAs (ug/L)	.	.	.	.	.	.	.	.
1,2,4-Trichlorobenzene	10U	10U	10U	13U	14U	10U	10U	10U
1,2-Dichlorobenzene	10U	10U	10U	13U	14U	10U	10U	10U
1,3-Dichlorobenzene	10U	10U	10U	13U	14U	10U	10U	10U
1,4-Dichlorobenzene	10U	10U	10U	13U	14U	10U	10U	10U
2,4,5-Trichlorophenol	50U	50U	50U	63U	71U	50U	50U	50U
2,4,6-Trichlorophenol	10U	10U	10U	13U	14U	10U	10U	10U
2,4-Dichlorophenol	10U	10U	10U	13U	14U	10U	10U	10U
2,4-Dimethylphenol	10U	10U	10U	13U	14U	10U	10U	10U
2,4-Dinitrophenol	50U	50U	50U	63U	71U	50U	50U	50U
2,4-Dinitrotoluene	10U	10U	10U	13U	14U	10U	10U	10U
2,6-Dinitrotoluene	10U	10U	10U	13U	14U	10U	10U	10U
2-Chloronaphthalene	10U	10U	10U	13U	14U	10U	10U	10U
2-Chlorophenol	10U	10U	10U	13U	14U	10U	10U	10U
2-Methylnaphthalene	10U	10U	10U	13U	14U	10U	10U	10U
2-Methylphenol	10U	10U	10U	13U	14U	10U	10U	10U
2-Nitroaniline	50U	50U	50U	63U	71U	50U	50U	50U
2-Nitrophenol	10U	10U	10U	13U	14U	10U	10U	10U
3,3-Dichlorobenzidine	20U	20U	20U	25U	29U	20U	20U	20U
3-Nitroaniline	50U	50U	50U	63U	71U	50U	50U	50U
4,6-Dinitro-2-methylphenol	50U	50U	50U	63U	71U	50U	50U	50U
4-Bromophenyl phenyl ether	10U	10U	10U	13U	14U	10U	10U	10U
4-Chloro-3-methylphenol	10U	10U	10U	13U	14U	10U	10U	10U
4-Chloroaniline	10U	10U	10U	13U	14U	10U	10U	10U
4-Chlorophenyl phenyl ether	10U	10U	10U	13U	14U	10U	10U	10U
4-Methylphenol	10U	10U	10U	13U	14U	10U	10U	10U
4-Nitroaniline	50U	50U	50U	63U	71U	50U	50U	50U
4-Nitrophenol	50U	50U	50U	63U	71U	50U	50U	50U
Acenaphthene	10U	10U	10U	13U	14U	10U	10U	10U
Acenaphthylene	10U	10U	10U	13U	14U	10U	10U	10U
Anthracene	10U	10U	10U	13U	14U	10U	10U	10U
Benzo(a)anthracene	10U	10U	10U	13U	14U	10U	10U	10U
Benzo(a)pyrene	10U	10U	10U	13U	14U	10U	10U	10U
Benzo(b)fluoranthene	10U	10U	10U	13U	14U	10U	10U	10U
Benzo(g,h,i)perylene	10U	10U	10U	13U	14U	10U	10U	10U
Benzo(k)fluoranthene	10U	10U	10U	13U	14U	10U	10U	10U
Benzoic acid	50U	50U	50U	63U	71U	50U	50U	50U
Benzyl alcohol	10U	10U	10U	13U	14U	10U	10U	10U
bis(2-Chloroethoxy)methane	10U	10U	10U	13U	14U	10U	10U	10U
bis(2-Chloroethyl)ether	10U	10U	10U	13U	14U	10U	10U	10U
bis(2-Chloroisopropyl)ether	10U	10U	10U	13U	14U	10U	10U	10U
bis(2-Ethylhexyl)phthalate	10U	10U	10U	13U	1	10U	10U	2

(CONTINUED)

APPENDIX E.3
Groundwater Quality Data, 1993

6

Sampling Point . Location . Date Sampled	GW-186			GW-187			GW-188	
	RQ			RQ			RQ	
	06/26/93	07/24/93	12/06/93	03/03/93	07/23/93	12/06/93	03/02/93	07/22/93
Butyl benzyl phthalate	10U	10U	10U	13U	14U	10U	10U	10U
Chrysene	10U	10U	10U	13U	14U	10U	10U	10U
di-n-Butylphthalate	4	2	10U	13U	14	10U	10U	5
di-n-Octylphthalate	10U	10U	10U	13U	14U	10U	10U	10U
Dibenzo(a,h)anthracene	10U	10U	10U	13U	14U	10U	10U	10U
Dibenzofuran	10U	10U	10U	13U	14U	10U	10U	10U
Diethylphthalate	10U	10U	10U	13U	14U	10U	10U	10U
Dimethylphthalate	10U	10U	10U	13U	14U	10U	10U	10U
Fluoranthene	10U	10U	10U	13U	14U	10U	10U	10U
Fluorene	10U	10U	10U	13U	14U	10U	10U	10U
Hexachlorobenzene	10U	10U	10U	13U	14U	10U	10U	10U
Hexachlorobutadiene	10U	10U	10U	13U	14U	10U	10U	10U
Hexachlorocyclopentadiene	10U	10U	10U	13U	14U	10U	10U	10U
Hexachloroethane	10U	10U	10U	13U	14U	10U	10U	10U
Indeno(1,2,3-cd)pyrene	10U	10U	10U	13U	14U	10U	10U	10U
Isophorone	10U	10U	10U	13U	14U	10U	10U	10U
n-Nitrosodi-n-propylamine	10U	10U	10U	13U	14U	10U	10U	10U
n-Nitrosodiphenylamine	10U	10U	10U	13U	14U	10U	10U	10U
Naphthalene	10U	10U	10U	13U	14U	10U	10U	10U
Nitrobenzene	10U	10U	10U	13U	14U	10U	10U	10U
Pentachlorophenol	50U	50U	50U	63U	71U	50U	50U	50U
Phenanthrene	10U	10U	10U	13U	14U	10U	10U	10U
Phenol	10U	10U	10U	13U	14U	10U	10U	10U
Pyrene	10U	10U	10U	13U	14U	10U	10U	10U

(CONTINUED)

APPENDIX E.3
Groundwater Quality Data, 1993

7

Sampling Point	GW-188	GW-241				GW-303		
Location	RQ	CRSDB				CRSDB		
Date Sampled	12/05/93	02/26/93	06/27/93	08/21/93	12/03/93	02/25/93	06/26/93	08/20/93
BNAs (ug/L)	.	.	.	.	.	.	.	.
1,2,4-Trichlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U
1,3-Dichlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U
1,4-Dichlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U
2,4,5-Trichlorophenol	50U	50U	50U	50U	50U	50U	50U	50U
2,4,6-Trichlorophenol	10U	10U	10U	10U	10U	10U	10U	10U
2,4-Dichlorophenol	10U	10U	10U	10U	10U	10U	10U	10U
2,4-Dimethylphenol	10U	10U	10U	10U	10U	10U	10U	10U
2,4-Dinitrophenol	50U	50U	50U	50U	50U	50U	50U	50U
2,4-Dinitrotoluene	10U	10U	10U	10U	10U	10U	10U	10U
2,6-Dinitrotoluene	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloronaphthalene	10U	10U	10U	10U	10U	10U	10U	10U
2-Chlorophenol	10U	10U	10U	10U	10U	10U	10U	10U
2-Methylnaphthalene	10U	10U	10U	10U	10U	10U	10U	10U
2-Methylphenol	10U	10U	10U	10U	10U	10U	10U	10U
2-Nitroaniline	50U	50U	50U	50U	50U	50U	50U	50U
2-Nitrophenol	10U	10U	10U	10U	10U	10U	10U	10U
3,3-Dichlorobenzidine	20U	20U	20U	20U	20U	20U	20U	20U
3-Nitroaniline	50U	50U	50U	50U	50U	50U	50U	50U
4,6-Dinitro-2-methylphenol	50U	50U	50U	50U	50U	50U	50U	50U
4-Bromophenyl phenyl ether	10U	10U	10U	10U	10U	10U	10U	10U
4-Chloro-3-methylphenol	10U	10U	10U	10U	10U	10U	10U	10U
4-Chloroaniline	10U	10U	10U	10U	10U	10U	10U	10U
4-Chlorophenyl phenyl ether	10U	10U	10U	10U	10U	10U	10U	10U
4-Methylphenol	10U	10U	10U	10U	10U	10U	10U	10U
4-Nitroaniline	50U	50U	50U	50U	50U	50U	50U	50U
4-Nitrophenol	50U	50U	50U	50U	50U	50U	50U	50U
Acenaphthene	10U	10U	10U	10U	10U	10U	10U	10U
Acenaphthylene	10U	10U	10U	10U	10U	10U	10U	10U
Anthracene	10U	10U	10U	10U	10U	10U	10U	10U
Benzo(a)anthracene	10U	10U	10U	10U	10U	10U	10U	10U
Benzo(a)pyrene	10U	10U	10U	10U	10U	10U	10U	10U
Benzo(b)fluoranthene	10U	10U	10U	10U	10U	10U	10U	10U
Benzo(g,h,i)perylene	10U	10U	10U	10U	10U	10U	10U	10U
Benzo(k)fluoranthene	10U	10U	10U	10U	10U	10U	10U	10U
Benzoic acid	50U	50U	50U	50U	50U	50U	50U	50U
Benzyl alcohol	10U	10U	10U	10U	10U	10U	10U	10U
bis(2-Chloroethoxy)methane	10U	10U	10U	10U	10U	10U	10U	10U
bis(2-Chloroethyl)ether	10U	10U	10U	10U	10U	10U	10U	10U
bis(2-Chloroisopropyl)ether	10U	10U	10U	10U	10U	10U	10U	10U
bis(2-Ethylhexyl)phthalate	10U	10U	1	0.7	10U	10U	10U	10U

(CONTINUED)

APPENDIX E.3
Groundwater Quality Data, 1993

8

Sampling Point	GW-188	GW-241				GW-303		
Location	RQ	CRSDB				CRSDB		
Date Sampled	12/05/93	02/26/93	06/27/93	08/21/93	12/03/93	02/25/93	06/26/93	08/20/93
Butyl benzyl phthalate	10U	10U	10U	10U	10U	10U	10U	10U
Chrysene	10U	10U	10U	10U	10U	10U	10U	10U
di-n-Butylphthalate	10U	10U	5	10U	17	10U	6	10U
di-n-Octylphthalate	10U	10U	10U	10U	10U	10U	10U	10U
Dibenzo(a,h)anthracene	10U	10U	10U	10U	10U	10U	10U	10U
Dibenzofuran	10U	10U	10U	10U	10U	10U	10U	10U
Diethylphthalate	10U	10U	10U	10U	10U	10U	10U	10U
Dimethylphthalate	10U	10U	10U	10U	10U	10U	10U	10U
Fluoranthene	10U	10U	10U	10U	10U	10U	10U	10U
Fluorene	10U	10U	10U	10U	10U	10U	10U	10U
Hexachlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U
Hexachlorobutadiene	10U	10U	10U	10U	10U	10U	10U	10U
Hexachlorocyclopentadiene	10U	10U	10U	10U	10U	10U	10U	10U
Hexachloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Indeno(1,2,3-cd)pyrene	10U	10U	10U	10U	10U	10U	10U	10U
Isophorone	10U	10U	10U	10U	10U	10U	10U	10U
n-Nitrosodi-n-propylamine	10U	10U	10U	10U	10U	10U	10U	10U
n-Nitrosodiphenylamine	10U	10U	10U	10U	10U	10U	10U	10U
Naphthalene	10U	10U	10U	10U	10U	10U	10U	10U
Nitrobenzene	10U	10U	10U	10U	10U	10U	10U	10U
Pentachlorophenol	50U	50U	50U	50U	50U	50U	50U	50U
Phenanthrene	10U	10U	10U	10U	10U	10U	10U	10U
Phenol	10U	10U	10U	10U	10U	10U	10U	10U
Pyrene	10U	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

APPENDIX E.3
Groundwater Quality Data, 1993

9

Sampling Point	GW-303	GW-304				GW-731		
Location	CRSDB	CRSDB				CRSDB		
Date Sampled	12/02/93	02/22/93	06/14/93	08/11/93	11/29/93	02/23/93	06/15/93	08/11/93
BNAs (ug/L)	.	.	.	.	.	.	.	.
1,2,4-Trichlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U
1,3-Dichlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U
1,4-Dichlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U
2,4,5-Trichlorophenol	50U	50U	50U	50U	50U	50U	50U	50U
2,4,6-Trichlorophenol	10U	10U	10U	10U	10U	10U	10U	10U
2,4-Dichlorophenol	10U	10U	10U	10U	10U	10U	10U	10U
2,4-Dimethylphenol	10U	10U	10U	10U	10U	10U	10U	10U
2,4-Dinitrophenol	50U	50U	50U	50U	50U	50U	50U	50U
2,4-Dinitrotoluene	10U	10U	10U	10U	10U	10U	10U	10U
2,6-Dinitrotoluene	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloronaphthalene	10U	10U	10U	10U	10U	10U	10U	10U
2-Chlorophenol	10U	10U	10U	10U	10U	10U	10U	10U
2-Methylnaphthalene	10U	10U	10U	10U	10U	10U	10U	10U
2-Methylphenol	10U	10U	10U	10U	10U	10U	10U	10U
2-Nitroaniline	50U	50U	50U	50U	50U	50U	50U	50U
2-Nitrophenol	10U	10U	10U	10U	10U	10U	10U	10U
3,3-Dichlorobenzidine	20U	20U	20U	20U	20U	20U	20U	20U
3-Nitroaniline	50U	50U	50U	50U	50U	50U	50U	50U
4,6-Dinitro-2-methylphenol	50U	50U	50U	50U	50U	50U	50U	50U
4-Bromophenyl phenyl ether	10U	10U	10U	10U	10U	10U	10U	10U
4-Chloro-3-methylphenol	10U	10U	10U	10U	10U	10U	10U	10U
4-Chloroaniline	10U	10U	10U	10U	10U	10U	10U	10U
4-Chlorophenyl phenyl ether	10U	10U	10U	10U	10U	10U	10U	10U
4-Methylphenol	10U	10U	10U	10U	10U	10U	10U	10U
4-Nitroaniline	50U	50U	50U	50U	50U	50U	50U	50U
4-Nitrophenol	50U	50U	50U	50U	50U	50U	50U	50U
Acenaphthene	10U	10U	10U	10U	10U	10U	10U	10U
Acenaphthylene	10U	10U	10U	10U	10U	10U	10U	10U
Anthracene	10U	10U	10U	10U	10U	10U	10U	10U
Benzo(a)anthracene	10U	10U	10U	10U	10U	10U	10U	10U
Benzo(a)pyrene	10U	10U	10U	10U	10U	10U	10U	10U
Benzo(b)fluoranthene	10U	10U	10U	10U	10U	10U	10U	10U
Benzo(g,h,i)perylene	10U	10U	10U	10U	10U	10U	10U	10U
Benzo(k)fluoranthene	10U	10U	10U	10U	10U	10U	10U	10U
Benzoic acid	50U	50U	50U	50U	50U	50U	50U	50U
Benzyl alcohol	10U	10U	10U	10U	10U	10U	10U	10U
bis(2-Chloroethoxy)methane	10U	10U	10U	10U	10U	10U	10U	10U
bis(2-Chloroethyl)ether	10U	10U	10U	10U	10U	10U	10U	10U
bis(2-Chloroisopropyl)ether	10U	10U	10U	10U	10U	10U	10U	10U
bis(2-Ethylhexyl)phthalate	10U	2	10U	10U	10U	3	10U	10U

(CONTINUED)

APPENDIX E.3
Groundwater Quality Data, 1993

10

Sampling Point	GW-303	GW-304				GW-731		
Location	CRSDB	CRSDB				CRSDB		
Date Sampled	12/02/93	02/22/93	06/14/93	08/11/93	11/29/93	02/23/93	06/15/93	08/11/93
Butyl benzyl phthalate	10U	10U	10U	10U	10U	10U	10U	10U
Chrysene	10U	10U	10U	10U	10U	10U	10U	10U
di-n-Butylphthalate	14	10U	10U	10U	10U	0.3	10U	10U
di-n-Octylphthalate	10U	10U	10U	10U	10U	10U	10U	10U
Dibenzo(a,h)anthracene	10U	10U	10U	10U	10U	10U	10U	10U
Dibenzofuran	10U	10U	10U	10U	10U	10U	10U	10U
Diethylphthalate	10U	10U	10U	10U	10U	10U	10U	10U
Dimethylphthalate	10U	10U	10U	10U	10U	10U	10U	10U
Fluoranthene	10U	10U	10U	10U	10U	10U	10U	10U
Fluorene	10U	10U	10U	10U	10U	10U	10U	10U
Hexachlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U
Hexachlorobutadiene	10U	10U	10U	10U	10U	10U	10U	10U
Hexachlorocyclopentadiene	10U	10U	10U	10U	10U	10U	10U	10U
Hexachloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Indeno(1,2,3-cd)pyrene	10U	10U	10U	10U	10U	10U	10U	10U
Isophorone	10U	10U	10U	10U	10U	10U	10U	10U
n-Nitrosodi-n-propylamine	10U	10U	10U	10U	10U	10U	10U	10U
n-Nitrosodiphenylamine	10U	10U	10U	10U	10U	10U	10U	10U
Naphthalene	10U	10U	10U	10U	10U	10U	10U	10U
Nitrobenzene	10U	10U	10U	10U	10U	10U	10U	10U
Pentachlorophenol	50U	50U	50U	50U	50U	50U	50U	50U
Phenanthrene	10U	10U	10U	10U	10U	10U	10U	10U
Phenol	10U	10U	10U	10U	10U	10U	10U	10U
Pyrene	10U	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

APPENDIX E.3
Groundwater Quality Data, 1993

11

Sampling Point . Location . Date Sampled	GW-731	GW-732			
	CRSDB	CRSDB			
	11/29/93	02/23/93	06/15/93	08/12/93	11/30/93
BNAs (ug/L)	.	.	.	.	.
	.	.	.	.	.
1,2,4-Trichlorobenzene	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	10U	10U	10U	10U	10U
1,3-Dichlorobenzene	10U	10U	10U	10U	10U
1,4-Dichlorobenzene	10U	10U	10U	10U	10U
2,4,5-Trichlorophenol	50U	50U	50U	50U	50U
2,4,6-Trichlorophenol	10U	10U	10U	10U	10U
2,4-Dichlorophenol	10U	10U	10U	10U	10U
2,4-Dimethylphenol	10U	10U	10U	10U	10U
2,4-Dinitrophenol	50U	50U	50U	50U	50U
2,4-Dinitrotoluene	10U	10U	10U	10U	10U
2,6-Dinitrotoluene	10U	10U	10U	10U	10U
2-Chloronaphthalene	10U	10U	10U	10U	10U
2-Chlorophenol	10U	10U	10U	10U	10U
2-Methylnaphthalene	10U	10U	10U	10U	10U
2-Methylphenol	10U	10U	10U	10U	10U
2-Nitroaniline	50U	50U	50U	50U	50U
2-Nitrophenol	10U	10U	10U	10U	10U
3,3-Dichlorobenzidine	20U	20U	20U	20U	20U
3-Nitroaniline	50U	50U	50U	50U	50U
4,6-Dinitro-2-methylphenol	50U	50U	50U	50U	50U
4-Bromophenyl phenyl ether	10U	10U	10U	10U	10U
4-Chloro-3-methylphenol	10U	10U	10U	10U	10U
4-Chloroaniline	10U	10U	10U	10U	10U
4-Chlorophenyl phenyl ether	10U	10U	10U	10U	10U
4-Methylphenol	10U	10U	10U	10U	10U
4-Nitroaniline	50U	50U	50U	50U	50U
4-Nitrophenol	50U	50U	50U	50U	50U
Acenaphthene	10U	10U	10U	10U	10U
Acenaphthylene	10U	10U	10U	10U	10U
Anthracene	10U	10U	10U	10U	10U
Benzo(a)anthracene	10U	10U	10U	10U	10U
Benzo(a)pyrene	10U	10U	10U	10U	10U
Benzo(b)fluoranthene	10U	10U	10U	10U	10U
Benzo(g,h,i)perylene	10U	10U	10U	10U	10U
Benzo(k)fluoranthene	10U	10U	10U	10U	10U
Benzoic acid	50U	50U	50U	50U	50U
Benzyl alcohol	10U	10U	10U	10U	10U
bis(2-Chloroethoxy)methane	10U	10U	10U	10U	10U
bis(2-Chloroethyl)ether	10U	10U	10U	10U	10U
bis(2-Chloroisopropyl)ether	10U	10U	10U	10U	10U
bis(2-Ethylhexyl)phthalate	10U	2	10U	10U	10U

(CONTINUED)

APPENDIX E.3
Groundwater Quality Data, 1993

12

Sampling Point . Location . Date Sampled	GW-731	GW-732			
	CRSDB	CRSDB			
	11/29/93	02/23/93	06/15/93	08/12/93	11/30/93
Butyl benzyl phthalate	10U	10U	10U	10U	10U
Chrysene	10U	10U	10U	10U	10U
di-n-Butylphthalate	10U	10U	10U	10U	10U
di-n-Octylphthalate	10U	10U	10U	10U	10U
Dibenzo(a,h)anthracene	10U	10U	10U	10U	10U
Dibenzofuran	10U	10U	10U	10U	10U
Diethylphthalate	10U	10U	10U	10U	10U
Dimethylphthalate	10U	10U	10U	10U	10U
Fluoranthene	10U	10U	10U	10U	10U
Fluorene	10U	10U	10U	10U	10U
Hexachlorobenzene	10U	10U	10U	10U	10U
Hexachlorobutadiene	10U	10U	10U	10U	10U
Hexachlorocyclopentadiene	10U	10U	10U	10U	10U
Hexachloroethane	10U	10U	10U	10U	10U
Indeno(1,2,3-cd)pyrene	10U	10U	10U	10U	10U
Isophorone	10U	10U	10U	10U	10U
n-Nitrosodi-n-propylamine	10U	10U	10U	10U	10U
n-Nitrosodiphenylamine	10U	10U	10U	10U	10U
Naphthalene	10U	10U	10U	10U	10U
Nitrobenzene	10U	10U	10U	10U	10U
Pentachlorophenol	50U	50U	50U	50U	50U
Phenanthrene	10U	10U	10U	10U	10U
Phenol	10U	10U	10U	10U	10U
Pyrene	10U	10U	10U	10U	10U

APPENDIX E.4

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

APPENDIX E.4
Groundwater Quality Data, 1993

1

Sampling Point . Location . Date Sampled	1090				GW-141			
	UNCS				LIV			
	01/20/93	05/13/93	07/27/93	10/10/93	01/07/93	04/05/93	07/18/93	10/06/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	45.75	52.5	59.23	60.45	92.85	91.9	97.74	99.2
Water Temp (degrees C)	14.3	15.5	19.2	14.5	13.5	13.3	16.9	15.5
pH (pH units)	7.4	7.3	7	7.1	6.8	7	7.1	7.6
Sp. Cond. (umho/cm)	589	430	538	473	465	371	452	429
Dissolved Oxygen (ppm)	3.5	2.7	1.3	1.3	7.9	5.6	6.3	6.1
Oxidation/Reduction (mV)	191	199	185	209	192	238	247	196
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	.	.	.	<5	<5	<5	<5
Cyanide (mg/L)	.	.	.	.	<0.1	<0.1	<0.1	<0.1
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	7.9	7.5	7.5	7.6	7.3	7.8	7.5	7.4
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	528	521	538	513	502	467	446	446
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	.	.	.	.	<1	3.2	2	5
TOC, 2 (mg/L)	.	.	.	.	<1	3.6	3	2
TOC, 3 (mg/L)	.	.	.	.	<1	2.9	3	2
TOC, 4 (mg/L)	.	.	.	.	<1	3	<1	<1
TOX (ug/L)	.	.	.	.	<10	<10	<10	<10
TOX, 2 (ug/L)	.	.	.	.	<10	<10	<10	<10
TOX, 3 (ug/L)	.	.	.	.	<10	<10	<10	<10
TOX, 4 (ug/L)	.	.	.	.	<10	<10	<10	<10
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	268	292	318	340	272	260	254	214
TSS (mg/L)	<1	<1	<1	<1	21	21	20	5
Turbidity (NTU)	0.8	0.9	1	0.4	16	30	20	12
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.72	-0.59	3.53	1.63	1.03	-0.75	-2.59	-1.23
Gross Alpha (CE+/-)	2.30	2.60	3.90	2.50	2.40	2.20	2.40	2.60
Gross Beta (pCi/L)	-4.31	1.03	5.10	-0.67	2.41	-2.04	-12.00	0.52
Gross Beta (CE+/-)	3.40	2.90	5.10	2.70	2.90	2.90	5.60	3.10

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

2

Sampling Point . Location . Date Sampled	GW-142				GW-143			
	KNQ				KNQ			
	03/05/93	06/11/93	08/25/93	12/15/93	03/06/93	06/12/93	06/13/93	08/27/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	123.1	133.41	135.5	131.82	76.9	77.77	.	79.4
Water Temp (degrees C)	11.2	19.4	15.9	9.1	14.5	16.3	.	16.8
pH (pH units)	7.6	7.6	7.3	7.5	6.9	7.7	.	7.2
Sp. Cond. (umho/cm)	409	421	475	373	484	435	.	500
Dissolved Oxygen (ppm)	4.3	8.1	3.1	4.5	8.3	6.3	.	3.6
Oxidation/Reduction (mV)	-58	63	115	181	121	43	.	16
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	.	.	.	.	.	.	.
Cyanide (mg/L)	.	.	.	.	.	.	.	.
Phenols (mg/L)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	.	<0.05
pH (pH units)	7.8	7.9	8	8	8.2	8.4	.	8
pH, 2 (pH units)	7.9	7.9	8	8	8.2	8.4	.	8
pH, 3 (pH units)	7.9	7.9	8	8	8.2	8.4	.	8
pH, 4 (pH units)	7.9	7.9	8	8	8.2	8.4	.	8
Sp. Cond. (umho/cm)	441	448	439	437	482	464	.	476
Sp. Cond., 2 (umho/cm)	440	446	444	435	480	463	.	473
Sp. Cond., 3 (umho/cm)	439	446	443	436	483	464	.	474
Sp. Cond., 4 (umho/cm)	442	445	440	437	485	466	.	476
TOC (mg/L)	<1	4	1.1	1.3	2.3	.	5	1.7
TOC, 2 (mg/L)	<1	3	1.6	1.6	4.1	.	3	1.5
TOC, 3 (mg/L)	<1	3	1.3	1	1.3	.	3	1.8
TOC, 4 (mg/L)	<1	3	1.3	49.6	1.6	.	3	1.5
TOX (ug/L)	<10	<10	<10	<10	<10	.	<10	<10
TOX, 2 (ug/L)	<10	<10	<10	<10	<10	.	11.3	<10
TOX, 3 (ug/L)	<10	11.4	<10	<10	<10	.	<10	<10
TOX, 4 (ug/L)	<10	<10	<10	<10	<10	.	11.4	<10
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	222	242	250	254	256	266	.	278
TSS (mg/L)	17	4	8	6	12	14	.	2
Turbidity (NTU)	30	22	23	17	19	8.9	.	5
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	3.53	7.73	15.00	11.90	6.17	4.65	.	3.73
Gross Alpha (CE+/-)	3.70	2.90	4.00	3.50	4.30	4.10	.	2.60
Gross Beta (pCi/L)	9.71	7.32	13.10	11.70	20.50	18.70	.	8.86
Gross Beta (CE+/-)	5.40	3.10	3.80	3.30	6.10	6.30	.	3.50

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

3

Sampling Point	GW-143	GW-144				GW-145		
Location	KHQ	KHQ				KHQ		
Date Sampled	12/15/93	03/06/93	06/12/93	08/26/93	12/15/93	03/06/93	06/12/93	08/25/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	77.2	77.5	78.43	79.85	77.75	2.55	3.73	5.57
Water Temp (degrees C)	12.8	14.5	15.9	20.8	13.7	12.7	16.8	18.4
pH (pH units)	7.8	7.6	7.8	7.6	8	7.9	7.8	7.8
Sp. Cond. (umho/cm)	427	331	271	318	299	489	457	481
Dissolved Oxygen (ppm)	1.5	6.5	3.2	1.7	7.1	7	7.8	7.3
Oxidation/Reduction (mV)	13	210	190	157	164	220	175	180
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	.	.	.	.	.	.	.
Cyanide (mg/L)	.	.	.	.	.	.	.	.
Phenols (mg/L)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
pH, 2 (pH units)	8.2	7.7	8.3	8	8	8.2	8.4	8.1
pH, 3 (pH units)	8.2	7.9	8.3	8	8.1	8.1	8.3	8.2
pH, 4 (pH units)	8.2	7.9	8.3	8	8	8.2	8.3	8.2
Sp. Cond. (umho/cm)	466	348	311	330	316	528	500	500
Sp. Cond., 2 (umho/cm)	464	336	311	328	314	528	501	502
Sp. Cond., 3 (umho/cm)	464	335	312	330	317	529	502	504
Sp. Cond., 4 (umho/cm)	466	336	313	336	318	531	508	510
TOC (mg/L)	<1	<1	<1	1.4	1.4	3.4	6	2.1
TOC, 2 (mg/L)	1.1	1	<1	1.3	2.5	3.5	5	1.9
TOC, 3 (mg/L)	<1	1.3	1	1.1	<1	1.3	9	2
TOC, 4 (mg/L)	<1	<1	<1	1.1	1.2	1.8	7	<1
TOX (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TOX, 2 (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TOX, 3 (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TOX, 4 (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	280	178	176	186	196	290	302	314
TSS (mg/L)	1	<1	<1	3	<1	12	218	2020
Turbidity (NTU)	17	0.4	0.8	2.5	0.9	36	800	500
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	4.44	4.82	2.07	0.82	5.00	14.10	11.70	12.10
Gross Alpha (CE+/-)	2.30	4.00	3.50	1.80	2.20	5.50	5.00	3.70
Gross Beta (pCi/L)	16.70	5.28	5.27	-2.53	3.52	23.20	15.20	12.80
Gross Beta (CE+/-)	3.60	5.20	5.50	2.90	2.90	6.30	6.10	3.80

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

Sampling Point	GW-145	GW-146				GW-147		
Location	KHQ	KHO				KHO		
Date Sampled	12/14/93	03/09/93	06/13/93	08/25/93	12/16/93	03/05/93	06/11/93	08/24/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	2.98	85.92	83.8	100.33	74.66	13.45	14.7	17
Water Temp (degrees C)	9.5	13.9	16.5	21.7	13.4	10.8	16.7	18
pH (pH units)	7.9	7.9	7.9	7.4	7.6	7.8	7.8	8.1
Sp. Cond. (umho/cm)	487	586	496	548	503	331	281	297
Dissolved Oxygen (ppm)	8.2	7.9	7.4	2.2	9	8.3	8.3	9
Oxidation/Reduction (mV)	159	196	16	50	174	174	192	148
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	.	.	.	.	.	.	.
Cyanide (mg/L)	.	.	.	.	.	.	.	.
Phenols (mg/L)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
pH (pH units)	8	8.1	8.3	8.3	8.3	8.1	8.1	8.2
pH, 2 (pH units)	8	8.1	8.4	8.3	8.3	8.1	.	8.2
pH, 3 (pH units)	8	8.1	8.3	8.3	8.3	8.1	.	8.2
pH, 4 (pH units)	8	8.1	8.4	8.3	8.3	8.1	.	8.3
Sp. Cond. (umho/cm)	520	564	537	543	527	340	321	310
Sp. Cond., 2 (umho/cm)	521	567	536	547	526	350	.	311
Sp. Cond., 3 (umho/cm)	522	566	538	546	527	348	.	314
Sp. Cond., 4 (umho/cm)	521	566	539	544	532	342	.	317
TOC (mg/L)	2	1.7	3	<1	1.3	<1	2	3.6
TOC, 2 (mg/L)	1.5	1.3	4	<1	1.2	<1	<1	2.8
TOC, 3 (mg/L)	3.3	1.1	6	1.1	1.4	<1	1	3.9
TOC, 4 (mg/L)	8.8	1.8	3	<1	33.6	<1	3	<1
TOX (ug/L)	<10	<10	<10	<10	<10	<10	<10	.
TOX, 2 (ug/L)	<10	<10	<10	<10	<10	<10	<10	.
TOX, 3 (ug/L)	<10	<10	<10	<10	<10	<10	<10	.
TOX, 4 (ug/L)	<10	<10	<10	<10	<10	<10	<10	.
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	298	324	330	330	304	184	216	190
TSS (mg/L)	12	8	4	4	178	19	21	6
Turbidity (NTU)	16	1.5	9.6	11	66	230	17	7.8
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	7.54	2.84	1.25	0.73	4.95	10.10	2.57	2.20
Gross Alpha (CE+/-)	3.00	1.70	3.50	2.00	2.40	4.70	2.20	2.10
Gross Beta (pCi/L)	14.30	16.50	17.30	7.23	20.80	15.20	4.71	0.69
Gross Beta (CE+/-)	3.50	3.90	6.20	3.40	3.80	5.80	2.90	3.00

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

5

Sampling Point . Location . Date Sampled	GW-147		GW-156				GW-158	
	KNO		CRSDB				CRSDB	
	08/25/93	12/14/93	02/24/93	06/15/93	08/12/93	11/30/93	03/24/93	06/23/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	.	13.95	138.95	143.1	143.4	143.6	44.47	46.1
Water Temp (degrees C)	17.9	11.6	12.2	17	20	13.6	15.6	16
pH (pH units)	7.5	6.7	7.2	7.3	7.2	7.3	7.2	7.9
Sp. Cond. (umho/cm)	335	317	602	581	566	596	353	317
Dissolved Oxygen (ppm)	8.6	7.8	7.9	7.4	6.5	6.4	4.7	1.8
Oxidation/Reduction (mV)	119	154	228	206	218	192	153	-80
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	.	.	.	.	.	.	.
Cyanide (mg/L)	.	.	.	.	.	.	.	.
Phenols (mg/L)	.	<0.05	.	.	.	.	.	.
pH (pH units)	.	8.2	7.7	7.7	7.9	7.9	8	7.8
pH, 2 (pH units)	.	8.2	7.7	7.7	7.6	8	7.9	7.8
pH, 3 (pH units)	.	8.2	7.7	7.7	7.6	7.9	7.9	7.8
pH, 4 (pH units)	.	8.2	7.7	7.7	7.5	7.9	7.9	7.8
Sp. Cond. (umho/cm)	.	335	639	630	619	628	326	325
Sp. Cond., 2 (umho/cm)	.	335	635	626	615	627	322	323
Sp. Cond., 3 (umho/cm)	.	334	640	620	623	628	325	326
Sp. Cond., 4 (umho/cm)	.	334	640	628	634	627	329	329
TOC (mg/L)	.	8	<1	3	1.4	2	1.1	3
TOC, 2 (mg/L)	.	1.8	<1	2	1.6	2	1.9	2
TOC, 3 (mg/L)	.	2	<1	2	2.5	2	1.4	2
TOC, 4 (mg/L)	.	3.6	<1	3	1.7	2	1.1	1
TOX (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TOX, 2 (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TOX, 3 (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TOX, 4 (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	.	202	354	354	364	342	188	180
TSS (mg/L)	.	7	9	2	19	6	11	<1
Turbidity (NTU)	.	26	15	1.5	15	3.1	3.4	5.3
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	.	1.47	2.39	3.92	0.75	1.63	1.99	1.15
Gross Alpha (CE+/-)	.	1.80	1.70	2.40	1.70	1.40	1.80	4.00
Gross Beta (pCi/L)	.	2.67	4.33	5.76	-1.59	-1.04	4.22	-4.92
Gross Beta (CE+/-)	.	2.60	2.80	3.00	3.10	2.90	2.80	5.30

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

6

Sampling Point	GW-158		GW-159				GW-160	
Location	CRSDB		CRSDB				LIII	
Date Sampled	08/25/93	12/05/93	02/22/93	06/14/93	08/10/93	11/29/93	02/09/93	06/06/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	48.25	49.8	116.45	117.15	118.1	119.3	146.9	146.6
Water Temp (degrees C)	16.6	14	14	16.7	17.3	13.9	14.4	15.5
pH (pH units)	7.3	7.7	7.9	8	7.7	8.3	7.2	7.4
Sp. Cond. (umho/cm)	409	322	360	316	397	350	421	395
Dissolved Oxygen (ppm)	1.9	5.4	8.5	8.5	8.3	8.4	7	4.7
Oxidation/Reduction (mV)	100	22	211	180	220	168	243	43
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	.	.	.	.	.	<5	<5
Cyanide (mg/L)	.	.	.	.	.	.	<0.1	<0.1
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	8	7.7	8.2	8	7.9	8	7.4	8
pH, 2 (pH units)	8.1	7.8	8.1	8	8	8	.	.
pH, 3 (pH units)	8.1	7.8	8.1	8	7.9	8	.	.
pH, 4 (pH units)	8.1	7.7	8.2	8	8	8.1	.	.
Sp. Cond. (umho/cm)	337	337	367	370	358	361	468	441
Sp. Cond., 2 (umho/cm)	338	336	367	371	354	360	.	.
Sp. Cond., 3 (umho/cm)	338	336	365	365	355	359	.	.
Sp. Cond., 4 (umho/cm)	339	340	365	368	356	362	.	.
TOC (mg/L)	1.1	1	<1	11	2.7	1	1.4	3
TOC, 2 (mg/L)	1.3	1	<1	8	2.5	1	1.1	<1
TOC, 3 (mg/L)	1.3	7	<1	7	2.9	1	<1	1
TOC, 4 (mg/L)	<1	<1	<1	9	2.4	35	1.8	2
TOX (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TOX, 2 (ug/L)	<10	<10	<10	<10	<10	12	<10	<10
TOX, 3 (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TOX, 4 (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	196	184	196	202	206	210	428	284
TSS (mg/L)	15	2	11	5	38	22	218	187
Turbidity (NTU)	8	2.9	6.3	4.8	15	16	320	260
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.50	1.51	3.12	2.00	2.32	1.69	5.43	2.42
Gross Alpha (CE+/-)	1.60	1.30	1.80	2.10	3.50	1.40	4.70	4.00
Gross Beta (pCi/L)	-3.66	-3.23	4.68	2.07	2.95	-1.78	6.33	2.15
Gross Beta (CE+/-)	2.80	2.90	2.80	2.70	5.40	2.90	6.10	5.40

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

7

Sampling Point	GW-160		GW-161				GW-175	
Location	LIII		LIII				CRSP	
Date Sampled	08/12/93	11/11/93	02/08/93	06/05/93	08/11/93	11/10/93	03/27/93	06/15/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	152.5	154.1	158.9	159.58	162.2	163.5	107.65	120.87
Water Temp (degrees C)	16.6	14.6	15.6	16.2	15.6	14.1	13.3	16.1
pH (pH units)	7.6	7.4	7.4	7.5	7.5	7.6	7.6	7.9
Sp. Cond. (umho/cm)	406	401	369	335	336	356	349	340
Dissolved Oxygen (ppm)	4.3	6.7	6.6	3.7	3	6.2	8.5	8.3
Oxidation/Reduction (mV)	-22	96	200	171	-221	45	204	191
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	<5	<5	<5	<5	<5	<5	.	.
Cyanide (mg/L)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	.	.
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	7.6	7.7	7.9	8	7.8	8	7.9	8.2
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	436	419	389	383	376	368	357	367
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	2.4	1	<1	4	2.5	2	.	.
TOC, 2 (mg/L)	2.4	2	<1	1	2.9	1	.	.
TOC, 3 (mg/L)	2.3	2	<1	<1	2.3	2	.	.
TOC, 4 (mg/L)	2.1	1	<1	2	2.2	1	.	.
TOX (ug/L)	14	<10	<10	<10	12	<10	.	.
TOX, 2 (ug/L)	29	<10	<10	<10	<10	<10	.	.
TOX, 3 (ug/L)	<10	<10	<10	<10	11	<10	.	.
TOX, 4 (ug/L)	14	<10	<10	<10	<10	10	.	.
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	260	290	228	158	214	226	188	204
TSS (mg/L)	16	49	<1	<1	5	<1	2	2
Turbidity (NTU)	40	120	1.9	3.1	8.2	1.9	3.4	3.5
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.51	1.31	0.33	-1.48	1.20	0.82	0.94	0.30
Gross Alpha (CE+/-)	1.50	1.20	2.10	3.30	1.70	1.10	1.70	1.80
Gross Beta (pCi/L)	-4.71	0.46	0.00	-1.48	-6.16	1.74	2.24	14.30
Gross Beta (CE+/-)	3.00	2.30	2.90	5.20	2.90	2.40	2.70	3.40

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

8

Sampling Point . Location . Date Sampled	GW-175		GW-177				GW-181	
	CRSP		CRSP				CRSP	
	09/11/93	12/19/93	03/30/93	06/14/93	09/30/93	12/19/93	01/05/93	06/04/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	125.65	121.1	116.9	117.83	120.55	117.65	110.25	99.64
Water Temp (degrees C)	15	12.8	17.1	18.7	13.6	13.6	13.3	15.4
pH (pH units)	7.4	7.6	7.9	7.8	7.6	7.9	7.7	7.8
Sp. Cond. (umho/cm)	332	326	450	383	365	411	300	285
Dissolved Oxygen (ppm)	8.1	9.2	6.1	7.9	8.7	7.4	3.3	7.5
Oxidation/Reduction (mV)	473	204	155	158	189	175	197	189
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	.	.	.	.	.	.	.
Cyanide (mg/L)	.	.	.	.	.	.	.	.
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	8.1	7.9	7.7	7.8	8	7.9	7.8	8.2
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	344	340	401	400	418	408	334	321
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	.	.	.	.	.	.	.	.
TOC, 2 (mg/L)	.	.	.	.	.	.	.	.
TOC, 3 (mg/L)	.	.	.	.	.	.	.	.
TOC, 4 (mg/L)	.	.	.	.	.	.	.	.
TOX (ug/L)	.	.	.	.	.	.	.	.
TOX, 2 (ug/L)	.	.	.	.	.	.	.	.
TOX, 3 (ug/L)	.	.	.	.	.	.	.	.
TOX, 4 (ug/L)	.	.	.	.	.	.	.	.
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	202	160	222	218	204	216	176	164
TSS (mg/L)	4	<1	4	4	<1	3	<1	<1
Turbidity (NTU)	2.1	1.8	3.9	3.4	3.5	9	1.2	1.6
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.92	0.61	4.22	0.31	1.12	1.41	1.40	-5.18
Gross Alpha (CE+/-)	1.70	2.10	1.90	1.90	2.30	2.20	1.50	3.90
Gross Beta (pCi/L)	-0.86	-0.86	4.79	1.74	1.25	0.00	-1.03	-13.80
Gross Beta (CE+/-)	2.60	2.80	2.80	2.70	2.90	2.90	2.60	5.40

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

9

Sampling Point	GW-181		GW-184				GW-186	
Location	CRSP		RQ				RQ	
Date Sampled	09/01/93	12/16/93	03/02/93	06/24/93	07/22/93	12/05/93	03/03/93	06/26/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	111.1	112	109.55	110.66	110.9	107.75	13.9	14.82
Water Temp (degrees C)	16.3	13.5	12.7	15	15.3	12.9	13.7	16.2
pH (pH units)	7.8	7.7	7.2	7.3	7.4	7.3	6.9	6.9
Sp. Cond. (umho/cm)	321	306	409	369	424	322	783	758
Dissolved Oxygen (ppm)	6	6.6	6.2	0.7	0.8	6.5	5.6	0.4
Oxidation/Reduction (mV)	116	193	194	133	160	166	-124	-75
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	.	.	.	.	.	.	.
Cyanide (mg/L)	.	.	.	.	.	.	.	.
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	7.9	7.9	7.7	8	8	7.8	7.3	7.5
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	328	313	439	424	431	369	900	872
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	.	.	.	.	.	.	.	.
TOC, 2 (mg/L)	.	.	.	.	.	.	.	.
TOC, 3 (mg/L)	.	.	.	.	.	.	.	.
TOC, 4 (mg/L)	.	.	.	.	.	.	.	.
TOX (ug/L)	.	.	.	.	.	.	.	.
TOX, 2 (ug/L)	.	.	.	.	.	.	.	.
TOX, 3 (ug/L)	.	.	.	.	.	.	.	.
TOX, 4 (ug/L)	.	.	.	.	.	.	.	.
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	160	166	272	254	270	232	564	540
TSS (mg/L)	1	6	<1	<1	1	3	<1	2
Turbidity (NTU)	3.3	2.7	1	0.5	2	4.4	0.6	4.8
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	1.79	0.76	-1.49	-2.47	-4.54	0.69	0.00	-2.10
Gross Alpha (CE+/-)	3.60	1.50	2.40	3.70	2.40	1.10	3.80	4.30
Gross Beta (pCi/L)	0.34	0.34	8.12	-4.14	-1.83	-3.43	6.43	-0.17
Gross Beta (CE+/-)	5.50	2.70	3.90	5.50	2.80	2.80	5.40	5.80

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

10

Sampling Point	GW-186		GW-187				GW-188	
Location	RQ		RQ				RQ	
Date Sampled	07/24/93	12/06/93	03/03/93	06/25/93	07/23/93	12/06/93	03/02/93	06/24/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	14.97	12.9	17.74	19.66	19.77	13.97	20.1	20.36
Water Temp (degrees C)	18.3	13.6	14.7	18	19.5	14.8	14	19.3
pH (pH units)	7	7.1	7.3	7.3	7.6	7.5	7.6	8.4
Sp. Cond. (umho/cm)	828	820	918	706	947	1489	415	361
Dissolved Oxygen (ppm)	0.2	0.5	4.7	0.6	0.4	0.3	6.3	1.6
Oxidation/Reduction (mV)	-96	-206	-207	-283	-300	-285	-83	-38
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	.	.	.	.	.	.	.
Cyanide (mg/L)	.	.	.	.	.	.	.	.
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	7.3	7.5	7.7	7.9	7.7	8.1	8	8.2
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	895	892	970	835	917	1580	480	403
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	.	.	.	.	.	.	.	.
TOC, 2 (mg/L)	.	.	.	.	.	.	.	.
TOC, 3 (mg/L)	.	.	.	.	.	.	.	.
TOC, 4 (mg/L)	.	.	.	.	.	.	.	.
TOX (ug/L)	.	.	.	.	.	.	.	.
TOX, 2 (ug/L)	.	.	.	.	.	.	.	.
TOX, 3 (ug/L)	.	.	.	.	.	.	.	.
TOX, 4 (ug/L)	.	.	.	.	.	.	.	.
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	538	562	562	488	522	938	288	232
TSS (mg/L)	2	2	1	<1	<1	<1	12	2
Turbidity (NTU)	8.4	6.5	14	25	20	26	2.5	1.8
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-6.05	-1.62	0.39	-2.39	-4.47	-1.46	-0.73	-0.29
Gross Alpha (CE+/-)	2.90	1.80	4.20	4.10	3.50	1.90	2.20	3.90
Gross Beta (pCi/L)	-1.11	2.81	2.90	-4.20	-0.86	1.05	5.51	-6.09
Gross Beta (CE+/-)	3.00	2.50	5.20	5.50	3.00	2.40	3.70	5.30

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

11

Sampling Point	GW-188		GW-203				GW-205	
Location	RQ		UNCS				UNCS	
Date Sampled	07/22/93	12/05/93	01/18/93	05/11/93	07/26/93	10/07/93	01/18/93	05/11/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	20.5	18.16	79.9	72.82	77.4	82.3	78.2	72.55
Water Temp (degrees C)	18.2	14.6	13.9	16.8	18.5	16.9	12.3	17
pH (pH units)	8.2	7.8	7.9	7.6	7.8	8	7.7	7.8
Sp. Cond. (umho/cm)	485	358	260	218	296	259	300	262
Dissolved Oxygen (ppm)	8.3	3.1	6.1	4	6.1	4.1	5.7	4.5
Oxidation/Reduction (mV)	-4	-63	226	235	126	177	214	202
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	.	.	.	.	.	.	.
Cyanide (mg/L)	.	.	.	.	.	.	.	.
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	7.6	8	8.2	8.2	8	7.9	8.1	8.1
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	431	407	267	260	268	271	300	315
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	.	.	.	.	.	.	.	.
TOC, 2 (mg/L)	.	.	.	.	.	.	.	.
TOC, 3 (mg/L)	.	.	.	.	.	.	.	.
TOC, 4 (mg/L)	.	.	.	.	.	.	.	.
TOX (ug/L)	.	.	.	.	.	.	.	.
TOX, 2 (ug/L)	.	.	.	.	.	.	.	.
TOX, 3 (ug/L)	.	.	.	.	.	.	.	.
TOX, 4 (ug/L)	.	.	.	.	.	.	.	.
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	278	226	228	146	166	222	210	150
TSS (mg/L)	40	<1	210	7	8	3	227	76
Turbidity (NTU)	34	1.4	190	9.8	10	6.6	200	62
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-3.22	-1.18	20.10	-0.92	2.79	1.49	4.08	-0.02
Gross Alpha (CE+/-)	2.70	1.30	5.50	0.95	8.60	2.30	1.90	1.80
Gross Beta (pCi/L)	1.33	1.95	27.20	1.67	-8.15	2.64	16.80	6.02
Gross Beta (CE+/-)	3.00	2.50	6.80	1.30	11.00	2.90	3.50	2.80

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

12

Sampling Point	GW-205		GW-217				GW-221	
Location	UNCS		LIV				UNCS	
Date Sampled	07/26/93	10/07/93	01/05/93	04/01/93	07/17/93	10/04/93	01/19/93	05/12/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	75.95	81.3	106.8	104.27	116	118.8	82.1	74.15
Water Temp (degrees C)	17.9	16.5	13.7	13.3	16.7	16.4	12.6	16.5
pH (pH units)	8	7.9	7.9	8	8	8.2	7.6	7.6
Sp. Cond. (umho/cm)	293	297	289	362	257	289	265	238
Dissolved Oxygen (ppm)	3.4	5	6.9	5.7	7.8	10.6	6.9	11.2
Oxidation/Reduction (mV)	157	120	190	196	200	150	224	223
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	.	<5	<5	<5	<5	.	.
Cyanide (mg/L)	.	.	<0.1	<0.1	<0.1	<0.1	.	.
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	8	7.9	8.1	8.2	8.2	8.3	7.9	8.3
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	298	302	313	293	298	293	285	282
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	.	.	<1	<1	<1	1	.	.
TOC, 2 (mg/L)	.	.	<1	<1	<1	<1	.	.
TOC, 3 (mg/L)	.	.	<1	<1	<1	<1	.	.
TOC, 4 (mg/L)	.	.	<1	<1	1	1	.	.
TOX (ug/L)	.	.	<10	<10	<10	<10	.	.
TOX, 2 (ug/L)	.	.	<10	<10	<10	<10	.	.
TOX, 3 (ug/L)	.	.	11	<10	<10	<10	.	.
TOX, 4 (ug/L)	.	.	<10	<10	<10	<10	.	.
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	180	232	166	160	172	156	156	146
TSS (mg/L)	2	5	49	6	38	37	<1	<1
Turbidity (NTU)	2	8.8	5.6	5	8	17	1	0.8
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	1.11	0.75	2.05	0.62	-2.53	0.30	-1.42	-0.89
Gross Alpha (CE+/-)	8.30	2.20	1.60	3.90	2.40	1.70	1.60	1.90
Gross Beta (pCi/L)	-1.63	0.00	3.62	0.33	-4.34	3.13	-6.82	-0.25
Gross Beta (CE+/-)	11.00	2.70	2.90	5.90	6.10	2.80	3.20	2.70

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

13

Sampling Point	GW-221		GW-231				GW-241	
Location	UNCS		KHQ				CRSDB	
Date Sampled	07/27/93	10/09/93	03/05/93	06/11/93	08/24/93	12/14/93	02/26/93	06/18/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	78.7	83.7	11.14	12.57	14.83	11.67	39.65	45.63
Water Temp (degrees C)	16.7	16.2	9.1	15	16	14	12.6	16.1
pH (pH units)	7.7	7.7	7.4	7.3	7.5	7.3	7.6	7.6
Sp. Cond. (umho/cm)	291	278	240	286	385	273	260	241
Dissolved Oxygen (ppm)	5.9	6.7	7.6	1.4	0.4	2.1	9.5	7
Oxidation/Reduction (mV)	110	186	222	209	156	160	179	179
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	.	.	.	.	.	.	.
Cyanide (mg/L)	.	.	.	.	.	.	.	.
Phenols (mg/L)	.	.	<0.05	<0.05	<0.05	<0.05	.	.
pH (pH units)	7.9	7.8	7.5	7.8	7.8	7.7	7.9	8
pH, 2 (pH units)	.	.	7.5	.	7.8	7.7	7.9	8
pH, 3 (pH units)	.	.	7.5	.	7.8	7.6	7.9	8
pH, 4 (pH units)	.	.	7.6	.	7.8	7.6	7.9	8
Sp. Cond. (umho/cm)	292	291	232	319	337	294	305	273
Sp. Cond., 2 (umho/cm)	.	.	235	.	338	294	307	273
Sp. Cond., 3 (umho/cm)	.	.	234	.	338	293	305	274
Sp. Cond., 4 (umho/cm)	.	.	222	.	342	293	304	274
TOC (mg/L)	.	.	<1	2	1	1.3	<1	1
TOC, 2 (mg/L)	.	.	<1	2	6	1.2	<1	2
TOC, 3 (mg/L)	.	.	<1	1	3	7.4	<1	1
TOC, 4 (mg/L)	.	.	<1	<1	44	1.7	<1	2
TOX (ug/L)	.	.	<10	<10	<10	<10	<10	<10
TOX, 2 (ug/L)	.	.	<10	<10	<10	<10	<10	<10
TOX, 3 (ug/L)	.	.	<10	<10	<10	<10	<10	<10
TOX, 4 (ug/L)	.	.	<10	<10	<10	<10	<10	<10
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	192	246	120	178	186	168	180	224
TSS (mg/L)	<1	6	2	<1	1	<1	12	106
Turbidity (NTU)	1.5	1.5	2	1.3	0.8	1.1	18	110
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	1.15	-0.15	0.28	0.45	5.74	-0.80	2.66	-3.20
Gross Alpha (CE+/-)	3.50	2.00	3.10	1.80	6.90	1.30	2.00	1200.00
Gross Beta (pCi/L)	2.79	-0.08	5.23	-1.48	-4.92	1.06	4.47	-2.82
Gross Beta (CE+/-)	4.90	2.70	5.10	2.50	10.00	2.50	2.90	2600.00

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

14

Sampling Point . Location . Date Sampled	GW-241				GW-292			
	CRSDS				ECRWP			
	06/27/93	08/21/93	08/24/93	12/03/93	01/26/93	04/02/93	08/22/93	10/14/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	50.92	54.38	54.45	109.95	108.99	116.3	116.6	
Water Temp (degrees C)	16.5	16.9	14.2	13.6	12.5	17.1	15.5	
pH (pH units)	7.4	7.6	7.7	7.5	7.3	7.5	7.4	
Sp. Cond. (umho/cm)	263	286	274	433	389	454	473	
Dissolved Oxygen (ppm)	6.5	7.3	6.8	10.7	9.7	8.7	7	
Oxidation/Reduction (mV)	184	101	120	126	238	144	265	
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	.	.	.	.	.	.	.
Cyanide (mg/L)	.	.	.	.	.	.	.	.
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	8	8	8	7.5	7.5	7.7	7.5	
pH, 2 (pH units)	.	8.1	8	.	.	.	.	
pH, 3 (pH units)	.	8.1	8	.	.	.	.	
pH, 4 (pH units)	.	8.1	8	.	.	.	.	
Sp. Cond. (umho/cm)	274	261	280	501	473	481	482	
Sp. Cond., 2 (umho/cm)	.	266	277	.	.	.	.	
Sp. Cond., 3 (umho/cm)	.	256	278	.	.	.	.	
Sp. Cond., 4 (umho/cm)	.	255	278	.	.	.	.	
TOC (mg/L)	<1	.	<1	.	.	.	.	
TOC, 2 (mg/L)	2	.	<1	.	.	.	.	
TOC, 3 (mg/L)	<1	.	1	.	.	.	.	
TOC, 4 (mg/L)	<1	.	<1	.	.	.	.	
TOX (ug/L)	<10	.	<10	.	.	.	.	
TOX, 2 (ug/L)	<10	.	<10	.	.	.	.	
TOX, 3 (ug/L)	<10	.	<10	.	.	.	.	
TOX, 4 (ug/L)	<10	.	<10	.	.	.	.	
TPH (mg/L)	.	.	.	.	.	.	.	
TDS (mg/L)	266	.	184	268	252	268	276	
TSS (mg/L)	151	.	54	1	1	<1	<1	
Turbidity (NTU)	120	.	50	0.7	1	1	0.4	
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	2.86	.	2.14	-1.88	1.52	0.00	-1.11	
Gross Alpha (CE+/-)	6.40	.	1.50	1.80	2.30	5.80	2.30	
Gross Beta (pCi/L)	1.96	.	-3.83	-1.68	1.34	0.98	0.42	
Gross Beta (CE+/-)	11.00	.	2.90	2.80	3.00	11.00	2.90	

(CONTINUED)

APPENDIX B.4
Groundwater Quality Data, 1993

15

Sampling Point . Location . Date Sampled	GW-293				GW-294			
	ECRWP				ECRWP			
	01/28/93	04/06/93	08/22/93	10/15/93	01/25/93	04/01/93	08/22/93	10/14/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	112.6	111.93	117.95	119	94.78	93.76	101.9	102.17
Water Temp (degrees C)	13.3	13.8	16.7	15.5	13.4	14	19.8	16
pH (pH units)	7.4	7.5	8	7.4	7.9	7.5	7.8	7.6
Sp. Cond. (umho/cm)	440	391	457	463	430	400	428	428
Dissolved Oxygen (ppm)	8.3	5.2	5.7	8.8	7.5	6.3	9	7.6
Oxidation/Reduction (mV)	35	174	127	198	192	242	135	254
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	.	.	.	.	.	.	.
Cyanide (mg/L)	.	.	.	.	.	.	.	.
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	7.8	7.5	7.8	7.7	7.6	7.6	7.9	7.7
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	485	469	481	478	463	438	462	444
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	.	.	.	.	.	.	.	.
TOC, 2 (mg/L)	.	.	.	.	.	.	.	.
TOC, 3 (mg/L)	.	.	.	.	.	.	.	.
TOC, 4 (mg/L)	.	.	.	.	.	.	.	.
TOX (ug/L)	.	.	.	.	.	.	.	.
TOX, 2 (ug/L)	.	.	.	.	.	.	.	.
TOX, 3 (ug/L)	.	.	.	.	.	.	.	.
TOX, 4 (ug/L)	.	.	.	.	.	.	.	.
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	256	252	266	290	236	244	272	260
TSS (mg/L)	6	14	10	15	2	<1	<1	2
Turbidity (NTU)	14	26	12	27	0.5	2.4	1.4	1.1
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	1.79	-0.29	0.58	-1.01	-0.16	1.34	5.17	-1.52
Gross Alpha (CE+/-)	1.50	3.40	6.10	2.60	2.00	2.60	6.80	2.00
Gross Beta (pCi/L)	13.50	3.94	0.66	-8.08	0.84	0.26	-3.28	0.08
Gross Beta (CE+/-)	3.40	4.80	11.00	5.50	2.90	3.00	10.00	2.80

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

16

Sampling Point . Location . Date Sampled	GW-295				GW-296			
	LIII				KCRWP			
	02/11/93	06/05/93	08/12/93	11/13/93	01/25/93	04/01/93	08/22/93	10/14/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	142.6	142.45	143.75	144.8	117.35	116.95	119.5	119.93
Water Temp (degrees C)	13.7	17.9	16	14.3	12.4	14	15.7	14.2
pH (pH units)	7.8	8	7.7	7.3	7.5	7.5	7.6	7.4
Sp. Cond. (umho/cm)	621	530	562	620	392	392	372	386
Dissolved Oxygen (ppm)	3.8	4.6	1.9	5.7	7.1	6	8.6	6.9
Oxidation/Reduction (mV)	204	150	-14	203	197	213	172	217
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	<5	<5	<5	<5	.	.	.	.
Cyanide (mg/L)	<0.1	<0.1	<0.1	<0.1	.	.	.	.
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	7.8	8.1	6.7	7.4	7.5	7.6	7.8	7.6
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	718	608	746	649	452	412	416	412
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	<1	1	2	1	.	.	.	.
TOC, 2 (mg/L)	<1	1	1.7	1	.	.	.	.
TOC, 3 (mg/L)	<1	2	2.2	1	.	.	.	.
TOC, 4 (mg/L)	<1	2	2	1	.	.	.	.
TOX (ug/L)	<10	<10	12	12	.	.	.	.
TOX, 2 (ug/L)	<10	<10	21	<10	.	.	.	.
TOX, 3 (ug/L)	<10	<10	15	10	.	.	.	.
TOX, 4 (ug/L)	<10	10	14	<10	.	.	.	.
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	420	404	552	300	220	220	228	238
TSS (mg/L)	104	71	144	3600	<1	1	<1	<1
Turbidity (NTU)	150	115	30	5200	0.5	0.9	1.4	1
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	5.88	0.57	54.90	110.00	-0.32	0.00	4.04	-0.47
Gross Alpha (CE+/-)	2.40	6.30	13.00	57.00	2.00	2.30	6.60	2.00
Gross Beta (pCi/L)	17.00	10.10	124.00	78.50	-1.00	-0.68	3.28	0.33
Gross Beta (CE+/-)	3.60	10.00	16.00	63.00	2.80	3.00	11.00	2.80

(CONTINUED)

APPENDIX B.4
Groundwater Quality Data, 1993

17

Sampling Point . Location . Date Sampled	GW-298				GW-299			
	LIII				LIII			
	02/11/93	06/10/93	08/14/93	11/15/93	02/10/93	06/10/93	08/14/93	11/13/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	108.53	108	110	110.88	97.6	95.1	99.49	103.25
Water Temp (degrees C)	13.7	17.6	16.9	15.6	14.1	17	15.6	14.8
pH (pH units)	7.9	8.1	8.4	7.9	7.8	7.9	8	7.9
Sp. Cond. (umho/cm)	306	280	325	307	280	247	258	252
Dissolved Oxygen (ppm)	2.6	7.3	2.2	2.7	6	4.8	5.1	6.7
Oxidation/Reduction (mV)	206	168	28	139	80	195	129	155
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	<5	<5	<5	<5	<5	<5	<5	7
Cyanide (mg/L)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	8	8.1	8.1	8	8	8	8.1	7.9
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	347	323	322	328	279	266	265	274
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	<1	1	<1	2	<1	1	<1	<1
TOC, 2 (mg/L)	<1	1	<1	2	<1	<1	<1	<1
TOC, 3 (mg/L)	<1	<1	<1	2	<1	2	<1	5
TOC, 4 (mg/L)	<1	<1	<1	2	<1	2	<1	<1
TOX (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TOX, 2 (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TOX, 3 (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TOX, 4 (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	172	166	192	146	158	142	164	192
TSS (mg/L)	23	10	<1	188	2	<1	10	<1
Turbidity (NTU)	15	8.7	6.5	1700	0.5	1	0.8	1.4
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	1.97	-0.59	-0.57	1.48	1.40	1.43	-0.45	-0.16
Gross Alpha (CE+/-)	1.70	3.00	5.70	1.30	1.50	3.30	1.90	0.70
Gross Beta (pCi/L)	3.56	-2.47	-2.95	2.76	-0.17	-2.29	2.57	0.72
Gross Beta (CE+/-)	2.60	5.00	10.00	2.50	2.80	5.00	2.50	2.30

(CONTINUED)

APPENDIX B.4
Groundwater Quality Data, 1993

18

Sampling Point . Location . Date Sampled	GW-300				GW-301			
	LIII				LIII			
	02/10/93	06/06/93	08/12/93	11/12/93	02/10/93	06/06/93	08/13/93	11/13/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	110.5	106.25	112.28	117.75	130.6	130.95	134.51	136
Water Temp (degrees C)	15	15.9	16.3	13.3	14.3	17	17.3	15.8
pH (pH units)	7.5	7.6	7.8	7.5	7.7	8	7.9	8.2
Sp. Cond. (umho/cm)	282	245	291	311	397	292	302	320
Dissolved Oxygen (ppm)	6.5	6.3	5.9	6.7	6.3	8.2	8.2	8.4
Oxidation/Reduction (mV)	239	200	106	167	244	151	168	157
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	<5	<5	<5	<5	<5	<5	<5	7
Cyanide (mg/L)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	7.6	8.1	7.7	7.6	8	8.4	8	8
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	284	275	308	329	336	318	320	336
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	<1	3	1.6	1	<1	2	<1	1
TOC, 2 (mg/L)	<1	1	1.6	1	<1	2	<1	<1
TOC, 3 (mg/L)	<1	1	1.6	1	<1	3	<1	1
TOC, 4 (mg/L)	<1	1	1.5	1	<1	.	<1	1
TOX (ug/L)	<10	<10	10	<10	<10	<10	<10	<10
TOX, 2 (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TOX, 3 (ug/L)	<10	<10	11	<10	<10	<10	<10	<10
TOX, 4 (ug/L)	<10	<10	11	<10	<10	<10	<10	<10
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	158	106	182	184	190	124	196	194
TSS (mg/L)	1	<1	<1	<1	3	13	14	8
Turbidity (NTU)	1	1.5	1.3	1	1.7	8.5	11	5.2
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	1.36	1.15	-0.66	1.11	1.30	-3.25	1.02	0.16
Gross Alpha (CE+/-)	1.40	3.70	1.10	1.20	1.50	3.00	1.60	0.86
Gross Beta (pCi/L)	-1.82	-0.16	-6.81	0.63	0.50	0.82	-5.37	0.23
Gross Beta (CE+/-)	2.70	5.20	3.00	2.30	2.80	5.30	3.00	2.30

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

19

Sampling Point . Location . Date Sampled	GW-302				GW-303			
	UNCS				CRSDS			
	01/20/93	05/13/93	07/27/93	10/09/93	02/25/93	06/17/93	06/26/93	08/20/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	99.46	104.2	105.9	108.7	81.2	87.8	.	88.9
Water Temp (degrees C)	13.7	14.7	17.5	16	11.3	16.2	.	16.2
pH (pH units)	7.1	7.1	7.3	7.4	7.6	7.7	.	7.6
Sp. Cond. (umho/cm)	497	401	480	446	568	596	.	637
Dissolved Oxygen (ppm)	7.1	4.9	5.2	5.6	4.6	0.5	.	0.4
Oxidation/Reduction (mV)	132	182	89	49	-169	-105	.	-101
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	.	.	.	.	.	.	.
Cyanide (mg/L)	.	.	.	.	.	.	.	.
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	7.9	7.6	7.6	7.5	7.9	8.2	.	7.9
pH, 2 (pH units)	.	.	.	.	7.9	8.1	.	.
pH, 3 (pH units)	.	.	.	.	7.9	8.1	.	.
pH, 4 (pH units)	.	.	.	.	7.9	8.1	.	.
Sp. Cond. (umho/cm)	499	494	510	511	655	627	.	647
Sp. Cond., 2 (umho/cm)	.	.	.	.	653	623	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	655	628	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	653	635	.	.
TOC (mg/L)	.	.	.	.	<1	3	.	<1
TOC, 2 (mg/L)	.	.	.	.	<1	2	.	<1
TOC, 3 (mg/L)	.	.	.	.	<1	2	.	<1
TOC, 4 (mg/L)	.	.	.	.	<1	3	.	<1
TOX (ug/L)	.	.	.	.	<10	<10	.	<10
TOX, 2 (ug/L)	.	.	.	.	<10	<10	.	<10
TOX, 3 (ug/L)	.	.	.	.	<10	<10	.	<10
TOX, 4 (ug/L)	.	.	.	.	<10	<10	.	<10
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	246	272	302	344	462	454	.	476
TSS (mg/L)	2	5	1	4	1	<1	.	<1
Turbidity (NTU)	3.6	20	3.8	8.4	5.1	5.4	.	4
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.53	0.00	1.77	-0.16	2.31	1.03	.	-0.59
Gross Alpha (CE+/-)	2.20	2.50	3.60	2.20	1.80	1700.00	.	5.90
Gross Beta (pCi/L)	-8.19	0.17	4.44	0.25	6.17	-4.02	.	-0.66
Gross Beta (CE+/-)	3.20	2.80	5.10	2.80	3.00	2500.00	.	10.00

(CONTINUED)

APPENDIX B.4
Groundwater Quality Data, 1993

20

Sampling Point . Location . Date Sampled	GW-303		GW-304				GW-305	
	CRSDB		CRSDB				LIV	
	08/25/93	12/02/93	02/22/93	06/14/93	08/11/93	11/29/93	01/05/93	04/01/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Depth to Water (ft)	90.15	89.55	116.15	117.6	118.1	118.2	118.3	115.95
Water Temp (degrees C)	16.3	13.6	14	17.3	16.5	13.3	13.2	12.8
pH (pH units)	7.6	7.6	7.9	8.2	7.1	8.3	8	8
Sp. Cond. (umho/cm)	633	632	363	342	398	351	253	307
Dissolved Oxygen (ppm)	1.2	0.1	6.4	9.9	8.7	9.5	5.9	4.9
Oxidation/Reduction (mV)	-145	-118	247	192	208	171	205	129
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
COD (mg/L)	.	.	.	.	.	.	<5	<5
Cyanide (mg/L)	.	.	.	.	.	.	<0.1	<0.1
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	8.1	7.7	8.3	8.2	7.9	8.3	8.1	8.1
pH, 2 (pH units)	8.2	7.8	8.4	8.3	7.9	8.2	.	.
pH, 3 (pH units)	8	7.8	8.3	8.2	7.9	8.3	.	.
pH, 4 (pH units)	8.1	7.8	8.3	8.2	7.9	8.2	.	.
Sp. Cond. (umho/cm)	587	634	387	377	382	381	273	255
Sp. Cond., 2 (umho/cm)	593	634	387	379	379	380	.	.
Sp. Cond., 3 (umho/cm)	565	635	387	378	379	379	.	.
Sp. Cond., 4 (umho/cm)	572	638	388	381	380	378	.	.
TOC (mg/L)	.	3	1.7	5	2	2	<1	1.1
TOC, 2 (mg/L)	.	1	2	4	2.2	3	<1	1.1
TOC, 3 (mg/L)	.	1	2.2	5	1.9	11	<1	1.2
TOC, 4 (mg/L)	.	<1	2.1	4	1.8	1	<1	1.3
TOX (ug/L)	.	<10	<10	<10	12	10	<10	<10
TOX, 2 (ug/L)	.	<10	<10	<10	13	<10	<10	<10
TOX, 3 (ug/L)	.	<10	<10	<10	11	<10	<10	<10
TOX, 4 (ug/L)	.	<10	<10	<10	14	16	<10	<10
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	.	454	216	208	226	228	144	136
TSS (mg/L)	.	<1	49	13	3	75	6	3
Turbidity (NTU)	.	7.5	3.5	6.7	1.8	38	4.9	3
.	.	.	.	.	.	.	.	.
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	.	1.00	1.15	1.55	2.16	2.78	2.42	-0.23
Gross Alpha (CE+/-)	.	1.30	1.40	2.10	1.90	1.70	1.70	2.80
Gross Beta (pCi/L)	.	-0.88	4.01	2.24	-3.74	-1.06	0.43	-0.52
Gross Beta (CE+/-)	.	2.90	2.80	2.80	3.00	2.90	2.70	3.10

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

21

Sampling Point . Location . Date Sampled	GW-305		GW-321				GW-339	
	LIV		ADB				UNCS	
	07/17/93	10/04/93	03/22/93	06/09/93	09/02/93	12/17/93	01/19/93	05/13/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	126.34	128.44	13.97	19.25	23.1	19.75	66.89	72.9
Water Temp (degrees C)	17	16.1	13.8	16.8	16	13.7	12.7	15
pH (pH units)	7.7	8.2	7.8	7.9	8.1	8.2	7.4	7.2
Sp. Cond. (umho/cm)	225	259	230	221	230	256	506	431
Dissolved Oxygen (ppm)	8.1	10.3	5	7.8	9.1	9.2	6.3	9
Oxidation/Reduction (mV)	192	146	194	198	315	134	197	197
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	<5	<5	.	.	.	.	.	.
Cyanide (mg/L)	<0.1	<0.1	.	.	.	.	.	.
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH, 2 (pH units)	8.1	8.2	8	8.2	8	8	7.6	7.6
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	259	256	239	226	237	232	522	515
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	3	<1	2.1	<1	3.1	<1	.	.
TOC, 2 (mg/L)	<1	1	.	.	.	.	.	.
TOC, 3 (mg/L)	<1	<1	.	.	.	.	.	.
TOC, 4 (mg/L)	2	4	.	.	.	.	.	.
TOX (ug/L)	<10	<10	<10	<10	<10	<10	.	.
TOX, 2 (ug/L)	<10	<10	.	.	.	.	.	.
TOX, 3 (ug/L)	<10	<10	.	.	.	.	.	.
TOX, 4 (ug/L)	<10	<10	.	.	.	.	.	.
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	144	100	142	126	138	118	286	292
TSS (mg/L)	7	<1	23	8	18	1	2	2
Turbidity (NTU)	2.9	1	21	5.2	6.9	1	0.8	2.2
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.61	0.59	2.48	-0.85	0.29	3.40	-0.54	0.58
Gross Alpha (CE+/-)	2.70	1.80	1.90	3.30	3.30	1.90	2.10	2.80
Gross Beta (pCi/L)	-7.28	-0.16	2.16	0.49	0.17	1.79	-8.56	1.11
Gross Beta (CE+/-)	6.10	2.60	2.70	5.20	5.50	2.70	3.20	2.90

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

22

Sampling Point	GW-339		GW-511				GW-512	
Location	UNCS		CRSP				ADB	
Date Sampled	07/27/93	10/09/93	01/06/93	06/04/93	09/01/93	12/16/93	03/18/93	06/03/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	79.78	81.1	110.75	102.1	114.15	113.25	17.63	20
Water Temp (degrees C)	18	20.5	13.1	16	16	13.6	13.9	15.6
pH (pH units)	7.4	7.6	7.7	8.2	8.5	8.3	7.2	6.7
Sp. Cond. (umho/cm)	542	509	262	238	281	270	300	282
Dissolved Oxygen (ppm)	4.4	4.6	6.5	7.1	5.6	5.8	7.6	5.4
Oxidation/Reduction (mV)	180	126	245	115	74	140	262	242
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	.	.	.	.	.	.	.
Cyanide (mg/L)	.	.	.	.	.	.	.	.
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	7.6	7.5	8.3	8.4	8.3	8.2	7.8	7.8
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	542	544	282	281	286	274	303	316
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	.	.	.	.	.	.	1.4	1
TOC, 2 (mg/L)	.	.	.	.	.	.	.	.
TOC, 3 (mg/L)	.	.	.	.	.	.	.	.
TOC, 4 (mg/L)	.	.	.	.	.	.	.	.
TOX (ug/L)	.	.	.	.	.	.	<10	<10
TOX, 2 (ug/L)	.	.	.	.	.	.	.	.
TOX, 3 (ug/L)	.	.	.	.	.	.	.	.
TOX, 4 (ug/L)	.	.	.	.	.	.	.	.
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	326	354	152	106	130	148	194	176
TSS (mg/L)	3	2	<1	<1	1	<1	34	8
Turbidity (NTU)	4.8	2.2	0.5	1	2.5	2	132	13
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.29	-0.16	2.22	-4.30	-0.90	0.45	2.68	-5.32
Gross Alpha (CE+/-)	3.40	2.30	1.70	4.00	3.10	1.40	1.70	4.00
Gross Beta (pCi/L)	2.96	1.00	4.23	-6.88	-1.20	3.17	5.62	-5.10
Gross Beta (CE+/-)	5.00	2.80	2.90	5.80	5.40	2.80	3.00	6.00

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

23

Sampling Point	GW-512		GW-513				GW-514	
Location	ADB		ADB				ADB	
Date Sampled	09/01/93	12/15/93	03/16/93	06/02/93	08/31/93	12/15/93	03/20/93	06/05/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	28.01	27.81	18.35	19.95	28.1	26.93	17.3	20.1
Water Temp (degrees C)	15.9	13.6	13.7	16	17.5	13.6	12.7	15.8
pH (pH units)	7.1	7.1	7.7	7.6	7.8	7.7	7.6	7.5
Sp. Cond. (umho/cm)	301	274	298	355	354	315	315	290
Dissolved Oxygen (ppm)	8.2	3.9	5.6	5.3	8.6	5.9	5.7	2.5
Oxidation/Reduction (mV)	295	209	198	205	291	194	227	163
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	.	.	.	.	.	.	.
Cyanide (mg/L)	.	.	.	.	.	.	.	.
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	7.2	7.7	7.7	8.1	7.8	8.1	7.7	8.1
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	306	283	341	317	343	324	350	347
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	1.5	26	<1	2	3.7	<1	4	<1
TOC, 2 (mg/L)	.	.	.	.	.	.	.	.
TOC, 3 (mg/L)	.	.	.	.	.	.	.	.
TOC, 4 (mg/L)	.	.	.	.	.	.	.	.
TOX (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TOX, 2 (ug/L)	.	.	.	.	.	.	.	.
TOX, 3 (ug/L)	.	.	.	.	.	.	.	.
TOX, 4 (ug/L)	.	.	.	.	.	.	.	.
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	198	168	160	170	174	186	192	184
TSS (mg/L)	8	<1	4	2	8	<1	<1	1
Turbidity (NTU)	32	2.6	3	8	6	1	4.1	3.2
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.61	-0.66	1.16	-4.15	0.00	-0.82	0.63	0.00
Gross Alpha (CE+/-)	3.20	1.40	1.40	4.20	3.30	1.30	1.60	3.50
Gross Beta (pCi/L)	-2.06	0.32	0.42	-4.28	3.43	4.98	2.08	-2.14
Gross Beta (CE+/-)	5.40	2.40	2.70	6.00	5.70	2.70	2.70	5.10

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

24

Sampling Point	GW-514		GW-521				GW-522	
Location	ADB		LIV				LIV	
Date Sampled	09/02/93	12/17/93	01/06/93	04/05/93	07/18/93	10/06/93	01/06/93	04/02/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	28.45	27.2	82.83	80.5	85.75	88.87	87.23	86.5
Water Temp (degrees C)	16.1	13.9	13.5	13	16	15.1	13.5	12.5
pH (pH units)	7.8	7.7	7.8	7.8	7.6	7.8	7.3	7.5
Sp. Cond. (umho/cm)	327	355	275	214	278	278	298	223
Dissolved Oxygen (ppm)	8.5	3.5	7.9	7.6	7.6	6.7	7.8	8.3
Oxidation/Reduction (mV)	291	139	184	205	224	193	207	231
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	.	<5	<5	<5	<5	<5	<5
Cyanide (mg/L)	.	.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	7.8	7.9	8.1	8.3	8	7.9	7.9	7.7
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	340	324	285	271	281	296	310	289
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	2.6	<1	<1	2	<1	1	<1	<1
TOC, 2 (mg/L)	.	.	<1	1.5	<1	1	<1	1.1
TOC, 3 (mg/L)	.	.	<1	1.6	<1	1	1.1	<1
TOC, 4 (mg/L)	.	.	<1	1.2	<1	1	<1	<1
TOX (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TOX, 2 (ug/L)	.	.	<10	<10	<10	<10	<10	<10
TOX, 3 (ug/L)	.	.	<10	<10	<10	<10	<10	<10
TOX, 4 (ug/L)	.	.	<10	<10	<10	<10	<10	<10
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	190	184	156	136	156	124	206	160
TSS (mg/L)	1	<1	<1	<1	1	<1	250	18
Turbidity (NTU)	3.1	2.3	5.5	1.5	3.6	1.8	110	12
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-1.88	1.98	0.32	-0.58	-1.85	-2.67	5.69	-0.97
Gross Alpha (CE+/-)	3.10	1.70	1.30	3.40	2.50	2.30	3.70	1.50
Gross Beta (pCi/L)	-1.55	1.72	0.60	5.09	-11.10	-2.05	9.39	-3.34
Gross Beta (CE+/-)	5.40	2.70	2.70	4.90	5.90	2.90	5.90	2.70

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

25

Sampling Point	GW-522		GW-539					GW-540
Location	LIV		LII					CDLVI
Date Sampled	07/18/93	10/05/93	01/06/93	04/01/93	05/28/93	07/19/93	10/04/93	03/12/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	102.45	107.25	101.92	91.28	.	103.7	107.05	69.3
Water Temp (degrees C)	15.8	15.1	12.9	13.1	.	18.5	17.1	13
pH (pH units)	7.5	7.9	8.3	8	.	8.1	7.9	7.8
Sp. Cond. (umho/cm)	256	234	311	291	.	350	352	331
Dissolved Oxygen (ppm)	7.8	7.5	10.8	9.5	.	8.4	7.2	5.4
Oxidation/Reduction (mV)	209	173	127	190	.	131	199	181
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	<5	<5	<5	<5	.	<5	<5	<5
Cyanide (mg/L)	<0.1	<0.1	<0.1	<0.1	.	<0.1	<0.1	<0.1
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	7.8	7.9	8.1	8.1	.	8.2	8.4	7.8
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	252	242	365	357	.	371	364	350
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	3	<1	<1	3	.	1.9	2	1.9
TOC, 2 (mg/L)	2	<1	<1	2.8	.	2	1	2.3
TOC, 3 (mg/L)	2	<1	<1	2.8	.	2.2	1	1.6
TOC, 4 (mg/L)	1	<1	<1	2.6	.	2	1	1.4
TOX (ug/L)	<10	<10	<10	<10	.	<10	<10	<10
TOX, 2 (ug/L)	<10	<10	<10	<10	.	10.9	<10	<10
TOX, 3 (ug/L)	<10	<10	<10	<10	.	<10	<10	<10
TOX, 4 (ug/L)	<10	<10	<10	<10	.	10.8	<10	<10
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	162	104	192	176	.	214	198	178
TSS (mg/L)	71	14	7	420	.	10	17	1
Turbidity (NTU)	54	9	3.5	250	.	18	4.7	1.2
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-2.57	1.18	1.88	2.78	-3.50	0.17	1.66	0.34
Gross Alpha (CE+/-)	2.40	1.90	1.60	4.70	4.40	2.90	2.10	2.10
Gross Beta (pCi/L)	-8.25	0.58	1.55	0.34	1.64	-2.76	1.73	-0.67
Gross Beta (CE+/-)	5.80	2.60	2.80	6.00	5.60	3.20	3.00	2.90

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APPENDIX E.4
Groundwater Quality Data, 1993

26

Sampling Point . Location . Date Sampled	GW-540			GW-541				
	CDLVI			CDLVI				
	05/28/93	08/21/93	11/30/93	.	03/12/93	06/02/93	09/15/93	12/02/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	73.3	79.7	83.29	.	64.8	65.2	65.91	65.95
Water Temp (degrees C)	16.3	16.4	13.6	.	12.3	14.6	15.7	15.1
pH (pH units)	7.9	7.8	7.5	.	7.5	7.7	6.9	8.5
Sp. Cond. (umho/cm)	282	319	323	.	338	288	331	315
Dissolved Oxygen (ppm)	6.6	7.8	4.3	.	5.3	3.1	1.8	1.7
Oxidation/Reduction (mV)	224	145	160	.	147	188	210	169
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	<5	<5	<5	.	<5	<5	<5	<5
Cyanide (mg/L)	<0.1	<0.1	<0.1	.	<0.1	<0.1	<0.1	<0.1
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	7.9	7.9	8.3	.	7.7	8.2	8	7.9
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	337	338	340	.	376	345	337	637
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	2	<1	<1	<1	2	1	.	1
TOC, 2 (mg/L)	3	1	1	<1	2.1	<1	.	<1
TOC, 3 (mg/L)	2	1	1	<1	1.8	3	.	1
TOC, 4 (mg/L)	2	1	35	<1	1.9	<1	.	1
TOX (ug/L)	<10	<10	<10	.	<10	<10	<10	<10
TOX, 2 (ug/L)	<10	<10	<10	.	<10	<10	<10	<10
TOX, 3 (ug/L)	<10	<10	<10	.	<10	<10	<10	<10
TOX, 4 (ug/L)	<10	<10	<10	.	.	<10	<10	<10
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	164	198	182	.	180	180	190	186
TSS (mg/L)	<1	5	2	.	5	2	5	32
Turbidity (NTU)	2.1	1	1.8	.	1.3	1.3	3.5	8
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-2.30	0.00	-0.67	.	0.99	-2.90	2.56	1.82
Gross Alpha (CE+/-)	4.50	4.00	0.94	.	2.20	3.90	2.60	1.60
Gross Beta (pCi/L)	-2.79	-2.14	-4.36	.	0.33	3.94	-7.44	-3.50
Gross Beta (CE+/-)	5.30	5.20	2.60	.	3.00	5.10	5.90	2.70

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

27

Sampling Point . Location . Date Sampled	GW-542				GW-543			
	CDLVI				CDLVI			
	03/16/93	06/02/93	09/15/93	12/03/93	03/16/93	06/02/93	09/16/93	12/04/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	68.38	68.64	70	69.88	63.65	64.35	64.6	61.15
Water Temp (degrees C)	13.3	15.4	17.9	13.5	14.1	16	15.2	13.7
pH (pH units)	7.7	7.5	6.7	6.6	7.6	7.6	7.3	6.4
Sp. Cond. (umho/cm)	259	198	188	190	423	341	431	396
Dissolved Oxygen (ppm)	5.7	5.8	6	6.6	4.3	7.3	7	8.5
Oxidation/Reduction (mV)	170	228	231	223	249	205	201	212
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	<5	<5	<5	<5	<5	<5	<5	<5
Cyanide (mg/L)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	7.6	7.7	7	6.4	7.4	8.1	7.6	7.6
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	280	228	199	121	435	396	419	432
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	<1	1	<1	1	1.2	4	<1	7
TOC, 2 (mg/L)	1.5	2	<1	1	1.9	2	<1	2
TOC, 3 (mg/L)	1.3	<1	<1	1	1.3	3	<1	2
TOC, 4 (mg/L)	1.3	2	<1	1	1.1	2	<1	10
TOX (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TOX, 2 (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TOX, 3 (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TOX, 4 (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	132	124	118	78	222	214	230	230
TSS (mg/L)	1	1	2	3	1	<1	1	2
Turbidity (NTU)	1	1.9	3.1	2.8	4.8	2.3	2.1	3.1
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	1.42	-4.08	0.61	0.46	0.70	-4.30	-0.01	0.16
Gross Alpha (CE+/-)	1.40	3.70	2.00	1.20	1.30	3.90	1.80	1.20
Gross Beta (pCi/L)	2.41	-1.81	-12.30	-3.05	1.94	1.82	-11.10	-3.61
Gross Beta (CE+/-)	2.80	4.70	5.80	2.80	2.80	5.00	5.70	2.70

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

28

Sampling Point . Location . Date Sampled	GW-544				GW-545			
	CDLVI				CDLVI			
	03/16/93	06/02/93	09/16/93	12/06/93	03/17/93	06/02/93	09/16/93	12/03/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	58.35	57.54	64	61.36	59.67	59.47	65.5	66.24
Water Temp (degrees C)	12.3	19.3	16	13.1	12.6	16.1	15.2	13.3
pH (pH units)	8	8	7.5	7.7	10.3	11	10.9	10.3
Sp. Cond. (umho/cm)	420	396	392	404	187	218	311	236
Dissolved Oxygen (ppm)	7.9	8	6.1	8.2	5.6	7.5	8.4	8.2
Oxidation/Reduction (mV)	177	221	213	188	44	39	157	129
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	<5	<5	<5	<5	<5	<5	<5	<5
Cyanide (mg/L)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	.
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	7.9	8.4	7.8	8.2	9.3	10.2	11	10.5
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	454	420	429	437	170	157	322	200
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	1.1	<1	<1	2	1.7	1	<1	<1
TOC, 2 (mg/L)	1.3	<1	<1	<1	1.5	1	<1	<1
TOC, 3 (mg/L)	1.2	<1	<1	1	1.1	1	<1	<1
TOC, 4 (mg/L)	<1	<1	<1	2	1.1	2	<1	<1
TOX (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TOX, 2 (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TOX, 3 (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TOX, 4 (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	214	224	234	266	98	90	166	164
TSS (mg/L)	4	2	1	5	33	88	2290	494
Turbidity (NTU)	4.5	22	1.7	5	9.1	2.3	900	300
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	2.07	-2.16	1.29	0.68	5.27	-1.76	14.40	3.03
Gross Alpha (CE+/-)	1.70	4.20	2.30	1.40	2.10	4.10	5.60	2.00
Gross Beta (pCi/L)	1.53	1.66	-7.85	-1.13	17.70	17.30	17.70	12.10
Gross Beta (CE+/-)	2.80	5.00	5.80	2.80	3.60	5.90	7.10	3.60

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

29

Sampling Point . Location . Date Sampled	GW-546				GW-557			
	CDLVI				LV			
	03/12/93	06/01/93	08/21/93	12/01/93	05/26/93	06/22/93	09/29/93	12/08/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	72.12	73.81	79.5	83.27	111.73	113.25	116.1	118.43
Water Temp (degrees C)	11.4	15.1	19.2	18.6	15.4	16.1	15.4	14
pH (pH units)	7.6	7.7	8	8.3	7.5	7.6	7.6	7.4
Sp. Cond. (umho/cm)	296	213	247	270	254	296	294	288
Dissolved Oxygen (ppm)	4.5	4.3	7.8	6.1	8.1	5.9	7.5	8.8
Oxidation/Reduction (mV)	168	198	131	146	172	200	209	181
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	<5	<5	<5	<5	<5	.	<5	<5
Cyanide (mg/L)	<0.1	<0.1	<0.1	<0.1	<0.1	.	<0.1	<0.1
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	7.8	8.1	8.1	8.3	7.8	.	7.9	7.9
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	311	260	264	259	322	.	912	321
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	<1	2	<1	1	12	.	<1	1
TOC, 2 (mg/L)	<1	2	2	1	13	.	1	1
TOC, 3 (mg/L)	<1	1	3	1	13	.	1	1
TOC, 4 (mg/L)	<1	2	1	2	14	.	<1	1
TOX (ug/L)	<10	<10	<10	<10	<10	.	<10	<10
TOX, 2 (ug/L)	<10	<10	<10	<10	<10	.	<10	<10
TOX, 3 (ug/L)	<10	<10	<10	<10	<10	.	<10	<10
TOX, 4 (ug/L)	<10	<10	<10	<10	<10	.	<10	<10
TPH (mg/L)	.	.	.	.	<0.1	.	.	.
TDS (mg/L)	158	138	170	144	170	.	180	196
TSS (mg/L)	<1	1	68	187	11	.	2	5
Turbidity (NTU)	1.1	2.1	20	48	7.8	.	1.6	5
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.32	-2.29	3.45	4.70	-4.68	.	0.59	0.33
Gross Alpha (CE+/-)	1.90	4.40	4.70	2.50	3.20	.	1.90	1.40
Gross Beta (pCi/L)	-0.42	-0.82	1.33	1.15	-2.22	.	-1.56	-2.17
Gross Beta (CE+/-)	2.90	5.40	5.50	2.90	5.30	.	2.80	3.00

(CONTINUED)

APPENDIX H.4
Groundwater Quality Data, 1993

30

Sampling Point . Location . Date Sampled	GW-560				GW-562			
	CDLVII				CDLVII			
	05/26/93	06/22/93	08/28/93	12/02/93	05/26/93	06/22/93	08/28/93	12/02/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	24.04	25.75	29.5	34.4	0	0	3.6	7.55
Water Temp (degrees C)	15.6	15.1	16	13.1	14.5	15.7	16.5	13.7
pH (pH units)	7.3	7.7	7.2	7.6	7.4	7.6	7.3	7.7
Sp. Cond. (umho/cm)	239	242	265	261	268	295	312	309
Dissolved Oxygen (ppm)	7.3	5.9	6.5	8.7	7	5.9	5.8	7.9
Oxidation/Reduction (mV)	204	164	188	194	149	154	191	209
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	<5	.	<5	<5	<5	.	<5	<5
Cyanide (mg/L)	<0.1	.	<0.1	<0.1	<0.1	.	<0.1	<0.1
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	7.7	.	7.9	8.2	7.8	.	7.9	7.9
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	273	.	282	273	329	.	335	235
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	1.3	.	<1	1	<1	.	2.2	1
TOC, 2 (mg/L)	<1	.	1	1	<1	.	1.2	1
TOC, 3 (mg/L)	<1	.	<1	28	<1	.	2	<1
TOC, 4 (mg/L)	<1	.	1.2	<1	<1	.	1.3	1
TOX (ug/L)	<10	.	<10	<10	<10	.	<10	<10
TOX, 2 (ug/L)	<10	.	<10	<10	<10	.	<10	<10
TOX, 3 (ug/L)	<10	.	<10	<10	<10	.	<10	<10
TOX, 4 (ug/L)	<10	.	<10	<10	<10	.	<10	<10
TPH (mg/L)	<0.1	.	<0.1	<0.1	<0.1	.	<0.1	<0.1
TDS (mg/L)	142	.	168	158	238	.	196	190
TSS (mg/L)	1	.	1	<1	40	.	9	17
Turbidity (NTU)	1.3	.	1.5	0.9	95	.	15	16
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-4.04	.	-2.68	-0.17	-0.58	.	-3.83	0.32
Gross Alpha (CE+/-)	3.30	.	3.60	1.10	3.80	.	3.40	1.20
Gross Beta (pCi/L)	-3.57	.	0.33	-0.90	-0.68	.	1.15	-3.27
Gross Beta (CE+/-)	5.20	.	5.40	2.80	5.40	.	5.40	2.70

(CONTINUED)

APPENDIX B.4
Groundwater Quality Data, 1993

31

Sampling Point	GW-564				GW-607	GW-608		
Location	CDLVII				CRSP	CRSP		
Date Sampled	05/26/93	06/22/93	08/29/93	12/08/93	01/06/93	03/28/93	06/15/93	09/07/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	7.73	8.79	10.62	11.1	101.25	105.76	132.55	137.8
Water Temp (degrees C)	16.1	15.8	15.9	14.7	13.6	14.5	17.2	17.2
pH (pH units)	7.6	7.3	7.1	7.1	7.6	7.7	7.7	7.5
Sp. Cond. (umho/cm)	244	237	272	248	259	276	248	277
Dissolved Oxygen (ppm)	6.7	6	7.3	8.8	6.6	6.6	8.2	7
Oxidation/Reduction (mV)	216	230	203	204	241	241	215	149
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	<5	.	<5	<5	.	.	.	.
Cyanide (mg/L)	<0.1	.	<0.1	<0.1	.	.	.	.
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	7.6	.	7.8	7.7	7.8	8.2	8.2	7.9
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	269	.	282	268	272	273	275	278
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	1.3	.	<1	<1	.	.	.	.
TOC, 2 (mg/L)	1.4	.	1.4	<1	.	.	.	.
TOC, 3 (mg/L)	1.1	.	<1	<1	.	.	.	.
TOC, 4 (mg/L)	1.2	.	<1	<1	.	.	.	.
TOX (ug/L)	<10	.	<10	<10	.	.	.	.
TOX, 2 (ug/L)	<10	.	<10	<10	.	.	.	.
TOX, 3 (ug/L)	<10	.	<10	<10	.	.	.	.
TOX, 4 (ug/L)	<10	.	<10	<10	.	.	.	.
TPH (mg/L)	<0.1	.	<0.1	<0.1	.	.	.	.
TDS (mg/L)	144	.	160	184	144	154	140	152
TSS (mg/L)	1	.	<1	2	<1	1	3	<1
Turbidity (NTU)	2.4	.	0.9	1.2	1.4	2.1	2.4	2.5
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-2.88	.	-1.75	1.16	0.92	1.70	-0.01	0.30
Gross Alpha (CE+/-)	3.50	.	3.70	1.50	1.40	1.80	1500.00	3.30
Gross Beta (pCi/L)	-1.19	.	-2.14	-4.05	3.69	1.16	-3.88	1.54
Gross Beta (CE+/-)	5.40	.	5.20	2.90	2.90	2.60	2600.00	5.60

(CONTINUED)

APPENDIX B.4
Groundwater Quality Data, 1993

32

Sampling Point	GW-608	GW-609				GW-610		
Location	CRSP	CRSP				CRSP		
Date Sampled	12/18/93	03/28/93	06/16/93	09/24/93	12/19/93	03/25/93	06/13/93	09/02/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	134.5	157.3	168.65	172.95	168.45	76.75	85.95	90.73
Water Temp (degrees C)	13.6	14.1	16.1	15.8	14.2	14.8	16.4	15.8
pH (pH units)	7.8	7.6	7.6	7.7	7.9	7.6	7.5	7
Sp. Cond. (umho/cm)	266	360	337	373	361	406	398	372
Dissolved Oxygen (ppm)	8.6	5.7	6	8.1	5.6	5.3	5.6	5.9
Oxidation/Reduction (mV)	189	161	175	244	206	156	262	186
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	.	.	.	.	.	.	.
Cyanide (mg/L)	.	.	.	.	.	.	.	.
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	8	8.1	8.1	7.5	7.9	7.8	8.2	7.6
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	275	352	358	375	350	413	398	385
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	.	.	.	.	.	.	.	.
TOC, 2 (mg/L)	.	.	.	.	.	.	.	.
TOC, 3 (mg/L)	.	.	.	.	.	.	.	.
TOC, 4 (mg/L)	.	.	.	.	.	.	.	.
TOX (ug/L)	.	.	.	.	.	.	.	.
TOX, 2 (ug/L)	.	.	.	.	.	.	.	.
TOX, 3 (ug/L)	.	.	.	.	.	.	.	.
TOX, 4 (ug/L)	.	.	.	.	.	.	.	.
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	136	200	188	198	194	236	218	218
TSS (mg/L)	1	2	<1	<1	2	<1	<1	137
Turbidity (NTU)	1.6	1.1	0.7	3.3	1	1	1.3	32
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.75	1.64	-1.98	0.60	-1.38	3.26	4.82	-3.83
Gross Alpha (CE+/-)	1.80	1.90	1400.00	1.80	1.80	2.20	4.00	3.00
Gross Beta (pCi/L)	-0.68	3.18	-4.57	1.65	0.34	3.95	2.64	-0.17
Gross Beta (CE+/-)	2.80	2.80	2500.00	2.70	2.90	2.80	5.40	5.60

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

33

Sampling Point	GW-610	GW-611				GW-709		
Location	CRSP	CRSP				LII		
Date Sampled	12/17/93	03/27/93	06/15/93	09/11/93	12/19/93	01/07/93	04/02/93	07/20/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	82	97	103.95	109.17	102.1	28.73	28.5	29.6
Water Temp (degrees C)	13.3	13.5	16.1	15.6	11.3	13.7	10.1	16.5
pH (pH units)	7.1	7.3	7.3	7	6.9	8.4	9.3	8.2
Sp. Cond. (umho/cm)	367	620	464	472	471	289	264	332
Dissolved Oxygen (ppm)	6.3	9	10.3	8.4	9.2	10	8.1	11.3
Oxidation/Reduction (mV)	216	215	248	559	217	155	191	130
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	.	.	.	.	<5	<5	<5
Cyanide (mg/L)	.	.	.	.	.	<0.1	<0.1	<0.1
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH, 2 (pH units)	7.8	7.8	7.9	7.7	7.6	8.1	7.9	8.2
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	378	541	520	487	511	332	330	320
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	.	.	.	.	.	1.3	<1	2.3
TOC, 2 (mg/L)	.	.	.	.	.	1.1	1.3	1.9
TOC, 3 (mg/L)	.	.	.	.	.	<1	<1	2.1
TOC, 4 (mg/L)	.	.	.	.	.	<1	<1	1.6
TOX (ug/L)	.	.	.	.	.	<10	<10	<10
TOX, 2 (ug/L)	.	.	.	.	.	<10	<10	<10
TOX, 3 (ug/L)	.	.	.	.	.	<10	<10	10.3
TOX, 4 (ug/L)	.	.	.	.	.	<10	<10	10.1
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	206	294	288	288	264	172	190	180
TSS (mg/L)	<1	13	15	5	29	6	6	2
Turbidity (NTU)	2.8	18	5.9	4.2	2900	3.4	11	1.8
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.62	1.48	1.03	0.00	-0.48	0.00	-0.33	-1.61
Gross Alpha (CE+/-)	1.90	2.00	2.20	1.60	2.00	1.60	2.00	2.60
Gross Beta (pCi/L)	-0.17	3.31	1.18	2.25	-0.52	-0.86	-0.59	-13.40
Gross Beta (CE+/-)	2.90	2.80	2.70	2.80	2.90	2.60	2.90	5.60

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

34

Sampling Point	GW-709	GW-731					GW-732		
Location	LII	CRSDB					CRSDB		
Date Sampled	10/05/93	02/23/93	06/15/93	08/11/93	11/29/93	02/23/93	06/15/93	08/12/93	
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.	.
Depth to Water (ft)	29.7	123.62	124.2	124.6	125.1	150.4	156.6	157.35	
Water Temp (degrees C)	14	9.3	15.7	17.5	13.2	12.7	14.6	15.2	
pH (pH units)	7.8	8.6	7.9	8.3	9	7.4	8	8.2	
Sp. Cond. (umho/cm)	292	215	243	246	229	260	249	267	
Dissolved Oxygen (ppm)	5.6	7.2	5.1	4.5	4.5	7.1	6.4	6.5	
Oxidation/Reduction (mV)	184	189	211	105	140	242	189	212	
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.	.
COD (mg/L)	<5	.	.	.	.	.	.	.	.
Cyanide (mg/L)	<0.1	.	.	.	.	.	.	.	.
Phenols (mg/L)	.	.	.	.	.	.	.	.	.
pH (pH units)	8	8.7	8.5	8.3	8.6	7.7	8.4	8.3	
pH, 2 (pH units)	.	8.6	8.5	8.3	8.6	7.6	8.5	8.3	
pH, 3 (pH units)	.	8.5	8.5	8.3	8.6	7.6	8.5	8.4	
pH, 4 (pH units)	.	8.7	8.4	8.3	8.6	7.6	8.4	8.3	
Sp. Cond. (umho/cm)	314	234	230	254	246	283	287	278	
Sp. Cond., 2 (umho/cm)	.	247	234	252	245	284	280	278	
Sp. Cond., 3 (umho/cm)	.	250	233	254	245	284	280	279	
Sp. Cond., 4 (umho/cm)	.	232	231	253	246	285	286	278	
TOC (mg/L)	<1	<1	2	1.3	<1	<1	2	<1	
TOC, 2 (mg/L)	<1	<1	1	1.3	1	<1	2	<1	
TOC, 3 (mg/L)	1	<1	2	1.4	<1	<1	3	<1	
TOC, 4 (mg/L)	<1	<1	4	1.1	1	<1	1	<1	
TOX (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10	
TOX, 2 (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10	
TOX, 3 (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10	
TOX, 4 (ug/L)	<10	<10	<10	11	<10	<10	<10	<10	
TPH (mg/L)	.	.	.	.	.	.	.	.	
TDS (mg/L)	140	144	158	192	156	148	192	184	
TSS (mg/L)	1	182	375	79	5	21	228	323	
Turbidity (NTU)	0.9	34	370	54	5.2	7.4	360	60	
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.00	18.80	6.85	1.70	1.47	3.49	15.10	11.00	
Gross Alpha (CE+/-)	1.70	5.70	2200.00	1.70	1.30	1.80	2700.00	3.50	
Gross Beta (pCi/L)	-0.41	21.80	5.49	-2.74	-1.15	5.24	21.20	7.25	
Gross Beta (CE+/-)	2.60	6.40	2700.00	3.10	3.00	2.90	3200.00	3.60	

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

35

Sampling Point	GW-732	GW-742				GW-743		
Location	CRSDB	CRSP				CRSP		
Date Sampled	11/30/93	01/13/93	06/11/93	09/09/93	12/18/93	01/13/93	06/13/93	09/10/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	157.73	127.35	125.25	136.36	131.2	125.09	120.45	133.1
Water Temp (degrees C)	13.6	14	17.2	16.8	13.2	14	15.6	15.3
pH (pH units)	8.5	7.8	7.4	6.9	7.9	7.9	7.4	8.7
Sp. Cond. (umho/cm)	267	388	298	336	310	413	243	264
Dissolved Oxygen (ppm)	6.8	6.7	5.9	0.3	10.1	7.7	7.9	7.2
Oxidation/Reduction (mV)	154	204	183	-59	80	201	229	190
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	.	.	.	.	.	.	.
Cyanide (mg/L)	.	.	.	.	.	.	.	.
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	8.6	7.9	7.9	7.9	8	7.8	8.2	7.8
pH, 2 (pH units)	8.7	.	.	.	.	.	.	.
pH, 3 (pH units)	8.6	.	.	.	.	.	.	.
pH, 4 (pH units)	8.6	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	270	340	335	330	329	290	261	296
Sp. Cond., 2 (umho/cm)	270	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	272	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	271	.	.	.	.	.	.	.
TOC (mg/L)	<1	.	.	.	.	.	.	.
TOC, 2 (mg/L)	<1	.	.	.	.	.	.	.
TOC, 3 (mg/L)	6	.	.	.	.	.	.	.
TOC, 4 (mg/L)	<1	.	.	.	.	.	.	.
TOX (ug/L)	<10	.	.	.	.	.	.	.
TOX, 2 (ug/L)	<10	.	.	.	.	.	.	.
TOX, 3 (ug/L)	<10	.	.	.	.	.	.	.
TOX, 4 (ug/L)	<10	.	.	.	.	.	.	.
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	202	174	192	170	190	142	142	162
TSS (mg/L)	588	5	2	11	9	<1	<1	<1
Turbidity (NTU)	22	2.6	1.2	12	6	1.8	1.5	2
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	19.30	1.55	1.72	4.46	7.15	-0.90	1.14	0.61
Gross Alpha (CE+/-)	4.30	2.10	3.40	2.20	2.90	1.70	3.20	1.60
Gross Beta (pCi/L)	13.80	4.56	-0.33	2.41	2.93	2.56	-2.13	2.75
Gross Beta (CE+/-)	3.90	2.70	5.20	2.80	3.10	2.60	5.00	2.80

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

36

Sampling Point	GW-743	GW-757				GW-796		
Location	CRSP	LII				LV		
Date Sampled	12/16/93	01/07/93	04/05/93	07/20/93	10/05/93	05/27/93	06/24/93	08/30/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	130.85	82.81	83.93	84.43	84.6	65.15	71.57	81.23
Water Temp (degrees C)	13.4	13.2	13	18.2	16.5	15.9	16.3	16.6
pH (pH units)	7.5	7.9	8.2	8.5	7.9	9.3	8.8	8.2
Sp. Cond. (umho/cm)	280	289	242	336	289	147	162	211
Dissolved Oxygen (ppm)	8.1	7.8	8.6	10.2	4.5	11.8	8.1	8.7
Oxidation/Reduction (mV)	198	120	160	86	205	153	177	262
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	<5	<5	<5	<5	<5	.	<5
Cyanide (mg/L)	.	<0.1	<0.1	<0.1	<0.1	<0.1	.	<0.1
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	7.8	8	8.4	8.3	8.2	9	.	8.2
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	283	322	306	316	305	180	.	215
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	.	<1	1.3	16	<1	3	.	1.7
TOC, 2 (mg/L)	.	<1	1.4	19	5	2	.	1.8
TOC, 3 (mg/L)	.	<1	1.2	13	<1	1	.	1.3
TOC, 4 (mg/L)	.	<1	1.1	16	<1	1	.	1.6
TOX (ug/L)	.	<10	<10	<10	<10	<10	.	<10
TOX, 2 (ug/L)	.	<10	<10	<10	<10	<10	.	<10
TOX, 3 (ug/L)	.	<10	<10	<10	<10	<10	.	<10
TOX, 4 (ug/L)	.	<10	<10	12.9	<10	<10	.	<10
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	144	164	158	196	142	78	.	134
TSS (mg/L)	2	7	6	10	6	2	.	<1
Turbidity (NTU)	2.5	4	3.6	15	5	3.2	.	2
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.45	4.08	2.30	0.30	3.61	1.43	.	-5.12
Gross Alpha (CE+/-)	1.40	2.40	3.80	3.00	2.20	4.10	.	2.10
Gross Beta (pCi/L)	1.20	4.59	5.24	-5.18	2.23	-0.34	.	-1.61
Gross Beta (CE+/-)	2.70	3.00	4.90	6.00	2.70	5.40	.	2.50

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

37

Sampling Point	GW-796	GW-797				GW-798		
Location	LV	LV				CDLVII		
Date Sampled	12/16/93	05/27/93	06/24/93	08/29/93	12/16/93	06/23/93	08/29/93	12/09/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	81.35	55.6	58.34	63.1	64.45	62.42	75.3	71.45
Water Temp (degrees C)	13.7	17.1	16.8	18.8	13.2	17	16.7	14.3
pH (pH units)	7.9	9	7.5	7.8	7.7	7.8	7.6	7.9
Sp. Cond. (umho/cm)	218	283	251	290	298	228	254	233
Dissolved Oxygen (ppm)	9.5	10.5	8.3	9.1	9.7	8.3	6.9	8.6
Oxidation/Reduction (mV)	179	160	151	273	172	177	191	144
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	<5	<5	.	<5	<5	<5	<5	<5
Cyanide (mg/L)	<0.1	<0.1	.	<0.1	<0.1	<0.1	<0.1	<0.1
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	8.2	9.1	.	8.1	8	7.9	8.1	8
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	214	301	.	298	287	239	253	263
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	<1	2	.	1.3	4	2	<1	<1
TOC, 2 (mg/L)	<1	1	.	1.4	<1	2	<1	<1
TOC, 3 (mg/L)	<1	2	.	1.6	<1	2	<1	<1
TOC, 4 (mg/L)	<1	1	.	1.3	<1	1	<1	4
TOX (ug/L)	<10	<10	.	<10	<10	<10	<10	<10
TOX, 2 (ug/L)	<10	<10	.	<10	<10	<10	<10	<10
TOX, 3 (ug/L)	<10	<10	.	<10	<10	<10	<10	<10
TOX, 4 (ug/L)	<10	<10	.	<10	<10	<10	<10	<10
TPH (mg/L)	.	.	.	.	.	0.007	<0.1	<0.1
TDS (mg/L)	116	152	.	164	152	170	150	166
TSS (mg/L)	<1	104	.	<1	4	2	<1	3
Turbidity (NTU)	1.8	58	.	1.5	2.7	2	1.2	1.4
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.33	-1.50	.	-2.62	-0.50	0.59	-1.43	0.50
Gross Alpha (CE+/-)	1.10	3.80	.	3.50	1.10	1.70	3.70	1.40
Gross Beta (pCi/L)	-5.34	-2.74	.	0.49	-4.64	2.14	1.64	-5.98
Gross Beta (CE+/-)	2.90	5.30	.	5.40	2.90	2.80	5.40	2.90

(CONTINUED)

APPENDIX E.4
Groundwater Quality Data, 1993

38

Sampling Point . Location . Date Sampled	GW-799				GW-801		
	CDLVII				LV		
	05/27/93	06/23/93	08/29/93	12/09/93	07/24/93	08/30/93	12/16/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.
Depth to Water (ft)	2	3.25	9.72	10.5	99.1	102.53	103.87
Water Temp (degrees C)	15.5	16.6	16.3	13.9	17.5	16.2	12.8
pH (pH units)	8	7.7	7.8	7.5	8.4	8.2	7.8
Sp. Cond. (umho/cm)	213	227	249	241	280	271	281
Dissolved Oxygen (ppm)	11	8	9.3	9.4	8.4	8.5	8.5
Oxidation/Reduction (mV)	202	184	283	158	29	281	193
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.
COD (mg/L)	<5	.	<5	<5	<5	<5	<5
Cyanide (mg/L)	<0.1	.	<0.1	<0.1	<0.1	<0.1	<0.1
Phenols (mg/L)	.	.	.	.	.	.	.
pH (pH units)	8.1	.	7.9	7.9	8.2	8.1	8.1
pH, 2 (pH units)	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	255	.	256	260	283	277	270
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.
TOC (mg/L)	1	.	<1	<1	12	1.7	<1
TOC, 2 (mg/L)	<1	.	<1	<1	10	1.7	<1
TOC, 3 (mg/L)	<1	.	<1	<1	9	1.4	4
TOC, 4 (mg/L)	<1	.	<1	<1	6	1.2	<1
TOX (ug/L)	<10	.	<10	<10	<10	<10	<10
TOX, 2 (ug/L)	<10	.	<10	<10	<10	<10	<10
TOX, 3 (ug/L)	<10	.	<10	<10	<10	<10	<10
TOX, 4 (ug/L)	<10	.	<10	<10	<10	<10	<10
TPH (mg/L)	.	.	.	.	.	.	.
TDS (mg/L)	146	.	156	172	164	158	150
TSS (mg/L)	24	.	<1	3	1	3	<1
Turbidity (NTU)	50	.	2.7	3.5	2.5	3.4	4
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.86	.	-0.87	0.16	0.15	-1.27	0.50
Gross Alpha (CE+/-)	3.80	.	3.80	1.30	2.60	2.60	1.40
Gross Beta (pCi/L)	4.59	.	-1.48	-5.13	-0.16	0.85	-3.23
Gross Beta (CE+/-)	5.70	.	5.20	2.90	3.30	2.60	3.00

APPENDIX E.5
RADIONUCLIDES

APPENDIX E.5
Groundwater Quality Data, 1993

1

Sampling Point . Location . Date Sampled	1090				GW-203			
	UNCS				UNCS			
	01/20/93	05/13/93	07/27/93	10/10/93	01/18/93	05/11/93	07/26/93	10/07/93
Gross Alpha (pCi/L)	0.72	-0.59	3.53	1.63	20.10	-0.92	2.79	1.49
Gross Alpha (CE+/-)	2.30	2.60	3.90	2.50	5.50	0.95	8.60	2.30
Gross Beta (pCi/L)	-4.31	1.03	5.10	-0.67	27.20	1.67	-8.15	2.64
Gross Beta (CE+/-)	3.40	2.90	5.10	2.70	6.80	1.30	11.00	2.90
RADIONUCLIDES	.	.	.	.	.	.	.	.
Cesium 137 (pCi/l)	.	.	.	35.30	.	.	.	.
Cesium 137 (CE +/-)	.	.	.	28.00	.	.	.	.
Neptunium 237 (pCi/L)	.	.	.	.	.	.	.	.
Neptunium 237 (CE+/-)	.	.	.	.	.	.	.	.
Potassium 40 (pCi/L)	.	.	.	.	.	.	.	.
Potassium 40 (CE+/-)	.	.	.	.	.	.	.	.
Protactinium (pCi/L)	.	.	.	.	.	.	6480.00	.
Protactinium (CE+/-)	.	.	.	.	.	.	4900.00	.
Radium (Bq/L)	0.07	0.08	0.05	0.04	0.15	0.08	0.05	0.05
Radium (CE+/-)	0.04	0.05	0.04	0.04	0.07	0.06	0.04	0.04
Ruthenium 106 (pCi/L)	.	.	.	.	.	.	.	.
Ruthenium 106 (CE +/-)	.	.	.	.	.	.	.	.
Strontium (pCi/L)	.	.	.	.	.	.	.	.
Strontium (CE+/-)	.	.	.	.	.	.	.	.
Technetium 99 (pCi/L)	.	.	.	.	.	.	.	.
Technetium 99 (CE+/-)	.	.	.	.	.	.	.	.
Thorium 234 (pCi/l)	.	.	.	.	.	.	.	.
Thorium 234 (CE +/-)	.	.	.	.	.	.	.	.
Thorium 228 (pCi/l)	.	.	.	.	.	.	.	.
Thorium 228 (CE +/-)	.	.	.	.	.	.	.	.
Tritium (Bq/L)	.	.	.	.	.	.	.	.
Tritium (CE+/-)	.	.	.	.	.	.	.	.
Uranium 234 (pCi/L)	0.00	22.60	10.40	49.60	-4.17	13.00	50.40	124.00
Uranium 234 (CE+/-)	15.00	20.00	21.00	47.00	17.00	18.00	36.00	250.00
Uranium 235 (pCi/L)	21.20	8.11	31.00	12.80	40.50	39.10	60.10	-15.50
Uranium 235 (CE+/-)	99.00	90.00	92.00	59.00	110.00	90.00	71.00	68.00
Uranium 238 (pCi/L)	0.00	4.51	10.40	24.80	0.00	0.00	12.60	124.00
Uranium 238 (CE+/-)	15.00	9.00	15.00	29.00	14.00	23.00	36.00	180.00

(CONTINUED)

APPENDIX E.5
Groundwater Quality Data, 1993

2

Sampling Point . Location . Date Sampled	GW-205				GW-221			
	UNCS				UNCS			
	01/18/93	05/11/93	07/26/93	10/07/93	01/19/93	05/12/93	07/27/93	10/09/93
Gross Alpha (pCi/L)	4.08	-0.02	1.11	0.75	-1.42	-0.89	1.15	-0.15
Gross Alpha (CE+/-)	1.90	1.80	8.30	2.20	1.60	1.90	3.50	2.00
Gross Beta (pCi/L)	16.80	6.02	-1.63	0.00	-6.82	-0.25	2.79	-0.08
Gross Beta (CE+/-)	3.50	2.80	11.00	2.70	3.20	2.70	4.90	2.70
RADIONUCLIDES	.	.	.	.	.	.	.	.
Cesium 137 (pCi/l)	.	.	37.10	.	.	.	.	.
Cesium 137 (CE +/-)	.	.	31.00	.	.	.	.	.
Neptunium 237 (pCi/L)	.	.	.	.	.	.	.	.
Neptunium 237 (CE+/-)	.	.	.	.	.	.	.	.
Potassium 40 (pCi/L)	.	.	.	.	.	.	.	.
Potassium 40 (CE+/-)	.	.	.	.	.	.	.	.
Protactinium (pCi/L)	.	.	.	.	.	.	.	.
Protactinium (CE+/-)	.	.	.	.	.	.	.	.
Radium (Bq/L)	0.05	0.08	0.06	0.08	0.41	0.08	0.05	0.05
Radium (CE+/-)	0.04	0.06	0.04	0.05	0.10	0.06	0.04	0.04
Ruthenium 106 (pCi/L)	.	.	.	.	.	.	.	138.00
Ruthenium 106 (CE +/-)	.	.	.	.	.	.	.	340.00
Strontium (pCi/L)	.	.	.	.	.	.	.	.
Strontium (CE+/-)	.	.	.	.	.	.	.	.
Technetium 99 (pCi/L)	.	.	.	.	.	.	.	.
Technetium 99 (CE+/-)	.	.	.	.	.	.	.	.
Thorium 234 (pCi/l)	.	.	743.00	.	.	.	379.00	.
Thorium 234 (CE +/-)	.	.	560.00	.	.	.	660.00	.
Thorium 228 (pCi/l)	.	.	.	.	.	.	.	.
Thorium 228 (CE +/-)	.	.	.	.	.	.	.	.
Tritium (Bq/L)	.	.	.	.	.	.	.	.
Tritium (CE+/-)	.	.	.	.	.	.	.	.
Uranium 234 (pCi/L)	9.12	33.30	24.40	26.80	0.00	0.00	14.00	35.40
Uranium 234 (CE+/-)	18.00	30.00	22.00	28.00	14.00	18.00	28.00	33.00
Uranium 235 (pCi/L)	15.30	-11.40	14.30	48.90	104.00	-5.69	3.10	-18.70
Uranium 235 (CE+/-)	130.00	65.00	71.00	23.00	99.00	83.00	90.00	68.00
Uranium 238 (pCi/L)	4.56	46.60	-9.77	0.00	0.00	5.19	28.00	35.40
Uranium 238 (CE+/-)	9.10	35.00	20.00	19.00	14.00	10.00	28.00	29.00

(CONTINUED)

APPENDIX E.5
Groundwater Quality Data, 1993

3

Sampling Point . Location . Date Sampled	GW-295				GW-302			
	LIII				UNCS			
	02/11/93	06/05/93	08/12/93	11/13/93	01/20/93	05/13/93	07/27/93	10/09/93
Gross Alpha (pCi/L)	5.88	0.57	54.90	110.00	0.53	0.00	1.77	-0.16
Gross Alpha (CE+/-)	2.40	6.30	13.00	57.00	2.20	2.50	3.60	2.20
Gross Beta (pCi/L)	17.00	10.10	124.00	78.50	-8.19	0.17	4.44	0.25
Gross Beta (CE+/-)	3.60	10.00	16.00	63.00	3.20	2.80	5.10	2.80
RADIONUCLIDES	.	.	.	.	.	.	.	.
Cesium 137 (pCi/l)	.	-23.20	33.70	.	.	.	.	46.30
Cesium 137 (CE +/-)	.	43.00	29.00	.	.	.	.	42.00
Neptunium 237 (pCi/L)	.	.	.	.	.	.	.	.
Neptunium 237 (CE+/-)	.	.	.	.	.	.	.	.
Potassium 40 (pCi/L)	.	.	.	.	.	.	.	.
Potassium 40 (CE+/-)	.	.	.	.	.	.	.	.
Protactinium (pCi/L)	.	4410.00	.	.	.	.	.	.
Protactinium (CE+/-)	.	7500.00	.	.	.	.	.	.
Radium (Bq/L)	.	.	.	.	0.06	0.05	0.01	0.03
Radium (CE+/-)	.	.	.	.	0.04	0.05	0.03	0.04
Ruthenium 106 (pCi/L)	.	.	.	.	.	.	.	.
Ruthenium 106 (CE +/-)	.	.	.	.	.	.	.	.
Strontium (pCi/L)	-16.20	-15.30	-14.40	90.20	.	.	.	.
Strontium (CE+/-)	19.00	18.00	23.00	27.00	.	.	.	.
Technetium 99 (pCi/L)	-564.00	5.13	11.40	89.20	.	.	.	.
Technetium 99 (CE+/-)	1300.00	3400.00	58.00	61.00	.	.	.	.
Thorium 234 (pCi/l)	.	1070.00	282.00	.	.	.	.	.
Thorium 234 (CE +/-)	.	330.00	540.00	.	.	.	.	.
Thorium 228 (pCi/l)	.	.	1060.00	14.30	.	.	.	.
Thorium 228 (CE +/-)	.	.	1500.00	11.00	.	.	.	.
Tritium (Bq/L)	-7.00	-3.00	-3.00	.	.	.	.	.
Tritium (CE+/-)	23.00	19.00	22.00	.	.	.	.	.
Uranium 234 (pCi/L)	0.46	11.80	5.17	9.45	4.34	15.20	10.80	61.30
Uranium 234 (CE+/-)	0.91	17.00	27.00	2.70	8.70	21.00	22.00	38.00
Uranium 235 (pCi/L)	8.30	2.66	26.70	0.05	-22.50	-13.60	-4.65	50.60
Uranium 235 (CE+/-)	58.00	90.00	71.00	0.60	88.00	71.00	89.00	90.00
Uranium 238 (pCi/L)	0.00	5.88	0.00	3.92	0.00	7.58	5.40	5.11
Uranium 238 (CE+/-)	1.30	12.00	18.00	1.70	15.00	15.00	11.00	10.00

(CONTINUED)

APPENDIX E.5
Groundwater Quality Data, 1993

4

Sampling Point . Location . Date Sampled	GW-339				GW-539			GW-540
	UNCS				LII			CDLVI
	01/19/93	05/13/93	07/27/93	10/09/93	05/28/93	07/19/93	10/04/93	05/28/93
Gross Alpha (pCi/L)	-0.54	0.58	0.29	-0.16	-3.50	0.17	1.66	-2.30
Gross Alpha (CE+/-)	2.10	2.80	3.40	2.30	4.40	2.90	2.10	4.50
Gross Beta (pCi/L)	-8.56	1.11	2.96	1.00	1.64	-2.76	1.73	-2.79
Gross Beta (CE+/-)	3.20	2.90	5.00	2.80	5.60	3.20	3.00	5.30
RADIOISOTOPES	.	.	.	.	.	.	.	.
Cesium 137 (pCi/l)	.	.	.	.	.	-3.46	-34.50	2.84
Cesium 137 (CE +/-)	.	.	.	.	.	31.00	88.70	46.00
Neptunium 237 (pCi/L)	.	.	.	.	.	.	.	.
Neptunium 237 (CE+/-)	.	.	.	.	.	.	.	.
Potassium 40 (pCi/L)	.	.	.	.	.	.	.	.
Potassium 40 (CE+/-)	.	.	.	.	.	.	.	.
Protactinium (pCi/L)	.	.	.	.	.	3070.00	-739.00	1070.00
Protactinium (CE+/-)	.	.	.	.	.	4800.00	13800.00	7200.00
Radium (Bq/L)	0.03	0.06	0.01	0.03	.	.	.	.
Radium (CE+/-)	0.03	0.05	0.03	0.04	.	.	.	.
Ruthenium 106 (pCi/L)	.	.	.	.	.	.	.	.
Ruthenium 106 (CE +/-)	.	.	.	.	.	.	.	.
Strontium (pCi/L)	.	.	.	.	.	.	.	.
Strontium (CE+/-)	.	.	.	.	.	.	.	.
Technetium 99 (pCi/L)	.	.	.	.	.	.	.	.
Technetium 99 (CE+/-)	.	.	.	.	.	.	.	.
Thorium 234 (pCi/l)	.	.	.	.	.	272.00	-903.00	1070.00
Thorium 234 (CE +/-)	.	.	.	.	.	520.00	3060.00	340.00
Thorium 228 (pCi/l)	.	.	.	.	.	.	.	.
Thorium 228 (CE +/-)	.	.	.	.	.	.	.	.
Tritium (Bq/L)	.	.	.	.	.	.	.	.
Tritium (CE+/-)	.	.	.	.	.	.	.	.
Uranium 234 (pCi/L)	0.00	11.10	5.50	0.00	0.00	1.49	15.80	20.20
Uranium 234 (CE+/-)	16.00	16.00	19.00	16.00	17.00	1.70	28.00	30.00
Uranium 235 (pCi/L)	2.91	-2.85	-69.80	26.00	.	14.70	85.40	27.80
Uranium 235 (CE+/-)	130.00	65.00	89.00	70.00	.	71.00	169.00	90.00
Uranium 238 (pCi/L)	4.56	11.10	11.00	0.00	0.00	1.49	10.50	0.00
Uranium 238 (CE+/-)	9.10	16.00	16.00	20.00	17.00	1.70	15.00	19.00

(CONTINUED)

APPENDIX E.5
Groundwater Quality Data, 1993

5

Sampling Point . Location . Date Sampled	GW-540		GW-541			GW-542		
	CDLVI		CDLVI			CDLVI		
	08/21/93	11/30/93	06/02/93	09/15/93	12/02/93	06/02/93	09/15/93	12/03/93
Gross Alpha (pCi/L)	0.00	-0.67	-2.90	2.56	1.82	-4.08	0.61	0.46
Gross Alpha (CE+/-)	4.00	0.94	3.90	2.60	1.60	3.70	2.00	1.20
Gross Beta (pCi/L)	-2.14	-4.36	3.94	-7.44	-3.50	-1.81	-12.30	-3.05
Gross Beta (CE+/-)	5.20	2.60	5.10	5.90	2.70	4.70	5.80	2.80
RADIONUCLIDES	.	.	.	.	.	.	.	.
Cesium 137 (pCi/l)	6.50	1.60	63.80	-13.00	-19.80	2.03	3.10	63.80
Cesium 137 (CE +/-)	42.00	3.80	43.00	42.00	37.00	24.00	30.00	38.00
Neptunium 237 (pCi/L)	.	.	.	.	.	.	.	.
Neptunium 237 (CE+/-)	.	.	.	.	.	.	.	.
Potassium 40 (pCi/L)	.	.	.	.	.	.	.	278.00
Potassium 40 (CE+/-)	.	.	.	.	.	.	.	810.00
Protactinium (pCi/L)	4240.00	211.00	1240.00	5820.00	2980.00	2890.00	8080.00	1480.00
Protactinium (CE+/-)	7500.00	670.00	7300.00	7300.00	6000.00	4800.00	4400.00	6400.00
Radium (Bq/L)	.	.	.	.	.	.	.	.
Radium (CE+/-)	.	.	.	.	.	.	.	.
Ruthenium 106 (pCi/L)	.	.	.	.	.	.	.	.
Ruthenium 106 (CE +/-)	.	.	.	.	.	.	.	.
Strontium (pCi/L)	.	.	.	.	.	.	.	.
Strontium (CE+/-)	.	.	.	.	.	.	.	.
Technetium 99 (pCi/L)	.	.	.	.	.	.	.	.
Technetium 99 (CE+/-)	.	.	.	.	.	.	.	.
Thorium 234 (pCi/l)	985.00	3.02	1110.00	1060.00	-310.00	-54.60	435.00	-186.00
Thorium 234 (CE +/-)	340.00	66.00	330.00	330.00	580.00	470.00	590.00	560.00
Thorium 228 (pCi/l)	.	.	.	.	.	.	.	.
Thorium 228 (CE +/-)	.	.	.	.	.	.	.	.
Tritium (Bq/L)	.	.	.	.	.	.	.	.
Tritium (CE+/-)	.	.	.	.	.	.	.	.
Uranium 234 (pCi/L)	16.10	-0.64	6.05	5.50	1.49	-5.21	9.44	0.00
Uranium 234 (CE+/-)	24.00	2.60	27.00	19.00	2.20	18.00	19.00	1.80
Uranium 235 (pCi/L)	54.30	-1.79	13.70	18.20	-23.60	-2.44	24.80	23.00
Uranium 235 (CE+/-)	90.00	8.00	90.00	90.00	68.00	66.00	71.00	72.00
Uranium 238 (pCi/L)	16.10	0.00	30.20	5.50	0.00	-5.21	0.00	0.00
Uranium 238 (CE+/-)	24.00	2.20	32.00	19.00	1.70	21.00	13.00	2.20

(CONTINUED)

APPENDIX E.5
Groundwater Quality Data, 1993

6

Sampling Point . Location . Date Sampled	GW-543			GW-544			GW-545	
	CDLVI			CDLVI			CDLVI	
	06/02/93	09/16/93	12/04/93	06/02/93	09/16/93	12/06/93	06/02/93	09/16/93
Gross Alpha (pCi/L)	-4.30	-0.01	0.16	-2.16	1.29	0.68	-1.76	14.40
Gross Alpha (CE+/-)	3.90	1.80	1.20	4.20	2.30	1.40	4.10	5.60
Gross Beta (pCi/L)	1.82	-11.10	-3.61	1.66	-7.85	-1.13	17.30	17.70
Gross Beta (CE+/-)	5.00	5.70	2.70	5.00	5.80	2.80	5.90	7.10
RADIONUCLIDES	.	.	.	.	.	.	.	.
Cesium 137 (pCi/l)	-27.60	-10.90	-4.63	-19.50	-45.50	-1.95	-8.94	1.55
Cesium 137 (CE +/-)	42.00	30.00	35.00	25.00	44.00	40.00	44.00	30.00
Neptunium 237 (pCi/L)	.	.	.	.	.	.	.	.
Neptunium 237 (CE+/-)	.	.	.	.	.	.	.	.
Potassium 40 (pCi/L)	.	.	.	.	.	417.00	412.00	.
Potassium 40 (CE+/-)	.	.	.	.	.	840.00	.	.
Protactinium (pCi/L)	1410.00	1400.00	2100.00	4100.00	2710.00	5840.00	8030.00	1520.00
Protactinium (CE+/-)	7000.00	4800.00	6000.00	4700.00	7400.00	6200.00	7100.00	4800.00
Radium (Bq/L)	.	.	.	.	.	.	.	.
Radium (CE+/-)	.	.	.	.	.	.	.	.
Ruthenium 106 (pCi/L)	.	.	.	171.00	.	.	.	.
Ruthenium 106 (CE +/-)	.	.	.	400.00	.	.	.	.
Strontium (pCi/L)	.	.	.	.	.	.	.	.
Strontium (CE+/-)	.	.	.	.	.	.	.	.
Technetium 99 (pCi/L)	.	.	.	.	.	.	.	.
Technetium 99 (CE+/-)	.	.	.	.	.	.	.	.
Thorium 234 (pCi/l)	1130.00	312.00	-282.00	139.00	583.00	45.70	1090.00	292.00
Thorium 234 (CE +/-)	330.00	570.00	570.00	470.00	330.00	560.00	330.00	560.00
Thorium 228 (pCi/l)	.	.	.	.	.	.	.	.
Thorium 228 (CE +/-)	.	.	.	.	.	.	.	.
Tritium (Bq/L)	.	.	.	.	.	.	.	.
Tritium (CE+/-)	.	.	.	.	.	.	.	.
Uranium 234 (pCi/L)	18.80	17.60	-0.43	5.92	0.00	0.78	5.69	21.70
Uranium 234 (CE+/-)	33.00	26.00	1.70	26.00	13.00	1.60	25.00	23.00
Uranium 235 (pCi/L)	10.40	12.40	-20.60	-31.00	-6.65	12.60	40.80	21.30
Uranium 235 (CE+/-)	90.00	71.00	68.00	65.00	90.00	72.00	90.00	71.00
Uranium 238 (pCi/L)	31.30	11.70	0.00	17.80	0.00	0.78	11.40	0.00
Uranium 238 (CE+/-)	33.00	23.00	1.50	26.00	13.00	1.10	23.00	12.00

(CONTINUED)

APPENDIX E.5
Groundwater Quality Data, 1993

7

Sampling Point	GW-545	GW-546			GW-557			GW-560
Location	CDLVI	CDLVI			LV			CDLVII
Date Sampled	12/03/93	06/01/93	08/21/93	12/01/93	05/26/93	09/29/93	12/08/93	05/26/93
Gross Alpha (pCi/L)	3.03	-2.29	3.45	4.70	-4.68	0.59	0.33	-4.04
Gross Alpha (CE+/-)	2.00	4.40	4.70	2.50	3.20	1.90	1.40	3.30
Gross Beta (pCi/L)	12.10	-0.82	1.33	1.15	-2.22	-1.56	-2.17	-3.57
Gross Beta (CE+/-)	3.60	5.40	5.50	2.90	5.30	2.80	3.00	5.20
RADIONUCLIDES	.	.	.	.	.	.	.	.
Cesium 137 (pCi/l)	-6.99	21.20	26.00	-5.48	-7.31	-1.65	1.27	23.20
Cesium 137 (CE +/-)	27.00	25.00	31.00	36.00	45.00	27.20	34.00	43.00
Neptunium 237 (pCi/L)	.	.	.	.	.	.	.	.
Neptunium 237 (CE +/-)	.	.	.	.	.	.	.	.
Potassium 40 (pCi/L)	.	.	.	.	.	.	.	.
Potassium 40 (CE +/-)	.	.	.	.	.	.	.	.
Protactinium (pCi/L)	2340.00	4730.00	2190.00	3640.00	7290.00	1410.00	2010.00	3840.00
Protactinium (CE +/-)	4700.00	4200.00	4500.00	6000.00	7200.00	4370.00	6200.00	8000.00
Radium (Bq/L)	.	.	.	.	.	.	.	.
Radium (CE +/-)	.	.	.	.	.	.	.	.
Ruthenium 106 (pCi/L)	.	121.00	.	128.00	.	.	.	.
Ruthenium 106 (CE +/-)	.	390.00	.	350.00	.	.	.	.
Strontium (pCi/L)	.	.	.	.	.	.	.	.
Strontium (CE +/-)	.	.	.	.	.	.	.	.
Technetium 99 (pCi/L)	.	.	.	.	.	.	.	.
Technetium 99 (CE +/-)	.	.	.	.	.	.	.	.
Thorium 234 (pCi/l)	62.90	-5.46	238.00	1190.00	1100.00	76.20	-84.20	1310.00
Thorium 234 (CE +/-)	490.00	470.00	520.00	320.00	330.00	487.00	570.00	330.00
Thorium 228 (pCi/l)	.	.	.	.	.	.	.	.
Thorium 228 (CE +/-)	.	.	.	.	.	.	.	.
Tritium (Bq/L)	.	.	.	.	.	.	.	.
Tritium (CE +/-)	.	.	.	.	.	.	.	.
Uranium 234 (pCi/L)	1.51	-7.57	16.40	-0.42	9.57	10.80	-0.32	28.30
Uranium 234 (CE +/-)	1.90	30.00	24.00	1.70	19.00	26.00	0.34	28.00
Uranium 235 (pCi/L)	-1.65	33.80	17.40	-11.50	47.10	17.30	-37.10	17.40
Uranium 235 (CE +/-)	60.00	67.00	71.00	68.00	90.00	59.00	68.00	90.00
Uranium 238 (pCi/L)	0.00	0.00	-5.46	0.00	0.00	16.20	0.00	7.08
Uranium 238 (CE +/-)	1.30	21.00	22.00	1.50	33.00	19.00	0.22	14.00

(CONTINUED)

APPENDIX E.5
Groundwater Quality Data, 1993

Sampling Point . Location . Date Sampled	GW-560		GW-562			GW-564		
	CDLVII		CDLVII			CDLVII		
	08/28/93	12/02/93	05/26/93	08/28/93	12/02/93	05/26/93	08/29/93	12/08/93
Gross Alpha (pCi/L)	-2.68	-0.17	-0.88	-3.83	0.32	-2.88	-1.75	1.16
Gross Alpha (CE+/-)	3.60	1.10	3.80	3.40	1.20	3.50	3.70	1.50
Gross Beta (pCi/L)	0.33	-0.90	-0.68	1.15	-3.27	-1.19	-2.14	-4.05
Gross Beta (CE+/-)	5.40	2.80	5.40	5.40	2.70	5.40	5.20	2.90
RADIONUCLIDES	.	.	.	.	.	.	.	.
Cesium 137 (pCi/l)	-3.22	-3.30	-1.91	-0.81	-15.40	-18.50	-1.07	-19.50
Cesium 137 (CE +/-)	31.00	27.00	24.00	44.00	40.00	31.00	30.00	41.00
Neptunium 237 (pCi/L)	91.10	.	.	.	.	.	.	.
Neptunium 237 (CE+/-)	200.00	.	.	.	.	.	.	.
Potassium 40 (pCi/L)	.	.	.	.	325.00	.	.	.
Potassium 40 (CE+/-)	.	.	.	.	830.00	.	.	.
Protactinium (pCi/L)	3020.00	5000.00	-1520.00	0.00	2570.00	8030.00	4200.00	3960.00
Protactinium (CE+/-)	5000.00	4600.00	4600.00	7000.00	6200.00	4500.00	4800.00	6100.00
Radium (Bq/L)	.	.	.	.	.	.	.	.
Radium (CE+/-)	.	.	.	.	.	.	.	.
Ruthenium 106 (pCi/L)	.	.	.	.	.	.	.	.
Ruthenium 106 (CE +/-)	.	.	.	.	.	.	.	.
Strontium (pCi/L)	.	.	.	.	.	.	.	.
Strontium (CE+/-)	.	.	.	.	.	.	.	.
Technetium 99 (pCi/L)	.	.	.	.	.	.	.	.
Technetium 99 (CE+/-)	.	.	.	.	.	.	.	.
Thorium 234 (pCi/l)	335.00	-70.50	10.90	998.00	-22.00	387.00	-88.00	63.30
Thorium 234 (CE +/-)	540.00	490.00	470.00	330.00	570.00	540.00	520.00	560.00
Thorium 228 (pCi/l)	981.00	.	.	.	.	.	.	.
Thorium 228 (CE +/-)	2100.00	.	.	.	.	.	.	.
Tritium (Bq/L)	.	.	.	.	.	.	.	.
Tritium (CE+/-)	.	.	.	.	.	.	.	.
Uranium 234 (pCi/L)	-7.42	0.00	18.40	34.30	-0.49	5.73	0.00	0.32
Uranium 234 (CE+/-)	30.00	1.80	21.00	32.00	2.00	11.00	13.00	0.52
Uranium 235 (pCi/L)	40.30	5.77	-14.70	10.60	22.20	24.00	61.50	10.20
Uranium 235 (CE+/-)	71.00	60.00	65.00	90.00	72.00	70.00	62.00	71.00
Uranium 238 (pCi/L)	22.30	0.56	0.00	0.00	0.49	5.73	0.00	0.13
Uranium 238 (CE+/-)	33.00	1.10	21.00	16.00	0.98	11.00	13.00	0.18

(CONTINUED)

APPENDIX E.5
Groundwater Quality Data, 1993

9

Sampling Point . Location . Date Sampled	GW-796			GW-797			GW-798	
	LV			LV			CDLVII	
	05/27/93	08/30/93	12/16/93	05/27/93	08/29/93	12/16/93	06/23/93	08/29/93
Gross Alpha (pCi/L)	1.43	-5.12	-0.33	-1.50	-2.62	-0.50	0.59	-1.43
Gross Alpha (CE+/-)	4.10	2.10	1.10	3.80	3.50	1.10	1.70	3.70
Gross Beta (pCi/L)	-0.34	-1.61	-5.34	-2.74	0.49	-4.64	2.14	1.64
Gross Beta (CE+/-)	5.40	2.90	2.90	5.30	5.40	2.90	2.80	5.40
RADIONUCLIDES	.	.	.	.	.	.	.	.
Cesium 137 (pCi/l)	13.40	10.20	12.30	0.25	34.90	-15.20	11.20	-12.40
Cesium 137 (CE +/-)	42.00	42.00	28.00	24.00	42.00	33.00	31.00	29.00
Neptunium 237 (pCi/L)	.	.	164.00	.	.	.	.	.
Neptunium 237 (CE+/-)	.	.	100.00	.	.	.	.	.
Potassium 40 (pCi/L)	.	.	.	.	.	.	.	.
Potassium 40 (CE+/-)	.	.	.	.	.	.	.	.
Protactinium (pCi/L)	3900.00	622.00	4170.00	841.00	2490.00	7740.00	3070.00	7290.00
Protactinium (CE+/-)	7600.00	7400.00	5000.00	4500.00	7300.00	5400.00	4900.00	5000.00
Radium (Bq/L)	.	.	.	.	.	.	.	.
Radium (CE+/-)	.	.	.	.	.	.	.	.
Ruthenium 106 (pCi/L)	.	.	.	.	.	.	.	.
Ruthenium 106 (CE +/-)	.	.	.	.	.	.	.	.
Strontium (pCi/L)	.	.	.	.	.	.	.	.
Strontium (CE+/-)	.	.	.	.	.	.	.	.
Technetium 99 (pCi/L)	.	.	.	.	.	.	.	.
Technetium 99 (CE+/-)	.	.	.	.	.	.	.	.
Thorium 234 (pCi/l)	998.00	890.00	378.00	248.00	1030.00	-54.00	586.00	86.70
Thorium 234 (CE +/-)	270.00	340.00	520.00	470.00	330.00	570.00	530.00	520.00
Thorium 228 (pCi/l)	.	.	1750.00	.	.	.	.	.
Thorium 228 (CE +/-)	.	.	1100.00	.	.	.	.	.
Tritium (Bq/L)	.	.	.	.	.	.	.	.
Tritium (CE+/-)	.	.	.	.	.	.	.	.
Uranium 234 (pCi/L)	18.90	55.70	-0.28	19.10	10.20	-0.07	9.89	20.10
Uranium 234 (CE+/-)	22.00	39.00	0.39	22.00	20.00	0.44	14.00	25.00
Uranium 235 (pCi/L)	23.90	10.20	8.24	-6.11	-0.27	13.60	6.98	57.70
Uranium 235 (CE+/-)	90.00	90.00	60.00	65.00	90.00	68.00	71.00	71.00
Uranium 238 (pCi/L)	0.00	16.70	0.07	6.36	0.00	0.00	0.00	40.20
Uranium 238 (CE+/-)	22.00	25.00	0.14	13.00	14.00	0.23	17.00	32.00

(CONTINUED)

APPENDIX E.5
Groundwater Quality Data, 1993

10

Sampling Point	GW-798	GW-799				GW-801	
Location	CDLVII	CDLVII				LV	
Date Sampled	12/09/93	05/27/93	08/29/93	12/09/93	07/24/93	08/30/93	12/16/93
Gross Alpha (pCi/L)	0.50	-0.86	-0.87	0.16	0.15	-1.27	0.50
Gross Alpha (CE+/-)	1.40	3.80	3.80	1.30	2.60	2.60	1.40
Gross Beta (pCi/L)	-5.98	4.59	-1.48	-5.13	-0.16	0.85	-3.23
Gross Beta (CE+/-)	2.90	5.70	5.20	2.90	3.30	2.60	3.00
RADIONUCLIDES	.	.	.	.	.	.	.
Cesium 137 (pCi/L)	8.05	11.00	-18.50	12.30	10.50	11.80	-21.20
Cesium 137 (CE +/-)	41.00	31.00	30.00	27.00	30.00	31.00	42.00
Neptunium 237 (pCi/L)	.	.	.	.	.	.	.
Neptunium 237 (CE +/-)	.	.	.	.	.	.	.
Potassium 40 (pCi/L)	267.00	.	.	.	.	.	568.00
Potassium 40 (CE +/-)	820.00	.	.	.	.	.	830.00
Protactinium (pCi/L)	3760.00	-663.00	8390.00	-1820.00	-2160.00	5210.00	2130.00
Protactinium (CE +/-)	6600.00	5200.00	4600.00	5200.00	4800.00	4400.00	6000.00
Radium (Bq/L)	.	.	.	.	.	.	.
Radium (CE +/-)	.	.	.	.	.	.	.
Ruthenium 106 (pCi/L)	.	.	.	.	.	.	.
Ruthenium 106 (CE +/-)	.	.	.	.	.	.	.
Strontium (pCi/L)	.	.	.	.	.	.	.
Strontium (CE +/-)	.	.	.	.	.	.	.
Technetium 99 (pCi/L)	.	.	.	.	.	.	.
Technetium 99 (CE +/-)	.	.	.	.	.	.	.
Thorium 234 (pCi/L)	-66.80	225.00	269.00	223.00	136.00	66.60	-76.50
Thorium 234 (CE +/-)	560.00	520.00	520.00	330.00	520.00	520.00	560.00
Thorium 228 (pCi/L)	.	.	.	1360.00	.	.	.
Thorium 228 (CE +/-)	.	.	.	1100.00	.	.	.
Tritium (Bq/L)	.	.	.	.	.	.	.
Tritium (CE +/-)	.	.	.	.	.	.	.
Uranium 234 (pCi/L)	0.59	7.38	0.00	-0.06	1.93	10.00	-0.81
Uranium 234 (CE +/-)	0.66	15.00	15.00	0.41	2.20	20.00	1.10
Uranium 235 (pCi/L)	31.90	34.50	15.90	-2.06	12.00	26.00	11.20
Uranium 235 (CE +/-)	71.00	69.00	71.00	59.00	71.00	71.00	71.00
Uranium 238 (pCi/L)	0.15	14.80	5.43	0.06	1.93	0.00	0.20
Uranium 238 (CE +/-)	0.21	21.00	19.00	0.12	2.20	14.00	0.40

APPENDIX F
FIELD DUPLICATE DATA

EXPLANATION

LOCATION:

ADB	-	Ash Disposal Basin
CDLVI	-	Construction Debris Landfill VI (formerly Industrial Landfill II Expansion)
CDLVII	-	Construction Debris Landfill VII
CRSDB	-	Chestnut Ridge Sediment Disposal Basin
CRSP	-	Chestnut Ridge Security Pits
ECRWP	-	East Chestnut Ridge Waste Pile
KHQ	-	Kerr Hollow Quarry (located in Bethel Valley)
LII	-	Industrial Landfill II
LIII	-	Industrial Landfill III
LIV	-	Industrial Landfill IV
LV	-	Industrial Landfill V
RQ	-	Rogers Quarry (located in Bethel Valley)
UNCS	-	United Nuclear Corporation Site

ALL DATA:

. - Not Analyzed

VOLATILE ORGANIC COMPOUNDS:

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

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

METALS, MAJOR IONS, MISCELLANEOUS, AND RADIOCHEMICAL PARAMETERS:

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

Bicarbonate and carbonate alkalinity reported as CaCO_3 .

<	-	Compound 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
DIS	-	Dissolved Concentration (Filtered Sample)
TOT	-	Total Concentration (Unfiltered Sample)

EXPLANATION (cont'd)

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

APPENDIX F.1

TRACE METALS AND MAJOR IONS

APPENDIX F.1
Field Duplicate Groundwater Quality Data, 1993

1

Sampling Point . Location . Date Sampled	GW-144							
	KHQ							
	03/06/93		06/12/93		08/26/93		12/15/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	0.022	<0.02	0.023	<0.02	0.02	0.027
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.048	0.048	0.043	0.044	0.052	0.034	0.049	0.048
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.03	0.047	0.029	0.016	0.022	0.015	0.078	0.047
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0044	<0.004	0.0054	<0.004	<0.004	<0.004
Iron	<0.005	<0.005	0.026	<0.005	0.068	0.12	<0.005	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	0.00027	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.1	0.1	0.092	0.092	0.1	0.45	0.1	0.096
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.003	0.004	0.003	0.003	0.003	<0.001	0.005	0.004
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0055	0.0072	0.0094	0.0057	0.07	0.11	0.0026	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	158	.	155	.	160	.	153	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	41	41	40	41	47	31	42	40
Chloride	2	.	2.2	.	2	.	2	.
Fluoride	0.14	.	0.1	.	0.1	.	<0.1	.
Magnesium	15	15	14	14	16	2.7	16	15
Manganese	<0.001	<0.001	<0.001	<0.001	0.0016	0.0014	<0.001	<0.001
Nitrate-N	1.2	.	1.4	.	0.9	.	1.1	.
Potassium	2	2.1	1.7	1.6	2.6	9.7	2	1.9
Sodium	1.2	1.4	1.3	1.3	1.4	2.6	1.2	1.1
Sulfate	6	.	7.6	.	6	.	7	.

(CONTINUED)

APPENDIX F.1
Field Duplicate Groundwater Quality Data, 1993

2

Sampling Point . Location . Date Sampled	GW-160							
	LIII							
	02/09/93		06/06/93		08/12/93		11/11/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	8.9	0.032	5.8	0.057	1.4	<0.02	6.4	0.066
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	0.029	0.01	0.02	0.0092	0.012	0.0093	0.019	0.01
Beryllium	0.0022	<0.0003	0.0012	<0.0003	<0.0003	<0.0003	0.00075	<0.0003
Boron	0.025	0.017	0.066	0.033	0.0042	<0.004	0.026	0.021
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	0.004	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	0.036	<0.01	0.014	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	0.017	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.0067	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	0.022	<0.004	0.0086	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	19	<0.005	14	0.042	3.7	0.091	7.4	0.023
Lead (AAS)	0.042	<0.004	0.019	<0.004	<0.004	<0.004	0.0093	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.024	<0.01	0.015	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.023	0.022	0.024	0.023	0.021	0.021	0.022	0.021
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	0.042	<0.005	0.024	<0.005	0.0058	<0.005	0.017	<0.005
Zinc	0.14	0.0035	0.075	0.0025	0.014	0.0045	0.04	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	233	.	235	.	232	.	229	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	55	49	49	47	50	49	46	46
Chloride	4.5	.	4.2	.	3.6	.	3.8	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	32	29	30	28	30	29	29	28
Manganese	0.36	0.018	0.18	0.05	0.04	0.049	0.083	0.012
Nitrate-N	0.56	.	0.45	.	0.44	.	0.58	.
Potassium	2.3	1.2	1.6	0.95	1.2	0.86	1.7	0.87
Sodium	2	2	2	2	1.6	1.6	1.7	1.8
Sulfate	10	.	4.1	.	8.3	.	3.2	.

(CONTINUED)

APPENDIX F.1
Field Duplicate Groundwater Quality Data, 1993

3

Sampling Point Location Date Sampled	GW-181						GW-186	
	CRSP						RQ	
	01/05/93		06/04/93		09/01/93		03/03/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.022	<0.02	0.043	0.028	0.026	<0.02	0.1	0.096
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	0.0078	0.0084	0.0082	0.0075	0.0082	0.0081	0.13	0.12
Beryllium	0.00042	0.00068	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.025	0.057	0.018	0.015	0.12	<0.004	0.16	0.17
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	0.0041	0.0033
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.16	0.011	0.16	<0.005	1.2	<0.005	0.8	0.75
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.019	0.019	0.018	0.018	0.02	0.02	1.6	1.6
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.0045	0.0095	0.0065	0.0037	0.017	0.015	<0.002	<0.002
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	168	.	169	.	169	.	409	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	35	35	32	32	36	36	110	110
Chloride	2.1	.	1.2	.	2	.	15	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	0.2	.
Magnesium	21	21	20	20	21	21	29	29
Manganese	0.0029	<0.001	0.0013	0.0013	0.0071	0.0039	0.13	0.13
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	1.4	1.4	1.2	1.3	1.3	1.3	3	2.8
Sodium	0.67	0.71	0.59	0.55	0.81	0.65	48	48
Sulfate	8	.	1.3	.	7.3	.	65	.

(CONTINUED)

APPENDIX F.1
Field Duplicate Groundwater Quality Data, 1993

4

Sampling Point . Location . Date Sampled	GW-186						GW-203	
	RQ						UNCS	
	06/26/93		07/24/93		12/06/93		01/18/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	7.4	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.13	0.13	0.13	0.13	0.13	0.13	0.03	0.0087
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.00083	<0.0003
Boron	0.11	0.13	0.13	0.14	0.24	0.16	0.007	<0.004
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	0.0074	<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	0.018	<0.004
Iron	0.99	0.99	0.85	0.83	0.81	0.77	8.4	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.025	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.017	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	1.7	1.7	1.8	1.8	1.7	1.7	0.024	0.01
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.021	<0.005
Zinc	<0.002	0.004	0.0078	0.0041	<0.002	<0.002	0.076	0.0031
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	409	.	410	.	409	.	133	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	110	110	110	110	110	100	40	26
Chloride	14.3	.	15	.	15	.	1.1	.
Fluoride	0.1	.	0.2	.	0.1	.	<0.1	.
Magnesium	33	33	33	34	32	31	19	15
Manganese	0.15	0.15	0.13	0.13	0.12	0.12	0.17	<0.001
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	1.04	.
Potassium	2.9	3.1	3.6	3.4	2.8	3.2	1.6	0.79
Sodium	31	31	36	36	40	39	0.52	0.5
Sulfate	69.7	.	62	.	69	.	<1	.

(CONTINUED)

APPENDIX F.1
Field Duplicate Groundwater Quality Data, 1993

5

Sampling Point . Location . Date Sampled	GW-203				GW-221		GW-292	
	UNCS				UNCS		ECRWP	
	05/11/93		10/07/93		07/27/93		01/26/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.38	<0.02	0.067	<0.02	<0.02	<0.02	<0.02	0.038
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	0.0088	0.0075	0.0076	0.0073	0.0068	0.0066	0.11	0.11
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.00031	<0.0003
Boron	0.047	0.049	0.045	<0.004	<0.004	0.0046	0.018	0.02
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0057	<0.004	<0.004	<0.004	<0.004	0.0046
Iron	0.37	<0.005	0.08	<0.005	0.023	<0.005	0.0087	0.0093
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.012	0.011	0.01	0.01	0.0099	0.01	0.017	0.018
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.007	0.01	0.024	0.01	0.011	0.0089	0.0088	0.011
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	134	.	137	.	152	.	244	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	29	29	29	30	31	31	50	51
Chloride	1.6	.	1	.	1.1	.	9.8	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	16	16	16	17	19	19	30	30
Manganese	0.01	<0.001	0.0081	<0.001	<0.001	<0.001	<0.001	<0.001
Nitrate-N	1.07	.	1.3	.	0.64	.	0.43	.
Potassium	0.87	0.95	0.85	0.92	0.94	1.1	0.77	0.91
Sodium	0.49	0.49	0.53	0.44	0.72	0.73	4.5	4.5
Sulfate	<1	.	<1	.	1	.	3.4	.

(CONTINUED)

APPENDIX F.1
Field Duplicate Groundwater Quality Data, 1993

6

Sampling Point . Location . Date Sampled	GW-293						GW-303	
	ECRWP						CRSDB	
	04/06/93		08/22/93		10/15/93		02/25/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.065	0.02	0.02	0.042	0.045	<0.02	<0.02	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.21	0.2	0.21	0.21	0.21	0.2	0.019	0.018
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0003	<0.0003
Boron	0.024	0.018	0.0047	<0.004	0.025	0.024	0.04	0.044
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	3.5	0.014	5.6	0.059	6.6	0.066	0.36	0.29
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.017	0.017	0.018	0.017	0.017	0.017	3.1	3.1
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.013	0.0075	0.064	0.06	0.017	0.041	0.0058	0.0046
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	239	.	243	.	244	.	173	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	51	51	56	55	51	51	75	75
Chloride	10.7	.	10.3	.	10	.	1.7	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	0.96	.
Magnesium	31	31	32	31	30	30	41	41
Manganese	0.014	0.0051	0.013	0.006	0.028	0.013	0.0058	0.0058
Nitrate-N	0.39	.	0.39	.	0.4	.	<0.2	.
Potassium	1.5	1.3	1.6	1.6	1.5	1.6	4.8	5
Sodium	4.1	4.2	4.7	4.6	4.2	4.3	1.3	1.4
Sulfate	3.5	.	2.9	.	3	.	168	.

(CONTINUED)

APPENDIX F.1
Field Duplicate Groundwater Quality Data, 1993

7

Sampling Point . Location . Date Sampled	GW-303						GW-514	
	CRSDB						ADB	
	06/17/93		08/20/93		12/02/93		03/20/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.027
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.017	0.016	0.017	0.017	0.018	0.018	0.006	0.006
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.00033	<0.0003
Boron	0.021	0.033	0.0051	0.014	0.013	0.028	0.018	0.028
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.26	0.2	0.56	0.32	0.35	0.28	0.39	0.014
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.019
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	2.8	2.8	3.1	3	3	2.9	0.02	0.02
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.0037	0.0044
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	177	.	179	.	179	.	174	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	68	67	73	74	69	67	35	35
Chloride	1.1	.	1.7	.	2	.	1.1	.
Fluoride	1	.	0.8	.	1	.	<0.1	.
Magnesium	37	37	40	40	39	38	19	19
Manganese	0.0059	0.0064	0.011	0.011	0.0064	0.0058	0.017	0.0097
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Potassium	4.8	4.7	4	4.4	5	4.5	0.73	0.76
Sodium	1.2	1.2	1.2	1.1	1.3	1.2	0.77	0.48
Sulfate	179	.	148	.	148	.	5.5	.

(CONTINUED)

APPENDIX F.1
Field Duplicate Groundwater Quality Data, 1993

Sampling Point . Location . Date Sampled	GW-514						GW-522	
	ADB						LIV	
	06/05/93		09/02/93		12/17/93		01/06/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.049	<0.02	<0.02	0.046	<0.02	0.033	5.4	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.0053	0.0063	0.007	0.008	0.007	0.0076	0.016	0.0053
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0024	<0.0003
Boron	0.049	0.03	<0.004	<0.004	0.015	0.016	0.018	0.02
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	0.013	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.013	<0.004
Iron	0.24	0.011	0.43	<0.005	0.21	0.12	5.2	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.019	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.016	<0.01	<0.01	<0.01	<0.01	<0.01	0.015	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.021	0.022	0.023	0.023	0.021	0.022	0.022	0.011
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.011	<0.005
Zinc	<0.002	0.0041	0.0033	0.0062	0.011	<0.002	0.16	0.0086
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	180	.	183	.	178	.	151	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	37	40	40	40	38	39	76	29
Chloride	1	.	1.9	.	1	.	1.7	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	21	21	22	22	22	22	45	17
Manganese	0.014	0.014	0.0093	0.0088	0.0062	0.0056	0.12	<0.001
Nitrate-N	<0.2	.	<0.2	.	<0.2	.	0.41	.
Potassium	0.9	1.2	0.88	0.88	0.98	0.94	1.9	0.7
Sodium	0.42	0.53	0.46	0.5	0.4	0.43	0.69	0.65
Sulfate	4.4	.	7.7	.	3	.	<1	.

(CONTINUED)

APPENDIX F.1
Field Duplicate Groundwater Quality Data, 1993

9

Sampling Point . Location . Date Sampled	GW-522						GW-540	
	LIV						CDLVI	
	04/02/93		07/18/93		10/05/93		03/12/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.42	<0.02	0.99	0.042	0.28	<0.02	0.022	<0.02
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.0078	0.0074	0.0089	0.0065	0.0068	0.0063	0.0088	0.0093
Beryllium	<0.0003	<0.0003	0.001	<0.0003	<0.0003	<0.0003	0.00043	0.00042
Boron	0.024	0.019	0.02	0.023	0.0075	0.0075	0.025	0.021
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<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	0.013
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	0.0067	0.0055	<0.004	<0.004	<0.004	<0.004
Iron	0.43	<0.005	2	0.0062	0.48	<0.005	0.021	0.034
Lead (AAS)	<0.004	<0.004	0.0061	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	-0.00024	-0.00024	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.011	0.011	0.013	0.0095	0.01	0.0095	0.025	0.026
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium	<0.005	<0.005	0.0054	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.017	0.0075	0.13	0.082	0.014	0.0052	0.0093	0.01
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	151	.	135	.	128	.	178	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.	.	.
Calcium	32	29	44	27	28	25	38	40
Chloride	1.5	.	1.1	.	1.2	.	1.3	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	19	18	26	16	17	15	22	22
Manganese	0.0095	<0.001	0.053	<0.001	0.011	<0.001	<0.001	<0.001
Nitrate-N	0.4	.	0.38	.	0.42	.	<0.2	.
Potassium	0.76	<0.6	<0.6	0.7	0.73	0.68	0.83	0.92
Sodium	0.65	0.59	0.58	0.52	0.47	0.5	2.2	2.2
Sulfate	<1	.	<1	.	<1	.	4.9	.

(CONTINUED)

APPENDIX F.1
Field Duplicate Groundwater Quality Data, 1993

10

Sampling Point . Location . Date Sampled	GW-540						GW-562	
	CDLVI						CDLVII	
	05/28/93		08/21/93		11/30/93		05/26/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	2.7	0.031
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	0.0098	0.0096	0.0094	0.009	0.0091	0.0082	0.017	0.0095
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0005	<0.0003
Boron	0.023	0.052	<0.004	0.015	0.066	0.096	0.035	0.026
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.01	<0.004
Iron	<0.005	<0.005	0.056	<0.005	0.25	<0.005	3.4	<0.005
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.017	0.03
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.024	0.024	0.026	0.025	0.024	0.024	0.017	0.017
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0058	<0.005
Zinc	0.0089	0.0098	0.01	0.0088	0.0049	<0.002	0.051	0.0051
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO3	178	.	180	.	178	.	174	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.
Ammonia-N	<0.2	.	<0.2	.	<0.2	.	<0.2	.
Calcium	38	37	38	38	33	33	36	35
Chloride	1.6	.	1.6	.	2	.	1.4	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Magnesium	22	21	23	23	22	22	20	20
Manganese	<0.001	0.0011	<0.001	<0.001	0.0027	<0.001	0.083	<0.001
Nitrate-N	<0.2	.	<0.2	.	0.2	.	<0.2	.
Potassium	0.82	0.69	0.75	0.88	0.95	1.1	0.91	<0.6
Sodium	1.9	1.9	1.9	2	3.3	3.5	0.83	0.67
Sulfate	4.5	.	3.8	.	4	.	1.7	.

(CONTINUED)

4 of 5

APPENDIX F.1

11

Field Duplicate Groundwater Quality Data, 1993

Sampling Point . Location . Date Sampled	GW-564				GW-610		GW-757	
	CDLVII				CRSP		LII	
	08/29/93		12/08/93		12/17/93		01/07/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.	.	.
Aluminum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.046	0.038
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	0.013	0.013	0.013	0.012	0.08	0.078	0.18	0.18
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.0053	0.0081	0.082	0.012	0.064	0.022	0.016	0.014
Cadmium (AAS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium (AAS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.098	<0.005	0.038	<0.005	0.0073	<0.005	0.11	0.11
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.019	0.019	0.019	0.019	0.016	0.016	0.65	0.68
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.004	0.004
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.056	0.019	0.014	0.012	0.0056	0.051	0.11	0.13
MAJOR IONS (mg/L)	.	.	.	.	.	.	.	.
Alkalinity-HCO ₃	146	.	138	.	209	.	148	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.
Ammonia-N	<0.2	.	<0.2	.	.	.	.	.
Calcium	36	34	32	31	43	43	31	32
Chloride	1	.	1.2	.	3	.	1.6	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	1.7	.
Magnesium	16	15	15	15	26	26	17	17
Manganese	0.0014	<0.001	<0.001	<0.001	<0.001	0.0012	0.0024	0.0025
Nitrate-N	0.5	.	0.61	.	0.7	.	<0.2	.
Potassium	1.3	1.1	1.4	1.1	<0.6	<0.6	1	0.98
Sodium	0.59	0.57	0.8	0.68	0.93	0.88	3.4	3.6
Sulfate	<1	.	1	.	<1	.	12	.

(CONTINUED)

APPENDIX F.1

12

Field Duplicate Groundwater Quality Data, 1993

Sampling Point . Location . Date Sampled	GW-757					
	LII					
	04/05/93		07/20/93		10/05/93	
	TOT	DIS	TOT	DIS	TOT	DIS
METALS (mg/L)	.	.	.	.	.	.
Aluminum	0.22	<0.02	0.26	0.024	0.17	<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	0.16	0.16	0.16	0.15	0.18	0.18
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.041	0.029	0.011	0.021	0.014	0.011
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
Chromium (AAS)	<0.01	<0.01	0.013	0.018	0.026	0.022
Chromium	<0.01	<0.01	0.017	0.022	0.02	0.019
Cobalt	<0.005	<0.005	<0.005	<0.005	0.0062	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	0.51	0.012	0.36	0.0063	0.21	0.012
Lead (AAS)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	0.011	<0.01	<0.01
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.71	0.69	0.61	0.48	0.68	0.69
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (Fluor)	0.005	0.005	0.006	0.006	0.005	0.004
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.013	0.011	0.012	0.013	0.011	0.0084
MAJOR IONS (mg/L)	.	.	.	.	.	.
Alkalinity-HCO ₃	144	.	157	.	140	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.
Ammonia-N	.	.	.	.	.	.
Calcium	29	29	26	24	28	28
Chloride	1.3	.	1.6	.	1	.
Fluoride	1.8	.	1.8	.	1.9	.
Magnesium	15	15	14	13	15	15
Manganese	0.004	<0.001	0.0034	0.0014	0.0017	<0.001
Nitrate-N	<0.2	.	<0.2	.	<0.2	.
Potassium	1.7	1.7	1.5	2.3	1.5	1.5
Sodium	12	14	18	29	14	11
Sulfate	11.4	.	12	.	11	.

APPENDIX F.2
VOLATILE ORGANIC COMPOUNDS
AND
ADDITIONAL ORGANICS

APPENDIX F.2

1

Field Duplicate Groundwater Quality Data, 1993

Sampling Point . Location . Date Sampled	GW-144				GW-160			
	KHQ				LIII			
	03/06/93	06/12/93	08/26/93	12/15/93	02/09/93	06/06/93	08/12/93	11/11/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	1	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	9	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	1	5U	3	3	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	0.6	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	2	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	2	1	5U	1
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX F.2
Field Duplicate Groundwater Quality Data, 1993

2

Sampling Point . Location . Date Sampled	GW-181			GW-186				GW-203
	CRSP			RQ				UNCS
	01/05/93	06/04/93	09/01/93	03/03/93	06/26/93	07/24/93	12/06/93	01/18/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	2	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	1	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	2	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	1	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX F.2
Field Duplicate Groundwater Quality Data, 1993

3

Sampling Point	GW-203		GW-221	GW-292	GW-293			GW-303
Location	UNCS		UNCS	ECRWP	ECRWP			CRSDB
Date Sampled	05/11/93	10/07/93	07/27/93	01/26/93	04/06/93	08/22/93	10/15/93	02/25/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	0.6	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	0.9	5U	0.9	5U	1	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX F.2
Field Duplicate Groundwater Quality Data, 1993

4

Sampling Point . Location . Date Sampled	GW-303			GW-514				GW-522
	CRSDB			ADB				LIV
	06/17/93	08/20/93	12/02/93	03/20/93	06/05/93	09/02/93	12/17/93	01/06/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	1
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	1	10U	10U	10U	3
Methylene chloride	5U	5U	5U	2	0.9	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	2	1	1	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX F.2

5

Field Duplicate Groundwater Quality Data, 1993

Sampling Point . Location . Date Sampled	GW-522			GW-540				GW-562
	LIV			CDLVI				CDLVII
	04/02/93	07/18/93	10/05/93	03/12/93	05/28/93	08/21/93	11/30/93	05/26/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	8	10U	3	10U	10U	3
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	1	5U	1	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX F.2
Field Duplicate Groundwater Quality Data, 1993

6

Sampling Point . Location . Date Sampled	GW-564		GW-610	GW-757			
	CDLVII		CRSP	LII			
	08/29/93	12/08/93	12/17/93	01/07/93	04/05/93	07/20/93	10/05/93
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.
	.	.	.	.	.	.	.
Acetone	10U	7	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	11	10U	10U	10U	10U	8
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	2	10U	1	10U	10U	10U
Methylene chloride	5U	2	5U	5U	5U	0.9	5U
Styrene	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U
Xylenes	5U	5U	5U	5U	5U	5U	5U

APPENDIX F.2
Field Duplicate Groundwater Quality Data, 1993

7

Sampling Point . Location . Date Sampled	GW-160				GW-522			
	LIII				LIV			
	02/09/93	06/06/93	08/12/93	11/11/93	01/06/93	04/02/93	07/18/93	10/05/93
Additional Organics (ug/L)	.	.	.	.	.	.	.	.
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U
Trans-1,2-Dichloroethene	5U	.	.	.	5U	.	.	.
Acrolein	50U	50U	50U	50U	50U	50U	50U	50U
Acrylonitrile	50U	50U	50U	50U	50U	50U	50U	50U
Dibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	10000U	10000U	10000U	10000U	10000U	10000U	10000U	10000U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sampling Point . Location . Date Sampled	GW-540	GW-562	GW-564		GW-757			
	CDLVI	CDLVII	CDLVII		LII			
	03/12/93	06/22/93	08/29/93	12/08/93	01/07/93	04/05/93	07/20/93	10/05/93
Additional Organics (ug/L)	.	.	.	.	.	.	.	.
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U
Trans-1,2-Dichloroethene	5U	.	5U	5U	5U	.	.	.
Acrolein	50U	50U	50U	50U	50U	50U	50U	50U
Acrylonitrile	50U	50U	50U	50U	50U	50U	50U	50U
Dibromomethane	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	10000U	10000U	10000U	10000U	10000U	10000U	10000U	10000U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	2	5U

APPENDIX F.3

BASE, NEUTRAL, AND ACID EXTRACTABLE ORGANIC COMPOUNDS

APPENDIX F.3
Field Duplicate Groundwater Quality Data, 1993

1

Sampling Point . Location . Date Sampled	GW-186				GW-303			
	RQ				CRSDB			
	03/03/93	06/26/93	07/24/93	12/06/93	02/25/93	06/26/93	08/20/93	12/02/93
BHAs (ug/L)	.	.	.	.	.	.	.	.
1,2,4-Trichlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U
1,3-Dichlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U
1,4-Dichlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U
2,4,5-Trichlorophenol	50U	50U	50U	50U	50U	50U	50U	50U
2,4,6-Trichlorophenol	10U	10U	10U	10U	10U	10U	10U	10U
2,4-Dichlorophenol	10U	10U	10U	10U	10U	10U	10U	10U
2,4-Dimethylphenol	10U	10U	10U	10U	10U	10U	10U	10U
2,4-Dinitrophenol	50U	50U	50U	50U	50U	50U	50U	50U
2,4-Dinitrotoluene	10U	10U	10U	10U	10U	10U	10U	10U
2,6-Dinitrotoluene	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloronaphthalene	10U	10U	10U	10U	10U	10U	10U	10U
2-Chlorophenol	10U	10U	10U	10U	10U	10U	10U	10U
2-Methylnaphthalene	10U	10U	10U	10U	10U	10U	10U	10U
2-Methylphenol	10U	10U	10U	10U	10U	10U	10U	10U
2-Nitroaniline	50U	50U	50U	50U	50U	50U	50U	50U
2-Nitrophenol	10U	10U	10U	10U	10U	10U	10U	10U
3,3-Dichlorobenzidine	20U	20U	20U	20U	20U	20U	20U	20U
3-Nitroaniline	50U	50U	50U	50U	50U	50U	50U	50U
4,6-Dinitro-2-methylphenol	50U	50U	50U	50U	50U	50U	50U	50U
4-Bromophenyl phenyl ether	10U	10U	10U	10U	10U	10U	10U	10U
4-Chloro-3-methylphenol	10U	10U	10U	10U	10U	10U	10U	10U
4-Chloroaniline	10U	10U	10U	10U	10U	10U	10U	10U
4-Chlorophenyl phenyl ether	10U	10U	10U	10U	10U	10U	10U	10U
4-Methylphenol	10U	10U	10U	10U	10U	10U	10U	10U
4-Nitroaniline	50U	50U	50U	50U	50U	50U	50U	50U
4-Nitrophenol	50U	50U	50U	50U	50U	50U	50U	50U
Acenaphthene	10U	10U	10U	10U	10U	10U	10U	10U
Acenaphthylene	10U	10U	10U	10U	10U	10U	10U	10U
Anthracene	10U	10U	10U	10U	10U	10U	10U	10U
Benzo(a)anthracene	10U	10U	10U	10U	10U	10U	10U	10U
Benzo(a)pyrene	10U	10U	10U	10U	10U	10U	10U	10U
Benzo(b)fluoranthene	10U	10U	10U	10U	10U	10U	10U	10U
Benzo(g,h,i)perylene	10U	10U	10U	10U	10U	10U	10U	10U
Benzo(k)fluoranthene	10U	10U	10U	10U	10U	10U	10U	10U
Benzoic acid	50U	50U	50U	50U	50U	50U	50U	50U
Benzyl alcohol	10U	10U	10U	10U	10U	10U	10U	10U
bis(2-Chloroethoxy)methane	10U	10U	10U	10U	10U	10U	10U	10U
bis(2-Chloroethyl)ether	10U	10U	10U	10U	10U	10U	10U	10U
bis(2-Chloroisopropyl)ether	10U	10U	10U	10U	10U	10U	10U	10U
bis(2-Ethylhexyl)phthalate	10U	10U	10U	10U	0.4	10U	0.5	10U

(CONTINUED)

2

[illegible]

APPENDIX F.4

FIELD, MISCELLANEOUS, AND
GROSS ALPHA AND GROSS BETA ACTIVITIES

APPENDIX F.4
Field Duplicate Groundwater Data, 1993

1

Sampling Point . Location . Date Sampled	GW-144				GW-160			
	KHQ				LIHI			
	03/06/93	06/12/93	08/26/93	12/15/93	02/09/93	06/06/93	08/12/93	11/11/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	.	.	.	.	.	.	.	.
Water Temp (degrees C)	14.5	15.7	18	13.7	14.3	15.4	16.1	14.4
pH (pH units)	7.5	7.7	7.6	8	7.3	7.4	7.7	7.5
Sp. Cond. (umho/cm)	327	267	278	302	424	388	394	398
Dissolved Oxygen (ppm)	6.4	3	1.6	7	7.1	4.6	5	6.8
Oxidation/Reduction (mV)	216	197	158	165	223	50	-27	94
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	.	.	.	<5	<5	<5	<5
Cyanide (mg/L)	.	.	.	.	<0.1	<0.1	<0.1	<0.1
Phenols (mg/L)	<0.05	<0.05	<0.05	<0.05	.	.	.	.
pH (pH units)	7.9	8.3	8	8.1	7.4	8	7.7	7.7
pH, 2 (pH units)	8	8.2	8	8.1	.	.	.	.
pH, 3 (pH units)	7.9	8.2	8	8.1	.	.	.	.
pH, 4 (pH units)	8	8.2	8	8	.	.	.	.
Sp. Cond. (umho/cm)	337	310	333	319	468	441	438	421
Sp. Cond., 2 (umho/cm)	336	310	332	316	.	.	.	.
Sp. Cond., 3 (umho/cm)	337	312	332	317	.	.	.	.
Sp. Cond., 4 (umho/cm)	338	314	337	318	.	.	.	.
TOC (mg/L)	<1	2	<1	<1	1.5	2	1.6	2
TOC, 2 (mg/L)	<1	1	<1	<1	1.3	2	2.7	1
TOC, 3 (mg/L)	<1	1	<1	<1	1.4	2	5.1	2
TOC, 4 (mg/L)	1	<1	<1	26.6	1.3	1	3.7	2
TOX (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TOX, 2 (ug/L)	<10	<10	<10	<10	<10	<10	13	<10
TOX, 3 (ug/L)	<10	<10	<10	<10	<10	<10	32	<10
TOX, 4 (ug/L)	<10	<10	<10	<10	<10	<10	12	<10
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	172	170	190	194	362	286	260	270
TSS (mg/L)	<1	<1	2	<1	216	141	15	33
Turbidity (NTU)	0.3	1.8	2.6	0.7	350	240	35	130
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.30	-1.76	3.85	5.77	13.00	3.33	0.52	1.68
Gross Alpha (CE+/-)	3.30	2.70	2.40	2.30	6.00	4.20	1.50	1.40
Gross Beta (pCi/L)	2.15	1.15	-3.67	2.74	15.10	3.14	-3.82	0.78
Gross Beta (CE+/-)	5.00	5.30	2.80	2.80	6.60	5.50	3.00	2.30

(CONTINUED)

APPENDIX F.4
Field Duplicate Groundwater Data, 1993

2

Sampling Point	GW-181			GW-186				GW-203
Location	CRSP			RQ				UNCS
Date Sampled	01/05/93	06/04/93	09/01/93	03/03/93	06/26/93	07/24/93	12/06/93	01/18/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	.	.	.	.	.	.	.	.
Water Temp (degrees C)	13.4	15.6	16	13.9	15.9	17.9	13.6	13.8
pH (pH units)	7.7	7.8	7.8	6.9	6.9	7.1	7.1	7.8
Sp. Cond. (umho/cm)	301	279	313	782	735	805	825	280
Dissolved Oxygen (ppm)	3.3	7.3	6.1	5.9	0.5	0.3	0.6	6.1
Oxidation/Reduction (mV)	250	191	123	-120	-70	-110	-206	222
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	.	.	.	.	.	.	.
Cyanide (mg/L)	.	.	.	.	.	.	.	.
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	7.8	8.2	7.9	7.7	7.5	7.3	7.6	7.5
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	334	320	329	900	879	895	894	268
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	.	.	.	.	.	.	.	.
TOC, 2 (mg/L)	.	.	.	.	.	.	.	.
TOC, 3 (mg/L)	.	.	.	.	.	.	.	.
TOC, 4 (mg/L)	.	.	.	.	.	.	.	.
TOX (ug/L)	.	.	.	.	.	.	.	.
TOX, 2 (ug/L)	.	.	.	.	.	.	.	.
TOX, 3 (ug/L)	.	.	.	.	.	.	.	.
TOX, 4 (ug/L)	.	.	.	.	.	.	.	.
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	172	168	166	556	534	540	574	232
TSS (mg/L)	<1	<1	2	<1	3	1	2	206
Turbidity (NTU)	1.4	2	3.1	0.8	6.2	9	7.7	180
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	1.43	-3.45	2.72	-1.07	-16.80	-6.23	-0.65	13.50
Gross Alpha (CE+/-)	1.50	4.10	3.80	3.60	34.00	2.80	1.90	4.80
Gross Beta (pCi/L)	1.21	-9.18	2.74	5.75	-68.50	-2.13	2.31	26.90
Gross Beta (CE+/-)	2.70	5.70	5.70	5.30	52.00	2.90	2.50	6.80

(CONTINUED)

APPENDIX F.4
Field Duplicate Groundwater Data, 1993

3

Sampling Point	GW-203		GW-221	GW-292	GW-293			GW-303
Location	UNCS		UNCS	ECRWP	ECRWP			CRSDB
Date Sampled	05/11/93	10/07/93	07/27/93	01/26/93	04/06/93	08/22/93	10/15/93	02/25/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	.	.	.	.	.	.	.	.
Water Temp (degrees C)	16.6	16.1	17	13.4	13.9	16.4	15.6	11.2
pH (pH units)	7.7	8	7.7	7.5	7.5	7.8	7.5	7.6
Sp. Cond. (umho/cm)	211	255	278	432	391	452	473	599
Dissolved Oxygen (ppm)	4.1	4.2	5.7	10.8	5.2	5.7	8.2	5.2
Oxidation/Reduction (mV)	230	173	97	127	173	116	204	-174
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	.	.	.	.	.	.	.
Cyanide (mg/L)	.	.	.	.	.	.	.	.
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	8.2	8	7.9	7.5	7.5	7.7	7.7	7.9
pH, 2 (pH units)	.	.	.	.	.	.	.	7.9
pH, 3 (pH units)	.	.	.	.	.	.	.	7.9
pH, 4 (pH units)	.	.	.	.	.	.	.	7.9
Sp. Cond. (umho/cm)	261	272	291	504	469	483	479	657
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	653
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	656
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	656
TOC (mg/L)	.	.	.	.	.	.	.	<1
TOC, 2 (mg/L)	.	.	.	.	.	.	.	<1
TOC, 3 (mg/L)	.	.	.	.	.	.	.	<1
TOC, 4 (mg/L)	.	.	.	.	.	.	.	<1
TOX (ug/L)	.	.	.	.	.	.	.	<10
TOX, 2 (ug/L)	.	.	.	.	.	.	.	<10
TOX, 3 (ug/L)	.	.	.	.	.	.	.	<10
TOX, 4 (ug/L)	.	.	.	.	.	.	.	<10
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	146	220	204	268	262	272	284	466
TSS (mg/L)	7	3	<1	<1	13	9	13	1
Turbidity (NTU)	9.9	6.5	1.2	0.7	25	13	28	3.3
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	-0.91	-1.63	0.86	1.19	0.29	-1.72	-1.66	4.12
Gross Alpha (CE+/-)	0.94	1.80	3.40	2.30	3.65	5.50	2.40	2.10
Gross Beta (pCi/L)	2.64	-1.07	3.11	-0.42	6.58	0.98	-9.23	4.96
Gross Beta (CE+/-)	1.40	2.70	5.00	2.90	5.00	11.00	5.50	2.90

(CONTINUED)

APPENDIX F.4
Field Duplicate Groundwater Data, 1993

4

Sampling Point . Location . Date Sampled	GW-303					GW-514		
	CRSDB					ADB		
	06/17/93	06/26/93	08/20/93	08/25/93	12/02/93	03/20/93	06/05/93	09/02/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	.	.	.	.	.	.	.	.
Water Temp (degrees C)	15.8	.	16	16.2	13.6	13.6	15.8	15.8
pH (pH units)	7.8	.	7.6	7.5	7.6	7.6	7.5	7.7
Sp. Cond. (umho/cm)	566	.	615	625	630	326	282	313
Dissolved Oxygen (ppm)	0.5	.	0.4	1.1	0.2	5.9	2.5	8.6
Oxidation/Reduction (mV)	-130	.	-109	-143	-120	227	167	277
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	.	.	.	.	.	.	.
Cyanide (mg/L)	.	.	.	.	.	.	.	.
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	8.2	.	7.9	8.1	7.9	7.7	8.1	7.8
pH, 2 (pH units)	8.1	.	.	8.1	7.9	.	.	.
pH, 3 (pH units)	8.1	.	.	8.2	7.9	.	.	.
pH, 4 (pH units)	8.1	.	.	8	7.9	.	.	.
Sp. Cond. (umho/cm)	626	.	648	586	638	351	345	339
Sp. Cond., 2 (umho/cm)	625	.	.	580	636	.	.	.
Sp. Cond., 3 (umho/cm)	626	.	.	606	636	.	.	.
Sp. Cond., 4 (umho/cm)	632	.	.	580	636	.	.	.
TOC (mg/L)	2	.	1.2	.	1	2.5	1	3
TOC, 2 (mg/L)	3	.	<1	.	1	.	.	.
TOC, 3 (mg/L)	3	.	<1	.	1	.	.	.
TOC, 4 (mg/L)	2	.	1.3	.	1	.	.	.
TOX (ug/L)	<10	.	<10	.	<10	<10	<10	<10
TOX, 2 (ug/L)	<10	.	<10	.	<10	.	.	.
TOX, 3 (ug/L)	<10	.	<10	.	<10	.	.	.
TOX, 4 (ug/L)	<10	.	<10	.	<10	.	.	.
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	460	.	484	.	450	184	182	186
TSS (mg/L)	<1	.	<1	.	<1	<1	1	2
Turbidity (NTU)	5.1	.	4	.	6.9	4.3	3.5	3
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.67	.	0.60	.	2.40	1.24	-1.17	4.31
Gross Alpha (CE+/-)	1700.00	.	6.30	.	1.70	1.70	3.30	4.10
Gross Beta (pCi/L)	-0.68	.	2.97	.	-0.73	3.32	2.63	-1.72
Gross Beta (CE+/-)	2500.00	.	11.00	.	2.90	2.80	5.40	5.40

(CONTINUED)

APPENDIX F.4
Field Duplicate Groundwater Data, 1993

5

Sampling Point	GW-514	GW-522				GW-540		
Location	ADB	LIV				CDLVI		
Date Sampled	12/17/93	01/06/93	04/02/93	07/18/93	10/05/93	03/12/93	05/28/93	08/21/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	.	.	.	.	.	.	.	.
Water Temp (degrees C)	14	13.6	13	15.6	15	13.1	16	15.7
pH (pH units)	7.8	7.3	7.5	7.4	7.9	7.8	7.9	7.8
Sp. Cond. (umho/cm)	338	301	231	247	227	332	272	315
Dissolved Oxygen (ppm)	3.7	7.8	8.2	7.8	7.7	5.3	5.6	7.8
Oxidation/Reduction (mV)	140	206	229	217	165	183	213	145
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	.	<5	<5	<5	<5	<5	<5	<5
Cyanide (mg/L)	.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	7.9	7.9	7.7	7.9	7.9	7.8	7.9	7.9
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	327	312	290	253	242	348	340	339
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	<1	<1	1.4	3	<1	1.4	2	1
TOC, 2 (mg/L)	.	<1	1.5	1	<1	1.8	2	1
TOC, 3 (mg/L)	.	<1	1.9	1	<1	1.5	2	2
TOC, 4 (mg/L)	.	<1	1.3	1	<1	1.8	2	2
TOX (ug/L)	<10	<10	<10	<10	<10	<10	<10	<10
TOX, 2 (ug/L)	.	<10	<10	<10	<10	<10	<10	<10
TOX, 3 (ug/L)	.	<10	<10	<10	<10	<10	<10	<10
TOX, 4 (ug/L)	.	<10	<10	<10	<10	<10	<10	<10
TPH (mg/L)	.	.	.	.	.	.	.	.
TDS (mg/L)	184	208	160	172	94	168	160	196
TSS (mg/L)	<1	240	17	73	14	<1	<1	2
Turbidity (NTU)	2	100	12	60	9.5	1.4	1.9	1.2
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.91	3.59	-1.82	-0.67	2.00	-0.66	-4.62	-1.79
Gross Alpha (CE+/-)	2.10	3.30	1.70	3.00	2.10	1.90	4.20	3.80
Gross Beta (pCi/L)	0.94	2.08	-1.34	-10.00	0.58	0.59	1.15	-0.33
Gross Beta (CE+/-)	2.90	5.50	2.90	5.60	2.60	3.00	5.50	5.30

(CONTINUED)

APPENDIX F.4
Field Duplicate Groundwater Data, 1993

6

Sampling Point	GW-540	GW-562		GW-564		GW-610	GW-757	
Location	CDLVI	CDLVII		CDLVII		CRSP	LII	
Date Sampled	11/30/93	05/26/93	06/22/93	08/29/93	12/08/93	12/17/93	01/07/93	04/05/93
FIELD MEASUREMENTS	.	.	.	.	.	.	.	.
Depth to Water (ft)	.	.	.	.	.	.	.	.
Water Temp (degrees C)	13.7	14.6	15.7	15.9	14.6	13.2	13.7	13.1
pH (pH units)	7.6	7.5	7.7	7.1	7.1	7.1	7.8	8.2
Sp. Cond. (umho/cm)	331	264	289	265	246	369	300	232
Dissolved Oxygen (ppm)	4.4	7.1	5.9	7.4	8.9	6.6	7.4	8.4
Oxidation/Reduction (mV)	150	150	149	201	207	216	129	166
MISCELLANEOUS PARAMETERS	.	.	.	.	.	.	.	.
COD (mg/L)	<5	<5	.	<5	<5	.	<5	<5
Cyanide (mg/L)	<0.1	<0.1	.	<0.1	<0.1	.	<0.1	<0.1
Phenols (mg/L)	.	.	.	.	.	.	.	.
pH (pH units)	8.3	7.8	.	7.8	7.7	7.8	8	8.4
pH, 2 (pH units)	.	.	.	.	.	.	.	.
pH, 3 (pH units)	.	.	.	.	.	.	.	.
pH, 4 (pH units)	.	.	.	.	.	.	.	.
Sp. Cond. (umho/cm)	342	330	.	284	268	379	322	307
Sp. Cond., 2 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 3 (umho/cm)	.	.	.	.	.	.	.	.
Sp. Cond., 4 (umho/cm)	.	.	.	.	.	.	.	.
TOC (mg/L)	1	<1	.	1	<1	.	<1	2.5
TOC, 2 (mg/L)	1	<1	.	1	<1	.	<1	2.3
TOC, 3 (mg/L)	37	<1	.	<1	<1	.	<1	2.3
TOC, 4 (mg/L)	1	<1	.	<1	<1	.	<1	2.5
TOX (ug/L)	<10	<10	.	<10	<10	.	<10	<10
TOX, 2 (ug/L)	<10	<10	.	<10	<10	.	<10	<10
TOX, 3 (ug/L)	<10	<10	.	<10	<10	.	<10	<10
TOX, 4 (ug/L)	<10	<10	.	<10	<10	.	<10	<10
TPH (mg/L)	.	<0.1	.	<0.1	<0.1	.	.	.
TDS (mg/L)	182	230	.	166	180	206	174	170
TSS (mg/L)	7	36	.	<1	<1	1	8	1
Turbidity (NTU)	2	85	.	1	1	2.8	4.3	20
RADIOCHEMICAL PARAMETERS	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	0.49	0.00	.	-4.04	-0.33	1.68	2.10	0.29
Gross Alpha (CE+/-)	1.30	3.90	.	3.30	1.10	2.20	2.10	3.60
Gross Beta (pCi/L)	-1.79	-2.73	.	-4.76	-5.03	1.55	2.60	6.75
Gross Beta (CE+/-)	2.80	5.30	.	5.00	2.90	3.00	2.80	5.00

(CONTINUED)

APPENDIX F.4
Field Duplicate Groundwater Data, 1993

7

Sampling Point . Location . Date Sampled	GW-757	
	LII	
	07/20/93	10/05/93
FIELD MEASUREMENTS	.	.
Depth to Water (ft)	.	.
Water Temp (degrees C)	17.1	16.2
pH (pH units)	8.6	7.9
Sp. Cond. (umho/cm)	348	284
Dissolved Oxygen (ppm)	11.6	4.7
Oxidation/Reduction (mV)	81	205
MISCELLANEOUS PARAMETERS	.	.
COD (mg/L)	<5	<5
Cyanide (mg/L)	<0.1	<0.1
Phenols (mg/L)	.	.
pH (pH units)	8.3	8.2
pH, 2 (pH units)	.	.
pH, 3 (pH units)	.	.
pH, 4 (pH units)	.	.
Sp. Cond. (umho/cm)	322	295
Sp. Cond., 2 (umho/cm)	.	.
Sp. Cond., 3 (umho/cm)	.	.
Sp. Cond., 4 (umho/cm)	.	.
TOC (mg/L)	10	<1
TOC, 2 (mg/L)	9.3	3
TOC, 3 (mg/L)	10	1
TOC, 4 (mg/L)	9.9	<1
TOX (ug/L)	<10	<10
TOX, 2 (ug/L)	<10	<10
TOX, 3 (ug/L)	<10	<10
TOX, 4 (ug/L)	<10	<10
TPH (mg/L)	.	.
TDS (mg/L)	204	136
TSS (mg/L)	25	2
Turbidity (NTU)	7.8	4
RADIOCHEMICAL PARAMETERS	.	.
Gross Alpha (pCi/L)	0.29	2.71
Gross Alpha (CE+/-)	2.90	2.20
Gross Beta (pCi/L)	-4.33	1.83
Gross Beta (CE+/-)	6.30	2.70

APPENDIX F.5
RADIONUCLIDES

APPENDIX F.3
Field Duplicate Groundwater Quality Data, 1993

1

Sampling Point . Location . Date Sampled	GW-203			GW-221	GW-540			GW-562
	UNCS			UNCS	CDLVI			CDLVII
	01/18/93	05/11/93	10/07/93	07/27/93	05/28/93	08/21/93	11/30/93	05/26/93
Gross Alpha (pCi/L)	13.50	-0.91	-1.63	0.86	-4.62	-1.79	0.49	0.00
Gross Alpha (CE+/-)	4.80	0.94	1.80	3.40	4.20	3.80	1.30	3.90
Gross Beta (pCi/L)	26.90	2.64	-1.07	3.11	1.15	-0.33	-1.79	-2.73
Gross Beta (CE+/-)	6.80	1.40	2.70	5.00	5.50	5.30	2.80	5.30
RADIONUCLIDES	.	.	.	.	.	.	.	.
Cesium 137 (pCi/l)	.	.	.	.	0.12	6.50	-9.50	-9.19
Cesium 137 (CE +/-)	.	.	.	.	28.00	45.00	39.00	30.00
Protactinium (pCi/L)	.	.	.	.	7880.00	5430.00	3860.00	5080.00
Protactinium (CE +/-)	.	.	.	.	4500.00	7400.00	6300.00	4800.00
Radium (Bq/L)	0.06	0.03	0.03	0.01	.	.	.	.
Radium (CE +/-)	0.04	0.04	0.04	0.02	.	.	.	.
Thorium 234 (pCi/l)	.	.	.	.	208.00	1010.00	-136.00	123.00
Thorium 234 (CE +/-)	.	.	.	.	540.00	330.00	570.00	520.00
Uranium 234 (pCi/L)	8.65	44.80	47.90	10.50	22.90	0.00	-0.42	0.00
Uranium 234 (CE +/-)	17.00	34.00	38.00	21.00	34.00	14.00	1.70	23.00
Uranium 235 (pCi/L)	-2.17	42.20	4.12	49.50	66.20	40.70	4.92	28.70
Uranium 235 (CE +/-)	99.00	75.00	90.00	91.00	17.00	90.00	72.00	71.00
Uranium 238 (pCi/L)	4.32	51.30	5.99	10.50	15.30	0.00	0.00	0.00
Uranium 238 (CE +/-)	8.60	36.00	12.00	15.00	31.00	14.00	1.50	23.00

(CONTINUED)

APPENDIX F.5
Field Duplicate Groundwater Quality Data, 1993

2

Sampling Point . Location . Date Sampled	GW-564	
	CDLVII	
	08/29/93	12/08/93
Gross Alpha (pCi/L)	-4.04	-0.33
Gross Alpha (CE+/-)	3.30	1.10
Gross Beta (pCi/L)	-4.76	-5.03
Gross Beta (CE+/-)	5.00	2.90
<hr/>		
RADIONUCLIDES	.	.
<hr/>		
Cesium 137 (pCi/l)	18.70	-39.20
Cesium 137 (CE +/-)	41.00	36.00
Protactinium (pCi/L)	6610.00	2210.00
Protactinium (CE+/-)	7400.00	6000.00
Radium (Bq/L)	.	.
Radium (CE+/-)	.	.
Thorium 234 (pCi/l)	867.00	-222.00
Thorium 234 (CE +/-)	330.00	570.00
Uranium 234 (pCi/L)	22.30	0.00
Uranium 234 (CE+/-)	45.00	0.44
Uranium 235 (pCi/L)	-3.86	-11.40
Uranium 235 (CE+/-)	90.00	68.00
Uranium 238 (pCi/L)	33.40	0.38
Uranium 238 (CE+/-)	50.00	0.31

APPENDIX G

ION-CHARGE BALANCE CALCULATIONS

EXPLANATION

LOCATION:

ADB	-	Ash Disposal Basin
CDLVI	-	Construction Debris Landfill VI (formerly Industrial Landfill II Expansion)
CDLVII	-	Construction Debris Landfill VII
CRSDB	-	Chestnut Ridge Sediment Disposal Basin
CRSP	-	Chestnut Ridge Security Pits
ECRWP	-	East Chestnut Ridge Waste Pile
KHQ	-	Kerr Hollow Quarry (located in Bethel Valley)
LII	-	Industrial Landfill II
LIII	-	Industrial Landfill III
LIV	-	Industrial Landfill IV
LV	-	Industrial Landfill V
RQ	-	Rogers Quarry (located in Bethel Valley)
UNCS	-	United Nuclear Corporation Site

NOTES:

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

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

EXPLANATION

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

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

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

Monitoring Well	Location	Sampling Date	RPD
GW-295	LIII	11/13/93	-10.5
GW-299	LIII	02/10/93	-11.0
GW-542	CDLVI	09/15/93	18.7
GW-542	CDLVI	12/03/93	-32.7
GW-545	CDLVI	06/02/93	10.9
GW-545	CDLVI	12/03/93	11.3
GW-546	CDLVI	12/01/93	-10.0
GW-797	LV	05/27/93	11.8

APPENDIX G
Ion-Charge Balance Calculations, 1993

1

Sampling Point Location Date Sampled	1090				GW-141				GW-142				GW-143	
	UNCS				LIV				KHQ				KHQ	
	01/20/93	05/13/93	07/27/93	10/10/93	01/07/93	04/05/93	07/18/93	10/06/93	03/05/93	06/11/93	08/25/93	12/15/93	03/06/93	06/12/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	2.84	2.59	2.74	2.69	3.04	2.45	2.35	2.40	2.20	2.25	2.50	2.15	1.35	1.45
Magnesium	2.71	2.63	2.63	2.55	2.96	2.47	2.39	2.39	2.55	2.39	2.63	2.55	1.81	1.81
Potassium	0.02	0.02	0.04	0.02	0.02	0.02	0.00	0.00	0.10	0.09	0.11	0.09	0.43	0.41
Sodium	0.32	0.38	0.42	0.37	0.05	0.04	0.03	0.03	0.06	0.04	0.04	0.04	1.09	1.04
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ammonia Nitrogen	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total Cations	5.90	5.63	5.84	5.64	6.07	4.97	4.76	4.81	4.91	4.77	5.28	4.83	4.68	4.71
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	5.18	5.18	5.04	4.94	5.14	5.04	4.74	4.80	4.60	4.82	4.76	4.66	3.90	4.12
Chloride	0.56	0.59	0.59	0.54	0.05	0.05	0.04	0.06	0.03	0.05	0.03	0.06	0.17	0.17
Fluoride	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.03	0.00	0.15	0.14
Nitrate Nitrogen	0.09	0.05	0.05	0.06	0.04	0.04	0.03	0.03	0.00	0.00	0.03	0.02	0.00	0.00
Sulfate	0.31	0.15	0.12	0.19	0.09	0.05	0.03	0.02	0.15	0.12	0.12	0.08	0.69	0.70
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	6.15	5.96	5.79	5.72	5.31	5.17	4.83	4.90	4.80	5.01	4.97	4.82	4.91	5.13
CHARGE BALANCE (%)	-2	-3	0	-1	7	-2	-1	-1	1	-3	3	0	-2	-4
TDS (mg/L)	268	292	318	340	272	260	254	214	222	242	250	254	256	266
TSS (mg/L)	<1	<1	<1	<1	21	21	20	5	17	4	8	6	12	14
Turbidity (NTU)	0.8	0.9	1	0.4	16	30	20	12	30	22	23	17	19	8.9

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

2

Sampling Point	GW-143		GW-144				GW-145				GW-146			
Location	KHQ		KHQ				KHQ				KHQ			
Date Sampled	08/27/93	12/15/93	03/06/93	06/12/93	08/26/93	12/15/93	03/06/93	06/12/93	08/25/93	12/14/93	03/09/93	06/13/93	08/25/93	12/16/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	1.50	1.35	2.05	2.00	2.25	2.05	1.95	2.00	2.10	2.10	1.95	1.90	2.10	1.85
Magnesium	1.89	1.81	1.23	1.15	1.32	1.32	2.55	2.63	2.80	2.88	2.55	2.63	2.88	2.63
Potassium	0.46	0.41	0.05	0.05	0.05	0.05	0.31	0.31	0.31	0.31	0.41	0.38	0.46	0.41
Sodium	1.30	1.17	0.05	0.05	0.06	0.05	0.40	0.30	0.30	0.37	0.52	0.48	0.52	0.52
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
Ammonia Nitrogen	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total Cations	5.15	4.74	3.38	3.25	3.66	3.46	5.21	5.23	5.50	5.65	5.43	5.39	5.96	5.41
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	4.04	4.06	3.16	3.06	3.24	3.12	4.48	4.68	4.68	4.54	4.02	4.12	4.04	3.88
Chloride	0.14	0.17	0.06	0.06	0.06	0.06	0.23	0.25	0.28	0.28	0.34	0.34	0.34	0.37
Fluoride	0.18	0.16	0.01	0.01	0.01	0.00	0.13	0.13	0.10	0.13	0.15	0.14	0.16	0.14
Nitrate Nitrogen	0.00	0.00	0.09	0.10	0.06	0.08	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.02
Sulfate	0.62	0.65	0.12	0.13	0.17	0.15	0.56	0.65	0.42	0.58	1.36	1.32	1.33	1.48
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	4.98	5.03	3.43	3.35	3.54	3.40	5.39	5.71	5.48	5.53	5.89	5.91	5.87	5.89
CHARGE BALANCE (%)	2	-3	-1	-2	2	1	-2	-4	0	1	-4	-5	1	-4
TDS (mg/L)	278	280	178	176	186	196	290	302	314	298	324	330	330	304
TSS (mg/L)	2	1	<1	<1	3	<1	12	218	2020	12	8	4	4	178
Turbidity (NTU)	5	17	0.4	0.8	2.5	0.9	36	800	500	16	1.5	9.6	11	66

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

3

Sampling Point	GW-147				GW-156				GW-158				GW-159	
Location	KHQ				CRSDB				CRSDB				CRSDB	
Date Sampled	03/05/93	06/11/93	08/24/93	12/14/93	02/24/93	06/15/93	08/12/93	11/30/93	03/24/93	06/23/93	08/25/93	12/05/93	02/22/93	06/14/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	1.70	1.60	1.80	1.75	3.54	3.49	3.44	3.29	1.80	1.70	2.00	1.80	1.85	1.95
Magnesium	1.65	1.48	1.65	1.65	3.37	3.29	3.37	3.29	1.65	1.56	1.81	1.73	1.81	1.89
Potassium	0.10	0.09	0.10	0.08	0.06	0.12	0.09	0.06	0.03	0.03	0.03	0.02	0.08	0.05
Sodium	0.14	0.12	0.12	0.10	0.10	0.18	0.12	0.10	0.03	0.02	0.02	0.03	0.03	0.03
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
Ammonia Nitrogen	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total Cations	3.59	3.29	3.67	3.58	7.08	7.08	7.03	6.75	3.51	3.31	3.86	3.57	3.77	3.92
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	3.34	3.36	3.24	3.34	6.89	7.15	6.91	6.79	3.42	3.48	3.56	3.50	3.74	3.82
Chloride	0.06	0.05	0.04	0.06	0.03	0.05	0.06	0.06	0.00	0.04	0.00	0.00	0.00	0.03
Fluoride	0.07	0.05	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Nitrate Nitrogen	0.04	0.06	0.06	0.05	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.02	0.00
Sulfate	0.21	0.12	0.11	0.08	0.14	0.15	0.25	0.10	0.21	0.27	0.19	0.19	0.14	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	3.71	3.63	3.48	3.56	7.07	7.36	7.25	6.97	3.62	3.79	3.75	3.69	3.90	4.06
CHARGE BALANCE (%)	-2	-5	3	0	0	-2	-2	-2	-2	-7	1	-2	-2	-2
TDS (mg/L)	184	216	190	202	354	354	364	342	188	180	196	184	196	202
TSS (mg/L)	19	21	6	7	9	2	19	6	11	<1	15	2	11	5
Turbidity (NTU)	230	17	7.8	26	15	1.5	15	3.1	3.4	5.3	8	2.9	6.3	4.8

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

4

Sampling Point	GW-159		GW-160				GW-161				GW-175			
Location	CRSDB		LIII				LIII				CRSP			
Date Sampled	08/10/93	11/29/93	02/09/93	06/06/93	08/12/93	11/11/93	02/08/93	06/05/93	08/11/93	11/10/93	03/27/93	06/15/93	09/11/93	12/19/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	1.95	1.90	2.40	2.35	2.45	2.25	2.00	2.00	1.90	1.80	1.80	1.95	2.00	2.00
Magnesium	1.89	1.89	2.39	2.30	2.47	2.22	1.97	1.97	1.97	1.81	1.73	1.89	1.97	1.97
Potassium	0.03	0.03	0.03	0.02	0.03	0.02	0.03	0.02	0.00	0.02	0.02	0.00	0.00	0.00
Sodium	0.02	0.03	0.09	0.09	0.07	0.07	0.03	0.03	0.03	0.04	0.20	0.07	0.08	0.10
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
Ammonia Nitrogen	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total Cations	3.89	3.85	4.89	4.76	5.01	4.56	4.03	4.02	3.90	3.66	3.75	3.91	4.05	4.07
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	3.68	3.74	4.64	4.64	4.56	4.74	3.94	4.04	4.00	4.06	3.66	4.06	4.00	3.86
Chloride	0.05	0.03	0.13	0.12	0.10	0.11	0.05	0.05	0.06	0.06	0.06	0.05	0.06	0.06
Fluoride	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nitrate Nitrogen	0.03	0.02	0.04	0.03	0.04	0.04	0.02	0.00	0.00	0.02	0.02	0.00	0.00	0.02
Sulfate	0.27	0.15	0.21	0.09	0.17	0.06	0.08	0.04	0.14	0.03	0.05	0.02	0.02	0.00
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	4.03	3.93	5.02	4.87	4.87	4.95	4.08	4.12	4.20	4.16	3.79	4.13	4.08	3.94
CHARGE BALANCE (%)	-2	-1	-1	-1	1	-4	-1	-1	-4	-6	-1	-3	-0	2
TDS (mg/L)	206	210	428	284	260	290	228	158	214	226	188	204	202	160
TSS (mg/L)	38	22	218	187	16	49	<1	<1	5	<1	2	2	4	<1
Turbidity (NTU)	15	16	320	260	40	120	1.9	3.1	8.2	1.9	3.4	3.5	2.1	1.8

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

5

Sampling Point Location Date Sampled	GW-177				GW-181				GW-184				GW-186	
	CRSP				CRSP				RQ				RQ	
	03/30/93	06/14/93	09/30/93	12/19/93	01/05/93	06/04/93	09/01/93	12/16/93	03/02/93	06/24/93	07/22/93	12/05/93	03/03/93	06/26/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	2.10	2.10	2.40	2.40	1.75	1.60	1.80	1.80	4.24	3.59	3.74	2.99	5.49	5.49
Magnesium	2.06	2.06	2.30	2.39	1.73	1.65	1.73	1.81	0.61	0.61	0.70	0.58	2.63	2.71
Potassium	0.07	0.06	0.05	0.05	0.04	0.03	0.03	0.03	0.05	0.03	0.04	0.03	0.09	0.06
Sodium	0.05	0.04	0.06	0.06	0.03	0.03	0.03	0.03	0.07	0.07	0.09	0.07	2.26	1.35
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
Ammonia Nitrogen	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total Cations	4.27	4.25	4.81	4.89	3.54	3.30	3.58	3.67	4.97	4.30	4.57	3.67	10.48	9.61
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	4.08	4.24	4.28	4.38	3.30	3.38	3.34	3.40	3.22	3.90	3.80	3.16	8.07	8.19
Chloride	0.07	0.05	0.08	0.08	0.06	0.04	0.05	0.03	0.04	0.05	0.03	0.05	0.42	0.40
Fluoride	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01
Nitrate Nitrogen	0.02	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.49	0.19	0.14	0.30	0.00	0.00
Sulfate	0.17	0.23	0.25	0.12	0.17	0.04	0.15	0.02	0.42	0.50	0.52	0.40	1.31	1.47
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	4.33	4.51	4.64	4.61	3.52	3.45	3.54	3.45	4.17	4.65	4.49	3.90	9.82	10.07
CHARGE BALANCE (%)	-1	-3	2	3	0	-2	1	3	9	-4	1	-3	3	-2
TDS (mg/L)	222	218	204	216	176	164	160	166	272	254	270	232	564	540
TSS (mg/L)	4	4	<1	3	<1	<1	1	6	<1	<1	1	3	<1	2
Turbidity (NTU)	3.9	3.4	3.5	9	1.2	1.6	3.3	2.7	1	0.5	2	4.4	0.6	4.8

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

Sampling Point	GW-186		GW-187				GW-188				GW-203			
Location	RQ		RQ				RQ				UNCS			
Date Sampled	07/24/93	12/06/93	03/03/93	06/25/93	07/23/93	12/06/93	03/02/93	06/24/93	07/22/93	12/05/93	01/18/93	05/11/93	07/26/93	10/07/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	5.49	4.89	2.94	2.45	2.59	2.94	1.65	1.60	1.65	1.55	1.30	1.45	1.45	1.45
Magnesium	2.80	2.47	1.97	1.65	1.81	1.89	1.97	1.97	1.89	1.97	1.23	1.32	1.40	1.32
Potassium	0.08	0.07	0.06	0.05	0.05	0.05	0.08	0.05	0.07	0.03	0.00	0.02	0.02	0.03
Sodium	1.57	1.65	5.22	3.96	4.78	10.88	1.17	0.52	0.91	0.52	0.02	0.02	0.02	0.02
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
Ammonia Nitrogen	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total Cations	9.93	9.09	10.20	8.10	9.24	15.76	4.88	4.15	4.52	4.08	2.55	2.81	2.89	2.81
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	8.21	8.25	5.82	5.88	5.90	6.73	4.02	3.84	4.00	3.96	2.66	2.66	2.68	2.68
Chloride	0.45	0.42	3.84	2.40	3.16	6.88	0.18	0.15	0.14	0.10	0.03	0.05	0.04	0.03
Fluoride	0.01	0.00	0.04	0.04	0.05	0.08	0.04	0.03	0.03	0.03	0.00	0.00	0.00	0.00
Nitrate Nitrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.08	0.09	0.11
Sulfate	1.33	1.42	0.62	0.44	0.54	1.75	0.60	0.46	0.54	0.32	0.00	0.00	0.00	0.04
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	10.01	10.09	10.32	8.75	9.65	15.45	4.84	4.47	4.71	4.41	2.76	2.78	2.81	2.86
CHARGE BALANCE (%)	-0	-5	-1	-4	-2	1	0	-4	-2	-4	-4	0	1	-1
TDS (mg/L)	538	562	562	488	522	938	288	232	278	226	228	146	166	222
TSS (mg/L)	2	2	1	<1	<1	<1	12	2	40	<1	210	7	8	3
Turbidity (NTU)	8.4	6.5	14	25	20	26	2.5	1.8	34	1.4	190	9.8	10	6.6

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

7

Sampling Point Location Date Sampled	GW-205				GW-217				GW-221				GW-231	
	UMCS				LIV				UMCS				KNO	
	01/18/93	05/11/93	07/26/93	10/07/93	01/05/93	04/01/93	07/17/93	10/04/93	01/19/93	05/12/93	07/27/93	10/09/93	03/05/93	06/11/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	1.50	1.60	1.50	1.65	1.30	1.35	1.45	1.40	1.50	1.60	1.55	1.55	1.45	1.90
Magnesium	1.40	1.48	1.48	1.56	1.32	1.40	1.48	1.40	1.48	1.56	1.56	1.56	1.23	1.56
Potassium	0.00	0.02	0.03	0.02	0.11	0.11	0.10	0.11	0.00	0.03	0.02	0.00	0.03	0.02
Sodium	0.03	0.03	0.03	0.03	0.21	0.21	0.21	0.18	0.03	0.03	0.03	0.03	0.03	0.03
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
Ammonia Nitrogen	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total Cations	2.92	3.13	3.04	3.26	2.94	3.07	3.24	3.08	3.00	3.21	3.17	3.14	2.73	3.51
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	3.08	3.08	3.02	2.90	2.96	3.02	3.00	2.94	2.90	3.02	3.02	2.32	3.34
Chloride	0.06	0.07	0.07	0.06	0.06	0.05	0.04	0.05	0.03	0.03	0.03	0.03	0.03	0.04
Fluoride	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
Nitrate Nitrogen	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.03	0.05	0.04	0.05	0.05	0.04	0.04
Sulfate	0.10	0.19	0.07	0.06	0.27	0.18	0.13	0.11	0.02	0.06	0.02	0.04	0.08	0.10
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	3.20	3.36	3.23	3.16	3.26	3.21	3.22	3.19	3.04	3.04	3.12	3.14	2.47	3.52
CHARGE BALANCE (%)	-5	-4	-3	2	-5	-2	0	-2	-1	3	1	-0	5	-0
TDS (mg/L)	210	150	180	232	166	160	172	156	156	146	192	246	120	178
TSS (mg/L)	227	76	2	5	49	6	38	37	<1	<1	<1	6	2	<1
Turbidity (NTU)	200	62	2	8.8	5.6	5	8	17	1	0.8	1.5	1.5	2	1.3

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

8

Sampling Point	GW-231		GW-241				GW-292				GW-293			
Location	KHQ		CRSDB				ECRWP				ECRWP			
Date Sampled	08/24/93	12/14/93	02/26/93	06/18/93	08/21/93	12/03/93	01/26/93	04/02/93	08/22/93	10/14/93	01/28/93	04/06/93	08/22/93	10/15/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	2.20	1.60	1.50	1.40	1.50	1.45	2.64	2.45	2.79	2.59	2.59	2.50	2.79	2.54
Magnesium	1.81	1.40	1.40	1.32	1.48	1.40	2.47	2.39	2.63	2.47	2.47	2.55	2.63	2.47
Potassium	0.03	0.03	0.06	0.07	0.05	0.06	0.03	0.03	0.00	0.02	0.04	0.04	0.04	0.04
Sodium	0.03	0.03	0.03	0.03	0.02	0.03	0.20	0.20	0.20	0.19	0.18	0.18	0.20	0.18
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ammonia Nitrogen	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total Cations	4.07	3.05	2.98	2.81	3.05	2.93	5.33	5.06	5.62	5.27	5.28	5.26	5.67	5.24
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	3.66	2.90	2.96	2.94	3.02	3.00	4.88	4.84	4.82	4.98	4.92	4.74	4.82	4.92
Chloride	0.04	0.03	0.00	0.05	0.00	0.00	0.28	0.27	0.25	0.25	0.34	0.30	0.29	0.45
Fluoride	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Nitrate Nitrogen	0.02	0.10	0.00	0.00	0.00	0.00	0.03	0.03	0.03	0.04	0.02	0.03	0.03	0.03
Sulfate	0.06	0.08	0.02	0.06	0.04	0.02	0.07	0.08	0.08	0.06	0.09	0.07	0.09	0.08
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	3.78	3.11	2.98	3.05	3.06	3.02	5.26	5.21	5.17	5.33	5.37	5.14	5.23	5.48
CHARGE BALANCE (%)	4	-1	-0	-4	-0	-1	1	-2	4	-1	-1	1	4	-2
TDS (mg/L)	186	168	180	224	266	184	268	252	268	276	256	252	266	290
TSS (mg/L)	1	<1	12	106	151	54	1	1	<1	<1	6	14	10	15
Turbidity (NTU)	0.8	1.1	18	110	120	50	0.7	1	1	0.4	14	26	12	27

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

9

Sampling Point	GW-294				GW-295				GW-296				GW-298	
Location	ECRWP				LIII				ECRWP				LIII	
Date Sampled	01/25/93	04/01/93	08/22/93	10/14/93	02/11/93	06/05/93	08/12/93	11/13/93	01/25/93	04/01/93	08/22/93	10/14/93	02/11/93	06/10/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	2.35	2.30	2.64	2.50	3.44	2.64	2.84	2.99	2.35	2.20	2.45	2.30	1.90	1.80
Magnesium	2.30	2.22	2.47	2.39	2.55	2.39	2.71	2.71	2.30	2.14	2.30	2.22	1.73	1.65
Potassium	0.04	0.05	0.00	0.03	0.14	0.10	0.13	0.15	0.02	0.02	0.02	0.02	0.04	0.02
Sodium	0.11	0.10	0.14	0.12	0.48	0.43	0.39	0.35	0.06	0.08	0.08	0.07	0.04	0.08
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
Ammonia Nitrogen	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total Cations	4.80	4.67	5.26	5.03	6.61	5.57	6.08	6.21	4.73	4.44	4.85	4.60	3.70	3.54
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	4.24	4.26	4.42	4.40	2.56	2.60	1.72	2.90	4.56	4.42	4.40	4.42	3.34	3.40
Chloride	0.20	0.20	0.22	0.17	3.70	2.43	3.39	4.37	0.07	0.10	0.07	0.08	0.00	0.00
Fluoride	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	0.00
Nitrate Nitrogen	0.22	0.17	0.21	0.21	0.00	0.06	0.04	0.03	0.04	0.02	0.02	0.03	0.00	0.00
Sulfate	0.07	0.07	0.07	0.06	0.54	0.53	0.54	0.36	0.03	0.02	0.00	0.02	0.15	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	4.73	4.70	4.91	4.84	6.80	5.62	5.69	7.66	4.69	4.55	4.48	4.55	3.50	3.58
CHARGE BALANCE (%)	1	-0	3	2	-1	-0	3	-10	0	-1	4	1	3	-1
TDS (mg/L)	236	244	272	260	420	404	552	300	220	220	228	238	172	166
TSS (mg/L)	2	<1	<1	2	104	71	144	3600	<1	1	<1	<1	23	10
Turbidity (NTU)	0.5	2.4	1.4	1.1	150	115	30	5200	0.5	0.9	1.4	1	15	8.7

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

10

Sampling Point	GW-298		GW-299				GW-300				GW-301			
Location	LIII		LIII				LIII				LIII			
Date Sampled	08/14/93	11/15/93	02/10/93	06/10/93	08/14/93	11/13/93	02/10/93	06/06/93	08/12/93	11/12/93	02/10/93	06/06/93	08/13/93	11/13/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	1.80	1.65	1.45	1.45	1.55	1.35	1.50	1.40	1.65	1.70	1.70	1.65	1.75	1.65
Magnesium	1.73	1.65	1.40	1.40	1.56	1.32	1.40	1.40	1.65	1.73	1.65	1.73	1.81	1.73
Potassium	0.02	0.02	0.03	0.00	0.02	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.02	0.02
Sodium	0.04	0.03	0.05	0.03	0.04	0.03	0.02	0.03	0.02	0.03	0.03	0.02	0.03	0.03
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
Ammonia Nitrogen	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total Cations	3.58	3.34	2.92	2.88	3.17	2.71	2.91	2.84	3.31	3.45	3.37	3.40	3.60	3.42
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	3.46	3.46	3.38	2.80	2.80	2.80	2.76	2.90	3.24	3.40	3.36	3.42	3.50	3.42
Chloride	0.00	0.03	0.06	0.03	0.03	0.03	0.06	0.00	0.04	0.03	0.06	0.00	0.05	0.03
Fluoride	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
Nitrate Nitrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.03	0.02	0.03	0.03
Sulfate	0.12	0.15	0.21	0.07	0.08	0.07	0.23	0.08	0.16	0.06	0.19	0.04	0.15	0.04
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	3.58	3.63	3.64	2.90	2.91	2.90	3.05	2.98	3.46	3.50	3.64	3.49	3.72	3.52
CHARGE BALANCE (%)	0	-4	-11	-0	4	-3	-2	-2	-2	-1	-4	-1	-2	-1
TDS (mg/L)	192	146	158	142	164	192	158	106	182	184	190	124	196	194
TSS (mg/L)	<1	188	2	<1	10	<1	1	<1	<1	<1	3	13	14	8
Turbidity (NTU)	6.5	1700	0.5	1	0.8	1.4	1	1.5	1.3	1	1.7	8.5	11	5.2

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

11

Sampling Point Location Date Sampled	GW-302				GW-303				GW-304				GW-305	
	UNCS				CRSDB				CRSDB				LIV	
	01/20/93	05/13/93	07/27/93	10/09/93	02/25/93	06/17/93	08/20/93	12/02/93	02/22/93	06/14/93	08/11/93	11/29/93	01/05/93	04/01/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	2.59	2.54	2.59	2.54	3.64	3.34	3.69	3.39	1.85	1.85	1.95	1.85	1.25	1.25
Magnesium	2.55	2.55	2.63	2.47	3.29	3.04	3.37	3.13	1.89	1.97	2.06	1.97	1.23	1.32
Potassium	0.02	0.02	0.04	0.03	0.13	0.12	0.11	0.11	0.05	0.04	0.05	0.05	0.02	0.03
Sodium	0.33	0.33	0.34	0.30	0.06	0.05	0.05	0.05	0.20	0.19	0.19	0.20	0.09	0.05
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
Ammonia Nitrogen	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total Cations	5.49	5.45	5.60	5.35	7.11	6.56	7.23	6.68	3.99	4.05	4.25	4.07	2.59	2.64
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	4.74	4.76	4.82	4.88	3.46	3.52	3.60	3.54	3.64	3.98	3.64	3.68	2.62	2.52
Chloride	0.79	0.59	0.52	0.62	0.05	0.03	0.05	0.06	0.06	0.06	0.07	0.06	0.08	0.05
Fluoride	0.00	0.00	0.00	0.00	0.05	0.05	0.04	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Nitrate Nitrogen	0.08	0.07	0.06	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sulfate	0.12	0.07	0.07	0.06	3.33	3.60	3.10	3.10	0.48	0.46	0.48	0.40	0.16	0.07
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	5.73	5.48	5.46	5.64	6.89	7.20	6.79	6.75	4.17	4.50	4.19	4.13	2.86	2.64
CHARGE BALANCE (%)	-2	-0	1	-3	2	-5	3	-1	-2	-5	1	-1	-5	-0
TDS (mg/L)	246	272	302	344	462	454	476	454	216	208	226	228	144	136
TSS (mg/L)	2	5	1	4	1	<1	<1	<1	49	13	3	75	6	3
Turbidity (NTU)	3.6	20	3.8	8.4	5.1	5.4	4	7.5	3.5	6.7	1.8	38	4.9	3

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

12

Sampling Point	GW-305		GW-321				GW-339				GW-511			
Location	LIV		ADB				UNCS				CRSP			
Date Sampled	07/17/93	10/04/93	03/22/93	06/09/93	09/02/93	12/17/93	01/19/93	05/13/93	07/27/93	10/09/93	01/06/93	06/04/93	09/01/93	12/16/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	1.35	1.25	1.20	1.30	1.40	1.30	2.59	2.84	2.74	2.84	1.40	1.40	1.55	1.45
Magnesium	1.32	1.32	1.07	1.15	1.23	1.23	2.39	2.71	2.63	2.63	1.40	1.40	1.48	1.40
Potassium	0.00	0.02	0.00	0.02	0.03	0.00	0.02	0.03	0.04	0.03	0.11	0.09	0.12	0.10
Sodium	0.06	0.16	0.02	0.02	0.03	0.02	0.30	0.38	0.40	0.40	0.06	0.05	0.07	0.06
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
Ammonia Nitrogen	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total Cations	2.72	2.74	2.29	2.49	2.69	2.55	5.31	5.97	5.82	5.91	2.96	2.94	3.21	3.00
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	2.72	2.68	2.40	2.48	2.52	2.48	5.00	5.02	5.10	5.22	2.74	2.86	2.82	2.90
Chloride	0.05	0.06	0.00	0.00	0.05	0.03	0.41	0.68	0.59	0.59	0.08	0.07	0.08	0.08
Fluoride	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
Nitrate Nitrogen	0.00	0.02	0.02	0.00	0.02	0.00	0.05	0.05	0.05	0.06	0.00	0.00	0.00	0.00
Sulfate	0.00	0.06	0.07	0.04	0.12	0.04	0.14	0.10	0.09	0.08	0.04	0.06	0.15	0.02
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	2.77	2.82	2.48	2.52	2.70	2.55	5.60	5.84	5.82	5.95	2.85	2.99	3.06	3.00
CHARGE BALANCE (%)	-1	-1	-4	-1	-0	0	-3	1	-0	-0	2	-1	2	-0
TDS (mg/L)	144	100	142	126	138	118	286	292	326	354	152	106	130	148
TSS (mg/L)	7	<1	23	8	18	1	2	2	3	2	<1	<1	1	<1
Turbidity (NTU)	2.9	1	21	5.2	6.9	1	0.8	2.2	4.8	2.2	0.5	1	2.5	2

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

Sampling Point Location Date Sampled	GW-512				GW-513				GW-514				GW-521	
	ADB				ADB				ADB				LIV	
	03/18/93	06/03/93	09/01/93	12/15/93	03/16/93	06/02/93	08/31/93	12/15/93	03/20/93	06/05/93	09/02/93	12/17/93	01/06/93	04/05/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	1.65	1.55	1.65	1.45	1.80	1.70	1.90	1.85	1.95	1.85	2.05	1.95	1.40	1.30
Magnesium	1.48	1.56	1.56	1.32	1.65	1.56	1.73	1.73	1.73	1.73	1.81	1.81	1.40	1.40
Potassium	0.11	0.09	0.10	0.12	0.04	0.03	0.05	0.04	0.03	0.03	0.03	0.03	0.00	0.00
Sodium	0.04	0.04	0.04	0.06	0.04	0.03	0.08	0.04	0.02	0.02	0.03	0.02	0.03	0.03
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
Ammonia Nitrogen	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total Cations	3.28	3.23	3.35	2.95	3.52	3.32	3.75	3.66	3.72	3.61	3.92	3.80	2.82	2.73
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	3.20	3.34	3.16	2.74	3.36	3.54	3.54	3.52	3.48	3.62	3.60	3.56	2.88	2.88
Chloride	0.00	0.00	0.05	0.03	0.03	0.03	0.05	0.03	0.03	0.03	0.05	0.03	0.04	0.03
Fluoride	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01	0.00	0.00
Nitrate Nitrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sulfate	0.06	0.04	0.19	0.17	0.04	0.04	0.17	0.02	0.10	0.09	0.16	0.06	0.06	0.06
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	3.25	3.38	3.40	2.93	3.43	3.61	3.75	3.59	3.61	3.74	3.81	3.65	2.98	2.98
CHARGE BALANCE (%)	0	-2	-1	0	1	-4	0	1	2	-2	1	2	-3	-4
TDS (mg/L)	194	176	198	168	160	170	174	186	192	184	190	184	156	136
TSS (mg/L)	34	8	8	<1	4	2	8	<1	<1	1	1	<1	<1	<1
Turbidity (NTU)	132	13	32	2.6	3	8	6	1	4.1	3.2	3.1	2.3	5.5	1.5

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

14

Sampling Point	GW-521		GW-522				GW-539				GW-540			
Location	LIV		LIV				LII				CDLVI			
Date Sampled	07/18/93	10/06/93	01/06/93	04/02/93	07/18/93	10/05/93	01/06/93	04/01/93	07/19/93	10/04/93	03/12/93	05/28/93	08/21/93	11/30/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	1.45	1.55	1.45	1.50	1.45	1.25	1.70	1.70	1.80	1.85	1.95	1.85	1.90	1.75
Magnesium	1.48	1.56	1.40	1.48	1.40	1.23	1.56	1.65	1.73	1.73	1.81	1.73	1.89	1.89
Potassium	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.03	0.02	0.03	0.02	0.02	0.03	0.03
Sodium	0.02	0.02	0.03	0.03	0.02	0.02	0.07	0.10	0.09	0.10	0.09	0.08	0.08	0.14
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ammonia Nitrogen	.	.	.	.	.	.	.	.	0.00	0.00	.	0.00	0.00	0.00
Total Cations	2.95	3.13	2.88	3.02	2.88	2.52	3.35	3.47	3.63	3.70	3.87	3.67	3.90	3.81
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	3.00	3.16	3.02	3.02	2.72	2.50	2.74	2.70	2.84	2.90	3.58	3.54	3.64	3.62
Chloride	0.03	0.03	0.05	0.04	0.03	0.03	0.90	0.71	0.67	0.90	0.04	0.04	0.05	0.06
Fluoride	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
Nitrate Nitrogen	0.00	0.01	0.03	0.03	0.03	0.03	0.00	0.00	0.02	0.03	0.00	0.00	0.00	0.01
Sulfate	0.00	0.04	0.00	0.00	0.00	0.00	0.13	0.16	0.17	0.16	0.10	0.09	0.08	0.10
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	3.03	3.24	3.10	3.09	2.78	2.56	3.77	3.57	3.70	3.99	3.71	3.67	3.76	3.79
CHARGE BALANCE (%)	-1	-2	-4	-1	2	-1	-6	-1	-1	-4	2	-0	2	0
TDS (mg/L)	156	124	206	160	162	104	192	176	214	198	178	164	198	182
TSS (mg/L)	1	<1	250	18	71	14	7	420	10	17	1	<1	5	2
Turbidity (NTU)	3.6	1.8	110	12	54	9	3.5	250	18	4.7	1.2	2.1	1	1.8

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

15

Sampling Point Location Date Sampled	GW-541				GW-542				GW-543				GW-544	
	CDLVI				CDLVI				CDLVI				CDLVI	
	03/12/93	06/02/93	09/15/93	12/02/93	03/16/93	06/02/93	09/15/93	12/03/93	03/16/93	06/02/93	09/16/93	12/04/93	03/16/93	06/02/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	1.70	1.90	1.95	1.85	1.70	1.25	1.75	0.80	2.45	2.15	2.40	2.25	2.45	2.20
Magnesium	1.56	1.65	1.73	1.65	1.07	0.90	1.56	0.65	2.30	2.14	2.30	2.30	2.30	2.06
Potassium	0.05	0.02	0.02	0.02	0.07	0.04	0.02	0.05	0.03	0.03	0.00	0.00	0.03	0.03
Sodium	0.04	0.02	0.02	0.03	0.06	0.04	0.03	0.04	0.04	0.04	0.04	0.04	0.24	0.20
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
Ammonia Nitrogen	.	0.00	0.00	0.00	.	0.00	0.00	0.00	.	0.00	0.00	0.00	.	0.00
Total Cations	3.35	3.58	3.71	3.54	2.89	2.23	3.36	1.54	4.82	4.35	4.74	4.59	5.03	4.48
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	3.64	3.60	3.40	3.26	2.70	2.42	2.04	2.94	4.50	4.46	4.58	4.68	4.16	4.20
Chloride	0.00	0.00	0.07	0.03	0.03	0.03	0.06	0.03	0.03	0.03	0.04	0.05	0.37	0.28
Fluoride	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
Nitrate Nitrogen	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.02	0.00	0.00	0.00	0.02	0.04	0.02
Sulfate	0.26	0.25	0.37	0.23	0.08	0.10	0.17	0.04	0.08	0.06	0.05	0.05	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	3.90	3.85	3.85	3.52	2.81	2.57	2.30	3.03	4.61	4.55	4.66	4.79	4.79	4.69
CHARGE BALANCE (%)	-8	-4	-2	0	2	-7	19	-33	2	-2	1	-2	2	-2
TDS (mg/L)	180	180	190	186	132	124	118	78	222	214	230	230	214	224
TSS (mg/L)	5	2	5	32	1	1	2	3	1	<1	1	2	4	2
Turbidity (NTU)	1.3	1.3	3.5	8	1	1.9	3.1	2.8	4.8	2.3	2.1	3.1	4.5	22

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

16

Sampling Point	GW-544		GW-545				GW-546				GW-557			GW-560
Location	CDLVI		CDLVI				CDLVI				LV			CDLVII
Date Sampled	09/16/93	12/06/93	03/17/93	06/02/93	09/16/93	12/03/93	03/12/93	06/01/93	08/21/93	12/01/93	05/26/93	09/29/93	12/08/93	05/26/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	2.40	2.20	0.30	0.60	1.40	1.10	1.65	1.50	1.45	1.45	1.75	1.90	1.70	1.65
Magnesium	2.30	2.22	0.25	0.14	0.00	0.02	1.48	1.32	1.40	1.48	1.65	1.73	1.65	1.07
Potassium	0.03	0.03	0.59	0.38	0.51	0.31	0.05	0.04	0.04	0.04	0.03	0.04	0.06	0.03
Sodium	0.21	0.20	0.33	0.23	0.25	0.17	0.07	0.08	0.11	0.09	0.03	0.03	0.03	0.02
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
Ammonia 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
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total Cations	4.94	4.65	1.47	1.35	2.16	1.60	3.25	2.93	3.00	3.06	3.45	3.69	3.43	2.77
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	1.08	0.52	0.72	0.56	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00
Alkalinity-HCO3	4.18	4.24	0.00	0.00	0.00	0.00	3.14	2.62	2.70	2.44	3.30	3.38	3.34	2.82
Chloride	0.31	0.28	0.06	0.06	0.06	0.06	0.04	0.05	0.06	0.05	0.03	0.03	0.03	0.00
Fluoride	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nitrate Nitrogen	0.04	0.04	0.05	0.06	0.06	0.04	0.00	0.00	0.00	0.00	0.06	0.07	0.07	0.00
Sulfate	0.15	0.19	0.27	0.29	0.31	0.29	0.08	0.14	0.09	0.06	0.02	0.02	0.02	0.07
Hydroxyl Ion	0.00	0.00	0.02	0.16	1.00	0.32	0.00	0.00	0.00	1E72	0.00	0.00	0.00	0.00
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total Anions	4.67	4.74	1.47	1.09	2.15	1.27	3.26	2.81	2.84	1E72	3.41	3.50	3.47	2.89
CHARGE BALANCE (%)	3	-1	-0	11	0	11	-0	2	3	-100	0	3	-1	-2
TDS (mg/L)	234	266	98	90	166	164	158	138	170	144	170	180	196	142
TSS (mg/L)	1	5	33	88	2290	494	<1	1	68	187	11	2	5	1
Turbidity (NTU)	1.7	5	9.1	2.3	900	300	1.1	2.1	20	48	7.8	1.6	5	1.3

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

17

Sampling Point	GW-560		GW-562			GW-564			GW-607	GW-608				GW-609
Location	CDLVII		CDLVII			CDLVII			CRSP	CRSP				CRSP
Date Sampled	08/28/93	12/02/93	05/26/93	08/28/93	12/02/93	05/26/93	08/29/93	12/08/93	01/06/93	03/28/93	06/15/93	09/07/93	12/18/93	03/28/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	1.90	1.80	1.80	1.95	1.85	1.55	1.75	1.55	1.40	1.55	1.50	1.60	1.55	1.95
Magnesium	1.23	1.23	1.65	1.73	1.73	1.15	1.32	1.15	1.32	1.40	1.40	1.48	1.56	1.97
Potassium	0.03	0.04	0.00	0.00	0.03	0.02	0.03	0.02	0.06	0.02	0.02	0.03	0.02	0.04
Sodium	0.02	0.02	0.03	0.03	0.03	0.03	0.02	0.03	0.04	0.02	0.03	0.03	0.02	0.04
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ammonia Nitrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.	.	.	.	.	.
Total Cations	3.18	3.09	3.47	3.70	3.63	2.75	3.12	2.75	2.81	2.99	2.94	3.13	3.16	4.00
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	2.96	3.44	3.52	3.50	2.74	2.90	2.82	2.70	2.86	2.92	2.90	3.02	3.70
Chloride	0.00	0.00	0.05	0.04	0.06	0.03	0.03	0.03	0.04	0.04	0.04	0.05	0.06	0.04
Fluoride	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
Nitrate Nitrogen	0.00	0.01	0.00	0.00	0.02	0.03	0.04	0.04	0.00	0.02	0.00	0.02	0.02	0.07
Sulfate	0.06	0.02	0.04	0.03	0.06	0.00	0.04	0.02	0.08	0.05	0.05	0.05	0.04	0.05
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	2.99	2.99	3.52	3.59	3.64	2.79	3.00	2.92	2.82	2.97	3.01	3.02	3.14	3.85
CHARGE BALANCE (%)	3	2	-1	2	-0	-1	2	-3	-0	0	-1	2	0	2
TDS (mg/L)	168	158	238	196	190	144	160	184	144	154	140	152	136	200
TSS (mg/L)	1	<1	40	9	17	1	<1	2	<1	1	3	<1	1	2
Turbidity (NTU)	1.5	0.9	95	15	16	2.4	0.9	1.2	1.4	2.1	2.4	2.5	1.6	1.1

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

18

Sampling Point Location Date Sampled	GW-609			GW-610				GW-611				GW-709		
	CRSP			CRSP				CRSP				LII		
	06/16/93	09/24/93	12/19/93	03/25/93	06/13/93	09/02/93	12/17/93	03/27/93	06/15/93	09/11/93	12/19/93	01/07/93	04/02/93	07/20/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	1.90	2.10	1.95	2.00	2.15	2.20	2.20	2.94	2.89	2.89	2.94	1.70	1.70	1.75
Magnesium	1.89	2.06	1.97	2.06	2.06	2.14	2.22	2.80	2.71	2.71	2.88	1.56	1.56	1.65
Potassium	0.03	0.03	0.04	0.00	0.02	0.02	0.00	0.02	0.00	0.00	0.02	0.00	0.02	0.00
Sodium	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.06	0.07	0.09	0.10	0.03	0.02	0.02
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
Ammonia Nitrogen	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total Cations	3.85	4.22	4.00	4.10	4.27	4.40	4.45	5.82	5.68	5.70	5.93	3.29	3.31	3.41
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	3.84	3.82	4.32	4.32	4.18	4.18	5.34	5.62	5.08	5.48	3.44	3.54	3.40
Chloride	0.05	0.06	0.06	0.08	0.06	0.07	0.08	0.05	0.05	0.08	0.06	0.04	0.03	0.03
Fluoride	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	0.00
Nitrate Nitrogen	0.07	0.08	0.08	0.04	0.00	0.04	0.05	0.22	0.21	0.19	0.21	0.00	0.00	0.00
Sulfate	0.07	0.13	0.04	0.12	0.00	0.11	0.00	0.05	0.25	0.07	0.04	0.04	0.04	0.02
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	4.12	4.11	3.99	4.56	4.38	4.40	4.31	5.65	6.12	5.41	5.79	3.51	3.62	3.45
CHARGE BALANCE (%)	-4	1	0	-5	-1	-0	2	1	-4	3	1	-3	-5	-1
TDS (mg/L)	188	198	194	236	218	218	206	294	288	288	264	172	190	180
TSS (mg/L)	<1	<1	2	<1	<1	137	<1	13	15	5	29	6	6	2
Turbidity (NTU)	0.7	3.3	1	1	1.3	32	2.8	18	5.9	4.2	2900	3.4	11	1.8

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

19

Sampling Point	GW-709	GW-731				GW-732				GW-742				GW-743
Location	LII	CRSDB				CRSDB				CRSP				CRSP
Date Sampled	10/05/93	02/23/93	06/15/93	08/11/93	11/29/93	02/23/93	06/15/93	08/12/93	11/30/93	01/13/93	06/11/93	09/09/93	12/18/93	01/13/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	1.75	1.05	1.40	1.25	1.10	1.35	1.35	1.40	1.40	2.00	1.85	1.95	1.90	1.50
Magnesium	1.73	1.07	1.48	1.40	1.23	1.23	1.40	1.40	1.40	1.56	1.65	1.81	1.81	1.48
Potassium	0.03	0.09	0.03	0.05	0.13	0.09	0.16	0.12	0.26	0.04	0.06	0.03	0.03	0.03
Sodium	0.02	0.17	0.08	0.11	0.18	0.10	0.13	0.11	0.33	0.04	0.05	0.03	0.02	0.04
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ammonia Nitrogen	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total Cations	3.52	2.37	2.99	2.80	2.64	2.77	3.04	3.02	3.38	3.63	3.60	3.81	3.76	3.04
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.12	0.04	0.04	0.08	0.00	0.04	0.04	0.16	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	3.36	2.04	2.36	2.54	2.42	2.84	3.06	2.92	2.76	3.34	3.30	3.42	3.38	2.94
Chloride	0.06	0.03	0.03	0.05	0.03	0.00	0.00	0.04	0.03	0.00	0.00	0.00	0.00	0.05
Fluoride	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
Nitrate Nitrogen	0.01	0.00	0.00	0.02	0.01	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00
Sulfate	0.04	0.19	0.18	0.23	0.15	0.04	0.05	0.15	0.06	0.27	0.27	0.27	0.25	0.14
Hydroxyl Ion	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Anions	3.47	2.38	2.61	2.88	2.69	2.87	3.15	3.17	3.03	3.61	3.57	3.69	3.63	3.12
CHARGE BALANCE (%)	1	-0	7	-1	-1	-2	-2	-2	5	0	0	2	2	-1
TDS (mg/L)	140	144	158	192	156	148	192	184	202	174	192	170	190	142
TSS (mg/L)	1	182	375	79	5	21	228	323	588	5	2	11	9	<1
Turbidity (NTU)	0.9	34	370	54	5.2	7.4	360	60	22	2.6	1.2	12	6	1.8

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

20

Sampling Point	GW-743			GW-757				GW-796			GW-797			GW-798
Location	CRSP			LII				LV			LV			COLVII
Date Sampled	06/13/93	09/10/93	12/16/93	01/07/93	04/05/93	07/20/93	10/05/93	05/27/93	08/30/93	12/16/93	05/27/93	08/29/93	12/16/93	06/23/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calcium	1.40	1.65	1.55	1.50	1.45	1.30	1.40	0.90	1.20	1.15	1.90	1.70	1.55	1.20
Magnesium	1.32	1.56	1.48	1.32	1.23	1.15	1.23	0.79	1.15	1.15	1.48	1.56	1.48	1.07
Potassium	0.02	0.02	0.02	0.04	0.04	0.05	0.04	0.04	0.02	0.03	0.06	0.03	0.03	0.10
Sodium	0.04	0.04	0.06	0.16	0.57	0.74	0.52	0.18	0.04	0.05	0.04	0.02	0.03	0.03
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
Ammonia Nitrogen	.	.	.	.	.	.	.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cations	2.77	3.27	3.11	3.01	3.29	3.23	3.19	1.91	2.41	2.38	3.47	3.31	3.09	2.40
ANIONS (meq/L)	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	2.78	2.98	2.86	2.88	2.82	2.88	2.96	1.46	2.24	2.26	2.68	3.14	3.10	2.46
Chloride	0.03	0.04	0.06	0.09	0.04	0.04	0.06	0.04	0.04	0.03	0.00	0.00	0.03	0.04
Fluoride	0.00	0.00	0.00	0.08	0.09	0.09	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nitrate Nitrogen	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Sulfate	0.06	0.07	0.06	0.19	0.23	0.25	0.21	0.09	0.05	0.02	0.05	0.04	0.00	0.19
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00
Total Anions	2.87	3.09	3.07	3.24	3.18	3.26	3.32	1.91	2.34	2.31	2.74	3.18	3.13	2.74
CHARGE BALANCE (%)	-2	3	1	-4	2	-0	-2	-0	2	2	12	2	-1	-7
TDS (mg/L)	142	162	144	164	158	196	142	78	134	116	152	164	152	170
TSS (mg/L)	<1	<1	2	7	6	10	6	2	<1	<1	104	<1	4	2
Turbidity (NTU)	1.5	2	2.5	4	3.6	15	5	3.2	2	1.8	58	1.5	2.7	2

(CONTINUED)

APPENDIX G
Ion-Charge Balance Calculations, 1993

Sampling Point . Location . Date Sampled	GW-798		GW-799			GW-801		
	CDLVII		LV			LV		
	08/29/93	12/09/93	05/27/93	08/29/93	12/09/93	07/24/93	08/30/93	12/16/93
CATIONS (meq/L)	.	.	.	.	.	.	.	.
Calcium	1.40	1.35	1.40	1.45	1.30	1.35	1.50	1.50
Magnesium	1.23	1.23	1.32	1.32	1.23	1.40	1.48	1.48
Potassium	0.06	0.05	0.02	0.02	0.03	0.11	0.09	0.06
Sodium	0.03	0.03	0.04	0.07	0.10	0.06	0.05	0.05
Hydrogen Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ammonia Nitrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
.	.	.	.	.	.	.	.	.
Total Cations	2.72	2.66	2.77	2.86	2.66	2.92	3.12	3.09
ANIONS (meq/L)	.	.	.	.	.	.	.	.
Alkalinity-CO3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alkalinity-HCO3	2.56	2.64	2.54	2.58	2.60	2.90	2.86	2.88
Chloride	0.00	0.00	0.00	0.00	0.00	0.04	0.05	0.06
Fluoride	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nitrate Nitrogen	0.04	0.04	0.04	0.05	0.06	0.00	0.00	0.00
Sulfate	0.04	0.06	0.05	0.04	0.06	0.06	0.06	0.04
Hydroxyl Ion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
.	.	.	.	.	.	.	.	.
Total Anions	2.64	2.74	2.63	2.67	2.72	3.00	2.96	2.98
CHARGE BALANCE (%)	2	-1	3	3	-1	-1	3	2
TDS (mg/L)	150	166	146	156	172	164	158	150
TSS (mg/L)	<1	3	24	<1	3	1	3	<1
Turbidity (NTU)	1.2	1.4	50	2.7	3.5	2.5	3.4	4

APPENDIX H
TRACE METAL DATA SUMMARY

EXPLANATION

LOCATION:

ADB	-	Ash Disposal Basin
CDLVI	-	Construction Debris Landfill VI (formerly Industrial Landfill II Expansion)
CDLVII	-	Construction Debris Landfill VII
CRSDB	-	Chestnut Ridge Sediment Disposal Basin
CRSP	-	Chestnut Ridge Security Pits
ECRWP	-	East Chestnut Ridge Waste Pile
KHQ	-	Kerr Hollow Quarry (located in Bethel Valley)
LII	-	Industrial Landfill II
LIH	-	Industrial Landfill III
LIV	-	Industrial Landfill IV
LV	-	Industrial Landfill V
RQ	-	Rogers Quarry (located in Bethel Valley)
UNCS	-	United Nuclear Corporation Site

NOTES:

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

MCLS:

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

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

EXPLANATION (cont'd)

SCREENING LEVELS:

<u>Metal (ICP)</u>	<u>Screening Level (mg/L)</u>
Aluminum	8.3
Beryllium	0.0066
Boron	1.1
Cobalt	0.012
Copper	0.11
Iron	13.91
Manganese	0.49
Molybdenum	0.023
Nickel	0.18
Strontium	1.5
Thorium	<0.2
Uranium	0.01
Vanadium	0.064
Zinc	0.14

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

APPENDIX H.1

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

Trace Metal Concentrations That Exceed Maximum Contaminant Levels, 1993

Sampling Point . Location . Date Sampled	GW-295								GW-302		GW-539			
	LIII								UNCS		LII			
	02/11/93		06/05/93		08/12/93		11/13/93		05/13/93		01/06/93		04/01/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Barium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cadmium (AAS)	.	.	.	.	.	.	0.011	<0.002	.	.	.	.	.	.
Chromium (AAS)	0.29	<0.01	0.47	<0.01	0.31	<0.01	58	0.042	0.12	<0.01	0.12	<0.01	0.23	<0.01
Lead (AAS)	.	.	.	.	0.051	<0.004	1.7	<0.004	.	.	.	.	.	.
Mercury (CVAA)	.	.	.	.	.	.	0.003	<0.0002	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	104	.	71	.	144	.	3600	.	5	.	7	.	420	.
Turbidity (NTU)	150	.	115	.	30	.	5200	.	20	.	3.5	.	250	.

(CONTINUED)

Sampling Point . Location . Date Sampled	GW-545			
	CDLVI			
	09/16/93		12/03/93	
	TOT	DIS	TOT	DIS
Barium	.	.	.	.
Cadmium (AAS)	.	.	.	.
Chromium (AAS)	0.18	0.011	.	.
Lead (AAS)	0.57	<0.004	0.15	<0.004
Mercury (CVAA)	.	.	.	.
.	.	.	.	.
TSS (mg/L)	2290	.	494	.
Turbidity (NTU)	900	.	300	.

APPENDIX H.2

TRACE METAL CONCENTRATIONS THAT EXCEED SCREENING LEVELS

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

1

Sampling Point Location Date Sampled	GW-142								GW-143					
	KHQ								KHQ					
	03/05/93		06/11/93		08/25/93		12/15/93		03/06/93		06/12/93		08/27/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Aluminum	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Beryllium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cobalt	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Copper	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Iron	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Manganese	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Molybdenum	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Nickel	0.19	<0.01	.	.	.	.	.	.	.	.	.	.	.	.
Strontium	.	.	.	.	.	.	.	.	2.6	2.4	2.3	2.3	2.2	2.2
Thorium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Uranium	.	.	0.019	0.019	0.032	0.03	0.019	0.02	.	.	.	.	.	.
Vanadium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Zinc	.	.	.	.	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	17	.	4	.	8	.	6	.	12	.	14	.	2	.
Turbidity (NTU)	30	.	22	.	23	.	17	.	19	.	8.9	.	5	.

(CONTINUED)

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

2

Sampling Point . Location . Date Sampled	GW-143		GW-145								GW-146			
	KHQ		KHQ								KHQ			
	12/15/93		03/06/93		06/12/93		08/25/93		12/14/93		03/09/93		06/13/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Aluminum	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Beryllium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cobalt	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Copper	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Iron	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Manganese	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Molybdenum	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Nickel	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Strontium	2.3	2.2	7.3	7.1	7.1	7	7.1	7.1	7.5	7.5	7	6.7	6.7	6.4
Thorium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Uranium	.	.	0.014	0.014	0.012	0.012	.	.	0.013	0.013	.	.	.	.
Vanadium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Zinc	.	.	.	.	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	1	.	12	.	218	.	2020	.	12	.	8	.	4	.
Turbidity (NTU)	17	.	36	.	800	.	500	.	16	.	1.5	.	9.6	.

(CONTINUED)

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

3

Sampling Point . Location . Date Sampled	GW-146				GW-147		GW-160		GW-186					
	KHQ				KHQ		LIII		RQ					
	08/25/93		12/16/93		03/05/93		06/06/93		06/26/93		07/24/93		12/06/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Aluminum	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Beryllium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cobalt	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Copper	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Iron	.	.	64	<0.005	.	.	15	0.052	.	.	.	.	.	.
Manganese	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Molybdenum	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Nickel	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Strontium	7.6	7.3	7.3	6.7	1.6	1.8	.	.	1.7	1.7	1.8	1.8	1.6	1.6
Thorium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Uranium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vanadium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Zinc	.	.	.	.	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	4	.	178	.	19	.	187	.	2	.	2	.	2	.
Turbidity (NTU)	11	.	66	.	230	.	260	.	4.8	.	8.4	.	6.5	.

(CONTINUED)

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

4

Sampling Point Location Date Sampled	GW-188								GW-295					
	RQ								LIII					
	03/02/93		06/24/93		07/22/93		12/05/93		02/11/93		06/05/93		08/12/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Aluminum	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Beryllium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cobalt	.	.	.	.	.	.	.	.	.	.	.	.	0.039	0.073
Copper	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Iron	.	.	.	.	.	.	.	.	.	.	.	.	21	8.6
Manganese	.	.	.	.	.	.	.	.	.	.	.	.	0.73	1.1
Molybdenum	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Nickel	.	.	.	.	.	.	.	.	0.35	0.28	0.25	0.18	1.8	3.4
Strontium	1.9	1.7	1.8	1.8	1.6	1.8	1.9	1.9	.	.	.	.	.	.
Thorium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Uranium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vanadium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Zinc	.	.	.	.	.	.	.	.	.	.	0.2	0.0076	0.16	0.047
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	12	.	2	.	40	.	<1	.	104	.	71	.	144	.
Turbidity (NTU)	2.5	.	1.8	.	34	.	1.4	.	150	.	115	.	30	.

(CONTINUED)

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

Sampling Point Location Date Sampled	GW-295		GW-302		GW-303								GW-539	
	LIII		UNCS		CRSDB								LII	
	11/13/93		10/09/93		02/25/93		06/17/93		08/20/93		12/02/93		04/01/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Aluminum	140	0.2	.	.	.	.	.	.	.	.	.	.	.	.
Beryllium	0.029	<0.0003	.	.	.	.	.	.	.	.	.	.	.	.
Cobalt	0.39	0.024	.	.	.	.	.	.	.	.	.	.	.	.
Copper	1.1	<0.004	.	.	.	.	.	.	.	.	.	.	.	.
Iron	470	0.47	.	.	.	.	.	.	.	.	.	.	.	.
Manganese	11	1.2	.	.	.	.	.	.	.	.	.	.	.	.
Molybdenum	0.67	0.11	.	.	.	.	.	.	.	.	.	.	.	.
Nickel	5.8	0.92	0.2	0.23	.	.	.	.	.	.	.	.	0.26	0.03
Strontium	.	.	.	.	3	3	2.8	2.8	3.1	3.1	3	2.9	.	.
Thorium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Uranium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vanadium	1.1	<0.005	.	.	.	.	.	.	.	.	.	.	.	.
Zinc	3.8	<0.002	.	.	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	3600	.	4	.	1	.	<1	.	<1	.	<1	.	420	.
Turbidity (NTU)	5200	.	8.4	.	5.1	.	5.4	.	4	.	7.5	.	250	.

(CONTINUED)

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

6

Sampling Point . Location . Date Sampled	GW-541								GW-545				GW-709	
	CDLVI								CDLVI				LII	
	03/12/93		06/02/93		09/15/93		12/02/93		09/16/93		12/03/93		04/02/93	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
Aluminum	.	.	.	.	.	.	.	.	54	0.7	13	0.35	.	.
Beryllium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cobalt	.	.	.	.	.	.	.	.	0.048	<0.005	.	.	.	.
Copper	.	.	.	.	.	.	.	.	0.29	0.0051	.	.	.	.
Iron	.	.	.	.	.	.	.	.	76	0.0058	23	<0.005	.	.
Manganese	.	.	.	.	.	.	.	.	1.8	<0.001	0.57	<0.001	.	.
Molybdenum	0.033	0.033	0.027	0.026	0.036	0.037	0.043	0.034	0.021	0.024	0.033	0.036	.	.
Nickel	.	.	.	.	.	.	.	.	0.28	<0.01	.	.	.	.
Strontium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Thorium	.	.	.	.	.	.	.	.	.	.	.	.	<0.4	<0.2
Uranium	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vanadium	.	.	.	.	.	.	.	.	0.15	0.014	.	.	.	.
Zinc	.	.	.	.	.	.	0.25	<0.002	0.31	0.004	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TSS (mg/L)	5	.	2	.	5	.	32	.	2290	.	494	.	6	.
Turbidity (NTU)	1.3	.	1.3	.	3.5	.	8	.	900	.	300	.	11	.

(CONTINUED)

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

Sampling Point . Location . Date Sampled	GW-731			
	CRSDS			
	02/23/93		06/15/93	
	TOT	DIS	TOT	DIS
Aluminum	9.1	<0.02	8.9	0.044
Beryllium	.	.	.	.
Cobalt	.	.	.	.
Copper	.	.	.	.
Iron	15	0.021	.	.
Manganese	.	.	.	.
Molybdenum	.	.	.	.
Nickel	.	.	.	.
Strontium	.	.	.	.
Thorium	.	.	.	.
Uranium	.	.	.	.
Vanadium	.	.	.	.
Zinc	0.23	0.0049	0.22	0.0072
.	.	.	.	.
TSS (mg/L)	182	.	375	.
Turbidity (NTU)	34	.	370	.

APPENDIX I
QA/QC DATA SUMMARIES

EXPLANATION

LOCATION:

ADB	-	Ash Disposal Basin
CDLVI	-	Construction Debris Landfill VI (formerly Industrial Landfill II Expansion)
CDLVII	-	Construction Debris Landfill VII
CRSDB	-	Chestnut Ridge Sediment Disposal Basin
CRSP	-	Chestnut Ridge Security Pits
ECRWP	-	East Chestnut Ridge Waste Pile
KHQ	-	Kerr Hollow Quarry (located in Bethel Valley)
LII	-	Industrial Landfill II
LIII	-	Industrial Landfill III
LIV	-	Industrial Landfill IV
LV	-	Industrial Landfill V
RQ	-	Rogers Quarry (located in Bethel Valley)
UNCS	-	United Nuclear Corporation Site

NOTES:

- . - Not analyzed
- U - Compound not detected at the reported minimum attainable detection limit.
- B - Well was bailed

UNITS:

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

APPENDIX L1

CORRELATION OF GROUNDWATER SAMPLES TO ASSOCIATED BLANKS

APPENDIX I.1
Correlation of Samples to Associated Blanks

Sampling Pt.	Location	Pump No.	Date	Sample No.	Trip Blank No.	Lab Blank No.
First Quarter 1993						
1090	UNCS	6	01/20/93	930120-101	930120-105	930121-029
GW-141	LIV	5	01/07/93	930107-101	930107-103	930108-083
GW-142	KHQ	2	03/05/93	930305-089	930305-091	930308-083
GW-143	KHQ	2	03/06/93	930308-012	930308-014	930308-112
GW-144	KHQ	10	03/06/93	930308-016	930308-022	930308-112
GW-145	KHQ	10	03/06/93	930308-020	930308-022	930308-112
GW-146	KHQ	2	03/09/93	930309-121	930309-125	930310-001
GW-147	KHQ	10	03/05/93	930305-086	930305-088	930308-083
GW-156	CRSDB	8	02/24/93	930225-016	930225-018	930225-030
GW-158	CRSDB	2	03/24/93	930324-093	930324-095	930325-001
GW-159	CRSDB	8	02/22/93	930223-004	930223-008	930224-002
GW-160	LIII	5	02/09/93	930209-096	930209-100	930210-022
GW-161	LIII	5	02/08/93	930209-005	930209-007	930210-021
GW-175	CRSP	5	03/27/93	930329-016	930329-018	930401-019
GW-177	CRSP	10	03/30/93	930330-135	930330-137	930405-001
GW-181	CRSP	10	01/05/93	930106-009	930106-011	930107-007
GW-184	RQ	8	03/02/93	930302-086	930302-090	930303-002
GW-186	RQ	8	03/03/93	930303-116	930303-122	930304-069
GW-187	RQ	8	03/03/93	930303-120	930303-122	930304-076
GW-188	RQ	8	03/02/93	930302-088	930302-090	930303-002
GW-203	UNCS	6	01/18/93	930119-015	930119-019	930119-088
GW-205	UNCS	6	01/18/93	930119-013	930119-019	930119-088
GW-217	LIV	5	01/05/93	930106-019	930106-021	930107-007
GW-221	UNCS	6	01/19/93	930119-083	930119-085	930120-037
GW-231	KHQ	10	03/05/93	930305-084	930305-088	930308-083
GW-241	CRSDB	8	02/26/93	930226-309	930226-311	930301-001
GW-292	ECRWP	4	01/26/93	930126-077	930126-081	930127-001
GW-293	ECRWP	4	01/28/93	930128-142	930128-144	930129-016
GW-294	ECRWP	4	01/25/93	930125-251	930125-255	930126-030
GW-295	LIII	B	02/11/93	930211-241	930211-326	930212-068
GW-296	ECRWP	4	01/25/93	930125-253	930125-255	930126-030
GW-298	LIII	5	02/11/93	930211-242	930211-326	930212-068
GW-299	LIII	5	02/10/93	930211-004	930211-010	930212-001
GW-300	LIII	5	02/10/93	930211-006	930211-010	930212-001
GW-301	LIII	5	02/10/93	930211-008	930211-010	930212-001
GW-302	UNCS	6	01/20/93	930120-103	930120-105	930121-029
GW-303	CRSDB	8	02/25/93	930226-139	930226-143	930226-001
GW-304	CRSDB	8	02/22/93	930223-005	930223-008	930224-002
GW-305	LIV	5	01/05/93	930106-017	930106-021	930107-007
GW-321	ADB	5	03/22/93	930322-097	930322-099	930323-042
GW-339	UNCS	6	01/19/93	930119-081	930119-085	930120-037
GW-511	CRSP	10	01/06/93	930107-012	930107-014	930107-007
GW-512	ADB	5	03/18/93	930318-154	930318-156	930319-020
GW-513	ADB	5	03/16/93	930316-059	930316-061	930319-020
GW-514	ADB	5	03/20/93	930322-015	930322-019	930322-005

APPENDIX I.1
Correlation of Samples to Associated Blanks

Sampling Pt.	Location	Pump No.	Date	Sample No.	Trip Blank No.	Lab Blank No.
GW-521	LIV	5	01/06/93	930107-018	930107-024	930108-083
GW-522	LIV	5	01/06/93	930107-020	930107-024	930108-083
GW-539	LII	7	01/06/93	930107-015	930107-017	930107-007
GW-540	CDLVI	7	03/12/93	930312-124	930312-128	930315-007
GW-541	CDLVI	10	03/12/93	930312-119	930312-121	930316-001
GW-542	CDLVI	7	03/16/93	930317-073	930317-075	930318-001
GW-543	CDLVI	10	03/16/93	930316-052	930316-054	930318-001
GW-544	CDLVI	7	03/16/93	930317-071	930317-075	930319-020
GW-545	CDLVI	10	03/17/93	930317-107	930317-109	930319-020
GW-546	CDLVI	10	03/12/93	930312-117	930312-121	930316-001
GW-607	CRSP	10	01/06/93	930107-010	930107-014	930107-007
GW-608	CRSP	10	03/28/93	930329-026	930329-028	930330-003
GW-609	CR3P	5	03/28/93	930329-019	930329-023	930330-003
GW-610	CRSP	10	03/25/93	930325-339	930325-341	930331-039
GW-611	CRSP	5	03/27/93	930329-014	930329-018	930401-019
GW-709	LII	6	01/07/93	930108-025	930108-031	930111-008
GW-731	CRSDB	8	02/23/93	930223-090	930223-092	930225-001
GW-732	CRSDB	8	02/23/93	930223-088	930223-092	930224-002
GW-742	CRSP	10	01/13/93	930113-142	930113-144	930114-221
GW-743	CRSP	2	01/13/93	930113-140	930113-144	930114-221
GW-757	LII	7	01/07/93	930108-027	930108-031	930111-008
Second Quarter 1993						
1090	UNCS	8	05/13/93	930513-359	930513-365	930514-020
GW-141	LIV	6	04/05/93	930406-007	930406-011	930407-001
GW-142	KHQ	2	06/11/93	930611-145	930611-147	930614-047
GW-143	KHQ	2	06/12/93	930614-016	930614-021	
GW-143	KHQ	B	06/13/93	930614-018	930614-022	930615-016
GW-144	KHQ	4	06/12/93	930614-003	930614-011	930615-016
GW-145	KHQ	2	06/12/93	930614-014	930614-021	930615-016
GW-146	KHQ	4	06/13/93	930614-019	930614-022	930617-049
GW-147	KHQ	4	06/11/93	930611-125	930611-129	930614-047
GW-156	CRSDB	7	06/15/93	930616-002	930616-008	930617-049
GW-158	CRSDB	2	06/23/93	930624-006	930624-008	930625-001
GW-159	CRSDB	7	06/14/93	930615-005	930615-009	930617-049
GW-160	LIII	5	06/06/93	930607-005	930607-009	930607-053
GW-161	LIII	5	06/05/93	930607-010	930607-010	930607-053
GW-175	CRSP	8	06/15/93	930615-104	930615-106	930617-049
GW-177	CRSP	8	06/14/93	930615-002	930615-004	930617-049
GW-181	CRSP	8	06/04/93	930604-089	930604-093	930607-002
GW-184	RQ	4	06/24/93	930624-267	930624-271	930628-002
GW-186	RQ	4	06/26/93	930628-077	930628-081	930630-001
GW-187	RQ	4	06/25/93	930625-289	930625-291	930628-002
GW-188	RQ	4	06/24/93	930624-269	930624-271	930628-002
GW-203	UNCS	8	05/11/93	930512-012	930512-018	930513-001
GW-205	UNCS	8	05/11/93	930512-016	930512-018	930513-001

APPENDIX I.1
Correlation of Samples to Associated Blanks

Sampling Pt.	Location	Pump No.	Date	Sample No.	Trip Blank No.	Lab Blank No.
GW-217	LIV	6	04/01/93	930402-026	930402-030	930406-146
GW-221	UNCS	8	05/12/93	930512-102	930512-104	930514-001
GW-231	KHQ	4	06/11/93	930611-127	930611-129	930614-047
GW-241	CRSDB	7	06/18/93	930618-145	930618-147	930621-002
GW-241	CRSDB	B	06/27/93	930628-054		
GW-292	ECRWP	7	04/02/93	930402-073	930402-075	930406-146
GW-293	ECRWP	7	04/06/93	930407-002	930407-006	930412-001
GW-294	ECRWP	7	04/01/93	930402-021	930402-025	930405-001
GW-295	LIII	5	06/05/93	930607-024	930607-016	930610-001
GW-296	ECRWP	7	04/01/93	930402-023	930402-025	930405-001
GW-298	LIII	5	06/10/93	930611-011	930611-015	930611-083
GW-299	LIII	5	06/10/93	930611-013	930611-015	930611-083
GW-300	LIII	5	06/06/93	930607-022	930607-009	930610-001
GW-301	LIII	5	06/06/93	930607-007	930607-009	930607-053
GW-302	UNCS	8	05/13/93	930513-361	930513-365	930514-020
GW-303	CRSDB	7	06/17/93	930617-179	930617-183	930619-007
GW-303	CRSDB	B	06/26/93	930628-052		
GW-304	CRSDB	7	06/14/93	930615-007	930615-009	930617-049
GW-305	LIV	6	04/01/93	930402-028	930402-030	930406-146
GW-321	ADB	4	06/09/93	930609-050	930609-052	930611-083
GW-339	UNCS	8	05/13/93	930513-363	930513-365	930514-020
GW-511	CRSP	8	06/04/93	930604-087	930604-093	930607-002
GW-512	ADB	4	06/03/93	930603-227	930603-229	930606-001
GW-513	ADB	4	06/02/93	930603-006	930603-008	930605-001
GW-514	ADB	4	06/05/93	930607-026	930607-030	930610-001
GW-521	LIV	6	04/05/93	930406-009	930406-011	930407-001
GW-522	LIV	6	04/02/93	930402-107	930402-111	930406-146
GW-539	LII	5	04/01/93	930402-101	930402-103	930406-146
GW-539	LII	B	05/28/93	930528-121		
GW-540	CDLVI	6	05/28/93	930528-140	930528-144	930602-001
GW-541	CDLVI	6	06/02/93	930603-012	930603-022	930606-001
GW-542	CDLVI	6	06/02/93	930603-014	930603-022	930606-001
GW-543	CDLVI	6	06/02/93	930603-016	930603-022	930606-001
GW-544	CDLVI	6	06/02/93	930603-018	930603-022	930606-001
GW-545	CDLVI	6	06/02/93	930603-020	930603-022	930606-001
GW-546	CDLVI	6	06/01/93	930601-053	930601-055	930605-001
GW-557	LV	5	05/26/93	930527-001	930527-007	930529-016
GW-557	LV	5	06/22/93	930623-034		
GW-560	CDLVII	10	05/26/93	930527-010	930527-014	930601-044
GW-560	CDLVII	5	06/22/93	930623-035		
GW-562	CDLVII	5	05/26/93	930527-003	930527-007	930529-016
GW-562	CDLVII	5	06/22/93	930623-036		
GW-564	CDLVII	10	05/26/93	930527-012	930527-014	930601-044
GW-564	CDLVII	5	06/22/93	930623-038		
GW-608	CRSP	6	06/15/93	930616-014	930616-016	930618-178
GW-609	CRSP	8	06/16/93	930616-101	930616-103	930618-178
GW-610	CRSP	6	06/13/93	930614-009	930614-012	930615-016

APPENDIX I.1
Correlation of Samples to Associated Blanks

Sampling Pt.	Location	Pump No.	Date	Sample No.	Trip Blank No.	Lab Blank No.
GW-611	CRSP	8	06/15/93	930615-102	930615-106	930617-049
GW-709	LII	5	04/02/93	930402-104	930402-106	930406-146
GW-731	CRSDB	7	06/15/93	930616-004	930616-008	930617-049
GW-732	CRSDB	7	06/15/93	930616-006	930616-008	930618-178
GW-742	CRSP	8	06/11/93	930611-134	930611-138	930614-047
GW-743	CRSP	6	06/13/93	930614-007	930614-012	930615-016
GW-757	LII	5	04/05/93	930406-153	930406-157	930407-001
GW-796	LV	5	05/27/93	930528-008	930528-012	930530-001
GW-796	LV	5	06/24/93	930624-231		
GW-797	LV	10	05/27/93	930527-341	930527-343	930601-044
GW-797	LV	5	06/24/93	930624-232		
GW-798	CDLVII	5	06/23/93	930624-013	930624-017	930625-001
GW-799	CDLVII	5	05/27/93	930528-009	930528-012	930530-001
GW-799	CDLVII	5	06/23/93	930624-030		
Third Quarter 1993						
1090	UNCS	6	07/27/93	930728-019	930728-023	930729-001
GW-141	LIV	7	07/18/93	930719-021	930719-028	930720-001
GW-142	KHQ	2	08/25/93	930826-011	930826-013	930827-004
GW-143	KHQ	2	08/27/93	930827-125	930827-129	930831-062
GW-144	KHQ	5	08/26/93	930826-445	930826-449	930831-062
GW-145	KHQ	5	08/25/93	930826-014	930826-016	930827-004
GW-146	KHQ	2	08/25/93	930827-127	930827-129	930831-062
GW-147	KHQ	5	08/24/93	930826-005	930825-070	930827-004
GW-147	KHQ	B	08/25/93	930826-045		
GW-156	CRSDB	8	08/12/93	930813-004	930813-006	930816-088
GW-158	CRSDB	8	08/25/93	930826-008	930826-010	930827-004
GW-159	CRSDB	8	08/10/93	930810-144	930810-146	930812-271
GW-160	LIII	5	08/12/93	930812-281	930812-287	930817-086
GW-161	LIII	5	08/11/93	930811-125	930811-127	930812-271
GW-175	CRSP	8	09/11/93	930913-035	930913-024	930914-009
GW-177	CRSP	4	09/30/93	930930-096	930930-098	931004-019
GW-181	CRSP	7	09/01/93	930902-013	930802-019	930907-159
GW-184	RQ	10	07/22/93	930722-312	930722-314	930726-001
GW-186	RQ	10	07/24/93	930726-010	930726-017	930727-001
GW-187	RQ	10	07/23/93	930723-145	930723-147	930726-001
GW-188	RQ	10	07/22/93	930722-310	930722-314	930726-001
GW-203	UNCS	10	07/26/93	930727-036	930727-008	930728-001
GW-205	UNCS	6	07/26/93	930727-009	930727-011	930728-001
GW-217	LIV	7	07/17/93	930719-017	930719-026	930720-001
GW-221	UNCS	10	07/27/93	930728-008	930728-015	930729-001
GW-231	KHQ	5	08/24/93	930825-068	930825-070	930826-001
GW-241	CRSDB	8	08/21/93	930823-011	930823-021	930825-035
GW-241	CRSDB	8	08/24/93	930825-038		
GW-292	ECRWP	6	08/22/93	930823-005	930823-020	930825-035
GW-293	ECRWP	5	08/22/93	930823-101	930823-111	930826-001

APPENDIX I.1
Correlation of Samples to Associated Blanks

Sampling Pt.	Location	Pump No.	Date	Sample No.	Trip Blank No.	Lab Blank No.
GW-294	ECRWP	6	08/22/93	930823-007	930823-020	930825-035
GW-295	LIII	B	08/12/93	930812-279	930812-287	930816-088
GW-296	ECRWP	6	08/22/93	930823-009	930823-020	930826-001
GW-298	LIII	5	08/14/93	930816-013	930816-017	930817-086
GW-299	LIII	5	08/14/93	930816-015	930816-017	930817-086
GW-300	LIII	5	08/12/93	930812-285	930812-287	930816-088
GW-301	LIII	5	08/13/93	930813-126	930813-128	930816-126
GW-302	UNCS	10	07/27/93	930728-012	930728-015	930729-001
GW-303	CRSDB	8	08/20/93	930820-090	930820-094	930823-002
GW-303	CRSDB	B	08/25/93	930826-006		
GW-304	CRSDB	8	08/11/93	930811-128	930811-132	930812-271
GW-305	LIV	7	07/17/93	930719-019	930719-026	930720-001
GW-321	ADB	5	09/02/93	930902-212	930902-218	930907-159
GW-339	UNCS	6	07/27/93	930728-021	930728-023	930729-001
GW-511	CRSP	7	09/01/93	930902-017	930902-019	930907-159
GW-512	ADB	5	09/01/93	930902-021	930902-023	930907-159
GW-513	ADB	5	08/31/93	930831-143	930831-145	930903-111
GW-514	ADB	5	09/02/93	930902-214	930902-218	930907-159
GW-521	LIV	7	07/18/93	930719-023	930719-028	930720-001
GW-522	LIV	7	07/18/93	930719-013	930719-027	930720-001
GW-539	LII	8	07/19/93	930719-162	930719-164	930721-001
GW-540	CDLVI	10	08/21/93	930823-013	930823-022	930825-035
GW-541	CDLVI	10	09/15/93	930916-017	930916-019	930917-070
GW-542	CDLVI	5	09/15/93	930915-143	930915-145	930917-070
GW-543	CDLVI	5	09/16/93	930916-148	930916-145	930917-070
GW-544	CDLVI	5	09/16/93	930916-146	930916-145	930917-070
GW-545	CDLVI	10	09/16/93	930916-143	930916-145	930917-070
GW-546	CDLVI	10	08/21/93	930823-015	930823-022	930825-035
GW-557	LV	8	09/29/93	930929-178	930929-180	930930-079
GW-560	CDLVII	6	08/28/93	930830-002	930830-006	930831-062
GW-562	CDLVII	6	08/28/93	930830-004	930830-006	930831-062
GW-564	CDLVII	6	08/29/93	930830-007	930830-013	930902-136
GW-608	CRSP	8	09/07/93	930908-004	930908-006	930910-001
GW-609	CRSP	8	09/24/93	930924-094	930924-096	930928-089
GW-610	CRSP	8	09/02/93	930902-209	930902-211	930907-159
GW-611	CRSP	8	09/11/93	930913-022	930913-024	930913-064
GW-709	LII	8	07/20/93	930721-015	930721-017	930721-001
GW-731	CRSDB	8	08/11/93	930811-130	930811-132	930812-271
GW-732	CRSDB	8	08/12/93	930813-002	930813-006	930816-088
GW-742	CRSP	7	09/09/93	930910-049	930910-051	930913-064
GW-743	CRSP	2	09/10/93	930913-001	930913-003	930913-064
GW-757	LII	8	07/20/93	930721-011	930721-017	930721-001
GW-796	LV	6	08/30/93	930831-012	930831-016	930903-111
GW-797	LV	7	08/29/93	930830-025	930830-029	930903-111
GW-798	CDLVII	6	08/29/93	930830-011	930830-013	930902-136
GW-799	CDLVII	7	08/29/93	930830-027	930830-029	930903-111
GW-801	LV	5	07/24/93	930726-015	930726-017	930728-001

APPENDIX I.1
Correlation of Samples to Associated Blanks

Sampling Pt.	Location	Pump No.	Date	Sample No.	Trip Blank No.	Lab Blank No.
GW-801	LV	6	08/30/93	930831-014	930831-016	930903-111
Fourth Quarter 1993						
1090	UNCS	7	10/10/93	931011-030	931011-032	931012-055
GW-141	LIV	7	10/06/93	931007-007	931007-009	931008-005
GW-142	KHQ	2	12/15/93	931216-018	931216-020	931216-050
GW-143	KHQ	7	12/15/93	931216-030	931216-032	931216-053
GW-144	KHQ	2	12/15/93	931216-026	931216-032	931216-053
GW-145	KHQ	7	12/14/93	931215-007	931215-019	931215-035
GW-146	KHQ	2	12/16/93	931216-056	931216-058	931217-070
GW-147	KHQ	7	12/14/93	931215-015	931215-019	931215-035
GW-156	CRSDB	5	11/30/93	931201-001	931201-005	931201-064
GW-158	CRSDB	2	12/05/93	931206-003	931206-005	931207-001
GW-159	CRSDB	5	11/29/93	931130-006	931130-008	931130-055
GW-160	LIII	5	11/11/93	931112-027	931112-029	931117-001
GW-161	LIII	5	11/10/93	931111-006	931111-008	931111-014
GW-175	CRSP	7	12/19/93	931220-002	931220-006	931222-020
GW-177	CRSP	2	12/19/93	931220-011	931220-015	931221-083
GW-181	CRSP	7	12/16/93	931217-005	931217-007	931217-070
GW-184	RQ	8	12/05/93	931206-018	931206-020	931207-001
GW-186	RQ	8	12/06/93	931207-002	931207-008	931207-032
GW-187	RQ	8	12/06/93	931207-006	931207-008	931207-032
GW-188	RQ	8	12/05/93	931206-021	931206-020	931207-001
GW-203	UNCS	7	10/07/93	931008-061	931008-063	931008-118
GW-205	UNCS	7	10/07/93	931008-075	931008-063	931008-118
GW-217	LIV	7	10/04/93	931005-006	931005-008	931006-001
GW-221	UNCS	7	10/09/93	931011-023	931011-025	931011-055
GW-231	KHQ	7	12/14/93	931215-017	931205-019	931215-035
GW-241	CRSDB	5	12/03/93	931203-083	931203-085	931207-001
GW-292	ECRWP	5	10/14/93	931014-045	931014-051	931014-010
GW-293	ECRWP	5	10/15/93	931015-232	931015-236	931019-038
GW-294	ECRWP	5	10/14/93	931014-047	931014-051	931014-010
GW-295	LIII	B	11/13/93	931116-032	931118-011	931117-001
GW-296	ECRWP	5	10/14/93	931014-049	931014-051	931014-010
GW-298	LIII	5	11/15/93	931115-208	931115-210	931116-035
GW-299	LIII	5	11/13/93	931115-009	931115-011	931116-035
GW-300	LIII	5	11/12/93	931112-066	931112-068	931117-001
GW-301	LIII	5	11/13/93	931115-007	931115-011	931116-035
GW-302	UNCS	7	10/09/93	931011-026	931011-025	931011-055
GW-303	CRSDB	5	12/02/93	931203-008	931203-012	931203-032
GW-304	CRSDB	5	11/29/93	931130-002	931130-008	931130-055
GW-305	LIV	7	10/04/93	931005-004	931005-008	931006-001
GW-321	ADB	8	12/17/93	931218-016	931218-022	931220-077
GW-339	UNCS	7	10/09/93	931011-028	931011-025	931011-055
GW-511	CRSP	7	12/16/93	931217-003	931217-007	931217-070
GW-512	ADB	8	12/15/93	931216-023	931216-025	931216-053

APPENDIX I.1
Correlation of Samples to Associated Blanks

Sampling Pt.	Location	Pump No.	Date	Sample No.	Trip Blank No.	Lab Blank No.
GW-513	ADB	8	12/15/93	931216-021	931216-025	931216-053
GW-514	ADB	8	12/17/93	931218-018	931218-022	931220-077
GW-521	LIV	7	10/06/93	931007-005	931007-009	931008-005
GW-522	LIV	7	10/05/93	931006-005	931006-007	931008-118
GW-539	LII	6	10/04/93	931005-001	931005-003	931006-001
GW-540	CDLVI	10	11/30/93	931201-008	931201-010	931201-064
GW-541	CDLVI	10	12/02/93	931203-001	931203-003	931203-030
GW-542	CDLVI	10	12/03/93	931203-067	931203-071	931203-032
GW-543	CDLVI	10	12/04/93	931206-023	931206-025	931207-001
GW-544	CDLVI	10	12/06/93	931206-149	931206-151	931207-032
GW-545	CDLVI	10	12/03/93	931203-069	931203-071	931203-032
GW-546	CDLVI	10	12/01/93	931202-002	931202-004	931130-033
GW-557	LV	6	12/08/93	931209-011	931209-008	931209-029
GW-560	CDLVII	6	12/02/93	931202-084	931202-086	931203-030
GW-562	CDLVII	6	12/02/93	931202-082	931202-086	931203-030
GW-564	CDLVII	6	12/08/93	931209-009	931209-008	931209-025
GW-608	CRSP	7	12/18/93	931220-008	931220-010	931222-020
GW-609	CRSP	2	12/19/93	931220-013	931220-015	931222-020
GW-610	CRSP	7	12/17/93	931218-024	931218-028	931220-077
GW-611	CRSP	7	12/19/93	931220-004	931220-006	931220-103
GW-709	LII	6	10/05/93	931006-013	931006-015	931008-005
GW-731	CRSDB	5	11/29/93	931130-004	931130-008	931130-055
GW-732	CRSDB	5	11/30/93	931201-003	931201-005	931130-033
GW-742	CRSP	2	12/18/93	931218-043	931218-045	931220-077
GW-743	CRSP	7	12/16/93	931217-001	931217-007	931217-070
GW-757	LII	6	10/05/93	931006-016	931006-015	931008-005
GW-796	LV	6	12/16/93	931217-013	931217-020	931220-077
GW-797	LV	6	12/16/93	931217-015	931217-020	931220-077
GW-798	CDLVII	6	12/09/93	931210-002	931210-006	931210-049
GW-799	CDLVII	6	12/09/93	931210-004	931210-006	931210-049
GW-801	LV	6	12/16/93	931217-017	931217-020	931220-077

APPENDIX I.2

TRIP BLANK DATA SUMMARY

APPENDIX L2
1993 Trip Blank Data Summary

Compound	First		Second		Third		Fourth		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Total Samples	45		47		49		44		185	
Not Detected	11	24	32	68	20	41	24	55	87	46
VOCs Detected	34	76	15	32	29	59	20	45	98	52
Methylene chloride	19	42	13	28	18	37	17	39	67	36
Acetone	22	49	4	9	10	20	14	32	50	27
4-Methyl-2-pentanone	19	42	1	2	1	2	7	16	28	15
2-Butanone	1	2	3	6	2	4	13	30	19	10
Benzene					4	8			4	2
Trichloroethene	1	2			2	4			3	2
Chloroform					2	4			2	1
Toluene					2	4			2	1
Chlorobenzene	1	2							1	1
1,1-Dichloroethene	1	2							1	1
1,2-Dichloroethene	1	2							1	1
Ethylbenzene	1	2							1	1
2-Hexanone	1	2							1	1
Styrene	1	2							1	1
Tetrachloroethene	1	2							1	1
Xylenes	1	2							1	1

APPENDIX I.2

Trip Blank Data Summary, First Quarter 1993

2

Sample No.	930106- 011	930106- 021	930107- 014	930107- 017	930107- 024	930107- 103	930108- 031	930113- 144
Acetone	4	2	2	2	2	2	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	1	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	2	2	2	1	2	2	2	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	3
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U
Total Organic Halide	.	10U	.	10U	10U	10U	10U	.

(CONTINUED)

Sample No.	930119- 019	930119- 085	930120- 105	930125- 255	930126- 081	930128- 144	930209- 007	930209- 100
Acetone	10U	1	10U	48	3	2	10U	1
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	1	10U	2	2	2	10U	2
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	2
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U
Total Organic Halide	.	.	.	.	.	.	10U	10U

(CONTINUED)

APPENDIX 1.2

3

Trip Blank Data Summary, First Quarter 1993

Sample No.	930211- 010	930211- 326	930223- 008	930223- 092	930225- 018	930226- 143	930226- 311	930302- 090
Acetone	10U	2	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Chlorobenzene	5U	1	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	1	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	2	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	1	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	1	10U	10U	10U	10U	10U	10U
Methylene chloride	2	2	1	1	5U	1	1	2
Styrene	5U	1	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	3	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	2	5U	5U	5U	5U	5U	5U
Xylenes	5U	4	5U	5U	5U	5U	5U	5U
Total Organic Halide	10U	10U	10U	10U	10U	10U	10U	.

(CONTINUED)

Sample No.	930303- 122	930305- 088	930305- 091	930308- 014	930308- 022	930309- 125	930312- 121	930312- 128
Acetone	10U	10U	10U	10U	3	6	21	31
2-Butanone	10U	10U	10U	11	10U	10U	10U	10U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	2	2	10U	10U
Methylene chloride	5U	5U	5U	5U	2	2	5U	1
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U
Total Organic Halide	.	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

APPENDIX I.2
Trip Blank Data Summary, First Quarter 1993

4

Sample No.	930316- 054	930316- 061	930317- 075	930317- 109	930318- 156	930322- 019	930322- 099	930324- 095
Acetone	13	10U	10U	69	10U	3	14	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	1	5	10U
Methylene chloride	1	5U	5U	5U	5U	3	2	2
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U
Total Organic Halide	10U	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

Sample No.	930325- 341	930329- 018	930329- 023	930329- 028	930330- 137
Acetone	10U	10U	10U	2	14
2-Butanone	10U	10U	10U	10U	10U
Chlorobenzene	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	1	2	10U
Methylene chloride	5U	3	3	3	5U
Styrene	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U
Xylenes	5U	5U	5U	5U	5U
Total Organic Halide	.	.	.	.	.

APPENDIX I.2

5

Trip Blank Data Summary, Second Quarter 1993

Sample No.	930402- 025	930402- 030	930402- 075	930402- 103	930402- 106	930402- 111	930406- 011	930406- 157
Acetone	13	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	1	5U	5U	5U	5U	5U	5U	5U
Total Organic Halide	.	10U	.	10U	10U	10U	10U	10U

(CONTINUED)

Sample No.	930407- 006	930512- 018	930512- 104	930513- 365	930527- 007	930527- 014	930527- 343	930528- 012
Acetone	10U	6	10U	10U	10U	10U	7	10U
2-Butanone	10U	10U	10U	10U	3	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	1	10U	10U	10U
Methylene chloride	5U	2	2	2	5U	0.7	0.6	5U
Total Organic Halide	.	.	.	.	10U	10U	10U	10U

(CONTINUED)

Sample No.	930528- 144	930601- 055	930603- 008	930603- 022	930603- 229	930604- 093	930607- 009	930607- 016
Acetone	6	10U	10U	10U	10U	10U	10U	10U
2-Butanone	4	10U	10U	10U	10U	10U	1	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	1	1	5U	2	1	1	2
Total Organic Halide	10U	10U	10U	10U	10U	.	10U	10U

(CONTINUED)

Sample No.	930607- 030	930609- 052	930611- 015	930611- 129	930611- 138	930611- 147	930614- 011	930614- 012
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	1	5U	5U	5U	5U	5U	5U	5U
Total Organic Halide	10U	10U	10U	10U	.	10U	10U	.

(CONTINUED)

APPENDIX I.2

6

Trip Blank Data Summary, Second Quarter 1993

Sample No.	930614- 021	930614- 022	930615- 004	930615- 009	930615- 106	930616- 008	930616- 016	930616- 103
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U
Total Organic Halide	10U	10U	.	10U	.	10U	.	.

(CONTINUED)

Sample No.	930617- 183	930618- 147	930624- 008	930624- 017	930624- 271	930625- 291	930628- 081
Acetone	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U
Total Organic Halide	10U	10U	10U	10U	.	.	.

APPENDIX I.2

7

Trip Blank Data Summary, Third Quarter 1993

Sample No.	930719- 026	930719- 027	930719- 028	930719- 164	930721- 017	930722- 314	930723- 147	930726- 017
Acetone	4	10U	10U	4	10U	10U	10U	20
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	0.2	5U	5U	0.2	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	2	2	1	1	1	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Total Organic Halide	10U	10U	10U	10U	10U	.	.	10.4

(CONTINUED)

Sample No.	930727- 008	930727- 011	930728- 015	930728- 023	930810- 146	930811- 127	930811- 132	930812- 287
Acetone	21	21	10U	10U	10U	10U	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
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	1	1	1	1	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Total Organic Halide	.	.	.	.	10U	10U	10U	10U

(CONTINUED)

Sample No.	930813- 006	930813- 128	930816- 017	930820- 094	930823- 020	930823- 021	930823- 022	930823- 111
Acetone	10U	10U	10U	10U	10U	10U	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
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	1	2	2	5U	2
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Total Organic Halide	10U	10U	10U	10U	.	10U	10U	.

(CONTINUED)

APPENDIX I.2

8

Trip Blank Data Summary, Third Quarter 1993

Sample No.	930825- 070	930826- 010	930826- 013	930826- 016	930826- 449	930827- 129	930830- 006	930830- 013
Acetone	10U	10U	10U	10U	10U	10U	20	10U
Benzene	5U	5U	5U	5U	0.9	1	1	5U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	2	2	2	2	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	0.9	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
Total Organic Halide	10U	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

Sample No.	930830- 029	930831- 016	930831- 145	930902- 019	930902- 023	930902- 211	930902- 218	930908- 006
Acetone	10U	10U	10U	5	10U	10U	10U	30
Benzene	5U	5U	5U	5U	5U	5U	1	5U
2-Butanone	10U	10U	10U	10U	10U	8	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	1	5U
Trichloroethene	2	5U	5U	5U	5U	5U	2	5U
Total Organic Halide	10U	10U	10U	.	10U	.	10U	.

(CONTINUED)

Sample No.	930910- 051	930913- 003	930913- 024	930915- 145	930916- 019	930916- 145	930924- 096	930929- 180
Acetone	10U	10U	10U	10U	10U	10U	79	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
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	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
Total Organic Halide	.	.	.	10U	10U	10U	.	10U

(CONTINUED)

APPENDIX I.2

9

Trip Blank Data Summary, Third Quarter 1993

Sample No.	930930-098
Acetone	4
Benzene	5U
2-Butanone	10
Chloroform	5U
4-Methyl-2-pentanone	1
Methylene chloride	3
Toluene	5U
Trichloroethene	5U
Total Organic Halide	.

APPENDIX I.2

10

Trip Blank Data Summary, Fourth Quarter 1993

Sample No.	931005-003	931005-008	931006-007	931006-015	931007-009	931008-063	931011-025	931011-032
Acetone	8	7	16	5	10U	10U	10U	10U
2-Butanone	12	13	10U	11	9	10U	10U	10U
4-Methyl-2-pentanone	1	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	2	3	5U	5U	5U	5U	5U	5U
Total Organic Halide	10U	10U	10U	10U	10U	.	.	.

(CONTINUED)

Sample No.	931014-051	931015-236	931111-008	931112-029	931112-068	931115-011	931115-210	931130-008
Acetone	10U	10U	10U	10U	11	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	2	2	5U	5U	5U
Total Organic Halide	.	.	10U	10U	10U	10U	10U	14

(CONTINUED)

Sample No.	931201-005	931201-010	931202-004	931202-086	931203-003	931203-012	931203-071	931203-085
Acetone	2	10U	3	4	4	10U	10U	10U
2-Butanone	7	10U	9	10	8	10U	10U	10U
4-Methyl-2-pentanone	3	10U	2	2	2	10U	10U	10U
Methylene chloride	2	5U	2	2	2	5U	5U	1
Total Organic Halide	10U	10U	10U	15	10U	21	17	10

(CONTINUED)

Sample No.	931206-005	931206-020	931206-025	931206-151	931207-008	931209-008	931210-006	931215-019
Acetone	10U	10U	10U	10U	10U	8	3	10U
2-Butanone	10U	10U	10U	10U	10U	11	9	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	2	1	10U
Methylene chloride	5U	1	1	5U	5U	2	2	1
Total Organic Halide	10U	.	10U	10U	.	10U	10U	12

(CONTINUED)

APPENDIX I.2

11

Trip Blank Data Summary, Fourth Quarter 1993

Sample No.	931216- 020	931216- 025	931216- 032	931216- 058	931217- 007	931217- 020	931218- 022	931218- 028
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U
Total Organic Halide	10U	10U	10U	10U	.	10U	10U	.

(CONTINUED)

Sample No.	931218- 045	931220- 006	931220- 010	931220- 015
Acetone	10U	4	5	4
2-Butanone	10U	7	7	12
4-Methyl-2-pentanone	10U	10U	10U	10U
Methylene chloride	5U	2	2	0.9
Total Organic Halide	.	.	.	.

APPENDIX L3

LABORATORY BLANK DATA SUMMARY

APPENDIX L3
1993 Laboratory Blank Data Summary

Compound	First		Second		Third		Fourth		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Total Samples	36		26		25		28		115	
Not Detected	10	28	13	50	12	48	15	54	50	43
VOCs Detected	26	72	13	50	13	52	13	46	65	57
Methylene chloride	17	47	10	39	10	40	12	43	49	43
Acetone	11	31			7	28	10	36	28	24
4-Methyl-2-pentanone	15	42	3	12	1	4	7	25	26	23
2-Butanone	2	6	3	12	3	12	10	36	18	16
2-Hexanone	1	3	2	8	1	4	3	11	7	6
Styrene					1	4	1	4	2	2
Benzene					1	4			1	1
Tetrachloroethene	1	3							1	1
Xylenes					1	4			1	1

APPENDIX I.3

2

VOCs Detected in Laboratory Blank Samples, First Quarter 1993

Sample No.	930107- 007	930108- 083	930111- 008	930114- 221	930119- 088	930120- 037	930121- 029	930126- 030
Acetone	2	3	1	10U	10U	2	2	3
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
2-Hexanone	1	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	2	2	2	10U	10U	2	3	2
Methylene chloride	5U	5U	5U	3	2	5U	5U	5U
Tetrachloroethene	5U	1	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample No.	930127- 001	930129- 016	930210- 021	930210- 022	930212- 001	930212- 068	930224- 002	930225- 001
Acetone	10U	1	10U	2	10U	1	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	2	10U	1	10U	1	2	10U
Methylene chloride	5U	5U	5U	2	5U	2	1	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample No.	930225- 030	930226- 001	930301- 001	930303- 002	930304- 069	930304- 076	930308- 083	930308- 112
Acetone	10U	10U	10U	10U	10U	10U	10U	9
2-Butanone	10U	8	10U	10U	10U	10U	10U	10
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	2	10U	10U	10U	10U
Methylene chloride	1	5U	1	2	1	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX I.3

3

VOCs Detected in Laboratory Blank Samples, First Quarter 1993

Sample No.	930310- 001	930315- 007	930316- 001	930318- 001	930319- 020	930322- 005	930323- 042	930325- 001
Acetone	10U	10U	10U	10U	10U	4	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	3	10U	10U	10U	10U	2	3	10U
Methylene chloride	2	1	1	5U	5U	2	2	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample No.	930330- 003	930331- 039	930401- 019	930405- 001
Acetone	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U
2-Hexanone	10U	10U	10U	10U
4-Methyl-2-pentanone	2	10U	10U	10U
Methylene chloride	2	5U	2	0.9
Tetrachloroethene	5U	5U	5U	5U

APPENDIX I.3

VOCs Detected in Laboratory Blank Samples, Second Quarter 1993

4

Sample No.	930405-001	930406-146	930407-001	930412-001	930513-001	930514-001	930514-020	930529-016
2-Butanone	10U	10U	10U	10U	10U	10U	10U	5
2-Hexanone	10U	10U	10U	10U	10U	10U	2	2
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	3	3
Methylene chloride	0.9	5U	5U	5U	1	5U	2	5U

(CONTINUED)

Sample No.	930530-001	930601-044	930602-001	930605-001	930606-001	930607-002	930607-053	930610-001
2-Butanone	10U	10U	4	10U	10U	10U	2	10U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	1	10U
Methylene chloride	5U	0.8	5U	1	1	2	5U	1

(CONTINUED)

Sample No.	930611-083	930614-047	930615-016	930617-049	930618-178	930619-007	930621-002	930625-001
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	1	5U

(CONTINUED)

Sample No.	930628-002	930630-001
2-Butanone	10U	10U
2-Hexanone	10U	10U
4-Methyl-2-pentanone	10U	10U
Methylene chloride	1	5U

APPENDIX I.3

5

VOCs Detected in Laboratory Blank Samples, Third Quarter 1993

Sample No.	930720- 001	930721- 001	930726- 001	930727- 001	930728- 001	930729- 001	930812- 271	930816- 088
Acetone	8	4	10U	9	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	2	1	2	1	1	1	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample No.	930816- 126	930817- 086	930823- 002	930825- 035	930826- 001	930827- 004	930831- 062	930902- 136
Acetone	10U	10U	10U	10U	10U	2	7	10U
Benzene	5U	5U	5U	5U	5U	5U	0.9	5U
2-Butanone	10U	10U	10U	10U	10U	10U	8	10U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	1	5U	1	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample No.	930903- 111	930907- 159	930910- 001	930913- 064	930914- 009	930917- 070	930928- 089	930930- 079
Acetone	10U	6	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
2-Butanone	10U	9	10U	10U	10U	10U	10U	10U
2-Hexanone	10U	4	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	1	5U	5U	5U
Styrene	5U	1	5U	5U	5U	5U	5U	5U
Xylenes	5U	1	5U	5U	5U	5U	5U	5U

(CONTINUED)

APPENDIX I.3

VOCs Detected in Laboratory Blank Samples, Third Quarter 1993

6

Sample No.	931004-019
Acetone	4
Benzene	5U
2-Butanone	11
2-Hexanone	10U
4-Methyl-2-pentanone	1
Methylene chloride	3
Styrene	5U
Xylenes	5U

APPENDIX I.3

7

VOCs Detected in Laboratory Blank Samples, Fourth Quarter 1993

Sample No.	931006-001	931008-005	931008-118	931011-055	931012-055	931014-010	931019-038	931111-014
Acetone	5	10U	10U	10U	10U	10U	10U	10U
2-Butanone	12	7	10U	10U	10U	10U	10U	10U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	1	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	3	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	0.5	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample No.	931116-035	931117-001	931130-033	931130-055	931201-064	931203-030	931203-032	931207-001
Acetone	10U	10U	5	10U	10U	6	10U	10U
2-Butanone	10U	10U	15	10U	10U	13	10U	10U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	2	10U	10U	3	10U	10U
Methylene chloride	5U	2	2	5U	5U	2	5U	1
Styrene	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample No.	931207-032	931209-025	931209-029	931210-049	931215-035	931216-050	931216-053	931217-070
Acetone	10U	5	10U	4	8	4	10U	10U
2-Butanone	10U	10	10U	8	10U	9	10U	10U
2-Hexanone	10U	10U	10U	2	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	2	10U	3	10U	1	10U	10U
Methylene chloride	5U	2	5U	2	1	2	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample No.	931220-077	931220-103	931221-083	931222-020
Acetone	10U	3	5	4
2-Butanone	10U	8	8	7
2-Hexanone	10U	10U	1	1
4-Methyl-2-pentanone	10U	1	10U	10U
Methylene chloride	5U	1	0.6	0.5
Styrene	5U	5U	5U	5U

5 of 5

APPENDIX L4
EQUIPMENT RINSATE DATA SUMMARY

APPENDIX I.4

1

Equipment Rinsate Data Summary, First Quarter 1993

Sample No.	930107- 104	930108- 024	930113- 145	930120- 106	930128- 145	930129- 078	930211- 344	930226- 312	930303- 123
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.	.
Acetone	2	2	10U	10U	1	.	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	.	10U	10U	10U
4-Methyl-2-pentanone	2	1	10U	10U	2	.	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	.	2	5U	5U
OTHER PARAMETERS (mg/L)	.	.	.	.	.	.	.	.	.
Nitrate (as N)	.	.	.	.	.	.	.	.	.
Aluminum	.	.	<0.02	.	.	<0.02	.	<0.02	.
Antimony	.	.	<0.05	.	.	<0.05	.	<0.05	.
Arsenic	.	.	<0.05	.	.	<0.05	.	<0.05	.
Barium	.	.	0.01	.	.	0.0019	.	0.02	.
Beryllium	.	.	<0.0003	.	.	<0.0003	.	0.00042	.
Boron	.	.	0.014	.	.	0.014	.	0.018	.
Cadmium	.	.	<0.003	.	.	<0.003	.	<0.003	.
Calcium	.	.	35	.	.	0.28	.	38	.
Chromium	.	.	<0.01	.	.	<0.01	.	<0.01	.
Cobalt	.	.	<0.005	.	.	<0.005	.	<0.005	.
Copper	.	.	<0.004	.	.	0.0064	.	<0.004	.
Iron	.	.	0.027	.	.	1.2	.	0.052	.
Magnesium	.	.	9.9	.	.	0.082	.	11	.
Manganese	.	.	0.0015	.	.	0.0076	.	<0.001	.
Molybdenum	.	.	<0.01	.	.	<0.01	.	<0.01	.
Nickel	.	.	<0.01	.	.	<0.01	.	<0.01	.
Potassium	.	.	1.9	.	.	<0.6	.	1.7	.
Selenium	.	.	<0.05	.	.	<0.05	.	<0.05	.
Silver	.	.	<0.006	.	.	<0.006	.	<0.006	.
Sodium	.	.	6.4	.	.	0.11	.	6.7	.
Strontium	.	.	0.078	.	.	0.00062	.	0.099	.
Thorium	.	.	<0.2	.	.	<0.2	.	<0.2	.
Vanadium	.	.	<0.005	.	.	<0.005	.	<0.005	.
Zinc	.	.	0.87	.	.	0.025	.	1	.
Gross Alpha (pCi/L)	.	.	.	.	.	.	.	.	.
Gross Alpha (CE+/-)	.	.	.	.	.	.	.	.	.
Gross Beta (pCi/L)	.	.	.	.	.	.	.	.	.
Gross Beta (CE+/-)	.	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX I.4

2

Equipment Rinsate Data Summary, First Quarter 1993

Sample No.	930308- 015	930308- 023	930316- 055	930317- 076	930322- 100	930324- 096	930329- 025	930330- 138
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	10U	3	10U	10U	19	14	10U	10U
2-Butanone	11	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	2	10U	10U	5	10U	2	10U
Methylene chloride	5U	2	2	5U	2	2	3	5U
	.	.	.	.	.	.	.	.
OTHER PARAMETERS (mg/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Nitrate (as N)	.	.	.	.	.	.	.	.
Aluminum	.	.	.	.	.	<0.02	<0.02	<0.02
Antimony	.	.	.	.	.	<0.05	<0.05	<0.05
Arsenic	.	.	.	.	.	<0.05	<0.05	<0.05
Barium	.	.	.	.	.	0.023	0.015	0.0037
Beryllium	.	.	.	.	.	<0.0003	<0.0003	<0.0003
Boron	.	.	.	.	.	0.055	0.029	0.016
Cadmium	.	.	.	.	.	<0.003	<0.003	<0.003
Calcium	.	.	.	.	.	31	34	27
Chromium	.	.	.	.	.	<0.01	<0.01	<0.01
Cobalt	.	.	.	.	.	<0.005	<0.005	<0.005
Copper	.	.	.	.	.	<0.004	<0.004	<0.004
Iron	.	.	.	.	.	0.11	<0.005	<0.005
Magnesium	.	.	.	.	.	9.2	9.3	12
Manganese	.	.	.	.	.	0.0054	0.0012	0.0015
Molybdenum	.	.	.	.	.	<0.01	<0.01	<0.01
Nickel	.	.	.	.	.	<0.01	<0.01	<0.01
Potassium	.	.	.	.	.	1.7	1.5	1.9
Selenium	.	.	.	.	.	<0.05	<0.05	<0.05
Silver	.	.	.	.	.	<0.006	<0.006	<0.006
Sodium	.	.	.	.	.	6	5.4	6.3
Strontium	.	.	.	.	.	0.071	0.081	0.053
Thorium	.	.	.	.	.	<0.2	<0.2	<0.2
Vanadium	.	.	.	.	.	<0.005	<0.005	<0.005
Zinc	.	.	.	.	.	0.32	0.94	0.31
Gross Alpha (pCi/L)	.	.	.	.	.	.	.	.
Gross Alpha (CE+/-)	.	.	.	.	.	.	.	.
Gross Beta (pCi/L)	.	.	.	.	.	.	.	.
Gross Beta (CE+/-)	.	.	.	.	.	.	.	.

APPENDIX I.4

3

Equipment Rinsate Data Summary, Second Quarter 1993

Sample No.	930406- 012	930406- 159	930407- 007	930513- 366	930528- 013	930528- 124	930603- 023	930609- 053
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	39	10U	10U	10U	10U	10U	10U	10U
Bromodichloromethane	3	3	5U	5U	5U	5	5U	5U
Chloroform	14	18	5U	5U	5U	43	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	2	5U	5U
1,2-Dichloropropane	4	3	5U	5U	5U	.	5U	5U
Methylene chloride	5U	5U	2	2	5U	14	5U	5U
OTHER PARAMETERS (mg/L)	.	.	.	.	.	.	.	.
Nitrate (as N)	.	.	.	.	.	.	.	.
TPH (mg/L)	.	.	.	.	<0.1	.	.	.
Aluminum	.	.	.	.	.	.	.	.
Antimony	.	.	.	.	.	.	.	.
Arsenic	.	.	.	.	.	.	.	.
Barium	.	.	.	.	.	.	.	.
Beryllium	.	.	.	.	.	.	.	.
Boron	.	.	.	.	.	.	.	.
Cadmium	.	.	.	.	.	.	.	.
Calcium	.	.	.	.	.	.	.	.
Chromium	.	.	.	.	.	.	.	.
Cobalt	.	.	.	.	.	.	.	.
Copper	.	.	.	.	.	.	.	.
Iron	.	.	.	.	.	.	.	.
Magnesium	.	.	.	.	.	.	.	.
Manganese	.	.	.	.	.	.	.	.
Molybdenum	.	.	.	.	.	.	.	.
Nickel	.	.	.	.	.	.	.	.
Potassium	.	.	.	.	.	.	.	.
Selenium	.	.	.	.	.	.	.	.
Silver	.	.	.	.	.	.	.	.
Sodium	.	.	.	.	.	.	.	.
Strontium	.	.	.	.	.	.	.	.
Thorium	.	.	.	.	.	.	.	.
Vanadium	.	.	.	.	.	.	.	.
Zinc	.	.	.	.	.	.	.	.
Gross Alpha (pCi/L)	.	.	.	.	.	.	.	.
Gross Alpha (CE+/-)	.	.	.	.	.	.	.	.
Gross Beta (pCi/L)	.	.	.	.	.	.	.	.
Gross Beta (CE+/-)	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX I.4

4

Equipment Rinsate Data Summary, Second Quarter 1993

Sample No.	930611- 016	930611- 017	930614- 013	930614- 041	930616- 017	930616- 050	930616- 104	930618- 148
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U
OTHER PARAMETERS (mg/L)	.	.	.	.	.	.	.	.
Nitrate (as N)	.	.	.	.	.	.	.	.
TPH (mg/L)	.	.	.	.	.	.	.	.
Aluminum	.	0.034	.	.	0.037	0.03	<0.02	<0.02
Antimony	.	<0.05	.	.	<0.05	<0.05	<0.05	<0.05
Arsenic	.	<0.05	.	.	<0.05	<0.05	<0.05	<0.05
Barium	.	0.028	.	.	0.025	0.024	0.022	0.023
Beryllium	.	<0.0003	.	.	<0.0003	<0.0003	<0.0003	<0.0003
Boron	.	0.06	.	.	0.079	0.19	<0.004	0.026
Cadmium	.	<0.003	.	.	<0.003	<0.003	<0.003	<0.003
Calcium	.	32	.	.	34	34	33	33
Chromium	.	<0.01	.	.	<0.01	<0.01	<0.01	<0.01
Cobalt	.	<0.005	.	.	<0.005	<0.005	<0.005	<0.005
Copper	.	<0.004	.	.	0.0048	0.0042	0.0043	0.0044
Iron	.	1.6	.	.	0.017	0.023	0.043	0.34
Magnesium	.	9.2	.	.	9.4	9.4	9.4	9.6
Manganese	.	0.012	.	.	0.0021	0.002	0.0015	0.0065
Molybdenum	.	<0.01	.	.	<0.01	<0.01	<0.01	<0.01
Nickel	.	<0.01	.	.	<0.01	<0.01	<0.01	<0.01
Potassium	.	1.1	.	.	1.7	1.6	1	1.1
Selenium	.	<0.05	.	.	0.061	<0.05	<0.05	<0.05
Silver	.	<0.006	.	.	<0.006	<0.006	<0.006	<0.006
Sodium	.	4.8	.	.	5.2	5.3	5.2	5.1
Strontium	.	0.078	.	.	0.085	0.084	0.086	0.085
Thorium	.	<0.2	.	.	<0.2	<0.2	<0.2	<0.2
Vanadium	.	<0.005	.	.	<0.005	<0.005	<0.005	<0.005
Zinc	.	0.11	.	.	0.77	0.73	0.47	0.33
Gross Alpha (pCi/L)	.	.	.	.	.	.	.	.
Gross Alpha (CE+/-)	.	.	.	.	.	.	.	.
Gross Beta (pCi/L)	.	.	.	.	.	.	.	.
Gross Beta (CE+/-)	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX I.4

5

Equipment Rinsate Data Summary, Second Quarter 1993

Sample No.	930624- 009	930624- 234	930624- 235	930628- 055	930628- 076
VOLATILE ORGANICS (ug/L)	.	.	.	.	.
	.	.	.	.	.
Acetone	10U	10U	10U	.	10U
Bromodichloromethane	5U	5U	5U	.	5U
Chloroform	5U	5U	5U	.	5U
1,2-Dichloroethane	5U	5U	5U	.	5U
1,2-Dichloropropane	5U	5U	5U	.	5U
Methylene chloride	5U	5U	5U	.	5U
	.	.	.	.	.
OTHER PARAMETERS (mg/L)	.	.	.	.	.
	.	.	.	.	.
Nitrate (as N)	.	.	.	.	.
TPH (mg/L)	.	0.004	0.029	.	.
Aluminum	<0.02	.	.	.	.
Antimony	<0.05	.	.	.	.
Arsenic	<0.05	.	.	.	.
Barium	0.021	.	.	.	.
Beryllium	<0.0003	.	.	.	.
Boron	0.011	.	.	.	.
Cadmium	<0.003	.	.	.	.
Calcium	34	.	.	.	.
Chromium	<0.01	.	.	.	.
Cobalt	0.0061	.	.	.	.
Copper	<0.004	.	.	.	.
Iron	0.13	.	.	.	.
Magnesium	9.9	.	.	.	.
Manganese	0.0027	.	.	.	.
Molybdenum	<0.01	.	.	.	.
Nickel	<0.01	.	.	.	.
Potassium	1.2	.	.	.	.
Selenium	<0.05	.	.	.	.
Silver	<0.006	.	.	.	.
Sodium	5.5	.	.	.	.
Strontium	0.087	.	.	.	.
Thorium	<0.2	.	.	.	.
Vanadium	<0.005	.	.	.	.
Zinc	0.14	.	.	.	.
Gross Alpha (pCi/L)	.	.	.	.	.
Gross Alpha (CE+/-)	.	.	.	.	.
Gross Beta (pCi/L)	.	.	.	.	.
Gross Beta (CE+/-)	.	.	.	.	.

APPENDIX I.4

6

Equipment Rinsate Data Summary, Third Quarter 1993

Sample No.	930719- 025	930721- 018	930726- 014	930726- 018	930728- 014	930728- 024	930816- 018	930823- 019
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	2	5U	1	5U	1	1	5U	1
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	1	.	5U	.	.	5U	.
OTHER PARAMETERS (mg/L)	.	.	.	.	.	.	.	.
Nitrate (as N)	.	.	.	1.3	.	.	.	.
TPH (mg/L)	.	.	.	.	.	.	.	.
Aluminum	.	.	.	<0.02	.	.	.	.
Antimony	.	.	.	<0.05	.	.	.	.
Arsenic	.	.	.	<0.05	.	.	.	.
Barium	.	.	.	0.02	.	.	.	.
Beryllium	.	.	.	<0.0003	.	.	.	.
Boron	.	.	.	0.026	.	.	.	.
Cadmium	.	.	.	<0.003	.	.	.	.
Calcium	.	.	.	33	.	.	.	.
Chromium	.	.	.	<0.01	.	.	.	.
Cobalt	.	.	.	<0.005	.	.	.	.
Copper	.	.	.	<0.004	.	.	.	.
Iron	.	.	.	0.067	.	.	.	.
Magnesium	.	.	.	10	.	.	.	.
Manganese	.	.	.	0.002	.	.	.	.
Molybdenum	.	.	.	<0.01	.	.	.	.
Nickel	.	.	.	<0.01	.	.	.	.
Potassium	.	.	.	1.7	.	.	.	.
Selenium	.	.	.	<0.05	.	.	.	.
Silver	.	.	.	<0.006	.	.	.	.
Sodium	.	.	.	5.3	.	.	.	.
Strontium	.	.	.	0.086	.	.	.	.
Thorium	.	.	.	<0.2	.	.	.	.
Vanadium	.	.	.	<0.005	.	.	.	.
Zinc	.	.	.	0.34	.	.	.	.
Gross Alpha (pCi/L)	.	.	.	-3.4	.	.	.	.
Gross Alpha (CE+/-)	.	.	.	2.4	.	.	.	.
Gross Beta (pCi/L)	.	.	.	-0.741	.	.	.	.
Gross Beta (CE+/-)	.	.	.	2.9	.	.	.	.

(CONTINUED)

APPENDIX I.4

7

Equipment Rinsate Data Summary, Third Quarter 1993

Sample No.	930823- 109	930823- 189	930823- 190	930826- 450	930830- 014	930831- 017	930831- 024	930902- 222
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	0.8	5U	5U	5U	1
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	2
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	1	5U	2	5U	5U	5U	5U	5U
Xylenes	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	.	.	.	.	.	5U	5U	.
	.	.	.	.	.	.	.	.
OTHER PARAMETERS (mg/L)	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
Nitrate (as N)	.	.	.	.	.	0.39	0.42	.
TPH (mg/L)	.	.	.	.	.	0.002	<0.1	.
Aluminum	.	<0.02	0.11	.	.	<0.02	<0.02	.
Antimony	.	<0.05	<0.05	.	.	<0.05	<0.05	.
Arsenic	.	<0.05	<0.05	.	.	<0.05	<0.05	.
Barium	.	0.0084	0.036	.	.	0.031	0.028	.
Beryllium	.	<0.0003	<0.0003	.	.	<0.0003	<0.0003	.
Boron	.	0.0052	0.0082	.	.	0.022	0.011	.
Cadmium	.	<0.003	<0.003	.	.	<0.003	<0.003	.
Calcium	.	11	32	.	.	36	36	.
Chromium	.	<0.01	<0.01	.	.	<0.01	<0.01	.
Cobalt	.	<0.005	<0.005	.	.	<0.005	<0.005	.
Copper	.	0.0061	0.0062	.	.	0.0053	<0.004	.
Iron	.	1.1	0.36	.	.	0.01	0.012	.
Magnesium	.	3	9.4	.	.	9.9	9.8	.
Manganese	.	0.0033	0.018	.	.	0.0025	0.0035	.
Molybdenum	.	<0.01	<0.01	.	.	<0.01	<0.01	.
Nickel	.	<0.01	0.013	.	.	<0.01	<0.01	.
Potassium	.	<0.6	1.2	.	.	1.9	1.3	.
Selenium	.	<0.05	<0.05	.	.	<0.05	<0.05	.
Silver	.	<0.006	<0.006	.	.	<0.006	<0.006	.
Sodium	.	1.5	4.7	.	.	4.9	5	.
Strontium	.	0.026	0.087	.	.	0.089	0.089	.
Thorium	.	<0.2	<0.2	.	.	<0.2	<0.2	.
Vanadium	.	<0.005	<0.005	.	.	<0.005	<0.005	.
Zinc	.	0.035	0.32	.	.	0.73	0.7	.
Gross Alpha (pCi/L)	.	.	.	.	.	-1.31	2.29	.
Gross Alpha (CE+/-)	.	.	.	.	.	1.4	2.1	.
Gross Beta (pCi/L)	.	.	.	.	.	-3.84	-1.34	.
Gross Beta (CE+/-)	.	.	.	.	.	2.8	2.9	.

(CONTINUED)

APPENDIX I.4

8

Equipment Rinsate Data Summary, Third Quarter 1993

Sample No.	930913-004	930913-038	930916-150	930921-026	930924-097	930930-060	930930-099
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.
Acetone	10U	10U	10U	10U	10U	5	4
Benzene	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	3	5U	5	5U	5U	5U
2-Butanone	10U	10U	10U	10U	10U	11	10
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U
Chloroform	5U	22	5U	44	5U	5U	5U
1,2-Dichloropropane	5U	10	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	1	2
Methylene chloride	1	1	5U	5U	5U	3	3
Xylenes	5U	5U	5U	5U	5U	5U	1
Trichlorofluoromethane	.	.	.	.	.	.	.
OTHER PARAMETERS (mg/L)	.	.	.	.	.	.	.
Nitrate (as N)	.	.	.	.	.	<0.2	.
TPH (mg/L)	.	.	.	.	.	<0.1	.
Aluminum	0.22	0.069	.	.	0.032	<0.02	0.026
Antimony	<0.05	<0.05	.	.	<0.05	<0.05	<0.05
Arsenic	<0.05	<0.05	.	.	<0.05	<0.05	<0.05
Barium	0.002	0.031	.	.	<0.001	<0.001	0.029
Beryllium	<0.0003	<0.0003	.	.	0.00054	<0.0003	<0.0003
Boron	0.11	0.093	.	.	<0.004	0.0078	0.015
Cadmium	<0.003	<0.003	.	.	<0.003	<0.003	<0.003
Calcium	0.61	35	.	.	0.61	0.2	37
Chromium	<0.01	<0.01	.	.	<0.01	<0.01	<0.01
Cobalt	<0.005	<0.005	.	.	<0.005	<0.005	<0.005
Copper	0.0053	0.0047	.	.	<0.004	<0.004	<0.004
Iron	0.4	0.05	.	.	0.25	0.04	<0.005
Magnesium	0.15	9.7	.	.	0.15	0.049	10
Manganese	0.0049	0.012	.	.	0.0016	<0.001	<0.001
Molybdenum	<0.01	<0.01	.	.	<0.01	<0.01	<0.01
Nickel	<0.01	<0.01	.	.	<0.01	<0.01	<0.01
Potassium	<0.6	1.4	.	.	<0.6	<0.6	1.6
Selenium	<0.05	<0.05	.	.	<0.05	<0.05	<0.05
Silver	<0.006	<0.006	.	.	<0.006	<0.006	<0.006
Sodium	0.19	4.9	.	.	0.032	0.23	5
Strontium	0.0015	0.091	.	.	0.0021	0.0011	0.096
Thorium	<0.2	<0.2	.	.	<0.2	<0.2	<0.2
Vanadium	<0.005	<0.005	.	.	<0.005	<0.005	<0.005
Zinc	0.014	0.7	.	.	0.017	0.012	1
Gross Alpha (pCi/L)	.	.	.	.	.	0.972	.
Gross Alpha (CE+/-)	.	.	.	.	.	1.7	.
Gross Beta (pCi/L)	.	.	.	.	.	-0.407	.
Gross Beta (CE+/-)	.	.	.	.	.	2.5	.

APPENDIX I.4

9

Equipment Rinsate Data Summary, Fourth Quarter 1993

Sample No.	931006- 020	931007- 010	931011- 033	931015- 237	931115- 211	931203- 086	931206- 006	931206- 152
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.	.
Acetone	8	7	10U	10U	10U	10U	10U	10U
2-Butanone	9	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	1	2	1	5U
OTHER PARAMETERS (mg/L)	.	.	.	.	.	.	.	.
Nitrate (as N)	.	.	.	.	.	.	.	.
TPH (mg/L)	.	.	.	.	.	.	.	.
Aluminum	.	.	.	.	.	0.035	<0.02	.
Antimony	.	.	.	.	.	<0.05	<0.05	.
Arsenic	.	.	.	.	.	<0.05	<0.05	.
Barium	.	.	.	.	.	0.029	0.0068	.
Beryllium	.	.	.	.	.	<0.0003	<0.0003	.
Boron	.	.	.	.	.	0.039	0.0077	.
Cadmium	.	.	.	.	.	<0.003	<0.003	.
Calcium	.	.	.	.	.	34	8.6	.
Chromium	.	.	.	.	.	<0.01	<0.01	.
Cobalt	.	.	.	.	.	<0.005	<0.005	.
Copper	.	.	.	.	.	<0.004	<0.004	.
Iron	.	.	.	.	.	0.015	<0.005	.
Magnesium	.	.	.	.	.	9.8	2.3	.
Manganese	.	.	.	.	.	0.0019	<0.001	.
Molybdenum	.	.	.	.	.	<0.01	<0.01	.
Nickel	.	.	.	.	.	<0.01	<0.01	.
Potassium	.	.	.	.	.	2.1	<0.6	.
Selenium	.	.	.	.	.	<0.05	<0.05	.
Silver	.	.	.	.	.	<0.006	<0.006	.
Sodium	.	.	.	.	.	5.2	1.3	.
Strontium	.	.	.	.	.	0.086	0.02	.
Thorium	.	.	.	.	.	<0.2	<0.2	.
Vanadium	.	.	.	.	.	<0.005	<0.005	.
Zinc	.	.	.	.	.	1.3	0.25	.
Gross Alpha (pCi/L)	.	.	.	.	.	.	.	.
Gross Alpha (CE+/-)	.	.	.	.	.	.	.	.
Gross Beta (pCi/L)	.	.	.	.	.	.	.	.
Gross Beta (CE+/-)	.	.	.	.	.	.	.	.

(CONTINUED)

APPENDIX I.4

10

Equipment Rinseate Data Summary, Fourth Quarter 1993

Sample No.	931207- 009	931216- 039	931216- 059	931217- 019	931218- 023	931220- 007	931220- 016
VOLATILE ORGANICS (ug/L)	.	.	.	.	.	.	.
	.	.	.	.	.	.	.
Acetone	10U	3	10U	10U	10U	4	4
2-Butanone	10U	7	10U	10U	10U	7	6
4-Methyl-2-pentanone	10U	1	10U	10U	10U	10U	10U
Methylene chloride	5U	2	5U	5U	5U	2	2
	.	.	.	.	.	.	.
OTHER PARAMETERS (mg/L)	.	.	.	.	.	.	.
	.	.	.	.	.	.	.
Nitrate (as N)	.	.	.	0.5	.	.	.
TPH (mg/L)	.	.	.	.	.	.	.
Aluminum	.	.	.	0.021	.	0.029	0.021
Antimony	.	.	.	<0.05	.	<0.05	<0.05
Arsenic	.	.	.	<0.05	.	<0.05	<0.05
Barium	.	.	.	0.027	.	0.029	0.025
Beryllium	.	.	.	<0.0003	.	<0.0003	<0.0003
Boron	.	.	.	0.034	.	0.063	0.032
Cadmium	.	.	.	<0.003	.	<0.003	<0.003
Calcium	.	.	.	34	.	31	32
Chromium	.	.	.	<0.01	.	<0.01	<0.01
Cobalt	.	.	.	<0.005	.	<0.005	<0.005
Copper	.	.	.	<0.004	.	<0.004	<0.004
Iron	.	.	.	<0.005	.	0.061	1.3
Magnesium	.	.	.	9.8	.	8.6	9
Manganese	.	.	.	0.0017	.	0.0018	0.004
Molybdenum	.	.	.	<0.01	.	<0.01	<0.01
Nickel	.	.	.	<0.01	.	<0.01	<0.01
Potassium	.	.	.	1.8	.	1.7	1.9
Selenium	.	.	.	<0.05	.	<0.05	<0.05
Silver	.	.	.	<0.006	.	<0.006	<0.006
Sodium	.	.	.	5.4	.	5.1	5.4
Strontium	.	.	.	0.092	.	0.078	0.079
Thorium	.	.	.	<0.2	.	<0.2	<0.2
Vanadium	.	.	.	<0.005	.	<0.005	<0.005
Zinc	.	.	.	0.78	.	1	0.47
Gross Alpha (pCi/L)	.	.	.	0.759	.	.	.
Gross Alpha (CE+/-)	.	.	.	1.5	.	.	.
Gross Beta (pCi/L)	.	.	.	0.772	.	.	.
Gross Beta (CE+/-)	.	.	.	2.7	.	.	.

APPENDIX J

VALIDATED RESULTS OF VOLATILE ORGANIC COMPOUND ANALYSES

EXPLANATION

LOCATION:

ADB	-	Ash Disposal Basin
CDLVI	-	Construction Debris Landfill VI (formerly Industrial Landfill II Expansion)
CDLVII	-	Construction Debris Landfill VII
CRSDB	-	Chestnut Ridge Sediment Disposal Basin
CRSP	-	Chestnut Ridge Security Pits
ECRWP	-	East Chestnut Ridge Waste Pile
KHQ	-	Kerr Hollow Quarry (located in Bethel Valley)
LII	-	Industrial Landfill II
LIII	-	Industrial Landfill III
LIV	-	Industrial Landfill IV
LV	-	Industrial Landfill V
RQ	-	Rogers Quarry (located in Bethel Valley)
UNCS	-	United Nuclear Corporation Site

NOTES:

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

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

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

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

APPENDIX J
Validated VOC Results, 1993

1

Sampling Point . Location . Date Sampled	1090								GW-141			
	UNCS								LIV			
	01/20/93		05/13/93		07/27/93		10/10/93		01/07/93		04/05/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	FP3	.	5U	.	5U	.	5U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Hexanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
4-Methyl-2-pentanone	FP1	.	10U	.	10U	.	10U	.	FP1	.	10U	.
Methylene chloride	5U	.	FP1	.	FP1	.	5U	.	5U	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

2

Sampling Point . Location . Date Sampled	GW-141				GW-142							
	LIV				KHQ							
	07/18/93		10/06/93		03/05/93		06/11/93		08/25/93		12/15/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	10U	.	10U	.	FP1	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	10U	.	FP1	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	4	100	1	100	5U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Hexanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
4-Methyl-2-pentanone	10U	.	10U	.	10U	.	10U	.	10U	.	FP1	.
Methylene chloride	FP1	.	5U	.	5U	.	5U	.	FP2	.	FP1	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	4	100	1	100	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

3

Sampling Point . Location . Date Sampled	GW-143								GW-144			
	KHQ								KHQ			
	03/06/93		06/13/93		08/27/93		12/15/93		03/06/93		06/12/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Benzene	5U	.	5U	.	FP1	.	5U	.	5U	.	5U	.
2-Butanone	FP1	.	10U	.	FP1	.	10U	.	FP1	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	FP3	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	FP3	.	5U	.	5U	.	5U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Hexanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
4-Methyl-2-pentanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Methylene chloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	FP3	.	5U	.	5U	.	5U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

4

Sampling Point . Location . Date Sampled	GW-144				GW-145							
	KHQ				KHQ							
	08/26/93		12/15/93		03/06/93		06/12/93		08/25/93		12/14/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	FP1	.	10U	.	10U	.	10U	.	10U	.	FP1	.
Benzene	FP1	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	FP1	.	10U	.	FP1	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	3	100	3	100	5U	.	5U	.	5U	.	5U	.
Chloroform	FP3	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Hexanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
4-Methyl-2-pentanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Methylene chloride	5U	.	5U	.	5U	.	5U	.	5U	.	FP1	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	3	100	3	100	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

5

Sampling Point . Location . Date Sampled	GW-146								GW-147			
	KHQ								KHQ			
	03/09/93		06/13/93		08/25/93		12/16/93		03/05/93		06/11/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Benzene	5U	.	5U	.	FP1	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	FP1	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Hexanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
4-Methyl-2-pentanone	FP1	.	10U	.	10U	.	10U	.	10U	.	10U	.
Methylene chloride	FP1	.	5U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

6

Sampling Point . Location . Date Sampled	GW-147				GW-158							
	KRQ				CRSDB							
	08/24/93		12/14/93		03/24/93		06/23/93		08/25/93		12/05/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Hexanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
4-Methyl-2-pentanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Methylene chloride	FP3	.	FP1	.	FP2	.	5U	.	FP2	.	FP1	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

7

Sampling Point . Location . Date Sampled	GW-159								GW-160			
	CRSDB								LIII			
	02/22/93		06/14/93		08/10/93		11/29/93		02/09/93		06/06/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	FP1	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
2-Hexanone	100	.	100	.	100	.	100	.	100	.	100	.
4-Methyl-2-pentanone	100	.	100	.	100	.	100	.	FP1	.	100	.
Methylene chloride	FP1	.	50	.	50	.	50	.	FP1	.	FP2	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

8

Sampling Point . Location . Date Sampled	GW-160				GW-175							
	LIII				CRSP							
	08/12/93		11/11/93		03/27/93		06/15/93		09/11/93		12/19/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	FP1	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	FP3	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
2-Hexanone	100	.	100	.	100	.	100	.	100	.	100	.
4-Methyl-2-pentanone	100	.	100	.	100	.	100	.	100	.	100	.
Methylene chloride	50	.	50	.	FP1	.	50	.	FP1	.	FP1	.
Tetrachloroethene	50	.	50	.	16	76.2	15	78.9	13	81.3	9	75
1,1,1-Trichloroethane	50	.	50	.	5	23.8	4	21.1	3	18.8	3	25
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	21	100	19	100	16	100.1	12	100

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

9

Sampling Point . Location . Date Sampled	GW-177								GW-181			
	CRSP								CRSP			
	03/30/93		06/14/93		09/30/93		12/19/93		01/05/93		06/04/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	FP1	.	FP1	.	FP1	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	FP1	.	FP1	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethane	8	33.3	9	37.5	11	31.4	16	32.7	50	.	50	.
1,1-Dichloroethene	2	8.3	50	.	2	5.7	4	8.2	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	FP3	.	50	.	50	.
2-Hexanone	100	.	100	.	100	.	FP1	.	FP1	.	100	.
4-Methyl-2-pentanone	100	.	100	.	100	.	100	.	FP1	.	100	.
Methylene chloride	50	.	50	.	FP1	.	FP1	.	50	.	FP1	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	14	58.3	15	62.5	22	62.9	29	59.2	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	24	99.9	24	100	35	100	49	100.1	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

10

Sampling Point . Location . Date Sampled	GW-181				GW-184							
	CRSP				RQ							
	09/01/93		12/16/93		03/02/93		06/24/93		07/22/93		12/05/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	FP1	.	100	.	100	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	FP1	.	100	.	100	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
2-Hexanone	100	.	100	.	100	.	100	.	100	.	100	.
4-Methyl-2-pentanone	100	.	100	.	100	.	100	.	100	.	100	.
Methylene chloride	50	.	50	.	FP1	.	50	.	50	.	FP1	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

11

Sampling Point . Location . Date Sampled	GW-186								GW-187			
	RQ								RQ			
	03/03/93		06/26/93		07/24/93		12/06/93		03/03/93		06/25/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Hexanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
4-Methyl-2-pentanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Methylene chloride	5U	.	5U	.	FP1	.	5U	.	5U	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

12

Sampling Point . Location . Date Sampled	GW-187				GW-188							
	RQ				RQ							
	07/23/93		12/06/93		03/02/93		06/24/93		07/22/93		12/05/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Hexanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
4-Methyl-2-pentanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Methylene chloride	FP1	.	5U	.	FP1	.	5U	.	FP1	.	FP1	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

13

Sampling Point . Location . Date Sampled	GW-203								GW-205			
	UNCS								UNCS			
	01/18/93		05/11/93		07/26/93		10/07/93		01/18/93		05/11/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	FP3	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Hexanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
4-Methyl-2-pentanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Methylene chloride	5U	.	FP1	.	5U	.	5U	.	FP1	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

14

Sampling Point . Location . Date Sampled	GW-205				GW-217							
	UNCS				LIV							
	07/26/93		10/07/93		01/05/93		04/01/93		07/17/93		10/04/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	10U	.	10U	.	FP1	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	10U	.	FP1	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Hexanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
4-Methyl-2-pentanone	10U	.	10U	.	FP1	.	10U	.	10U	.	FP1	.
Methylene chloride	5U	.	5U	.	5U	.	5U	.	FP1	.	FP1	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

15

Sampling Point . Location . Date Sampled	GW-221								GW-241			
	UNCS								CRSDB			
	01/19/93		05/12/93		07/27/93		10/09/93		02/26/93		06/18/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Hexanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
4-Methyl-2-pentanone	FP1	.	10U	.	10U	.	10U	.	10U	.	10U	.
Methylene chloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

16

Sampling Point . Location . Date Sampled	GW-241				GW-292							
	CRSDB				ECRWP							
	08/21/93		12/03/93		01/26/93		04/02/93		08/22/93		10/14/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Hexanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
4-Methyl-2-pentanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Methylene chloride	FP2	.	FP1	.	5U	.	5U	.	FP2	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

17

Sampling Point . Location . Date Sampled	GW-293								GW-294			
	ECRWP								ECRWP			
	01/28/93		04/06/93		08/22/93		10/15/93		01/25/93		04/01/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	10U	.	FP1	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	FP3	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Hexanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
4-Methyl-2-pentanone	FP1	.	10U	.	10U	.	10U	.	FP1	.	10U	.
Methylene chloride	5U	.	FP3	.	5U	.	5U	.	5U	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

18

Sampling Point . Location . Date Sampled	GW-294				GW-295							
	ECRWP				LIII							
	08/22/93		10/14/93		02/11/93		06/05/93		08/12/93		11/13/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	FP1	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
2-Hexanone	100	.	100	.	100	.	100	.	100	.	100	.
4-Methyl-2-pentanone	100	.	100	.	FP1	.	100	.	100	.	100	.
Methylene chloride	50	.	50	.	FP1	.	FP1	.	50	.	FP1	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

19

Sampling Point . Location . Date Sampled	GW-296								GW-298			
	ECRWP								LIII			
	01/25/93		04/01/93		08/22/93		10/14/93		02/11/93		06/10/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	FP1	.	100	.	100	.	100	.	FP1	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	FP2	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	FP2	.	50	.
2-Hexanone	100	.	100	.	100	.	100	.	100	.	100	.
4-Methyl-2-pentanone	FP1	.	100	.	100	.	100	.	FP1	.	100	.
Methylene chloride	50	.	50	.	50	.	50	.	FP1	.	50	.
Tetrachloroethene	50	.	50	.	50	.	50	.	FP2	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Xylenes	50	.	50	.	50	.	50	.	FP2	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

20

Sampling Point . Location . Date Sampled	GW-298				GW-299							
	LIII				LIII							
	08/14/93		11/15/93		02/10/93		06/10/93		08/14/93		11/13/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
2-Hexanone	100	.	100	.	100	.	100	.	100	.	100	.
4-Methyl-2-pentanone	100	.	100	.	100	.	100	.	100	.	100	.
Methylene chloride	50	.	50	.	FP2	.	50	.	50	.	50	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

21

Sampling Point . Location . Date Sampled	GW-300								GW-301			
	LIII								LIII			
	02/10/93		06/06/93		08/12/93		11/12/93		02/10/93		06/06/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	FP1	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
2-Hexanone	100	.	100	.	100	.	100	.	100	.	100	.
4-Methyl-2-pentanone	100	.	100	.	100	.	100	.	100	.	100	.
Methylene chloride	50	.	FP1	.	50	.	FP1	.	FP2	.	50	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

22

Sampling Point . Location . Date Sampled	GW-301				GW-302							
	LIII				UNCS							
	08/13/93		11/13/93		01/20/93		05/13/93		07/27/93		10/09/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
2-Hexanone	100	.	100	.	100	.	100	.	100	.	100	.
4-Methyl-2-pentanone	100	.	100	.	FP1	.	100	.	100	.	100	.
Methylene chloride	50	.	50	.	50	.	FP1	.	50	.	50	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

23

Sampling Point . Location . Date Sampled	GW-303								GW-304			
	CRSDB								CRSDB			
	02/25/93		06/17/93		08/20/93		12/02/93		02/22/93		06/14/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
2-Hexanone	100	.	100	.	100	.	100	.	100	.	100	.
4-Methyl-2-pentanone	100	.	100	.	100	.	100	.	100	.	100	.
Methylene chloride	PP2	.	50	.	50	.	50	.	PP1	.	50	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

24

Sampling Point . Location . Date Sampled	GW-304				GW-305							
	CRSDB				LIV							
	08/11/93		11/29/93		01/05/93		04/01/93		07/17/93		10/04/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	FP1	.	100	.	FP1	.	FP1	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	FP1	.
Carbon disulfide	50	.	FP3	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
2-Hexanone	100	.	100	.	100	.	100	.	100	.	100	.
4-Methyl-2-pentanone	100	.	100	.	FP1	.	100	.	100	.	100	.
Methylene chloride	50	.	50	.	50	.	50	.	FP1	.	FP1	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	2	100	3	100	3	100	4	100
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	2	100	3	100	3	100	4	100

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

25

Sampling Point . Location . Date Sampled	GW-321								GW-339			
	ADB								UNCS			
	03/22/93		06/09/93		09/02/93		12/17/93		01/19/93		05/13/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	FP1	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
2-Hexanone	100	.	100	.	100	.	100	.	100	.	100	.
4-Methyl-2-pentanone	FP1	.	100	.	100	.	100	.	FP1	.	100	.
Methylene chloride	FP1	.	50	.	50	.	50	.	50	.	FP1	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

26

Sampling Point . Location . Date Sampled	GW-339				GW-511							
	UNCS				CRSP							
	07/27/93		10/09/93		01/06/93		06/04/93		09/01/93		12/16/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	FP1	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	FP3	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
2-Hexanone	100	.	100	.	100	.	100	.	100	.	100	.
4-Methyl-2-pentanone	100	.	100	.	FP1	.	100	.	100	.	100	.
Methylene chloride	50	.	50	.	50	.	50	.	50	.	50	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

27

Sampling Point . Location . Date Sampled	GW-513								GW-514			
	ADB								ADB			
	03/16/93		06/02/93		08/31/93		12/15/93		03/20/93		06/05/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Hexanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
4-Methyl-2-pentanone	10U	.	10U	.	10U	.	10U	.	FP1	.	10U	.
Methylene chloride	5U	.	FP1	.	5U	.	5U	.	FP1	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	1	100	1	100
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	1	100	1	100

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

28

Sampling Point . Location . Date Sampled	GW-514				GW-521							
	ADB				LIV							
	09/02/93		12/17/93		01/06/93		04/05/93		07/18/93		10/06/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	FP1	.	10U	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Hexanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
4-Methyl-2-pentanone	10U	.	10U	.	FP1	.	10U	.	10U	.	10U	.
Methylene chloride	5U	.	5U	.	5U	.	5U	.	FP1	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	1	100	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	1	100	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

29

Sampling Point . Location . Date Sampled	GW-522								GW-539			
	LIV								LII			
	01/06/93		04/02/93		07/18/93		10/05/93		01/06/93		04/01/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	FP1	.	10U	.	FP1	.	10U	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Hexanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
4-Methyl-2-pentanone	FP1	.	10U	.	10U	.	10U	.	FP1	.	10U	.
Methylene chloride	5U	.	5U	.	FP1	.	5U	.	5U	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

30

Sampling Point . Location . Date Sampled	GW-539				GW-540							
	LII				CDLVI							
	07/19/93		10/04/93		03/12/93		05/28/93		08/21/93		11/30/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	FP1	.	10U	.	10U	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	FP1	.	10U	.	FP1	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Hexanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
4-Methyl-2-pentanone	10U	.	FP1	.	10U	.	10U	.	10U	.	10U	.
Methylene chloride	FP1	.	FP1	.	FP1	.	5U	.	FP3	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

31

Sampling Point . Location . Date Sampled	GW-541								GW-542			
	CDLVI								CDLVI			
	03/12/93		06/02/93		09/15/93		12/02/93		03/16/93		06/02/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	10U	.	FP1	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	FP1	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Hexanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
4-Methyl-2-pentanone	10U	.	10U	.	10U	.	FP1	.	10U	.	10U	.
Methylene chloride	FP1	.	5U	.	5U	.	FP1	.	FP3	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

32

Sampling Point . Location . Date Sampled	GW-542				GW-543							
	CDLVI				CDLVI							
	09/15/93		12/03/93		03/16/93		06/02/93		09/16/93		12/04/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
2-Hexanone	100	.	100	.	100	.	100	.	100	.	100	.
4-Methyl-2-pentanone	100	.	100	.	100	.	100	.	100	.	100	.
Methylene chloride	50	.	50	.	50	.	50	.	50	.	FP1	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

33

Sampling Point . Location . Date Sampled	GW-546								GW-557			
	CDLVI								LV			
	03/12/93		06/01/93		08/21/93		12/01/93		05/26/93		09/29/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	FP1	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	FP1	.	FP1	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
2-Hexanone	100	.	100	.	100	.	100	.	100	.	100	.
4-Methyl-2-pentanone	100	.	100	.	100	.	FP1	.	FP1	.	100	.
Methylene chloride	FP1	.	50	.	50	.	FP1	.	50	.	50	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

34

Sampling Point . Location . Date Sampled	GW-557		GW-560						GW-562			
	LV		CDLVII						CDLVII			
	12/08/93		05/26/93		08/28/93		12/02/93		05/26/93		08/28/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	FP1	.	100	.	100	.
Benzene	50	.	50	.	FP1	.	50	.	50	.	FP1	.
2-Butanone	100	.	100	.	100	.	FP1	.	FP1	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
2-Hexanone	100	.	100	.	100	.	100	.	100	.	100	.
4-Methyl-2-pentanone	100	.	100	.	100	.	FP1	.	FP1	.	100	.
Methylene chloride	50	.	50	.	50	.	FP1	.	50	.	50	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

35

Sampling Point . Location . Date Sampled	GW-562		GW-564						GW-607		GW-608	
	CDLVII		CDLVII						CRSP		CRSP	
	12/02/93		05/26/93		08/29/93		12/08/93		01/06/93		03/28/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	FP1	.	100	.	100	.	FP1	.	FP1	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	FP1	.	100	.	100	.	FP1	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
2-Hexanone	100	.	100	.	100	.	100	.	100	.	100	.
4-Methyl-2-pentanone	FP1	.	100	.	100	.	FP1	.	FP1	.	FP1	.
Methylene chloride	FP1	.	50	.	50	.	FP1	.	50	.	FP1	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	2	40
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	3	60
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	5	100

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

36

Sampling Point . Location . Date Sampled	GW-608						GW-609					
	CRSP						CRSP					
	06/15/93		09/07/93		12/18/93		03/28/93		06/16/93		09/24/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	FP1	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	FP3	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethane	50	.	50	.	50	.	2	3.4	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	24	41.4	7	58.3	9	56.3
2-Hexanone	100	.	100	.	100	.	100	.	100	.	100	.
4-Methyl-2-pentanone	100	.	100	.	100	.	FP1	.	100	.	100	.
Methylene chloride	50	.	50	.	FP1	.	FP1	.	50	.	50	.
Tetrachloroethene	1	33.3	2	40	1	33.3	27	46.6	5	41.7	7	43.8
1,1,1-Trichloroethane	2	66.7	3	60	2	66.7	2	3.4	50	.	50	.
Trichloroethene	50	.	50	.	50	.	3	5.2	50	.	50	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	3	100	5	100	3	100	58	100	12	100	16	100.1

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

37

Sampling Point . Location . Date Sampled	GW-609		GW-611								GW-709	
	CRSP		CRSP								LII	
	12/19/93		03/27/93		06/15/93		09/11/93		12/19/93		01/07/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	FP1	.	FP1	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	FP1	.	100	.	100	.	100	.	FP1	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethane	1	3.6	50	.	50	.	2	14.3	2	15.4	50	.
1,1-Dichloroethene	50	.	50	.	50	.	2	14.3	2	15.4	50	.
1,2-Dichloroethene	12	43.3	50	.	50	.	50	.	50	.	50	.
2-Hexanone	100	.	100	.	100	.	100	.	100	.	100	.
4-Methyl-2-pentanone	100	.	100	.	100	.	100	.	100	.	100	.
Methylene chloride	50	.	FP1	.	50	.	50	.	FP1	.	50	.
Tetrachloroethene	13	46.9	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	0.7	2.5	7	100	8	100	10	71.4	9	69.2	50	.
Trichloroethene	1	3.6	50	.	50	.	50	.	50	.	50	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	27.7	99.9	7	100	8	100	14	100	13	100	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

38

Sampling Point . Location . Date Sampled	GM-709						GM-731					
	LII						CRSDB					
	04/02/93		07/20/93		10/05/93		02/23/93		06/15/93		08/11/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	FP1	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
2-Hexanone	100	.	100	.	100	.	100	.	100	.	100	.
4-Methyl-2-pentanone	100	.	100	.	100	.	100	.	100	.	100	.
Methylene chloride	50	.	FP1	.	50	.	FP2	.	50	.	50	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

39

Sampling Point . Location . Date Sampled	GW-731		GW-732								GW-757	
	CRSDB		CRSDB								LII	
	11/29/93		02/23/93		06/15/93		08/12/93		11/30/93		01/07/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	FP1	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	FP1	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
2-Hexanone	100	.	100	.	100	.	100	.	100	.	100	.
4-Methyl-2-pentanone	100	.	100	.	100	.	100	.	FP1	.	FP1	.
Methylene chloride	50	.	50	.	50	.	50	.	FP1	.	50	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

40

Sampling Point . Location . Date Sampled	GW-757						GW-796					
	LII						LV					
	04/05/93		07/20/93		10/05/93		05/27/93		08/30/93		12/16/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	100	.	100	.	100	.	100	.	100	.	100	.
Benzene	50	.	50	.	50	.	50	.	50	.	50	.
2-Butanone	100	.	100	.	100	.	100	.	100	.	100	.
Carbon disulfide	50	.	50	.	50	.	50	.	50	.	50	.
Carbon tetrachloride	50	.	50	.	50	.	50	.	50	.	50	.
Chloroform	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethane	50	.	50	.	50	.	50	.	50	.	50	.
1,1-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,2-Dichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
2-Hexanone	100	.	100	.	100	.	100	.	100	.	100	.
4-Methyl-2-pentanone	100	.	100	.	100	.	100	.	100	.	100	.
Methylene chloride	50	.	50	.	50	.	50	.	50	.	50	.
Tetrachloroethene	50	.	50	.	50	.	50	.	50	.	50	.
1,1,1-Trichloroethane	50	.	50	.	50	.	2	100	2	100	2	100
Trichloroethene	50	.	50	.	50	.	50	.	50	.	50	.
Xylenes	50	.	50	.	50	.	50	.	50	.	50	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	2	100	2	100	2	100

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

41

Sampling Point . Location . Date Sampled	GW-797						GW-798					
	LV						CDLVII					
	05/27/93		08/29/93		12/16/93		06/23/93		08/29/93		12/09/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	FP2	.	10U	.	10U	.	10U	.	17	70.8	FP1	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	10U	.	10U	.	10U	.	FP1	.
Carbon disulfide	5U	.	1	100	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Hexanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
4-Methyl-2-pentanone	10U	.	10U	.	10U	.	10U	.	10U	.	FP1	.
Methylene chloride	FP1	.	5U	.	5U	.	5U	.	5U	.	FP1	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	FP2	.	5U	.	5U	.	7	29.2	5U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	1	100	0	.	0	.	24	100	0	.

(CONTINUED)

APPENDIX J
Validated VOC Results, 1993

42

Sampling Point . Location . Date Sampled	GW-799						GW-801					
	LV						LV					
	05/27/93		08/29/93		12/09/93		07/24/93		08/30/93		12/16/93	
	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum	ug/L	% sum
Acetone	10U	.	10U	.	FP1	.	10U	.	10U	.	10U	.
Benzene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Butanone	10U	.	10U	.	FP1	.	10U	.	10U	.	10U	.
Carbon disulfide	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Carbon tetrachloride	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Chloroform	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,2-Dichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
2-Hexanone	10U	.	10U	.	10U	.	10U	.	10U	.	10U	.
4-Methyl-2-pentanone	10U	.	10U	.	FP1	.	10U	.	10U	.	10U	.
Methylene chloride	5U	.	5U	.	FP1	.	FP1	.	5U	.	5U	.
Tetrachloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
1,1,1-Trichloroethane	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Trichloroethene	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
Xylenes	5U	.	5U	.	5U	.	5U	.	5U	.	5U	.
.	.	.	.	.	.	.	.	.	.	.	.	.
Summed VOCs	0	.	0	.	0	.	0	.	0	.	0	.

APPENDIX K
RADIOCHEMICAL DATA SUMMARY

EXPLANATION

LOCATION:

ADB	-	Ash Disposal Basin
CDLVI	-	Construction Debris Landfill VI (formerly Industrial Landfill II Expansion)
CDLVII	-	Construction Debris Landfill VII
CRSDB	-	Chestnut Ridge Sediment Disposal Basin
CRSP	-	Chestnut Ridge Security Pits
ECRWP	-	East Chestnut Ridge Waste Pile
KHQ	-	Kerr Hollow Quarry (located in Bethel Valley)
LII	-	Industrial Landfill II
LIII	-	Industrial Landfill III
LIV	-	Industrial Landfill IV
LV	-	Industrial Landfill V
RQ	-	Rogers Quarry (located in Bethel Valley)
UNCS	-	United Nuclear Corporation Site

NOTES:

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

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

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

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

APPENDIX K
Gross Alpha and Gross Beta Activity Data Summary, 1993

1

Sampling Point Location	1090		GW-141		GW-142		GW-143		GW-144	
	UNCS		LIV		KHQ		KHQ		KHQ	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	0.72	2.30	1.03	2.40	3.53	3.70	6.17	4.30	4.82	4.00
Second Quarter	-0.59	2.60	-0.75	2.20	7.73	2.90	4.65	4.10	2.07	3.50
Third Quarter	3.53	3.90	-2.59	2.40	15.00	4.00	3.73	2.60	0.82	1.80
Fourth Quarter	1.63	2.50	-1.23	2.60	11.90	3.50	4.44	2.30	5.00	2.20
Mean	1.32	1.40	-0.89	1.20	9.54	1.80	4.75	1.70	3.18	1.50
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	-4.31	3.40	2.41	2.90	9.71	5.40	20.50	6.10	5.28	5.20
Second Quarter	1.03	2.90	-2.04	2.90	7.32	3.10	18.70	6.30	5.27	5.50
Third Quarter	5.10	5.10	-12.00	5.60	13.10	3.80	8.86	3.50	-2.53	2.90
Fourth Quarter	-0.67	2.70	0.52	3.10	11.70	3.30	16.70	3.60	3.52	2.90
Mean	0.29	1.80	-2.78	1.90	10.46	2.00	16.19	2.50	2.88	2.20

(CONTINUED)

Sampling Point Location	GW-145		GW-146		GW-147		GW-156		GW-158	
	KHQ		KHQ		KHQ		CRSDB		CRSDB	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	14.10	5.50	2.84	1.70	10.10	4.70	2.39	1.70	1.99	1.80
Second Quarter	11.70	5.00	1.25	3.50	2.57	2.20	3.92	2.40	1.15	4.00
Third Quarter	12.10	3.70	0.73	2.00	2.20	2.10	0.75	1.70	-0.50	1.60
Fourth Quarter	7.54	3.00	4.95	2.40	1.47	1.80	1.63	1.40	1.51	1.30
Mean	11.36	2.20	2.44	1.20	4.08	1.50	2.17	0.90	1.04	1.20
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	23.20	6.30	16.50	3.90	15.20	5.80	4.33	2.80	4.22	2.80
Second Quarter	15.20	6.10	17.30	6.20	4.71	2.90	5.76	3.00	-4.92	5.30
Third Quarter	12.80	3.80	7.23	3.40	0.69	3.00	-1.59	3.10	-3.66	2.80
Fourth Quarter	14.30	3.50	20.80	3.80	2.67	2.60	-1.04	2.90	-3.23	2.90
Mean	16.37	2.50	15.46	2.20	5.82	1.90	1.86	1.50	-1.90	1.80

(CONTINUED)

APPENDIX K

2

Gross Alpha and Gross Beta Activity Data Summary, 1993

Sampling Point Location	GW-159		GW-160		GW-161		GW-175		GW-177	
	CRSDB		LIII		LIII		CRSP		CRSP	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	3.12	1.80	5.43	4.70	0.33	2.10	0.94	1.70	4.22	1.90
Second Quarter	2.00	2.10	2.42	4.00	-1.48	3.30	0.30	1.80	0.31	1.90
Third Quarter	2.32	3.50	0.51	1.50	1.20	1.70	0.92	1.70	1.12	2.30
Fourth Quarter	1.69	1.40	1.31	1.20	0.82	1.10	0.61	2.10	1.41	2.20
Mean	2.28	1.20	2.42	1.60	0.22	1.10	0.69	0.90	1.77	1.00
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	4.68	2.80	6.33	6.10	0.00	2.90	2.24	2.70	4.79	2.80
Second Quarter	2.07	2.70	2.15	5.40	-1.48	5.20	14.30	3.40	1.74	2.70
Third Quarter	2.95	5.40	-4.71	3.00	-6.16	2.90	-0.86	2.60	1.25	2.90
Fourth Quarter	-1.78	2.90	0.46	2.30	1.74	2.40	-0.86	2.80	0.00	2.90
Mean	1.98	1.80	1.06	2.20	-1.47	1.80	3.71	1.40	1.94	1.40

(CONTINUED)

Sampling Point Location	GW-181		GW-184		GW-186		GW-187		GW-188	
	CRSP		RQ		RQ		RQ		RQ	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	1.40	1.50	-1.49	2.40	0.00	3.80	0.39	4.20	-0.73	2.20
Second Quarter	-5.18	3.90	-2.47	3.70	-2.10	4.30	-2.39	4.10	-0.29	3.90
Third Quarter	1.79	3.60	-4.54	2.40	-6.05	2.90	-4.47	3.50	-3.22	2.70
Fourth Quarter	0.76	1.50	0.69	1.10	-1.62	1.80	-1.46	1.90	-1.18	1.30
Mean	-0.31	1.40	-1.95	1.30	-2.44	1.70	-1.98	1.80	-1.36	1.30
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	-1.03	2.60	8.12	3.90	6.43	5.40	2.90	5.20	5.51	3.70
Second Quarter	-13.80	5.40	-4.14	5.50	-0.17	5.80	-4.20	5.50	-6.09	5.30
Third Quarter	0.34	5.50	-1.83	2.80	-1.11	3.00	-0.86	3.00	1.33	3.00
Fourth Quarter	0.34	2.70	-3.43	2.80	2.81	2.50	1.05	2.40	1.95	2.50
Mean	-3.54	2.10	-0.32	2.00	1.99	2.20	-0.28	2.10	0.67	1.90

(CONTINUED)

APPENDIX K

3

Gross Alpha and Gross Beta Activity Data Summary, 1993

Sampling Point Location	GW-203		GW-205		GW-217		GW-221		GW-231	
	UNCS		UNCS		LIV		UNCS		KHQ	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	20.10	5.50	4.08	1.90	2.05	1.60	-1.42	1.60	0.28	3.10
Second Quarter	-0.92	0.95	-0.02	1.80	0.62	3.90	-0.89	1.90	0.45	1.80
Third Quarter	2.79	8.60	1.11	8.30	-2.53	2.40	1.15	3.50	5.74	6.90
Fourth Quarter	1.49	2.30	0.75	2.20	0.30	1.70	-0.15	2.00	-0.80	1.30
Mean	5.86	2.60	1.48	2.20	0.11	1.30	-0.33	1.20	1.42	2.00
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	27.20	6.80	16.80	3.50	3.62	2.90	-6.82	3.20	5.23	5.10
Second Quarter	1.67	1.30	6.02	2.80	0.33	5.90	-0.25	2.70	-1.48	2.50
Third Quarter	-8.15	11.00	-1.63	11.00	-4.34	6.10	2.79	4.90	-4.92	10.00
Fourth Quarter	2.64	2.90	0.00	2.70	3.13	2.80	-0.08	2.70	1.06	2.50
Mean	5.84	3.30	5.30	3.00	0.69	2.30	-1.09	1.70	-0.03	2.90

(CONTINUED)

Sampling Point Location	GW-241		GW-292		GW-293		GW-294		GW-295	
	CRSDB		ECRWP		ECRWP		ECRWP		LIII	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	2.66	2.00	-1.88	1.80	1.79	1.50	-0.16	2.00	5.88	2.40
Second Quarter	-3.20	1200.00	1.52	2.30	-0.29	3.40	1.34	2.60	0.57	6.30
Third Quarter	2.86	6.40	0.00	5.80	0.58	6.10	5.17	6.80	54.90	13.00
Fourth Quarter	2.14	1.50	-1.11	2.30	-1.01	2.60	-1.52	2.00	110.00	57.00
Mean	1.11	300.00	-0.37	1.70	0.27	1.90	1.21	2.00	42.84	14.70
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	4.47	2.90	-1.68	2.80	13.50	3.40	0.84	2.90	17.00	3.60
Second Quarter	-2.82	2600.00	1.34	3.00	3.94	4.80	0.26	3.00	10.10	10.00
Third Quarter	1.96	11.00	0.98	11.00	0.66	11.00	-3.28	10.00	124.00	16.00
Fourth Quarter	-3.83	2.90	0.42	2.90	-8.08	5.50	0.08	2.80	78.50	63.00
Mean	-0.06	650.00	0.27	3.00	2.50	3.40	-0.53	2.80	57.40	16.50

(CONTINUED)

APPENDIX K

4

Gross Alpha and Gross Beta Activity Data Summary, 1993

Sampling Point Location	GW-296		GW-298		GW-299		GW-300		GW-301	
	ECRWP		LIII		LIII		LIII		LIII	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	-0.32	2.00	1.97	1.70	1.40	1.50	1.36	1.40	1.30	1.50
Second Quarter	0.00	2.30	-0.59	3.00	1.43	3.30	1.15	3.70	-3.25	3.00
Third Quarter	4.04	6.60	-0.57	5.70	-0.45	1.90	-0.66	1.10	1.02	1.60
Fourth Quarter	-0.47	2.00	1.48	1.30	-0.16	0.70	1.11	1.20	0.16	0.86
Mean	0.81	1.90	0.57	1.70	0.55	1.00	0.74	1.10	-0.19	1.00
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	-1.00	2.80	3.56	2.60	-0.17	2.80	-1.82	2.70	0.50	2.80
Second Quarter	-0.68	3.00	-2.47	5.00	-2.29	5.00	-0.16	5.20	0.82	5.30
Third Quarter	3.28	11.00	-2.95	10.00	2.57	2.50	-6.81	3.00	-5.37	3.00
Fourth Quarter	0.33	2.80	2.76	2.50	0.72	2.30	0.63	2.30	0.23	2.30
Mean	0.48	3.00	0.23	2.90	0.21	1.70	-2.04	1.70	-0.95	1.80

(CONTINUED)

Sampling Point Location	GW-302		GW-303		GW-304		GW-305		GW-321	
	UNCS		CRSDB		CRSDB		LIV		ADB	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	0.53	2.20	2.31	1.80	1.15	1.40	2.42	1.70	2.48	1.90
Second Quarter	0.00	2.50	1.03	1700.00	1.55	2.10	-0.23	2.80	-0.85	3.30
Third Quarter	1.77	3.60	-0.59	5.90	2.16	1.90	-0.61	2.70	0.29	3.30
Fourth Quarter	-0.16	2.20	1.00	1.30	2.78	1.70	0.59	1.80	3.40	1.90
Mean	0.53	1.30	0.94	425.00	1.91	0.90	0.54	1.20	1.33	1.30
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	-8.19	3.20	6.17	3.00	4.01	2.80	0.43	2.70	2.16	2.70
Second Quarter	0.17	2.80	-4.02	2500.00	2.24	2.80	-0.52	3.10	0.49	5.20
Third Quarter	4.44	5.10	-0.66	10.00	-3.74	3.00	-7.28	6.10	0.17	5.50
Fourth Quarter	0.25	2.80	-0.88	2.90	-1.06	2.90	-0.16	2.60	1.79	2.70
Mean	-0.83	1.80	0.15	625.00	0.36	1.40	-1.88	2.00	1.15	2.10

(CONTINUED)

APPENDIX K

5

Gross Alpha and Gross Beta Activity Data Summary, 1993

Sampling Point Location	GW-339		GW-511		GW-512		GW-513		GW-514	
	UNCS		CRSP		ADB		ADB		ADB	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	-0.54	2.10	2.22	1.70	2.68	1.70	1.16	1.40	0.63	1.60
Second Quarter	0.58	2.80	-4.30	4.00	-5.32	4.00	-4.15	4.20	0.00	3.50
Third Quarter	0.29	3.40	-0.90	3.10	-0.61	3.20	0.00	3.30	-1.88	3.10
Fourth Quarter	-0.16	2.30	0.45	1.40	-0.66	1.40	-0.82	1.30	1.98	1.70
Mean	0.04	1.30	-0.63	1.40	-0.98	1.40	-0.95	1.40	0.18	1.30
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	-8.56	3.20	4.23	2.90	5.62	3.00	0.42	2.70	2.08	2.70
Second Quarter	1.11	2.90	-6.88	5.80	-5.10	6.00	-4.28	6.00	-2.14	5.10
Third Quarter	2.96	5.00	-1.20	5.40	-2.06	5.40	3.43	5.70	-1.55	5.40
Fourth Quarter	1.00	2.80	3.17	2.80	0.32	2.40	4.98	2.70	1.72	2.70
Mean	-0.87	1.80	-0.17	2.20	-0.30	2.20	1.14	2.30	0.03	2.10

(CONTINUED)

Sampling Point Location	GW-521		GW-522		GW-539		GW-540		GW-541	
	LIV		LIV		LII		CDLVI		CDLVI	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	0.32	1.30	5.69	3.70	1.88	1.60	0.34	2.10	0.99	2.20
Second Quarter	-0.58	3.40	-0.97	1.50	2.78	4.70	-2.30	4.50	-2.90	3.90
Third Quarter	-1.85	2.50	-2.57	2.40	0.17	2.90	0.00	4.00	2.56	2.60
Fourth Quarter	-2.67	2.30	1.18	1.90	1.66	2.10	-0.67	0.94	1.82	1.60
Mean	-1.20	1.20	0.83	1.30	1.62	1.50	-0.66	1.60	0.62	1.40
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	0.60	2.70	9.39	5.90	1.55	2.80	-0.67	2.90	0.33	3.00
Second Quarter	5.09	4.90	-3.34	2.70	0.34	6.00	-2.79	5.30	3.94	5.10
Third Quarter	-11.10	5.90	-8.25	5.80	-2.76	3.20	-2.14	5.20	-7.44	5.90
Fourth Quarter	-2.05	2.90	0.58	2.60	1.73	3.00	-4.36	2.60	-3.50	2.70
Mean	-1.86	2.20	-0.41	2.30	0.21	2.00	-2.49	2.10	-1.67	2.20

(CONTINUED)

APPENDIX K

Gross Alpha and Gross Beta Activity Data Summary, 1993

6

Sampling Point Location	GW-542		GW-543		GW-544		GW-545		GW-546	
	CDLVI		CDLVI		CDLVI		CDLVI		CDLVI	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	1.42	1.40	0.70	1.30	2.07	1.70	5.27	2.10	-0.32	1.90
Second Quarter	-4.08	3.70	-4.30	3.90	-2.16	4.20	-1.76	4.10	-2.29	4.40
Third Quarter	0.61	2.00	-0.01	1.80	1.29	2.30	14.40	5.60	3.45	4.70
Fourth Quarter	0.46	1.20	0.16	1.20	0.68	1.40	3.03	2.00	4.70	2.50
Mean	-0.40	1.10	-0.86	1.20	0.47	1.30	5.23	1.90	1.38	1.80
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	2.41	2.80	1.94	2.80	1.53	2.80	17.70	3.60	-0.42	2.90
Second Quarter	-1.81	4.70	1.82	5.00	1.66	5.00	17.30	5.90	-0.82	5.40
Third Quarter	-12.30	5.80	-11.10	5.70	-7.85	5.80	17.70	7.10	1.33	5.50
Fourth Quarter	-3.05	2.80	-3.61	2.70	-1.13	2.80	12.10	3.60	1.15	2.90
Mean	-3.69	2.10	-2.74	2.10	-1.45	2.20	16.20	2.60	0.31	2.20

(CONTINUED)

Sampling Point Location	GW-557		GW-560		GW-562		GW-564		GW-607	
	LV		CDLVII		CDLVII		CDLVII		CRSP	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	.	.	.	.	.	.	.	.	0.92	1.40
Second Quarter	-4.68	3.20	-4.04	3.30	-0.58	3.80	-2.88	3.50	.	.
Third Quarter	0.59	1.90	-2.68	3.60	-3.83	3.40	-1.75	3.70	.	.
Fourth Quarter	0.33	1.40	-0.17	1.10	0.32	1.20	1.16	1.50	.	.
Mean	-1.25	1.30	-2.30	1.70	-1.36	1.70	-1.16	1.80	0.92	1.40
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	.	.	.	.	.	.	.	.	3.69	2.90
Second Quarter	-2.22	5.30	-3.57	5.20	-0.68	5.40	-1.19	5.40	.	.
Third Quarter	-1.56	2.80	0.33	5.40	1.15	5.40	-2.14	5.20	.	.
Fourth Quarter	-2.17	3.00	-0.90	2.80	-3.27	2.70	-4.05	2.90	.	.
Mean	-1.98	2.20	-1.38	2.70	-0.93	2.70	-2.46	2.70	3.69	2.90

(CONTINUED)

APPENDIX K
Gross Alpha and Gross Beta Activity Data Summary, 1993

7

Sampling Point Location	GW-608		GW-609		GW-610		GW-611		GW-709	
	CRSP		CRSP		CRSP		CRSP		LII	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	1.70	1.80	1.64	1.90	3.26	2.20	1.48	2.00	0.00	1.60
Second Quarter	-0.01	1500.00	-1.98	1400.00	4.82	4.00	1.03	2.20	-0.33	2.00
Third Quarter	0.30	3.30	0.60	1.80	-3.83	3.00	0.00	1.60	-1.61	2.60
Fourth Quarter	-0.75	1.80	-1.38	1.80	-0.62	1.90	-0.48	2.00	0.00	1.70
Mean	0.31	375.00	-0.28	350.00	0.91	1.40	0.51	1.00	-0.49	1.00
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	1.16	2.60	3.18	2.80	3.95	2.80	3.31	2.80	-0.86	2.60
Second Quarter	-3.88	2600.00	-4.57	2500.00	2.64	5.40	1.18	2.70	-0.59	2.90
Third Quarter	1.54	5.60	1.65	2.70	-0.17	5.60	2.25	2.80	-13.40	5.60
Fourth Quarter	-0.68	2.80	0.34	2.90	-0.17	2.90	-0.52	2.90	-0.41	2.60
Mean	-0.47	650.00	0.15	625.00	1.56	2.20	1.56	1.40	-3.81	1.80

(CONTINUED)

Sampling Point Location	GW-731		GW-732		GW-742		GW-743		GW-757	
	CRSDB		CRSDB		CRSP		CRSP		LII	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
First Quarter	18.80	5.70	3.49	1.80	1.55	2.10	-0.90	1.70	4.08	2.40
Second Quarter	6.85	2200.00	15.10	2700.00	1.72	3.40	1.14	3.20	2.30	3.80
Third Quarter	1.70	1.70	11.00	3.50	4.46	2.20	0.61	1.60	0.30	3.00
Fourth Quarter	1.47	1.30	19.30	4.30	7.15	2.90	0.45	1.40	3.61	2.20
Mean	7.20	550.00	12.22	675.00	3.72	1.40	0.32	1.10	2.57	1.50
GROSS BETA	.	.	.	.	.	.	.	.	.	.
First Quarter	21.80	6.40	5.24	2.90	4.56	2.70	2.56	2.60	4.59	3.00
Second Quarter	5.49	2700.00	21.20	3200.00	-0.33	5.20	-2.13	5.00	5.24	4.90
Third Quarter	-2.74	3.10	7.25	3.60	2.41	2.80	2.75	2.80	-5.18	6.00
Fourth Quarter	-1.15	3.00	13.80	3.90	2.93	3.10	1.20	2.70	2.23	2.70
Mean	5.85	675.00	11.87	800.00	2.39	1.80	1.09	1.70	1.72	2.20

(CONTINUED)

APPENDIX K
Gross Alpha and Gross Beta Activity Data Summary, 1993

8

Sampling Point Location	GW-796		GW-797		GW-798		GW-799		GW-801	
	LV		LV		CDLVII		LV		LV	
	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-	pCi/L	CE +/-
GROSS ALPHA	.	.	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.	.	.
First Quarter	.	.	.	.	.	.	.	.	.	.
Second Quarter	1.43	4.10	-1.50	3.80	0.59	1.70	-0.86	3.80	.	.
Third Quarter	-5.12	2.10	-2.62	3.50	-1.43	3.70	-0.87	3.80	0.15	2.60
Fourth Quarter	-0.33	1.10	-0.50	1.10	0.50	1.40	0.16	1.30	0.50	1.40
.	.	.	.	.	.	.	.	.	.	.
Mean	-1.34	1.60	-1.54	1.80	-0.12	1.40	-0.52	1.80	0.32	1.50
GROSS BETA	.	.	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.	.	.
First Quarter	.	.	.	.	.	.	.	.	.	.
Second Quarter	-0.34	5.40	-2.74	5.30	2.14	2.80	4.59	5.70	.	.
Third Quarter	-1.61	2.50	0.49	5.40	1.64	5.40	-1.48	5.20	-0.17	3.30
Fourth Quarter	-5.34	2.90	-4.64	2.90	-5.98	2.90	-5.13	2.90	-3.23	3.00
.	.	.	.	.	.	.	.	.	.	.
Mean	-2.43	2.20	-2.30	2.70	-0.73	2.20	-0.67	2.70	-1.70	2.20

APPENDIX L
GROUNDWATER ELEVATIONS

EXPLANATION

LOCATION:

ADB	-	Ash Disposal Basin
CDLVI	-	Construction Debris Landfill VI (formerly Industrial Landfill II Expansion)
CRSDB	-	Chestnut Ridge Sediment Disposal Basin
CRSP	-	Chestnut Ridge Security Pits
ECRWP	-	East Chestnut Ridge Waste Pile
KHQ	-	Kerr Hollow Quarry (located in Bethel Valley)
LII	-	Industrial Landfill II
LIII	-	Industrial Landfill III
LIV	-	Industrial Landfill IV
ORSF	-	Oak Ridge Sludge Farm
RQ	-	Rogers Quarry (located in Bethel Valley)
UNCS	-	United Nuclear Corporation Site

SAMPLED IN 93:

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

CTP Elev.	-	The elevation of the centerpoint of the monitored interval.
January	-	Measuring event from January 10 to 14, 1993.
September	-	Measuring event from September 1 to September 3, 1993.
Depth	-	The distance in ft from the top-of-casing measuring point to the static water level.
Elev.	-	The groundwater elevation in ft above mean sea level.
+/- Ft	-	The calculated drop in water-level from the January to the August measuring events. Negative results show a rise in water level.
.	-	No information available.

APPENDIX L
Groundwater Elevations, 1993

Sampling Pt.	Location	Sampled in 93	CTP Elev.	January Depth	January Elev.	September Depth	September Elev.	+/- Ft
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Water Table Interval

1090	UNCS	Y	1101.58	44.5	1059.38	60.5	1043.38	16.0
1095	CRSDB		885.14	70.3	934.44	79.2	925.54	8.9
1096	CRSDB		983.44	68.2	979.54	67.1	980.64	-1.1
1102	ADB		884.40	55.2	901.75	.	.	.
1104	ADB		903.62	55.4	901.57	.	.	.
1105	ADB		871.49	22.3	901.94	26.6	897.64	4.3
1106	ADB		891.72	16.7	907.87	.	.	.
1107	ADB		874.52	2.7	900.67	.	.	.
1108	ADB		894.67	3.2	900.42	.	.	.
1109	ADB		924.34	14.8	941.64	.	.	.
1110	ADB		949.96	6.8	948.46	.	.	.
GW-145	KHQ	Y	739.29	3.3	836.70	5.7	834.34	2.4
GW-160	LIII	Y	870.66	132.6	960.49	153.7	939.39	21.1
GW-179	CRSP		1012.83	114.7	1013.30	115.9	1012.10	1.2
GW-241	CRSDB	Y	890.30	43.3	939.34	51.8	930.84	8.5
GW-512	ADB	Y	944.49	21.9	979.64	28.3	973.24	6.4
GW-542	CDLVI	Y	981.28	66.9	984.70	69.9	981.70	3.0
GW-545	CDLVI	Y	994.33	51.8	1006.22	65.4	992.62	13.6
GW-546	CDLVI	Y	994.34	74.7	997.51	80.6	991.61	5.9

Bedrock Interval

1084	ORSF		823.74	61.6	903.80	61.8	903.60	0.2
GW-141	LIV	Y	1034.95	91.7	1094.40	99.1	1086.96	7.4
GW-142	KHQ	Y	696.54	132.8	837.60	135.9	834.45	3.1
GW-143	KHQ	Y	682.04	77.3	835.90	79.7	833.48	2.4
GW-144	KHQ	Y	738.98	77.9	835.40	80.0	833.34	2.1
GW-146	KHQ	Y	632.00	130.9	707.30	191.0	647.16	60.1
GW-147	KHQ	Y	787.91	12.9	838.70	17.1	834.52	4.2
GW-156	CRSDB	Y	895.44	148.5	900.63	143.4	905.73	-5.1
GW-158	CRSDB	Y	582.74	46.2	936.85	50.1	932.95	3.9
GW-159	CRSDB	Y	897.29	116.7	934.45	118.4	932.75	1.7
GW-161	LIII	Y	715.91	153.1	940.44	162.6	930.94	9.5
GW-165	CRDT		789.89	85.6	1005.77	100.7	990.67	15.1
GW-166	CRDT		709.51	88.1	1005.19	103.4	989.89	15.3
GW-173	CRSP		953.47	130.1	984.90	157.5	957.50	27.4
GW-174	CRSP		974.56	105.6	1010.92	130.0	986.52	24.4
GW-175	CRSP	Y	924.39	114.7	969.30	125.4	958.60	10.7
GW-176	CRSP		982.63	116.4	1008.87	117.7	1007.57	1.3
GW-177	CRSP	Y	1017.02	117.1	1040.85	119.6	1038.35	2.5
GW-178	CRSP		1015.81	88.2	1055.29	97.2	1046.29	9.0
GW-180	CRSP		966.43	97.4	1006.57	130.6	973.37	33.2
GW-181	CRSP	Y	929.05	106.4	986.63	111.4	981.63	5.0
GW-182	CRSP		882.81	115.3	1032.05	127.3	1020.10	12.0
GW-203	UNCS	Y	952.34	79.9	1025.36	80.3	1024.96	0.4

APPENDIX I
Groundwater Elevations, 1993

Sampling Pt.	Location	Sampled in 93	CTP Elev.	January Depth	January Elev.	September Depth	September Elev.	+/- Ft
GW-205	UNCS	Y	942.46	76.9	1027.07	78.3	1025.67	1.4
GW-217	LIV	Y	1001.69	105.9	1070.96	118.9	1057.96	13.0
GW-221	UNCS	Y	950.86	81.9	.	81.5	1024.50	-0.4
GW-231	KHQ	Y	818.00	11.4	838.10	14.9	834.57	3.5
GW-292	ECRWP	Y	891.06	110.1	962.90	115.8	957.20	5.7
GW-293	ECRWP	Y	856.20	112.7	951.20	118.2	945.70	5.5
GW-294	ECRWP	Y	961.24	94.3	989.27	102.2	981.37	7.9
GW-295	LIII	Y	952.22	138.0	954.71	145.2	947.51	7.2
GW-296	ECRWP	Y	947.59	117.3	973.69	119.5	971.49	2.2
GW-298	LIII	Y	865.85	104.8	944.21	110.2	938.81	5.4
GW-299	LIII	Y	890.83	97.4	956.46	100.6	953.26	3.2
GW-300	LIII	Y	931.19	108.2	964.92	113.8	959.32	5.6
GW-301	LIII	Y	927.94	128.5	957.88	134.9	951.48	6.4
GW-302	UNCS	Y	1011.44	98.8	1042.87	108.5	1033.17	9.7
GW-303	CRSDB	Y	693.94	84.8	922.36	89.3	917.86	4.5
GW-304	CRSDB	Y	885.07	117.0	928.49	118.6	926.89	1.6
GW-305	LIV	Y	1008.62	117.7	1065.85	128.8	1054.75	11.1
GW-320	ADB		816.16	14.3	911.02	23.3	902.02	9.0
GW-321	ADB	Y	831.80	13.9	911.68	23.9	901.68	10.0
GW-322	CRSP		971.31	151.1	983.15	164.4	969.85	13.3
GW-339	UNCS	Y	1014.68	66.4	1058.19	81.3	1043.29	14.9
GW-511	CRSP	Y	943.85	106.7	986.51	111.6	981.61	4.9
GW-513	ADB	Y	880.84	22.0	979.41	28.5	972.91	6.5
GW-514	ADB	Y	814.16	22.0	979.22	28.6	972.62	6.6
GW-521	LIV	Y	1049.86	81.8	1100.88	88.3	1094.38	6.5
GW-522	LIV	Y	982.89	86.8	1088.51	105.6	1069.71	18.8
GW-539	LII	Y	944.19	100.1	992.90	106.3	986.70	6.2
GW-540	CDLVI	Y	904.38	69.8	1002.32	80.8	991.32	11.0
GW-541	CDLVI	Y	960.19	63.0	995.40	65.9	992.50	2.9
GW-543	CDLVI	Y	936.29	62.8	961.00	65.0	958.80	2.2
GW-544	CDLVI	Y	942.38	58.9	986.09	63.9	981.09	5.0
GW-607	CRSP	Y	928.21	98.2	977.78	.	.	.
GW-608	CRSP	Y	887.00	126.6	947.35	140.1	933.85	13.5
GW-609	CRSP	Y	847.00	163.4	948.71	172.6	939.51	9.2
GW-610	CRSP	Y	945.53	80.1	979.34	93.4	966.04	13.3
GW-611	CRSP	Y	933.88	98.6	949.78	108.9	939.48	10.3
GW-612	CRSP		884.15	119.9	1011.13	130.9	1000.13	11.0
GW-731	CRSDB	Y	874.40	123.7	925.48	124.3	924.88	0.6
GW-732	CRSDB	Y	876.50	156.8	907.29	157.6	906.49	0.8
GW-757	LII	Y	808.30	84.1	877.33	84.6	876.83	0.5

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