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**OAK RIDGE
Y-12
PLANT**

**GROUNDWATER PROTECTION PROGRAM
CALENDAR YEAR 1998
GROUNDWATER MONITORING REPORT,
U.S. DEPARTMENT OF ENERGY Y-12 PLANT,
OAK RIDGE, TENNESSEE**

March 1999

Prepared by

**AJA TECHNICAL SERVICES, INC.
Under Subcontract No. 70Y-MVM64V**

for the

**Environmental Compliance Department
Environment, Safety, and Health Organization
Oak Ridge Y-12 Plant
Oak Ridge, Tennessee 37831**

Managed by

**LOCKHEED MARTIN ENERGY SYSTEMS, INC.
for the U.S. Department of Energy
Under Contract No. DE-AC05-84OR21400**

**MANAGED BY
LOCKHEED MARTIN ENERGY SYSTEMS, INC.
FOR THE UNITED STATES
DEPARTMENT OF ENERGY**

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List of Acronyms and Abbreviations

ASO	Analytical Services Organization
BCV	Bear Creek Valley
Bear Creek Regime	Bear Creek Hydrogeologic Regime
bgs	below ground surface
BQR	blank qualification result
Chestnut Ridge Regime	Chestnut Ridge Hydrogeologic Regime
CRSDB	Chestnut Ridge Sediment Disposal Basin
CRSP	Chestnut Ridge Security Pits
CY	calendar year
DOE	U.S. Department of Energy
DQO	data quality objective
East Fork Regime	Upper East Fork Poplar Creek Hydrogeologic Regime
EMP	Environmental Monitoring Plan
ETTP	East Tennessee Technology Park (formerly the Oak Ridge K-25 Site)
ft	feet
GWPP	Groundwater Protection Program
IWQP	Integrated Water Quality Program
KHQ	Kerr Hollow Quarry
MDA	minimum detectable activity
msl	mean sea level
µg/L	micrograms per liter
ORR	Oak Ridge Reservation
PCP	post closure permit (RCRA)
pCi/L	picoCuries per liter
QA/QC	quality assurance/quality control
RCRA	Resource Conservation and Recovery Act
SAP	Sampling and Analysis Plan
SWDF	Solid Waste Disposal Facility
TDEC	Tennessee Department of Environment and Conservation
VOC	volatile organic compound
WMA	Waste Management Area

1.0 INTRODUCTION

This annual monitoring report contains groundwater and surface water monitoring data obtained during calendar year (CY) 1998 by the Lockheed Martin Energy Systems, Inc. Y-12 Plant Groundwater Protection Program (GWPP) at the U.S. Department of Energy (DOE) Oak Ridge Y-12 Plant. Groundwater and surface water monitoring during CY 1998 was performed in three hydrogeologic regimes at the Y-12 Plant: the Bear Creek Hydrogeologic Regime (Bear Creek Regime), the Chestnut Ridge Hydrogeologic Regime (Chestnut Ridge Regime), and the Upper East Fork Poplar Creek Hydrogeologic Regime (East Fork Regime). The Bear Creek and East Fork regimes are located in Bear Creek Valley (BCV), and the Chestnut Ridge Regime is located south of the Y-12 Plant (Figure 1). Monitoring in each regime was performed in accordance with the applicable requirements of:

- DOE Order 5400.1 surveillance monitoring which includes site surveillance monitoring and exit pathway/perimeter monitoring (collectively referenced as DOE Order 5400.1 monitoring), as specified in the *Environmental Monitoring Plan for the Oak Ridge Reservation* (U.S. Department of Energy 1996), hereafter referenced as the Environmental Monitoring Plan (EMP);
- Additional DOE Order 5400.1 monitoring, as specified in the *Y-12 Plant Groundwater Protection Program Groundwater and Surface Water Sampling and Analysis Plan for Calendar Year 1998* (Lockheed Martin Energy Systems 1997a), hereafter referenced as the Sampling and Analysis Plan (SAP);
- Detection monitoring specified in operating permits issued by the Tennessee Department of Environment and Conservation (TDEC) Division of Solid Waste Management for several nonhazardous solid waste disposal facilities (SWDFs);
- Resource Conservation and Recovery Act (RCRA) post closure detection monitoring and/or RCRA post closure corrective action monitoring as specified under general and site-specific conditions of the RCRA post closure permit (PCP) for each regime; and

The CY 1998 sampling, analysis, and data management activities managed by the Y-12 Plant GWPP were performed for the Y-12 Plant Environmental Compliance Department (DOE Order 5400.1 monitoring), the Y-12 Plant Waste Management Organization (SWDF detection monitoring), and Bechtel Jacobs Company LLC (RCRA monitoring). In October 1998, the IWQP assumed effective responsibility for RCRA sampling, analysis, data management, and reporting activities per the TDEC approved modifications to the PCPs for the Bear Creek, East Fork, and Chestnut Ridge regimes (Tennessee Department of Environment and Conservation 1998).

The following narrative sections of this report summarize the CY 1998 groundwater and surface water monitoring activities associated with each of the above-listed monitoring programs. Section 2 provides details regarding the sampling locations and dates, sample collection methods, field measurements and laboratory analyses, quality assurance/quality control (QA/QC) sampling, data management, and a description of the process used to identify CY 1998 groundwater and surface

water monitoring results that do not meet the data quality objectives (DQOs) of the Y-12 Plant GWPP. Section 3 describes the semiannual water level monitoring events performed by GWPP personnel in each regime along with a brief discussion of seasonal groundwater elevations and general flow directions in each regime. Documents cited for more detailed operational, regulatory, or technical information regarding the waste management sites and associated monitoring programs are listed in Section 4.

Narrative sections of this report reference a series of appendices. Illustrations, tables, and monitoring well construction details are presented in Appendix A, Appendix B, and Appendix C, respectively. Results of laboratory analyses and field measurements for each CY 1998 groundwater and surface water sampling location are presented in respective subsections (inorganic analytes and field measurements, organic analytes, and radiological analytes) of Appendix D (Bear Creek Regime), Appendix E (Chestnut Ridge Regime), and Appendix F (East Fork Regime). Data for the QA/QC samples (trip blank samples, laboratory blank samples, equipment rinsate samples, and field blank samples) associated with each CY 1998 groundwater and surface water sample are presented in respective subsections of Appendix G.

2.0 CY 1998 GROUNDWATER AND SURFACE WATER SAMPLING

Groundwater and surface water sampling during CY 1998 was performed in accordance with the *Y-12 Plant Groundwater Protection Program Groundwater and Surface Water Sampling and Analysis Plan for Calendar Year 1998* (Lockheed Martin Energy Systems, Inc. 1997a), as modified by applicable addenda (Table 1). Most of the groundwater and surface water monitoring results have been previously submitted to the TDEC-Division of Solid Waste Management in accordance with applicable regulations and permit conditions. Three annual RCRA groundwater monitoring reports, one for each hydrogeologic regime, were submitted before the March 1, 1999 deadline specified in the applicable PCP (Bechtel Jacobs Company LLC 1999a, 1999b, and 1999c). In addition to these annual RCRA reports, a semiannual RCRA post closure corrective action monitoring report with attachments for each hydrogeologic regime was submitted in August 1998 (Bechtel Jacobs Company LLC 1998a), and semiannual RCRA post closure detection monitoring reports for two sites in the Chestnut Ridge Regime were submitted in July 1998 and January 1999 (Bechtel Jacobs Company LLC 1998b, 1998c and 1999d, 1999e). Also, eight semiannual SWDF detection monitoring reports for sites in the Chestnut Ridge Regime were submitted in accordance with the reporting deadlines defined in the respective operating permit (Lockheed Martin Energy Systems, Inc. 1998a, 1998b, 1998c, 1998d, 1998e, 1998f, 1998g, and 1998h).

2.1 SAMPLING LOCATIONS AND FREQUENCY

A total of 318 groundwater and surface samples were collected annually or semiannually during CY 1998 from 119 monitoring wells, 10 springs, and 10 surface water locations in the Bear Creek, Chestnut Ridge, and East Fork hydrogeologic regimes. The following subsections provide details regarding the groundwater and surface water sampling locations and frequencies in each hydrogeologic regime.

2.1.1 Bear Creek Hydrogeologic Regime

Groundwater and surface water samples were collected semiannually during CY 1998 from 31 monitoring wells, four springs, and eight surface water stations in the Bear Creek Regime (Figure 2). Semiannual sampling was performed during the first quarter (January 5 - March 11, 1998) and third quarter (July 13 - September 3, 1998) of the year (Table 2). Information regarding the total depth, geologic formation, aquifer zone, and complete construction details for each monitoring well are provided in Appendix C.1. Descriptions of the sampling dates and locations for DOE Order 5400.1 monitoring and RCRA monitoring are provided in the following subsections.

2.1.1.1 DOE Order 5400.1 Monitoring

As noted in Section 1.0, DOE Order 5400.1 surveillance monitoring includes site surveillance monitoring and exit pathway/perimeter monitoring. Both are implemented by the Y-12 Plant GWPP to provide data needed to: (1) evaluate groundwater quality in areas that are, or could be, affected

by operations at the Y-12 Plant, (2) evaluate groundwater and surface water quality where contaminants are most likely to migrate beyond the Oak Ridge Reservation (ORR) boundaries (exit pathway/perimeter monitoring), and (3) characterize and identify trends in groundwater quality.

Groundwater samples were collected from 10 site surveillance monitoring wells (Table 2), including: three wells (GW-085, GW-537, and GW-829) located between the S-3 Site and the Oil Landfarm Waste Management Area (WMA); four wells located downgradient of the Bear Creek Burial Grounds WMA (GW-053, GW-287, GW-627, and GW-653); and three wells (GW-226, GW-311, and GW-315) constructed in the Maynardville Limestone (Aquifer) which is the hydrologic drain for the groundwater flow system in the Bear Creek Regime (Figure 2).

A total of seventeen monitoring wells, seven Bear Creek surface water stations, one tributary to Bear Creek, and four springs that discharge into Bear Creek were sampled for the purposes of exit pathway/perimeter monitoring (Table 2). Four wells at Exit Pathway Picket W, spring SS-5, and surface water stations BCK-04.55, BCK-09.40, and BCK-11.97 (Figure 2) are specified in the EMP and the 21 additional sampling locations are specified in the SAP. The monitoring wells comprise the four Maynardville Limestone Exit Pathway Pickets in the Bear Creek Regime (Figure 2). The Exit Pathway Pickets are located about a mile west of the Bear Creek Burial Grounds WMA (Picket W); about 2500 feet (ft) southwest of the Bear Creek Burial Grounds WMA (Picket A); about 1000 ft southwest of the Oil Landfarm WMA (Picket B); and about 3000 ft southwest of the S-3 Site (Picket C). The wells in each Exit Pathway Picket are completed at various depths within hydraulically conductive stratigraphic zones along strike-normal transects across the Maynardville Limestone.

2.1.1.2 RCRA Groundwater Monitoring

Semiannual groundwater sampling for RCRA post closure corrective action monitoring at the S-3 Site, the Oil Landfarm, and the Bear Creek Burial Grounds/Walk-In Pits was performed during January and July 1998 (Table 2). The CY 1998 RCRA monitoring well network includes one background well (GW-115) located hydraulically upgradient of contaminated groundwater in the Bear Creek Regime; three point-of-compliance wells (GW-008, GW-046, and GW-276), one located downgradient of each site; and four plume boundary wells (GW-712, GW-713, GW-714, and GW-715) located at Exit Pathway Picket W (Figure 2).

2.1.2 Chestnut Ridge Hydrogeologic Regime

Groundwater and surface water samples were collected during CY 1998 from 31 monitoring wells, six springs, and one surface water station in the Chestnut Ridge Regime (Figure 3). Sampling was performed during the first (January 5 -March 11, 1998), second (April 13 - 30, 1998), third (July 8 - 16, 1998) and fourth (October 13 - 30, 1998) quarters of the year (Table 3). Descriptions of the sampling locations and dates for DOE Order 5400.1 monitoring, SWDF monitoring, and RCRA monitoring are provided in the following subsections. Information regarding the total depth,

geologic formation, aquifer zone, and complete construction details for each well are provided in Appendix C.2.

2.1.2.1 DOE Order 5400.1 Monitoring

A total of 19 samples were collected from six springs, six monitoring wells, and one surface water station for the purposes of DOE Order 5400.1 monitoring during CY 1998 in the Chestnut Ridge Regime (Figure 3). Semiannual samples of the groundwater discharging from springs SCR2.1SP, SCR2.2SP, SCR3.4SP, SCR4.3SP, SCR5.1SP, and SCR5.4SP were collected in January and July 1998 (Table 3). A groundwater sample was collected from well GW-322 in January 1998 to provide more current data regarding the concentration of volatile organic compounds (VOCs) in the groundwater at the Chestnut Ridge Security Pits (CRSP). Samples from RCRA monitoring wells GW-142, GW-143, GW-144, GW-145, GW-231, and Outfall 301 at Kerr Hollow Quarry (KHQ) were collected on October 19, 1998 to determine if sewage sludge landfarming areas upgradient of the site are the source(s) of elevated nitrate in groundwater at KHQ (Table 1, Addenda 98-15 and 98-16).

2.1.2.2 SWDF Detection Monitoring

Groundwater samples were collected from 18 monitoring wells and spring SCR4.3SP for the purposes of SWDF detection monitoring at Construction/Demolition Landfill VI and Industrial Landfills II, IV, and V (Table 3). The wells are located upgradient and downgradient of Industrial Landfills II, IV, and V, and Construction/Demolition Landfill VI; spring SCR4.3SP is located in an unnamed tributary approximately 2,400 ft southeast of Industrial Landfill V (Figure 3). Per the approval of the TDEC effective January 1, 1998, groundwater monitoring was temporarily suspended at Construction/Demolition Landfill VII because this facility is not scheduled to receive waste until CY 2002 (Table 1, Addenda 98-01).

Semiannual sampling for SWDF detection monitoring at each site was performed during the first and third quarters (Industrial Landfills IV and V), or second and fourth quarters (Industrial Landfill II and Construction/Demolition Landfill VI) of the calendar year (Table 3). An additional sample was collected from well GW-540 in March 1998 (Table 3) to determine if the well is a suitable replacement for well GW-539 as an upgradient well for Industrial Landfill II and a downgradient well for Construction/Demolition Landfill VI (Table 1, Addendum 98-06). Based on a supplemental monitoring report demonstrating that elevated nickel concentrations in samples from well GW-539 probably reflect degradation of the stainless steel well screen (Lockheed Martin Energy Systems, Inc. 1998i), the TDEC approved replacing well GW-539 with well GW-540 (Tennessee Department of Environment and Conservation 1998) (Table 1, Addendum 98-09). Note also that five of the SWDF detection monitoring wells are used for RCRA post closure corrective action monitoring, and data from spring SCR4.3SP are used for DOE Order 5400.1 monitoring. For instance, well GW-796 serves as an upgradient/background well for SWDF detection monitoring at Industrial Landfill V and as a point-of-compliance well for RCRA post closure corrective action monitoring at the CRSP (Table 3).

2.1.2.3 RCRA Groundwater Monitoring

Groundwater samples were collected semiannually during CY 1998 from 18 monitoring wells for the purposes of RCRA groundwater monitoring in the Chestnut Ridge Regime (Figure 3). Nine wells were sampled January and July 1998 for RCRA post closure corrective action monitoring at the CRSP, and nine wells were sampled in April and October 1998 for RCRA post closure detection monitoring at the Chestnut Ridge Sediment Disposal Basin (CRSDB) and at KHQ (Table 3). To provide the data needed for statistical evaluation, four replicate groundwater samples were collected during each semiannual sampling event from each of the RCRA monitoring wells at the CRSDB and KHQ.

The network of monitoring wells used for RCRA post closure corrective action monitoring at the CRSP during CY 1998 included one upgradient/background well (GW-521) located at Industrial Landfill IV about one mile west (upgradient) of the site; two point-of-compliance wells located about 800 ft east (GW-609) and 400 ft south (GW-796) of the site; and six plume delineation wells about 3,000 ft east of the site at the Chestnut Ridge Borrow Area Waste Pile (GW-301); about 2,000 ft southeast of the site at Industrial Landfill V (GW-557, GW-798, GW-799, GW-801); and about 1,500 ft southwest of the site (GW-831) at the Filled Coal Ash Pond. The RCRA post closure detection monitoring well network at the CRSDB includes one upgradient well (GW-159) and three point-of-compliance wells (GW-156, GW-731, and GW-732). Two upgradient/background wells (GW-142 and GW-231) and three point-of-compliance wells (GW-143, GW-144, and GW-145) comprise the detection monitoring network at KHQ.

2.1.3 Upper East Fork Poplar Creek Hydrogeologic Regime

Groundwater and surface water samples were collected from 48 monitoring wells and one surface water station during CY 1998 (Figure 4). Sampling was performed during the first (January 21 - March 26, 1998), second (May 14 - June 24, 1998), third (July 27 - September 4, 1998) and fourth (November 9 - December 15, 1998) quarters of CY 1998 (Table 4). Information regarding the total depth, geologic formation, aquifer zone, and complete construction details for each well are provided in Appendix C.3. Descriptions of the sampling locations and dates for DOE Order 5400.1 monitoring and RCRA monitoring are provided in the following sections.

2.1.3.1 DOE Order 5400.1 Monitoring

Samples were collected semiannually from the Lake Reality emergency spillway and 10 Aquifer monitoring wells, including one well (GW-722) equipped with a dedicated Westbay™ multiport sampling system (referenced hereafter as Westbay well GW-722), for the purposes of DOE Order 5400.1 exit pathway/perimeter monitoring during CY 1998. As shown on Figure 4, the monitoring wells are located in the Aquifer (Maynardville Limestone) northeast of the S-2 Site (well GW-618); hydraulically upgradient (GW-153 and GW-380) and downgradient (GW-220) of New Hope Pond; near the ORR Boundary along Scarboro Road (wells GW-722, GW-735, and GW-750); and next to Upper East Fork Poplar Creek in the gap through Pine Ridge (wells GW-207, GW-208, and

GW-816). Samples were collected from each location during the second (May 28 - June 24, 1998) and fourth (November 30 - December 14, 1998) quarters of the calendar year except from Westbay well GW-722, which was sampled in first and third quarters of the year (Table 4). The Westbay™ multi-port sampling equipment in this well enables collection of discrete groundwater samples from 10 different depth intervals (Figure 5); sampling depths in ft below ground surface (bgs) and elevations in ft above mean sea level (msl) are summarized below.

Sampling Port Number	Sampling Port Depth (ft bgs)	Sampling Port Elevation (ft above msl)
33	90	863.71
32	110	843.71
30	153.9	799.81
26	218.9	734.81
22	315.8	637.91
20	335.8	617.91
17	387.7	566.01
14	427.7	526.01
10	502.6	451.11
6	562.6	391.11

All of these sampling ports are within the bedrock interval of the Maynardville Limestone.

Groundwater samples were collected from 33 site surveillance monitoring wells during CY 1998. Nineteen of these wells were sampled semiannually during the second and fourth quarters of CY 1998 and 14 wells were sampled once (Table 4). Of the wells sampled only once, 12 were sampled during the first quarter, one was sampled in the second quarter (GW-845; Table 1, Addenda 98-12), and one was sampled in the third quarter (GW-219; Table 1, Addenda 98-13). Most of these wells are completed at shallow depths (see Appendix C.2) and, as shown on Figure 4, are located in the following areas of the Y-12 Plant:

- Western Plant Area (GW-192, GW-251, GW-332, and GW-620);
- Central Plant Area (56-A2, 56-2B, 56-2C, 59-1A, 59-1B, 59-1C, GW-219, GW-686, GW-687, GW-769, GW-770, GW-775, GW-776, GW-781, GW-782, GW-783, GW-788, GW-789, GW-791, GW-792, GW-818, GW-819, and GW-820); and
- Eastern Plant Area (GW-148, GW-383, GW-744, GW-747, GW-763, and GW-845).

2.1.3.2 RCRA Groundwater Monitoring

The well network used for CY 1998 RCRA post closure corrective action monitoring in the East Fork Regime included background well GW-115 located in the Bear Creek Regime (Figure 2), near the East Fork Regime boundary about 500 ft north (upgradient) of the former S-3 Ponds; point-of-compliance well GW-108 located in the western part of the East Fork Regime about 800 ft southeast

of the S-3 Ponds; and plume delineation wells located near Tank 2331-U (GW-193) and upgradient (GW-605 and GW-606) or downgradient (GW-733) of New Hope Pond (Figure 4). Groundwater samples were collected from each well semiannually during the first and third quarters of the year (Table 4).

2.2 SAMPLE COLLECTION AND HANDLING

Personnel from the Sampling and Environmental Support Department of the Analytical Service Organization (ASO) located at the East Tennessee Technology Park (ETTP), formerly the Oak Ridge K-25 Site, were responsible for collection, transportation, and chain-of-custody control of the groundwater and surface water samples. Sampling was performed in accordance with the most recent version of the technical procedure approved by the Y-12 Plant GWPP Manager (Lockheed Martin Energy Systems, Inc. 1997b) or the equivalent procedure specified in the PCP for each hydrogeologic regime. Field measurement and surface water sample collection procedures are contained in the *Environmental Surveillance Procedures Quality Control Program* (Lockheed Martin Energy Systems, Inc. 1988).

The low-flow minimal drawdown sampling method was used to collect groundwater samples from all monitoring wells except Westbay well GW-722 during CY 1998. In accordance with this method, groundwater samples (including duplicates) were collected from each well immediately following the stabilization (minimal variation over four consecutive readings) of field measurements (pH, conductivity, temperature, oxidation-reduction potential, and dissolved oxygen) in the groundwater purged from the well at a low flow rate (<300 milliliters per minute) to ensure minimal drawdown of the water level in the well (<0.1 ft per quarter-hour). Using the minimal drawdown method, representative groundwater samples are obtained with no influence from the stagnant water in the well casing. This method differs from the groundwater sampling method used by the Y-12 Plant GWPP until October 1997, which involved pumping at least three well volumes before collecting samples from each well.

Groundwater sampling using a Westbay™ sampling system was performed in accordance with the manufacturer's operation manual. The groundwater samples from each sampling port were collected in a 250-milliliter non-vented stainless steel sample collection bottle that was filled at the designated depth in the well by opening the sampling port valve. Once filled, the bottle was raised to the surface and the sample was transferred to laboratory sample bottles. Normally, a sample collection bottle must be filled about seven times to obtain enough groundwater to fill all of the laboratory sample bottles. The first sample bottle was used as a "formation rinse" to obtain field measurements and condition the sample bottle for each particular zone.

Groundwater samples were obtained using dedicated bladder pumps (Well Wizard™) in all monitoring wells except those in the East Fork Regime listed in Table 4. Samples obtained using portable Well Wizards™ were identified by a letter (A, B, C, D, or E; Table 4) for tracking purposes.

Filtered samples were collected from each monitoring well, spring, and surface water station except for wells GW-722-30 (02/02/98), GW-722-32 (02/02/98), and GW-845 (05/21/98) in the East Fork Regime, and surface water station Outfall 301 (10/19/98) in the Chestnut Ridge Regime.

Groundwater samples were filtered using a 0.45-micron filter in the field and surface water samples, which were collected using grab sample bottles, were filtered in the laboratory. All samples were collected in appropriate containers, labeled, logged, placed in ice-filled coolers, and transported to the appropriate ASO laboratory in accordance with chain-of-custody control requirements.

2.3 FIELD MEASUREMENTS AND LABORATORY ANALYTES

Field personnel measured the depth to water before purging and sampling groundwater in each monitoring well. Sampling personnel also recorded field measurements of pH, temperature, conductivity, dissolved oxygen, and oxidation-reduction potential for each sampling location (Table 5). Applicable measurements recorded for each sampling location are presented in Appendices D.1 (Bear Creek Regime), E.1 (Chestnut Ridge Regime), and F.1 (East Fork Regime).

Laboratory analyses of most groundwater samples and surface water samples include the following standard suite of analytes: (1) miscellaneous laboratory analytes — pH, conductivity, turbidity, total suspended solids, and total dissolved solids; (2) major ions and trace metals, which is the term used hereafter to differentiate metals that are typically minor constituents in groundwater (e.g., cobalt) from metals that are usually major ionic species (e.g., magnesium); (3) VOCs; and (4) gross alpha and gross beta activity (Table 5). Unfiltered groundwater and surface water samples were analyzed for all of the standard laboratory analytes; filtered samples were analyzed only for the major cations and trace metals.

Additional analytes were specified for several samples in each regime: isotopic data for RCRA monitoring in the Bear Creek and East Fork Regimes and for the sample from well GW-219 in the East Fork Regime; bioremediation parameters were added to samples from well GW-845 and five sampling ports of Westbay™ well GW-722 in the East Fork Regime; and parameters to assess a potential source of elevated nitrate were included for sampling locations at KHQ in the Chestnut Ridge Regime.

Laboratory analyses of the groundwater and surface water samples were performed in accordance with the analytical methods listed in Table 5. The ASO laboratories located at the Y-12 Plant performed the organic and radiochemical analyses during CY 1998 and performed the inorganic and miscellaneous laboratory analyses after October 1998. From January until October, inorganic and miscellaneous laboratory analyses were performed by the ASO laboratories at ETPP. Analytical results for the Bear Creek, Chestnut Ridge, and East Fork Regimes are presented in Appendices D, E, and F, respectively.

2.4 QUALITY ASSURANCE/QUALITY CONTROL SAMPLING

Quality assurance/quality control samples include a total of 89 laboratory blanks, 137 trip blanks, five field blanks, and four equipment rinsate samples (Table 6). The QA/QC samples were prepared and analyzed as specified in the ASO Laboratory Quality Assurance Project Plan (Martin Marietta Energy Systems, Inc. 1991). Laboratory blanks were samples of deionized water analyzed along

with several associated groundwater and/or surface water samples. Trip blanks were samples of deionized water prepared in the laboratory and transported in each cooler containing groundwater and surface water samples scheduled for VOC analyses. Field blanks were samples of deionized water collected at selected monitoring wells to represent field conditions under which the groundwater samples were collected. The deionized water was transported to the specified well and transferred to sample bottles which were allowed to remain open during the time that samples were collected. Equipment rinsates were samples of the deionized water used to decontaminate the portable groundwater sampling equipment (i.e., Well Wizards™) or from a Westbay™ multiport sampling system. Rinsate samples were collected after a sampling team had completed sampling at a site or finished each administrative sampling group (a series of sampling locations grouped for data tracking and management purposes). If more than one Well Wizard™ was used for a sampling group, an equipment rinsate sample was collected from each.

Laboratory blanks, trip blanks, field blanks, and equipment rinsate samples were analyzed for VOCs; selected equipment rinsates were also analyzed for miscellaneous analytes (e.g., pH), major ions, trace metals, and radioanalytes. Analytical results for the QA/QC blanks and equipment rinsate samples are presented in respective subsections of Appendix G.

A summary of organic compounds detected in the blank samples during each quarterly sampling event of CY 1998 is provided in Table 6. Acetone and 2-butanone are the most commonly detected compounds in each type of QA/QC sample. During CY1998, ASO personnel determined that the occurrence of these compounds in blank samples resulted from a combination of: (1) uncertainty associated with reporting results below the method detection limit and (2) use of a grade of laboratory solvent contaminated with low concentrations of acetone and 2-butanone to clean equipment and prepare standards. The reporting limit for acetone and 2-butanone was 10 ug/L. However, the ASO reported detection of these compounds down to 1 ug/L with a J (estimated) qualifier, even though the CY 1998 method detection limits were 3.8 µg/L for acetone and 2.8 µg/L for 2-butanone. Only five of the 48 detected acetone results in the laboratory blanks (about 12%) were greater than 3.8 ug/L and one result was above the 10 ug/L reporting limit (Appendix G.3). After discovering that low levels of acetone and 2-butanone were present in the General grade methanol used by the laboratory, the ASO began a transition in March 1998 to Purge and Trap grade methanol. This transition eventually replaced the General grade methanol as the existing supply of laboratory internal standards and surrogate standards was consumed. By the fourth quarter of CY 1998, 2-butanone was not detected in the laboratory blanks and although acetone was detected in about 30 % of the samples (Table 6), only one sample had acetone greater than the the 3.8 µg/L method detection limit.

Chloroform was detected in the trip blank, field blank, and equipment rinsate samples, but not in the laboratory blank samples (Table 6), which suggests that the source water used to prepare these samples was contaminated. The ASO added a reverse osmosis deionizing system as a final treatment for the water source in April 1998, and chloroform was not detected in trip blank, field blank, or rinsate samples thereafter.

In addition to the blank samples and equipment rinsates, 31 duplicate groundwater samples were collected for QA/QC purposes from a total of 16 monitoring wells and one surface water station

(see Tables 2, 3, and 4), including at least one location in each administrative sampling group. The duplicate samples were analyzed for the constituents and parameters specified for the well from which they were collected; analytical results are presented with the regular sample results in Appendices D, E, and F.

2.5 DATA MANAGEMENT

Analytical results for the groundwater and surface water samples were downloaded directly into SAS® groundwater data files from data files provided by the ASO laboratories at the ETTP and the Y-12 Plant. Sampling personnel of the ASO manually input information from field data sheets before electronic transfer to the groundwater database management subcontractor. Downloaded and manually input data were verified in accordance with the *Y-12 Plant Groundwater Protection Program - Groundwater Monitoring Program Data Management Plan* (Martin Marietta Energy Systems, Inc. 1993). The groundwater database management subcontractor and the appropriate ASO staff worked to resolve any incomplete data transfers, irregular parameter names or reporting units, and discrepancies between electronic and hardcopy versions of the data.

2.6 DATA QUALITY OBJECTIVE SCREENING

The following sections describe the process used to identify groundwater and surface water quality data that do not meet DQOs as defined in the *Y-12 Plant Groundwater Protection Program - Groundwater Monitoring Program Data Management Plan* (Martin Marietta Energy Systems, Inc. 1993). The DQOs apply to the groundwater and surface water quality data obtained during CY 1998 in each hydrogeologic regime for the purposes of DOE Order 5400.1 monitoring, SWDF monitoring, and RCRA monitoring. The following table shows the DQO criteria applicable to analytical results for principal ions, trace metals, VOCs, radiological analytes (gross alpha, gross beta, and radionuclides), and miscellaneous laboratory analytes (total suspended solids, total dissolved solids, and turbidity).

DQO Criteria	Major Ions		Trace Metals	VOCs	Radiological Analytes	Misc. Analytes
	Anions	Cations				
Duplicate Sample Results	●	●	●	●	●	●
Filtered/Unfiltered Sample Results	.	●	●	.	.	.
Ion Charge Balance Errors	●	●	.	.	.	.
False-Positive Results	.	.	.	●	.	.
Counting Errors	.	.	.	.	●	.

Results for the specified groups of analytes that do not meet the specified DQO criteria were replaced with a designated surrogate value (i.e., screened) for data evaluation purposes. All of the CY 1998 data met the DQO criteria for ion charge balances and most of the screened results were

false-positive VOCs (249 results) that were analytical artifacts. Details regarding the data screening process and summary tables of the CY 1998 groundwater and surface water quality data that do not meet applicable DQOs are provided in the following sections.

A total of 31 duplicate samples were collected from 16 monitoring wells and one surface water station during CY 1998, including three wells and one surface water station in the Bear Creek Regime (Table 2), seven wells in the Chestnut Ridge Regime (Table 3), and six wells in the East Fork Regime (Table 4). Duplicate samples were analyzed for the suite of laboratory analytes required by the applicable monitoring program. Corresponding results for duplicate samples that differ by an order of magnitude or more were replaced with a missing value (i.e., no analytical result). As shown in the following table, only one set of acetone results reported for a well in the Chestnut Ridge Regime was screened during CY 1998 (Appendix E.2).

Sampling Location	Date Sampled	Sample Result (µg/L)	Duplicate Result (µg/L)
GW-757	04/12/98	110	10 U
Note: U = not detected at the reporting limit			

Filtered and unfiltered groundwater and surface water samples were analyzed for the principal cations and trace metals. Results were replaced with missing values if the dissolved (filtered) concentration exceeded the corresponding total (unfiltered) concentration by an order of magnitude or more. The following concentrations show such a difference.

Trace Metal	Sampling Point	Date Sampled	Concentration (mg/L)		Appendix of this report
			Dissolved	Total	
Iron	GW-156	04/15/98	0.088	0.0064	E.1
Zinc	GW-159	04/14/98	0.024	< 0.002	
Lead	GW-797	07/15/98	0.311	< 0.0005	
Lead	GW-108	07/28/98	0.0083	0.0006	F.1
Iron	GW-606	03/12/98	0.051	< 0.005	
Lead	GW-686	03/23/98	0.15	< 0.0005	

Analytical results for the major anions (bicarbonate alkalinity, carbonate alkalinity, chloride, fluoride, nitrate, and sulfate) and cations (calcium, magnesium, potassium, and sodium) were screened based on the calculated ion charge balance. If the relative percent difference between respective summed milliequivalent concentrations (i.e., molecular weight of the ion divided by the net ionic charge) of the dissolved (filtered sample) cations (which exclude digested cations) and the total (unfiltered sample) anions is equal to or greater than 20%, results for all the principal ions were considered qualitative (i.e., excluded from quantitative evaluation). None of the ion charge balance errors exceeded 20% for the samples collected in CY 1998.

Results for the laboratory blank and trip blank samples associated with each groundwater and surface water sample were used to calculate blank qualification results (BQRs) and identify false-positive results (i.e., sampling and/or analytical artifacts) for VOCs; these results were replaced with zero as a surrogate value. A false-positive result is defined as a VOC concentration that is less than the BQR for the respective compound. The BQRs for acetone, methylene chloride, toluene, and 2-butanone (common laboratory reagents) represent the highest concentration in either associated blank sample multiplied by a factor of 10; BQRs for all other VOCs are similarly calculated using a factor of 5 (U.S. Environmental Protection Agency 1988). A total of 249 false-positive results was reported for 180 CY 1998 samples, including 111 in the Bear Creek Regime (Table 7), 77 in the Chestnut Ridge Regime (Table 8), and 61 in the East Fork Regime (Table 9). As shown in the following summary of the CY 1998 data, acetone and 2-butanone (i.e., common laboratory reagents) were most commonly screened as false positives.

Compound	Number of Detected Results	Number of False Positives
Acetone	217	177
2-Butanone	75	62
Chloroform	59	9
Dichlorodifluoromethane	2	1

The preponderance of false-positive results for laboratory reagents suggests contamination during laboratory analysis (see Section 2.4). However, many of the false-positive results reflect higher contamination of the trip blank samples, which suggests contamination from the coolers used for transport or the laboratory environment where the samples are stored before analyses are performed. The 40 results for acetone that were not screened are probably analytical artifacts: 24 results were estimated values below the quantitation limit (10 µg/L) and the other results were reported during only one sampling event for 16 sampling locations. However, acetone has been commonly detected in samples from well GW-108 (East Fork Regime) and the January result (19 µg/L) probably reflects actual groundwater conditions. The unscreened results for 2-butanone are probable artifacts and all results were estimated values below the quantitation limit (10 µg/L).

Results for radioanalytes (gross alpha, gross beta, and radioisotopes) were screened based on the minimum detectable activity (MDA) and counting error reported with each result. The counting error, reported in picoCuries per liter (pCi/L), expresses the degree of analytical uncertainty, and is defined as twice the standard deviation for sample activity. A results was replaced with a missing value if the reported activity for each radioanalyte exceeded the specified MDA, but was less than the reported counting error. Such results are summarized in the following table.

Radioanalyte	Sampling Location	Date Sampled	MDA (pCi/L)	Activity $\pm$ Counting Error (pCi/L)	Appendix of this report
Gross Alpha	GW-713 D	01/20/98	1.1	1.2 $\pm$ 1.4	D.3
Neptunium-237	GW-713	07/15/98	0.067	0.075 $\pm$ 0.086	
	GW-715	01/21/98	0.088	0.098 $\pm$ 0.11	
Uranium-234	GW-008	07/20/98	0.069	0.076 $\pm$ 0.088	
	GW-115	01/15/98	0.07	0.077 $\pm$ 0.09	
	GW-712	01/20/98	0.079	0.087 $\pm$ 0.1	
Uranium-238	GW-115	07/13/98	0.056	0.062 $\pm$ 0.072	
	GW-712	07/14/98	0.073	0.081 $\pm$ 0.093	
Gross Alpha	GW-722-10	08/03/98	1.4	1.6 $\pm$ 1.8	F.3
Note: D = Duplicate sample					

3.0 CY 1998 GROUNDWATER ELEVATION MONITORING

The following sections contain a brief overview of the groundwater elevation monitoring in the Bear Creek, Chestnut Ridge, and East Fork regimes performed during CY 1998 under the auspices of the Y-12 Plant GWPP. Presampling depth-to-water measurements were not used for this purpose because they were less contemporaneous and probably reflect varying hydrologic conditions across the regime.

3.1 BEAR CREEK HYDROGEOLOGIC REGIME

Groundwater elevations were determined from depth-to-water measurements (Table 10) obtained from 62 monitoring wells during April 6 - 9, 1998 (the seasonally high water table) and 63 wells during October 5 - 9, 1998 (the seasonally low water table). These groundwater elevations were used to construct seasonal contour maps of the water table (Figure 6) and evaluate regime-wide groundwater flow directions.

The water table in the Bear Creek Regime generally mirrors the surface topography. Isopleths of seasonal groundwater surface elevations in the Bear Creek Regime indicate southwesterly (strike-normal) flow in the Aquitard toward the Aquifer (Maynardville Limestone), the hydrologic drain for the groundwater flow system, with more westerly (strike-parallel) flow toward the west end of BCV in the Maynardville Limestone. Seasonal water level fluctuations, which were less than 10 ft in most wells (Table 10), influenced the magnitude of horizontal hydraulic gradients but did not significantly alter the overall directions of groundwater flow in the Bear Creek Regime (Figure 6).

3.2 CHESTNUT RIDGE HYDROGEOLOGIC REGIME

Groundwater surface elevations were determined from depth-to-water measurements obtained from 83 monitoring wells during April 6 - 8, 1998 (the seasonally high water table) and 81 monitoring wells during October 5 - 8, 1998 (the seasonally low water table) in the Chestnut Ridge Regime. The water level measurements and calculated groundwater elevations in each well are summarized in Table 11. Groundwater elevation isopleths indicate eastward (strike parallel) flow along the ridge crest in the northern part of the regime, which is a recharge area and a flow divide, with flow components to the north (across strike) toward the Maynardville Limestone at the base of the ridge, and south (parallel to dip) toward the tributaries on the southern flank of the ridge (Figure 7). Radial groundwater flow directions from hilltops toward crosscutting tributaries dominate the central part of the regime, and flow in the southernmost part of the regime is south toward Melton Hill Reservoir (Clinch River). Seasonal water table fluctuations, which are greatest (>15 ft) in wells located along the crest of Chestnut Ridge (Table 11), do not significantly alter the overall directions of groundwater flow.

Groundwater elevations in several wells located on the ridge crest, notably well GW-293 at the East Chestnut Ridge Waste Pile and well GW-322 at the CRSP (Figure 7), are more than 10 ft lower than in nearby wells located east and along strike (downgradient direction). Substantial differences between water table elevations over such short distances potentially reflect localized depressions in the water table associated with highly permeable conduits that function as local drains for the

shallow karst network. The location of such conduits may correspond with the bedding plane or fracture set associated with a strike-parallel series of sinkholes along the crest of the ridge.

3.3 UPPER EAST FORK POPLAR CREEK HYDROGEOLOGIC REGIME

Groundwater surface elevations determined from depth-to-water measurements recorded for 62 monitoring wells during April 6 - 9, 1998 (the seasonally high water table) and 60 wells during October 5 - 8, 1998 (the seasonally low water table) were used to evaluate groundwater flow directions in the East Fork Regime (Table 12). Isopleths of seasonal groundwater surface elevations in the water table interval (Figure 8) generally show southeasterly (strike-normal) flow in the Aquitard toward the Aquifer (Maynardville Limestone), the hydrologic drain for the groundwater flow system in the East Fork Regime, and easterly (strike-parallel) flow in the Maynardville Limestone toward the east end of the Y-12 Plant. Seasonal water level fluctuations during CY 1998, typically less than 5 ft throughout the regime (Table 12), influenced the magnitude of horizontal hydraulic gradients but did not significantly alter the overall directions of groundwater flow in the regime (Figure 8).

4.0 REFERENCES

- Bechtel Jacobs Company LLC. 1998a. *Semiannual Post-Closure Corrective Action Groundwater Monitoring Report for the Bear Creek, Chestnut Ridge, and Upper East Fork Poplar Creek Hydrogeologic Regimes, Oak Ridge Y-12 Plant (TN3 89 009 0001); First, 180-Day Reporting Period for Calendar Year (CY) 1998*. Letter to the Director of the Tennessee Department of Environment and Conservation, Division of Solid Waste Management, August 21, 1998.
- Bechtel Jacobs Company LLC. 1998b. *Semiannual Post-Closure Statistical Determinations of Groundwater Quality Data from the Chestnut Ridge Sediment Disposal Basin (CRSDB), Oak Ridge Y-12 Plant (TN3 89 009 0001); First, 180-Day Reporting Period for Calendar Year (CY) 1998*. Letter to the Director of the Tennessee Department of Environment and Conservation, Division of Solid Waste Management, July 15, 1998.
- Bechtel Jacobs Company LLC. 1998c. *Semiannual Statistical Determinations of Groundwater Quality Data from the Kerr Hollow Quarry (KHQ), Oak Ridge Y-12 Plant (TN3 89 009 0001); First, 180-Day Reporting Period for Calendar Year (CY) 1998*. Letter to the Director of the Tennessee Department of Environment and Conservation, Division of Solid Waste Management, August 10, 1998.
- Bechtel Jacobs Company LLC. 1999a. *Calendar Year 1998 Annual Resource Conservation and Recovery Act Groundwater Monitoring Report for the Bear Creek Hydrogeologic Regime at the U.S. Department of Energy Y-12 Plant, Oak Ridge, Tennessee*. Prepared by AJA Technical Services, Inc. (BJC/OR-230).
- Bechtel Jacobs Company LLC. 1999b. *Calendar Year 1998 Annual Resource Conservation and Recovery Act Groundwater Monitoring Report for the Upper East Fork Poplar Creek Hydrogeologic Regime at the U.S. Department of Energy Y-12 Plant, Oak Ridge, Tennessee*. Prepared by AJA Technical Services, Inc. (BJC/OR-231).
- Bechtel Jacobs Company LLC. 1999c. *Calendar Year 1998 Annual Resource Conservation and Recovery Act Groundwater Monitoring Report for the Chestnut Ridge Hydrogeologic Regime at the U.S. Department of Energy Y-12 Plant, Oak Ridge, Tennessee*. Prepared by AJA Technical Services, Inc. (BJC/OR-232).
- Bechtel Jacobs Company LLC. 1999d. *Semiannual Post-Closure Statistical Evaluations of Groundwater Quality Data from the Chestnut Ridge Sediment Disposal Basin (CRSDB), Oak Ridge Y-12 Plant (TN3 89 009 0001); Second, Semiannual Reporting Period for Calendar Year (CY) 1998*. Letter to the Director of the Tennessee Department of Environment and Conservation, Division of Solid Waste Management, January 11, 1999.

- Bechtel Jacobs Company LLC. 1999e. *Semiannual Post-Closure Statistical Evaluations of Groundwater Quality Data from the Kerr Hollow Quarry (KHQ), Oak Ridge Y-12 Plant (TN3 89 009 0001); Second, Semiannual Reporting Period for Calendar Year (CY) 1998.* Letter to the Director of the Tennessee Department of Environment and Conservation, Division of Solid Waste Management, January 12, 1999.
- Jones, S.B., B.K. Thompson, and S.M. Field. 1995. *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.* Lockheed Martin Energy Systems, Inc. (Y/TS-881/R3).
- Lockheed Martin Energy Systems, Inc. 1988. *Environmental Surveillance Procedures Quality Control Program.* (ES/ESH-14).
- Lockheed Martin Energy Systems, Inc. 1997a. *Y-12 Plant Groundwater Protection Program Groundwater and Surface Water Sampling and Analysis Plan for Calendar Year 1998.* Prepared by AJA Technical Services, Inc. (Y/SUB/97-KDS15V/7).
- Lockheed Martin Energy Systems, Inc. 1997b. *Groundwater Sampling.* Prepared by the Analytical Services Organization (SESD-TP-8204, Rev. 3).
- Lockheed Martin Energy Systems, Inc. 1998a. *Groundwater Monitoring Report for Industrial Landfill IV (ILF IV); IDL-47-103-0075; First, 180-Day Reporting Period of Calendar Year (CY) 1998; Y-12 Plant, Anderson County, Tennessee.* Letter to the Tennessee Department of Environment and Conservation, Division of Solid Waste Management, March 10, 1998.
- Lockheed Martin Energy Systems, Inc. 1998b. *Groundwater Monitoring Report for Industrial Landfill IV (ILF IV); IDL-47-103-0075; Second, 180-Day Reporting Period of Calendar Year (CY) 1998; Y-12 Plant, Anderson County, Tennessee.* Letter to the Tennessee Department of Environment and Conservation, Division of Solid Waste Management, September 10, 1998.
- Lockheed Martin Energy Systems, Inc. 1998c. *Groundwater Monitoring Report for Industrial Landfill (ILF) V, IDL-01-103-0083; First, 180-Day Reporting Period of Calendar Year (CY) 1998; Oak Ridge Y-12 Plant, Anderson County, Tennessee.* Letter to the Tennessee Department of Environment and Conservation, Division of Solid Waste Management, March 10, 1998.
- Lockheed Martin Energy Systems, Inc. 1998d. *Groundwater Monitoring Report for Industrial Landfill (ILF) V, IDL-01-103-0083; Second, 180-Day Reporting Period of Calendar Year (CY) 1998; Oak Ridge Y-12 Plant, Anderson County, Tennessee.* Letter to the Tennessee Department of Environment and Conservation, Division of Solid Waste Management, September 10, 1998.

- Lockheed Martin Energy Systems, Inc. 1998e. *Groundwater Monitoring Report for the Centralized Sanitary Landfill II (SLF II); IDL-01-103-0189; Second Quarter (First, 180-Day Reporting Period) of Calendar Year (CY) 1998; Y-12 Plant, Anderson County, Tennessee*. Letter to the Tennessee Department of Environment and Conservation, Division of Solid Waste Management, June 16, 1998.
- Lockheed Martin Energy Systems, Inc. 1998f. *Groundwater Monitoring Report for the Centralized Sanitary Landfill II (SLF II); IDL-01-103-0189; Second, 180-Day Reporting Period of Calendar Year (CY) 1998; Oak Ridge Y-12 Plant, Anderson County, Tennessee*. Letter to the Tennessee Department of Environment and Conservation, Division of Solid Waste Management, December 8, 1998.
- Lockheed Martin Energy Systems, Inc. 1998g. *Groundwater Monitoring Report for the Construction/Demolition Landfill VI (CDL VI), DML-01-103-0036; Second Quarter (First, 180-Day Reporting Period) of Calendar Year (CY) 1998; Y-12 Plant, Anderson County, Tennessee*. Letter to the Tennessee Department of Environment and Conservation, Division of Solid Waste Management, June 16, 1998.
- Lockheed Martin Energy Systems, Inc. 1998h. *Groundwater Monitoring Report for the Construction/Demolition Landfill VI (CDL VI), DML-01-103-0036; Second, 180-Day Reporting Period of Calendar Year (CY) 1998; Oak Ridge Y-12 Plant, Anderson County, Tennessee*. Letter to the Tennessee Department of Environment and Conservation, Division of Solid Waste Management, December 8, 1998.
- Lockheed Martin Energy Systems, Inc. 1998i. *Supplemental Groundwater Monitoring Report for the Centralized Sanitary Landfill II (SLF II); IDL-01-103-0189; and Construction/Demolition Landfill (CDL) VI, DML-01-103-0036 Second, 180-Day Reporting Period of Calendar Year (CY) 1997; Y-12 Plant, Anderson County, Tennessee*. Letter to the Tennessee Department of Environment and Conservation, Division of Solid Waste Management, March 27, 1998.
- Martin Marietta Energy Systems, Inc. 1991. *Laboratory Quality Assurance Project Plan for the Sampling and Analysis of Groundwater Wells at the Y-12 Plant Site on the Oak Ridge Reservation*. Prepared by Analytical Chemistry Department Technical Division, QAP: 04-90-0014.
- Martin Marietta Energy Systems, Inc. 1993. *Y-12 Plant Groundwater Protection Program-Groundwater Monitoring Program Data Management Plan*. (Y/SUB/93-TK532C/1).
- Tennessee Department of Environment and Conservation. 1998. *Supplemental Groundwater Monitoring Report: Y-12 Plant Construction/Demolition Landfill VI DML-01-103-0036*. Letter to Lockheed Martin Energy Systems, Inc., April 13, 1998.
- U.S. Department of Energy. 1996. *Environmental Monitoring Plan for the Oak Ridge Reservation*. U.S. Department of Energy Oak Ridge Field Office (DOE/OR-1066/R1).

- U.S. Environmental Protection Agency. 1983. *Methods for Chemical Analysis of Water and Wastes*.
- U.S. Environmental Protection Agency. 1986. *Test Methods for Evaluating Solid Waste Physical/Chemical Methods*.
- U.S. Environmental Protection Agency. 1988. *Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses*. U.S. EPA, Office of Solid Waste.

Fig. 1. Hydrogeologic Regimes at the Y-12 Plant.

EXPLANATION	
■	WATER TABLE MONITORING WELL
•	BEDROCK MONITORING WELL
9	SPRING SAMPLING LOCATION
▽	SURFACE WATER SAMPLING LOCATION
---	SURFACE DRAINAGE FEATURE
---	BOUNDARY OF SITE
---	SURFACE GEOLOGIC CONTACT
Cmn	MAYNARDVILLE LIMESTONE
Ock	KNOX GROUP
Och	CHICKAMAUGA GROUP

ete Vertical Sampling Zones)

Fig.5. Westbay™ Monitoring System Sampling Port Depths in Well GW-722.

Note: Plume Boundary wells are located about 5,000 feet west/southwest of the map area.

EXPLANATION

- - Water Table Monitoring Well and Water-Level Elevation (ft msl)
- 920— - Approximate Water-Level Isopleth (ft msl)
- - - - - Surface Drainage Feature

EXPLANATION

- WATER TABLE INTERVAL MONITORING WELL
- BEDROCK INTERVAL MONITORING WELL

Fig. 7. Seasonal Groundwater Elevations in the Che

GROUNDWATER ELEVATIONS
APRIL 6 - 8, 1998

GROUNDWATER ELEVATIONS
OCTOBER 5 - 8, 1998

- 920 — WATER-LEVEL ISOPLETH (ft msl)
- - - SURFACE DRAINAGE FEATURE
- q SPRING

Fig. 8. Seasonal Groundwater Elevations in the Upper

EXPLANATION

- — Water Table Interval Monitoring Well and Water-Level Elevation (ft msl)
- 980 — Approximate Water-Level Isopleth (ft msl)
- - - - - Surface Drainage Feature
- ⊙ — Building 9201-2 Sump

APPENDIX B

TABLES

Table 1.
Summary of CY 1998 Sampling and Analysis Plan Addenda

Addendum No.	Effective Date	Modification to the CY 1998 Sampling and Analysis Plan ¹
98-01	01/01/98	Removed wells GW-560, GW-562, GW-564, and GW-798 at Construction/Demolition Landfill (CDL) VII from the sampling schedule.
98-02	01/07/98	Added well GW-798 (CDL VII) back to sampling schedule for RCRA monitoring.
98-03	01/22/98	Added an equipment rinsate and field blank sample for Westbay™ well GW-722.
98-04	01/22/98	Added samples from Westbay™ sampling ports GW-722-30, -32, and -33 to complete data deficiencies of the fourth quarter CY 1997 sampling event.
98-05	03/11/98	Removed a field blank sample from sample group CR-3 and added it to EF-1.
98-06	03/11/98	Temporarily added well GW-540 to sampling schedule as a potential replacement for well GW-539 (downgradient well for CDL VI and upgradient well for Industrial Landfill [IL] II).
98-07	04/01/98	Changed the collection frequency for duplicate samples for CR-6 and CR-7 to reduce the excessive number of duplicates collected for RCRA post-closure detection monitoring.
98-08	03/30/98	Changed the parameters for the equipment rinsate sample for EF-5.
98-09	04/15/98	Dropped well GW-539 (downgradient well for CDL VI and upgradient well for IL II). The TDEC approved well GW-540 as a replacement.
98-10	04/01/98	Changed the analytical method from inductively coupled plasma spectroscopy to plasma mass spectroscopy for antimony, cadmium, and selenium to achieve lower detection limits. The laboratory had changed reporting practices and raised detection limits for most metals.
98-11	02/24/98	Added bioremediation parameters (BOD, COD, and TOC) for the first quarter samples from Westbay™ sampling ports GW-722-06, -10, -14, -20, and -30.
98-12	05/21/98	Added well GW-845 to only the second quarter sampling schedule at the request of Bechtel Jacobs Company LLC. Data is for the East End VOC Plume Early Action monitoring.
98-13	07/01/98	Added well GW-219 in the East Fork Regime to only the third quarter sampling schedule.
98-14	08/11/98	Added surface water location BCK-07.87 to the third quarter sampling schedule. It was discovered that BCK-07.75 has been collected at about BCK-06.89 instead of the intended location. The originally intended sampling location is now named BCK-07.87.
98-15	09/01/98	Added parameters (coliform, phosphate, and ammonia) to group CR-7 (Kerr Hollow Quarry) for the fourth quarter only.
98-16	09/01/98	Added surface water location Outfall 301 to CR-7 for one sample in the fourth quarter.

Note:

- 1 Modification to the *Y-12 Plant Groundwater Protection Program Groundwater and Surface Water Monitoring Sampling and Analysis Plan for Calendar Year 1998* (Lockheed Martin Energy Systems, Inc. 1997a).

Table 2.
CY 1998 Groundwater and Surface Water Sampling Dates
in the Bear Creek Hydrogeologic Regime

MONITORING PROGRAM		RCRA Monitoring				
		DOE Order 5400.1 Exit Pathway/Perimeter Monitoring				
		DOE Order 5400.1 Surveillance Monitoring				
Sampling Point ¹	Sampling Location ²	CY 1998 Sampling Date ³				
		1st Quarter	3rd Quarter			
GW-008	OLF	01/26/98	07/20/98			●
GW-046	BG	01/29/98	07/22/98			●
GW-053	BG	03/11/98	09/02/98	●		
GW-056	EXP-A	02/02/98	07/27/98		●	
GW-085	OLF	03/03/98	08/31/98	●		
GW-115	S3	01/15/98	07/13/98			●
GW-226	OLF	03/10/98	09/02/98	●		
GW-276	S3	01/22/98	07/16/98			●
GW-287	BG	03/02/98	09/03/98	●		
GW-311	RS	03/05/98	08/27/98	●		
GW-315	SPI	03/02/98	08/27/98	●		
GW-537	OLF	03/03/98 D	08/31/98 D	●		
GW-621	EXP-B	02/02/98	07/29/98		●	
GW-627	BG	03/11/98	09/01/98	●		
GW-653	BG	03/10/98	09/01/98	●		
GW-683	EXP-A	02/17/98	08/03/98		●	
GW-684	EXP-A	02/16/98 D	08/04/98 D		●	
GW-685	EXP-A	02/05/98	07/27/98		●	
GW-695	EXP-B	02/17/98	07/30/98		●	
GW-703	EXP-B	02/16/98	08/10/98		●	
GW-704	EXP-B	01/05/98	08/13/98		●	
GW-706	EXP-B	01/05/98	08/10/98		●	
GW-712	EXP-W	01/20/98	07/14/98		●	●
GW-713	EXP-W	01/20/98 D	07/15/98 D		●	●
GW-714	EXP-W	01/21/98	07/14/98		●	●
GW-715	EXP-W	01/21/98	07/16/98		●	●
GW-724	EXP-C	03/05/98	09/01/98		●	
GW-725	EXP-C	03/10/98	09/02/98		●	
GW-738	EXP-C	03/04/98	09/01/98		●	
GW-740	EXP-C	03/04/98	08/31/98		●	
GW-829	OLF	03/05/98	08/31/98	●		

Table 2 (continued)

MONITORING PROGRAM		RCRA Monitoring				
		DOE Order 5400.1 Exit Pathway/Perimeter Monitoring				
		DOE Order 5400.1 Surveillance Monitoring				
		CY 1998 Sampling Date ³				
Sampling Point ¹	Sampling Location ²	1st Quarter	3rd Quarter			
BCK-00.63	EXP-SW	02/18/98	07/29/98		●	
BCK-04.55	EXP-SW	02/18/98	07/29/98		●	
BCK-07.75	EXP-SW	02/18/98	07/30/98		●	
BCK-07.87	EXP-SW	NS	08/11/98		●	
BCK-09.40	EXP-SW	02/18/98 D	08/03/98 D		●	
BCK-10.60	EXP-SW	02/19/98	NS		●	
BCK-11.97	EXP-SW	02/19/98	08/04/98		●	
NT-01	EXP-SW	02/19/98	08/05/98		●	
SS-1	EXP-SW	02/19/98	08/05/98		●	
SS-4	EXP-SW	02/19/98	08/04/98		●	
SS-5	EXP-SW	02/18/98	08/03/98		●	
SS-6	EXP-SW	02/18/98	07/30/98		●	

Notes:

- 1
 - BCK - Bear Creek Kilometer
 - GW - Groundwater Monitoring Well
 - NT - Northern Tributary
 - SS - South Spring

- 2
 - BG - Bear Creek Burial Grounds Waste Management Area
 - EXP-A - Exit Pathway (Maynardville Limestone) Picket A
 - EXP-B - Exit Pathway Picket B
 - EXP-C - Exit Pathway Picket C
 - EXP-W - Exit Pathway Picket W
 - EXP-SW - Exit Pathway (Bear Creek) Surface Water
 - OLF - Oil Landfarm Waste Management Area
 - RS - Rust Spoil Area
 - SPI - Spoil Area I
 - S3 - S-3 Site

- 3
 - D - Duplicate samples were collected.

- NS - Not sampled; BCK-07.87 was not on the first quarter sampling schedule, and BCK-10.60 was dry during the October sampling event.

Table 3.
CY 1998 Groundwater and Surface Water Sampling Dates
in the Chestnut Ridge Hydrogeologic Regime

MONITORING PROGRAM		RCRA Monitoring						
		SWDF Detection Monitoring						
		DOE Order 5400.1 Monitoring						
		CY 1998 Sampling Date ³						
Sampling Point ¹	Sampling Location ²	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter			
GW-141	LIV	01/08/98 D	.	07/09/98 D	.		●	
GW-142	KHQ	.	04/27 - 30/98 D	.	10/19 - 22/98 D	●		●
GW-143	KHQ	.	04/27 - 30/98	.	10/19 - 22/98	●		●
GW-144	KHQ	.	04/27 - 30/98	.	10/19 - 22/98	●		●
GW-145	KHQ	.	04/27 - 30/98	.	10/19 - 22/98	●		●
GW-156	CRSDB	.	04/13 - 16/98 D	.	10/26 - 29/98 D			●
GW-159	CRSDB	.	04/13 - 16/98	.	10/26 - 29/98			●
GW-217	LIV	01/07/98	.	07/08/98	.		●	
GW-231	KHQ	.	04/27 - 30/98 D	.	10/19 - 22/98 D	●		●
GW-301	CRBAWP	01/06/98	.	07/10/98	.			●
GW-305	LIV	01/12/98	.	07/13/98	.		●	
GW-322	CRSP	01/12/98	.	.	.	●		
GW-521	LIV	01/07/98	.	07/09/98	.		●	●
GW-522	LIV	01/08/98	.	07/09/98	.		●	
GW-540	LII	03/11/98	04/20/98	.	10/13/98		●	
GW-542	CDLVI	.	04/21/98	.	10/14/98		●	
GW-543	CDLVI	.	04/22/98	.	10/15/98		●	
GW-544	CDLVI	.	04/22/98	.	10/15/98		●	
GW-557	LV	01/13/98 D	.	07/14/98 D	.		●	●
GW-609	CRSP	01/05/98	.	07/16/98	.			●
GW-709	LII	.	04/20/98	.	10/13/98		●	
GW-731	CRSDB	.	04/13 - 16/98 D	.	10/26 - 30/98 D			●
GW-732	CRSDB	.	04/13 - 16/98	.	10/26 - 29/98			●
GW-757	LII	.	04/21/98 D	.	10/13/98 D		●	
GW-796	LV	01/14/98	.	07/15/98	.		●	●
GW-797	LV	01/14/98	.	07/15/98	.		●	
GW-798	CDLVII	01/12/98	.	07/09/98	.			●
GW-799	LV	01/13/98	.	07/14/98	.		●	●
GW-801	LV	01/13/98	.	07/15/98	.		●	●
GW-827	CDLVI	.	04/21/98	.	10/14/98		●	
GW-831	FCAP	01/06/98	.	07/10/98	.			●

Table 3 (continued)

MONITORING PROGRAM		RCRA Monitoring						
		SWDF Detection Monitoring						
		DOE Order 5400.1 Monitoring						
		CY 1998 Sampling Date ³						
Sampling Point ¹	Sampling Location ²	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter			
SCR2.1SP	EXP	01/13/98	.	07/08/98	.	●		
SCR2.2SP	EXP	01/12/98	.	07/08/98	.	●		
SCR3.4SP	EXP	01/13/98	.	07/08/98	.	●		
SCR4.3SP	CDLVII	01/12/98	.	07/14/98	.	●	●	
SCR5.1SP	EXP	01/12/98	.	07/08/98	.	●		
SCR5.4SP	EXP	01/12/98	.	07/08/98	.	●		
Outfall 301	KHQ	.	.	.	10/19/98	●		

Notes:

- 1
 - GW - Groundwater monitoring well
 - Outfall301 - Surface water station located where water exits Kerr Hollow Quarry
 - SCR - South Chestnut Ridge (tributary prefix)
 - SP - Spring location (suffix)

- 2
 - CDLVI - Construction/Demolition Landfill VI
 - CDLVII - Construction/Demolition Landfill VII
 - CRBAWP - Chestnut Ridge Borrow Area Waste Pile
 - CRSDB - Chestnut Ridge Sediment Disposal Basin
 - CRSP - Chestnut Ridge Security Pits
 - EXP - Exit Pathway
 - FCAP - Filled Coal Ash Pond
 - KHQ - Kerr Hollow Quarry
 - LII - Industrial Landfill II
 - LIV - Industrial Landfill IV
 - LV - Industrial Landfill V

- 3
 - . = Not Sampled.
 - D = Duplicate sample was collected.

Duplicate samples were collected only on one of the dates during each sampling event for wells in RCRA post-closure detection monitoring: wells GW-142 (04/29 and 10/21/98), GW-156 (04/16 and 10/29/98), GW-231 (04/28 and 10/20/98), and GW-731 (04/14 and 10/27/98).

Table 4.
CY 1998 Groundwater and Surface Water Sampling Dates in the
Upper East Fork Poplar Creek Hydrogeologic Regime

MONITORING PROGRAM		RCRA Monitoring											
		DOE Order 5400.1 Exit Pathway/Perimeter Monitoring											
		Sampling Point		Sampling Equipment ³		CY 1998 Sampling Date ⁴							
No. ¹	Location ²	Dedicated	Portable	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.						
56-2A	GRIDC3		A	03/23/98	.	.	.	●					
56-2B	GRIDC3		C	03/23/98	.	.	.	●					
56-2C	GRIDC3		B	03/24/98	.	.	.	●					
59-1A	B9202		A	03/17/98	.	.	.	●					
59-1B	B9202		B	03/18/98	.	.	.	●					
59-1C	B9202		A	03/18/98	.	.	.	●					
GW-108	S3	●		03/16/98 D	.	07/28/98 D	.				●		
GW-148	NHP	●		.	05/27/98	.	12/03/98	●					
GW-153	NHP	●		.	05/28/98	.	12/07/98		●				
GW-192	B4	●		.	05/26/98	.	11/30/98	●					
GW-193	T2331	●		03/16/98	.	07/28/98	.				●		
GW-207	EXP-SR	●		.	06/24/98	.	12/09/98		●				
GW-208	EXP-SR	●		.	06/09/98	.	12/09/98		●				
GW-219	UOV	●		.	.	09/04/98	.	●					
GW-220	NHP	●		.	05/28/98	.	12/07/98		●				
GW-251	S2	●		.	05/26/98	.	12/02/98	●					
GW-332	WC		C	03/24/98 D	.	.	.	●					
GW-380	NHP	●		.	06/02/98	.	12/10/98		●				
GW-383	NHP	●		.	06/01/98	.	12/08/98	●					
GW-605	EXP-I	●		03/12/98	.	07/27/98	.				●		
GW-606	EXP-I	●		03/12/98	.	07/28/98	.				●		
GW-618	EXP-E	●		.	06/01/98	.	11/30/98		●				
GW-620	FTF	●		.	05/26/98	.	12/02/98	●					
GW-686	CPT		D	03/23/98	.	.	.	●					
GW-687	CPT		A	03/24/98	.	.	.	●					
GW-722-06	EXP-J		●	02/17/98	.	07/29/98	.		●				
GW-722-10	EXP-J		●	02/18/98	.	08/03/98	.		●				
GW-722-14	EXP-J		●	02/19/98	.	08/04/98	.		●				
GW-722-17	EXP-J		●	02/25/98	.	08/11/98	.		●				
GW-722-20	EXP-J		●	02/24/98	.	08/18/98	.		●				
GW-722-22	EXP-J		●	02/26/98	.	08/19/98	.		●				
GW-722-26	EXP-J		●	02/26/98	.	08/25/98	.		●				
GW-722-30	EXP-J		●	02/25/98 ⁵	.	08/26/98 D	.		●				
GW-722-32	EXP-J		●	03/05/98 ⁵	.	09/03/98	.		●				
GW-722-33	EXP-J		●	03/05/98 ⁵	.	09/03/98	.		●				

Table 4 (continued)

MONITORING PROGRAM		RCRA Monitoring								
		DOE Order 5400.1 Exit Pathway/Perimeter Monitoring								
		DOE Order 5400.1 Surveillance Monitoring								
		Sampling Equipment ³		CY 1998 Sampling Date ⁴						
No. ¹	Location ²	Dedicated	Portable	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.			
GW-733	EXP-J	●		03/12/98	.	07/27/98	.			●
GW-735	EXP-J	●		.	06/04/98 D	.	12/14/98 D		●	
GW-744	GRIDK1	●		.	06/03/98	.	12/10/98	●		
GW-747	GRIDK2	●		.	06/03/98	.	12/15/98	●		
GW-750	EXP-J	●		.	06/04/98	.	12/14/98		●	
GW-763	GRIDJ3	●		.	05/27/98	.	12/03/98	●		
GW-769	GRIDG3	●		.	05/19/98 D	.	11/11/98 D	●		
GW-770	GRIDG3	●		.	05/19/98	.	11/10/98	●		
GW-775	GRIDH3	●		.	06/17/98	.	11/18/98	●		
GW-776	GRIDH3	●		.	06/17/98	.	11/18/98	●		
GW-781	GRIDE3	●		.	05/20/98	.	11/11/98	●		
GW-782	GRIDE3	●		.	05/20/98	.	11/12/98	●		
GW-783	GRIDE3	●		.	05/20/98	.	11/12/98	●		
GW-788	GRIDF3	●		.	05/14/98	.	11/09/98	●		
GW-789	GRIDF3	●		.	05/18/98	.	11/09/98	●		
GW-791	GRIDD2	●		.	05/20/98	.	11/16/98	●		
GW-792	GRIDD2	●		.	05/20/98	.	11/16/98	●		
GW-816	EXP-SR	●		.	06/03/98	.	12/08/98		●	
GW-818	B9201-2		D	03/26/98	.	.	.	●		
GW-819	B9201-2		A	03/26/98	.	.	.	●		
GW-820	B9201-2		E	03/26/98	.	.	.	●		
GW-845	EXP	●		.	05/21/98	.	.	●		
LRSPW	EXP-SW		●	.	06/02/98	.	12/10/98		●	

Notes:

- 1 GW - Groundwater Monitoring Well (also the 56- and 59- series)
 GW-722- - Westbay™ sampling port in well GW-722
 LRSPW - Lake Reality Emergency Spillway (surface water station)

Table 4 (continued)

Notes: (continued)

- 2 B4 - Beta-4 Security Pits
B9201-2 - Building 9201-2
B9202 - Building 9202
CPT - Coal Pile Trench
EXP - Exit Pathway (Maynardville Limestone) monitoring location:
 • -E, -I, or -J: Maynardville Limestone Picket monitoring well.
 • -SW: Onsite spring or surface water station
 • -SR: Along Scarboro Road in the gap through Pine Ridge
FTF - Fire Training Facility
GRID - Comprehensive Groundwater Monitoring Plan Grid Location
NHP - New Hope Pond
S2 - S-2 Site
S3 - S-3 Ponds Site
T2331 - Tank 2331-U
UOV - Uranium Oxide Vault
WC - Waste Coolant Processing Area
- 3 Dedicated: Well Wizard™ bladder pump that remains in the well.
Portable: Well Wizard™ pumps used for one-time sampling are identified with a letter for tracking purposes; reusable sample collection bottles for Westbay™ well GW-722 sampling ports; and grab sample bottles for surface water.
- 4 . - Not sampled.
D - Duplicate samples were collected.
- 5 Westbay™ port GW-722-33 was resampled January 21 due to equipment failure during the fourth quarter of CY 1997. Ports GW-722-30 and -32 were resampled February 2 for anions analysis because samples for the fourth quarter of CY 1997 missed holding times.

Table 5.
Field Measurements and Laboratory Analytes for CY 1998
Groundwater and Surface Water Samples

Field Measurements	Analytical Method ¹	Detection Limit ²	Units ³
Depth to Water	ESP 302-1	NA	ft
Water Temperature	ESP 307-1	NA	centigrade
pH	ESP 307-1	NA	pH units
Conductivity	ESP 307-1	NA	µmho/cm
Dissolved Oxygen	ESP 307-3	NA	ppm
Oxidation-Reduction Potential	ESP 307-5	NA	mV
Miscellaneous Laboratory Analytes			
pH	EPA-9040	NA	pH units
Conductivity	EPA-9050	NA	µmho/cm
Total Dissolved Solids	EPA-160.1	1	mg/L
Total Suspended Solids	EPA-160.2	1	mg/L
Turbidity	EPA-180.1	0.1	NTU
Anions			
Alkalinity - HCO ₃	EPA-310.1	1.0	mg/L
Alkalinity - CO ₃	EPA-310.1	1.0	mg/L
Chloride	EPA-300.0	0.2	mg/L
Fluoride	EPA-340.2	0.1	mg/L
Nitrate (as Nitrogen)	EPA-300.0	0.028	mg/L
Sulfate	EPA-300.0	0.25	mg/L
Metals/Cations: Unfiltered & Filtered ⁴			
Aluminum	EPA-6010A	0.02 / 0.2	mg/L
Antimony	EPA-6010A/ -200.8	0.05 / 0.0005	mg/L
Arsenic	EPA-200.8	0.005	mg/L
Barium	EPA-6010A	0.001 / 0.004	mg/L
Beryllium	EPA-6010A	0.0003 / 0.001	mg/L
Boron	EPA-6010A	0.004 / 0.1	mg/L
Cadmium	EPA-6010A/ -200.8	0.003 / 0.0005	mg/L
Calcium	EPA-6010A	0.008 / 0.2	mg/L
Chromium	EPA-6010A	0.01 / 0.02	mg/L
Cobalt	EPA-6010A	0.005 / 0.02	mg/L
Copper	EPA-6010A	0.004 / 0.02	mg/L
Iron	EPA-6010A	0.005 / 0.05	mg/L
Lead	EPA-200.8	0.0005	mg/L
Lithium	EPA-6010A	0.004 / 0.01	mg/L
Magnesium	EPA-6010A	0.003 / 0.2	mg/L
Manganese	EPA-6010A	0.001 / 0.005	mg/L
Mercury	EPA-7470	0.0002	mg/L
Molybdenum	EPA-6010A	0.01 / 0.05	mg/L

Table 5 (continued)

Metals/Cations (continued)	Analytical Method ¹	Detection Limit ²	Units ³
Nickel	EPA-6010A	0.01 / 0.05	mg/L
Potassium	EPA-6010A	0.6 / 2	mg/L
Selenium	EPA-6010A/ -200.8	0.05 / 0.01	mg/L
Silver	EPA-6010A	0.006 / 0.02	mg/L
Sodium	EPA-6010A	0.02 / 0.2	mg/L
Strontium	EPA-6010A	0.0004 / 0.005	mg/L
Thallium	EPA-200.8	0.0005	mg/L
Thorium	EPA-6010A	0.2	mg/L
Uranium	EPA-200.8	0.0005	mg/L
Vanadium	EPA-6010A	0.005 / 0.02	mg/L
Zinc	EPA-6010A	0.002 / 0.05	mg/L
Volatile Organic Compounds		CRQL ⁵	
Acetone	EPA-8260	10	µg/L
Acrolein	EPA-8260	10	µg/L
Acrylonitrile	EPA-8260	10	µg/L
Benzene	EPA-8260	5	µg/L
Bromochloromethane	EPA-8260	10	µg/L
Bromodichloromethane	EPA-8260	5	µg/L
Bromoform	EPA-8260	5	µg/L
Bromomethane	EPA-8260	10	µg/L
2-Butanone	EPA-8260	10	µg/L
Carbon disulfide	EPA-8260	5	µg/L
Carbon tetrachloride	EPA-8260	5	µg/L
Chlorobenzene	EPA-8260	5	µg/L
Chloroethane	EPA-8260	10	µg/L
2-Chloroethyl vinyl ether	EPA-8260	10	µg/L
Chloroform	EPA-8260	5	µg/L
Chloromethane	EPA-8260	10	µg/L
Dibromochloromethane	EPA-8260	5	µg/L
1,2-Dibromo-3-chloropropane	EPA-8260	10	µg/L
1,2-Dibromoethane	EPA-8260	5	µg/L
Dibromomethane	EPA-8260	10	µg/L
1,2-Dichlorobenzene	EPA-8260	5	µg/L
1,4-Dichlorobenzene	EPA-8260	5	µg/L
1,4-Dichloro-2-butene	EPA-8260	5	µg/L
trans-1,4-Dichloro-2-butene	EPA-8260	5	µg/L
Dichlorodifluoromethane	EPA-8260	5	µg/L
1,1-Dichloroethane	EPA-8260	5	µg/L
1,2-Dichloroethane	EPA-8260	5	µg/L
1,1-Dichloroethene	EPA-8260	5	µg/L
1,2-Dichloroethene	EPA-8260	5	µg/L

Table 5 (continued)

Volatile Organic Compounds (cont'd)	Analytical Method ¹	CRQL ⁵	Units ³
cis-1,2-Dichloroethene	EPA-8260	5	µg/L
trans-1,2-Dichloroethene	EPA-8260	5	µg/L
1,2-Dichloropropane	EPA-8260	5	µg/L
cis-1,3-Dichloropropene	EPA-8260	5	µg/L
trans-1,3-Dichloropropene	EPA-8260	5	µg/L
Dimethylbenzene	EPA-8260	5	µg/L
Ethanol	EPA-8260	500	µg/L
Ethylbenzene	EPA-8260	5	µg/L
Ethyl methacrylate	EPA-8260	5	µg/L
2-Hexanone	EPA-8260	10	µg/L
Iodomethane	EPA-8260	5	µg/L
4-Methyl-2-pentanone	EPA-8260	10	µg/L
Methylene chloride	EPA-8260	5	µg/L
Styrene	EPA-8260	5	µg/L
1,1,1,2-Tetrachloroethane	EPA-8260	10	µg/L
1,1,2,2-Tetrachloroethane	EPA-8260	5	µg/L
Tetrachloroethene	EPA-8260	5	µg/L
Toluene	EPA-8260	5	µg/L
1,1,1-Trichloroethane	EPA-8260	5	µg/L
1,1,2-Trichloroethane	EPA-8260	5	µg/L
Trichloroethene	EPA-8260	5	µg/L
Trichlorofluoromethane	EPA-8260	5	µg/L
1,2,3-Trichloropropane	EPA-8260	5	µg/L
Vinyl acetate	EPA-8260	10	µg/L
Vinyl chloride	EPA-8260	10	µg/L
Radiological Analytes (pCi/L)		Target MDA ⁶	
Gross Alpha Activity	EPA-900.0	3.5	pCi/L
Gross Beta Activity	EPA-900.0	7.0	pCi/L
Americium-241	AC-MM-2-22012	0.4	pCi/L
Iodine-129	EPA-901.1	3.0	pCi/L
Neptunium-237	Y/P65-7206	0.4	pCi/L
Plutonium-238 & -239/240	AC-MM-2-22012	0.4	pCi/L
Radium-223/224/226	EPA-903.0	0.5	pCi/L
Strontium-89/90	EPA-905.0	4.0	pCi/L
Technetium-99	Y/P65-7154	10	pCi/L
Tritium	EPA-906.0	300	pCi/L
Uranium-234, 235, & 238	AC-MM-2-22012	0.4	pCi/L

Table 5 (continued)

Notes:

- 1 The analytical method for three trace metals (antimony, cadmium, and selenium) changed from inductively coupled plasma spectroscopy to inductively coupled plasma mass spectroscopy, effective April 1, 1998, to obtain lower detection limits. Analytical/field methods/procedures from:
 - *Test Methods for Evaluating Solid Waste Physical/Chemical Methods* (U.S. Environmental Protection Agency 1986)
 - *Methods for Chemical Analysis of Water and Wastes* (U.S. Environmental Protection Agency 1983)
 - *Environmental Surveillance Procedures Quality Control Manual* (Lockheed Martin Energy Systems, Inc. 1988)
 - Lockheed Martin Energy Systems ASO radiological methods
- 2 NA - not applicable
Detection limits for metals/cations by Inductively Coupled Plasma spectroscopy changed during the second quarter sampling event. The first detection limit was used until April; the second one listed was used thereafter.
- 3 ft - feet
μg/L - micrograms per liter
μmho/cm - micromhos per centimeter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
ppm - parts per million
pCi/L - picoCuries per liter
- 4 Samples for dissolved metals analysis were collected using a 0.45-micron filter.
- 5 CRQL - contract-required quantitation limit
- 6 MDA - minimum detectable activity. The target MDA may be obtained under optimal analytical conditions; actual MDAs are sample-specific and may vary significantly from the target value.

Table 6.
VOCs Detected in CY 1998 QA/QC Samples

Trip Blank Samples	Quarter of CY 1998				
	First	Second	Third	Fourth	Annual Total
Total Number of Samples	44	27	40	26	137
Samples with VOCs	44	15	27	13	99
Percent Contaminated	100%	56%	68%	50%	72%
Acetone	43	12	26	13	94
2-Butanone	35	0	5	0	40
Carbon tetrachloride	0	0	1	0	1
Chloroform	23	3	0	0	26
Dichlorodifluoromethane	1	0	0	0	1
1,2-Dichloroethane	10	0	0	0	10
1,2-Dichloroethene	1	0	0	0	1
Cis-1,2-Dichloroethene	1	0	0	0	1
Ethanol	0	1	0	0	1
Tetrachloroethene	2	0	0	0	2
1,1,1-Trichloroethane	2	1	2	0	5
Trichloroethene	2	1	0	0	3

Laboratory Blank Samples	Quarter of CY 1998				
	First	Second	Third	Fourth	Annual Total
Total Number of Samples	30	20	23	16	89
Samples with VOCs	28	5	10	5	48
Percent Contaminated	93%	25%	43%	31%	54%
Acetone	27	5	4	5	41
2-Butanone	22	1	7	0	30
Carbon disulfide	0	1	0	0	1
1,2-Dibromo-3-chloropropane	1	0	0	0	1
1,4-Dichloro-2-butene	1	0	0	0	1
Dichlorodifluoromethane	2	0	0	0	2
Dimethylbenzene	1	0	0	0	1
Tetrachloroethene	1	0	0	0	1
1,1,1-Trichloroethane	2	0	0	0	2

Equipment Rinsate Samples	Quarter of CY 1998				
	First	Second	Third	Fourth	Annual Total
Total Number of Samples	3	0	1	0	4
Samples with VOCs	3		1		4
Percent Contaminated	100%		100%		100%
Acetone	2		1		3
2-Butanone	1		0		1
Chloroform	2		0		2
Tetrachloroethene	1		0		1

Field Blank Samples	Quarter of CY 1998				
	First	Second	Third	Fourth	Annual Total
Total Number of Samples	2	0	3	0	5
Samples with VOCs	2		2		4
Percent Contaminated	100%		67%		80%
Acetone	2		2		4
2-Butanone	2		2		4
Chloroform	2		0		2
Toluene	1		0		1

Table 7.
False-Positive VOC Results in the Bear Creek Hydrogeologic Regime, 1998

Sampling Point ¹	Date Sampled	False-Positive Results ² (µg/L)		
		Acetone	2-Butanone	Chloroform
BCK-00.63	02/18/98	3	4	.
BCK-04.55	02/18/98	2	.	.
BCK-07.75	02/18/98	3	.	.
BCK-07.87	08/11/98	26	.	.
BCK-09.40	02/18/98	3	3	.
BCK-09.40 D	02/18/98	3	3	.
BCK-10.60	02/19/98	2	3	.
BCK-11.97	02/19/98	3	4	.
BCK-11.97	08/04/98	2	.	.
GW-008	01/26/98	3	4	.
GW-008	07/20/98	4	.	.
GW-046	01/29/98	4	3	.
GW-046	07/22/98	2	2	.
GW-053	03/11/98	1	.	.
GW-056	02/02/98	4	3	.
GW-056	07/27/98	4	.	.
GW-085	03/03/98	9	.	.
GW-085	08/31/98	1	.	.
GW-115	01/15/98	2	3	.
GW-115	07/13/98	1	.	.
GW-226	03/10/98	1	.	1
GW-276	01/22/98	2	3	1
GW-276	07/16/98	2	.	.
GW-287	03/02/98	3	2	.
GW-287	09/03/98	1	.	.
GW-311	03/05/98	1	3	.
GW-311	08/27/98	1	.	.
GW-315	03/02/98	3	4	1
GW-537	03/03/98	3	.	2
GW-537 D	03/03/98	3	4	2
GW-537 D	08/31/98	1	.	.
GW-621	02/02/98	3	4	.
GW-627	03/11/98	2	.	.
GW-627	09/01/98	1	.	.
GW-653	03/10/98	16	.	.
GW-653	09/01/98	3	.	.
GW-683	02/17/98	2	4	.
GW-684	02/16/98	6	3	.
GW-684 D	02/16/98	14	4	.

Table 7 (continued)

Sampling Point ¹	Date Sampled	False-Positive Results ² (µg/L)		
		Acetone	2-Butanone	Chloroform
GW-684	08/04/98	29	.	.
GW-684 D	08/04/98	1	.	.
GW-685	02/05/98	2	4	.
GW-685	07/27/98	6	3	.
GW-695	02/17/98	3	4	.
GW-703	02/16/98	20	4	.
GW-703	08/10/98	8	.	.
GW-704	01/05/98	2	3	.
GW-704	08/13/98	5	.	.
GW-706	01/05/98	2	.	.
GW-706	08/10/98	3	.	.
GW-712	01/20/98	11	.	.
GW-713	01/20/98	77	.	.
GW-713 D	01/20/98	14	.	.
GW-713	07/15/98	8	.	.
GW-713 D	07/15/98	24	.	.
GW-714	01/21/98	2	.	.
GW-715	01/21/98	2	4	.
GW-715	07/16/98	2	.	.
GW-724	03/05/98	1	.	2
GW-725	03/10/98	5	.	.
GW-738	03/04/98	2	3	1
GW-740	03/04/98	14	4	1
GW-740	08/31/98	1	.	.
GW-829	03/05/98	2	4	.
GW-829	08/31/98	2	.	.
NT-01	02/19/98	2	4	.
NT-01	08/05/98	2	.	.
SS-1	02/19/98	3	.	.
SS-1	08/05/98	1	.	.
SS-4	02/19/98	5	4	.
SS-5	02/18/98	3	4	.
SS-6	02/18/98	2	.	.

Notes:

- 1 D = Field duplicate sample.
- 2 False-positive results, in micrograms per liter (µg/L), were screened using data from the laboratory or trip blank samples associated with each sample (see Appendix G). "." = not a false-positive result.

Table 8.
False-Positive VOC Results in the Chestnut Ridge
Hydrogeologic Regime, 1998

Sampling Point ¹	Date Sampled	False-Positive Results ² (µg/L)	
		Acetone	2-Butanone
GW-141	01/08/98	4	3
GW-141 D	01/08/98	7	4
GW-141	07/09/98	1	2
GW-141 D	07/09/98	4	.
GW-142	04/27/98	1	.
GW-142	04/29/98	5	.
GW-142	10/20/98	8	.
GW-142 D	10/21/98	2	.
GW-142	10/22/98	10	.
GW-143	10/20/98	7	.
GW-143	10/21/98	2	.
GW-143	10/22/98	9	.
GW-144	10/19/98	2	.
GW-144	10/21/98	3	.
GW-145	04/30/98	13	.
GW-145	10/19/98	7	.
GW-145	10/21/98	3	.
GW-145	10/22/98	10	.
GW-217	01/07/98	120	3
GW-217	07/08/98	1	.
GW-231	10/19/98	1	.
GW-231	10/20/98	3	.
GW-231 D	10/20/98	6	.
GW-231	10/21/98	1	.
GW-231	10/22/98	2	.
GW-301	01/06/98	.	3
GW-305	01/12/98	2	.
GW-322	01/12/98	3	3
GW-521	01/07/98	6	.
GW-521	07/09/98	2	.
GW-522	01/08/98	16	.
GW-522	07/09/98	2	2
GW-540	03/11/98	2	.
GW-542	10/14/98	3	.
GW-543	10/15/98	3	.
GW-544	10/15/98	1	.
GW-557	01/13/98	6	.
GW-557 D	01/13/98	33	.

Table 8 (continued)

Sampling Point ¹	Date Sampled	False-Positive Results ² (µg/L)	
		Acetone	2-Butanone
GW-609	01/05/98	4	.
GW-609	07/16/98	2	.
GW-796	01/14/98	24	4
GW-797	01/14/98	2	.
GW-797	07/15/98	3	.
GW-798	01/12/98	5	3
GW-798	07/09/98	3	2
GW-799	01/13/98	5	3
GW-801	07/15/98	1	.
GW-827	10/14/98	5	.
GW-831	01/06/98	2	3
SCR2.1SP	01/13/98	.	2
SCR2.1SP	07/08/98	7	3
SCR2.2SP	01/12/98	6	3
SCR2.2SP	07/08/98	6	.
SCR3.4SP	01/13/98	2	4
SCR3.4SP	07/08/98	2	3
SCR4.3SP	01/12/98	2	.
SCR5.1SP	01/12/98	2	4
SCR5.1SP	07/08/98	2	3
SCR5.4SP	01/12/98	2	3

Notes:

- 1 D = Field duplicate sample.
- 2 False-positive results, in micrograms per liter (µg/L), were screened using data from the laboratory or trip blank samples associated with each sample (see Appendix G). "." = not detected.

A dichlorodifluoromethane result (5 µg/L) for the January 12, 1998 sample from well GW-322 also was a false positive.

Table 9.
False-Positive VOC Results in the Upper East Fork
Poplar Creek Hydrogeologic Regime, 1998

Sampling Point ¹	Date Sampled	False-Positive Results ² (µg/L)	
		Acetone	2-Butanone
56-2B	03/23/98	14	.
59-1A	03/17/98	1	.
59-1C	03/18/98	3	.
GW-108	03/16/98	14	.
GW-108 D	03/16/98	13	5
GW-148	05/27/98	4	.
GW-192	05/26/98	1	.
GW-207	06/24/98	4	.
GW-332	03/24/98	40	.
GW-332 D	03/24/98	32	.
GW-605	07/27/98	6	.
GW-618	06/01/98	2	.
GW-620	05/26/98	3	.
GW-686	03/23/98	3	.
GW-687	03/24/98	4	.
GW-722-06	02/17/98	2	3
GW-722-10	02/18/98	4	.
GW-722-14	02/19/98	2	3
GW-722-17	02/25/98	2	3
GW-722-17	08/11/98	6	.
GW-722-20	02/24/98	8	3
GW-722-20	08/18/98	2	.
GW-722-22	02/26/98	3	3
GW-722-22	08/19/98	2	.
GW-722-26	02/26/98	40	7
GW-722-30	02/25/98	10	3
GW-722-30	08/26/98	1	.
GW-722-30 D	08/26/98	3	.
GW-722-32	03/05/98	3	3
GW-722-32	09/03/98	2	.
GW-722-33	01/21/98	6	4
GW-722-33 D	01/21/98	3	5
GW-722-33	03/05/98	3	.
GW-733	03/12/98	2	.
GW-733	07/27/98	7	.
GW-763	05/27/98	4	.
GW-769 D	05/19/98	3	.

Table 9 (continued)

Sampling Point ¹	Date Sampled	False-Positive Results ² (µg/L)	
		Acetone	2-Butanone
GW-769	11/11/98	2	.
GW-769 D	11/11/98	1	.
GW-770	11/10/98	7	.
GW-775	06/17/98	2	.
GW-776	06/17/98	6	.
GW-781	05/20/98	1	.
GW-782	11/12/98	3	.
GW-789	11/09/98	2	.
GW-792	05/20/98	6	.
GW-818	03/26/98	16	.
GW-819	03/26/98	9	.
GW-820	03/26/98	3	.

Notes:

- 1 D = Field duplicate sample.
- 2 False-positive results, in micrograms per liter (µg/L), were screened using data from the laboratory or trip blank samples associated with each sample (see Appendix G). "." = not detected.

An estimated value for chloroform (2 µg/L) reported for the March 12, 1998 sample from well GW-733 also was a false-positive result.

Table 10.
Depth-to-Water Measurements and Groundwater Elevations
in the Bear Creek Hydrogeologic Regime, 1998

Groundwater Elevation (ft above mean sea level)				October 5 - 9, 1998					
				April 6 - 9, 1998					
				Seasonal Fluctuation (+/- ft)					
Depth-to-Water (ft below measuring point)				October 5 - 9, 1998					
				April 6 - 9, 1998					
Well Number ¹	Location ²	Hydrogeologic Unit		Measuring Point Elevation ³					
		Aquifer	Aquitard						
GW-001	OLF		●	981.00	12.82	17.2	-4.38	968.18	963.80
GW-005	OLF		●	967.80	6.79	9.9	-3.11	961.01	957.90
GW-008	OLF		●	967.36	14.58	18.2	-3.62	952.78	949.16
GW-010	OLF		●	952.76	1.75	5.2	-3.45	951.01	947.56
GW-011	OLF		●	953.68	2.82	6.3	-3.48	950.86	947.38
GW-012	OLF		●	955.57	5.35	9.4	-4.05	950.22	946.17
GW-014	BG		●	934.50	5.86	7.7	-1.84	928.64	926.80
GW-016	BG		●	928.20	8.3	NM ⁴	NA ⁵	919.90	NA
GW-018	BG		●	924.49	5.71	11.3	-5.59	918.78	913.19
GW-041	BG		●	1008.20	17.3	26.9	-9.60	990.90	981.30
GW-043	OLF		●	1013.44	17.1	NM	NA	996.34	NA
GW-045	BG	●		909.70	7.1	NM	NA	902.60	NA
GW-047	BG		●	928.40	5.3	9.8	-4.50	923.10	918.60
GW-052	BG	●		905.70	8.8	18.5	-9.70	896.90	887.20
GW-053	BG	●		903.40	5.34	11.1	-5.76	898.06	892.30
GW-065	OLF	●		983.10	24.57	30	-5.43	958.53	953.10
GW-080	BG		●	981.00	18.71	25.9	-7.19	962.29	955.10
GW-084	OLF		●	997.20	13.24	17	-3.76	983.96	980.20
GW-086	OLF		●	982.80	11.9	16.6	-4.70	970.90	966.20
GW-090	BG		●	961.88	3.95	8.8	-4.85	957.93	953.08
GW-091	BG		●	953.48	8.65	9.1	-0.45	944.83	944.38
GW-097	OLF		●	944.70	9.61	NM	NA	935.09	NA
GW-101	S3		●	1008.00	9.48	10.6	-1.12	998.52	997.40
GW-115	S3		●	1055.01	7.93	15.6	-7.67	1047.08	1039.41
GW-245	S3		●	1009.08	12.39	15.2	-2.81	996.69	993.88
GW-249	BG		●	991.15	29.67	NM	NA	961.48	NA
GW-257	BG		●	961.68	27.4	29.7	-2.30	934.28	931.98
GW-276	S3		●	1001.57	5.81	5.7	0.11	995.76	995.87
GW-277	S3		●	1001.76	5.02	7.2	-2.18	996.74	994.56
GW-287	BG		●	927.07	8.85	9.7	-0.85	918.22	917.37

Table 10 (continued)

Groundwater Elevation (ft above mean sea level)				October 5 - 9, 1998					
				April 6 - 9, 1998					
				Seasonal Fluctuation (+/- ft)					
				October 5 - 9, 1998					
				April 6 - 9, 1998					
Well Number ¹	Location ²	Hydrogeologic Unit		Measuring Point Elevation ³					
		Aquifer	Aquitard						
GW-289	BG		●	948.47	9.07	19.3	-10.23	939.40	929.17
GW-291	BG		●	948.56	10	11.6	-1.60	938.56	936.96
GW-307	RS	●		993.14	26.17	35.9	-9.73	966.97	957.24
GW-309	RS	●		988.17	19.3	24	-4.70	968.87	964.17
GW-310	RS	●		995.35	19.07	22.7	-3.63	976.28	972.65
GW-311	RS	●		999.65	30.89	42.7	-11.81	968.76	956.95
GW-323	SPI	●		1130.11	85.9	86.3	-0.40	1044.21	1043.81
GW-325	S3		●	1003.00	9.68	19.1	-9.42	993.32	983.90
GW-345	S3		●	997.73	16.5	20.2	-3.70	981.23	977.53
GW-347	S3	●		1001.05	14.05	21.1	-7.05	987.00	979.95
GW-370	BG		●	960.82	12.63	15.9	-3.27	948.19	944.92
GW-372	BG		●	983.20	13.73	26.8	-13.07	969.47	956.40
GW-531	LD		●	1004.61	14.88	19.5	-4.62	989.73	985.11
GW-537	OLF		●	976.44	5	8.9	-3.90	971.44	967.54
GW-613	S3		●	1013.57	9.92	16.6	-6.68	1003.65	996.97
GW-621	EXP-B	●		925.44	10.28	16.5	-6.22	915.16	908.94
GW-622	BG		●	924.16	8.78	16.3	-7.52	915.38	907.86
GW-624	BG		●	922.16	8.36	13	-4.64	913.80	909.16
GW-626	BG		●	942.61	22.16	28	-5.84	920.45	914.61
GW-630	LD		●	986.65	8.86	11.1	-2.24	977.79	975.55
GW-637	OLF		●	941.83	6.29	15.5	-9.21	935.54	926.33
GW-638	OLF		●	941.77	6.05	13.8	-7.75	935.72	927.97
GW-641	BG		●	946.66	15.41	23	-7.59	931.25	923.66
GW-642	BG		●	1014.90	17.73	23.5	-5.77	997.17	991.40
GW-644	OLF		●	959.75	7.69	12.4	-4.71	952.06	947.35
GW-648	RS	●		1029.20	62.94	71.5	-8.56	966.26	957.70
GW-651	BG	●		903.12	3.4	11.6	-8.20	899.72	891.52
GW-652	BG	●		900.83	8.6	12.8	-4.20	892.23	888.03
GW-653	BG		●	931.80	19.57	23.9	-4.33	912.23	907.90
GW-654	BG		●	940.79	6.21	8.5	-2.29	934.58	932.29
GW-715	EXP-W	●		874.92	24.93	29.1	-4.17	849.99	845.82
GW-795	AGLLSF		●	925.98	3.26	12.1	-8.84	922.72	913.88

Table 10 (continued)

Notes:

- 1 Wells sampled during CY 1998 are denoted by shading and boldface type.
- 2 AGLLSF - Above Grade Low-Level Storage Facility
BG - Bear Creek Burial Grounds Waste Management Area
EXP-B - Exit Pathway (Maynardville Limestone) Picket B
EXP-W - Exit Pathway (Maynardville Limestone) Picket W
LD - Lysimeter Demonstration Site
OLF - Oil Landfarm Waste Management Area
RS - Rust Spoil Area
SPI - Spoil Area I
S3 - S-3 Site
- 3 Measuring point (top of well casing or Well Wizard™) elevation in feet above mean sea level as reported in Jones et al. (1995).
- 4 NM - Not Measured
- 5 NA - Not Applicable

Table 11.
Depth-to-Water Measurements and Groundwater Elevations
in the Chestnut Ridge Hydrogeologic Regime, 1998

Groundwater Elevation (ft above mean sea level)		October 5 - 8, 1998					
		April 6 - April 8, 1998					
		Seasonal Fluctuation (+/- ft)					
Depth-to-Water (ft below measuring point)		October 5 - 8, 1998					
		April 6 - April 8, 1998					
Well Number ¹	Location ²	Measuring Point Elevation ³ (ft msl)					
1082	ORSF	837.28	24.0	25.8	-1.76	813.24	811.48
1084	ORSF	965.40	62.2	62.9	-0.71	903.21	902.50
1090	UNCS	1104.50	47.7	59.9	-12.25	1056.85	1044.60
GW-141	LIV	1186.23	92.6	99.5	-6.91	1093.64	1086.73
GW-142	KHQ	971.15	133.5	139.0	-5.51	837.66	832.15
GW-143	KHQ	913.98	78.1	82.0	-3.88	835.86	831.98
GW-144	KHQ	913.54	77.9	82.0	-4.14	835.68	831.54
GW-145	KHQ	840.24	3.4	8.0	-4.58	836.87	832.29
GW-146	KHQ	838.16	2.7	4.5	-1.86	835.51	833.65
GW-147	KHQ	851.62	13.9	19.5	-5.57	837.68	832.11
GW-156	CRSDB	1049.30	142.6	143.8	-1.15	906.66	905.51
GW-158	CRSDB	983.05	43.5	47.8	-4.25	939.54	935.29
GW-159	CRSDB	1051.40	116.5	118.5	-2.07	934.94	932.87
GW-160	CRBAWP	1093.09	140.3	151.8	-11.55	952.81	941.26
GW-161	CRBAWP	1093.54	156.6	162.4	-5.80	936.95	931.15
GW-173	CRSP	1115.00	131.1	158.5	-27.43	983.95	956.52
GW-174	CRSP	1116.50	106.5	133.1	-26.57	1010.02	983.45
GW-175	CRSP	1084.00	113.6	124.7	-11.13	970.42	959.29
GW-176	CRSP	1125.30	116.1	116.5	-0.41	1009.20	1008.79
GW-177	CRSP	1158.00	117.1	119.2	-2.08	1040.86	1038.78
GW-178	CRSP	1143.49	87.8	96.7	-8.90	1055.68	1046.78
GW-179	CRSP	1128.00	114.8	116.5	-1.66	1013.18	1011.52
GW-180	CRSP	1103.97	97.2	129.6	-32.42	1006.80	974.38
GW-184	RQ	927.63	109.3	110.7	-1.37	818.30	816.93
GW-186	RQ	831.32	13.8	15.0	-1.22	817.54	816.32
GW-203	UNCS	1105.45	73.7	77.8	-4.12	1031.76	1027.64
GW-205	UNCS	1104.14	71.2	76.1	-4.96	1032.98	1028.02
GW-217	LIV	1177.04	107.5	118.1	-10.57	1069.53	1058.96
GW-221	UNCS	1106.16	75.4	78.9	-3.48	1030.75	1027.27
GW-231	KHQ	849.67	12.0	17.5	-5.56	837.72	832.16
GW-241	CRSDB	982.64	36.0	51.0	-14.97	946.62	931.65
GW-292	ECRWP	1073.00	109.7	116.1	-6.43	963.29	956.86
GW-293	ECRWP	1063.90	111.9	118.4	-6.59	952.05	945.46
GW-298	CRBAWP	1049.01	105.0	110.2	-5.24	944.01	938.77

Table 11 (continued)

Groundwater Elevation (ft above mean sea level)		October 5 - 8, 1998					
		April 6 - April 8, 1998					
		Seasonal Fluctuation (+/- ft)					
Depth-to-Water (ft below measuring point)		October 5 - 8, 1998					
		April 6 - April 8, 1998					
Well Number ¹	Location ²	Measuring Point Elevation ³ (ft msl)					
GW-299	CRBAWP	1053.86	92.5	98.7	-6.21	961.41	955.20
GW-300	CRBAWP	1073.12	104.6	113.3	-8.66	968.53	959.87
GW-301	CRBAWP	1086.55	126.7	134.9	-8.16	959.85	951.69
GW-302	UNCS	1141.84	97.6	106.9	-9.30	1044.23	1034.93
GW-303	CRSDB	1007.16	84.2	89.3	-5.08	922.99	917.91
GW-304	CRSDB	1045.49	116.3	117.8	-1.52	929.17	927.65
GW-305	LIV	1183.55	118.9	127.9	-8.98	1064.63	1055.65
GW-322	CRSP	1134.25	146.1	163.5	-17.40	988.19	970.79
GW-339	UNCS	1124.83	68.3	80.2	-11.86	1056.51	1044.65
GW-511	CRSP	1093.21	94.9	110.7	-15.84	998.35	982.51
GW-512	FCAP	1001.54	16.9	28.7	-11.85	984.69	972.84
GW-514	FCAP	1001.22	16.3	29.3	-12.98	984.90	971.92
GW-521	LIV	1182.88	81.0	88.6	-7.65	1101.93	1094.28
GW-522	LIV	1175.49	100.0	109.6	-9.64	1075.53	1065.89
GW-539	LII	1093.22	101.4	108.6	-7.21	991.83	984.62
GW-540	LII	1072.12	77.4	83.8	-6.42	994.74	988.32
GW-541	CDLVI	1058.40	62.1	63.9	-1.84	996.34	994.50
GW-542	CDLVI	1051.77	69.7	71.1	-1.42	982.09	980.67
GW-543	CDLVI	1023.98	63.3	65.7	-2.44	960.72	958.28
GW-544	CDLVI	1045.20	62.7	65.8	-3.13	982.53	979.40
GW-546	CDLVI	1072.21	78.6	83.6	-4.96	993.57	988.61
GW-557	LV	1081.16	116.6	119.1	-2.47	964.53	962.06
GW-558	SSCR	983.97	43.5	53.6	-10.07	940.44	930.37
GW-559	SSCR	1102.79	131.9	138.2	-6.34	970.93	964.59
GW-560	CDLVII	948.85	37.3	37.2	0.09	911.56	911.65
GW-562	CDLVII	934.49	2.5	6.9	-4.41	932.00	927.59
GW-564	CDLVII	937.77	9.2	10.9	-1.67	928.54	926.87
GW-608	CRSP	1075.47	124.5	138.7	-14.20	950.99	936.79
GW-609	CRSP	1112.11	163.4	171.3	-7.88	948.67	940.79
GW-610	CRSP	1059.44	80.2	96.2	-15.92	979.20	963.28
GW-611	CRSP	1048.38	98.3	108.3	-9.97	950.07	940.10
GW-612	CRSP	1131.03	118.7	129.1	-10.42	1012.31	1001.89
GW-673	FCAP	882.01	6.3	NM ⁴	NA ⁵	875.74	NA
GW-674	FCAP	883.79	6.5	NM	NA	877.31	NA
GW-676	FCAP	846.50	2.2	6.6	-4.39	844.29	839.90
GW-677	FCAP	1030.40	21.5	30.6	-9.09	1008.89	999.80

Table 11 (continued)

Groundwater Elevation (ft above mean sea level)		October 5 - 8, 1998					
		April 6 - April 8, 1998					
		Seasonal Fluctuation (+/- ft)					
Depth-to-Water (ft below measuring point)		October 5 - 8, 1998					
		April 6 - April 8, 1998					
Well Number ¹	Location ²	Measuring Point Elevation ³ (ft msl)					
GW-679	FCAP	1026.90	43.4	54.1	-10.72	983.52	972.80
GW-709	LII	906.78	28.7	29.9	-1.16	878.04	876.88
GW-731	CRSDB	1049.38	123.7	125.1	-1.38	925.70	924.32
GW-732	CRSDB	1064.29	157.1	157.9	-0.82	907.20	906.38
GW-743	CRSP	1100.36	116.2	133.2	-16.98	984.17	967.19
GW-757	LII	961.61	84.1	84.7	-0.64	877.55	876.91
GW-796	LV	1052.42	65.6	81.7	-16.11	986.83	970.72
GW-797	LV	1059.80	67.8	72.3	-4.49	991.99	987.50
GW-798	CDLVII	1005.80	73.0	79.3	-6.34	932.84	926.50
GW-799	CDLVII	981.09	9.3	15.1	-5.78	971.77	965.99
GW-801	LV	1096.96	98.2	108.9	-10.67	998.73	988.06
GW-827	CDLVI	1051.58	37.9	41.8	-3.89	1013.67	1009.78
GW-831	FCAP	1091.09	124.3	128.9	-4.57	966.76	962.19

Notes:

- 1 Wells sampled during CY 1998 are denoted with bold typeface and shading.
- 2
 - CDLVI - Construction/Demolition Landfill VI
 - CDLVII - Construction/Demolition Landfill VII
 - CRBAWP - Chestnut Ridge Borrow Area Waste Pile
 - CRSDB - Chestnut Ridge Sediment Disposal Basin
 - CRSP - Chestnut Ridge Security Pits
 - ECRWP - East Chestnut Ridge Waste Pile
 - FCAP - Filled Coal Ash Pond
 - KHQ - Kerr Hollow Quarry
 - LII - Industrial Landfill II
 - LIV - Industrial Landfill IV
 - LV - Industrial Landfill V
 - ORSF - Oak Ridge Sludge Farm
 - RQ - Rogers Quarry
 - SSCR - South Side Chestnut Ridge
 - UNCS - United Nuclear Corporation Site
- 3 Measuring point (top of well casing or Well Wizard™) elevation (ft above mean sea level) as reported in Jones *et al.* (1995).
- 4 NM - Not Measured
- 5 NA - Not Applicable

Table 12.
Depth-to-Water Measurements and Groundwater Elevations in the
Upper East Fork Poplar Creek Hydrogeologic Regime, 1998

Groundwater Elevation (ft above mean sea level)		October 5 - 8, 1998							
		April 6 - April 9, 1998							
		Seasonal Fluctuation (+/- ft)							
Depth-to-Water (ft below measuring point)		October 5 - 8, 1998							
		April 6 - April 9, 1998							
Well Number ¹	Location ²	Hydrogeologic Unit		Measuring Point Elevation ³					
		Aquifer	Aquitard						
55-1A	Y12		●	986.67	10.6	10.9	-0.28	976.05	975.77
55-6A	Y12		●	989.04	8.4	10.7	-2.34	980.68	978.34
56-1A	Y12		●	969.25	8.0	8.1	-0.07	961.22	961.15
56-2A	Y12		●	963.30	7.8	7.8	0.01	955.49	955.50
60-1A	Y12	●		929.66	12.1	13.3	-1.16	917.52	916.36
GW-105	S3		●	1018.20	7.4	8.5	-1.10	1010.80	1009.70
GW-106	S3		●	1017.30	4.1	4.8	-0.69	1013.19	1012.50
GW-107	S3		●	999.00	6.9	8.0	-1.08	992.08	991.00
GW-148	NHP	●		908.18	8.2	8.9	-0.75	900.00	899.25
GW-150	NHP	●		915.56	14.1	14.1	0.04	901.49	901.45
GW-152	NHP	●		921.18	19.4	19.9	-0.45	901.74	901.29
GW-154	NHP	●		911.50	8.8	10.0	-1.19	902.71	901.52
GW-167	EXP	●		931.97	28.1	31.4	-3.28	903.89	900.61
GW-169	EXP-UV	●		932.12	28.4	34.4	-6.08	903.76	897.68
GW-171	EXP-UV	●		920.72	8.3	16.1	-7.81	912.43	904.62
GW-191	B4		●	1011.27	3.4	6.8	-3.35	1007.85	1004.50
GW-192	B4		●	1008.83	5.5	7.9	-2.39	1003.36	1000.97
GW-193	T2331		●	934.17	8.5	9.4	-0.84	925.66	924.82
GW-195	B4		●	1002.90	6.6	8.3	-1.74	996.30	994.56
GW-199	GRID11		●	961.08	16.5	17.5	-1.00	944.57	943.57
GW-201	RDS		●	968.89	19.2	NM ⁴	NA ⁵	949.65	NA
GW-218	UOV	●		935.81	13.2	14.2	-0.96	922.61	921.65
GW-219	UOV	●		935.84	9.5	12.6	-3.10	926.32	923.22
GW-255	S2	●		1027.13	22.5	52.6	-30.07	1004.62	974.55
GW-261	SY		●	1049.99	16.9	19.4	-2.52	1033.12	1030.60
GW-263	SY		●	1057.70	23.3	33.1	-9.82	1034.45	1024.63
GW-334	WC		●	983.73	11.0	12.1	-1.06	972.74	971.68
GW-335	WC		●	981.88	9.1	9.8	-0.66	972.75	972.09
GW-349	S2	●		993.50	3.7	8.9	-5.24	989.82	984.58
GW-380	NHP	●		913.55	10.1	11.3	-1.22	903.43	902.21
GW-383	NHP		●	908.77	9.5	9.9	-0.43	899.32	898.89
GW-384	NHP		●	909.16	11.0	11.6	-0.57	898.17	897.60

Table 12 (continued)

Groundwater Elevation (ft above mean sea level)		October 5 - 8, 1998							
		April 6 - April 9, 1998							
		Seasonal Fluctuation (+/- ft)							
Depth-to-Water (ft below measuring point)		October 5 - 8, 1998							
		April 6 - April 9, 1998							
Well Number ¹	Location ²	Hydrogeologic Unit		Measuring Point Elevation ³					
		Aquifer	Aquitard						
GW-617	EXP-E	●		985.31	13.1	16.6	-3.53	972.26	968.73
GW-618	EXP-E	●		985.14	12.9	16.4	-3.50	972.25	968.75
GW-619	FTF	●		1015.49	20.0	31.2	-11.26	995.53	984.27
GW-620	FTF	●		1015.54	21.2	32.2	-10.93	994.30	983.37
GW-634	RG		●	1007.20	8.9	NM	NA	998.27	NA
GW-686	CPT	●		963.76	12.4	12.8	-0.44	951.40	950.96
GW-691	CPT	●		968.59	11.9	12.3	-0.36	956.65	956.29
GW-699	B8110	●		971.14	16.1	16.1	-0.01	955.07	955.06
GW-735	EXP-J		●	924.46	21.8	23.8	-2.01	902.71	900.70
GW-746	GRIDK1		●	907.05	4.8	8.2	-3.39	902.22	898.83
GW-749	GRIDK2		●	921.39	5.7	11.0	-5.29	915.72	910.43
GW-752	GRIDJ3		●	912.78	3.6	6.6	-3.06	909.22	906.16
GW-754	GRIDJ2		●	928.78	8.8	14.0	-5.27	920.02	914.75
GW-756	GRIDJ1		●	928.12	6.1	7.8	-1.73	922.07	920.34
GW-759	GRIDG1		●	994.01	16.8	19.3	-2.47	977.19	974.72
GW-761	GRIDG2		●	968.23	8.5	13.4	-4.84	959.72	954.88
GW-763	GRIDJ3		●	915.05	9.9	10.2	-0.39	905.20	904.81
GW-765	GRIDE1		●	1008.54	19.4	20.2	-0.73	989.11	988.38
GW-767	GRIDI2		●	948.54	11.5	13.3	-1.76	937.01	935.25
GW-770	GRIDG3		●	944.71	12.6	13.0	-0.41	932.14	931.73
GW-772	GRIDC1		●	1012.66	9.7	14.5	-4.84	1003.01	998.17
GW-774	GRIDH2		●	963.16	13.7	17.3	-3.62	949.47	945.85
GW-780	GRIDF2		●	963.40	12.9	13.3	-0.42	950.49	950.07
GW-783	GRIDE3		●	948.49	10.5	10.6	-0.13	938.00	937.87
GW-785	GRIDD1		●	1009.43	8.4	13.7	-5.30	1001.00	995.70
GW-787	GRIDE2		●	987.85	13.3	18.6	-5.24	974.53	969.29
GW-792	GRIDD2		●	992.74	24.3	26.0	-1.72	968.49	966.77
GW-816	EXP-SR		●	898.41	12.2	13.2	-0.94	886.17	885.23
GW-817	GRIDK3		●	918.32	6.5	9.8	-3.21	911.78	908.57

Table 12 (continued)

Notes:

- 1 Wells sampled during CY 1998 are denoted with bold type and shading.
- 2
 - B4 - Beta-4 Security Pits
 - B8110 - Building 8110
 - CPT - Coal Pile Trench
 - EXP - Exit Pathway (Maynardville Limestone) monitoring well
 - -E or -J: Maynardville Limestone Picket
 - -UV: Offsite in Union Valley
 - -SR: Along Scarboro Road in the gap through Pine Ridge
 - FTF - Fire Training Facility
 - GRID - Comprehensive Groundwater Monitoring Plan Grid Location
 - NHP - New Hope Pond
 - RDS - Ravine Disposal Site
 - RG - Rust Garage Area
 - S2 - S-2 Site
 - S3 - S-3 Ponds Site
 - SY - Y-12 Plant Salvage Yard
 - T2331 - Tank 2331-U
 - UOV - Uranium Oxide Vault
 - WC - Waste Coolant Processing Area
 - Y12 - Y-12 Plant Complex
- 3 Measuring point (top of casing or Well Wizard™) elevation in feet above mean sea level as reported in Jones et al. (1995).
- 4 NM - Not Measured.
- 5 NA - Not Applicable.

APPENDIX C

MONITORING WELL CONSTRUCTION DETAILS

EXPLANATION

LOCATION:

Bear Creek Regime

- BG - Bear Creek Burial Grounds WMA
- EXP - Exit Pathway Monitoring Location:
 - Maynardville Limestone Picket (-A, -B, -C, -W)
 - Spring or Surface Water Location (-SW)
- OLF - Oil Landfarm WMA
- RS - Rust Spoil Area
- S3 - S-3 Site
- SPI - Spoil Area I

Chestnut Ridge Regime

- CDLVI - Construction/Demolition Landfill VI
- CDLVII - Construction/Demolition Landfill VII
- CRBAWP - Chestnut Ridge Borrow Area Waste Pile
- CRSDB - Chestnut Ridge Sediment Disposal Basin
- CRSP - Chestnut Ridge Security Pits
- FCAP - Filled Coal Ash Pond
- KHQ - Kerr Hollow Quarry
- LII - Industrial Landfill II
- LIV - Industrial Landfill IV
- LV - Industrial Landfill V

East Fork Regime

- B4 - Beta-4 Security Pits
- B9201-2 - Building 9201-2
- B9202 - Building 9202
- EXP - Exit Pathway Monitoring Location:
 - Maynardville Limestone Picket (-E, -I, -J)
 - Along Scarboro Road in the gap through Pine Ridge (-SR)
- CPT - Coal Pile Trench
- FTF - Fire Training Facility
- GRID - Comprehensive Groundwater Monitoring Plan Grid Location
- NHP - New Hope Pond
- S2 - S-2 Site
- S3 - S-3 Site
- T2331 - Tank 2331-U, near Building 9201-1
- UOV - Uranium Oxide Vault
- WC - Waste Coolant Processing Area

EXPLANATION (continued)

GENERAL INFORMATION:

Coordinates	-	Y-12 Plant grid system
Measuring Point (Pt.)	-	Top of well casing or Well Wizard™ dedicated pump, if available
Elevation	-	Feet above mean sea level
Depth	-	Feet below ground surface
Diameter	-	Outside dimensions, in inches (nominal)
.	-	Not Applicable or not available

CASING:

Diameter	-	Outside dimensions, in inches (nominal)
PVC/#40	-	Polyvinyl chloride, schedule 40
SS/#304	-	Stainless steel, schedule 304
Steel	-	Carbon steel
F25/J55	-	American Petroleum Institute Grade

MONITORED INTERVAL

Hydrostratigraphic Unit:

AQF	-	Knox Aquifer (Maynardville Limestone and Knox Group)
AQT	-	ORR Aquitard (other formations of the Conasauga Group)

Aquifer Zone:

BDR	-	Bedrock Interval (monitored interval top is in fresh rock)
WT	-	Water Table Interval (monitored interval top is above fresh rock)

Geologic Formation:

OCk	-	Knox Group
CON	-	Conasauga Group, undifferentiated
Cm	-	Maryville Limestone
Cn	-	Nolichucky Shale
Cmn	-	Maynardville Limestone
Cpv	-	Pumpkin Valley Shale
Crg	-	Rogersville Shale
Cr	-	Rome Formation

Monitored Interval:

Top	-	Depth to top of filter pack or open-hole
Bottom	-	Depth to bottom of filter pack or open-hole

Screen Material:

PVC/sl	-	PVC/slotted
PVC/sw/.01	-	PVC, spiral wound, 0.01 inch slot size
SS/sw/.01	-	Stainless steel, spiral wound, 0.01 inch slot size
SS/pp/.01	-	Stainless steel prepack screen, spiral wound, 0.01 inch slot size

NOTE:

Data compiled from the *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. 1995).

EXPLANATION (continued)

Approximate location coordinates for surface water and spring sampling locations are provided in the following table. True coordinates and elevations will be available after surveying has been completed.

Hydrogeologic Regime	Sampling Location	Easting Coordinate	Northing Coordinate	Grid System
Bear Creek	BCK-00.63	22,917.00	36,803.00	Administrative
	BCK-04.55	27,613.00	28,965.00	Y-12
	BCK-07.75	35,589.00	28,441.00	Y-12
	BCK-07.87	36,600.00	29,000.00	Administrative
	BCK-09.40	41,196.30	28,692.40	Y-12
	BCK-10.60	45,464.00	29,340.00	Y-12
	BCK-11.97	49,092.00	29,450.00	Y-12
	NT-01	50,576.90	29,722.80	Y-12
	SS-1	50,564.20	29,587.20	Y-12
	SS-4	44,271.00	28,838.00	Y-12
	SS-5	41,242.10	28,604.00	Y-12
	SS-6	35,186.00	28,462.00	Y-12
Chestnut Ridge	OUTFALL301	63,400.00	24,500.00	Administrative
	SCR2.1SP	53,881.17	25,141.97	Administrative
	SCR2.2SP	53,803.00	23,563.00	Administrative
	SCR3.4SP	56,770.38	25,354.92	Administrative
	SCR4.3SP	61,200.00	24,700.00	Administrative
	SCR5.1SP	63,435.34	26,356.08	Administrative
	SCR5.4SP	63,007.06	23,140.32	Administrative
East Fork	LRSPW	63,960.00	29,694.00	Y-12

APPENDIX C.1

BEAR CREEK HYDROGEOLOGIC REGIME

APPENDIX C.1: BEAR CREEK HYDROGEOLOGIC REGIME, 1998
Monitoring Well Construction Details

1

Well Number	GW-008	GW-046	GW-053	GW-056	GW-085	GW-115	GW-226	GW-276
Location	OLF	BG	BG	EXP-A	OLF	S3	OLF	S3
GENERAL INFORMATION								
East Coordinate	47597.00	43284.00	43091.00	41384.00	49058.00	52685.00	47473.00	52557.00
North Coordinate	29781.00	29562.00	29061.00	28698.00	30002.00	31073.00	29156.00	29926.00
Measuring Pt. Elevation	965.39	921.17	903.40	891.50	983.50	1055.01	943.40	1001.57
Surface Elevation	962.11	917.21	900.33	886.65	979.82	1051.90	940.56	998.80
Weathered Rock - Depth	0.6	7.7	4.0		2.0			18.5
Weathered Rock - Elevation	961.51	909.51	896.33		977.82			980.30
Fresh Rock - Depth				6.4	40.0		28.0	
Fresh Rock - Elevation				880.25	939.82		912.56	
Total Depth Drilled	25.5	20.5	39.7	55.2	62.0	53.0	55.0	18.5
SURFACE/CONDUCTOR CASING								
Casing Depth			4.0	32.0			30.0	
Casing Diameter			6.50	4.50			10.75	
Casing Material	unknown	none	PVC/#40	PVC/#40	unknown	none	Steel	none
WELL CASING								
Borehole Depth	25.5	20.5	39.7	55.2	62.0	53.0	45.0	18.5
Borehole Diameter	4.50	6.00	4.00	4.00	4.00		10.00	8.00
Well Casing Depth	15.7	8.1	26.6	53.2	53.8	42.0	45.0	13.0
Well Casing Diameter	2.37	2.37	2.37	2.37	2.37	2.37	4.50	4.50
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	Steel	SS/#304
MONITORED INTERVAL								
Hydrostratigraphic Unit	AQT	AQT	AQF	AQF	AQT	AQT	AQF	AQT
Geologic Formation	Cn	Cn	Cmn	Cmn	Cn	Cm	Cmn	Cn
Aquifer Zone	WT	WT	WT	BDR	BDR	WT	BDR	WT
Top - Depth	13.0	5.0	11.4	49.1	48.4	37.6	45.0	11.3
Midpoint - Depth	19.3	12.7	22.1	52.2	53.6	45.3	50.0	14.9
Bottom - Depth	25.5	20.3	32.8	55.2	58.8	53.0	55.0	18.5
Top - Elevation	949.11	912.21	888.93	837.55	931.42	1014.30	895.56	987.50
Midpoint - Elevation	942.86	904.56	878.23	834.50	926.22	1006.60	890.56	983.90
Bottom - Elevation	936.61	896.91	867.53	831.45	921.02	998.90	885.56	980.30
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	5.0	10.0	5.0	2.0	5.0	10.0		5.3
Open-Hole Length							10.0	
Open-Hole Diameter							4.00	

(CONTINUED)

APPENDIX C.1: BEAR CREEK HYDROGEOLOGIC REGIME, 1998
Monitoring Well Construction Details

2

Well Number	GW-287	GW-311	GW-315	GW-537	GW-621	GW-627	GW-653	GW-683
Location	BG	RS	SPI	OLF	EXP-B	BG	BG	EXP-A
GENERAL INFORMATION								
East Coordinate	42288.00	50126.00	52268.00	49539.23	45032.91	42774.10	42317.29	41552.33
North Coordinate	29989.00	29267.00	29455.00	30057.19	29023.30	29505.05	29660.39	28281.78
Measuring Pt. Elevation	927.07	999.65	1047.48	976.44	925.44	943.65	931.80	972.26
Surface Elevation	924.60	996.43	1044.80	974.19	923.07	940.39	928.85	969.45
Weathered Rock - Depth	4.5	40.3	54.0	14.9	22.0	3.0	3.5	22.0
Weathered Rock - Elevation	920.10	956.13	990.80	959.29	901.07	937.39	925.35	947.45
Fresh Rock - Depth	11.0		71.0			43.0		26.0
Fresh Rock - Elevation	913.60		973.80			897.39		943.45
Total Depth Drilled	12.5	40.3	104.0	24.5	43.0	270.0	39.0	197.5
SURFACE/CONDUCTOR CASING								
Casing Depth			84.4		24.0	47.5		82.0
Casing Diameter			10.75		10.75	11.75		11.75
Casing Material	none	none	Steel/F25	none	Steel/J55	Steel/J55	none	Steel/J55
WELL CASING								
Borehole Depth	12.5	40.3	104.0	24.5	43.0	254.0	39.0	197.5
Borehole Diameter	9.00	10.00	10.00	8.75	7.88	10.63	9.50	10.63
Well Casing Depth	7.3	29.7	93.3	8.0	24.8	254.0	29.0	146.0
Well Casing Diameter	4.50	4.50	4.50	4.50	4.50	7.00	4.50	4.50
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	Steel/F25	SS/#304	SS/#304
MONITORED INTERVAL								
Hydrostratigraphic Unit	AQT	AQF	AQF	AQT	AQF	AQT	AQT	AQF
Geologic Formation	Cm	Cmn	Cmn	Cn	Cmn	Cn	Cn	OCK
Aquifer Zone	WT	WT	BDR	WT	WT	BDR	WT	BDR
Top - Depth	5.6	25.6	90.0	4.8	23.3	254.0	26.3	133.9
Midpoint - Depth	9.1	33.0	97.0	14.1	31.9	262.0	32.7	165.4
Bottom - Depth	12.5	40.3	104.0	23.3	40.5	270.0	39.0	196.8
Top - Elevation	919.00	970.83	954.80	969.39	899.77	686.39	902.55	835.55
Midpoint - Elevation	915.55	963.48	947.80	960.14	891.17	678.39	896.20	804.10
Bottom - Elevation	912.10	956.13	940.80	950.89	882.57	670.39	889.85	772.65
Screen Material	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01		SS/sw/.01	SS/pp/.01
Screen Length	5.0	10.6	10.0	15.0	15.7		10.0	50.8
Open-Hole Length						16.0		
Open-Hole Diameter						6.25		

(CONTINUED)

APPENDIX C.1: BEAR CREEK HYDROGEOLOGIC REGIME, 1998
Monitoring Well Construction Details

3

Well Number	GW-684	GW-685	GW-695	GW-703	GW-704	GW-706	GW-712	GW-713
Location	EXP-A	EXP-A	EXP-B	EXP-B	EXP-B	EXP-B	EXP-W	EXP-W
GENERAL INFORMATION								
East Coordinate	41353.53	41447.78	44868.30	44930.51	44934.98	44943.63	36506.87	36434.40
North Coordinate	28524.52	28667.40	28844.73	28806.34	28844.67	28946.41	28232.52	28235.95
Measuring Pt. Elevation	898.86	891.51	939.57	954.69	944.73	929.47	877.89	881.43
Surface Elevation	895.53	889.28	937.22	951.80	941.99	925.78	873.61	877.83
Weathered Rock - Depth		5.0	6.0	7.0	16.0	17.0	12.0	26.8
Weathered Rock - Elevation		884.28	931.22	944.80	925.99	908.78	861.61	851.03
Fresh Rock - Depth	9.0	15.5	18.0	10.0	23.0	27.0	66.0	63.8
Fresh Rock - Elevation	886.53	873.78	919.22	941.80	918.99	898.78	807.61	814.03
Total Depth Drilled	129.6	138.3	62.6	182.0	256.0	182.5	457.5	315.2
SURFACE/CONDUCTOR CASING								
Casing Depth	87.0		22.5		21.0	40.3	44.8	50.0
Casing Diameter	11.75		11.75		11.75	11.75	11.75	11.75
Casing Material	Steel/J55	none	Steel/J55	none	Steel/J55	Steel/J55	Steel/J55	Steel/J55
WELL CASING								
Borehole Depth	129.6	88.5	62.6	135.0	246.0	157.0	441.5	305.0
Borehole Diameter	10.50	10.63	9.88	10.63	10.63	10.60	10.60	10.60
Well Casing Depth	113.8	88.3	52.4	133.8	244.5	156.1	440.2	305.0
Well Casing Diameter	4.50	7.00	4.50	7.00	7.00	7.00	7.00	7.00
Well Casing Material	SS/#304	Steel/F25	SS/#304	Steel/F25	Steel/F25	Steel/F25	Steel/F25	Steel/F25
MONITORED INTERVAL								
Hydrostratigraphic Unit	AQF	AQF	AQF	AQF	AQF	AQF	AQF	AQF
Geologic Formation	Cmn	Cmn	Ock	Cmn	Cmn	Cmn	Ock	Cmn
Aquifer Zone	BDR	BDR	BDR	BDR	BDR	BDR	BDR	BDR
Top - Depth	106.4	88.5	50.6	135.0	246.0	157.0	441.5	305.0
Midpoint - Depth	117.4	113.4	56.6	158.5	251.0	169.8	449.5	310.1
Bottom - Depth	128.4	138.3	62.6	182.0	256.0	182.5	457.5	315.2
Top - Elevation	789.13	800.78	886.62	816.80	695.99	768.78	432.11	572.83
Midpoint - Elevation	778.13	775.88	880.62	793.30	690.99	756.03	424.11	567.73
Bottom - Elevation	767.13	750.98	874.62	769.80	685.99	743.28	416.11	562.63
Screen Material	SS/pp/.01		SS/sw/.01					
Screen Length	14.6		10.0					
Open-Hole Length		49.8		47.0	10.0	25.5	16.0	10.2
Open-Hole Diameter		6.63		6.25	6.50	6.25	6.25	6.25

(CONTINUED)

APPENDIX C.1: BEAR CREEK HYDROGEOLOGIC REGIME, 1998
Monitoring Well Construction Details

4

Well Number	GW-714	GW-715	GW-724	GW-725	GW-738	GW-740	GW-829
Location	EXP-W	EXP-W	EXP-C	EXP-C	EXP-C	EXP-C	OLF
GENERAL INFORMATION							
East Coordinate	36435.09	36453.11	48995.17	48989.13	49026.00	49055.00	50035.53
North Coordinate	28421.56	28424.58	29198.24	29405.44	29150.00	29027.00	29952.81
Measuring Pt. Elevation	875.88	874.92	979.27	961.05	983.08	1019.60	985.98
Surface Elevation	872.30	872.17	976.62	958.26	980.36	1017.00	981.92
Weathered Rock - Depth	27.0	34.0	33.5	14.0	12.0	38.1	1.3
Weathered Rock - Elevation	845.30	838.17	943.12	944.26	968.36	978.90	980.62
Fresh Rock - Depth	35.0		40.0	17.5	15.1	45.1	29.0
Fresh Rock - Elevation	837.30		936.62	940.76	965.26	971.90	952.92
Total Depth Drilled	145.0	44.6	301.6	142.5	90.1	190.0	115.0
SURFACE/CONDUCTOR CASING							
Casing Depth	40.5		40.0	21.0	16.5	46.9	
Casing Diameter	11.75		11.75	11.75	11.75	11.75	
Casing Material	Steel/J55	none	Steel/J55	Steel/J55	Steel/J55	Steel/J55	none
WELL CASING							
Borehole Depth	115.1	44.6	289.6	132.5	90.1	165.6	115.0
Borehole Diameter	10.60	10.60	10.60	10.60	10.60	10.60	9.87
Well Casing Depth	115.1	33.1	289.6	132.5	67.3	165.6	104.7
Well Casing Diameter	7.00	4.25	7.00	7.00	4.50	7.00	4.50
Well Casing Material	Steel/F25	SS/#304	Steel/F25	Steel/F25	SS/#304	Steel/F25	SS/#304
MONITORED INTERVAL							
Hydrostratigraphic Unit	AQF	AQF	AQF	AQF	AQF	AQF	AQT
Geologic Formation	Cmn	Cmn	Cmn	Cmn	Cmn	Cmn	Cn
Aquifer Zone	BDR	WT	BDR	BDR	BDR	BDR	BDR
Top - Depth	115.1	32.0	289.6	132.5	63.5	165.6	102.9
Midpoint - Depth	130.1	38.0	295.6	137.5	75.8	177.8	108.8
Bottom - Depth	145.0	44.0	301.6	142.5	88.0	190.0	114.6
Top - Elevation	757.20	840.17	687.02	825.76	916.86	851.40	879.02
Midpoint - Elevation	742.25	834.17	681.02	820.76	904.61	839.20	873.17
Bottom - Elevation	727.30	828.17	675.02	815.76	892.36	827.00	867.32
Screen Material		SS/sw/.01			SS/sw/.01		SS/sw/.01
Screen Length		10.0			20.2		9.9
Open-Hole Length	29.9		12.0	10.0		24.4	
Open-Hole Diameter	6.25		6.25	6.25		6.25	

APPENDIX C.2

CHESTNUT RIDGE HYDROGEOLOGIC REGIME

APPENDIX C.2: CHESTNUT RIDGE HYDROGEOLOGIC REGIME, 1998
Monitoring Well Construction Details

1

Well Number	GW-141	GW-142	GW-143	GW-144	GW-145	GW-156	GW-159	GW-217
Location	LIV	KHQ	KHQ	KHQ	KHQ	CRSDB	CRSDB	LIV
GENERAL INFORMATION								
East Coordinate	52463.00	64030.00	63522.00	63502.00	63266.00	64020.00	63496.00	53020.00
North Coordinate	28755.00	24524.00	24257.00	24255.00	24441.00	27626.00	27764.00	28758.00
Measuring Pt. Elevation	1186.23	971.15	913.98	913.54	840.24	1049.30	1051.40	1177.06
Surface Elevation	1183.50	968.29	911.04	910.48	837.29	1046.90	1048.80	1174.30
Weathered Rock - Depth						84.0		55.0
Weathered Rock - Elevation						962.90		1119.30
Fresh Rock - Depth	57.0		18.0			93.0	100.0	75.0
Fresh Rock - Elevation	1126.50		893.04			953.90	948.80	1099.30
Total Depth Drilled	156.0	295.0	253.0	195.0	110.0	157.0	157.0	180.0
SURFACE/CONDUCTOR CASING								
Casing Depth	65.0	20.0	20.0	40.0	12.0	94.0	123.0	81.7
Casing Diameter	10.75	12.50	10.63	12.50	12.50	10.75	10.75	10.75
Casing Material	Steel/F25	PVC/#40	PVC/#40	PVC/#40	PVC/#40	Steel/F25	Steel/F25	Steel/F25
WELL CASING								
Borehole Depth	156.0	250.0	205.0	195.0	110.0	157.0	157.0	180.0
Borehole Diameter	10.00	11.00	10.00	11.00	11.00	8.50	8.50	10.00
Well Casing Depth	144.5	248.5	205.0	150.0	88.5	147.0	147.0	166.8
Well Casing Diameter	4.50	6.62	6.62	4.50	4.50	4.50	4.50	4.50
Well Casing Material	SS/#304	Steel/F25	Steel/F25	PVC/#40	PVC/#40	PVC/#40	PVC/#40	SS/#304
MONITORED INTERVAL								
Hydrostratigraphic Unit	AQF	AQF	AQF	AQF	AQF	AQF	AQF	AQF
Geologic Formation	Ock	Ock	Ock	Ock	Ock	Ock	Ock	Ock
Aquifer Zone	BDR	BDR	BDR	BDR	WT	BDR	BDR	BDR
Top - Depth	141.0	248.5	205.0	148.0	86.0	146.0	146.0	165.2
Midpoint - Depth	148.5	271.8	229.0	171.5	98.0	151.5	151.5	172.6
Bottom - Depth	156.0	295.0	253.0	195.0	110.0	157.0	157.0	180.0
Top - Elevation	1042.50	719.79	706.04	762.48	751.29	900.90	902.80	1009.10
Midpoint - Elevation	1035.00	696.54	682.04	738.98	739.29	895.40	897.30	1001.70
Bottom - Elevation	1027.50	673.29	658.04	715.48	727.29	889.90	891.80	994.30
Screen Material	SS/sw/.01			PVC/sw/.01	PVC/sw/.01	PVC/sw/.01	PVC/sw/.01	SS/sw/.01
Screen Length	10.7			40.0	20.0	10.0	10.0	10.6
Open-Hole Length		46.5	48.0					
Open-Hole Diameter		6.00	6.00					

(CONTINUED)

APPENDIX C.2: CHESTNUT RIDGE HYDROGEOLOGIC REGIME, 1998
Monitoring Well Construction Details

2

Well Number	GW-231	GW-301	GW-305	GW-322	GW-521	GW-522	GW-540	GW-542
Location	KHQ	CRBAWP	LIV	CRSP	LIV	LIV	LII	CDLVI
GENERAL INFORMATION								
East Coordinate	63410.00	61964.00	52962.00	58912.00	52040.00	52612.00	52371.31	51641.74
North Coordinate	24725.00	27662.00	28548.00	28241.00	28541.00	28377.00	27489.06	27466.22
Measuring Pt. Elevation	849.67	1086.55	1183.75	1134.30	1182.88	1175.49	1072.32	1051.77
Surface Elevation	846.90	1083.90	1181.10	1131.80	1179.50	1172.00	1069.40	1049.00
Weathered Rock - Depth		94.0	53.0	49.0		85.0	110.0	
Weathered Rock - Elevation		989.90	1128.10	1082.80		1087.00	959.40	
Fresh Rock - Depth	10.5	136.0	84.0	120.0	54.0	130.0	150.0	
Fresh Rock - Elevation	836.40	947.90	1097.10	1011.80	1125.50	1042.00	919.40	
Total Depth Drilled	35.0	163.5	179.6	193.0	136.0	195.5	171.5	77.5
SURFACE/CONDUCTOR CASING								
Casing Depth	11.0	105.0	64.0	61.0	60.5	90.0	154.0	
Casing Diameter	10.63	10.75	10.75	10.75	10.75	10.75	10.75	
Casing Material	PVC/#40	Steel/F25	Steel/F25	Steel/F25	unknown	unknown	Steel	none
WELL CASING								
Borehole Depth	35.0	163.5	179.6	135.0	136.0	195.5	171.5	76.5
Borehole Diameter	11.00	10.00	10.00	10.00	9.50	9.50	9.25	9.25
Well Casing Depth	24.5	151.0	168.9	128.0	124.9	184.6	161.2	60.8
Well Casing Diameter	4.50	4.50	4.50	7.00	4.50	4.50	4.50	4.50
Well Casing Material	PVC/#40	SS/#304	SS/#304	Steel	SS/#304	SS/#304	SS/#304	SS/#304
MONITORED INTERVAL								
Hydrostratigraphic Unit	AQF	AQF	AQF	AQF	AQF	AQF	AQF	AQF
Geologic Formation	OCK	OCK	OCK	OCK	OCK	OCK	OCK	OCK
Aquifer Zone	BDR	BDR	BDR	BDR	BDR	BDR	BDR	WT
Top - Depth	22.8	148.5	165.3	128.0	123.2	183.0	158.5	59.0
Midpoint - Depth	28.9	156.0	172.5	160.5	129.6	189.2	165.0	67.8
Bottom - Depth	35.0	163.5	179.6	193.0	136.0	195.3	171.5	76.5
Top - Elevation	824.10	935.40	1015.80	1003.80	1056.30	989.00	910.90	990.00
Midpoint - Elevation	818.00	927.90	1008.65	971.30	1049.90	982.85	904.40	981.25
Bottom - Elevation	811.90	920.40	1001.50	938.80	1043.50	976.70	897.90	972.50
Screen Material	PVC/sw/.01	SS/sw/.01	SS/sw/.01		SS/sw/.01	SS/sw/.01	SS/sl/.01	SS/sl/.01
Screen Length	10.0	10.0	10.7		10.3	10.4	10.3	15.7
Open-Hole Length				65.0				
Open-Hole Diameter				6.00				

(CONTINUED)

APPENDIX C.2: CHESTNUT RIDGE HYDROGEOLOGIC REGIME, 1998
Monitoring Well Construction Details

3

Well Number	GW-543	GW-544	GW-557	GW-609	GW-709	GW-731	GW-732	GW-757
Location	CDLVI	CDLVI	LV	CRSP	LII	CRSDB	CRSDB	LII
GENERAL INFORMATION								
East Coordinate	51458.48	51819.56	59519.59	60039.73	52371.88	63863.14	64267.74	53302.52
North Coordinate	27072.06	26963.22	26450.11	28109.43	25344.08	27463.65	27716.72	25409.50
Measuring Pt. Elevation	1023.98	1045.20	1081.36	1112.31	906.78	1049.38	1064.29	961.61
Surface Elevation	1021.20	1042.50	1078.60	1109.70	903.84	1045.80	1060.70	958.65
Weathered Rock - Depth	16.0	47.0			39.0	95.4	85.0	29.5
Weathered Rock - Elevation	1005.20	995.50			864.84	950.40	975.70	929.15
Fresh Rock - Depth	37.0	52.5		107.0	43.0	129.4	96.0	48.0
Fresh Rock - Elevation	984.20	990.00		1002.70	860.84	916.40	964.70	910.65
Total Depth Drilled	94.0	110.0	139.0	269.0	80.6	180.4	190.6	166.5
SURFACE/CONDUCTOR CASING								
Casing Depth	29.3	54.5	85.0	107.0	50.0	122.0	100.7	46.8
Casing Diameter	10.75	10.75	10.75	10.75	11.75	11.75	11.75	10.75
Casing Material	Steel	Steel	Steel	Steel/J55	Steel/J55	Steel/J55	Steel/J55	Steel/J55
WELL CASING								
Borehole Depth	93.6	109.3	138.0	269.0	80.6	175.4	189.5	166.5
Borehole Diameter	9.25	9.25	9.50	9.50	10.60	10.60	10.60	9.62
Well Casing Depth	78.0	93.4	115.8	258.7	70.4	165.2	179.3	135.5
Well Casing Diameter	4.50	4.50	4.00	4.50	4.25	4.50	4.50	4.50
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304
MONITORED INTERVAL								
Hydrostratigraphic Unit	AQF	AQF	AQF	AQF	AQF	AQF	AQF	AQF
Geologic Formation	OCK	OCK	OCK	OCK	OCK	OCK	OCK	OCK
Aquifer Zone	BDR	BDR	WT	BDR	BDR	BDR	BDR	BDR
Top - Depth	76.2	91.0	112.9	256.4	68.7	164.0	178.3	134.0
Midpoint - Depth	84.9	100.2	125.5	262.7	74.7	171.4	184.2	150.4
Bottom - Depth	93.6	109.3	138.0	269.0	80.6	178.7	190.0	166.7
Top - Elevation	945.00	951.50	965.70	853.30	835.14	881.80	882.40	824.65
Midpoint - Elevation	936.30	942.35	953.15	847.00	829.19	874.45	876.55	808.30
Bottom - Elevation	927.60	933.20	940.60	840.70	823.24	867.10	870.70	791.95
Screen Material	SS/sl/.01	SS/sl/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01
Screen Length	15.6	15.9	20.0	10.3	10.0	10.0	10.0	30.0
Open-Hole Length								
Open-Hole Diameter								

(CONTINUED)

APPENDIX C.2: CHESTNUT RIDGE HYDROGEOLOGIC REGIME, 1998
Monitoring Well Construction Details

4

Well Number	GW-796	GW-797	GW-798	GW-799	GW-801	GW-827	GW-831
Location	LV	LV	CDLVI	LV	LV	CDLVI	FCAP
GENERAL INFORMATION							
East Coordinate	58206.40	58550.40	60309.95	59961.20	58779.90	51826.32	56593.48
North Coordinate	27923.90	27446.60	27264.85	26745.50	26807.80	27721.42	26653.53
Measuring Pt. Elevation	1052.62	1060.00	1006.00	981.29	1097.16	1051.58	1091.29
Surface Elevation	1048.80	1056.10	1002.42	978.10	1093.82	1048.13	1088.04
Weathered Rock - Depth	102.0	67.1	94.4	60.8	112.5		134.8
Weathered Rock - Elevation	946.80	989.00	908.02	917.30	981.32		953.24
Fresh Rock - Depth	103.0	89.0	95.8	62.8	113.4	40.5	140.8
Fresh Rock - Elevation	945.80	967.10	906.62	915.30	980.42	1007.63	947.24
Total Depth Drilled	139.7	134.1	135.5	92.0	188.9	135.0	200.0
SURFACE/CONDUCTOR CASING							
Casing Depth	107.6	95.0	99.7	65.0	115.4	43.4	138.3
Casing Diameter	10.75	10.75	10.75	10.75	10.75	10.75	10.75
Casing Material	Steel/J55	Steel/J55	Steel/J55	Steel/J55	Steel/J55	Steel	Steel
WELL CASING							
Borehole Depth	139.7	134.1	135.5	92.0	188.9	135.0	200.0
Borehole Diameter	9.50	9.50	9.50	9.50	9.87	9.87	9.87
Well Casing Depth	126.5	123.5	124.5	81.0	178.1	124.1	183.2
Well Casing Diameter	4.50	4.50	4.50	4.50	4.50	4.50	4.50
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304
MONITORED INTERVAL							
Hydrostratigraphic Unit	AQF	AQF	AQF	AQF	AQF	AQF	AQF
Geologic Formation	OCK	OCK	OCK	OCK	OCK	OCK	OCK
Aquifer Zone	BDR	BDR	BDR	BDR	BDR	BDR	BDR
Top - Depth	122.9	118.0	122.0	78.7	175.8	122.1	182.0
Midpoint - Depth	129.7	126.1	128.7	85.4	182.4	128.5	190.8
Bottom - Depth	136.5	134.1	135.4	92.0	188.9	134.8	199.6
Top - Elevation	925.90	938.10	880.42	899.40	918.02	926.03	906.04
Midpoint - Elevation	919.10	930.05	873.72	892.75	911.47	919.68	897.24
Bottom - Elevation	912.30	922.00	867.02	886.10	904.92	913.33	888.44
Screen Material	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01
Screen Length	10.0	10.0	10.0	10.0	10.0	10.0	10.4
Open-Hole Length							
Open-Hole Diameter							

APPENDIX C.3

UPPER EAST FORK POPLAR CREEK HYDROGEOLOGIC REGIME

APPENDIX C.3: UPPER EAST FORK POPLAR CREEK HYDROGEOLOGIC REGIME, 1998
Monitoring Well Construction Details

1

Well Number	56-2A	56-2B	56-2C	59-1A	59-1B	59-1C	GW-108	GW-148
Location	GRIDC3	GRIDC3	GRIDC3	B9202	B9202	B9202	S3	NHP
GENERAL INFORMATION								
East Coordinate	56229.00	56226.00	56231.00	59885.00	59885.00	59882.00	53207.00	63817.00
North Coordinate	29881.00	29884.00	29885.00	29831.00	29835.00	29834.00	30069.00	29202.00
Measuring Pt. Elevation	963.30	962.28	964.94	945.75	945.69	945.87	999.00	907.36
Surface Elevation	962.52	962.21	962.40	945.26	945.07	945.12	995.61	904.53
Weathered Rock - Depth			11.5	5.0		22.0	4.0	11.1
Weathered Rock - Elevation			950.90	940.26		923.12	991.61	893.43
Fresh Rock - Depth			17.0			60.0		
Fresh Rock - Elevation			945.40			885.12		
Total Depth Drilled	15.1	38.8	77.3	15.0	36.9	73.9	58.6	11.1
SURFACE/CONDUCTOR CASING								
Casing Depth			11.5			22.0	20.7	
Casing Diameter			4.50			4.50	10.63	
Casing Material	none	none	Steel	none	none	Steel	PVC/#40	none
WELL CASING								
Borehole Depth	15.1	38.8	77.3	15.0	36.9	73.9	58.6	11.1
Borehole Diameter	6.00	6.00	6.00	6.00	6.00	6.00	9.00	8.00
Well Casing Depth	10.1	33.8	72.3	8.2	31.9	68.9	46.7	5.6
Well Casing Diameter	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
Well Casing Material	PVC/#40	PVC/#40	PVC/#40	PVC/#40	PVC/#40	PVC/#40	PVC/#40	PVC/#40
MONITORED INTERVAL								
Hydrostratigraphic Unit	AQT	AQT	AQT	AQT	AQT	AQT	AQT	AQF
Geologic Formation	Cn	Cn	Cn	Cn	Cn	Cn	Cn	Cmn
Aquifer Zone	WT	WT	BDR	WT	WT	BDR	WT	WT
Top - Depth	9.0	32.0	71.0	7.0	30.0	67.0	41.0	4.6
Midpoint - Depth	12.1	35.4	74.2	11.0	33.5	70.5	49.8	7.9
Bottom - Depth	15.1	38.8	77.3	15.0	36.9	73.9	58.6	11.1
Top - Elevation	953.52	930.21	891.40	938.26	915.07	878.12	954.61	899.93
Midpoint - Elevation	950.47	926.81	888.25	934.26	911.62	874.67	945.81	896.68
Bottom - Elevation	947.42	923.41	885.10	930.26	908.17	871.22	937.01	893.43
Screen Material	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	PVC/sl/.01	PVC/sw/.01
Screen Length	5.0	5.0	5.0	5.0	5.0	5.0	10.1	5.0
Open-Hole Length								
Open-Hole Diameter								

(CONTINUED)

APPENDIX C.3: UPPER EAST FORK POPLAR CREEK HYDROGEOLOGIC REGIME, 1998
Monitoring Well Construction Details

2

Well Number	GW-153	GW-192	GW-193	GW-207	GW-208	GW-219	GW-220	GW-251
Location	NHP	B4	T2331	EXP-SR	EXP-SR	UOV	NHP	S2
GENERAL INFORMATION								
East Coordinate	63728.00	54277.00	59536.17	64023.00	64007.00	58929.00	64225.00	53843.00
North Coordinate	28613.00	30772.00	29343.93	31596.00	31612.00	29163.00	28949.00	29467.00
Measuring Pt. Elevation	921.64	1008.83	934.17	898.36	897.72	935.64	915.84	1003.80
Surface Elevation	918.53	1006.00	931.11	894.61	894.38	931.27	912.74	1001.60
Weathered Rock - Depth		17.5	2.5					
Weathered Rock - Elevation		988.50	928.61					
Fresh Rock - Depth	14.0				12.0		11.0	32.5
Fresh Rock - Elevation	904.53				882.38		901.74	969.10
Total Depth Drilled	60.0	17.5	18.5	109.6	412.8	11.3	45.2	51.0
SURFACE/CONDUCTOR CASING								
Casing Depth	14.0			17.0	24.0		13.0	
Casing Diameter	12.50			8.63	8.63		12.50	
Casing Material	PVC/#40	none	none	PVC/#40	PVC/#40	none	PVC/#40	none
WELL CASING								
Borehole Depth	60.0	17.5	18.5	100.0	404.0	11.3	45.2	51.0
Borehole Diameter	11.00	6.00	8.00	7.87	6.62	10.00	11.00	8.25
Well Casing Depth	49.5	7.5	8.2	100.0	404.0	5.7	34.7	37.5
Well Casing Diameter	4.50	4.50	4.50	4.38	4.38	4.50	4.50	4.50
Well Casing Material	PVC/#40	PVC/#40	SS/#304	PVC/#40	Steel	SS/#304	PVC/#40	PVC/#40
MONITORED INTERVAL								
Hydrostratigraphic Unit	AQF	AQT	AQT	AQT	AQT	AQF	AQF	AQF
Geologic Formation	Cmn	Cm	CON	Cr	Cr	Cmn	Cmn	Cmn
Aquifer Zone	BDR	WT	WT	BDR	BDR	WT	BDR	BDR
Top - Depth	45.0	6.5	5.5	100.0	404.0	4.3	31.0	35.0
Midpoint - Depth	52.5	12.0	12.0	104.8	408.4	7.8	38.1	43.0
Bottom - Depth	60.0	17.5	18.4	109.6	412.8	11.3	45.2	51.0
Top - Elevation	873.53	999.50	925.61	794.61	490.38	926.97	881.74	966.60
Midpoint - Elevation	866.03	994.00	919.16	789.81	485.98	923.47	874.64	958.60
Bottom - Elevation	858.53	988.50	912.71	785.01	481.58	919.97	867.54	950.60
Screen Material	PVC/sw/.01	PVC/sw/.01	SS/sw/.01			SS/sw/.01	PVC/sw/.01	PVC/sw/.01
Screen Length	10.0	10.0	10.3			5.6	10.0	9.6
Open-Hole Length				9.6	8.8			
Open-Hole Diameter				3.88	3.63			

(CONTINUED)

APPENDIX C.3: UPPER EAST FORK POPLAR CREEK HYDROGEOLOGIC REGIME, 1998
Monitoring Well Construction Details

3

Well Number	GW-332	GW-380	GW-383	GW-605	GW-606	GW-618	GW-620	GW-686
Location	WC	NHP	NHP	EXP-I	EXP-I	EXP-E	FTF	CPT
GENERAL INFORMATION								
East Coordinate	54882.00	62938.00	63522.00	62001.50	61951.42	54738.12	52894.57	55956.31
North Coordinate	30058.00	28714.00	29201.00	28706.83	28708.32	29798.46	29564.54	29540.20
Measuring Pt. Elevation	981.07	913.75	908.77	919.06	919.59	985.14	1015.54	963.76
Surface Elevation	979.55	913.66	906.00	916.97	916.98	982.64	1012.80	964.43
Weathered Rock - Depth	6.0	15.5	11.5			27.0	41.0	17.0
Weathered Rock - Elevation	973.55	898.16	894.50			955.64	971.80	947.43
Fresh Rock - Depth				9.5	10.8		70.0	
Fresh Rock - Elevation				907.47	906.18		942.80	
Total Depth Drilled	24.1	15.5	24.1	40.5	175.0	37.0	75.0	17.0
SURFACE/CONDUCTOR CASING								
Casing Depth			5.0	9.5	10.8	27.5	42.5	
Casing Diameter			10.75	11.75	16.00	10.75	10.75	
Casing Material	none	none	unknown	Steel/J55	Steel/J55	Steel/J55	Steel/J55	none
WELL CASING								
Borehole Depth	24.1	15.5	24.1	40.5	175.0	37.0	75.0	16.0
Borehole Diameter	10.00	10.00	8.75	10.60	9.63	9.50	9.50	12.00
Well Casing Depth	18.7	9.8	18.1	29.7	161.0	26.7	64.2	6.0
Well Casing Diameter	4.50	4.50	4.50	4.25	4.25	4.50	4.50	4.50
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304
MONITORED INTERVAL								
Hydrostratigraphic Unit	AQT	AQF	AQT	AQF	AQF	AQF	AQF	AQF
Geologic Formation	Cn	Cmn	Cn	Cmn	Cmn	Cmn	Cmn	Cmn
Aquifer Zone	WT	WT	WT	BDR	BDR	WT	WT	WT
Top - Depth	16.8	2.8	16.6	28.2	155.0	26.0	61.7	4.0
Midpoint - Depth	20.5	9.2	20.1	34.1	163.0	31.5	68.4	10.0
Bottom - Depth	24.1	15.5	23.6	39.9	171.0	37.0	75.0	16.0
Top - Elevation	962.75	910.86	889.40	888.77	761.98	956.64	951.10	960.43
Midpoint - Elevation	959.10	904.51	885.90	882.92	753.98	951.14	944.45	954.43
Bottom - Elevation	955.45	898.16	882.40	877.07	745.98	945.64	937.80	948.43
Screen Material	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/pp/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01
Screen Length	5.4	5.4	5.0	10.0	10.0	10.3	10.8	10.0
Open-Hole Length								
Open-Hole Diameter								

(CONTINUED)

APPENDIX C.3: UPPER EAST FORK POPLAR CREEK HYDROGEOLOGIC REGIME, 1998
Monitoring Well Construction Details

4

Well Number	GW-687	GW-722	GW-733	GW-735	GW-744	GW-747	GW-750	GW-763
Location	CPT	EXP-J	EXP-J	EXP-J	GRIDK1	GRIDK2	EXP-J	GRIDJ3
GENERAL INFORMATION								
East Coordinate	55650.67	64925.78	65057.00	64872.00	64324.00	64569.57	64835.48	63219.76
North Coordinate	29551.29	28532.41	28447.00	28867.00	30282.00	29729.81	28974.53	29117.17
Measuring Pt. Elevation	964.89	953.71	959.84	924.46	907.62	921.13	919.03	915.05
Surface Elevation	964.59	951.04	955.69	921.34	905.05	918.33	915.96	911.38
Weathered Rock - Depth	32.0	54.0	42.5	19.0	9.6	10.5	18.5	17.0
Weathered Rock - Elevation	932.59	897.04	913.19	902.34	895.45	907.83	897.46	894.38
Fresh Rock - Depth		73.0	47.1	77.5	14.6	12.0	24.8	
Fresh Rock - Elevation		878.04	908.59	843.84	890.45	906.33	891.16	
Total Depth Drilled	32.0	644.3	256.5	83.0	69.5	79.9	72.8	17.0
SURFACE/CONDUCTOR CASING								
Casing Depth		56.2	51.8	25.5	27.6	23.8	21.7	
Casing Diameter		10.75	11.75	11.75	10.75	10.75	11.75	
Casing Material	none	Steel/J55	Steel/J55	Steel/J55	Steel/J55	Steel/J55	Steel/J55	none
WELL CASING								
Borehole Depth	32.0	75.0	240.1	83.0	69.5	79.9	72.8	17.0
Borehole Diameter	12.00	6.00	10.60	10.60	9.87	9.87	10.60	8.00
Well Casing Depth	22.0	75.0	240.1	67.9	57.0	69.2	62.4	5.2
Well Casing Diameter	4.50	4.50	7.00	4.50	4.50	4.50	4.50	4.50
Well Casing Material	SS/#304	Steel/J55	Steel/F25	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304
MONITORED INTERVAL								
Hydrostratigraphic Unit	AQF	AQF	AQF	AQT	AQT	AQT	AQT	AQT
Geologic Formation	Cmn	Cmn	Cmn	Cn	Cpv	Cn	Cn	Cn
Aquifer Zone	WT	BDR	BDR	WT	BDR	BDR	BDR	WT
Top - Depth	20.0	75.0	240.1	67.5	55.0	67.4	61.2	4.0
Midpoint - Depth	26.0	359.7	248.3	73.4	62.3	73.5	67.0	10.0
Bottom - Depth	32.0	644.3	256.5	79.2	69.5	79.6	72.7	16.0
Top - Elevation	944.59	876.04	715.59	853.84	850.05	850.93	854.76	907.38
Midpoint - Elevation	938.59	591.39	707.39	847.99	842.80	844.83	849.01	901.38
Bottom - Elevation	932.59	306.74	699.19	842.14	835.55	838.73	843.26	895.38
Screen Material	SS/sw/.01			SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01
Screen Length	10.0			10.2	10.0	9.9	10.0	10.3
Open-Hole Length		569.3	16.4					
Open-Hole Diameter		3.50	6.25					

(CONTINUED)

APPENDIX C.3: UPPER EAST FORK POPLAR CREEK HYDROGEOLOGIC REGIME, 1998
Monitoring Well Construction Details

5

Well Number	GW-769	GW-770	GW-775	GW-776	GW-781	GW-782	GW-783	GW-788
Location	GRIDG3	GRIDG3	GRIDH3	GRIDH3	GRIDE3	GRIDE3	GRIDE3	GRIDF3
GENERAL INFORMATION								
East Coordinate	60230.01	60255.00	61277.82	61309.10	58117.83	58099.21	58112.53	59043.21
North Coordinate	29510.42	29504.56	29272.38	29271.39	29710.78	29718.84	29734.28	29617.94
Measuring Pt. Elevation	944.44	944.71	931.35	931.25	947.89	947.76	948.49	937.23
Surface Elevation	941.53	941.67	931.48	931.44	944.66	944.48	945.81	933.84
Weathered Rock - Depth	14.2	12.0		14.5	0.9	1.0	1.0	5.4
Weathered Rock - Elevation	927.33	929.67		916.94	943.76	943.48	944.81	928.44
Fresh Rock - Depth		16.5	16.7	19.3	14.0	7.5	8.5	9.0
Fresh Rock - Elevation		925.17	914.78	912.14	930.66	936.98	937.31	924.84
Total Depth Drilled	61.4	20.0	60.5	24.0	69.6	36.0	16.3	67.9
SURFACE/CONDUCTOR CASING								
Casing Depth	14.2		16.7		23.8			7.5
Casing Diameter	16.75		11.75		10.75			10.75
Casing Material	Steel/J55	none	Steel/J55	none	Steel/J55	none	none	Steel/J55
WELL CASING								
Borehole Depth	61.4	20.0	60.5	24.0	69.6	36.0	16.3	67.9
Borehole Diameter	10.62	10.62	10.62	9.87	9.87	9.87	9.87	9.87
Well Casing Depth	49.4	8.5	46.3	12.3	57.8	25.0	4.2	57.1
Well Casing Diameter	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304	SS/#304
MONITORED INTERVAL								
Hydrostratigraphic Unit	AQT	AQT	AQT	AQT	AQT	AQT	AQT	AQT
Geologic Formation	Cn	Cn	Cn	Cn	Cn	Cn	Cn	Cn
Aquifer Zone	BDR	WT	BDR	WT	BDR	BDR	WT	BDR
Top - Depth	48.2	7.5	45.0	10.6	56.0	23.8	3.6	55.9
Midpoint - Depth	54.3	13.3	50.7	16.8	62.7	29.9	10.0	61.9
Bottom - Depth	60.3	19.0	56.4	23.0	69.3	35.9	16.3	67.8
Top - Elevation	893.33	934.17	886.48	920.84	888.66	920.68	942.21	877.94
Midpoint - Elevation	887.28	928.42	880.78	914.64	882.01	914.63	935.86	871.99
Bottom - Elevation	881.23	922.67	875.08	908.44	875.36	908.58	929.51	866.04
Screen Material	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01
Screen Length	10.0	10.0	10.0	10.0	10.3	10.0	9.8	9.7
Open-Hole Length								
Open-Hole Diameter								

(CONTINUED)

APPENDIX C.3: UPPER EAST FORK POPLAR CREEK HYDROGEOLOGIC REGIME, 1998
Monitoring Well Construction Details

6

Well Number	GW-789	GW-791	GW-792	GW-816	GW-845
Location	GRIDF3	GRIDD2	GRIDD2	EXP-SR	EXP
GENERAL INFORMATION					
East Coordinate	59044.56	57423.24	57442.11	64031.36	64391.98
North Coordinate	29644.68	30482.73	30481.15	31581.50	28600.91
Measuring Pt. Elevation	937.48	992.16	992.74	898.41	926.47
Surface Elevation	934.37	988.51	989.60	894.56	924.71
Weathered Rock - Depth		14.7	14.5		
Weathered Rock - Elevation		973.81	975.10		
Fresh Rock - Depth	10.0	26.0			19.8
Fresh Rock - Elevation	924.37	962.51			904.91
Total Depth Drilled	23.8	70.6	29.2	16.1	438.3
SURFACE/CONDUCTOR CASING					
Casing Depth		31.5			
Casing Diameter		10.75			
Casing Material	none	Steel/J55	none	none	none
WELL CASING					
Borehole Depth	23.8	70.6	29.2	15.8	167.0
Borehole Diameter	9.87	9.87	9.87	10.00	12.25
Well Casing Depth	12.2	59.0	18.5	4.2	156.9
Well Casing Diameter	4.50	4.50	4.50	4.50	8.63
Well Casing Material	SS/#304	SS/#304	SS/#304	SS/#304	Steel
MONITORED INTERVAL					
Hydrostratigraphic Unit	AQT	AQT	AQT	AQT	AQF
Geologic Formation	Cn	Cm	Cm	Cr	Cmn
Aquifer Zone	BDR	BDR	WT	WT	BDR
Top - Depth	10.7	57.5	17.0	2.9	156.9
Midpoint - Depth	17.3	64.1	23.0	9.4	297.6
Bottom - Depth	23.8	70.6	29.0	15.8	438.3
Top - Elevation	923.67	931.01	972.60	891.66	767.81
Midpoint - Elevation	917.12	924.46	966.60	885.21	627.11
Bottom - Elevation	910.57	917.91	960.60	878.76	486.41
Screen Material	SS/sw/.01	SS/sw/.01	SS/sw/.01	SS/sw/.01	
Screen Length	10.5	10.0	9.8	9.4	
Open-Hole Length					281.4
Open-Hole Diameter					7.88

APPENDIX D

CY 1998 MONITORING DATA FOR THE BEAR CREEK HYDROGEOLOGIC REGIME

EXPLANATION

SAMPLING POINT:

- BCK - Bear Creek Kilometer
- GW - Monitoring Well
- NT - Northern Tributary (Bear Creek)
- SS - South Side (of Bear Creek, spring sampling station)

LOCATION:

- BG - Bear Creek Burial Grounds WMA
- EXP - Exit Pathway Monitoring Location:
 - Maynardville Limestone Picket (-A, -B, -C, -W)
 - Spring or Surface Water Location (-SW)
- OLF - Oil Landfarm WMA
- RS - Rust Spoil Area
- S3 - S-3 Site
- SPI - Spoil Area I

SAMPLE TYPE:

- DUP - Field Duplicate Sample
- DIS - Dissolved concentration (filtered sample)
- TOT - Total concentration (unfiltered sample)
- ACT - Activity
- ERR - Counting Error (two standard deviations)
- MDA - Minimum Detectable Activity

UNITS:

- ft - feet (elevations are above mean sea level and depths are below grade)
- ug/L - micrograms per liter
- mg/L - milligrams per liter
- mV - millivolts
- umho/cm - micromhos per centimeter
- NTU - Nephelometric Turbidity Units
- pCi/L - picoCuries per liter
- ppm - parts per million

NOTES:

All metals analyses were performed using the inductively coupled plasma (ICP) spectroscopy method unless otherwise noted.

- . - Not analyzed or not applicable
- CVAA - Cold Vapor Atomic Absorption
- PMS - Plasma Mass Spectroscopy
- TDS - Total Dissolved Solids
- TSS - Total Suspended Solids

EXPLANATION (continued)

DATA QUALIFICATION:

Results that do not meet the data quality objectives of the Y-12 Plant Groundwater Protection Program were replaced with one of the following surrogate values:

- FP - False-positive result for organic compounds (Appendix D.2), screened by data from the associated laboratory blank (FP1) or trip blank (FP2).
- <MDA - Reported activity (Appendix D.3) is less than the minimum detectable activity.
- < CE - Reported activity (Appendix D.3) is greater than the minimum detectable activity, but less than the associated counting error.

These screened results are presented in Table 7 (false positives) and Section 3.1.

Elevated Detection Limits:

All samples from well GW-537 and the unfiltered sample collected in August from well GW-740 were diluted before ICP analysis (trace metals and cations in Appendix D.1) to obtain an optimum matrix. Results for these samples reflect a two-fold dilution.

Laboratory Qualifiers:

The following laboratory qualifiers are presented with results in this appendix:

- < - Inorganic compound not detected at the minimum attainable detection limit.
- U - Organic compound not detected at the minimum attainable detection limit.

The following laboratory qualifiers for the organic compounds are not presented with results in this appendix:

- B Eighty results were reported with a “B” qualifier, indicating that a compound also was detected in the associated laboratory blank. These results were reported for acetone (52 results), 2-butanone (27 results), and tetrachloroethene (1 result). All false-positive results that were screened by data reported for the laboratory blanks or the associated trip blanks (not indicated by a qualifier) are shown in Appendix D.2. The tetrachloroethene result, from the January sample from well GW-046, was not a false positive.
- D Thirteen results were reported with a “D” qualifier, indicating that the analysis for a compound was performed at a secondary dilution factor. This qualifier was reported with all of the results greater than 200 ug/L from wells GW-046 (11 results) and GW-627 (2 results).

EXPLANATION (continued)

J A result less than the contract required reporting limit (CRQL) is an estimated value and assigned a "J" qualifier by the laboratory. The standard reporting limits for the organic compounds are 5 ug/L, 10ug/L, or 500 ug/L; therefore, all results less than 5 ug/L are estimated values. The following results are estimated values greater than or equal to 5 ug/L that are not false-positive results:

Compound	CRQL (ug/L)	Sampling Location	Date Sampled	Result (ug/L)
Acetone	10	GW-712	07/14/98	6 J
Acetone	10	BCK-09.40	08/03/98	9 J
Chloroethane	10	GW-046	07/22/98	7 J
1,2-Dichloroethene(total)	5	GW-627	03/11/98	5 J
1,2-Dichloroethene(total)	5	GW-627	09/01/98	8 J
Vinyl chloride	10	GW-053	09/02/98	5 J
Vinyl chloride	10	GW-627	03/11/98	6 J

Total 1,2-dichloroethene is the summed value of the cis and trans isomer concentrations (each with a reporting limit of 5 ug/L); the J qualifier for this compound indicates a sum that includes at least one estimated value.

APPENDIX D.1

TRACE METALS, MAJOR IONS, MISCELLANEOUS ANALYTES, AND FIELD MEASUREMENTS

APPENDIX D.1: BEAR CREEK HYDROGEOLOGIC REGIME, 1998

1

Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	BCK-00.63				BCK-04.55				BCK-07.75	
Location	EXP-SW				EXP-SW				EXP-SW	
Date Sampled	02/18/98		07/29/98		02/18/98		07/29/98		02/18/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	0.71	0.15	<0.2	<0.2	0.52	0.028	<0.2	<0.2	0.53	0.024
Antimony	<0.05	<0.05	.	.	<0.05	<0.05	.	.	<0.05	<0.05
Antimony (PMS)	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.039	0.035	0.062	0.061	0.043	0.038	0.06	0.0599	0.049	0.045
Beryllium	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003
Boron	0.02	0.026	<0.1	<0.1	0.02	0.023	<0.1	<0.1	0.033	0.035
Cadmium	<0.003	<0.003	.	.	<0.003	<0.003	.	.	<0.003	<0.003
Cadmium (PMS)	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.
Chromium	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005
Copper	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004
Iron	0.57	0.15	0.0568	<0.05	0.44	0.079	0.0664	<0.05	0.49	0.081
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0009	<0.0005	<0.0005
Lithium	0.0066	0.0052	<0.01	<0.01	0.0064	<0.004	<0.01	<0.01	0.011	0.0096
Manganese	0.023	0.016	0.0359	0.0325	0.018	0.013	0.0436	0.0385	0.02	0.015
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01
Nickel	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01
Selenium	<0.05	<0.05	.	.	<0.05	<0.05	.	.	0.062	<0.05
Selenium (PMS)	.	.	<0.01	<0.01	.	.	<0.01	<0.01	.	.
Silver	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006
Strontium	0.055	0.053	0.164	0.162	0.056	0.056	0.0684	0.0698	0.075	0.076
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.012	0.013	0.0127	0.0131	0.018	0.018	0.0176	0.0171	0.036	0.036
Vanadium	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005
Zinc	0.003	0.0026	<0.05	<0.05	0.0035	0.0044	<0.05	<0.05	0.0045	0.0027
MAJOR IONS (mg/L)										
Calcium	23	23	47.7	47.1	28	28	43.4	44.4	31	32
Magnesium	5.3	5.3	15.7	15.4	6.8	6.9	15.4	15.7	6.5	6.7
Potassium	2.2	0.82	2.05	2.13	1.7	1.1	<2	<2	1.9	1.4
Sodium	4.1	4	3.93	3.9	5.7	5.6	3.66	3.76	6.9	6.7
Alkalinity-HCO3	68	.	152	.	82	.	166	.	84	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	6.2	.	4.7	.	9.39	.	6.32	.	11.4	.
Fluoride	0.11	.	0.11	.	<0.1	.	<0.1	.	0.14	.
Nitrate-N	1.01	.	0.477	.	1.4	.	0.915	.	2.63	.
Sulfate	12.3	.	31.1	.	9.66	.	6.77	.	13.2	.
Ion Charge Balance (RPD)	-2.5	.	-0.2	.	0.7	.	-0.4	.	0.1	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.7	.	8.07	.	7.6	.	7.62	.	7.83	.
Conductivity (umho/cm)	182.8	.	367	.	222	.	349	.	251	.
TDS (mg/L)	107	.	222	.	124	.	202	.	155	.
TSS (mg/L)	7	.	<1	.	5	.	<1	.	5	.
Turbidity (NTU)	14.1	.	1.24	.	10.9	.	1.88	.	11	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	.	.	.	.	.	.	.	.	.	.
Depth to Water (ft)	.	.	.	.	.	.	.	.	.	.
Water-Level Elev. (ft)	.	.	.	.	.	.	.	.	.	.
Water Temp. (degrees C)	9.9	.	22.7	.	9.6	.	19.9	.	9	.
pH (standard units)	7.62	.	7.65	.	7.52	.	7.1	.	7.61	.
Conductivity (umho/cm)	665	.	365	.	158	.	324	.	193	.
Dissolved Oxygen (ppm)	9.08	.	6.42	.	8.6	.	6.84	.	8.83	.
Oxidation/Reduction (mV)	210	.	164	.	218	.	179	.	229	.

(CONTINUED)

Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	BCK-07.75		BCK-07.87		BCK-09.40					
Location	EXP-SW		EXP-SW		EXP-SW					
Date Sampled	07/30/98		08/11/98		02/18/98				08/03/98	
Sample Type							DUP			
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.2	<0.2	0.12	<0.02	0.14	<0.02	<0.2	<0.2
Antimony	.	.	.	.	<0.05	<0.05	<0.05	<0.05	.	.
Antimony (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	.	.	.	.	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0884	0.0833	0.0928	0.0954	0.055	0.054	0.055	0.054	0.0925	0.0931
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.0003	<0.0003	<0.0003	<0.0003	<0.001	<0.001
Boron	0.149	0.141	<0.1	<0.1	0.013	0.02	0.013	0.02	0.33	0.335
Cadmium	.	.	.	.	<0.003	<0.003	<0.003	<0.003	.	.
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	.	.	.	.	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.02	<0.02	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02
Copper	<0.02	<0.02	<0.02	<0.02	<0.004	<0.004	<0.004	<0.004	<0.02	<0.02
Iron	0.127	<0.05	<0.05	<0.05	0.11	0.022	0.12	0.021	0.0986	<0.05
Lead (PMS)	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	0.0201	0.0192	0.0165	0.0173	<0.004	<0.004	0.0046	<0.004	0.0532	0.0536
Manganese	0.0802	0.0432	0.00668	0.00557	0.01	0.011	0.011	0.011	0.0302	0.0277
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05
Nickel	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05
Selenium	.	.	.	.	<0.05	<0.05	0.066	<0.05	.	.
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	.	.	.	.	<0.01	<0.01
Silver	<0.02	<0.02	<0.02	<0.02	<0.006	<0.006	<0.006	<0.006	<0.02	<0.02
Strontium	0.14	0.134	0.167	0.172	0.072	0.073	0.073	0.074	0.155	0.156
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.0548	0.0536	0.0659	0.0683	0.023	0.024	0.024	0.024	0.0922	0.094
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02
Zinc	<0.05	<0.05	<0.05	<0.05	0.0043	0.0031	0.0037	0.003	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	62.3	59.6	70.2	72	44	44	44	45	71.8	72.2
Magnesium	17.2	16.4	19.8	20.5	13	14	13	14	15.3	15.4
Potassium	2.43	2.28	<2	<2	1.3	1.2	1.8	0.94	2.18	2.27
Sodium	7.02	6.78	8.93	9.27	6.4	6.1	6.3	6.2	8.27	8.41
Alkalinity-HCO ₃	184	.	190	.	146	.	146	.	192	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	13.2	.	18	.	13.1	.	12.9	.	17	.
Fluoride	0.16	.	0.19	.	0.13	.	0.12	.	0.18	.
Nitrate-N	5.76	.	18.8	.	3.16	.	3.14	.	10.3	.
Sulfate	13.5	.	17.2	.	11.3	.	11.2	.	14.2	.
Ion Charge Balance (RPD)	-0.8	.	-2.9	.	-1.5	.	-0.7	.	-0.6	.
MISCELLANEOUS ANALYTES										
pH (standard units)	8.03	.	8.17	.	7.19	.	7.17	.	7.36	.
Conductivity (umho/cm)	452	.	555	.	358	.	358	.	514	.
TDS (mg/L)	<1	.	356	.	194	.	201	.	343	.
TSS (mg/L)	<1	.	<1	.	2	.	3	.	1	.
Turbidity (NTU)	3.25	.	1.18	.	3.99	.	4.2	.	1.19	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	.	.	.	.	.	.	.	.	.	.
Depth to Water (ft)	.	.	.	.	.	.	.	.	.	.
Water-Level Elev. (ft)	.	.	.	.	.	.	.	.	.	.
Water Temp. (degrees C)	22.9	.	21.8	.	11.8	.	11.8	.	18.6	.
pH (standard units)	7.84	.	7.02	.	6.94	.	6.94	.	7.08	.
Conductivity (umho/cm)	428	.	880	.	287	.	287	.	482	.
Dissolved Oxygen (ppm)	9.04	.	4.05	.	8.3	.	8.3	.	4.02	.
Oxidation/Reduction (mV)	22	.	193	.	205	.	205	.	1	.

(CONTINUED)

Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	BCK-09.40		BCK-10.60		BCK-11.97				GW-008	
Location	EXP-SW		EXP-SW		EXP-SW				OLF	
Date Sampled	08/03/98		02/19/98		02/19/98		08/04/98		01/26/98	
Sample Type	DUP									
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	0.55	0.023	0.25	<0.02	<0.2	<0.2	0.035	<0.02
Antimony	.	.	<0.05	<0.05	<0.05	<0.05	.	.	<0.05	<0.05
Antimony (PMS)	<0.0005	<0.0005	.	.	.	.	<0.0005	0.0006	.	.
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0926	0.0902	0.076	0.069	0.17	0.17	0.25	0.24	0.084	0.085
Beryllium	<0.001	<0.001	<0.0003	<0.0003	<0.0003	<0.0003	<0.001	<0.001	0.00073	0.00067
Boron	0.418	0.434	0.025	0.024	0.026	0.024	<0.1	<0.1	0.011	0.011
Cadmium	.	.	<0.003	<0.003	<0.003	<0.003	.	.	<0.003	<0.003
Cadmium (PMS)	<0.0005	<0.0005	.	.	.	.	<0.0005	<0.0005	.	.
Chromium	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01
Cobalt	<0.02	<0.02	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02	0.023	0.024
Copper	<0.02	<0.02	<0.004	<0.004	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004
Iron	0.128	<0.05	0.49	0.049	0.2	0.0069	<0.05	<0.05	2.5	2.4
Lead (PMS)	<0.0005	0.0014	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	0.0018	0.00085
Lithium	0.0664	0.0683	0.0085	0.0064	<0.004	<0.004	<0.01	<0.01	<0.004	<0.004
Manganese	0.0423	0.041	0.097	0.071	0.8	0.78	<0.005	<0.005	1.8	1.8
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01
Nickel	<0.05	<0.05	<0.01	<0.01	0.018	0.015	<0.05	<0.05	0.02	0.021
Selenium	.	.	<0.05	<0.05	<0.05	<0.05	.	.	<0.05	<0.05
Selenium (PMS)	<0.01	<0.01	.	.	.	.	<0.01	<0.01	.	.
Silver	<0.02	<0.02	<0.006	<0.006	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006
Strontium	0.153	0.15	0.14	0.14	0.37	0.36	0.817	0.783	0.022	0.023
Thallium (PMS)	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.104	0.106	0.097	0.095	0.054	0.057	0.113	0.12	<0.0005	<0.0005
Vanadium	<0.02	<0.02	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005
Zinc	<0.05	<0.05	0.0061	0.004	0.0082	0.0074	<0.05	<0.05	0.017	0.017
MAJOR IONS (mg/L)										
Calcium	70.5	68.8	46	44	110	110	191	184	11	11
Magnesium	14.1	13.6	7.9	7.5	14	13	24.2	23.2	6.2	6.4
Potassium	2.38	2.47	1.6	1.4	2.5	2.5	5.6	5.44	1.2	1.4
Sodium	8.06	7.9	9.6	9.3	37	36	46.5	44.5	1.8	1.8
Alkalinity-HCO ₃	188	.	92	.	158	.	204	.	70	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	16.9	.	16.3	.	71	.	97.3	.	6.37	.
Fluoride	0.18	.	0.32	.	0.41	.	0.5	.	<0.1	.
Nitrate-N	9.86	.	8.13	.	33.8	.	80.1	.	<0.056	.
Sulfate	13.8	.	21.5	.	33.2	.	60.3	.	1.26	.
Ion Charge Balance (RPD)	-2.7	.	-1.4	.	-0.6	.	-2.4	.	-14.8	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.38	.	7.61	.	7.59	.	7.84	.	5.6	.
Conductivity (umho/cm)	513	.	346	.	874	.	1359	.	131.9	.
TDS (mg/L)	324	.	223	.	604	.	1030	.	67	.
TSS (mg/L)	<1	.	6	.	2	.	<1	.	1	.
Turbidity (NTU)	1.23	.	7.55	.	4.41	.	0.741	.	2.39	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	.	.	.	.	.	.	.	.	965.39	.
Depth to Water (ft)	.	.	.	.	.	.	.	.	14.22	.
Water-Level Elev. (ft)	.	.	.	.	.	.	.	.	951.17	.
Water Temp. (degrees C)	18.6	.	9	.	9	.	21.5	.	15.6	.
pH (standard units)	7.08	.	7.42	.	7.4	.	7.67	.	5.22	.
Conductivity (umho/cm)	482	.	316	.	601	.	1239	.	110	.
Dissolved Oxygen (ppm)	4.02	.	8.84	.	8.87	.	6.8	.	0.71	.
Oxidation/Reduction (mV)	184	.	216	.	231	.	192	.	145	.

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APPENDIX D.1: BEAR CREEK HYDROGEOLOGIC REGIME, 1998

4

Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-008		GW-046				GW-053			
Location	OLF		BG				BG			
Date Sampled	07/20/98		01/29/98		07/22/98		03/11/98		09/02/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.02	<0.02	<0.2	<0.2	<0.02	<0.02	<0.2	<0.2
Antimony	.	.	<0.05	<0.05	.	.	<0.05	<0.05	.	.
Antimony (PMS)	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0668	0.067	0.17	0.17	0.233	0.243	0.21	0.2	0.197	0.197
Beryllium	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001
Boron	<0.1	<0.1	0.038	0.036	<0.1	<0.1	0.26	0.25	0.312	0.307
Cadmium	.	.	<0.003	<0.003	.	.	<0.003	<0.003	.	.
Cadmium (PMS)	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02
Cobalt	<0.02	<0.02	0.017	0.015	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02
Copper	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02
Iron	1.23	1.34	0.36	0.22	<0.05	<0.05	0.14	0.052	0.223	0.194
Lead (PMS)	<0.0005	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0012	<0.0005	0.0006	<0.0005
Lithium	<0.01	<0.01	0.15	0.14	0.613	0.644	0.39	0.36	0.425	0.423
Manganese	0.772	0.854	0.89	0.88	0.289	0.305	0.083	0.08	0.0861	0.0864
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	0.000315	0.000216	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05
Nickel	<0.05	<0.05	0.017	0.02	<0.05	<0.05	0.016	0.014	<0.05	<0.05
Selenium	.	.	<0.05	<0.05	.	.	<0.05	<0.05	.	.
Selenium (PMS)	<0.01	<0.01	.	.	<0.01	<0.01	.	.	<0.01	<0.01
Silver	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02
Strontium	0.0194	0.0198	0.08	0.078	0.126	0.132	0.43	0.41	0.401	0.4
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0018	0.0018	0.0028	0.0028
Vanadium	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02
Zinc	<0.05	<0.05	0.0089	0.01	<0.05	<0.05	<0.002	<0.002	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	9.22	9.51	22	21	38.4	40.2	120	120	117	116
Magnesium	5.21	5.3	5.6	5.5	7.67	8.03	14	14	14.4	14.4
Potassium	<2	<2	2.9	2.8	<2	2.47	2.7	2.4	2.08	2.16
Sodium	1.95	1.98	5.8	5.7	9.46	9.93	8.4	8	8.24	8.33
Alkalinity-HCO3	46	.	48	.	82	.	316	.	318	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	4.9	.	21.7	.	48.3	.	26.4	.	22.9	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	<0.028	.	0.4	.	1.04	.	<0.028	.	<0.028	.
Sulfate	0.74	.	9.52	.	2.85	.	22.1	.	22.4	.
Ion Charge Balance (RPD)	-3.6	.	0.7	.	0.5	.	0.2	.	-0.5	.
MISCELLANEOUS ANALYTES										
pH (standard units)	5.62	.	5.66	.	5.67	.	7.26	.	7	.
Conductivity (umho/cm)	108.4	.	216	.	339	.	684	.	706	.
TDS (mg/L)	57	.	112	.	219	.	420	.	398	.
TSS (mg/L)	<1	.	<1	.	<1	.	<1	.	<1	.
Turbidity (NTU)	0.643	.	1.37	.	0.307	.	1.57	.	2.31	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	965.39	.	921.17	.	921.17	.	903.40	.	903.40	.
Depth to Water (ft)	17.10	.	2.72	.	3.69	.	5.32	.	11.13	.
Water-Level Elev. (ft)	948.29	.	918.45	.	917.48	.	898.08	.	892.27	.
Water Temp. (degrees C)	18.2	.	14.2	.	17.8	.	9.4	.	17.8	.
pH (standard units)	4	.	5.08	.	4.39	.	7.28	.	7.01	.
Conductivity (umho/cm)	88	.	194	.	273	.	449	.	659	.
Dissolved Oxygen (ppm)	0.39	.	0.51	.	0.37	.	1.59	.	0.27	.
Oxidation/Reduction (mV)	193	.	215	.	252	.	41	.	-3	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point • Location • Date Sampled • Sample Type	GW-056				GW-085				GW-115	
	EXP-A				OLF				S3	
	02/02/98		07/27/98		03/03/98		08/31/98		01/15/98	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	1.3	<0.02	1.97	<0.2	2.5	0.036	0.48	<0.2	<0.02	<0.02
Antimony	<0.05	<0.05	.	.	<0.05	<0.05	.	.	<0.05	<0.05
Antimony (PMS)	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.12	0.1	0.117	0.0988	0.37	0.33	0.412	0.395	0.2	0.2
Beryllium	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003
Boron	0.016	0.024	<0.1	<0.1	0.025	0.021	<0.1	<0.1	0.0099	0.015
Cadmium	<0.003	<0.003	.	.	<0.003	<0.003	.	.	<0.003	<0.003
Cadmium (PMS)	.	.	0.0012	<0.0005	.	.	<0.0005	<0.0005	.	.
Chromium	0.014	<0.01	0.0206	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005
Copper	0.0054	<0.004	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004
Iron	2.6	0.099	4.1	0.353	2	0.0095	0.466	<0.05	0.58	0.63
Lead (PMS)	0.0054	0.0028	0.0141	<0.0005	0.0027	<0.0005	0.0021	<0.0005	0.0008	<0.0005
Lithium	0.0054	<0.004	<0.01	<0.01	0.015	0.013	0.0158	0.0148	0.019	0.019
Manganese	0.27	0.11	0.332	0.231	0.063	<0.001	0.0386	<0.005	0.65	0.69
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01
Nickel	0.04	0.084	0.0662	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01
Selenium	<0.05	<0.05	.	.	<0.05	<0.05	.	.	<0.05	<0.05
Selenium (PMS)	.	.	<0.01	<0.01	.	.	<0.01	<0.01	.	.
Silver	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006
Strontium	0.17	0.17	0.167	0.154	0.29	0.28	0.307	0.306	0.15	0.15
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.0044	0.004	0.0066	0.0033	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Vanadium	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005
Zinc	0.031	0.016	<0.05	<0.05	0.011	0.0032	<0.05	<0.05	0.003	0.0039
MAJOR IONS (mg/L)										
Calcium	120	110	115	103	120	110	128	127	84	83
Magnesium	21	20	24.1	22.3	9.1	8.3	9.43	9.38	14	14
Potassium	1.6	1.3	<2	<2	2.3	1.3	<2	<2	2.6	2.2
Sodium	85	68	55.1	53.3	7.9	7.5	7.51	7.5	12	12
Alkalinity-HCO ₃	280	.	282	.	166	.	166	.	256	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	139	.	102	.	4.34	.	4.66	.	19.8	.
Fluoride	<0.1	.	<0.1	.	0.12	.	<0.1	.	<0.1	.
Nitrate-N	0.19	.	0.694	.	43	.	58	.	<0.028	.
Sulfate	27.8	.	26.3	.	7.99	.	9.09	.	19.3	.
Ion Charge Balance (RPD)	0.1	.	1.0	.	-1.1	.	-2.3	.	-1.7	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.31	.	7.25	.	7.31	.	7.49	.	7.51	.
Conductivity (umho/cm)	992	.	907	.	691	.	799	.	563	.
TDS (mg/L)	570	.	535	.	516	.	679	.	338	.
TSS (mg/L)	69.2	.	229	.	50	.	35	.	<1	.
Turbidity (NTU)	36.4	.	99.3	.	38.6	.	16.7	.	3.98	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	891.50	.	891.50	.	983.50	.	983.50	.	1055.01	.
Depth to Water (ft)	7.38	.	8.54	.	13.21	.	16.18	.	8.00	.
Water-Level Elev. (ft)	884.12	.	882.96	.	970.29	.	967.32	.	1047.01	.
Water Temp. (degrees C)	11.4	.	19.5	.	13.5	.	17.7	.	15	.
pH (standard units)	7.11	.	7.02	.	7.25	.	7.41	.	7.37	.
Conductivity (umho/cm)	896	.	837	.	586	.	757	.	449	.
Dissolved Oxygen (ppm)	0.85	.	0.26	.	2.07	.	1.45	.	0.16	.
Oxidation/Reduction (mV)	26	.	-41	.	151	.	186	.	-91	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-115		GW-226				GW-276			
Location	S3		OLF				S3			
Date Sampled	07/13/98		03/10/98		09/02/98		01/22/98		07/16/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	0.12	<0.02	<0.2	<0.2	4.1	3.8	2.8	4.07
Antimony	.	.	<0.05	<0.05	.	.	<0.05	<0.05	.	.
Antimony (PMS)	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	0.0076	<0.005	<0.005	<0.005	0.008	<0.005	<0.005	<0.005
Barium	0.199	0.204	0.22	0.25	0.144	0.122	0.37	0.38	0.32	0.302
Beryllium	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001	0.0043	0.0043	0.00333	0.00486
Boron	<0.1	<0.1	0.11	0.12	<0.1	<0.1	0.028	0.027	<0.1	<0.1
Cadmium	.	.	<0.003	<0.003	.	.	0.031	0.032	.	.
Cadmium (PMS)	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.	0.0256	0.0288
Chromium	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02
Cobalt	<0.02	<0.02	0.005	<0.005	<0.02	<0.02	0.11	0.11	0.0731	0.0947
Copper	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02	0.0063	0.0053	<0.02	<0.02
Iron	0.604	0.584	3.5	0.099	1.71	<0.05	0.023	0.0096	<0.05	<0.05
Lead (PMS)	<0.0005	<0.0005	0.001	0.0018	0.0006	<0.0005	0.00064	0.00072	0.0009	0.001
Lithium	0.017	0.0174	0.014	0.013	0.0133	0.0128	0.015	0.015	0.0105	0.0149
Manganese	0.623	0.643	1.6	1.8	0.683	0.521	6.5	6.6	5.63	5.89
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05
Nickel	<0.05	<0.05	0.011	<0.01	<0.05	<0.05	0.27	0.28	0.217	0.272
Selenium	.	.	<0.05	<0.05	.	.	<0.05	<0.05	.	.
Selenium (PMS)	<0.01	<0.01	.	.	<0.01	<0.01	.	.	<0.01	<0.01
Silver	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02	0.0069	<0.006	<0.02	<0.02
Strontium	0.139	0.143	0.47	0.54	0.463	0.399	0.36	0.37	0.427	0.359
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00063	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	0.016	0.015	0.0091	0.0079	0.63	0.6	0.726	0.818
Vanadium	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02
Zinc	<0.05	<0.05	0.023	0.0024	<0.05	<0.05	0.069	0.071	<0.05	0.0694
MAJOR IONS (mg/L)										
Calcium	81.1	83.2	140	150	98.6	83.1	160	170	197	160
Magnesium	13.9	14.3	35	39	31	26.8	27	27	29.7	25.7
Potassium	2.4	2.35	3	2.9	3.77	4.83	11	11	9.45	9.9
Sodium	11.3	11.6	15	17	16.1	16.3	84	86	80.6	81.6
Alkalinity-HCO3	246	.	408	.	148	.	22	.	70	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	16.5	.	45.1	.	27.6	.	186	.	146	.
Fluoride	0.1	.	<0.1	.	<0.1	.	2.59	.	1.66	.
Nitrate-N	<0.028	.	17.2	.	8.92	.	129	.	139	.
Sulfate	16.9	.	30.5	.	23.7	.	31.9	.	36.8	.
Ion Charge Balance (RPD)	1.3	.	1.0	.	19.2	.	-3.2	.	-7.9	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.26	.	6.82	.	7.45	.	5.33	.	5.67	.
Conductivity (umho/cm)	543	.	1044	.	497	.	1679	.	1758	.
TDS (mg/L)	323	.	633	.	216	.	1148	.	1570	.
TSS (mg/L)	<1	.	15	.	1	.	2.4	.	3	.
Turbidity (NTU)	5.51	.	80.3	.	13.3	.	1.13	.	2.73	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	1055.01	.	943.40	.	943.40	.	1001.57	.	1001.57	.
Depth to Water (ft)	13.35	.	9.93	.	19.83	.	6.10	.	8.45	.
Water-Level Elev. (ft)	1041.66	.	933.47	.	923.57	.	995.47	.	993.12	.
Water Temp. (degrees C)	18.8	.	7.1	.	17.8	.	14.1	.	25.9	.
pH (standard units)	6.48	.	6.8	.	7.02	.	5.42	.	5.1	.
Conductivity (umho/cm)	488	.	601	.	713	.	1378	.	1616	.
Dissolved Oxygen (ppm)	0.44	.	1.57	.	0.25	.	3.2	.	0.7	.
Oxidation/Reduction (mV)	-111	.	78	.	120	.	230	.	114	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-287				GW-311				GW-315	
Location	BG				RS				SPI	
Date Sampled	03/02/98		09/03/98		03/05/98		08/27/98		03/02/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	0.29	0.1	<0.2	<0.2	0.024	0.026	<0.2	<0.2	<0.02	<0.02
Antimony	<0.05	<0.05	.	.	<0.05	<0.05	.	.	<0.05	<0.05
Antimony (PMS)	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.037	0.034	0.0719	0.0709	0.021	0.022	0.0177	0.0182	0.06	0.06
Beryllium	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003
Boron	0.018	0.017	<0.1	<0.1	<0.004	<0.004	<0.1	<0.1	0.017	0.016
Cadmium	<0.003	<0.003	.	.	<0.003	<0.003	.	.	<0.003	<0.003
Cadmium (PMS)	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.
Chromium	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005
Copper	<0.004	0.0051	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004
Iron	0.13	0.049	<0.05	<0.05	0.0081	<0.005	<0.05	<0.05	0.0094	<0.005
Lead (PMS)	0.0012	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	<0.004	<0.004	<0.01	<0.01	<0.004	<0.004	<0.01	<0.01	<0.004	<0.004
Manganese	0.019	0.017	0.0814	0.0904	0.0014	0.0021	<0.005	<0.005	0.016	0.015
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01
Nickel	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01
Selenium	<0.05	<0.05	.	.	<0.05	<0.05	.	.	<0.05	<0.05
Selenium (PMS)	.	.	<0.01	<0.01	.	.	<0.01	<0.01	.	.
Silver	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006
Strontium	0.022	0.021	0.0446	0.0439	0.08	0.08	0.0728	0.0732	0.21	0.21
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	0.0007	0.0007	0.0026	0.0024
Vanadium	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005
Zinc	0.0047	0.0056	<0.05	<0.05	0.0077	0.017	<0.05	<0.05	0.016	0.012
MAJOR IONS (mg/L)										
Calcium	6.3	6.1	19.3	18.4	90	90	85.2	85.8	130	130
Magnesium	1.9	1.9	3.41	3.44	6.8	6.8	5.45	5.46	14	14
Potassium	1.3	1.1	<2	<2	1.9	2	<2	<2	3.3	3.4
Sodium	3.7	3.6	4.07	4.11	3.2	3.3	1.96	1.98	7.3	7.3
Alkalinity-HCO3	20	.	70	.	240	.	238	.	272	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	3.33	.	3.09	.	2.12	.	1.94	.	13.7	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	0.095	.	<0.028	.	0.37	.	0.42	.	9.33	.
Sulfate	8.38	.	8.07	.	3.61	.	4.02	.	68.9	.
Ion Charge Balance (RPD)	-2.1	.	-9.0	.	2.8	.	-1.1	.	0.7	.
MISCELLANEOUS ANALYTES										
pH (standard units)	5.66	.	6.49	.	7.31	.	7.49	.	7.23	.
Conductivity (umho/cm)	73.1	.	177	.	473	.	455	.	736	.
TDS (mg/L)	56	.	82	.	243	.	264	.	447	.
TSS (mg/L)	2	.	1	.	<1	.	<1	.	1	.
Turbidity (NTU)	2.98	.	0.501	.	0.852	.	0.483	.	0.365	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	927.07	.	927.07	.	999.65	.	999.65	.	1047.48	.
Depth to Water (ft)	9.18	.	10.00	.	36.12	.	40.73	.	55.85	.
Water-Level Elev. (ft)	917.89	.	917.07	.	963.53	.	958.92	.	991.63	.
Water Temp. (degrees C)	11.5	.	20	.	12.8	.	17.6	.	13.9	.
pH (standard units)	5.22	.	6	.	7.41	.	7.55	.	7.18	.
Conductivity (umho/cm)	80	.	171	.	333	.	454	.	595	.
Dissolved Oxygen (ppm)	2.67	.	0.44	.	5.59	.	4.77	.	0.39	.
Oxidation/Reduction (mV)	273	.	200	.	190	.	195	.	167	.

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APPENDIX D.1: BEAR CREEK HYDROGEOLOGIC REGIME, 1998

8

Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-315		GW-537							
Location	SPI		OLF							
Date Sampled	08/27/98		03/03/98				08/31/98			
Sample Type			DUP				DUP			
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.04	<0.04	<0.04	<0.04	<0.4	<0.4	<0.4	<0.4
Antimony	.	.	<0.1	<0.1	<0.1	<0.1	.	.	.	.
Antimony (PMS)	<0.0005	<0.0005	.	.	.	.	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0568	0.0559	2.3	2.3	2.3	2.3	1.93	1.92	1.91	1.93
Beryllium	<0.001	<0.001	<0.0006	<0.0006	<0.0006	<0.0006	<0.002	<0.002	<0.002	<0.002
Boron	<0.1	<0.1	0.041	0.035	0.039	0.038	<0.2	<0.2	<0.2	<0.2
Cadmium	.	.	<0.006	<0.006	<0.006	<0.006	.	.	.	.
Cadmium (PMS)	<0.0005	0.0005	.	.	.	.	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.04	<0.04	<0.04
Cobalt	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.04	<0.04	<0.04	<0.04
Copper	<0.02	<0.02	<0.008	<0.008	<0.008	<0.008	<0.04	<0.04	<0.04	<0.04
Iron	<0.05	<0.05	0.014	<0.01	0.023	0.011	<0.1	<0.1	<0.1	<0.1
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	0.0013	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	<0.01	<0.01	0.041	0.038	0.04	0.041	0.0345	0.0354	0.0353	0.0344
Manganese	0.107	0.102	0.002	<0.002	<0.002	<0.002	<0.01	<0.01	<0.01	<0.01
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02	<0.1	<0.1	<0.1	<0.1
Nickel	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02	<0.1	<0.1	<0.1	<0.1
Selenium	.	.	<0.1	<0.1	<0.1	<0.1	.	.	.	.
Selenium (PMS)	<0.01	<0.01	.	.	.	.	<0.01	<0.01	<0.01	<0.01
Silver	<0.02	<0.02	<0.012	<0.012	<0.012	<0.012	<0.04	<0.04	<0.04	<0.04
Strontium	0.192	0.19	2.7	2.7	2.7	2.7	2.29	2.28	2.27	2.29
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Uranium (PMS)	0.0023	0.0023	0.0013	0.0013	0.0013	0.0012	0.0013	0.0014	0.0014	0.0014
Vanadium	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.04	<0.04	<0.04	<0.04
Zinc	<0.05	<0.05	0.011	0.0056	0.0052	0.0056	<0.1	<0.1	<0.1	<0.1
MAJOR IONS (mg/L)										
Calcium	121	120	1100	1000	1000	1000	874	868	873	868
Magnesium	14.4	14.2	69	68	68	68	61.2	61.3	60.9	61.5
Potassium	3.26	3.31	3.9	3	3.2	3.3	<4	<4	<4	<4
Sodium	6.4	6.36	36	36	35	35	32.4	32	31.9	32.3
Alkalinity-HCO3	274	.	304	.	302	.	288	.	292	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	12	.	33.9	.	32.5	.	28	.	27.8	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	7.84	.	674	.	675	.	617	.	609	.
Sulfate	59.7	.	4.57	.	4.48	.	5.01	.	5.4	.
Ion Charge Balance (RPD)	-0.7	.	1.7	.	1.7	.	-1.0	.	-0.4	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.27	.	6.7	.	6.68	.	6.8	.	6.86	.
Conductivity (umho/cm)	709	.	5580	.	5570	.	5000	.	4970	.
TDS (mg/L)	442	.	4339	.	4313	.	4460	.	4520	.
TSS (mg/L)	<1	.	1	.	1	.	<1	.	<1	.
Turbidity (NTU)	0.274	.	1.31	.	1.23	.	0.682	.	0.261	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	1047.48	.	976.44	.	976.44	.	976.44	.	976.44	.
Depth to Water (ft)	62.58	.	6.05	.	6.05	.	8.18	.	8.18	.
Water-Level Elev. (ft)	984.90	.	970.39	.	970.39	.	968.26	.	968.26	.
Water Temp. (degrees C)	15.9	.	10	.	10	.	17.3	.	17.3	.
pH (standard units)	7.29	.	6.79	.	6.79	.	6.59	.	6.59	.
Conductivity (umho/cm)	737	.	4300	.	4300	.	4780	.	4780	.
Dissolved Oxygen (ppm)	0.42	.	0.88	.	0.88	.	0.58	.	0.58	.
Oxidation/Reduction (mV)	216	.	191	.	191	.	208	.	208	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-621				GW-627				GW-653	
Location	EXP-B				BG				BG	
Date Sampled	02/02/98		07/29/98		03/11/98		09/01/98		03/10/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	0.45	0.028	<0.2	<0.2	<0.02	<0.02	<0.2	<0.2	<0.02	<0.02
Antimony	<0.05	<0.05	.	.	<0.05	<0.05	.	.	<0.05	<0.05
Antimony (PMS)	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.024	0.018	0.0188	0.0173	0.044	0.045	0.0425	0.0387	0.034	0.031
Beryllium	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003
Boron	0.0084	0.007	<0.1	<0.1	0.48	0.5	0.467	0.462	0.006	0.0043
Cadmium	<0.003	<0.003	.	.	<0.003	<0.003	.	.	<0.003	<0.003
Cadmium (PMS)	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.
Chromium	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005
Copper	0.0051	<0.004	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004
Iron	0.6	0.041	0.0699	<0.05	0.27	0.11	0.128	0.0688	<0.005	0.008
Lead (PMS)	0.002	<0.0005	0.0007	<0.0005	0.0015	0.0011	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	<0.004	<0.004	<0.01	<0.01	0.088	0.093	0.0855	0.0825	<0.004	<0.004
Manganese	0.036	0.001	0.0103	<0.005	0.016	0.016	0.0139	0.0131	0.0014	0.0013
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01
Nickel	0.017	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01
Selenium	<0.05	<0.05	.	.	<0.05	<0.05	.	.	<0.05	<0.05
Selenium (PMS)	.	.	<0.01	<0.01	.	.	<0.01	<0.01	.	.
Silver	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006
Strontium	0.059	0.058	0.0575	0.0562	0.088	0.09	0.0851	0.0808	0.018	0.018
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.0011	0.00088	0.0009	0.0009	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Vanadium	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005
Zinc	0.0058	0.0055	<0.05	<0.05	<0.002	0.0035	<0.05	<0.05	<0.002	<0.002
MAJOR IONS (mg/L)										
Calcium	54	54	54.4	53.3	1.3	1.4	1.28	1.4	2.1	2.1
Magnesium	9.1	9	8.68	8.47	0.24	0.25	0.224	0.235	1.1	1.1
Potassium	1.1	1	<2	<2	1.7	1.5	<2	<2	<0.6	0.66
Sodium	1.9	1.9	1.21	1.21	310	320	291	286	2.2	2.2
Alkalinity-HCO3	164	.	164	.	486	.	464	.	14	.
Alkalinity-CO3	<1	.	<1	.	88	.	100	.	<1	.
Chloride	2.5	.	2.56	.	36	.	40.5	.	0.95	.
Fluoride	<0.1	.	<0.1	.	5.34	.	5.2	.	<0.1	.
Nitrate-N	1.23	.	1.68	.	<0.028	.	<0.028	.	<0.028	.
Sulfate	2.04	.	2.11	.	26.1	.	21.2	.	1.64	.
Ion Charge Balance (RPD)	0.9	.	-1.5	.	2.6	.	-2.4	.	-4.5	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.71	.	7.71	.	9.41	.	9.18	.	5.48	.
Conductivity (umho/cm)	328	.	331	.	1212	.	1228	.	32.3	.
TDS (mg/L)	217	.	201	.	745	.	719	.	21	.
TSS (mg/L)	31.2	.	4	.	<1	.	<1	.	<1	.
Turbidity (NTU)	52.7	.	18.9	.	1.59	.	0.303	.	0.435	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	925.44	.	925.44	.	943.65	.	943.65	.	931.80	.
Depth to Water (ft)	11.73	.	20.63	.	23.15	.	24.94	.	19.85	.
Water-Level Elev. (ft)	913.71	.	904.81	.	920.50	.	918.71	.	911.95	.
Water Temp. (degrees C)	11.3	.	17.6	.	11.4	.	17.4	.	11.8	.
pH (standard units)	7.32	.	7.24	.	9.47	.	9.61	.	5.25	.
Conductivity (umho/cm)	260	.	349	.	1139	.	1174	.	30	.
Dissolved Oxygen (ppm)	4.56	.	4.01	.	0.28	.	1.45	.	5.12	.
Oxidation/Reduction (mV)	169	.	208	.	-137	.	-182	.	300	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-653		GW-683				GW-684			
Location	BG		EXP-A				EXP-A			
Date Sampled	09/01/98		02/17/98		08/03/98		02/16/98			
Sample Type									DUP	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	0.025	0.02	<0.2	<0.2	0.042	<0.02	0.064	<0.02
Antimony	.	.	<0.05	<0.05	.	.	<0.05	<0.05	<0.05	<0.05
Antimony (PMS)	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.	.	.
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0302	0.0289	0.076	0.076	0.117	0.116	0.1	0.1	0.1	0.1
Beryllium	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003	<0.0003	<0.0003
Boron	<0.1	<0.1	0.01	0.014	<0.1	<0.1	0.028	0.027	0.03	0.028
Cadmium	.	.	<0.003	<0.003	.	.	<0.003	<0.003	<0.003	<0.003
Cadmium (PMS)	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.	.	.
Chromium	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.005	<0.005
Copper	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02	0.0057	<0.004	0.0056	<0.004
Iron	0.0904	<0.05	0.021	0.0081	<0.05	<0.05	0.073	0.007	0.087	0.011
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	0.0007	<0.0005	0.0006	<0.0005	0.0009	<0.0005
Lithium	<0.01	<0.01	<0.004	<0.004	<0.01	<0.01	0.029	0.028	0.027	0.028
Manganese	<0.005	<0.005	<0.001	0.0012	<0.005	<0.005	0.0056	0.0031	0.0067	0.0027
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01
Nickel	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01
Selenium	.	.	<0.05	<0.05	.	.	<0.05	0.05	<0.05	<0.05
Selenium (PMS)	<0.01	<0.01	.	.	<0.01	<0.01	.	.	.	.
Silver	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006	<0.006	<0.006
Strontium	0.0164	0.016	0.085	0.084	0.13	0.131	0.13	0.13	0.13	0.13
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	0.023	0.021	0.0339	0.0343	0.027	0.027	0.028	0.028
Vanadium	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.005	<0.005
Zinc	<0.05	<0.05	0.0025	0.0066	<0.05	<0.05	0.0079	0.0042	0.0091	0.0059
MAJOR IONS (mg/L)										
Calcium	1.92	1.95	45	45	61.6	61.6	60	59	60	60
Magnesium	0.992	0.979	15	15	22.3	22.4	18	18	18	18
Potassium	<2	<2	1.2	1.3	<2	<2	9.7	8.9	9.7	9.5
Sodium	2.1	2.11	4.5	4.5	5.51	5.58	6.8	6.6	6.8	6.9
Alkalinity-HCO ₃	14	.	162	.	206	.	210	.	204	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	0.88	.	9.22	.	10.1	.	12.4	.	12.5	.
Fluoride	<0.1	.	0.11	.	0.11	.	0.16	.	0.16	.
Nitrate-N	<0.028	.	2.73	.	6.5	.	4.55	.	4.54	.
Sulfate	1.46	.	12.3	.	16.8	.	12.9	.	12.8	.
Ion Charge Balance (RPD)	-10.2	.	-3.2	.	-0.6	.	-2.1	.	-0.1	.
MISCELLANEOUS ANALYTES										
pH (standard units)	5.48	.	7.59	.	7.56	.	7.78	.	7.82	.
Conductivity (umho/cm)	32.7	.	369	.	484	.	483	.	480	.
TDS (mg/L)	33	.	204	.	335	.	273	.	278	.
TSS (mg/L)	<1	.	3	.	1	.	<1	.	<1	.
Turbidity (NTU)	1.39	.	1.23	.	0.703	.	1.51	.	1.85	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	931.80	.	972.26	.	972.26	.	898.86	.	898.86	.
Depth to Water (ft)	23.61	.	88.51	.	89.17	.	15.57	.	15.57	.
Water-Level Elev. (ft)	908.19	.	883.75	.	883.09	.	883.29	.	883.29	.
Water Temp. (degrees C)	14	.	13.1	.	13.9	.	11.8	.	11.8	.
pH (standard units)	5.33	.	7.57	.	7.56	.	8.29	.	8.29	.
Conductivity (umho/cm)	44	.	285	.	505	.	386	.	386	.
Dissolved Oxygen (ppm)	7.32	.	6.22	.	1.81	.	7.62	.	7.62	.
Oxidation/Reduction (mV)	294	.	151	.	206	.	158	.	158	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-684				GW-685				GW-695	
Location	EXP-A				EXP-A				EXP-B	
Date Sampled	08/04/98				02/05/98		07/27/98		02/17/98	
Sample Type	DUP									
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.2	<0.2	<0.02	<0.02	<0.2	<0.2	0.025	<0.02
Antimony	.	.	.	.	<0.05	<0.05	.	.	<0.05	<0.05
Antimony (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0949	0.0943	0.0931	0.093	0.087	0.085	0.0994	0.0992	0.037	0.037
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003
Boron	<0.1	<0.1	<0.1	<0.1	0.042	0.042	<0.1	<0.1	0.026	0.024
Cadmium	.	.	.	.	<0.003	<0.003	.	.	<0.003	<0.003
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.
Chromium	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01
Cobalt	<0.02	<0.02	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005
Copper	<0.02	<0.02	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004
Iron	<0.05	<0.05	<0.05	<0.05	0.59	0.08	0.299	0.112	0.022	0.011
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0006
Lithium	0.0251	0.0245	0.0226	0.0225	0.0077	0.0075	<0.01	<0.01	0.0094	0.0084
Manganese	0.00749	0.00785	0.00674	0.00776	0.16	0.16	0.179	0.177	<0.001	<0.001
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01
Nickel	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01
Selenium	.	.	.	.	<0.05	<0.05	.	.	<0.05	<0.05
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	.	.	<0.01	<0.01	.	.
Silver	<0.02	<0.02	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006
Strontium	0.117	0.116	0.114	0.114	0.13	0.13	0.131	0.131	0.078	0.078
Thallium (PMS)	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.0311	0.0321	0.0304	0.0287	0.0088	0.0087	0.0017	0.0071	0.0024	0.0026
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005
Zinc	<0.05	<0.05	<0.05	<0.05	0.0087	0.0049	<0.05	<0.05	0.012	0.0047
MAJOR IONS (mg/L)										
Calcium	63.3	62.7	61.9	62.2	89	90	97.1	96.9	52	51
Magnesium	21.5	21.4	19.9	20	25	25	29.5	29.5	23	23
Potassium	6.22	6.47	6.12	6.06	1.5	1.6	<2	<2	2.6	2.1
Sodium	6.63	6.59	6.51	6.5	28	28	35.3	35.3	5.8	5.9
Alkalinity-HCO3	216	.	218	.	286	.	300	.	186	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	13.1	.	12.9	.	48.4	.	67.9	.	10.2	.
Fluoride	0.19	.	0.17	.	<0.1	.	0.1	.	<0.1	.
Nitrate-N	5.2	.	5.19	.	3.28	.	2.6	.	9.92	.
Sulfate	12.4	.	12.3	.	24.3	.	22.8	.	12.1	.
Ion Charge Balance (RPD)	0.1	.	-1.6	.	-0.1	.	1.3	.	-2.2	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.88	.	7.9	.	7.32	.	7.25	.	7.64	.
Conductivity (umho/cm)	492	.	492	.	733	.	835	.	468	.
TDS (mg/L)	236	.	230	.	431	.	511	.	277	.
TSS (mg/L)	<1	.	2	.	<1	.	<1	.	2	.
Turbidity (NTU)	0.212	.	0.18	.	17	.	5.03	.	1.25	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	898.86	.	898.86	.	891.51	.	891.51	.	939.57	.
Depth to Water (ft)	15.91	.	15.91	.	6.40	.	9.19	.	25.25	.
Water-Level Elev. (ft)	882.95	.	882.95	.	885.11	.	882.32	.	914.32	.
Water Temp. (degrees C)	14.4	.	14.4	.	9.1	.	19.2	.	12.6	.
pH (standard units)	7.74	.	7.74	.	7.21	.	6.9	.	7.54	.
Conductivity (umho/cm)	450	.	450	.	546	.	740	.	363	.
Dissolved Oxygen (ppm)	0.35	.	0.35	.	0.38	.	0.39	.	5.74	.
Oxidation/Reduction (mV)	223	.	223	.	10	.	-15	.	129	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-695		GW-703				GW-704			
Location	EXP-B		EXP-B				EXP-B			
Date Sampled	07/30/98		02/16/98		08/10/98		01/05/98		08/13/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	0.023	<0.02	<0.2	<0.2	0.042	<0.02	<0.2	<0.2
Antimony	.	.	<0.05	<0.05	.	.	<0.05	<0.05	.	.
Antimony (PMS)	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0371	0.0376	0.07	0.07	0.0617	0.0614	0.091	0.09	0.0406	0.0592
Beryllium	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001
Boron	<0.1	<0.1	0.05	0.048	<0.1	<0.1	0.051	0.057	<0.1	<0.1
Cadmium	.	.	<0.003	<0.003	.	.	<0.003	<0.003	.	.
Cadmium (PMS)	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.	0.0006	<0.0005
Chromium	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02
Copper	<0.02	<0.02	0.0043	<0.004	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02
Iron	<0.05	<0.05	0.14	0.0066	0.136	<0.05	0.15	0.021	0.56	0.16
Lead (PMS)	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.002	<0.0005	<0.0005	0.0008
Lithium	0.0117	0.0124	0.018	0.018	0.02	0.02	0.014	0.014	0.0167	0.0147
Manganese	<0.005	<0.005	0.098	0.094	0.0768	0.0761	0.0022	0.0019	0.0575	0.0324
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05
Nickel	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05
Selenium	.	.	<0.05	<0.05	.	.	<0.05	<0.05	.	.
Selenium (PMS)	<0.01	<0.01	.	.	<0.01	<0.01	.	.	<0.01	<0.01
Silver	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02
Strontium	0.0778	0.0798	0.22	0.22	0.206	0.205	0.3	0.3	0.132	0.191
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.0027	0.0028	0.0047	0.0045	0.0048	0.0049	0.0054	0.0046	0.0008	0.0022
Vanadium	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02
Zinc	<0.05	<0.05	0.024	0.0031	<0.05	<0.05	0.02	0.013	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	48.2	49.4	64	64	58.5	58.2	71	70	20.4	37.7
Magnesium	23.1	23.8	28	27	28.1	28.1	28	29	28.5	28.4
Potassium	4.52	4.37	4.3	4.2	5.72	5.82	2.7	2.4	2.83	2.24
Sodium	9.74	10	9.5	9.5	9.01	9.01	10	11	11.5	10.6
Alkalinity-HCO3	188	.	206	.	200	.	210	.	136	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	8.55	.	16.6	.	16.2	.	18.9	.	27.6	.
Fluoride	0.1	.	0.17	.	0.22	.	0.18	.	0.14	.
Nitrate-N	8.4	.	12.7	.	8.56	.	16.1	.	<0.028	.
Sulfate	10.7	.	23.8	.	21.8	.	24	.	23.6	.
Ion Charge Balance (RPD)	1.5	.	-0.5	.	2.0	.	0.2	.	8.5	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.96	.	7.79	.	7.86	.	7.75	.	8.35	.
Conductivity (umho/cm)	458	.	581	.	570	.	613	.	373	.
TDS (mg/L)	253	.	348	.	363	.	371	.	203	.
TSS (mg/L)	4	.	<1	.	<1	.	<1	.	<1	.
Turbidity (NTU)	0.381	.	0.885	.	1.33	.	1.33	.	5.97	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	939.57	.	954.69	.	954.69	.	944.73	.	944.73	.
Depth to Water (ft)	31.48	.	39.41	.	46.37	.	33.28	.	37.88	.
Water-Level Elev. (ft)	908.09	.	915.28	.	908.32	.	911.45	.	906.85	.
Water Temp. (degrees C)	18.5	.	13	.	16.4	.	13.3	.	14.9	.
pH (standard units)	7.72	.	8.31	.	7.79	.	7.68	.	8.4	.
Conductivity (umho/cm)	443	.	459	.	591	.	501	.	302	.
Dissolved Oxygen (ppm)	8.01	.	0.3	.	0.28	.	0.31	.	0.15	.
Oxidation/Reduction (mV)	210	.	117	.	194	.	107	.	-252	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-706				GW-712				GW-713	
Location	EXP-B				EXP-W				EXP-W	
Date Sampled	01/05/98	08/10/98	01/20/98	07/14/98	01/20/98	07/14/98	01/20/98	07/14/98	01/20/98	07/14/98
Sample Type	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	0.027	<0.02	<0.2	<0.2	<0.02	<0.02	<0.2	<0.2	<0.02	<0.02
Antimony	<0.05	<0.05			<0.05	<0.05			<0.05	<0.05
Antimony (PMS)			<0.0005	<0.0005			<0.0005	<0.0005		
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.17	0.17	0.167	0.168	0.036	0.036	0.0303	0.0311	0.032	0.031
Beryllium	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003
Boron	0.088	0.09	0.116	0.116	0.081	0.078	<0.1	<0.1	0.061	0.059
Cadmium	<0.003	<0.003			<0.003	<0.003			<0.003	<0.003
Cadmium (PMS)			<0.0005	<0.0005			<0.0005	<0.0005		
Chromium	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005
Copper	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004
Iron	0.44	0.0093	0.0908	<0.05	6.2	5.7	6.93	6.57	6.6	6.3
Lead (PMS)	<0.0005	<0.0005	0.0008	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	<0.0005
Lithium	0.022	0.022	0.0223	0.0217	0.014	0.014	0.0131	0.0118	0.012	0.012
Manganese	0.0036	0.0012	0.00858	0.00749	0.19	0.19	0.267	0.264	0.24	0.23
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01
Nickel	<0.01	0.011	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01
Selenium	<0.05	<0.05			<0.05	<0.05			<0.05	<0.05
Selenium (PMS)			<0.01	<0.01			<0.01	<0.01		
Silver	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006
Strontium	0.44	0.44	0.384	0.387	0.91	0.9	0.666	0.686	0.91	0.9
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.13	0.13	0.111	0.108	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Vanadium	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005
Zinc	0.0091	0.0089	<0.05	<0.05	0.0022	<0.002	<0.05	<0.05	<0.002	<0.002
MAJOR IONS (mg/L)										
Calcium	130	130	121	121	60	60	50.4	49.9	48	48
Magnesium	23	23	25.4	25.4	33	33	33.1	32.9	31	31
Potassium	5.8	6	5.04	5.32	1.6	2.3	2.21	2.06	2.5	2.5
Sodium	18	18	17.3	17.4	17	17	16.6	17.1	12	12
Alkalinity-HCO ₃	238		220		176		158		168	
Alkalinity-CO ₃	<1		<1		<1		<1		<1	
Chloride	33.5		31.1		15.5		14.7		14.1	
Fluoride	0.33		0.29		0.41		0.39		0.45	
Nitrate-N	45.7		48.1		0.05		<0.028		<0.028	
Sulfate	39.9		26.1		122		119		83.9	
Ion Charge Balance (RPD)	-2.6		-1.4		-0.1		-0.7		0.0	
MISCELLANEOUS ANALYTES										
pH (standard units)	7.54		7.33		7.49		7.33		7.56	
Conductivity (umho/cm)	957		936		605		572		513	
TDS (mg/L)	683		670		387		366		319	
TSS (mg/L)	1		<1		11		12		8	
Turbidity (NTU)	13.4		0.646		92.8		70.2		59.4	
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	929.47		929.47		877.89		877.89		881.43	
Depth to Water (ft)	15.36		19.47		33.03		35.75		36.45	
Water-Level Elev. (ft)	914.11		910.00		844.86		842.14		844.98	
Water Temp. (degrees C)	14.1		16.3		11.4		14.5		10.6	
pH (standard units)	7.2		7.23		8.08		7.64		8.44	
Conductivity (umho/cm)	670		919		519		508		409	
Dissolved Oxygen (ppm)	5.47		0.32		0.11		0.16		0.19	
Oxidation/Reduction (mV)	172		189		-225		-263		-233	

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point Location Date Sampled Sample Type	GW-713						GW-714			
	EXP-W						EXP-W			
	01/20/98		07/15/98				01/21/98		07/14/98	
	DUP		DUP							
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.02	<0.02	<0.2	<0.2	<0.2	<0.2	<0.02	<0.02	<0.2	<0.2
Antimony	<0.05	<0.05	.	.	.	.	<0.05	<0.05	.	.
Antimony (PMS)	.	.	<0.0005	<0.0005	<0.0005	<0.0005	.	.	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.032	0.031	0.0418	0.0413	0.0417	0.0428	0.054	0.054	0.0472	0.0446
Beryllium	<0.0003	<0.0003	<0.001	<0.001	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001
Boron	0.061	0.059	<0.1	<0.1	<0.1	<0.1	0.064	0.059	<0.1	<0.1
Cadmium	<0.003	<0.003	.	.	.	.	<0.003	<0.003	.	.
Cadmium (PMS)	.	.	<0.0005	<0.0005	<0.0005	<0.0005	.	.	<0.0005	<0.0005
Chromium	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02
Cobalt	<0.005	<0.005	<0.02	<0.02	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02
Copper	<0.004	<0.004	<0.02	<0.02	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02
Iron	6.6	6.2	2.52	2.51	2.51	2.63	4.7	4.2	8.01	4.17
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	0.013	0.013	0.0103	<0.01	0.0114	0.0103	0.0088	0.0088	<0.01	<0.01
Manganese	0.24	0.23	0.0771	0.0733	0.0768	0.076	0.17	0.18	0.189	0.17
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05
Nickel	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05
Selenium	<0.05	<0.05	.	.	.	.	<0.05	<0.05	.	.
Selenium (PMS)	.	.	<0.01	<0.01	<0.01	<0.01	.	.	<0.01	<0.01
Silver	<0.006	<0.006	<0.02	<0.02	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02
Strontium	0.9	0.89	1.34	1.32	1.33	1.37	0.17	0.17	0.159	0.157
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Vanadium	<0.005	<0.005	<0.02	<0.02	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02
Zinc	<0.002	<0.002	<0.05	<0.05	<0.05	<0.05	<0.002	0.0022	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	48	47	60.5	59.5	60.1	61.4	50	51	48.7	46.8
Magnesium	31	30	30.8	30.1	30.5	31.2	22	22	23.7	22.8
Potassium	2.4	1.9	2.64	2.81	2.87	2.52	1.7	1.3	<2	<2
Sodium	12	12	11.8	11.6	11.7	12	3.7	3.8	3.82	3.79
Alkalinity-HCO ₃	170	.	188	.	190	.	194	.	188	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	15.9	.	13.1	.	12.9	.	9.15	.	8.57	.
Fluoride	0.44	.	0.54	.	0.56	.	0.18	.	0.21	.
Nitrate-N	<0.028	.	<0.028	.	<0.028	.	<0.028	.	<0.028	.
Sulfate	84	.	96.5	.	95.9	.	24	.	22.6	.
Ion Charge Balance (RPD)	-2.1	.	-1.2	.	0.2	.	-1.0	.	-1.2	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.57	.	7.56	.	7.55	.	7.64	.	7.53	.
Conductivity (umho/cm)	513	.	577	.	572	.	429	.	424	.
TDS (mg/L)	310	.	367	.	374	.	260	.	247	.
TSS (mg/L)	7	.	2	.	2	.	9	.	18	.
Turbidity (NTU)	59.3	.	31.5	.	20.6	.	79.2	.	124	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	881.43	.	881.43	.	881.43	.	875.88	.	875.88	.
Depth to Water (ft)	36.45	.	39.10	.	39.10	.	29.42	.	31.25	.
Water-Level Elev. (ft)	844.98	.	842.33	.	842.33	.	846.46	.	844.63	.
Water Temp. (degrees C)	10.6	.	17	.	17	.	8.5	.	19.6	.
pH (standard units)	8.44	.	7.4	.	7.4	.	7.92	.	7.27	.
Conductivity (umho/cm)	409	.	500	.	500	.	347	.	383	.
Dissolved Oxygen (ppm)	0.19	.	0.25	.	0.25	.	0.41	.	0.14	.
Oxidation/Reduction (mV)	-233	.	-190	.	-190	.	-166	.	-230	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point Location Date Sampled Sample Type	GW-715				GW-724				GW-725	
	EXP-W				EXP-C				EXP-C	
	01/21/98		07/16/98		03/05/98		09/01/98		03/10/98	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.02	<0.02	<0.2	<0.2	<0.02	<0.02	<0.2	<0.2	<0.02	<0.02
Antimony	<0.05	<0.05	.	.	<0.05	<0.05	.	.	<0.05	<0.05
Antimony (PMS)	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.072	0.072	0.0628	0.0629	0.099	0.11	0.0562	0.055	0.25	0.26
Beryllium	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003
Boron	0.011	0.0097	<0.1	<0.1	0.055	0.067	<0.1	<0.1	0.031	0.029
Cadmium	<0.003	<0.003	.	.	<0.003	<0.003	.	.	<0.003	<0.003
Cadmium (PMS)	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.
Chromium	0.013	<0.01	0.0674	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005
Copper	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004
Iron	0.31	0.077	0.834	0.0541	4.8	0.065	1.05	<0.05	2.1	<0.005
Lead (PMS)	0.00082	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0008	<0.0005	0.004	0.0026
Lithium	<0.004	<0.004	<0.01	<0.01	0.015	0.019	0.0163	0.0191	0.0041	<0.004
Manganese	0.0077	0.0073	0.0171	0.00727	0.11	0.11	0.0721	0.0676	0.44	0.44
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01
Nickel	0.089	0.088	0.109	0.0967	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01
Selenium	<0.05	<0.05	.	.	<0.05	<0.05	.	.	<0.05	<0.05
Selenium (PMS)	.	.	<0.01	<0.01	.	.	<0.01	<0.01	.	.
Silver	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006
Strontium	0.085	0.084	0.0808	0.0816	0.9	1.1	0.626	0.62	0.49	0.5
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	0.0006	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	0.0073	0.0068
Vanadium	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005
Zinc	0.0037	0.0049	<0.05	<0.05	<0.002	<0.002	<0.05	<0.05	<0.002	<0.002
MAJOR IONS (mg/L)										
Calcium	89	88	71.1	71.7	64	79	43.4	43.8	160	160
Magnesium	10	10	14	14.2	34	41	39.1	39.6	26	26
Potassium	1.5	1.3	<2	<2	2.3	2.7	2.83	2.87	3.4	3.7
Sodium	18	18	11.9	11.9	22	27	25	24	24	25
Alkalinity-HCO3	250	.	208	.	204	.	164	.	336	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	33.5	.	20.1	.	76.4	.	74.3	.	62	.
Fluoride	<0.1	.	<0.1	.	0.17	.	0.19	.	0.14	.
Nitrate-N	0.36	.	4.01	.	20.6	.	7.73	.	24.4	.
Sulfate	7.12	.	12.4	.	26.6	.	26.8	.	40.4	.
Ion Charge Balance (RPD)	-0.7	.	-0.0	.	1.7	.	0.5	.	1.1	.
MISCELLANEOUS ANALYTES										
pH (standard units)	6.82	.	7.07	.	7.81	.	8.06	.	6.91	.
Conductivity (umho/cm)	584	.	506	.	846	.	682	.	1056	.
TDS (mg/L)	351	.	293	.	466	.	376	.	693	.
TSS (mg/L)	<1	.	1	.	9	.	2	.	15	.
Turbidity (NTU)	3.76	.	10.7	.	41.9	.	0.687	.	26.1	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	874.92	.	874.92	.	979.27	.	979.27	.	961.05	.
Depth to Water (ft)	28.13	.	29.37	.	29.80	.	32.68	.	9.54	.
Water-Level Elev. (ft)	846.79	.	845.55	.	949.47	.	946.59	.	951.51	.
Water Temp. (degrees C)	12.3	.	16.7	.	13.6	.	15.5	.	13.2	.
pH (standard units)	7.02	.	6.38	.	7.83	.	8	.	7.11	.
Conductivity (umho/cm)	397	.	434	.	608	.	648	.	682	.
Dissolved Oxygen (ppm)	3.97	.	3.55	.	0.17	.	0.98	.	0.12	.
Oxidation/Reduction (mV)	84	.	41	.	120	.	99	.	127	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-725		GW-738				GW-740			
Location	EXP-C		EXP-C				EXP-C			
Date Sampled	09/02/98		03/04/98		09/01/98		03/04/98		08/31/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	0.063	<0.02	<0.2	<0.2	<0.02	0.034	<0.4	<0.2
Antimony	.	.	<0.05	<0.05	.	.	<0.05	<0.05	.	.
Antimony (PMS)	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.206	0.204	0.056	0.05	0.0436	0.0435	0.084	0.087	0.16	0.0796
Beryllium	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003	<0.002	<0.001
Boron	<0.1	<0.1	0.022	0.014	<0.1	<0.1	0.0064	0.008	<0.2	<0.1
Cadmium	.	.	<0.003	<0.003	.	.	<0.003	<0.003	.	.
Cadmium (PMS)	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.04	<0.02
Cobalt	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.04	<0.02
Copper	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004	<0.04	<0.02
Iron	0.17	<0.05	0.041	0.006	<0.05	<0.05	0.051	0.016	0.137	<0.05
Lead (PMS)	<0.0005	0.0038	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	<0.01	<0.01	<0.004	0.0056	<0.01	<0.01	0.016	0.015	0.0271	0.0143
Manganese	0.643	0.64	0.0014	<0.001	<0.005	<0.005	0.0013	0.0011	<0.01	<0.005
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.1	<0.05
Nickel	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.1	<0.05
Selenium	.	.	<0.05	<0.05	.	.	<0.05	<0.05	.	.
Selenium (PMS)	<0.01	<0.01	.	.	<0.01	<0.01	.	.	<0.01	<0.01
Silver	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006	<0.04	<0.02
Strontium	0.362	0.358	0.13	0.12	0.109	0.107	0.053	0.054	0.102	0.051
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	<0.2
Uranium (PMS)	0.0091	0.009	0.0023	0.0021	0.0018	0.0019	0.0006	0.0006	<0.0005	<0.0005
Vanadium	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.04	<0.02
Zinc	<0.05	<0.05	0.0078	0.0033	<0.05	<0.05	0.0024	<0.002	<0.1	<0.05
MAJOR IONS (mg/L)										
Calcium	146	144	130	120	111	111	63	62	123	61.3
Magnesium	23.1	23	23	22	24.5	24.3	31	31	62.2	31.3
Potassium	2.8	2.79	2.6	2.2	<2	<2	1.2	1.5	<4	<2
Sodium	20.8	20.9	7.8	6.9	5.68	5.53	1.7	1.7	3	1.55
Alkalinity-HCO3	330	.	316	.	318	.	256	.	254	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	56.2	.	17.1	.	12.9	.	6.03	.	5.56	.
Fluoride	0.21	.	<0.1	.	<0.1	.	0.18	.	0.19	.
Nitrate-N	26.1	.	18	.	11.5	.	2.75	.	2.74	.
Sulfate	45.8	.	35.9	.	25.7	.	12.8	.	12.5	.
Ion Charge Balance (RPD)	-4.5	.	-4.0	.	-1.9	.	-0.0	.	0.0	.
MISCELLANEOUS ANALYTES										
pH (standard units)	6.87	.	7.12	.	7.04	.	7.52	.	7.91	.
Conductivity (umho/cm)	999	.	804	.	756	.	525	.	525	.
TDS (mg/L)	582	.	440	.	439	.	267	.	291	.
TSS (mg/L)	3	.	<1	.	<1	.	<1	.	<1	.
Turbidity (NTU)	11.6	.	1.25	.	14.8	.	1.05	.	11.3	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	961.05	.	983.08	.	983.08	.	1019.60	.	1019.60	.
Depth to Water (ft)	14.59	.	28.98	.	31.63	.	70.29	.	74.06	.
Water-Level Elev. (ft)	946.46	.	954.10	.	951.45	.	949.31	.	945.54	.
Water Temp. (degrees C)	16.5	.	13.9	.	15.7	.	13	.	15.3	.
pH (standard units)	6.67	.	7.1	.	6.94	.	7.47	.	7.19	.
Conductivity (umho/cm)	926	.	602	.	719	.	335	.	502	.
Dissolved Oxygen (ppm)	0.23	.	0.59	.	3.01	.	2.77	.	1.79	.
Oxidation/Reduction (mV)	84	.	150	.	154	.	80	.	133	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-829				NT-01				SS-1	
Location	OLF				EXP-SW				EXP-SW	
Date Sampled	03/05/98		08/31/98		02/19/98		08/05/98		02/19/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	0.12	0.057	<0.2	<0.2	0.49	0.066	<0.2	<0.2	0.075	<0.02
Antimony	<0.05	<0.05	.	.	<0.05	<0.05	.	.	<0.05	<0.05
Antimony (PMS)	.	.	0.0006	0.001	.	.	<0.0005	<0.0005	.	.
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.56	0.54	0.496	0.489	0.28	0.27	0.782	0.775	0.088	0.085
Beryllium	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003
Boron	0.26	0.25	0.25	0.249	0.02	0.019	<0.1	<0.1	0.043	0.043
Cadmium	<0.003	<0.003	.	.	0.0066	0.0075	.	.	<0.003	<0.003
Cadmium (PMS)	.	.	<0.0005	<0.0005	.	.	0.0132	0.0117	.	.
Chromium	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005
Copper	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004
Iron	0.06	0.021	<0.05	<0.05	0.29	0.031	0.0595	<0.05	0.1	0.014
Lead (PMS)	<0.0005	<0.0005	<0.0005	0.001	<0.0005	<0.0005	0.0009	0.0008	<0.0005	<0.0005
Lithium	0.056	0.056	0.0517	0.0522	<0.004	<0.004	<0.01	<0.01	0.0045	0.0049
Manganese	<0.001	<0.001	<0.005	<0.005	2	2	2.12	1.97	0.061	0.055
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01
Nickel	<0.01	<0.01	<0.05	<0.05	0.042	0.041	<0.05	<0.05	<0.01	<0.01
Selenium	<0.05	<0.05	.	.	<0.05	<0.05	.	.	<0.05	<0.05
Selenium (PMS)	.	.	<0.01	<0.01	.	.	<0.01	<0.01	.	.
Silver	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006
Strontium	1.1	1.1	0.959	0.95	0.31	0.31	0.983	0.98	0.93	0.9
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.0008	0.0008	0.0011	0.0011	0.0058	0.006	0.149	0.144	0.05	0.05
Vanadium	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005
Zinc	<0.002	0.011	<0.05	<0.05	0.0071	0.0069	<0.05	<0.05	0.0029	0.0032
MAJOR IONS (mg/L)										
Calcium	18	17	15.2	15.1	100	99	342	337	200	190
Magnesium	6.6	6.5	5.88	5.86	14	14	44.1	44.4	18	17
Potassium	5	5	4.57	4.3	2.1	2	7.2	6.94	3.8	3.8
Sodium	110	100	101	100	13	13	46.9	46.5	54	52
Alkalinity-HCO3	180	.	180	.	84	.	184	.	300	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	2.69	.	2.57	.	11.8	.	36.4	.	186	.
Fluoride	0.44	.	0.43	.	0.48	.	1.33	.	0.33	.
Nitrate-N	28.6	.	27.5	.	63.5	.	252	.	8.22	.
Sulfate	15.6	.	15.7	.	15.1	.	38.4	.	95.6	.
Ion Charge Balance (RPD)	-1.7	.	-2.5	.	-1.3	.	-1.9	.	-2.2	.
MISCELLANEOUS ANALYTES										
pH (standard units)	8.63	.	8.64	.	6.86	.	7.02	.	7.36	.
Conductivity (umho/cm)	614	.	602	.	762	.	2450	.	1350	.
TDS (mg/L)	382	.	405	.	585	.	2320	.	963	.
TSS (mg/L)	1	.	<1	.	8	.	12	.	4	.
Turbidity (NTU)	3.27	.	1.29	.	8.65	.	3.42	.	1.69	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	985.98	.	985.98	.	.	.	.	.	.	.
Depth to Water (ft)	12.32	.	14.34	.	.	.	.	.	.	.
Water-Level Elev. (ft)	973.66	.	971.64	.	.	.	.	.	.	.
Water Temp. (degrees C)	13.9	.	18.5	.	8.3	.	23.5	.	10.5	.
pH (standard units)	8.89	.	9.03	.	6.57	.	7.04	.	7.29	.
Conductivity (umho/cm)	441	.	589	.	596	.	2880	.	924	.
Dissolved Oxygen (ppm)	5.11	.	1.85	.	7.99	.	5.41	.	6.53	.
Oxidation/Reduction (mV)	142	.	165	.	237	.	237	.	236	.

(CONTINUED)

Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	SS-1		SS-4				SS-5			
Location	EXP-SW		EXP-SW				EXP-SW			
Date Sampled	08/05/98		02/19/98		08/04/98		02/18/98		08/03/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	0.57	<0.02	<0.2	<0.2	0.14	<0.02	<0.2	<0.2
Antimony	.	.	<0.05	<0.05	.	.	<0.05	<0.05	.	.
Antimony (PMS)	0.0007	0.0008	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0792	0.0778	0.092	0.079	0.182	0.187	0.054	0.052	0.101	0.101
Beryllium	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001
Boron	<0.1	<0.1	0.035	0.034	0.142	0.144	0.011	0.019	<0.1	<0.1
Cadmium	.	.	<0.003	<0.003	.	.	<0.003	<0.003	.	.
Cadmium (PMS)	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02
Copper	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02
Iron	<0.05	<0.05	0.65	0.053	0.0878	<0.05	0.12	0.023	<0.05	<0.05
Lead (PMS)	<0.0005	0.0025	0.0005	<0.0005	<0.0005	<0.0005	0.0007	<0.0005	<0.0005	<0.0005
Lithium	<0.01	<0.01	0.0099	0.0091	0.0251	0.025	0.0042	<0.004	0.0154	0.0157
Manganese	0.0502	0.0422	0.32	0.019	0.0177	0.0074	0.0052	0.0061	<0.005	0.00585
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05
Nickel	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05
Selenium	.	.	<0.05	<0.05	.	.	<0.05	<0.05	.	.
Selenium (PMS)	<0.01	<0.01	.	.	<0.01	<0.01	.	.	<0.01	<0.01
Silver	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02
Strontium	0.813	0.804	0.15	0.14	0.307	0.316	0.07	0.069	0.169	0.169
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.058	0.0535	0.073	0.072	0.0971	0.0988	0.023	0.024	0.0551	0.0584
Vanadium	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02
Zinc	<0.05	<0.05	0.0044	0.003	<0.05	<0.05	<0.002	0.0031	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	169	166	59	56	115	118	42	42	78.4	78.3
Magnesium	14.9	14.8	14	13	24.5	25.3	13	13	19.2	19.2
Potassium	4.4	4.44	1.6	1.5	3.44	3.75	1.4	0.78	2.41	2.14
Sodium	42.8	42.4	12	11	16.9	17.5	6.3	6	9.32	9.34
Alkalinity-HCO3	334	.	156	.	246	.	136	.	210	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	113	.	21.8	.	28.8	.	13.1	.	17.6	.
Fluoride	0.5	.	0.28	.	0.3	.	0.13	.	0.18	.
Nitrate-N	11.6	.	6.95	.	34.8	.	3.14	.	14	.
Sulfate	58.7	.	18.4	.	22.8	.	10.7	.	15.9	.
Ion Charge Balance (RPD)	-2.1	.	-2.7	.	0.7	.	-1.4	.	-0.7	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.32	.	7.26	.	7.23	.	7.2	.	7.22	.
Conductivity (umho/cm)	1169	.	453	.	863	.	342	.	580	.
TDS (mg/L)	822	.	263	.	528	.	186	.	216	.
TSS (mg/L)	2	.	11	.	<1	.	3	.	3	.
Turbidity (NTU)	2.46	.	8.62	.	2.66	.	3.77	.	0.967	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	.	.	.	.	.	.	.	.	.	.
Depth to Water (ft)	.	.	.	.	.	.	.	.	.	.
Water-Level Elev. (ft)	.	.	.	.	.	.	.	.	.	.
Water Temp. (degrees C)	19.3	.	12.1	.	16.1	.	12.2	.	15.3	.
pH (standard units)	7.27	.	6.97	.	6.99	.	7.11	.	6.78	.
Conductivity (umho/cm)	1255	.	907	.	761	.	366	.	620	.
Dissolved Oxygen (ppm)	4.51	.	6.63	.	2.04	.	8.19	.	3.97	.
Oxidation/Reduction (mV)	249	.	210	.	205	.	223	.	195	.

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APPENDIX D.1: BEAR CREEK HYDROGEOLOGIC REGIME, 1998

Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point Location Date Sampled Sample Type	SS-6			
	EXP-SW			
	02/18/98		07/30/98	
	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)				
Aluminum	0.86	0.055	<0.2	<0.2
Antimony	<0.05	<0.05	.	.
Antimony (PMS)	.	.	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005
Barium	0.05	0.044	0.0786	0.0778
Beryllium	<0.0003	<0.0003	<0.001	<0.001
Boron	0.034	0.033	<0.1	<0.1
Cadmium	<0.003	<0.003	.	.
Cadmium (PMS)	.	.	<0.0005	<0.0005
Chromium	<0.01	<0.01	<0.02	<0.02
Cobalt	<0.005	<0.005	<0.02	<0.02
Copper	<0.004	<0.004	<0.02	<0.02
Iron	0.57	0.072	<0.05	<0.05
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	0.0085	0.0086	<0.01	<0.01
Manganese	0.032	0.019	0.0168	0.0141
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.05	<0.05
Nickel	<0.01	<0.01	<0.05	<0.05
Selenium	<0.05	<0.05	.	.
Selenium (PMS)	.	.	<0.01	<0.01
Silver	<0.006	<0.006	<0.02	<0.02
Strontium	0.07	0.07	0.0893	0.0891
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.034	0.033	0.0102	0.0103
Vanadium	<0.005	<0.005	<0.02	<0.02
Zinc	0.0041	0.0031	<0.05	<0.05
MAJOR IONS (mg/L)				
Calcium	30	31	51	51.1
Magnesium	7	7.1	18.7	18.6
Potassium	1	1.4	<2	<2
Sodium	6.2	6.1	3.68	3.68
Alkalinity-HCO ₃	84	.	184	.
Alkalinity-CO ₃	<1	.	<1	.
Chloride	10.5	.	7.24	.
Fluoride	0.15	.	0.1	.
Nitrate-N	2.29	.	1.55	.
Sulfate	12.1	.	13.8	.
Ion Charge Balance (RPD)	0.7	.	-0.5	.
MISCELLANEOUS ANALYTES				
pH (standard units)	7.77	.	7.33	.
Conductivity (umho/cm)	243	.	402	.
TDS (mg/L)	147	.	234	.
TSS (mg/L)	6	.	<1	.
Turbidity (NTU)	12.3	.	1.96	.
FIELD MEASUREMENTS				
Measuring Pt. Elev. (ft)	.	.	.	.
Depth to Water (ft)	.	.	.	.
Water-Level Elev. (ft)	.	.	.	.
Water Temp. (degrees C)	8.7	.	14.6	.
pH (standard units)	7.67	.	7	.
Conductivity (umho/cm)	174	.	412	.
Dissolved Oxygen (ppm)	8.72	.	8.81	.
Oxidation/Reduction (mV)	227	.	201	.

APPENDIX D.2
VOLATILE ORGANIC COMPOUNDS

Volatile Organic Compounds

Sampling Point	BCK-00.63		BCK-04.55		BCK-07.75		BCK-07.87	BCK-09.40	
Location	EXP-SW		EXP-SW		EXP-SW		EXP-SW	EXP-SW	
Date Sampled	02/18/98	07/29/98	02/18/98	07/29/98	02/18/98	07/30/98	08/11/98	02/18/98	
Sample Type									DUP
ORGANIC COMPOUNDS (ug/L)									
Acetone	FP2	10U	FP2	10U	FP2	10U	FP2	FP2	FP2
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	FP1	10U	10U	10U	10U	10U	10U	FP1	FP1
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	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
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
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	1	5U	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	1	5U	5U	5U	5U
trans-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
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	5U	5U	5U	5U	5U	5U	1	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	1	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	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

(CONTINUED)

Volatile Organic Compounds

Sampling Point	BCK-09.40		BCK-10.60	BCK-11.97		GW-008		GW-046	
Location	EXP-SW		EXP-SW	EXP-SW		OLF		BG	
Date Sampled	08/03/98		02/19/98	02/19/98	08/04/98	01/26/98	07/20/98	01/29/98	07/22/98
Sample Type		DUP							
ORGANIC COMPOUNDS (ug/L)									
Acetone	9	24	FP2	FP2	FP2	FP2	FP2	FP1	FP2
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	2	2	18	49
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	FP2	FP2	10U	FP1	2	FP1	FP1
Carbon disulfide	5U	5U	5U	5U	2	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	2	10U	12	7
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5	9
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	2
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	1	5U	5U	5U
1,1-Dichloroethane	5U	5U	5U	5U	5U	9	8	150	230
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	3	7
1,1-Dichloroethene	5U	5U	5U	5U	5U	5	5	64	66
1,2-Dichloroethene	2	2	5U	5U	5U	17	14	3421	6417
cis-1,2-Dichloroethene	2	2	5U	5U	5U	17	14	3400	6400
trans-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	21	17
1,2-Dichloropropane	5U	5U	5U	5U	5U	3	2	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
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	6	8
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	4	13
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	1	5U	10	19	1000	4600
Toluene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	64	80
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	1	1
Trichloroethene	1	1	5U	5U	5U	3	4	930	3000
Trichlorofluoromethane	5U	5U	5U	5U	1	5U	5U	7	11
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	450	760

(CONTINUED)

Volatile Organic Compounds

Sampling Point	GW-053		GW-056		GW-085		GW-115		GW-226
Location	BG		EXP-A		OLF		S3		OLF
Date Sampled	03/11/98	09/02/98	02/02/98	07/27/98	03/03/98	08/31/98	01/15/98	07/13/98	03/10/98
Sample Type									
ORGANIC COMPOUNDS (ug/L)									
Acetone	FP2	10U	FP2	FP2	FP2	FP1	FP2	FP2	FP1
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	2	10U	FP2	10U	10U	10U	FP2	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U	2
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U	FP2
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethane	6	6	5U	5U	5U	5U	5U	5U	1
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	2
1,2-Dichloroethene	11	15	5U	2	5U	5U	5U	5U	7
cis-1,2-Dichloroethene	11	15	5U	2	5U	5U	5U	5U	7
trans-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
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	2	2	5U	5	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	2	3	5U	2	5U	5U	5U	5U	110
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	4	5	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

Volatile Organic Compounds

Sampling Point	GW-226	GW-276	GW-287	GW-311	GW-315				
Location	OLF	S3	BG	RS	SPI				
Date Sampled	09/02/98	01/22/98	07/16/98	03/02/98	09/03/98	03/05/98	08/27/98	03/02/98	08/27/98
Sample Type									
ORGANIC COMPOUNDS (ug/L)									
Acetone	10U	FP2	FP2	FP2	FP2	FP2	FP1	FP2	10U
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	FP2	10U	FP1	10U	FP1	10U	FP1	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	3	5U	5U	5U	5U	5U	1	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	2	FP2	1	5U	5U	5U	1	FP2	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
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	3	5U	5U	5U	5U	5U	5U	5	3
cis-1,2-Dichloroethene	3	5U	5U	5U	5U	5U	5U	5	3
trans-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
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	12	11	5	4	5U	5U	12	11
Toluene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	180	5U	5U	5U	5U	8	10	6	5
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	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

(CONTINUED)

Volatile Organic Compounds

Sampling Point	GW-537				GW-621		GW-627		GW-653
Location	OLF				EXP-B		BG		BG
Date Sampled	03/03/98		08/31/98		02/02/98	07/29/98	03/11/98	09/01/98	03/10/98
Sample Type		DUP		DUP					
ORGANIC COMPOUNDS (ug/L)									
Acetone	FP2	FP2	10U	FP1	FP2	10U	FP2	FP2	FP1
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	FP2	10U	10U	FP2	10U	2	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	1	10U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	FP2	FP2	2	2	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	30	37	2
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	9	11	1
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5	8	23
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	3	5	23
trans-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	2	3	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
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	210	250	2
Toluene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	59	79	1
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	6	10	10U

(CONTINUED)

Volatile Organic Compounds

Sampling Point	GW-653	GW-683		GW-684				GW-685	
Location	BG	EXP-A		EXP-A				EXP-A	
Date Sampled	09/01/98	02/17/98	08/03/98	02/16/98		08/04/98		02/05/98	07/27/98
Sample Type					DUP		DUP		
ORGANIC COMPOUNDS (ug/L)									
Acetone	FP1	FP2	10U	FP2	FP2	FP2	FP2	FP2	FP2
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	FP2	10U	FP1	FP1	10U	10U	FP1	FP1
Carbon disulfide	5U	5U	5U	5U	5U	5U	1	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	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
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
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	7	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	7	5U	5U	5U	5U	5U	5U	5U	5U
trans-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
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	1	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	1	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	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

(CONTINUED)

Volatile Organic Compounds

Sampling Point	GW-695		GW-703		GW-704		GW-706		GW-712
Location	EXP-B		EXP-B		EXP-B		EXP-B		EXP-W
Date Sampled	02/17/98	07/30/98	02/16/98	08/10/98	01/05/98	08/13/98	01/05/98	08/10/98	01/20/98
Sample Type									
ORGANIC COMPOUNDS (ug/L)									
Acetone	FP2	10U	FP2	FP2	FP2	FP2	FP2	FP2	FP2
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	1	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	FP2	10U	FP1	10U	FP2	10U	3	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	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
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	1	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethane	5U	5U	5U	5U	5U	2	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	2	1	3	8	5U	5U	5U
1,2-Dichloroethene	2	2	4	3	4	3	6	8	5U
cis-1,2-Dichloroethene	2	2	4	3	4	3	6	8	5U
trans-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
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	1	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	7	5	21	18	35	78	11	12	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	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

(CONTINUED)

Volatile Organic Compounds

Sampling Point	GW-712	GW-713				GW-714		GW-715	
Location	EXP-W	EXP-W				EXP-W		EXP-W	
Date Sampled	07/14/98	01/20/98		07/15/98		01/21/98	07/14/98	01/21/98	07/16/98
Sample Type			DUP		DUP				
ORGANIC COMPOUNDS (ug/L)									
Acetone	6	FP2	FP2	FP2	FP2	FP2	36	FP2	FP2
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	FP1	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	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
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
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
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-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
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	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

(CONTINUED)

Volatile Organic Compounds

Sampling Point	GW-724		GW-725		GW-738		GW-740		GW-829
Location	EXP-C		EXP-C		EXP-C		EXP-C		OLF
Date Sampled	03/05/98	09/01/98	03/10/98	09/02/98	03/04/98	09/01/98	03/04/98	08/31/98	03/05/98
Sample Type									
ORGANIC COMPOUNDS (ug/L)									
Acetone	FP2	10U	FP1	10U	FP2	10U	FP2	FP1	FP2
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	FP2	10U	FP2	10U	FP1
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	1	5U	5U	5U	3	2	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	FP2	1	5U	5U	FP2	5U	FP2	1	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
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	4	3	4	3	2	2	3	2	5U
cis-1,2-Dichloroethene	4	3	4	3	2	2	3	2	5U
trans-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
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	3	3	3	2	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	1	1	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	130	120	42	20	37	30	72	59	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	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

(CONTINUED)

Volatile Organic Compounds

Sampling Point	GW-829	NT-01		SS-1		SS-4		SS-5	
Location	OLF	EXP-SW		EXP-SW		EXP-SW		EXP-SW	
Date Sampled	08/31/98	02/19/98	08/05/98	02/19/98	08/05/98	02/19/98	08/04/98	02/18/98	08/03/98
Sample Type									
ORGANIC COMPOUNDS (ug/L)									
Acetone	FP1	FP2	FP1	FP2	FP1	FP2	10U	FP2	16
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	FP2	10U	10U	10U	FP2	10U	FP1	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	6	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	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
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
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	2	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	1	11	5U	3
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	1	11	5U	3
trans-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
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	7	6	1	1	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5	14	5U	2
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	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

(CONTINUED)

Volatile Organic Compounds

Sampling Point	SS-6	
Location	EXP-SW	
Date Sampled	02/18/98	07/30/98
Sample Type		
ORGANIC COMPOUNDS (ug/L)		
Acetone	FP2	10U
Acrolein	10U	10U
Acrylonitrile	10U	10U
Benzene	5U	5U
Bromochloromethane	10U	10U
Bromodichloromethane	5U	5U
Bromoform	5U	5U
Bromomethane	10U	10U
2-Butanone	10U	10U
Carbon disulfide	5U	5U
Carbon tetrachloride	5U	5U
Chlorobenzene	5U	5U
Chloroethane	10U	10U
2-Chloroethyl vinyl ether	10U	10U
Chloroform	5U	5U
Chloromethane	10U	10U
Chlorodibromomethane	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U
1,2-Dibromoethane	5U	5U
Dibromomethane	10U	10U
1,2-Dichlorobenzene	5U	5U
1,4-Dichlorobenzene	5U	5U
1,4-Dichloro-2-butene	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U
Dichlorodifluoromethane	5U	5U
1,1-Dichloroethane	5U	5U
1,2-Dichloroethane	5U	5U
1,1-Dichloroethene	5U	5U
1,2-Dichloroethene	1	5U
cis-1,2-Dichloroethene	1	5U
trans-1,2-Dichloroethene	5U	5U
1,2-Dichloropropane	5U	5U
cis-1,3-Dichloropropene	5U	5U
trans-1,3-Dichloropropene	5U	5U
Dimethylbenzene	5U	5U
Ethanol	500U	500U
Ethylbenzene	5U	5U
Ethyl methacrylate	5U	5U
2-Hexanone	10U	10U
Iodomethane	5U	5U
4-Methyl-2-pentanone	10U	10U
Methylene chloride	5U	5U
Styrene	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U
1,1,2,2-Tetrachloroethane	5U	5U
Tetrachloroethene	5U	5U
Toluene	5U	5U
1,1,1-Trichloroethane	5U	5U
1,1,2-Trichloroethane	5U	5U
Trichloroethene	5U	5U
Trichlorofluoromethane	5U	5U
1,2,3-Trichloropropane	5U	5U
Vinyl acetate	10U	10U
Vinyl chloride	10U	10U

APPENDIX D.3
RADIOLOGICAL ANALYTES

Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point	BCK-00.63						BCK-04.55		
Location	EXP-SW						EXP-SW		
Date Sampled	02/18/98			07/29/98			02/18/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	2.7	6.6	4.2	5.4	4.5	2.7	3.1
Gross Beta	<MDA	.	14	<MDA	.	7.8	<MDA	.	13

(CONTINUED)

Sampling Point	BCK-04.55			BCK-07.75					
Location	EXP-SW			EXP-SW					
Date Sampled	07/29/98			02/18/98			07/30/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	16	5.1	1.1	13	4.5	4.5	33	7.8	4.6
Gross Beta	<MDA	.	7.8	18	4.9	13	30	6.2	6.5

(CONTINUED)

Sampling Point	BCK-07.87			BCK-09.40					
Location	EXP-SW			EXP-SW					
Date Sampled	08/11/98			02/18/98					
Sample Type							DUP		
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	25	7.2	4.2	6.8	3.5	4.4	9.2	3.8	2.9
Gross Beta	65	9.1	8.5	13	4.6	12	19	5.2	13

(CONTINUED)

Sampling Point	BCK-09.40						BCK-10.60		
Location	EXP-SW						EXP-SW		
Date Sampled	08/03/98						02/19/98		
Sample Type							DUP		
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	33	7.5	3.3	40	8.8	5.6	37	7.4	3.3
Gross Beta	38	7	7.5	36	7.3	8.4	29	6.2	13

(CONTINUED)

Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point	BCK-11.97						GW-008		
Location	EXP-SW						OLF		
Date Sampled	02/19/98			08/04/98			01/26/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	18	6.2	5.2	35	9.7	6.5	<MDA	-	2.6
Gross Beta	100	9.8	12	190	14	7.5	<MDA	-	13

(CONTINUED)

Sampling Point	GW-008			GW-046					
Location	OLF			BG					
Date Sampled	07/20/98			01/29/98			07/22/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.6	<MDA	.	3.2	<MDA	.	4.4
Gross Beta	9.3	5.2	7.8	<MDA	.	13	<MDA	.	7.7

(CONTINUED)

Sampling Point	GW-053						GW-056		
Location	BG						EXP-A		
Date Sampled	03/11/98			09/02/98			02/02/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.1	<MDA	.	5.7	<MDA	.	6.1
Gross Beta	<MDA	.	31	<MDA	.	7.8	<MDA	.	13

(CONTINUED)

Sampling Point	GW-056			GW-085					
Location	EXP-A			OLF					
Date Sampled	07/27/98			03/03/98			08/31/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	4.5	<MDA	.	1.1	<MDA	.	5.7
Gross Beta	<MDA	.	8.6	31	6.5	13	33	6.9	7.6

(CONTINUED)

Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point	GW-115						GW-226		
Location	S3						OLF		
Date Sampled	01/15/98			07/13/98			03/10/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.5	<MDA	.	6.3	5.5	3.4	3.6
Gross Beta	<MDA	.	13	<MDA	.	8.6	13	4.5	11

(CONTINUED)

Sampling Point Location Date Sampled Sample Type	GW-226			GW-276					
	OLF			S3					
	09/02/98			01/22/98			07/16/98		
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	4.7	140	21	2.1	<MDA	.	4.2
Gross Beta	16	5.7	7.8	590	24	14	<MDA	.	8.4

(CONTINUED)

Sampling Point	GW-287						GW-311		
Location	BG						RS		
Date Sampled	03/02/98			09/03/98			03/05/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	1.7	1.5	0.9	<MDA	.	5.2	<MDA	.	4.4
Gross Beta	<MDA	.	14	<MDA	.	7.8	<MDA	.	32

(CONTINUED)

Sampling Point	GW-311			GW-315					
Location	RS			SPI					
Date Sampled	08/27/98			03/02/98			08/27/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	5.6	2.9	2.2	1.1	<MDA	.	5.5
Gross Beta	<MDA	.	8.4	30	6.1	16	21	7	9.8

(CONTINUED)

APPENDIX D.3: BEAR CREEK HYDROGEOLOGIC REGIME, 1998

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Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point	GW-537								
Location	OLF								
Date Sampled	03/03/98						08/31/98		
Sample Type	DUP								
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	18	12	18	20	12	12	<MDA	.	18
Gross Beta	440	32	31	420	31	29	380	27	18

(CONTINUED)

Sampling Point	GW-537			GW-621					
Location	OLF			EXP-B					
Date Sampled	08/31/98			02/02/98			07/29/98		
Sample Type	DUP								
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	18	<MDA	.	3.9	<MDA	.	3.3
Gross Beta	380	28	19	<MDA	.	13	<MDA	.	8.3

(CONTINUED)

Sampling Point	GW-627						GW-653		
Location	BG						BG		
Date Sampled	03/11/98			09/01/98			03/10/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	6.8	<MDA	.	6.1	<MDA	.	2.6
Gross Beta	<MDA	.	33	<MDA	.	7.9	<MDA	.	12

(CONTINUED)

Sampling Point	GW-653			GW-683					
Location	BG			EXP-A					
Date Sampled	09/01/98			02/17/98			08/03/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.5	8	3.5	2.8	11	5.1	5.6
Gross Beta	<MDA	.	7.9	14	4.8	14	22	6.6	8.6

(CONTINUED)

Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point	GW-684								
Location	EXP-A								
Date Sampled	02/16/98						08/04/98		
Sample Type	DUP								
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	12	4.4	4	18	5.3	3.4	22	6.2	1.2
Gross Beta	23	5.1	10	21	5.6	13	34	6.6	7

(CONTINUED)

Sampling Point	GW-684			GW-685					
	EXP-A			EXP-A					
Location									
Date Sampled	08/04/98			02/05/98			07/27/98		
Sample Type	DUP								
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	18	5.7	3.3	4.6	2.8	1.1	<MDA	.	5.8
Gross Beta	28	6.1	6.8	<MDA	.	22	<MDA	.	7.6

(CONTINUED)

Sampling Point	GW-695						GW-703		
Location	EXP-B						EXP-B		
Date Sampled	02/17/98			07/30/98			02/16/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.3	<MDA	.	3.9	3.8	2.6	3
Gross Beta	27	5.5	12	25	6.2	7.5	23	5.5	12

(CONTINUED)

Sampling Point	GW-703			GW-704					
Location	EXP-B			EXP-B					
Date Sampled	08/10/98			01/05/98			08/13/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	6.4	<MDA	.	3.1	<MDA	.	3.1
Gross Beta	27	6.1	7	30	6	13	<MDA	.	7.5

(CONTINUED)

Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point	GW-706						GW-712		
Location	EXP-B						EXP-W		
Date Sampled	01/05/98			08/10/98			01/20/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	42	9	6.8	42	9.1	4.3	<MDA	.	3.2
Gross Beta	130	11	16	140	12	7.5	<MDA	.	14

(CONTINUED)

Sampling Point	GW-712			GW-713					
Location	EXP-W			EXP-W					
Date Sampled	07/14/98			01/20/98					
Sample Type				DUP					
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	4.3	<MDA	.	3.5	< CE	1.4	1.1
Gross Beta	<MDA	.	8.4	<MDA	.	16	<MDA	.	14

(CONTINUED)

Sampling Point	GW-713						GW-714		
Location	EXP-W						EXP-W		
Date Sampled	07/15/98						01/21/98		
Sample Type	DUP								
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	4.8	4.9	3	1.2	<MDA	.	2.9
Gross Beta	<MDA	.	7.5	<MDA	.	8.5	<MDA	.	15

(CONTINUED)

Sampling Point	GW-714			GW-715					
Location	EXP-W			EXP-W					
Date Sampled	07/14/98			01/21/98			07/16/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	3.4	2.8	3.4	<MDA	.	1.1	<MDA	.	3.7
Gross Beta	<MDA	.	7.8	<MDA	.	14	11	5.4	7.9

(CONTINUED)

Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point	GW-724						GW-725		
Location	EXP-C						EXP-C		
Date Sampled	03/05/98			09/01/98			03/10/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	4	<MDA	.	4.2	<MDA	.	5.2
Gross Beta	<MDA	.	31	<MDA	.	9.1	29	5.9	12

(CONTINUED)

Sampling Point	GW-725			GW-738					
Location	EXP-C			EXP-C					
Date Sampled	09/02/98			03/04/98			09/01/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	7.7	4.8	5.9	<MDA	.	3.7	<MDA	.	5.6
Gross Beta	30	6.8	7.9	47	6.9	13	29	6.8	8.1

(CONTINUED)

Sampling Point	GW-740						GW-829		
Location	EXP-C						OLF		
Date Sampled	03/04/98			08/31/98			03/05/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	2.9	<MDA	.	6.7	<MDA	.	5.2
Gross Beta	<MDA	.	15	8.9	5	7.5	<MDA	.	9.9

(CONTINUED)

Sampling Point	GW-829			NT-01					
Location	OLF			EXP-SW					
Date Sampled	08/31/98			02/19/98			08/05/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	4.8	<MDA	.	3.6	45	13	8.3
Gross Beta	<MDA	.	9.1	180	13	12	500	21	8

(CONTINUED)

Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point	SS-1						SS-4		
	EXP-SW						EXP-SW		
Location									
Date Sampled	02/19/98			08/05/98			02/19/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	14	6.2	6.4	29	9	1.9	27	6.5	3
Gross Beta	16	4.7	10	30	6.9	8	31	6	12

(CONTINUED)

Sampling Point Location Date Sampled Sample Type	SS-4			SS-5					
	EXP-SW			EXP-SW					
	08/04/98			02/18/98			08/03/98		
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	38	8.6	3.7	9.5	3.8	3.1	31	7.5	4.6
Gross Beta	110	11	7.7	13	4.4	12	46	7.9	8.4

(CONTINUED)

Sampling Point	SS-6					
Location	EXP-SW					
Date Sampled	02/18/98			07/30/98		
Sample Type						
	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)						
Gross Alpha	10	3.9	2.7	4.8	3.6	4.7
Gross Beta	12	4.5	11	<MDA	.	9.2

Radiological Analytes: Isotope Activity

Sampling Point	BCK-11.97						GW-008		
Location	EXP-SW						OLF		
Date Sampled	02/19/98			08/04/98			01/26/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	18	6.2	5.2	35	9.7	6.5	<MDA	.	2.6
Gross Beta	100	9.8	12	190	14	7.5	<MDA	.	13
Americium 241	<MDA	.	0.28	<MDA	.	0.23	<MDA	.	0.22
Iodine 129	<MDA	.	22	<MDA	.	23	<MDA	.	22
Neptunium 237	0.92	0.32	0.17	<MDA	.	0.24	<MDA	.	0.28
Plutonium 238	<MDA	.	0.22	<MDA	.	0.23	<MDA	.	0.29
Plutonium 239	<MDA	.	0.18	<MDA	.	0.18	<MDA	.	0.21
Radium 223/224/226	<MDA	.	1.8	<MDA	.	2.3	2.9	1.6	1.8
Strontium 89/90	<MDA	.	3.4	<MDA	.	4.2	<MDA	.	4.2
Technetium 99	160	11	13	350	13	13	<MDA	.	13
Thorium 228	<MDA	.	0.55	<MDA	.	0.23	.	.	.
Thorium 230	<MDA	.	0.4	<MDA	.	0.2	.	.	.
Thorium 232	<MDA	.	0.11	<MDA	.	0.066	.	.	.
Thorium 234	20	2.5	0.073	41	4.6	0.073	.	.	.
Tritium	<MDA	.	890	<MDA	.	830	<MDA	.	840
Uranium 234	10	1.5	0.073	24	2.9	0.073	0.11	0.11	0.073
Uranium 235	0.4	0.24	0.091	1.3	0.43	0.091	<MDA	.	0.09
Uranium 238	20	2.5	0.073	41	4.6	0.073	0.11	0.11	0.073
Total Uranium (mg/L)	0.058	0.006	.	0.11	0.01	.	.	.	.
Uranium 235 (Wt. %)	0.41	0.05	.	0.44	0.05	.	.	.	.

(CONTINUED)

Sampling Point	GW-008			GW-046					
Location	OLF			BG					
Date Sampled	07/20/98			01/29/98			07/22/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.6	<MDA	.	3.2	<MDA	.	4.4
Gross Beta	9.3	5.2	7.8	<MDA	.	13	<MDA	.	7.7
Americium 241	<MDA	.	0.32	<MDA	.	0.32	<MDA	.	0.32
Iodine 129	<MDA	.	24	<MDA	.	21	<MDA	.	24
Neptunium 237	<MDA	.	0.26	<MDA	.	0.15	<MDA	.	0.35
Plutonium 238	<MDA	.	0.42	<MDA	.	0.23	<MDA	.	0.2
Plutonium 239	<MDA	.	0.37	<MDA	.	0.072	<MDA	.	0.083
Radium 223/224/226	<MDA	.	2.3	<MDA	.	1.3	1.3	1.1	1.3
Strontium 89/90	11	3.7	4.9	<MDA	.	4.4	<MDA	.	5
Technetium 99	15	7.6	12	<MDA	.	13	19	7.7	12
Thorium 228	.	.	.	.	.	.	.	.	.
Thorium 230	.	.	.	.	.	.	.	.	.
Thorium 232	.	.	.	.	.	.	.	.	.
Thorium 234	.	.	.	.	.	.	.	.	.
Tritium	<MDA	.	870	<MDA	.	300	<MDA	.	870
Uranium 234	< CE	0.088	0.069	<MDA	.	0.2	<MDA	.	0.17
Uranium 235	<MDA	.	0.085	<MDA	.	0.2	<MDA	.	0.21
Uranium 238	<MDA	.	0.069	0.1	0.1	0.068	<MDA	.	0.17
Total Uranium (mg/L)	.	.	.	.	.	.	.	.	.
Uranium 235 (Wt. %)	.	.	.	.	.	.	.	.	.

(CONTINUED)

Radiological Analytes: Isotope Activity

Sampling Point . Location . Date Sampled . Sample Type	GW-115						GW-276		
	S3						S3		
	01/15/98			07/13/98			01/22/98		
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.5	<MDA	.	6.3	140	21	2.1
Gross Beta	<MDA	.	13	<MDA	.	8.6	590	24	14
Americium 241	<MDA	.	0.39	<MDA	.	0.35	<MDA	.	0.27
Iodine 129	<MDA	.	20	<MDA	.	24	<MDA	.	21
Neptunium 237	<MDA	.	0.24	<MDA	.	0.084	18	1.9	0.11
Plutonium 238	<MDA	.	0.27	<MDA	.	0.3	<MDA	.	0.73
Plutonium 239	<MDA	.	0.071	<MDA	.	0.19	<MDA	.	0.42
Radium 223/224/226	<MDA	.	1.6	<MDA	.	1.2	<MDA	.	2
Strontium 89/90	<MDA	.	3.6	<MDA	.	7.8	4.8	3.1	4.8
Technetium 99	<MDA	.	14	<MDA	.	13	970	19	13
Thorium 228	.	.	.	.	.	.	.	.	.
Thorium 230	.	.	.	.	.	.	.	.	.
Thorium 232	.	.	.	.	.	.	.	.	.
Thorium 234	.	.	.	.	.	.	.	.	.
Tritium	<MDA	.	860	<MDA	.	830	<MDA	.	850
Uranium 234	< CE	0.09	0.07	<MDA	.	0.17	100	13	0.37
Uranium 235	<MDA	.	0.21	<MDA	.	0.21	3.9	1.1	0.15
Uranium 238	<MDA	.	0.17	< CE	0.072	0.056	220	27	0.3
Total Uranium (mg/L)	.	.	.	.	.	.	.	.	.
Uranium 235 (Wt. %)	.	.	.	.	.	.	.	.	.

(CONTINUED)

Sampling Point	GW-276			GW-712					
Location	S3			EXP-W					
Date Sampled	07/16/98			01/20/98			07/14/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	4.2	<MDA	.	3.2	<MDA	.	4.3
Gross Beta	<MDA	.	8.4	<MDA	.	14	<MDA	.	8.4
Americium 241	<MDA	.	0.4	<MDA	.	0.32	<MDA	.	0.61
Iodine 129	<MDA	.	24	<MDA	.	20	<MDA	.	23
Neptunium 237	13	1.4	0.082	<MDA	.	0.099	<MDA	.	0.14
Plutonium 238	<MDA	.	0.21	<MDA	.	0.37	<MDA	.	0.33
Plutonium 239	<MDA	.	0.15	<MDA	.	0.2	<MDA	.	0.18
Radium 223/224/226	<MDA	.	1.6	<MDA	.	0.5	<MDA	.	2.6
Strontium 89/90	<MDA	.	5.8	<MDA	.	4.1	<MDA	.	5.1
Technetium 99	840	18	13	<MDA	.	13	<MDA	.	13
Thorium 228	.	.	.	.	.	.	.	.	.
Thorium 230	.	.	.	.	.	.	.	.	.
Thorium 232	.	.	.	.	.	.	.	.	.
Thorium 234	.	.	.	.	.	.	.	.	.
Tritium	<MDA	.	840	<MDA	.	860	<MDA	.	840
Uranium 234	110	14	0.34	< CE	0.1	0.079	<MDA	.	0.18
Uranium 235	5.6	1.4	0.17	<MDA	.	0.098	<MDA	.	0.22
Uranium 238	240	31	0.53	<MDA	.	0.079	< CE	0.093	0.073
Total Uranium (mg/L)	.	.	.	.	.	.	.	.	.
Uranium 235 (Wt. %)	.	.	.	.	.	.	.	.	.

(CONTINUED)

Radiological Analytes: Isotope Activity

Sampling Point • Location • Date Sampled • Sample Type	GW-713								
	EXP-W								
	01/20/98						07/15/98		
	DUP			DUP			DUP		
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.5	< CE	1.4	1.1	<MDA	.	4.8
Gross Beta	<MDA	.	16	<MDA	.	14	<MDA	.	7.5
Americium 241	<MDA	.	0.29	<MDA	.	0.26	<MDA	.	0.38
Iodine 129	<MDA	.	20	<MDA	.	20	<MDA	.	23
Neptunium 237	<MDA	.	0.26	<MDA	.	0.17	< CE	0.086	0.067
Plutonium 238	<MDA	.	0.22	<MDA	.	0.29	<MDA	.	0.23
Plutonium 239	<MDA	.	0.062	<MDA	.	0.068	<MDA	.	0.16
Radium 223/224/226	<MDA	.	1.9	<MDA	.	2.3	1.2	1	1.2
Strontium 89/90	<MDA	.	6.4	<MDA	.	9.5	<MDA	.	3.8
Technetium 99	<MDA	.	13	<MDA	.	13	<MDA	.	13
Thorium 228	.	.	.	.	.	.	.	.	.
Thorium 230	.	.	.	.	.	.	.	.	.
Thorium 232	.	.	.	.	.	.	.	.	.
Thorium 234	.	.	.	.	.	.	.	.	.
Tritium	<MDA	.	860	<MDA	.	860	<MDA	.	840
Uranium 234	<MDA	.	0.31	<MDA	.	0.077	0.26	0.18	0.22
Uranium 235	<MDA	.	0.099	<MDA	.	0.096	<MDA	.	0.28
Uranium 238	<MDA	.	0.31	<MDA	.	0.23	<MDA	.	0.16
Total Uranium (mg/L)	.	.	.	.	.	.	.	.	.
Uranium 235 (Wt. %)	.	.	.	.	.	.	.	.	.

(CONTINUED)

Sampling Point • Location • Date Sampled • Sample Type	GW-713			GW-714					
	EXP-W			EXP-W					
	07/15/98			01/21/98			07/14/98		
	DUP								
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	4.9	3	1.2	<MDA	.	2.9	3.4	2.8	3.4
Gross Beta	<MDA	.	8.5	<MDA	.	15	<MDA	.	7.8
Americium 241	<MDA	.	0.49	<MDA	.	0.24	<MDA	.	0.36
Iodine 129	<MDA	.	23	<MDA	.	23	<MDA	.	23
Neptunium 237	<MDA	.	0.12	<MDA	.	0.3	<MDA	.	0.19
Plutonium 238	<MDA	.	0.33	<MDA	.	0.24	<MDA	.	0.24
Plutonium 239	<MDA	.	0.2	<MDA	.	0.15	<MDA	.	0.069
Radium 223/224/226	1.3	1	1.2	<MDA	.	1.5	<MDA	.	2.8
Strontium 89/90	<MDA	.	4.8	<MDA	.	5.3	<MDA	.	4.8
Technetium 99	<MDA	.	13	<MDA	.	13	<MDA	.	13
Thorium 228	.	.	.	.	.	.	.	.	.
Thorium 230	.	.	.	.	.	.	.	.	.
Thorium 232	.	.	.	.	.	.	.	.	.
Thorium 234	.	.	.	.	.	.	.	.	.
Tritium	<MDA	.	840	<MDA	.	860	<MDA	.	840
Uranium 234	<MDA	.	0.23	<MDA	.	0.23	<MDA	.	0.17
Uranium 235	<MDA	.	0.081	<MDA	.	0.097	<MDA	.	0.071
Uranium 238	<MDA	.	0.23	<MDA	.	0.19	<MDA	.	0.17
Total Uranium (mg/L)	.	.	.	.	.	.	.	.	.
Uranium 235 (Wt. %)	.	.	.	.	.	.	.	.	.

(CONTINUED)

Radiological Analytes: Isotope Activity

Sampling Point Location Date Sampled Sample Type	GW-715					
	EXP-W					
	01/21/98			07/16/98		
	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)						
Gross Alpha	<MDA	.	1.1	<MDA	.	3.7
Gross Beta	<MDA	.	14	11	5.4	7.9
Americium 241	<MDA	.	0.23	<MDA	.	0.39
Iodine 129	<MDA	.	24	<MDA	.	23
Neptunium 237	< CE	0.11	0.088	<MDA	.	0.18
Plutonium 238	<MDA	.	0.25	<MDA	.	0.44
Plutonium 239	<MDA	.	0.29	<MDA	.	0.32
Radium 223/224/226	<MDA	.	1.8	4.8	2.1	1.6
Strontium 89/90	630	16	4.2	<MDA	.	5.2
Technetium 99	<MDA	.	13	15	8	13
Thorium 228	.	.	.	.	.	.
Thorium 230	.	.	.	.	.	.
Thorium 232	.	.	.	.	.	.
Thorium 234	.	.	.	.	.	.
Tritium	<MDA	.	860	<MDA	.	840
Uranium 234	<MDA	.	0.16	<MDA	.	0.21
Uranium 235	<MDA	.	0.2	<MDA	.	0.18
Uranium 238	<MDA	.	0.2	0.25	0.15	0.061
Total Uranium (mg/L)	.	.	.	.	.	.
Uranium 235 (Wt. %)	.	.	.	.	.	.

APPENDIX E

**CY 1998 MONITORING DATA FOR THE
CHESTNUT RIDGE HYDROGEOLOGIC REGIME**

EXPLANATION

SAMPLING POINT:

- GW - Monitoring Well
- SCR - South Chestnut Ridge (tributary prefix)
- SP - Spring location (suffix)

LOCATION:

- CDLVI - Construction/Demolition Landfill VI
- CDLVII - Construction/Demolition Landfill VII
- CRBAWP - Chestnut Ridge Borrow Area Waste Pile
- CRSDB - Chestnut Ridge Sediment Disposal Basin
- CRSP - Chestnut Ridge Security Pits
- EXP-SW - Exit Pathway Monitoring Location (spring)
- FCAP - Filled Coal Ash Pond
- KHQ - Kerr Hollow Quarry
- LII - Industrial Landfill II
- LIV - Industrial Landfill IV
- LV - Industrial Landfill V

SAMPLE TYPE:

- DUP - Field Duplicate Sample
- DIS - Dissolved concentration (filtered sample)
- TOT - Total concentration (unfiltered sample)
- ACT - Activity
- ERR - Counting Error (two standard deviations)
- MDA - Minimum Detectable Activity

UNITS:

- ft - feet (elevations are above mean sea level and depths are below grade)
- ug/L - micrograms per liter
- mg/L - milligrams per liter
- mV - millivolts
- umho/cm - micromhos per centimeter
- NTU - Nephelometric Turbidity Units
- pCi/L - picoCuries per liter
- ppm - parts per million
- RPD - relative percent difference between the summed positive and negative charges calculated from milliequivalent concentrations (see Section 2.6)
- /100ml - total coliform per 100 milliliters (Appendix E.1, p.30)

NOTES:

All metals analyses were performed using the inductively coupled plasma (ICP) spectroscopy method unless otherwise noted.

- . - Not analyzed or not applicable
- CVAA - Cold Vapor Atomic Absorption
- PMS - Plasma Mass Spectroscopy
- TDS - Total Dissolved Solids
- TSS - Total Suspended Solids

EXPLANATION (continued)

DATA QUALIFICATION:

Results that do not meet the data quality objectives of the Y-12 Plant Groundwater Protection Program were replaced with one of the following surrogate values:

- DUP OUT - Duplicate sample results differ by more than an order of magnitude (Appendix E.2).
- FP - False-positive result for organic compounds (Appendix E.2), screened by data from the associated laboratory blank (FP1) or trip blank (FP2).
- <MDA - Reported activity (Appendix E.3) is less than the minimum detectable activity.

These screened results are presented in Section 2.6 and Table 8 (false positives).

Elevated Detection Limits:

The filtered sample from well GW-159 collected on April 16, 1998 was slightly diluted before ICP analysis (trace metals and cations in Appendix E.1) to obtain an optimum matrix. Results for this sample reflect a 1.2-fold dilution.

Laboratory Qualifiers:

The following laboratory qualifiers are presented with results in this appendix:

- < - Inorganic compound not detected at the minimum attainable detection limit.
- U - Organic compound not detected at the minimum attainable detection limit.

The following laboratory qualifiers are not presented with results in this appendix:

- B Forty eight organic results were reported with a "B" qualifier, indicating that a compound also was detected in the associated laboratory blank. These results were reported for acetone (29 results), 2-butanone (18 results), and dichlorodifluoromethane (one result). All false-positive results that were screened by data reported for the laboratory blanks (FP1) or the associated trip blanks (FP2: not indicated by a qualifier) are shown in Appendix E.2. The screened concentrations are presented in Table 8.
- D All organic results greater than or equal to 200 ug/L were reported with a "D" qualifier, indicating that the analysis for a specific compound was performed at a secondary dilution factor to be within the instrument calibration range. This qualifier was reported with the 1,1,1-trichloroethane result (220 ug/L) for the sample collected from well GW-322 on January 12, 1998.

EXPLANATION (continued)

- J** A result less than the contract required reporting limit is an estimated value and assigned a “J” qualifier by the laboratory. The standard reporting limits for the organic compounds are 5 ug/L, 10ug/L, or 500 ug/L; therefore, all results less than 5 ug/L are estimated values. All estimated results greater than or equal to 5 ug/L were screened as false positives.
- X or hX** These qualifiers indicate that the analysis was performed after the specified holding time. Results with the “X” qualifier were for dissolved solids from samples collected on October 19, 1998 from wells at Kerr Hollow Quarry (GW-142, GW-143, GW-144, GW-145, and GW-231) and the turbidity result for the April 20 sample from well GW-540 had an “hX” qualifier.

APPENDIX E.1

**TRACE METALS, MAJOR IONS, MISCELLANEOUS ANALYTES,
AND FIELD MEASUREMENTS**

APPENDIX E.1: CHESTNUT RIDGE HYDROGEOLOGIC REGIME, 1998

1

Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-141								GW-142	
Location	LIV								KHQ	
Date Sampled	01/08/98				07/09/98				04/27/98	
Sample Type	DUP		DUP		DUP		DUP			
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	0.43	<0.02	0.39	<0.02	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Antimony	<0.05	<0.05	<0.05	<0.05	.	.	.	.	.	.
Antimony (PMS)	.	.	.	.	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.016	0.016	0.016	0.016	0.0155	0.0156	0.0162	0.0157	0.488	0.459
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron	0.0045	<0.004	0.0061	<0.004	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium	<0.003	<0.003	<0.003	<0.003	.	.	.	.	.	.
Cadmium (PMS)	.	.	.	.	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	<0.004	<0.004	<0.004	<0.004	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Iron	0.39	0.034	0.38	0.026	0.138	<0.05	<0.05	<0.05	3.55	2.09
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	<0.004	<0.004	<0.004	<0.004	<0.01	<0.01	<0.01	<0.01	0.0288	0.0277
Manganese	0.007	0.0017	0.0078	<0.001	<0.005	<0.005	<0.005	<0.005	0.0978	0.0913
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium	<0.05	<0.05	<0.05	<0.05	.	.	.	.	.	.
Selenium (PMS)	.	.	.	.	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.006	<0.006	<0.006	<0.006	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Strontium	0.017	0.017	0.017	0.017	0.0168	0.0171	0.0164	0.017	0.55	0.523
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0011	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	0.013	0.0072	0.011	0.0062	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	45	45	45	44	47.8	48.1	44.7	48.2	40	38.4
Magnesium	28	26	27	26	29.6	29.8	27.5	29.9	32.5	30.6
Potassium	0.89	1.1	1.5	1.3	<2	<2	<2	<2	4.66	4.27
Sodium	0.64	0.68	0.63	0.67	0.687	0.694	0.676	0.697	1.2	1.19
Alkalinity-HCO ₃	212	.	216	.	232	.	208	.	232	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	1.34	.	1.35	.	1.37	.	1.42	.	1.36	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.	0.6	.
Nitrate-N	0.55	.	0.55	.	0.534	.	0.566	.	<0.028	.
Sulfate	2.67	.	2.67	.	2.66	.	2.86	.	5.82	.
Ion Charge Balance (RPD)	0.8	.	-0.6	.	1.2	.	6.5	.	-2.5	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.18	.	7.18	.	7.14	.	6.97	.	7.78	.
Conductivity (umho/cm)	397	.	396	.	438	.	394	.	427	.
TDS (mg/L)	205	.	206	.	237	.	209	.	214	.
TSS (mg/L)	5	.	5	.	1	.	1	.	6	.
Turbidity (NTU)	10.8	.	10.5	.	5.25	.	4.4	.	49.2	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	1186.23	.	1186.23	.	1186.23	.	1186.23	.	971.15	.
Depth to Water (ft)	90.06	.	90.06	.	95.78	.	95.78	.	132.64	.
Water-Level Elev. (ft)	1096.17	.	1096.17	.	1090.45	.	1090.45	.	838.51	.
Water Temp. (degrees C)	15.4	.	15.4	.	16.7	.	16.7	.	15	.
pH (standard units)	6.42	.	6.42	.	7.08	.	7.08	.	7.93	.
Conductivity (umho/cm)	326	.	326	.	399	.	399	.	392	.
Dissolved Oxygen (ppm)	4.42	.	4.42	.	5.61	.	5.61	.	1.12	.
Oxidation/Reduction (mV)	129	.	129	.	194	.	194	.	-163	.

(CONTINUED)

Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point Location Date Sampled Sample Type	GW-142									
	KHQ									
	04/28/98		04/29/98		04/30/98		10/19/98			
			DUP							
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Antimony	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Antimony (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.44	0.446	0.46	0.457	0.448	0.459	0.446	0.448	0.468	0.463
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Iron	2.74	1.85	2.33	2.1	2.42	2.14	2	1.75	3.72	2.58
Lead (PMS)	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	0.025	0.0259	0.0266	0.0261	0.0254	0.0271	0.0269	0.0263	0.0258	0.0271
Manganese	0.0944	0.0973	0.0954	0.0944	0.093	0.095	0.0899	0.0896	0.0847	0.0827
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Strontium	0.482	0.497	0.507	0.505	0.493	0.506	0.502	0.504	0.474	0.471
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.001	0.0009	0.001	0.001	0.0011	0.0011	0.0012	0.0011	0.00051	0.00053
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	39.9	41.2	41.2	40.5	40	40.8	41.1	41.6	38.6	39.2
Magnesium	30.7	32.3	32.6	32.2	31.5	32.4	30.7	30.7	31.5	31.9
Potassium	4.14	3.82	4	4.02	3.79	4.11	4.09	3.98	4.04	4.11
Sodium	1.09	1.03	0.988	1.03	0.986	1.04	1.05	1.07	1.07	1.12
Alkalinity-HCO3	236	.	228	.	226	.	226	.	220	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	1.4	.	1.38	.	1.37	.	1.35	.	1.39	.
Fluoride	0.59	.	0.63	.	0.62	.	0.62	.	0.61	.
Nitrate-N	<0.028	.	<0.028	.	<0.028	.	<0.028	.	<0.028	.
Sulfate	5.46	.	5.36	.	5.43	.	5.38	.	5.53	.
Ion Charge Balance (RPD)	-0.5	.	0.8	.	1.6	.	0.5	.	1.6	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.74	.	7.72	.	7.74	.	7.72	.	8.03	.
Conductivity (umho/cm)	425	.	425	.	424	.	426	.	414	.
TDS (mg/L)	240	.	227	.	230	.	226	.	240	.
TSS (mg/L)	5	.	4	.	4	.	3	.	4.5	.
Turbidity (NTU)	39.3	.	29.9	.	30.9	.	30.7	.	29.6	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	971.15	.	971.15	.	971.15	.	971.15	.	971.15	.
Depth to Water (ft)	133.28	.	133.40	.	133.40	.	133.71	.	141.30	.
Water-Level Elev. (ft)	837.87	.	837.75	.	837.75	.	837.44	.	829.85	.
Water Temp. (degrees C)	12.7	.	13.2	.	13.2	.	14.2	.	17.2	.
pH (standard units)	8.07	.	7.92	.	7.92	.	7.74	.	7.06	.
Conductivity (umho/cm)	416	.	368	.	368	.	392	.	381	.
Dissolved Oxygen (ppm)	1.56	.	1.28	.	1.28	.	1.07	.	0.5	.
Oxidation/Reduction (mV)	-157	.	-177	.	-177	.	-163	.	-217	.

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APPENDIX E.1: CHESTNUT RIDGE HYDROGEOLOGIC REGIME, 1998

3

Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-142								GW-143	
Location	KHQ								KHQ	
Date Sampled	10/20/98		10/21/98				10/22/98		04/27/98	
Sample Type			DUP							
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Antimony	.	.	.	.	.	.	.	.	.	.
Antimony (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.473	0.459	0.462	0.462	0.452	0.466	0.451	0.44	0.0309	0.0313
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.936	0.931
Cadmium	.	.	.	.	.	.	.	.	.	.
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Iron	2.74	2.3	2.56	1.97	2.65	1.97	2.41	1.45	1.08	1.43
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.001	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	0.0273	0.0259	0.0254	0.0254	0.0247	0.0253	0.025	0.0241	0.319	0.324
Manganese	0.0837	0.08	0.0817	0.0821	0.0803	0.0821	0.08	0.0765	0.0415	0.0421
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium	.	.	.	.	.	.	.	.	.	.
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Strontium	0.48	0.466	0.473	0.476	0.464	0.482	0.465	0.458	2.77	2.79
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.00062	0.00077	0.001	0.0007	0.0009	0.0007	0.0012	0.001	<0.0005	<0.0005
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	38.9	38.1	38.4	39.6	38.5	39.7	42.3	38.2	29.3	29.3
Magnesium	31.5	31	31.2	31.9	30.8	31.8	32.4	30.4	24.3	24
Potassium	4.21	3.97	4	4.07	3.9	3.91	4.11	3.77	18.8	19.3
Sodium	1.06	1.05	1.02	0.971	0.946	0.943	0.909	0.958	26.7	27.1
Alkalinity-HCO ₃	222	.	222	.	218	.	222	.	212	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	1.4	.	1.29	.	1.36	.	1.36	.	5.93	.
Fluoride	0.66	.	0.63	.	0.62	.	0.8	.	3.01	.
Nitrate-N	<0.028	.	<0.028	.	<0.028	.	<0.028	.	<0.028	.
Sulfate	5.68	.	5.54	.	5.3	.	5.37	.	32.5	.
Ion Charge Balance (RPD)	-0.3	.	1.3	.	2.1	.	-0.9	.	-1.3	.
MISCELLANEOUS ANALYTES										
pH (standard units)	8.17	.	8.01	.	7.97	.	8.06	.	8.1	.
Conductivity (umho/cm)	411	.	411	.	411	.	406	.	482	.
TDS (mg/L)	245	.	232	.	229	.	226	.	262	.
TSS (mg/L)	<1	.	5	.	5	.	1	.	2	.
Turbidity (NTU)	28.9	.	29.5	.	30	.	30.5	.	15.5	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	971.15	.	971.15	.	971.15	.	971.15	.	913.98	.
Depth to Water (ft)	140.30	.	139.95	.	139.95	.	139.95	.	77.60	.
Water-Level Elev. (ft)	830.85	.	831.20	.	831.20	.	831.20	.	836.38	.
Water Temp. (degrees C)	15.5	.	14.2	.	14.2	.	13.1	.	15.1	.
pH (standard units)	7.51	.	7.19	.	7.19	.	8.12	.	8.19	.
Conductivity (umho/cm)	427	.	396	.	396	.	404	.	423	.
Dissolved Oxygen (ppm)	0.68	.	0.84	.	0.84	.	1.5	.	0.81	.
Oxidation/Reduction (mV)	-198	.	-193	.	-193	.	-170	.	-181	.

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APPENDIX E.1: CHESTNUT RIDGE HYDROGEOLOGIC REGIME, 1998

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-143									
Location	KHQ									
Date Sampled	04/28/98		04/29/98		04/30/98		10/19/98		10/20/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Antimony	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Antimony (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0333	0.0303	0.0306	0.0307	0.029	0.0297	0.0441	0.0391	0.0326	0.0324
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron	0.938	0.911	0.91	0.924	0.868	0.885	0.872	0.905	0.89	0.886
Cadmium	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Iron	2.62	0.992	1.31	1.11	1.2	1.06	0.615	0.565	1.04	0.916
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0023	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	0.294	0.291	0.289	0.292	0.299	0.298	0.285	0.294	0.287	0.287
Manganese	0.046	0.0425	0.041	0.0423	0.0384	0.0394	0.0198	0.0254	0.0318	0.0329
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Strontium	2.72	2.64	2.63	2.68	2.58	2.62	3.13	3	2.69	2.66
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00095	0.00089	0.00055	<0.0005
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	30	29.2	29.1	29.6	28.2	28.7	32.4	32	28.9	28.7
Magnesium	25.6	24.7	24.7	25.3	22.8	23.3	25.6	25.6	23.5	23.8
Potassium	18.1	17.2	17.3	17.3	17.6	17.4	18.3	18.6	17.5	17.4
Sodium	25	24.6	24.5	24.8	25.2	25.1	23.3	24.5	24.5	24.5
Alkalinity-HCO3	218	.	202	.	214	.	206	.	206	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	5.69	.	5.88	.	5.93	.	7.04	.	5.74	.
Fluoride	3.32	.	3.22	.	3.31	.	1.57	.	3.16	.
Nitrate-N	<0.028	.	<0.028	.	<0.028	.	<0.028	.	<0.028	.
Sulfate	31.7	.	32.5	.	32.4	.	40.6	.	35	.
Ion Charge Balance (RPD)	-3.4	.	0.3	.	-4.0	.	-0.4	.	-2.7	.
MISCELLANEOUS ANALYTES										
pH (standard units)	8.08	.	8.05	.	8.03	.	8.06	.	8.31	.
Conductivity (umho/cm)	481	.	482	.	480	.	495	.	481	.
TDS (mg/L)	284	.	269	.	266	.	297	.	294	.
TSS (mg/L)	1	.	2	.	1	.	1	.	<1	.
Turbidity (NTU)	9.23	.	8.66	.	7.64	.	4.71	.	6.16	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	913.98	.	913.98	.	913.98	.	913.98	.	913.98	.
Depth to Water (ft)	78.27	.	78.35	.	78.51	.	81.95	.	82.98	.
Water-Level Elev. (ft)	835.71	.	835.63	.	835.47	.	832.03	.	831.00	.
Water Temp. (degrees C)	13.5	.	14.1	.	14.4	.	17.2	.	16.9	.
pH (standard units)	8.43	.	8.3	.	8.17	.	7.09	.	7.78	.
Conductivity (umho/cm)	404	.	396	.	409	.	459	.	482	.
Dissolved Oxygen (ppm)	0.96	.	0.78	.	1.17	.	0.93	.	0.9	.
Oxidation/Reduction (mV)	-183	.	-204	.	-188	.	-178	.	-192	.

(CONTINUED)

Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-143				GW-144					
Location	KHQ				KHQ					
Date Sampled	10/21/98		10/22/98		04/27/98		04/28/98		04/29/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Antimony	.	.	.	.	.	.	.	.	.	.
Antimony (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.033	0.0326	0.0329	0.0321	0.0531	0.0528	0.0499	0.0486	0.0483	0.049
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron	0.917	0.93	0.936	0.935	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium	.	.	.	.	.	.	.	.	.	.
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Iron	1.05	1	1.07	0.873	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	0.0013	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	0.288	0.291	0.288	0.292	0.0245	0.0248	0.0223	0.0211	0.0221	0.0225
Manganese	0.0345	0.0352	0.0354	0.0348	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium	.	.	.	.	.	.	.	.	.	.
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Strontium	2.71	2.72	2.71	2.7	0.0943	0.0945	0.0817	0.0802	0.08	0.0806
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	0.0006	<0.0005	0.0015	0.0013	0.0012	0.0013	0.0014	0.0013
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	28.7	28.8	29	28.8	50.1	49.8	51.2	49.7	48.9	49.6
Magnesium	24.2	24.5	25.6	24.3	17.3	17.2	17.3	16.8	16.8	17.1
Potassium	17.6	17.7	17.7	17.7	<2	<2	<2	<2	<2	<2
Sodium	24.5	24.8	24.6	24.8	1.1	1.15	0.852	0.859	0.85	0.842
Alkalinity-HCO3	206	.	206	.	172	.	174	.	164	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	6.37	.	5.9	.	1.84	.	1.69	.	1.8	.
Fluoride	3.06	.	3.14	.	<0.1	.	<0.1	.	0.15	.
Nitrate-N	<0.028	.	<0.028	.	4.83	.	6.89	.	4.43	.
Sulfate	34.9	.	32.4	.	7.32	.	4.66	.	6.65	.
Ion Charge Balance (RPD)	-2.0	.	-1.6	.	-0.5	.	-2.7	.	1.6	.
MISCELLANEOUS ANALYTES										
pH (standard units)	8.21	.	8.25	.	7.65	.	7.56	.	7.57	.
Conductivity (umho/cm)	477	.	469	.	385	.	372	.	363	.
TDS (mg/L)	277	.	260	.	219	.	227	.	206	.
TSS (mg/L)	<1	.	<1	.	<1	.	<1	.	<1	.
Turbidity (NTU)	5.67	.	5.65	.	0.483	.	0.176	.	0.459	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	913.98	.	913.98	.	913.54	.	913.54	.	913.54	.
Depth to Water (ft)	82.93	.	83.00	.	77.57	.	77.64	.	77.65	.
Water-Level Elev. (ft)	831.05	.	830.98	.	835.97	.	835.90	.	835.89	.
Water Temp. (degrees C)	15.8	.	14.5	.	14.6	.	14.5	.	14.4	.
pH (standard units)	8.06	.	8.44	.	7.48	.	7.84	.	7.58	.
Conductivity (umho/cm)	440	.	414	.	330	.	316	.	304	.
Dissolved Oxygen (ppm)	0.77	.	1.65	.	4.69	.	4.48	.	5.09	.
Oxidation/Reduction (mV)	-213	.	-177	.	31	.	58	.	74	.

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APPENDIX E.1: CHESTNUT RIDGE HYDROGEOLOGIC REGIME, 1998

6

Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point Location Date Sampled Sample Type	GW-144									
	KHQ									
	04/30/98		10/19/98		10/20/98		10/21/98		10/22/98	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Antimony	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Antimony (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Arsenic (PMS)	0.0456	0.0463	0.0484	0.0511	0.0488	0.0492	0.0486	0.0478	0.0479	0.0471
Barium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Beryllium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Boron	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Cadmium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cadmium (PMS)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chromium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Cobalt	<0.0005	0.0011	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper	0.0214	0.0222	0.0263	0.0286	0.0263	0.0274	0.024	0.0252	0.0246	0.0235
Iron	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Lead (PMS)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Lithium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Mercury (CVAA)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Molybdenum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Selenium (PMS)	0.0769	0.0776	0.0904	0.095	0.0935	0.0943	0.0928	0.0903	0.0906	0.0888
Silver	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Strontium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium (PMS)	0.0013	0.0013	0.0042	0.004	0.0017	0.0017	0.0015	0.0014	0.0013	0.0014
Thorium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Uranium (PMS)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vanadium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Zinc	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	47.8	48.5	49.4	51.5	49.3	49.6	49.2	49.6	54.5	49.2
Magnesium	15.5	15.6	17.4	18.2	17.4	17.4	17.3	17	18	17.1
Potassium	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Sodium	0.856	0.868	0.966	1.02	0.99	1.01	0.983	0.876	0.835	0.873
Alkalinity-HCO ₃	162	.	176	.	176	.	176	.	176	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	1.82	.	1.98	.	1.98	.	1.84	.	0.19	.
Fluoride	0.12	.	0.12	.	0.13	.	0.13	.	0.13	.
Nitrate-N	4.39	.	2.98	.	2.78	.	2.89	.	0.28	.
Sulfate	7.07	.	5.39	.	6.45	.	6.54	.	0.6	.
Ion Charge Balance (RPD)	-0.2	.	2.6	.	0.5	.	-0.1	.	4.5	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.56	.	7.93	.	8.2	.	7.94	.	8.22	.
Conductivity (umho/cm)	360	.	363	.	360	.	361	.	561	.
TDS (mg/L)	208	.	234	.	235	.	230	.	217	.
TSS (mg/L)	<1	.	2.5	.	<1	.	<1	.	<1	.
Turbidity (NTU)	0.473	.	0.37	.	0.499	.	0.15	.	<0.1	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	913.54	.	913.54	.	913.54	.	913.54	.	913.54	.
Depth to Water (ft)	77.70	.	82.00	.	81.90	.	81.84	.	82.00	.
Water-Level Elev. (ft)	835.84	.	831.54	.	831.64	.	831.70	.	831.54	.
Water Temp. (degrees C)	14.7	.	15.6	.	15.4	.	15	.	14.6	.
pH (standard units)	7.32	.	6.54	.	7.13	.	7.62	.	7.83	.
Conductivity (umho/cm)	308	.	337	.	366	.	321	.	325	.
Dissolved Oxygen (ppm)	5.11	.	3.32	.	3.51	.	3.2	.	3.54	.
Oxidation/Reduction (mV)	60	.	189	.	169	.	214	.	155	.

(CONTINUED)

Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point Location Date Sampled Sample Type	GW-145									
	KHQ									
	04/27/98		04/28/98		04/29/98		04/30/98		10/19/98	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Antimony	.	.	.	.	.	.	.	.	.	.
Antimony (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0007	<0.0005	0.0006	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0872	0.0885	0.086	0.0881	0.0828	0.081	0.0808	0.0794	0.0828	0.0834
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron	0.249	0.257	0.252	0.257	0.244	0.237	0.238	0.233	0.251	0.251
Cadmium	.	.	.	.	.	.	.	.	.	.
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Iron	<0.05	<0.05	0.295	0.45	0.257	0.31	0.303	0.271	<0.05	<0.05
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	0.118	0.12	0.117	0.119	0.107	0.105	0.106	0.105	0.109	0.109
Manganese	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium	.	.	.	.	.	.	.	.	.	.
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Strontium	7.78	7.92	7.72	7.84	7.43	7.28	7.22	7.13	7.29	7.4
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.013	0.013	0.014	0.014	0.014	0.014	0.014	0.014	0.0123	0.0125
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	43	44.6	43.7	43.8	46.4	45.4	44.6	44.5	44	44.2
Magnesium	35.8	37.4	37.3	37.6	36.6	35.3	35.1	34.8	35.7	36.3
Potassium	16.5	16.9	16.3	16.4	14.7	14.2	14.4	14.5	18.2	18.7
Sodium	7.84	7.95	7.92	8.01	7.19	7.13	7.03	7.08	8.77	9.01
Alkalinity-HCO3	242	.	232	.	230	.	236	.	238	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	11	.	11.3	.	10.7	.	10.7	.	11.3	.
Fluoride	2.39	.	2.04	.	2.17	.	1.92	.	2.6	.
Nitrate-N	0.195	.	0.19	.	0.17	.	0.16	.	0.202	.
Sulfate	45.5	.	44.6	.	44.7	.	44.3	.	46.2	.
Ion Charge Balance (RPD)	-1.3	.	0.3	.	-1.0	.	-2.5	.	-1.3	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.88	.	7.83	.	7.77	.	7.74	.	8.15	.
Conductivity (umho/cm)	562	.	560	.	557	.	558	.	568	.
TDS (mg/L)	312	.	325	.	322	.	312	.	341	.
TSS (mg/L)	<1	.	<1	.	<1	.	<1	.	1	.
Turbidity (NTU)	0.671	.	0.301	.	0.843	.	0.84	.	0.176	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	840.24	.	840.24	.	840.24	.	840.24	.	840.24	.
Depth to Water (ft)	2.94	.	4.43	.	4.35	.	3.87	.	7.81	.
Water-Level Elev. (ft)	837.30	.	835.81	.	835.89	.	836.37	.	832.43	.
Water Temp. (degrees C)	14.1	.	13.1	.	13.5	.	13.9	.	19.5	.
pH (standard units)	7.97	.	7.9	.	7.88	.	7.68	.	7.12	.
Conductivity (umho/cm)	511	.	465	.	460	.	457	.	526	.
Dissolved Oxygen (ppm)	3.22	.	3.6	.	4.18	.	2.5	.	6.16	.
Oxidation/Reduction (mV)	171	.	181	.	174	.	201	.	199	.

(CONTINUED)

Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-145						GW-156			
Location	KHQ						CRSDB			
Date Sampled	10/20/98		10/21/98		10/22/98		04/13/98		04/14/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.02	<0.02	0.026	<0.02
Antimony	.	.	.	.	.	.	.	.	.	.
Antimony (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0007	<0.0005	0.0008
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0827	0.0839	0.0835	0.0843	0.0835	0.0847	0.043	0.043	0.042	0.043
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.241	0.246	0.253	0.246	0.253	0.257	0.016	0.015	0.014	0.015
Cadmium	.	.	.	.	.	.	.	.	.	.
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.005	<0.005	<0.005	<0.005
Copper	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.004	0.0044	<0.004	<0.004
Iron	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.016	0.016	0.031	0.015
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	0.0009	0.0005	<0.0005
Lithium	0.107	0.108	0.109	0.11	0.106	0.11	<0.004	<0.004	<0.004	<0.004
Manganese	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	0.0019	<0.001	0.0019
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01
Nickel	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01
Selenium	.	.	.	.	.	.	.	.	.	.
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.006	<0.006	<0.006	<0.006
Strontium	7.19	7.3	7.38	7.36	7.43	7.51	0.03	0.03	0.029	0.03
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.0134	0.0151	0.0138	0.014	0.0126	0.0136	0.0021	0.002	0.002	0.002
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.005	<0.005	<0.005	<0.005
Zinc	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.0088	0.015	0.01	0.017
MAJOR IONS (mg/L)										
Calcium	41.8	43	43.4	42.6	48.9	44.1	65	65	63	64
Magnesium	34.6	35.4	35.7	35.2	38.2	36.3	39	39	38	40
Potassium	18	18.5	18.1	18.1	18	18.1	30	30	30	31
Sodium	8.96	9.08	9.03	9.16	8.86	9.12	7.6	7.6	7.6	8.1
Alkalinity-HCO ₃	238	.	238	.	236	.	360	.	372	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	11.1	.	10.9	.	10.9	.	3.802	.	3.787	.
Fluoride	2.48	.	2.52	.	2.54	.	<0.1	.	<0.1	.
Nitrate-N	0.196	.	0.192	.	0.187	.	0.427	.	0.424	.
Sulfate	42.3	.	46	.	44	.	8.961	.	8.891	.
Ion Charge Balance (RPD)	-1.4	.	-2.4	.	-0.3	.	0.2	.	-0.8	.
MISCELLANEOUS ANALYTES										
pH (standard units)	8.23	.	8.04	.	8.12	.	7.29	.	7.23	.
Conductivity (umho/cm)	569	.	564	.	384	.	688	.	687	.
TDS (mg/L)	340	.	336	.	311	.	399	.	391	.
TSS (mg/L)	<1	.	<1	.	<1	.	<1	.	<1	.
Turbidity (NTU)	0.304	.	0.151	.	0.109	.	1.29	.	0.324	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	840.24	.	840.24	.	840.24	.	1049.30	.	1049.30	.
Depth to Water (ft)	8.45	.	8.30	.	8.20	.	141.83	.	142.38	.
Water-Level Elev. (ft)	831.79	.	831.94	.	832.04	.	907.47	.	906.92	.
Water Temp. (degrees C)	17.6	.	14.3	.	14.7	.	16.2	.	15.7	.
pH (standard units)	7.82	.	7.76	.	7.81	.	7.41	.	7.3	.
Conductivity (umho/cm)	509	.	490	.	445	.	597	.	573	.
Dissolved Oxygen (ppm)	6.89	.	6.13	.	5.94	.	5.39	.	2.77	.
Oxidation/Reduction (mV)	210	.	203	.	217	.	132	.	162	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point Location Date Sampled Sample Type	GW-156									
	CRSDB									
	04/15/98		04/16/98				10/26/98		10/27/98	
			DUP							
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.2	<0.2	<0.2	<0.2
Antimony	.	.	.	.	.	.	.	.	.	.
Antimony (PMS)	<0.0005	0.0007	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.04	0.042	0.04	0.041	0.04	0.041	0.0333	0.0341	0.0312	0.0313
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.001	<0.001	<0.001	<0.001
Boron	0.011	0.01	0.011	0.011	0.011	0.012	<0.1	<0.1	<0.1	<0.1
Cadmium	.	.	.	.	.	.	.	.	.	.
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02	<0.02	<0.02
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.02	<0.02	<0.02	<0.02
Iron	DIS>TOT	DIS>TOT	0.0065	0.0076	0.0085	0.0081	<0.05	<0.05	<0.05	<0.05
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.01	<0.01	<0.01	<0.01
Manganese	<0.001	0.0022	<0.001	<0.001	<0.001	<0.0019	<0.005	<0.005	<0.005	<0.005
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05
Selenium	.	.	.	.	.	.	.	.	.	.
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.02	<0.02	<0.02	<0.02
Strontium	0.027	0.028	0.028	0.028	0.027	0.029	0.0307	0.0311	0.0301	0.0303
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.002	0.0019	0.0019	0.0019	0.0021	0.0019	0.002	0.0019	0.0025	0.0019
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02	<0.02	<0.02
Zinc	0.0068	0.017	0.0074	0.0075	0.0061	0.022	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	65	66	65	66	65	68	69.7	70.5	70	70
Magnesium	38	39	39	39	39	40	40.5	41	40.8	40.6
Potassium	28	30	29	29	28	29	16.2	16.5	14.8	14.6
Sodium	7.3	7.8	7.5	7.5	7.3	7.7	5.49	5.73	4.98	4.96
Alkalinity-HCO3	352	.	352	.	360	.	356	.	352	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	3.879	.	3.742	.	3.735	.	2.82	.	2.6	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	0.423	.	0.408	.	0.412	.	0.308	.	0.3	.
Sulfate	8.936	.	8.92	.	8.936	.	8.97	.	8.65	.
Ion Charge Balance (RPD)	1.7	.	1.4	.	1.6	.	1.1	.	0.8	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.4	.	7.37	.	7.39	.	7.57	.	7.3	.
Conductivity (umho/cm)	680	.	673	.	676	.	659	.	652	.
TDS (mg/L)	357	.	358	.	361	.	354	.	373	.
TSS (mg/L)	<1	.	<1	.	<1	.	<1	.	<1	.
Turbidity (NTU)	0.28	.	0.439	.	0.34	.	0.268	.	0.321	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	1049.30	.	1049.30	.	1049.30	.	1049.30	.	1049.30	.
Depth to Water (ft)	142.58	.	142.65	.	142.65	.	143.78	.	143.79	.
Water-Level Elev. (ft)	906.72	.	906.65	.	906.65	.	905.52	.	905.51	.
Water Temp. (degrees C)	16.8	.	15.5	.	15.5	.	17.8	.	17.7	.
pH (standard units)	7.04	.	7.01	.	7.01	.	7.15	.	6.91	.
Conductivity (umho/cm)	568	.	576	.	576	.	550	.	569	.
Dissolved Oxygen (ppm)	5.38	.	5.55	.	5.55	.	5.9	.	6.51	.
Oxidation/Reduction (mV)	179	.	191	.	191	.	187	.	217	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point Location Date Sampled Sample Type	GW-156						GW-159			
	CRSDB						CRSDB			
	10/28/98		10/29/98				04/13/98		04/14/98	
					DUP					
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.037	0.037	0.03	0.026
Antimony	.	.	.	.	.	.	.	.	.	.
Antimony (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0007	0.0006	0.0006	0.0009
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0314	0.0305	0.0286	0.0285	0.0294	0.0292	0.017	0.017	0.016	0.017
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0003	<0.0003	<0.0003	<0.0003
Boron	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.012	0.011	0.01	0.0099
Cadmium	.	.	.	.	.	.	.	.	.	.
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.005	<0.005	<0.005	<0.005
Copper	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.004	<0.004	<0.004	<0.004
Iron	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.0088	<0.005	0.01	0.015
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.004	<0.004	<0.004	<0.004
Manganese	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	0.0016	<0.001	0.0018
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01
Nickel	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01
Selenium	.	.	.	.	.	.	.	.	.	.
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.006	<0.006	<0.006	<0.006
Strontium	0.0311	0.0303	0.0288	0.0293	0.0296	0.0295	0.025	0.026	0.023	0.024
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.0017	0.0018	0.0016	0.002	0.0016	0.002	0.0018	0.0017	0.0017	0.0016
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.005	<0.005	<0.005	<0.005
Zinc	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.0025	0.0025	DIS>TOT	DIS>TOT
MAJOR IONS (mg/L)										
Calcium	70.2	69.1	69.6	70.1	72.1	71.8	39	41	37	40
Magnesium	41.6	40.9	41.3	41.6	42.8	42.6	26	26	26	27
Potassium	14	13.9	12.3	12.4	12.7	12.4	2.1	2.2	2.2	2.1
Sodium	4.79	4.71	4.1	4.14	4.23	4.18	0.53	0.54	0.54	0.6
Alkalinity-HCO ₃	346	.	348	.	344	.	206	.	198	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	0.98	.	2.54	.	2.39	.	1.068	.	1.933	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	0.15	.	0.29	.	0.29	.	0.158	.	0.184	.
Sulfate	9.43	.	7.79	.	7.74	.	9.862	.	9.672	.
Ion Charge Balance (RPD)	1.5	.	1.4	.	3.1	.	-1.2	.	0.8	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.83	.	7.41	.	7.38	.	7.8	.	7.75	.
Conductivity (umho/cm)	379	.	643	.	644	.	395	.	385	.
TDS (mg/L)	360	.	344	.	346	.	219	.	201	.
TSS (mg/L)	<1	.	<1	.	<1	.	<1	.	<1	.
Turbidity (NTU)	0.794	.	1.27	.	1.32	.	0.663	.	0.071	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	1049.30	.	1049.30	.	1049.30	.	1051.40	.	1051.40	.
Depth to Water (ft)	143.80	.	143.80	.	143.80	.	116.48	.	117.35	.
Water-Level Elev. (ft)	905.50	.	905.50	.	905.50	.	934.92	.	934.05	.
Water Temp. (degrees C)	19.1	.	19.6	.	19.6	.	14.8	.	14.1	.
pH (standard units)	7.06	.	6.64	.	6.94	.	7.71	.	7.58	.
Conductivity (umho/cm)	562	.	527	.	527	.	370	.	347	.
Dissolved Oxygen (ppm)	6.36	.	6.61	.	6.61	.	0.45	.	3.61	.
Oxidation/Reduction (mV)	216	.	211	.	211	.	174	.	206	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point Location Date Sampled Sample Type	GW-159									
	CRSDB									
	04/15/98		04/16/98		10/26/98		10/27/98		10/28/98	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.02	<0.02	<0.02	<0.024	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Antimony	.	.	.	.	.	.	.	.	.	.
Antimony (PMS)	<0.0005	<0.0005	<0.0005	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.015	0.016	0.013	0.014	0.0156	0.0154	0.0152	0.0153	0.0152	0.0152
Beryllium	<0.0003	<0.0003	<0.0003	<0.00036	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron	0.0084	0.0084	0.0059	0.0069	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium	.	.	.	.	.	.	.	.	.	.
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.01	<0.01	<0.01	<0.012	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cobalt	<0.005	<0.005	<0.005	<0.006	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	<0.004	<0.004	<0.004	<0.0048	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Iron	<0.005	0.0086	0.0086	<0.006	<0.05	<0.05	<0.05	<0.05	0.094	<0.05
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	<0.004	<0.004	<0.004	<0.0048	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Manganese	<0.001	<0.001	<0.001	<0.0012	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.012	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	<0.01	<0.01	<0.01	<0.012	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium	.	.	.	.	.	.	.	.	.	.
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.006	<0.006	<0.006	<0.0072	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Strontium	0.023	0.023	0.02	0.021	0.0234	0.0232	0.0214	0.0211	0.0205	0.0214
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.24	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.0014	0.0015	0.0014	0.0014	0.0013	0.0013	0.0011	0.0013	0.0013	0.0012
Vanadium	<0.005	<0.005	<0.005	<0.006	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	0.005	<0.002	0.0025	<0.0024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	43	43	38	41	43.1	42.2	42.4	42.7	42.7	43.3
Magnesium	27	27	24	26	26	25.5	25.5	25.5	25.7	26.2
Potassium	1.8	1.9	1.5	1.7	<2	<2	<2	<2	<2	<2
Sodium	0.54	0.51	0.47	0.46	0.534	0.484	0.541	0.538	0.581	0.576
Alkalinity-HCO ₃	198	.	194	.	198	.	194	.	198	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	1.059	.	1.085	.	1.03	.	1.02	.	2.5	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	0.17	.	0.18	.	0.155	.	0.15	.	0.29	.
Sulfate	9.511	.	9.443	.	9.14	.	9.44	.	8.08	.
Ion Charge Balance (RPD)	2.8	.	1.6	.	0.4	.	1.7	.	1.5	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.9	.	7.87	.	7.89	.	7.77	.	7.38	.
Conductivity (umho/cm)	385	.	382	.	382	.	380	.	648	.
TDS (mg/L)	188	.	188	.	196	.	210	.	226	.
TSS (mg/L)	<1	.	<1	.	<1	.	<1	.	<1	.
Turbidity (NTU)	0.388	.	0.206	.	0.331	.	0.364	.	0.954	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	1051.40	.	1051.40	.	1051.40	.	1051.40	.	1051.40	.
Depth to Water (ft)	117.72	.	118.13	.	118.90	.	120.80	.	120.80	.
Water-Level Elev. (ft)	933.68	.	933.27	.	932.50	.	930.60	.	930.60	.
Water Temp. (degrees C)	14.9	.	15.4	.	15.2	.	14.8	.	15.9	.
pH (standard units)	7.56	.	7.55	.	7.73	.	7.74	.	7.77	.
Conductivity (umho/cm)	337	.	346	.	314	.	360	.	340	.
Dissolved Oxygen (ppm)	3.85	.	4.7	.	4.03	.	3.62	.	3.88	.
Oxidation/Reduction (mV)	184	.	199	.	213	.	217	.	223	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-159		GW-217				GW-231			
Location	CRSDB		LIV				KHQ			
Date Sampled	10/29/98		01/07/98		07/08/98		04/27/98		04/28/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	0.031	<0.02	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Antimony	.	.	<0.05	<0.05	.	.	.	.	.	.
Antimony (PMS)	<0.0005	<0.0005	.	.	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0141	0.0141	0.032	0.031	0.0399	0.0395	0.0629	0.0639	0.0676	0.0646
Beryllium	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron	<0.1	<0.1	0.14	0.13	0.136	0.135	<0.1	<0.1	<0.1	<0.1
Cadmium	.	.	<0.003	<0.003	.	.	.	.	.	.
Cadmium (PMS)	<0.0005	<0.0005	.	.	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Iron	<0.05	<0.05	0.036	0.024	<0.05	<0.05	<0.05	<0.05	0.309	0.244
Lead (PMS)	<0.0005	<0.0005	0.0007	<0.0005	0.0009	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	<0.01	<0.01	<0.004	<0.004	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Manganese	<0.005	<0.005	0.0012	0.0013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium	.	.	<0.05	<0.05	.	.	.	.	.	.
Selenium (PMS)	<0.01	<0.01	.	.	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Strontium	0.0195	0.0199	0.018	0.017	0.0163	0.0161	0.0406	0.0411	0.0425	0.0402
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.0012	0.0015	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Vanadium	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	<0.05	<0.05	0.16	0.14	0.0798	0.0759	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	41.7	41.8	33	32	33.2	32.7	34.2	34.9	35.4	33.6
Magnesium	25.1	25.2	20	19	20.4	20.1	17.2	17.8	18.7	17.6
Potassium	<2	<2	3.7	3.9	2.85	2.82	3.72	3.62	4.08	3.85
Sodium	0.473	0.468	5.7	5.5	5.32	5.34	0.98	0.977	0.959	0.934
Alkalinity-HCO3	196	.	170	.	170	.	156	.	158	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	0.98	.	2.17	.	1.91	.	1.97	.	1.39	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	0.15	.	0.36	.	0.382	.	1.3	.	1.48	.
Sulfate	9.46	.	7.19	.	2.93	.	4.52	.	4.2	.
Ion Charge Balance (RPD)	0.3	.	-1.9	.	0.7	.	-0.3	.	-1.9	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.8	.	8.07	.	8.13	.	7.51	.	7.48	.
Conductivity (umho/cm)	380	.	328	.	337	.	310	.	312	.
TDS (mg/L)	187	.	169	.	177	.	171	.	182	.
TSS (mg/L)	<1	.	<1	.	<1	.	<1	.	<1	.
Turbidity (NTU)	0.748	.	2.01	.	0.458	.	0.42	.	0.234	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	1051.40	.	1177.06	.	1177.06	.	849.67	.	849.67	.
Depth to Water (ft)	121.26	.	111.97	.	111.10	.	11.28	.	11.37	.
Water-Level Elev. (ft)	930.14	.	1065.09	.	1065.96	.	838.39	.	838.30	.
Water Temp. (degrees C)	16.5	.	14.9	.	20.4	.	12.5	.	12.4	.
pH (standard units)	7.8	.	6.92	.	8.55	.	7.42	.	7.38	.
Conductivity (umho/cm)	362	.	273	.	299	.	288	.	286	.
Dissolved Oxygen (ppm)	3.86	.	7.63	.	3.64	.	1.02	.	1.52	.
Oxidation/Reduction (mV)	236	.	200	.	197	.	184	.	172	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point Location Date Sampled Sample Type	GW-231									
	KHQ									
	04/28/98		04/29/98		04/30/98		10/19/98		10/20/98	
	DUP									
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Antimony	.	.	.	.	.	.	.	.	.	.
Antimony (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0661	0.0662	0.0642	0.0645	0.0624	0.0637	0.0674	0.0681	0.0879	0.0883
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium	.	.	.	.	.	.	.	.	.	.
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Iron	0.315	0.279	0.27	0.315	0.297	0.254	<0.05	<0.05	<0.05	<0.05
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0014
Lithium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.013	0.0118	<0.01	<0.01
Manganese	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium	.	.	.	.	.	.	.	.	.	.
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Strontium	0.0416	0.0415	0.0396	0.0402	0.0391	0.0392	0.0412	0.0413	0.0463	0.0465
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	0.0011
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	34.9	34.7	37.1	37.7	36.7	36.5	43.2	43.6	45	45.7
Magnesium	18.2	18.1	17.5	17.8	17.3	17.3	21.7	21.9	23.1	23.3
Potassium	3.78	3.84	2.91	2.98	2.83	3	6.92	6.97	4.61	4.33
Sodium	0.952	0.956	0.83	0.865	0.813	0.839	2.1	2.08	1.22	1.17
Alkalinity-HCO3	158	.	158	.	160	.	196	.	204	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	1.36	.	1.37	.	1.43	.	1.49	.	1.46	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	1.47	.	1.63	.	1.71	.	0.351	.	0.507	.
Sulfate	4.24	.	4.17	.	4.02	.	4.08	.	3.76	.
Ion Charge Balance (RPD)	-0.4	.	0.9	.	-1.3	.	1.9	.	1.5	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.48	.	7.44	.	7.45	.	7.89	.	8	.
Conductivity (umho/cm)	313	.	316	.	318	.	371	.	389	.
TDS (mg/L)	181	.	175	.	192	.	219	.	230	.
TSS (mg/L)	<1	.	<1	.	<1	.	1	.	<1	.
Turbidity (NTU)	0.433	.	0.326	.	0.441	.	0.33	.	0.295	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	849.67	.	849.67	.	849.67	.	849.67	.	849.67	.
Depth to Water (ft)	11.37	.	11.60	.	11.55	.	17.00	.	17.47	.
Water-Level Elev. (ft)	838.30	.	838.07	.	838.12	.	832.67	.	832.20	.
Water Temp. (degrees C)	12.4	.	12.3	.	12.6	.	17.3	.	15.7	.
pH (standard units)	7.38	.	7.39	.	7.3	.	7.28	.	6.78	.
Conductivity (umho/cm)	286	.	262	.	264	.	342	.	368	.
Dissolved Oxygen (ppm)	1.52	.	2.48	.	1.92	.	1.85	.	0.51	.
Oxidation/Reduction (mV)	172	.	199	.	205	.	180	.	39	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point Location Date Sampled Sample Type	GW-231						GW-301			
	KHQ						CRBAWP			
	10/20/98		10/21/98		10/22/98		01/06/98		07/10/98	
	DUP									
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.021	<0.02	<0.2	<0.2
Antimony	.	.	.	.	.	.	<0.05	<0.05	.	.
Antimony (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	.	.	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0876	0.0891	0.0856	0.0877	0.0884	0.0915	0.02	0.02	0.0192	0.0188
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001
Boron	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.004	<0.004	<0.1	<0.1
Cadmium	.	.	.	.	.	.	<0.003	<0.003	.	.
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	.	.	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02
Copper	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02
Iron	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.005	<0.05	<0.05
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.004	<0.004	<0.01	<0.01
Manganese	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.005	<0.005
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05
Nickel	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05
Selenium	.	.	.	.	.	.	<0.05	<0.05	.	.
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	.	.	<0.01	<0.01
Silver	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02
Strontium	0.0458	0.0466	0.0456	0.0455	0.0462	0.0482	0.021	0.021	0.0185	0.0187
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	0.00055	<0.0005	<0.0005	0.0015	0.0007	<0.0005	<0.0005	<0.0005	<0.0005
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02
Zinc	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.0022	<0.002	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	44.7	45.8	45.5	44.3	50.7	47.2	35	34	28.7	28.9
Magnesium	22.9	23.3	22.9	22.8	24.5	23.8	21	21	20.9	21.2
Potassium	4.44	4.1	3.24	4.1	3.15	2.97	1.1	1.4	<2	<2
Sodium	1.18	1.12	0.889	1.08	0.778	0.919	0.76	0.73	1.09	1.01
Alkalinity-HCO ₃	204	.	208	.	208	.	174	.	160	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	1.46	.	1.44	.	0.74	.	1.21	.	0.94	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	0.528	.	0.494	.	0.26	.	0.32	.	0.307	.
Sulfate	3.86	.	3.82	.	2.17	.	2.28	.	3.06	.
Ion Charge Balance (RPD)	1.4	.	-0.9	.	2.2	.	-1.3	.	-1.2	.
MISCELLANEOUS ANALYTES										
pH (standard units)	8.05	.	8	.	7.99	.	8.06	.	8.18	.
Conductivity (umho/cm)	389	.	385	.	359	.	319	.	303	.
TDS (mg/L)	218	.	224	.	215	.	179	.	161	.
TSS (mg/L)	<1	.	<1	.	<1	.	<1	.	<1	.
Turbidity (NTU)	0.179	.	0.215	.	0.131	.	0.287	.	1.61	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	849.67	.	849.67	.	849.67	.	1086.55	.	1086.55	.
Depth to Water (ft)	17.47	.	17.49	.	17.50	.	135.33	.	128.64	.
Water-Level Elev. (ft)	832.20	.	832.18	.	832.17	.	951.22	.	957.91	.
Water Temp. (degrees C)	15.7	.	14.9	.	15.1	.	13.8	.	17.8	.
pH (standard units)	6.78	.	7.28	.	7.43	.	8	.	7.64	.
Conductivity (umho/cm)	368	.	351	.	316	.	233	.	242	.
Dissolved Oxygen (ppm)	0.51	.	0.39	.	0.48	.	6.11	.	6.87	.
Oxidation/Reduction (mV)	39	.	214	.	165	.	201	.	126	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-305				GW-322		GW-521			
Location	LIV				CRSP		LIV			
Date Sampled	01/12/98		07/13/98		01/12/98		01/07/98		07/09/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.02	<0.02	<0.2	<0.2	0.021	<0.02	0.68	0.081	<0.2	<0.2
Antimony	<0.05	<0.05	.	.	<0.05	<0.05	<0.05	<0.05	.	.
Antimony (PMS)	.	.	<0.0005	<0.0005	.	.	.	.	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.011	0.0099	0.00911	0.00905	0.012	0.013	0.0084	0.0066	0.00676	0.00698
Beryllium	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003	<0.0003	<0.0003	<0.001	<0.001
Boron	0.014	0.013	<0.1	<0.1	0.025	0.025	<0.004	<0.004	<0.1	<0.1
Cadmium	<0.003	<0.003	.	.	<0.003	<0.003	<0.003	<0.003	.	.
Cadmium (PMS)	.	.	<0.0005	<0.0005	.	.	.	.	<0.0005	<0.0005
Chromium	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02
Cobalt	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02
Copper	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004	<0.004	<0.004	<0.02	<0.02
Iron	0.022	0.024	<0.05	<0.05	0.049	0.1	0.74	0.086	<0.05	<0.05
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0022	0.0005	<0.0005	<0.0005
Lithium	<0.004	<0.004	<0.01	<0.01	<0.004	<0.004	<0.004	<0.004	<0.01	<0.01
Manganese	0.0014	0.0016	<0.005	<0.005	0.0015	0.0021	0.029	0.0019	<0.005	<0.005
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05
Nickel	0.039	0.025	0.0502	<0.05	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05
Selenium	<0.05	<0.05	.	.	<0.05	<0.05	<0.05	<0.05	.	.
Selenium (PMS)	.	.	<0.01	<0.01	.	.	.	.	<0.01	<0.01
Silver	0.0094	<0.006	<0.02	<0.02	<0.006	<0.006	<0.006	<0.006	<0.02	<0.02
Strontium	0.017	0.015	0.0146	0.0142	0.016	0.016	0.0097	0.0096	0.00988	0.0102
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Vanadium	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02
Zinc	0.05	0.033	<0.05	<0.05	0.0063	0.0089	0.031	0.0076	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	28	26	24.8	24.4	45	44	21	21	25.2	26.2
Magnesium	18	17	19.3	19	28	27	19	19	18.2	18.9
Potassium	<0.6	<0.6	<2	<2	<0.6	<0.6	1.4	1.5	<2	<2
Sodium	2.3	2.3	3.07	3.08	0.61	0.63	6	5.8	2.59	2.7
Alkalinity-HCO3	146	.	142	.	224	.	142	.	144	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	2.14	.	1.93	.	2.51	.	1.08	.	1.12	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	0.27	.	0.318	.	0.25	.	0.26	.	0.204	.
Sulfate	1.85	.	2.91	.	1.04	.	2.49	.	1.5	.
Ion Charge Balance (RPD)	-4.2	.	-1.1	.	-1.6	.	-0.7	.	0.4	.
MISCELLANEOUS ANALYTES										
pH (standard units)	8.5	.	8.63	.	7.56	.	8.58	.	8.17	.
Conductivity (umho/cm)	277	.	271	.	409	.	261	.	289	.
TDS (mg/L)	156	.	146	.	230	.	130	.	143	.
TSS (mg/L)	<1	.	<1	.	<1	.	7	.	<1	.
Turbidity (NTU)	0.833	.	0.335	.	0.72	.	13.9	.	1.53	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	1183.75	.	1183.75	.	1134.30	.	1182.88	.	1182.88	.
Depth to Water (ft)	120.85	.	122.36	.	157.92	.	87.00	.	82.99	.
Water-Level Elev. (ft)	1062.90	.	1061.39	.	976.38	.	1095.88	.	1099.89	.
Water Temp. (degrees C)	8.9	.	20.4	.	13.8	.	14.9	.	17.6	.
pH (standard units)	8.49	.	8.6	.	7.52	.	8.42	.	7.64	.
Conductivity (umho/cm)	233	.	259	.	350	.	214	.	232	.
Dissolved Oxygen (ppm)	6.81	.	2.25	.	5.93	.	6.01	.	4.53	.
Oxidation/Reduction (mV)	182	.	167	.	188	.	152	.	166	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point Location Date Sampled Sample Type	GW-522				GW-540					
	LIV				LII					
	01/08/98		07/09/98		03/11/98		04/20/98		10/13/98	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	0.079	<0.02	<0.2	<0.2	0.38	0.024	<0.2	<0.2	<0.2	<0.2
Antimony	<0.05	<0.05	.	.	<0.05	<0.05	.	.	.	.
Antimony (PMS)	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0071	0.0065	0.00611	0.00638	0.011	0.0099	0.0092	0.0092	0.00927	0.00985
Beryllium	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001	<0.001	<0.001
Boron	0.0046	0.0058	<0.1	<0.1	0.0071	0.0052	<0.1	<0.1	<0.1	<0.1
Cadmium	<0.003	<0.003	.	.	<0.003	<0.003	.	.	.	.
Cadmium (PMS)	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02
Cobalt	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.02	<0.02
Copper	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02	<0.02	<0.02
Iron	0.074	0.027	<0.05	<0.05	0.25	0.012	<0.05	<0.05	<0.05	<0.05
Lead (PMS)	<0.0005	0.0007	<0.0005	<0.0005	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	<0.004	<0.004	<0.01	<0.01	<0.004	<0.004	<0.01	<0.01	<0.01	<0.01
Manganese	0.0012	<0.001	<0.005	<0.005	0.0061	0.0013	<0.005	<0.005	<0.005	<0.005
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05
Nickel	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05
Selenium	<0.05	<0.05	.	.	<0.05	<0.05	.	.	.	.
Selenium (PMS)	.	.	<0.01	<0.01	.	.	<0.01	<0.01	<0.01	<0.01
Silver	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02	<0.02	<0.02
Strontium	0.012	0.011	0.0103	0.0102	0.028	0.028	0.027	0.027	0.0249	0.0253
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0008
Vanadium	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.02	<0.02
Zinc	0.0081	0.0053	<0.05	<0.05	0.011	0.0021	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	28	28	25.8	25.3	40	40	44	45	33.1	34.3
Magnesium	16	17	16	15.7	25	26	26	26	24.8	25.1
Potassium	1.6	1.2	<2	<2	1.3	0.88	<2	<2	<2	<2
Sodium	0.55	0.55	0.551	0.533	3.3	3.3	0.64	0.64	7.68	7.5
Alkalinity-HCO ₃	136	.	130	.	206	.	208	.	192	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	1.05	.	1.15	.	1.64	.	1.488	.	1.5	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	0.36	.	0.388	.	0.1	.	0.139	.	0.033	.
Sulfate	0.66	.	0.624	.	4.4	.	3.492	.	5.69	.
Ion Charge Balance (RPD)	1.1	.	-1.8	.	0.4	.	1.5	.	1.3	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.98	.	7.86	.	7.94	.	7.82	.	8.06	.
Conductivity (umho/cm)	256	.	252	.	377	.	388	.	366	.
TDS (mg/L)	119	.	129	.	217	.	186	.	200	.
TSS (mg/L)	<1	.	<1	.	6	.	1	.	<1	.
Turbidity (NTU)	2.31	.	0.676	.	4.28	.	0.58	.	0.217	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	1175.49	.	1175.49	.	1072.32	.	1072.32	.	1072.32	.
Depth to Water (ft)	106.91	.	102.73	.	80.11	.	66.63	.	95.35	.
Water-Level Elev. (ft)	1068.58	.	1072.76	.	992.21	.	1005.69	.	976.97	.
Water Temp. (degrees C)	15.4	.	17	.	12.9	.	14.1	.	15.5	.
pH (standard units)	7.34	.	5.86	.	8.04	.	7.74	.	8.36	.
Conductivity (umho/cm)	226	.	206	.	315	.	328	.	347	.
Dissolved Oxygen (ppm)	5.93	.	4.7	.	2.6	.	3.09	.	1.39	.
Oxidation/Reduction (mV)	113	.	165	.	69	.	61	.	145	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-542				GW-543				GW-544	
Location	CDLVI				CDLVI				CDLVI	
Date Sampled	04/21/98		10/14/98		04/22/98		10/15/98		04/22/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	0.65	<0.2	0.492	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Antimony	.	.	.	.	.	.	.	.	.	.
Antimony (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.018	0.017	0.014	0.0132	0.0106	0.0102	0.0108	0.0104	0.0119	0.0113
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium	.	.	.	.	.	.	.	.	.	.
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Iron	0.71	<0.05	0.427	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Lead (PMS)	0.0012	<0.0005	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Manganese	0.018	<0.005	0.0118	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium	.	.	.	.	.	.	.	.	.	.
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Strontium	0.031	0.032	0.0172	0.0171	0.0268	0.0268	0.0265	0.0255	0.0263	0.026
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	0.0017	0.0014
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	26	26	19.7	19.3	50.2	49.8	51.7	49.7	49.6	49.2
Magnesium	11	11	9.83	9.64	29.7	29.6	30	28.5	29.9	29.3
Potassium	2	2.1	<2	<2	<2	<2	<2	<2	<2	<2
Sodium	0.94	1	0.625	0.628	1.4	1.43	1.26	1.16	5.09	5.32
Alkalinity-HCO3	100	.	62	.	244	.	232	.	240	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	1.42	.	0.863	.	1.84	.	1.59	.	9.48	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	0.387	.	0.3	.	0.302	.	0.274	.	0.625	.
Sulfate	2.84	.	1.391	.	5.91	.	7.01	.	9.91	.
Ion Charge Balance (RPD)	3.9	.	15.2	.	-0.9	.	0.3	.	-2.1	.
MISCELLANEOUS ANALYTES										
pH (standard units)	6.83	.	6.44	.	7.38	.	7.78	.	7.61	.
Conductivity (umho/cm)	216	.	137.1	.	466	.	437	.	478	.
TDS (mg/L)	97	.	92	.	232	.	244	.	249	.
TSS (mg/L)	11	.	7	.	<1	.	<1	.	<1	.
Turbidity (NTU)	17.9	.	9.37	.	0.074	.	0.199	.	0.145	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	1051.77	.	1051.77	.	1023.98	.	1023.98	.	1045.20	.
Depth to Water (ft)	66.49	.	70.76	.	60.45	.	65.89	.	59.57	.
Water-Level Elev. (ft)	985.28	.	981.01	.	963.53	.	958.09	.	985.63	.
Water Temp. (degrees C)	16.1	.	15.2	.	13.4	.	14.1	.	13.1	.
pH (standard units)	6.55	.	6.36	.	7.3	.	7.61	.	7.75	.
Conductivity (umho/cm)	180	.	139	.	398	.	427	.	393	.
Dissolved Oxygen (ppm)	6.4	.	4.23	.	5.39	.	4.7	.	2.81	.
Oxidation/Reduction (mV)	197	.	199	.	209	.	195	.	195	.

(CONTINUED)

Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point Location Date Sampled Sample Type	GW-544		GW-557							
	CDLVI		LV							
	10/15/98		01/13/98				07/14/98			
					DUP				DUP	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.02	<0.02	<0.02	<0.02	<0.2	<0.2	<0.2	<0.2
Antimony	.	.	<0.05	<0.05	<0.05	<0.05	.	.	.	.
Antimony (PMS)	<0.0005	<0.0005	.	.	.	.	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0121	0.0125	0.011	0.011	0.012	0.011	0.0104	0.0102	0.0107	0.0108
Beryllium	<0.001	<0.001	<0.0003	<0.0003	<0.0003	<0.0003	<0.001	<0.001	<0.001	<0.001
Boron	<0.1	<0.1	0.0041	<0.004	0.0068	<0.004	<0.1	<0.1	<0.1	<0.1
Cadmium	.	.	<0.003	<0.003	<0.003	<0.003	.	.	.	.
Cadmium (PMS)	<0.0005	<0.0005	.	.	.	.	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02	<0.02	<0.02
Copper	<0.02	<0.02	<0.004	<0.004	<0.004	<0.004	<0.02	<0.02	<0.02	<0.02
Iron	<0.05	<0.05	0.0052	<0.005	0.011	0.0055	<0.05	<0.05	<0.05	<0.05
Lead (PMS)	<0.0005	<0.0005	<0.0005	0.0021	<0.0005	<0.0005	0.000793	<0.0005	<0.0005	<0.0005
Lithium	<0.01	<0.01	<0.004	<0.004	<0.004	<0.004	<0.01	<0.01	<0.01	<0.01
Manganese	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05
Nickel	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05
Selenium	.	.	<0.05	<0.05	<0.05	<0.05	.	.	.	.
Selenium (PMS)	<0.01	<0.01	.	.	.	.	<0.01	<0.01	<0.01	<0.01
Silver	<0.02	<0.02	0.0073	<0.006	<0.006	<0.006	<0.02	<0.02	<0.02	<0.02
Strontium	0.0258	0.0264	0.017	0.017	0.017	0.017	0.017	0.0172	0.0167	0.0172
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.0022	0.0025	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Vanadium	<0.02	<0.02	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02	<0.02	<0.02
Zinc	<0.05	<0.05	0.0027	<0.002	0.0052	0.0028	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	52.4	53	37	36	36	36	35.6	36	35.3	35.8
Magnesium	29.8	30.6	21	20	20	20	21	21.4	20.8	21.1
Potassium	<2	<2	1.7	1.6	1.7	1.6	<2	<2	<2	<2
Sodium	4.33	4.24	0.52	0.51	0.53	0.52	0.552	0.536	0.534	0.558
Alkalinity-HCO ₃	230	.	174	.	172	.	172	.	172	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	9.45	.	1.61	.	1.6	.	1.19	.	1.24	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	0.714	.	0.81	.	0.8	.	0.76	.	0.796	.
Sulfate	12.9	.	1.42	.	1.43	.	1.49	.	1.43	.
Ion Charge Balance (RPD)	1.5	.	-1.5	.	-0.9	.	0.3	.	-0.2	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.81	.	7.69	.	7.7	.	7.62	.	7.62	.
Conductivity (umho/cm)	469	.	330	.	330	.	329	.	330	.
TDS (mg/L)	272	.	189	.	192	.	177	.	178	.
TSS (mg/L)	<1	.	<1	.	<1	.	<1	.	<1	.
Turbidity (NTU)	0.103	.	0.931	.	0.942	.	0.385	.	0.155	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	1045.20	.	1081.36	.	1081.36	.	1081.36	.	1081.36	.
Depth to Water (ft)	68.65	.	119.65	.	119.65	.	114.62	.	114.62	.
Water-Level Elev. (ft)	976.55	.	961.71	.	961.71	.	966.74	.	966.74	.
Water Temp. (degrees C)	15.4	.	14	.	14	.	16.9	.	16.9	.
pH (standard units)	8.01	.	7.43	.	7.43	.	7.57	.	7.57	.
Conductivity (umho/cm)	433	.	327	.	327	.	314	.	314	.
Dissolved Oxygen (ppm)	1.76	.	7.56	.	7.56	.	3.3	.	3.3	.
Oxidation/Reduction (mV)	146	.	179	.	179	.	189	.	189	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-609				GW-709				GW-731	
Location	CRSP				LII				CRSDB	
Date Sampled	01/05/98		07/16/98		04/20/98		10/13/98		04/13/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	0.023	<0.02	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.026	<0.02
Antimony	<0.05	<0.05	.	.	.	.	.	.	.	.
Antimony (PMS)	.	.	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0008
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.013	0.012	0.0133	0.0129	0.35	0.4	0.31	0.275	0.0038	0.0037
Beryllium	<0.0003	<0.0003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0003	<0.0003
Boron	<0.004	<0.004	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.0089	0.0084
Cadmium	<0.003	<0.003	.	.	.	.	.	.	.	.
Cadmium (PMS)	.	.	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.005	<0.005
Copper	<0.004	<0.004	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.004	<0.004
Iron	0.0063	0.0082	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.0064	0.012
Lead (PMS)	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	<0.004	<0.004	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.044	0.045
Manganese	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	0.0019
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
Nickel	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
Selenium	<0.05	<0.05	.	.	.	.	.	.	.	.
Selenium (PMS)	.	.	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.006	<0.006	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.006	<0.006
Strontium	0.015	0.015	0.016	0.0152	0.034	0.038	0.0233	0.0207	0.0056	0.0056
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	<0.0005	<0.0005
Vanadium	<0.005	<0.005	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.005	<0.005
Zinc	0.0065	0.0084	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.002	0.0056
MAJOR IONS (mg/L)										
Calcium	41	40	43.2	42.7	21	23	10.7	9.72	11	11
Magnesium	24	24	26.1	26	24	27	26.1	27.2	18	18
Potassium	1.3	1.3	<2	<2	<2	<2	<2	<2	37	38
Sodium	1	1.1	0.891	0.933	0.5	0.62	0.791	0.8	6.9	7.1
Alkalinity-HCO3	198	.	200	.	148	.	136	.	82	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	68	.
Chloride	1.71	.	1.42	.	1.476	.	1.422	.	0.938	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	1.18	.	1.12	.	0.085	.	<0.028	.	0.202	.
Sulfate	3.25	.	3.12	.	2.792	.	2.943	.	4.302	.
Ion Charge Balance (RPD)	-1.3	.	1.5	.	5.1	.	-1.2	.	2.0	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.94	.	7.72	.	8.69	.	8.69	.	9.74	.
Conductivity (umho/cm)	380	.	385	.	451	.	259	.	293	.
TDS (mg/L)	219	.	201	.	128	.	134	.	194	.
TSS (mg/L)	1	.	1	.	<1	.	<1	.	<1	.
Turbidity (NTU)	0.825	.	2.97	.	0.336	.	0.194	.	1.85	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	1112.31	.	1112.31	.	906.78	.	906.78	.	1049.38	.
Depth to Water (ft)	169.58	.	167.34	.	18.44	.	29.94	.	123.38	.
Water-Level Elev. (ft)	942.73	.	944.97	.	888.34	.	876.84	.	926.00	.
Water Temp. (degrees C)	14.9	.	18.2	.	16.6	.	21	.	14.9	.
pH (standard units)	7.9	.	6.91	.	8.85	.	8.27	.	9.71	.
Conductivity (umho/cm)	265	.	323	.	239	.	237	.	298	.
Dissolved Oxygen (ppm)	4.74	.	4.45	.	0.46	.	1.56	.	0.4	.
Oxidation/Reduction (mV)	115	.	70	.	83	.	160	.	158	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point Location Date Sampled Sample Type	GW-731									
	CRSDB									
	04/14/98		04/15/98		04/16/98		10/27/98			
	DUP		DUP		DUP		DUP		DUP	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	0.031	<0.02	0.04	0.05	<0.02	<0.02	<0.02	<0.02	0.424	<0.2
Antimony	.	.	.	.	.	.	.	.	.	.
Antimony (PMS)	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	0.0007	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0042	0.004	0.0043	0.0042	0.0044	0.0046	0.0046	0.0045	0.00765	0.00553
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.001	<0.001
Boron	0.0085	0.0084	0.0087	0.0092	0.0058	0.0063	0.0054	0.0063	<0.1	<0.1
Cadmium	.	.	.	.	.	.	.	.	.	.
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.02	<0.02
Iron	0.023	0.0093	0.0057	0.0077	0.0062	0.011	<0.005	0.014	0.517	<0.05
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0013	<0.0005
Lithium	0.042	0.037	0.045	0.039	0.023	0.023	0.017	0.017	<0.01	<0.01
Manganese	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0011	0.0104	<0.005
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05
Selenium	.	.	.	.	.	.	.	.	.	.
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.02	<0.02
Strontium	0.0064	0.0063	0.0066	0.0062	0.0083	0.0082	0.0094	0.0085	0.0114	0.01
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02
Zinc	0.0025	<0.002	<0.002	<0.002	0.008	0.0022	<0.002	0.01	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	13	12	13	12	17	17	19	18	21.2	20.3
Magnesium	19	19	19	19	19	19	19	18	18.5	18
Potassium	37	36	40	37	22	21	16	17	8.72	8.52
Sodium	6.7	6.6	7.1	6.8	4.2	4.1	3.2	3.2	2.33	2.19
Alkalinity-HCO3	88	.	92	.	106	.	104	.	128	.
Alkalinity-CO3	56	.	52	.	32	.	36	.	<1	.
Chloride	1.5	.	1.489	.	0.896	.	0.896	.	0.87	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	0.218	.	0.222	.	0.208	.	0.195	.	0.2	.
Sulfate	4.344	.	4.287	.	4.291	.	4.137	.	4.32	.
Ion Charge Balance (RPD)	4.5	.	5.1	.	3.7	.	0.3	.	2.1	.
MISCELLANEOUS ANALYTES										
pH (standard units)	9.7	.	9.66	.	9.18	.	9.01	.	8.45	.
Conductivity (umho/cm)	303	.	301	.	294	.	285	.	255	.
TDS (mg/L)	182	.	194	.	142	.	137	.	154	.
TSS (mg/L)	<1	.	<1	.	<1	.	<1	.	8	.
Turbidity (NTU)	0.892	.	2.67	.	1.08	.	0.446	.	11.3	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	1049.38	.	1049.38	.	1049.38	.	1049.38	.	1049.38	.
Depth to Water (ft)	123.45	.	123.45	.	123.55	.	123.72	.	125.00	.
Water-Level Elev. (ft)	925.93	.	925.93	.	925.83	.	925.66	.	924.38	.
Water Temp. (degrees C)	15	.	15	.	15.3	.	14.6	.	15.7	.
pH (standard units)	9.79	.	9.79	.	9.37	.	8.84	.	8.87	.
Conductivity (umho/cm)	279	.	279	.	245	.	248	.	226	.
Dissolved Oxygen (ppm)	0.81	.	0.81	.	3.86	.	4.32	.	6.32	.
Oxidation/Reduction (mV)	134	.	134	.	160	.	190	.	199	.

(CONTINUED)

Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point Location Date Sampled Sample Type	GW-731								GW-732	
	CRSDB								CRSDB	
	10/27/98		10/28/98		10/29/98		10/30/98		04/13/98	
	DUP									
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	0.325	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.11	<0.02
Antimony										
Antimony (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.00721	0.00628	0.00883	0.00798	0.00784	0.00812	0.00785	0.00809	0.021	0.019
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0003	<0.0003
Boron	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.01	0.0079
Cadmium										
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0047	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01
Cobalt	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.005	<0.005
Copper	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.004	<0.004
Iron	0.389	<0.05	0.0966	<0.05	<0.05	<0.05	<0.05	<0.05	0.21	0.015
Lead (PMS)	0.0009	<0.0005	0.0006	<0.0005	0.0008	0.0054	<0.0005	<0.0005	0.0016	<0.0005
Lithium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.004	<0.004
Manganese	0.00925	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0063	0.0039
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
Nickel	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
Selenium										
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.006	<0.006
Strontium	0.0118	0.0104	0.0145	0.0126	0.0132	0.0131	0.0133	0.0129	0.035	0.033
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	<0.0005
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.005	<0.005
Zinc	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.003	0.0024
MAJOR IONS (mg/L)										
Calcium	21.5	20.2	27	24.3	26.6	26	27.2	26	30	29
Magnesium	18.7	18.1	18.2	19.2	19.2	18.9	19.9	19.1	19	19
Potassium	8.72	8.66	<2	4.12	2.21	2.31	<2	<2	1.9	1.9
Sodium	2.3	2.19	1.15	1.26	0.778	0.752	0.578	0.539	1.2	1.2
Alkalinity-HCO3	130	.	138	.	144	.	144	.	156	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	0.88	.	0.84	.	0.85	.	0.85	.	0.884	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	0.2	.	0.19	.	0.18	.	0.18	.	0.237	.
Sulfate	4.3	.	4.02	.	3.93	.	3.97	.	2.57	.
Ion Charge Balance (RPD)	1.5	.	1.2	.	-0.9	.	-1.8	.	-1.6	.
MISCELLANEOUS ANALYTES										
pH (standard units)	8.46	.	8.31	.	8.21	.	8.1	.	8.13	.
Conductivity (umho/cm)	254	.	264	.	271	.	272	.	324	.
TDS (mg/L)	147	.	152	.	137	.	142	.	163	.
TSS (mg/L)	7	.	3	.	<1	.	<1	.	5	.
Turbidity (NTU)	11.2	.	4.03	.	2.85	.	1.45	.	5.26	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	1049.38	.	1049.38	.	1049.38	.	1049.38	.	1064.29	.
Depth to Water (ft)	125.00	.	125.14	.	125.18	.	125.18	.	156.91	.
Water-Level Elev. (ft)	924.38	.	924.24	.	924.20	.	924.20	.	907.38	.
Water Temp. (degrees C)	15.7	.	16.4	.	17.4	.	15.8	.	14.2	.
pH (standard units)	8.87	.	8.64	.	8.63	.	8.26	.	8.31	.
Conductivity (umho/cm)	226	.	224	.	230	.	248	.	302	.
Dissolved Oxygen (ppm)	6.32	.	5.08	.	5.17	.	4.86	.	4.7	.
Oxidation/Reduction (mV)	199	.	207	.	215	.	218	.	79	.

(CONTINUED)

Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point Location Date Sampled Sample Type	GW-732									
	CRSDB									
	04/14/98		04/15/98		04/16/98		10/26/98		10/27/98	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	0.062	<0.02	<0.02	<0.02	<0.02	<0.02	0.356	<0.2	<0.2	<0.2
Antimony	<0.0005	0.0008	<0.0005	0.0009	<0.0005	0.0007	<0.0005	<0.0005	<0.0005	0.0006
Antimony (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Arsenic (PMS)	0.019	0.019	0.016	0.017	0.017	0.017	0.0132	0.0112	0.00917	0.00847
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.001	<0.001	<0.001	<0.001
Boron	0.0078	0.0096	0.0058	0.0063	0.0057	0.0045	<0.1	<0.1	<0.1	<0.1
Cadmium	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Cadmium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02
Chromium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02	<0.02	<0.02
Cobalt	<0.004	0.004	<0.004	<0.004	<0.004	<0.004	<0.02	<0.02	<0.02	<0.02
Copper	<0.004	0.004	<0.004	<0.004	<0.004	<0.004	<0.02	<0.02	<0.02	<0.02
Iron	0.047	0.021	0.015	0.0082	0.018	0.0089	0.39	<0.05	0.103	<0.05
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0012	<0.0005	<0.0005	<0.0005
Lithium	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.01	<0.01	<0.01	<0.01
Manganese	0.0032	0.0043	0.0027	0.0038	0.0025	0.0035	0.00764	<0.005	<0.005	0.0126
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05
Selenium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.02	<0.02	<0.02	<0.02
Strontium	0.029	0.029	0.026	0.027	0.026	0.027	0.0218	0.0195	0.0165	0.0141
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0007	<0.0005
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02	<0.02	<0.02
Zinc	0.0031	0.0088	0.0026	0.012	<0.002	0.0097	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	30	30	28	29	29	29	28.3	27.8	29.5	27.2
Magnesium	19	19	19	20	19	20	17.8	18	19.3	18.3
Potassium	1.3	1.2	0.95	1.2	1.2	1.1	3.59	3.76	<2	2.02
Sodium	0.87	0.9	0.82	0.86	0.91	1	1.14	1.22	0.9	0.888
Alkalinity-HCO3	156	.	152	.	154	.	140	.	138	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	1.322	.	0.808	.	0.804	.	0.89	.	0.84	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	0.252	.	0.239	.	0.233	.	0.226	.	0.23	.
Sulfate	2.433	.	2.333	.	2.11	.	3.39	.	2.74	.
Ion Charge Balance (RPD)	-1.5	.	0.5	.	0.0	.	1.8	.	1.7	.
MISCELLANEOUS ANALYTES										
pH (standard units)	8.02	.	8.07	.	8.04	.	8.54	.	8.16	.
Conductivity (umho/cm)	290	.	290	.	292	.	269	.	265	.
TDS (mg/L)	153	.	133	.	142	.	159	.	151	.
TSS (mg/L)	<1	.	<1	.	<1	.	10	.	3	.
Turbidity (NTU)	1.55	.	0.738	.	0.917	.	11.1	.	2.66	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	1064.29	.	1064.29	.	1064.29	.	1064.29	.	1064.29	.
Depth to Water (ft)	156.90	.	157.00	.	157.05	.	157.95	.	157.83	.
Water-Level Elev. (ft)	907.39	.	907.29	.	907.24	.	906.34	.	906.46	.
Water Temp. (degrees C)	13.8	.	14.2	.	14.6	.	14.4	.	14.2	.
pH (standard units)	7.8	.	7.73	.	7.63	.	8.46	.	7.91	.
Conductivity (umho/cm)	264	.	297	.	280	.	245	.	247	.
Dissolved Oxygen (ppm)	7.12	.	6.16	.	6.52	.	6.4	.	6.6	.
Oxidation/Reduction (mV)	110	.	153	.	184	.	205	.	223	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point Location Date Sampled Sample Type	GW-732				GW-757					
	CRSDB				LII					
	10/28/98		10/29/98		04/21/98				10/13/98	
					DUP					
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Antimony	.	.	.	.	.	.	.	.	.	.
Antimony (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	0.00055	0.00061	<0.0005	0.00061	0.0006	0.0008
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.00782	0.00828	0.00787	0.00772	0.14	0.14	0.14	0.14	0.0912	0.0921
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium	.	.	.	.	.	.	.	.	.	.
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.02	<0.02	0.023	<0.02	0.022	0.021	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Iron	0.0504	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Lead (PMS)	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0011	<0.0005	<0.0005
Lithium	<0.01	<0.01	<0.01	<0.01	0.028	0.026	0.029	0.027	0.029	0.0295
Manganese	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium	.	.	.	.	.	.	.	.	.	.
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Strontium	0.012	0.0136	0.0134	0.013	0.42	0.43	0.45	0.43	0.289	0.297
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.0019	<0.0005	<0.0005	<0.0005	0.0039	0.0038	0.0038	0.0038	0.0069	0.0039
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	23.8	27	27.4	27	10	11	11	11	5.25	5.54
Magnesium	18.8	18.4	18.4	18	13	14	14	14	9.56	9.95
Potassium	4.01	<2	<2	<2	14	13	14	13	15.8	16.5
Sodium	1.25	1.17	0.874	0.864	26	26	28	26	35.3	36.6
Alkalinity-HCO3	136	.	142	.	92	.	88	.	76	.
Alkalinity-CO3	<1	.	<1	.	48	.	52	.	52	.
Chloride	0.83	.	0.79	.	1.95	.	1.97	.	1.997	.
Fluoride	<0.1	.	<0.1	.	1.67	.	1.73	.	1.77	.
Nitrate-N	0.23	.	0.22	.	0.186	.	0.192	.	0.223	.
Sulfate	2.73	.	2.58	.	12.9	.	12.7	.	14	.
Ion Charge Balance (RPD)	1.7	.	-1.1	.	-1.4	.	-1.4	.	0.9	.
MISCELLANEOUS ANALYTES										
pH (standard units)	8.2	.	8.2	.	9.48	.	9.47	.	9.56	.
Conductivity (umho/cm)	267	.	268	.	300	.	302	.	301	.
TDS (mg/L)	145	.	133	.	148	.	148	.	176	.
TSS (mg/L)	1	.	<1	.	<1	.	<1	.	<1	.
Turbidity (NTU)	5.33	.	1.06	.	0.166	.	1.09	.	0.122	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	1064.29	.	1064.29	.	961.61	.	961.61	.	961.61	.
Depth to Water (ft)	157.80	.	157.95	.	80.05	.	80.05	.	84.72	.
Water-Level Elev. (ft)	906.49	.	906.34	.	881.56	.	881.56	.	876.89	.
Water Temp. (degrees C)	15	.	15.1	.	12.7	.	12.7	.	18.9	.
pH (standard units)	8.15	.	7.96	.	9.44	.	9.44	.	9.41	.
Conductivity (umho/cm)	255	.	192	.	275	.	275	.	273	.
Dissolved Oxygen (ppm)	6.94	.	6.73	.	3.02	.	3.02	.	1.18	.
Oxidation/Reduction (mV)	189	.	194	.	139	.	139	.	115	.

(CONTINUED)

Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-757		GW-796				GW-797			
Location	LII		LV				LV			
Date Sampled	10/13/98		01/14/98		07/15/98		01/14/98		07/15/98	
Sample Type	DUP									
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	0.39	0.034	0.637	<0.2	0.079	0.028	<0.2	<0.2
Antimony	.	.	<0.05	<0.05	.	.	<0.05	<0.05	.	.
Antimony (PMS)	0.0006	0.0006	.	.	<0.0005	<0.0005	.	.	<0.0005	0.0007
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0924	0.0909	0.0089	0.0078	0.0135	0.00714	0.0087	0.0086	0.00794	0.0077
Beryllium	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001
Boron	<0.1	<0.1	<0.004	<0.004	<0.1	<0.1	0.0048	0.015	<0.1	<0.1
Cadmium	.	.	<0.003	<0.003	.	.	<0.003	<0.003	.	.
Cadmium (PMS)	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.	<0.0005	0.0006
Chromium	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02
Copper	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02
Iron	<0.05	<0.05	0.31	0.052	0.672	<0.05	0.069	0.016	<0.05	<0.05
Lead (PMS)	<0.0005	<0.0005	0.0005	<0.0005	0.0017	<0.0005	<0.0005	<0.0005	DIS>TOT	DIS>TOT
Lithium	0.0285	0.0285	<0.004	<0.004	<0.01	<0.01	<0.004	<0.004	<0.01	<0.01
Manganese	<0.005	<0.005	0.0056	0.0017	0.0154	<0.005	0.003	0.0014	<0.005	<0.005
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05
Nickel	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05
Selenium	.	.	<0.05	<0.05	.	.	<0.05	<0.05	.	.
Selenium (PMS)	<0.01	<0.01	.	.	<0.01	<0.01	.	.	<0.01	<0.01
Silver	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02	0.0087	<0.006	<0.02	<0.02
Strontium	0.295	0.292	0.014	0.013	0.0281	0.0125	0.02	0.02	0.0211	0.0205
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.0041	0.0039	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Vanadium	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02
Zinc	<0.05	<0.05	0.0059	0.0043	<0.05	<0.05	0.028	0.027	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	5.37	5.3	25	24	29.7	22.6	31	31	31.6	31.1
Magnesium	9.79	9.73	14	14	14.9	13.8	18	18	18.9	18.6
Potassium	16.2	16.1	1.2	1.7	<2	<2	2.2	2.3	2.01	<2
Sodium	35.8	35.5	0.6	0.6	0.564	0.558	2.2	2.3	3.76	3.72
Alkalinity-HCO ₃	74	.	120	.	128	.	158	.	154	.
Alkalinity-CO ₃	56	.	<1	.	<1	.	<1	.	<1	.
Chloride	2.152	.	1.38	.	1.44	.	1.8	.	1.57	.
Fluoride	1.83	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	0.196	.	0.051	.	0.049	.	0.27	.	0.319	.
Sulfate	14.9	.	1	.	0.833	.	6	.	8.61	.
Ion Charge Balance (RPD)	-1.6	.	-0.9	.	-6.8	.	-2.6	.	-1.2	.
MISCELLANEOUS ANALYTES										
pH (standard units)	9.57	.	8.33	.	8.37	.	8.34	.	8.28	.
Conductivity (umho/cm)	302	.	225	.	231	.	303	.	310	.
TDS (mg/L)	175	.	142	.	129	.	156	.	165	.
TSS (mg/L)	<1	.	3	.	26	.	8	.	<1	.
Turbidity (NTU)	0.232	.	10.9	.	24.7	.	5.18	.	0.322	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	961.61	.	1052.62	.	1052.62	.	1060.00	.	1060.00	.
Depth to Water (ft)	84.72	.	81.18	.	65.53	.	70.62	.	68.65	.
Water-Level Elev. (ft)	876.89	.	971.44	.	987.09	.	989.38	.	991.35	.
Water Temp. (degrees C)	18.9	.	12.4	.	17.5	.	11.9	.	19.4	.
pH (standard units)	9.41	.	8.55	.	8.3	.	8.68	.	8.4	.
Conductivity (umho/cm)	273	.	190	.	205	.	231	.	289	.
Dissolved Oxygen (ppm)	1.18	.	7.48	.	4.71	.	6.58	.	2.07	.
Oxidation/Reduction (mV)	115	.	94	.	125	.	133	.	187	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-798				GW-799				GW-801	
Location	CDLVII				CDLVII				LV	
Date Sampled	01/12/98		07/09/98		01/13/98		07/14/98		01/13/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	0.055	0.054	<0.2	<0.2	0.022	<0.02	<0.2	<0.2	0.036	<0.02
Antimony	<0.05	<0.05	.	.	<0.05	<0.05	.	.	<0.05	<0.05
Antimony (PMS)	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0098	0.01	0.00949	0.00938	0.0061	0.0061	0.00553	0.00593	0.003	0.0028
Beryllium	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003
Boron	<0.004	<0.004	<0.1	<0.1	0.0055	0.0072	<0.1	<0.1	0.0093	0.0089
Cadmium	<0.003	<0.003	.	.	<0.003	<0.003	.	.	<0.003	<0.003
Cadmium (PMS)	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.
Chromium	<0.01	<0.01	<0.02	<0.02	0.036	0.036	0.0236	0.0258	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005
Copper	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004
Iron	0.07	0.06	<0.05	<0.05	0.03	0.03	<0.05	<0.05	0.03	0.031
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0009	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	<0.004	<0.004	<0.01	<0.01	<0.004	<0.004	<0.01	<0.01	<0.004	<0.004
Manganese	0.0033	0.0024	<0.005	<0.005	0.0027	0.0025	0.0142	0.0113	0.0016	<0.001
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01
Nickel	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01
Selenium	<0.05	<0.05	.	.	<0.05	<0.05	.	.	<0.05	<0.05
Selenium (PMS)	.	.	<0.01	<0.01	.	.	<0.01	<0.01	.	.
Silver	<0.006	<0.006	<0.02	<0.02	0.0079	<0.006	<0.02	<0.02	<0.006	<0.006
Strontium	0.018	0.018	0.0172	0.0163	0.024	0.025	0.0231	0.0241	0.017	0.016
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	0.0014	0.0014	0.0015	0.0015	<0.0005	<0.0005
Vanadium	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005
Zinc	0.006	0.0082	<0.05	<0.05	<0.002	0.0026	<0.05	<0.05	0.0035	0.0037
MAJOR IONS (mg/L)										
Calcium	28	28	28.3	27.2	34	35	32.6	33.8	31	30
Magnesium	15	15	16.4	15.8	18	18	17.5	18.2	17	17
Potassium	2.1	1.1	<2	<2	0.83	1.5	<2	<2	0.85	1.2
Sodium	0.46	0.48	0.489	0.447	1.4	1.4	1.34	1.39	0.63	0.65
Alkalinity-HCO ₃	136	.	132	.	154	.	142	.	146	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	1.03	.	0.833	.	1.86	.	1.41	.	1.6	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	0.12	.	<0.1	.
Nitrate-N	0.7	.	0.714	.	1.98	.	1.67	.	0.078	.
Sulfate	2.39	.	2.02	.	7.12	.	6.48	.	2.98	.
Ion Charge Balance (RPD)	-3.0	.	-1.4	.	-1.4	.	1.6	.	-1.3	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.93	.	7.79	.	8.34	.	8.25	.	8.06	.
Conductivity (umho/cm)	259	.	276	.	308	.	303	.	276	.
TDS (mg/L)	139	.	141	.	184	.	160	.	161	.
TSS (mg/L)	2	.	<1	.	2	.	<1	.	4	.
Turbidity (NTU)	2.52	.	0.334	.	3.04	.	1.79	.	22.6	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	1006.00	.	1006.00	.	981.29	.	981.29	.	1097.16	.
Depth to Water (ft)	79.69	.	68.86	.	11.88	.	10.49	.	106.55	.
Water-Level Elev. (ft)	926.31	.	937.14	.	969.41	.	970.80	.	990.61	.
Water Temp. (degrees C)	13.9	.	17.8	.	14.2	.	17.6	.	13.2	.
pH (standard units)	7.6	.	6.4	.	8.27	.	7.79	.	7.84	.
Conductivity (umho/cm)	223	.	192	.	279	.	300	.	240	.
Dissolved Oxygen (ppm)	8.21	.	7.02	.	3.7	.	0.3	.	8.11	.
Oxidation/Reduction (mV)	199	.	128	.	161	.	132	.	175	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-801		GW-827				GW-831			
Location	LV		CDLVI				FCAP			
Date Sampled	07/15/98		04/21/98		10/14/98		01/06/98		07/10/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.022	<0.02	<0.2	<0.2
Antimony	.	.	.	.	.	.	<0.05	<0.05	.	.
Antimony (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	.	.	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	<0.004	<0.004	0.0085	0.0087	0.00803	0.00857	0.019	0.019	0.0168	0.0168
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001
Boron	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.004	<0.004	<0.1	<0.1
Cadmium	.	.	.	.	.	.	<0.003	<0.003	.	.
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	.	.	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02
Copper	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02
Iron	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.27	0.27	0.111	<0.05
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0013	<0.0005	<0.0005
Lithium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.004	<0.004	<0.01	<0.01
Manganese	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.13	0.12	0.0808	0.0814
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05
Nickel	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	0.01	<0.05	<0.05
Selenium	.	.	.	.	.	.	<0.05	<0.05	.	.
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	.	.	<0.01	<0.01
Silver	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02
Strontium	0.0149	0.0152	0.018	0.018	0.0173	0.0176	0.033	0.033	0.0273	0.0282
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0021	0.0022
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02
Zinc	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.006	0.0022	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	27.9	28.3	33	33	30	33	46	46	41.7	43.5
Magnesium	16.1	16.3	19	20	18.8	19.3	26	26	24.9	25.9
Potassium	<2	<2	<2	<2	<2	<2	2.2	2.4	<2	<2
Sodium	0.647	0.678	0.7	0.72	0.739	0.74	0.58	0.58	0.8	0.608
Alkalinity-HCO3	138	.	160	.	158	.	216	.	206	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	1.15	.	1.16	.	0.744	.	1.19	.	0.786	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	0.08	.	0.067	.	0.064	.	<0.028	.	<0.028	.
Sulfate	0.3	.	1.58	.	1.547	.	3.45	.	3.09	.
Ion Charge Balance (RPD)	-0.4	.	0.8	.	0.8	.	1.1	.	1.4	.
MISCELLANEOUS ANALYTES										
pH (standard units)	8.07	.	7.92	.	7.77	.	8.08	.	8.25	.
Conductivity (umho/cm)	269	.	303	.	295	.	399	.	382	.
TDS (mg/L)	145	.	137	.	159	.	222	.	204	.
TSS (mg/L)	<1	.	<1	.	<1	.	1	.	<1	.
Turbidity (NTU)	0.934	.	0.361	.	0.158	.	1.54	.	1.85	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	1097.16	.	1051.58	.	1051.58	.	1091.29	.	1091.29	.
Depth to Water (ft)	101.91	.	31.11	.	42.31	.	129.42	.	125.33	.
Water-Level Elev. (ft)	995.25	.	1020.47	.	1009.27	.	961.87	.	965.96	.
Water Temp. (degrees C)	16.1	.	15.4	.	13.9	.	14.4	.	17.2	.
pH (standard units)	7.93	.	7.67	.	7.88	.	7.9	.	8.06	.
Conductivity (umho/cm)	252	.	260	.	306	.	341	.	305	.
Dissolved Oxygen (ppm)	4.72	.	2.65	.	2.12	.	6.51	.	0.8	.
Oxidation/Reduction (mV)	133	.	184	.	189	.	-145	.	104	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point Location Date Sampled Sample Type	SCR2.1SP				SCR2.2SP				SCR3.4SP	
	EXP				EXP				EXP	
	01/13/98		07/08/98		01/12/98		07/08/98		01/13/98	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	0.074	<0.02	<0.2	<0.2	0.13	<0.02	<0.2	<0.2	0.79	<0.02
Antimony	<0.05	<0.05	.	.	<0.05	<0.05	.	.	<0.05	<0.05
Antimony (PMS)	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.028	0.025	0.104	0.0921	0.027	0.027	0.0337	0.0326	0.088	0.07
Beryllium	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003
Boron	0.0074	0.005	<0.1	<0.1	0.0053	0.011	<0.1	<0.1	0.041	0.04
Cadmium	<0.003	<0.003	.	.	<0.003	<0.003	.	.	<0.003	<0.003
Cadmium (PMS)	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.
Chromium	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005
Copper	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004
Iron	0.06	0.013	0.204	<0.05	0.1	0.016	0.0543	<0.05	0.79	0.0094
Lead (PMS)	0.0023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0011	0.0028
Lithium	<0.004	<0.004	<0.01	<0.01	<0.004	<0.004	<0.01	<0.01	0.0094	0.0078
Manganese	0.0029	0.0046	1.81	1.42	0.0043	0.0055	<0.005	0.00616	0.27	0.01
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01
Nickel	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01
Selenium	<0.05	<0.05	.	.	<0.05	<0.05	.	.	<0.05	<0.05
Selenium (PMS)	.	.	<0.01	<0.01	.	.	<0.01	<0.01	.	.
Silver	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006
Strontium	0.036	0.034	0.0691	0.0706	0.065	0.065	0.0662	0.0652	0.16	0.15
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.0021	0.0021	0.0092	0.0076	0.0006	0.0006	0.0007	0.0008	<0.0005	<0.0005
Vanadium	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005
Zinc	0.0048	0.0048	<0.05	<0.05	0.0045	0.0037	<0.05	<0.05	0.028	0.0076
MAJOR IONS (mg/L)										
Calcium	27	25	46.1	46.9	50	51	52	50.9	36	34
Magnesium	9.8	9.2	15	15.3	8.2	8.3	12.2	12	14	14
Potassium	0.91	0.77	<2	<2	<0.6	0.89	<2	<2	1.5	1.3
Sodium	6.6	6.2	2.46	2.53	3.1	3.2	1.85	1.84	0.73	0.7
Alkalinity-HCO3	102	.	176	.	148	.	166	.	152	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	14.6	.	3.41	.	8.11	.	2.89	.	1.69	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.	0.1	.
Nitrate-N	0.17	.	0.03	.	1.58	.	0.882	.	0.32	.
Sulfate	8.92	.	3.78	.	11	.	6.57	.	7.67	.
Ion Charge Balance (RPD)	-7.2	.	0.2	.	-2.0	.	0.1	.	-5.8	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.45	.	7.51	.	7.26	.	7.23	.	7.31	.
Conductivity (umho/cm)	255	.	350	.	337	.	344	.	296	.
TDS (mg/L)	152	.	183	.	197	.	191	.	175	.
TSS (mg/L)	2	.	6	.	3	.	<1	.	4	.
Turbidity (NTU)	2.36	.	1.58	.	3.82	.	2.04	.	10.2	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	.	.	.	.	.	.	.	.	.	.
Depth to Water (ft)	.	.	.	.	.	.	.	.	.	.
Water-Level Elev. (ft)	.	.	.	.	.	.	.	.	.	.
Water Temp. (degrees C)	12	.	22	.	12.6	.	15.9	.	13.1	.
pH (standard units)	7.08	.	7.76	.	7.1	.	7.39	.	6.91	.
Conductivity (umho/cm)	509	.	660	.	366	.	289	.	281	.
Dissolved Oxygen (ppm)	7.73	.	1.04	.	8.08	.	3.93	.	6.83	.
Oxidation/Reduction (mV)	220	.	154	.	114	.	72	.	209	.

(CONTINUED)

Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	SCR3.4SP		SCR4.3SP				SCR5.1SP			
Location	EXP		CDLVII				EXP			
Date Sampled	07/08/98		01/12/98		07/14/98		01/12/98		07/08/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	0.22	0.023	0.23	<0.2	0.12	<0.02	<0.2	<0.2
Antimony	.	.	<0.05	<0.05	.	.	<0.05	<0.05	.	.
Antimony (PMS)	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0785	0.078	0.069	0.067	0.106	0.102	0.019	0.018	0.0159	0.0164
Beryllium	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001
Boron	<0.1	<0.1	0.0089	0.011	<0.1	<0.1	0.0049	0.0046	<0.1	<0.1
Cadmium	.	.	<0.003	<0.003	.	.	<0.003	<0.003	.	.
Cadmium (PMS)	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02
Copper	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02
Iron	0.129	<0.05	0.19	0.045	0.17	<0.05	0.081	0.028	<0.05	<0.05
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	0.016	0.016	<0.004	<0.004	<0.01	<0.01	<0.004	<0.004	<0.01	<0.01
Manganese	0.051	0.03	0.0041	0.0049	0.00721	0.00577	0.0027	0.0044	0.0115	0.0143
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05
Nickel	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05
Selenium	.	.	<0.05	<0.05	.	.	<0.05	<0.05	.	.
Selenium (PMS)	<0.01	<0.01	.	.	<0.01	<0.01	.	.	<0.01	<0.01
Silver	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02
Strontium	0.223	0.225	0.068	0.067	0.0642	0.063	0.017	0.017	0.019	0.02
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Vanadium	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02
Zinc	<0.05	<0.05	0.014	0.013	<0.05	<0.05	0.0067	0.007	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	41	41.5	26	25	34.5	33.8	16	16	28.8	30
Magnesium	16.3	16.5	7.9	7.7	13.9	13.6	8.9	8.7	17.2	18.1
Potassium	<2	<2	1.5	1.5	<2	<2	1.1	1	<2	<2
Sodium	0.958	0.996	3.9	3.8	1.41	1.4	0.66	0.69	0.554	0.626
Alkalinity-HCO3	162	.	82	.	140	.	68	.	138	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	1.21	.	9.83	.	2.69	.	1.36	.	1.17	.
Fluoride	0.11	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	0.219	.	0.7	.	0.407	.	3.16	.	2.18	.
Sulfate	8.56	.	9.74	.	5.54	.	3.41	.	2.77	.
Ion Charge Balance (RPD)	0.0	.	-2.0	.	-2.6	.	-3.8	.	0.1	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.18	.	6.77	.	6.84	.	6.78	.	7.44	.
Conductivity (umho/cm)	335	.	212	.	290	.	163.7	.	288	.
TDS (mg/L)	179	.	126	.	157	.	82	.	146	.
TSS (mg/L)	3	.	2	.	1	.	1	.	<1	.
Turbidity (NTU)	1.85	.	10.9	.	4.07	.	3.41	.	0.951	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	.	.	.	.	.	.	.	.	.	.
Depth to Water (ft)	.	.	.	.	.	.	.	.	.	.
Water-Level Elev. (ft)	.	.	.	.	.	.	.	.	.	.
Water Temp. (degrees C)	21.6	.	12.2	.	16.6	.	12.1	.	16.3	.
pH (standard units)	7.68	.	6.55	.	6.75	.	6.86	.	7.68	.
Conductivity (umho/cm)	288	.	173	.	725	.	148	.	235	.
Dissolved Oxygen (ppm)	3.96	.	6.18	.	3.54	.	6.71	.	5.15	.
Oxidation/Reduction (mV)	215	.	207	.	209	.	217	.	129	.

(CONTINUED)

Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	SCR5.4SP			
Location	EXP			
Date Sampled	01/12/98		07/08/98	
Sample Type				
	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)				
Aluminum	0.87	0.051	0.453	<0.2
Antimony	<0.05	<0.05	.	.
Antimony (PMS)	.	.	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005
Barium	0.022	0.017	0.0428	0.0416
Beryllium	<0.0003	<0.0003	<0.001	<0.001
Boron	0.011	0.011	<0.1	<0.1
Cadmium	<0.003	<0.003	.	.
Cadmium (PMS)	.	.	<0.0005	<0.0005
Chromium	<0.01	<0.01	<0.02	<0.02
Cobalt	<0.005	<0.005	<0.02	<0.02
Copper	<0.004	<0.004	<0.02	<0.02
Iron	0.79	0.072	0.319	0.349
Lead (PMS)	0.001	0.0006	<0.0005	<0.0005
Lithium	<0.004	<0.004	<0.01	<0.01
Manganese	0.081	0.014	0.00526	0.00626
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.05	<0.05
Nickel	<0.01	<0.01	<0.05	<0.05
Selenium	<0.05	<0.05	.	.
Selenium (PMS)	.	.	<0.01	<0.01
Silver	<0.006	<0.006	<0.02	<0.02
Strontium	0.093	0.09	0.126	0.127
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	0.0006	<0.0005
Vanadium	<0.005	<0.005	<0.02	<0.02
Zinc	0.0094	0.0045	<0.05	<0.05
MAJOR IONS (mg/L)				
Calcium	63	61	70.2	70.1
Magnesium	5	4.8	9.84	9.83
Potassium	1.1	1.2	<2	<2
Sodium	4.4	4.3	2.92	2.9
Alkalinity-HCO3	166	.	194	.
Alkalinity-CO3	<1	.	<1	.
Chloride	12.5	.	5.34	.
Fluoride	<0.1	.	<0.1	.
Nitrate-N	0.19	.	1.57	.
Sulfate	11.5	.	10.4	.
Ion Charge Balance (RPD)	-3.5	.	0.9	.
MISCELLANEOUS ANALYTES				
pH (standard units)	7.42	.	7.15	.
Conductivity (umho/cm)	367	.	414	.
TDS (mg/L)	229	.	248	.
TSS (mg/L)	25	.	2	.
Turbidity (NTU)	31.2	.	9.04	.
FIELD MEASUREMENTS				
Measuring Pt. Elev. (ft)	.	.	.	.
Depth to Water (ft)	.	.	.	.
Water-Level Elev. (ft)	.	.	.	.
Water Temp. (degrees C)	13	.	17.2	.
pH (standard units)	7.19	.	7.36	.
Conductivity (umho/cm)	361	.	344	.
Dissolved Oxygen (ppm)	6.65	.	2.58	.
Oxidation/Reduction (mV)	221	.	212	.

APPENDIX E.1: CHESTNUT RIDGE HYDROGEOLOGIC REGIME, 1998

Additional Analytes, Kerr Hollow Quarry

Sampling Point	GW-142	GW-143	GW-144	GW-145	GW-231
Date Sampled	10/19/98	10/19/98	10/19/98	10/19/98	10/19/98
ADDITIONAL ANALYTES					
Ammonia-N (mg/L)	<0.2	0.52	<0.2	0.42	0.22
Fecal Coliform (/100ml)	<1	<1	<1	<1	<1
Nitrate/Nitrite-N (mg/L)	.	.	.	.	.
Total Phosphate-K (mg/L)	<0.1	<0.1	<0.1	<0.1	<0.1

APPENDIX E.2
VOLATILE ORGANIC COMPOUNDS

Volatile Organic Compounds

Sampling Point Location Date Sampled Sample Type	GW-141				GW-142					
	LIV				KHQ					
	01/08/98		07/09/98		04/27/98	04/28/98	04/29/98		04/30/98	
		DUP		DUP				DUP		
ORGANIC COMPOUNDS (ug/L)										
Acetone	FP2	FP2	FP2	FP2	FP2	10U	FP1	10U	10U	10U
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	FP2	FP2	FP1	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

Volatile Organic Compounds

Sampling Point Location Date Sampled Sample Type	GW-142					GW-143			
	KHQ					KHQ			
	10/19/98	10/20/98	10/21/98	10/22/98	10/22/98	04/27/98	04/28/98	04/29/98	04/30/98
				DUP					
ORGANIC COMPOUNDS (ug/L)									
Acetone	10U	FP2	10U	FP1	FP1	10U	3	1	2
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	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
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
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
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-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
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	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

(CONTINUED)

Volatile Organic Compounds

Sampling Point Location	GW-143				GW-144				
	KHQ				KHQ				
Date Sampled	10/19/98	10/20/98	10/21/98	10/22/98	04/27/98	04/28/98	04/29/98	04/30/98	10/19/98
Sample Type									
ORGANIC COMPOUNDS (ug/L)									
Acetone	10U	FP2	FP1	FP1	10U	10U	10U	1	FP2
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	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
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
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
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-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
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	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

(CONTINUED)

Volatile Organic Compounds

Sampling Point Location Date Sampled Sample Type	GW-144			GW-145					
	KHQ			KHQ					
	10/20/98	10/21/98	10/22/98	04/27/98	04/28/98	04/29/98	04/30/98	10/19/98	10/20/98
ORGANIC COMPOUNDS (ug/L)									
Acetone	10U	FP2	10U	10U	10U	10U	FP1	FP2	10U
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	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
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
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
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-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
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	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

(CONTINUED)

Volatile Organic Compounds

Sampling Point	GW-145		GW-217		GW-231				
Location	KHQ		LIV		KHQ				
Date Sampled	10/21/98	10/22/98	01/07/98	07/08/98	04/27/98	04/28/98	04/29/98	04/30/98	
Sample Type						DUP			
ORGANIC COMPOUNDS (ug/L)									
Acetone	FP2	FP2	120	FP2	10U	10U	10U	10U	10U
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	FP2	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	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
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
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
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-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
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	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

(CONTINUED)

Volatile Organic Compounds

Sampling Point	GW-231				GW-301		GW-305		
Location	KHQ				CRBAWP		LIV		
Date Sampled	10/19/98	10/20/98	10/21/98	10/22/98	01/06/98	07/10/98	01/12/98	07/13/98	
Sample Type		DUP							
ORGANIC COMPOUNDS (ug/L)									
Acetone	FP2	FP2	FP2	FP2	FP2	10U	1	FP2	10U
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	FP2	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	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
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	4	2
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	2	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-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
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	5U	5U	5U	5U	5U	5U	17	3
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	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

(CONTINUED)

Volatile Organic Compounds

Sampling Point	GW-322	GW-521		GW-522		GW-540			GW-542
Location	CRSP	LIV		LIV		LII			CDLVI
Date Sampled	01/12/98	01/07/98	07/09/98	01/08/98	07/09/98	03/11/98	04/20/98	10/13/98	04/21/98
Sample Type									
ORGANIC COMPOUNDS (ug/L)									
Acetone	FP2	FP2	FP2	FP2	FP2	FP2	10U	1	1
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	FP1	10U	10U	10U	FP1	2	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	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
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	FP1	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethane	160	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	3	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	170	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-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
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	1	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	10	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	220	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	54	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	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

(CONTINUED)

Volatile Organic Compounds

Sampling Point	GW-542		GW-543		GW-544		GW-557		
Location	CDLVI		CDLVI		CDLVI		LV		
Date Sampled	10/14/98	04/22/98	10/15/98	04/22/98	10/15/98	01/13/98	07/14/98		
Sample Type							DUP		DUP
ORGANIC COMPOUNDS (ug/L)									
Acetone	FP2	10U	FP2	3	FP2	FP2	FP2	1	2
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	2	3
Carbon disulfide	1	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	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
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
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
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-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
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	5U	1	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	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

(CONTINUED)

Volatile Organic Compounds

Sampling Point	GW-609		GW-709		GW-757				GW-796		
Location	CRSP		LII		LII				LV		
Date Sampled	01/05/98	07/16/98	04/20/98	10/13/98	04/21/98		10/13/98		01/14/98		
Sample Type						DUP		DUP			
ORGANIC COMPOUNDS (ug/L)											
Acetone	FP2	FP2	10U	10U	DUP	OUT	DUP	OUT	2	10U	FP2
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	FP2
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	3	5	5U	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	3	5	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5	7	5U	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	1
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	4	4	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

Volatile Organic Compounds

Sampling Point	GW-796		GW-797		GW-798		GW-799		GW-801	
Location	LV		LV		CDLVII		CDLVII		LV	
Date Sampled	07/15/98	01/14/98	07/15/98	01/12/98	07/09/98	01/13/98	07/14/98	01/13/98	07/15/98	
Sample Type										
ORGANIC COMPOUNDS (ug/L)										
Acetone	17	FP2	FP2	FP2	FP2	FP2	2	10U	FP2	
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	FP1	FP1	FP1	3	10U	2	
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	1	5U	5U	5U	5U	5U	5U	4	5U	
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U

(CONTINUED)

Volatile Organic Compounds

Sampling Point	GW-827		GW-831		SCR2.1SP		SCR2.2SP		SCR3.4SP
Location	CDLVI		FCAP		EXP		EXP		EXP
Date Sampled	04/21/98	10/14/98	01/06/98	07/10/98	01/13/98	07/08/98	01/12/98	07/08/98	01/13/98
Sample Type									
ORGANIC COMPOUNDS (ug/L)									
Acetone	10U	FP2	FP2	2	10U	FP2	FP2	FP2	FP1
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	FP2	10U	FP2	FP1	FP1	10U	FP2
Carbon disulfide	5U	5U	5U	5U	5U	2	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	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
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
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
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-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
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	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

(CONTINUED)

Volatile Organic Compounds

Sampling Point	SCR3.4SP	SCR4.3SP	SCR5.1SP	SCR5.4SP
Location	EXP	CDLVII	EXP	EXP
Date Sampled	07/08/98	01/12/98 07/14/98	01/12/98 07/08/98	01/12/98 07/08/98
Sample Type				
ORGANIC COMPOUNDS (ug/L)				
Acetone	FP2	FP2	12	FP2
Acrolein	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U
Benzene	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U
Bromodichloromethane	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U
2-Butanone	FP1	10U	10U	FP2
Carbon disulfide	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U
2-Chloroethyl vinyl ether	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U
Chlorodibromomethane	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U
1,1-Dichloroethane	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U
trans-1,2-Dichloroethene	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U
Dimethylbenzene	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U
Styrene	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U
Toluene	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U

APPENDIX E.3
RADIOLOGICAL ANALYTES

Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point	GW-141								
Location	LIV								
Date Sampled	01/08/98						07/09/98		
Sample Type	DUP								
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	4.6	<MDA	.	2.8	<MDA	.	4.3
Gross Beta	<MDA	.	16	<MDA	.	13	<MDA	.	7.4

(CONTINUED)

Sampling Point	GW-141			GW-142					
Location	LIV			KHQ					
Date Sampled	07/09/98			04/27/98			04/28/98		
Sample Type	DUP								
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	2.2	2	1.2	<MDA	.	2.3	<MDA	.	3.9
Gross Beta	<MDA	.	7.8	<MDA	.	7.9	7.7	4.5	6.7

(CONTINUED)

Sampling Point	GW-142								
Location	KHQ								
Date Sampled	04/29/98						04/30/98		
Sample Type	DUP								
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	3.4	2.4	2.3	<MDA	.	4.4	<MDA	.	4
Gross Beta	<MDA	.	7.8	<MDA	.	7.4	<MDA	.	8.4

(CONTINUED)

Sampling Point	GW-142								
Location	KHQ								
Date Sampled	10/19/98			10/20/98			10/21/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	4.8	<MDA	.	5.3	4.3	2.8	2.6
Gross Beta	<MDA	.	7.5	<MDA	.	8.2	<MDA	.	8

(CONTINUED)

Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point	GW-142						GW-143		
Location	KHQ						KHQ		
Date Sampled	10/21/98			10/22/98			04/27/98		
Sample Type	DUP								
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	4	2.9	3.2	<MDA	.	5.5	<MDA	.	3.2
Gross Beta	<MDA	.	8.7	8.4	5.1	7.8	13	5.7	8.2

(CONTINUED)

Sampling Point	GW-143								
Location	KHQ								
Date Sampled	04/28/98			04/29/98			04/30/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	4.9	<MDA	.	3.1	<MDA	.	3.1
Gross Beta	13	5.6	8	14	5.5	7.6	14	5.4	7.5

(CONTINUED)

Sampling Point	GW-143								
Location	KHQ								
Date Sampled	10/19/98			10/20/98			10/21/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	6.8	4.1	4.9	<MDA	.	4.9	2.6	2.2	2.6
Gross Beta	15	5.8	8.2	<MDA	.	8.4	15	6.3	9.1

(CONTINUED)

Sampling Point	GW-143			GW-144					
Location	KHQ			KHQ					
Date Sampled	10/22/98			04/27/98			04/28/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	7.2	3.7	2.8	<MDA	.	3.8	<MDA	.	3.3
Gross Beta	17	5.9	8.1	<MDA	.	6.3	<MDA	.	8.4

(CONTINUED)

Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point	GW-144								
Location	KHQ								
Date Sampled	04/29/98			04/30/98			10/19/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.9	<MDA	.	4.4	4.6	3.1	3.3
Gross Beta	<MDA	.	7.6	<MDA	.	8.3	<MDA	.	8.9

(CONTINUED)

Sampling Point	GW-144								
Location	KHQ								
Date Sampled	10/20/98			10/21/98			10/22/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	5.7	<MDA	.	5.1	<MDA	.	3.2
Gross Beta	<MDA	.	7.7	<MDA	.	8.2	<MDA	.	8.6

(CONTINUED)

Sampling Point	GW-145								
Location	KHQ								
Date Sampled	04/27/98			04/28/98			04/29/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	10	4.4	4.2	8.4	4.2	4.3	15	5	3.5
Gross Beta	14	6	8.6	14	6.2	8.9	10	5.3	7.8

(CONTINUED)

Sampling Point	GW-145								
Location	KHQ								
Date Sampled	04/30/98			10/19/98			10/20/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	8.8	4.5	5.4	12	4.7	3.3	20	6	3.4
Gross Beta	11	5.5	8.1	12	5.7	8.3	13	5.7	8.1

(CONTINUED)

APPENDIX E.3: CHESTNUT RIDGE HYDROGEOLOGIC REGIME, 1998

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Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point	GW-145						GW-217		
Location	KHQ						LIV		
Date Sampled	10/21/98			10/22/98			01/07/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	12	5.4	5.9	9.5	5	5.6	<MDA	.	3.2
Gross Beta	15	5.7	7.8	18	6.1	8.2	<MDA	.	14

(CONTINUED)

Sampling Point	GW-217			GW-231					
Location	LIV			KHQ					
Date Sampled	07/08/98			04/27/98			04/28/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	5.1	<MDA	.	5.3	<MDA	.	3.7
Gross Beta	<MDA	.	8.4	<MDA	.	16	<MDA	.	8.4

(CONTINUED)

Sampling Point	GW-231								
Location	KHQ								
Date Sampled	04/28/98			04/29/98			04/30/98		
Sample Type	DUP								
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	2.2	<MDA	.	3.2	<MDA	.	3.9
Gross Beta	<MDA	.	7.7	<MDA	.	9.1	<MDA	.	7.1

(CONTINUED)

Sampling Point	GW-231								
Location	KHQ								
Date Sampled	10/19/98			10/20/98					
Sample Type							DUP		
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	4.9	<MDA	.	4.9	<MDA	.	3.1
Gross Beta	<MDA	.	8.8	<MDA	.	8.8	<MDA	.	8.3

(CONTINUED)

Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point	GW-231						GW-301		
Location	KHQ						CRBAWP		
Date Sampled	10/21/98			10/22/98			01/06/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	6.5	<MDA	.	5.5	<MDA	.	4.2
Gross Beta	<MDA	.	8.5	<MDA	.	7.8	<MDA	.	30

(CONTINUED)

Sampling Point	GW-301			GW-305					
Location	CRBAWP			LIV					
Date Sampled	07/10/98			01/12/98			07/13/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	4	<MDA	.	2.8	<MDA	.	4.1
Gross Beta	<MDA	.	7.8	<MDA	.	14	<MDA	.	7.4

(CONTINUED)

Sampling Point	GW-322			GW-521					
Location	CRSP			LIV					
Date Sampled	01/12/98			01/07/98			07/09/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	4.5	<MDA	.	3.1	<MDA	.	5.9
Gross Beta	<MDA	.	13	<MDA	.	15	<MDA	.	7.7

(CONTINUED)

Sampling Point	GW-522						GW-540		
Location	LIV						LII		
Date Sampled	01/08/98			07/09/98			03/11/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	4.3	<MDA	.	4.3	2.8	2.2	2.8
Gross Beta	<MDA	.	13	<MDA	.	6.9	<MDA	.	35

(CONTINUED)

Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point	GW-540						GW-542		
Location	LII						CDLVI		
Date Sampled	04/20/98			10/13/98			04/21/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.2	<MDA	.	5.3	<MDA	.	3.8
Gross Beta	<MDA	.	9.6	<MDA	.	7.9	<MDA	.	7.3

(CONTINUED)

Sampling Point	GW-542			GW-543					
Location	CDLVI			CDLVI					
Date Sampled	10/14/98			04/22/98			10/15/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	4.9	<MDA	.	2.9	<MDA	.	4.6
Gross Beta	<MDA	.	7.8	<MDA	.	7.1	<MDA	.	8.4

(CONTINUED)

Sampling Point	GW-544						GW-557		
Location	CDLVI						LV		
Date Sampled	04/22/98			10/15/98			01/13/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.4	<MDA	.	5.8	<MDA	.	4.4
Gross Beta	<MDA	.	8.2	<MDA	.	7.7	<MDA	.	12

(CONTINUED)

Sampling Point	GW-557								
Location	LV								
Date Sampled	01/13/98			07/14/98					
Sample Type	DUP			DUP					
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	4.3	<MDA	.	3.3	<MDA	.	3.8
Gross Beta	<MDA	.	12	<MDA	.	7	<MDA	.	9.1

(CONTINUED)

Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point	GW-609						GW-709		
Location	CRSP						LII		
Date Sampled	01/05/98			07/16/98			04/20/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	2.8	2.2	2.8	<MDA	.	3.8	<MDA	.	4.4
Gross Beta	<MDA	.	13	<MDA	.	6.9	<MDA	.	8

(CONTINUED)

Sampling Point	GW-709			GW-757					
Location	LII			LII					
Date Sampled	10/13/98			04/21/98					
Sample Type				DUP					
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	6	<MDA	.	4	5.9	3.2	2.9
Gross Beta	<MDA	.	8.1	<MDA	.	8.6	11	5.6	8.2

(CONTINUED)

Sampling Point	GW-757						GW-796		
Location	LII						LV		
Date Sampled	10/13/98						01/14/98		
Sample Type	DUP								
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	5.3	3.5	3.9	6.9	4.8	6.7	<MDA	.	4.1
Gross Beta	13	4.9	6.7	14	5.8	8.2	<MDA	.	12

(CONTINUED)

Sampling Point	GW-796			GW-797					
Location	LV			LV					
Date Sampled	07/15/98			01/14/98			07/15/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.2	<MDA	.	4.9	<MDA	.	3.3
Gross Beta	<MDA	.	8.8	<MDA	.	12	<MDA	.	6.9

(CONTINUED)

Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point	GW-798						GW-799		
Location	CDLVII						CDLVII		
Date Sampled	01/12/98			07/09/98			01/13/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.1	<MDA	.	3.8	<MDA	.	2.8
Gross Beta	<MDA	.	15	<MDA	.	8	<MDA	.	12

(CONTINUED)

Sampling Point	GW-799			GW-801					
Location	CDLVII			LV					
Date Sampled	07/14/98			01/13/98			07/15/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.5	<MDA	.	4.3	<MDA	.	3.4
Gross Beta	<MDA	.	8.4	<MDA	.	13	<MDA	.	8.4

(CONTINUED)

Sampling Point	GW-827						GW-831		
Location	CDLVI						FCAP		
Date Sampled	04/21/98			10/14/98			01/06/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.1	<MDA	.	3.3	<MDA	.	3.2
Gross Beta	<MDA	.	8.3	<MDA	.	8.2	<MDA	.	33

(CONTINUED)

Sampling Point Location Date Sampled Sample Type	GW-831			SCR2.1SP					
	FCAP			EXP					
	07/10/98			01/13/98			07/08/98		
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	3.6	2.8	3.2	<MDA	.	4.6	9.7	4	1.1
Gross Beta	<MDA	.	8.3	<MDA	.	12	<MDA	.	7.9

(CONTINUED)

Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point	SCR2.2SP						SCR3.4SP		
Location	EXP						EXP		
Date Sampled	01/12/98			07/08/98			01/13/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	4.5	<MDA	.	3.2	<MDA	.	4.3
Gross Beta	<MDA	.	15	<MDA	.	6.7	<MDA	.	14

(CONTINUED)

Sampling Point	SCR3.4SP			SCR4.3SP					
Location	EXP			CDLVII					
Date Sampled	07/08/98			01/12/98			07/14/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.3	<MDA	.	4.9	2.4	2	1.1
Gross Beta	<MDA	.	8.5	<MDA	.	14	<MDA	.	7.2

(CONTINUED)

Sampling Point	SCR5.1SP						SCR5.4SP		
Location	EXP						EXP		
Date Sampled	01/12/98			07/08/98			01/12/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	5.1	<MDA	.	5.4	<MDA	.	4.7
Gross Beta	<MDA	.	13	<MDA	.	8.4	<MDA	.	12

(CONTINUED)

Sampling Point	SCR5.4SP		
Location	EXP		
Date Sampled	07/08/98		
Sample Type			
	ACT	ERR	MDA
ACTIVITY (pCi/L)			
Gross Alpha	<MDA	.	5.2
Gross Beta	<MDA	.	8.2

APPENDIX F

**CY 1998 MONITORING DATA FOR THE
UPPER EAST FORK POPLAR CREEK HYDROGEOLOGIC REGIME**

EXPLANATION

SAMPLING POINT:

- GW - Monitoring Well (56- and 59- locations also are wells)
- LRSPW - Lake Reality Emergency Spillway (surface water sampling location)

LOCATION:

- B4 - Beta-4 Security Pits
- B9201-2 - Building 9201-2
- B9202 - Building 9202
- CPT - Coal Pile Trench
- EXP - Exit Pathway Monitoring Location:
 - Maynardville Limestone Picket (-E, -I, -J)
 - Along Scarboro Road in the gap through Pine Ridge (-SR)
- FTF - Fire Training Facility
- GRID - Comprehensive Groundwater Monitoring Plan Grid Location
- NHP - New Hope Pond
- S2 - S-2 Site
- S3 - S-3 Site
- T2331 - Tank 2331-U, near Building 9201-1
- UOV - Uranium Oxide Vault
- WC - Waste Coolant Processing Area

SAMPLE TYPE:

- DUP - Field Duplicate Sample
- DIS - Dissolved concentration (filtered sample)
- TOT - Total concentration (unfiltered sample)
- ACT - Activity
- ERR - Counting Error (two standard deviations)
- MDA - Minimum Detectable Activity

UNITS:

- ft - feet (elevations are above mean sea level and depths are below grade)
- ug/L - micrograms per liter
- mg/L - milligrams per liter
- mV - millivolts
- umho/cm - micromhos per centimeter
- NTU - Nephelometric Turbidity Units
- pCi/L - picoCuries per liter
- ppm - parts per million

EXPLANATION (continued)

NOTES:

All metals analyses were performed using the inductively coupled plasma (ICP) spectroscopy method unless otherwise noted.

- . - Not analyzed or not applicable
- CVAA - Cold Vapor Atomic Absorption
- PMS - Plasma Mass Spectroscopy
- TDS - Total Dissolved Solids
- TSS - Total Suspended Solids

DATA QUALIFICATION:

Results that do not meet the data quality objectives of the Y-12 Plant Groundwater Protection Program were replaced with one of the following surrogate values:

- FP - False-positive result for organic compounds (Appendix F.2), screened by data from the associated laboratory blank (FP1) or trip blank (FP2).
- <MDA - Reported activity (Appendix F.3) is less than the minimum detectable activity.
- < CE - Reported activity (Appendix F.3) is greater than the minimum detectable activity, but less than the associated counting error.
- TOT<DIS - Total (unfiltered) result is more than order of magnitude less than the associated dissolved (filtered) result (Appendix F.1).

These screened results are presented in Section 2.6 and Table 9 (false positives).

Elevated Detection Limits:

Samples from well GW-108 and GW-687 were diluted before ICP analysis (trace metals and cations in Appendix F.1) to obtain an optimum matrix. Results for well GW-108 reflect a 50-fold dilution in January and a 20-fold dilution in June, and the results for well GW-687 in March reflect a 5-fold dilution .

Laboratory Qualifiers:

The following laboratory qualifiers are presented with results in this appendix:

- < - Inorganic compound not detected at the minimum attainable detection limit.
- U - Organic compound not detected at the minimum attainable detection limit.

EXPLANATION (continued)

The following laboratory qualifiers are not presented with results in this appendix:

- B** Forty one results were reported with a “B” qualifier, indicating that a compound also was detected in the associated laboratory blank. These results were reported for acetone (32 results) and 2-butanone (nine results). All false-positive results that were screened by data reported for the laboratory blanks (FP1) or the associated trip blanks (FP2: not indicated by a qualifier) are shown in Appendix F.2. The screened concentrations are presented in Table 9.
- D** Thirty one results for samples from 15 wells were reported with a “D” qualifier, indicating that the analysis for a specific compound was performed at a secondary dilution factor to be within the instrument calibration range. This qualifier was reported with all of the results greater than or equal to 200 ug/L. These results were for total and cis-1,2-dichloroethene (3 results each), carbon tetrachloride (11 results), tetrachloroethene (11 results), and trichloroethene (3 results).
- E** An “E” qualifier was reported with the carbon tetrachloride result (970 ug/L) for the February sample from sampling port GW-722-14, indicating that this result exceeded the instrument calibration range.
- J** A result less than the contract required reporting limit (CRQL) is an estimated value and assigned a “J” qualifier by the laboratory. The standard reporting limits for the organic compounds are 5 ug/L, 10ug/L, or 500 ug/L; therefore, all results less than 5 ug/L are estimated values. The following results are estimated values greater than or equal to 5 ug/L that are not false-positive results:

Compound	CRQL (ug/L)	Sampling Location	Date Sampled	Result (ug/L)
1,2-Dichloroethene (Total)	5	56-2B	03/23/98	75 J
1,2-Dichloroethene (Total)	5	56-2C	03/24/98	184 J
Vinyl Chloride	10	56-2C	03/24/98	6 J
Dimethylbenzene	10	GW-193	03/16/98	9 J
Acetone	10	GW-208	06/09/98	9 J
1,2-Dichloroethene (Total)	5	GW-383	06/01/98	111 J
1,2-Dichloroethene (Total)	5	GW-383	12/08/98	122 J
Acrylonitrile	10	GW-722-06	02/17/98	5 J
Acrylonitrile	10	GW-722-06	07/29/98	7 J
2-butanone	10	GW-722-26	08/25/98	6 J
1,2-Dichloroethene (Total)	5	GW-782	11/12/98	18 J

Total 1,2-dichloroethene is the summed value of the cis and trans isomer concentrations (each with a reporting limit of 5 ug/L); the J qualifier for this compound indicates a sum that includes an estimated value for trans-1,2-dichloroethene.

- p** This qualifier was associated with all of the dissolved metals results for the filtered sample from sampling port GW-722-10 in February because the laboratory received the sample with a pH of 7 (unpreserved).

EXPLANATION (continued)

ADDITIONAL DATA:

These results are for analytes that were specified only for the following locations (see Table 1, Addenda 98-11 and 98-12).

Bioremediation Parameters

Sampling Location	Date Sampled	Chemical Oxygen Demand (mg/L)	Biochemical Oxygen Demand (mg/L)	Total Organic Carbon (mg/L)
GW-722-06	02/17/98	< 5	< 5	< 1
GW-722-10	02/18/98	< 5	< 5	< 1
GW-722-14	02/19/98	< 5	< 5	< 1
GW-722-20	02/24/98	< 5	< 5	< 1
GW-722-30	02/25/98	< 5	< 5	< 1
GW-845	05/21/98		< 5	

Radiological Analytes

Well GW-845, 05/21/98

Gamma Scan	Result (pCi/L)	MDA
¹³⁷ Cesium	< MDA	3.7
⁶⁰ Cobalt	< MDA	3.7

APPENDIX F.1
TRACE METALS, MAJOR IONS, MISCELLANEOUS ANALYTES,
AND FIELD MEASUREMENTS

Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	56-2A		56-2B		56-2C		59-1A		59-1B	
Location	GRIDC3		GRIDC3		GRIDC3		B9202		B9202	
Date Sampled	03/23/98		03/23/98		03/24/98		03/17/98		03/18/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	0.023	<0.02	0.033	<0.02	0.051	<0.02	3	<0.02	3.5	0.051
Antimony	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Antimony (PMS)										
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.11	0.11	0.069	0.067	0.15	0.15	0.13	0.11	0.18	0.12
Beryllium	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	0.081	0.074	0.11	0.11	0.77	0.77	0.02	0.015	0.011	0.01
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Cadmium (PMS)										
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.13	<0.01	0.16	<0.01
Cobalt	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.017	<0.005
Copper	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.0082	<0.004	0.0086	<0.004
Iron	0.21	0.063	0.013	0.0056	0.073	0.0057	3.9	0.02	4.8	0.029
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0026	<0.0005	0.0084	<0.0005
Lithium	0.015	0.015	0.018	0.016	0.07	0.07	<0.004	<0.004	0.006	0.0064
Manganese	0.018	0.015	0.0019	0.0013	0.0028	<0.001	0.21	0.07	0.32	0.0099
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.07	0.066	<0.01	<0.01	<0.01	<0.01	0.24	0.085	0.28	0.15
Selenium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium (PMS)										
Silver	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.2	0.21	0.36	0.36	0.42	0.42	0.29	0.29	0.23	0.19
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.004	0.0049	0.0068	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	0.0085	0.0082	0.0009	<0.0005
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0069	<0.005	0.0051	<0.005
Zinc	<0.002	<0.002	<0.002	<0.002	0.0039	<0.002	0.0041	<0.002	0.0034	<0.002
MAJOR IONS (mg/L)										
Calcium	100	100	98	96	8.7	8.3	69	67	100	94
Magnesium	6.6	6.5	13	13	2.1	2.1	15	14	4.4	3.8
Potassium	2.5	2.4	3.6	3.2	5.2	5.5	3.8	2.5	1.5	1.1
Sodium	8	8.2	11	11	110	110	12	12	8.8	8.1
Alkalinity-HCO3	190	.	168	.	204	.	216	.	176	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	33.6	.	12.9	.	11.4	.	18.6	.	51.7	.
Fluoride	<0.1	.	<0.1	.	0.34	.	0.1	.	<0.1	.
Nitrate-N	0.44	.	1.04	.	0.073	.	0.5	.	1.17	.
Sulfate	61.8	.	119	.	25.1	.	13.5	.	19	.
Ion Charge Balance (RPD)	-1.0	.	1.1	.	5.4	.	-0.8	.	-0.7	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.4	.	7.61	.	8.59	.	7.31	.	7.21	.
Conductivity (umho/cm)	583	.	605	.	510	.	482	.	541	.
TDS (mg/L)	365	.	384	.	303	.	266	.	327	.
TSS (mg/L)	<1	.	<1	.	1	.	49	.	106	.
Turbidity (NTU)	1.99	.	0.566	.	2.25	.	56	.	60.1	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	963.30	.	962.28	.	964.94	.	945.75	.	945.69	.
Depth to Water (ft)	7.83	.	7.14	.	9.23	.	5.64	.	4.49	.
Water-Level Elev. (ft)	955.47	.	955.14	.	955.71	.	940.11	.	941.20	.
Water Temp. (degrees C)	13.7	.	15	.	14.8	.	13.8	.	16.9	.
pH (standard units)	7.21	.	7.61	.	8.64	.	7.27	.	7	.
Conductivity (umho/cm)	523	.	532	.	439	.	418	.	469	.
Dissolved Oxygen (ppm)	5.6	.	5.09	.	3.48	.	3.71	.	9.15	.
Oxidation/Reduction (mV)	16	.	87	.	67	.	137	.	73	.

(CONTINUED)

APPENDIX F.1: UPPER EAST FORK POPLAR CREEK HYDROGEOLOGIC REGIME, 1998

2

Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	59-1C		GW-108							
Location	B9202		S3							
Date Sampled	03/18/98		03/16/98				07/28/98			
Sample Type					DUP				DUP	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	0.43	<0.02	<1	<1	<1	<1	<4	<4	<4	<4
Antimony	<0.05	<0.05	<2.5	<2.5	<2.5	<2.5	.	.	.	.
Antimony (PMS)	.	.	.	.	.	.	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	0.012	0.011	0.011	0.015	<0.005	<0.005	<0.005	<0.005
Barium	0.33	0.31	110	110	120	110	110	108	111	110
Beryllium	<0.0003	<0.0003	<0.015	<0.015	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
Boron	0.017	0.014	<0.2	<0.2	<0.2	<0.2	<2	<2	<2	<2
Cadmium	<0.003	<0.003	<0.15	<0.15	<0.15	<0.15	.	.	.	.
Cadmium (PMS)	.	.	.	.	.	.	0.0019	0.0016	0.0018	0.0019
Chromium	0.014	<0.01	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	<0.4	<0.4
Cobalt	<0.005	<0.005	<0.25	<0.25	<0.25	<0.25	<0.4	<0.4	<0.4	<0.4
Copper	0.0044	<0.004	<0.2	<0.2	<0.2	<0.2	<0.4	<0.4	<0.4	0.424
Iron	0.5	0.019	<0.25	<0.25	<0.25	<0.25	<1	<1	1.68	<1
Lead (PMS)	0.0029	<0.0005	0.001	<0.0005	0.0016	<0.0005	DIS>TOT	DIS>TOT	0.0007	0.0064
Lithium	0.016	0.014	0.26	0.36	0.38	0.36	0.368	0.356	0.376	0.392
Manganese	0.039	0.014	140	140	140	130	133	131	135	133
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1
Nickel	0.092	0.072	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1
Selenium	<0.05	<0.05	<2.5	<2.5	<2.5	<2.5	.	.	.	.
Selenium (PMS)	.	.	.	.	.	.	0.0399	0.0634	0.057	0.0742
Silver	<0.006	<0.006	<0.3	<0.3	<0.3	<0.3	<0.4	<0.4	<0.4	<0.4
Strontium	0.4	0.39	40	39	40	39	37.7	37.4	38.4	37.9
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<10	<10	<10	<10	<4	<4	<4	<4
Uranium (PMS)	<0.0005	<0.0005	0.02	0.02	0.017	0.019	0.0186	0.0157	0.0188	0.0165
Vanadium	<0.005	<0.005	<0.25	<0.25	<0.25	<0.25	<0.4	<0.4	<0.4	<0.4
Zinc	<0.002	<0.002	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1
MAJOR IONS (mg/L)										
Calcium	66	64	13000	13000	13000	13000	13100	13100	13400	13300
Magnesium	11	11	1200	1200	1200	1200	1220	1200	1230	1220
Potassium	2.4	2.1	49	57	43	<30	<40	<40	<40	44
Sodium	6.4	6.3	560	570	570	550	544	538	553	545
Alkalinity-HCO3	150	.	732	.	714	.	730	.	732	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	35.3	.	130	.	129	.	132	.	132	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	0.4	.	11800	.	10700	.	10700	.	10500	.
Sulfate	16.7	.	<2.5	.	<2.5	.	<2.5	.	<2.5	.
Ion Charge Balance (RPD)	0.6	.	-5.3	.	-0.7	.	-0.4	.	1.3	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.6	.	5.7	.	5.66	.	5.58	.	5.64	.
Conductivity (umho/cm)	431	.	55500	.	55400	.	55700	.	55700	.
TDS (mg/L)	203	.	61884	.	61959	.	60200	.	60700	.
TSS (mg/L)	12	.	7	.	8	.	4	.	<1	.
Turbidity (NTU)	9.22	.	1.49	.	1.54	.	1.02	.	1.26	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	945.87	.	999.00	.	999.00	.	999.00	.	999.00	.
Depth to Water (ft)	4.48	.	8.20	.	8.20	.	8.00	.	8.00	.
Water-Level Elev. (ft)	941.39	.	990.80	.	990.80	.	991.00	.	991.00	.
Water Temp. (degrees C)	15.9	.	15.7	.	15.7	.	21.1	.	21.1	.
pH (standard units)	7.68	.	5.66	.	5.66	.	5.01	.	5.01	.
Conductivity (umho/cm)	368	.	52100	.	52100	.	50000	.	50000	.
Dissolved Oxygen (ppm)	3.15	.	2.27	.	2.27	.	0.52	.	0.52	.
Oxidation/Reduction (mV)	57	.	185	.	185	.	258	.	258	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point Location Date Sampled Sample Type	GW-148				GW-153				GW-192	
	NHP				NHP				B4	
	05/27/98		12/03/98		05/28/98		12/07/98		05/26/98	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Antimony	.	.	.	.	.	.	.	.	.	.
Antimony (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.298	0.285	0.263	0.264	0.046	0.0453	0.044	0.0425	0.14	0.136
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium	.	.	.	.	.	.	.	.	.	.
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Iron	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.0597	<0.05	2.62	1.59
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	<0.0005
Lithium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0183	0.0184
Manganese	0.404	0.373	0.0428	0.0552	<0.005	<0.005	0.00801	<0.005	1.85	1.81
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium	.	.	.	.	.	.	.	.	.	.
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0165	0.0165	<0.01	<0.01
Silver	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Strontium	0.58	0.554	0.548	0.547	0.142	0.142	0.185	0.18	0.172	0.172
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.0009	0.0012	0.0012	0.0012	0.0014	0.0014	0.0011	0.0011	<0.0005	<0.0005
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	171	163	160	160	46.1	46	45	44.1	100	98.7
Magnesium	10.7	10.2	10.3	10.3	19.3	19.3	19.4	19.6	9.7	9.71
Potassium	3.14	3.14	3.21	3.21	2.03	2.15	2.22	2.22	2.56	2.94
Sodium	17.4	16.6	18.1	18.1	11.6	11.7	9.29	9.08	7.52	7.58
Alkalinity-HCO3	344	.	340	.	182	.	184	.	228	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	75.373	.	77.6	.	15.984	.	54.1	.	22.527	.
Fluoride	0.12	.	0.19	.	0.15	.	0.26	.	0.14	.
Nitrate-N	<0.028	.	<0.028	.	0.819	.	0.76	.	0.072	.
Sulfate	33.486	.	32.6	.	10.99	.	13.9	.	6.531	.
Ion Charge Balance (RPD)	0.4	.	0.1	.	0.7	.	-13.2	.	6.9	.
MISCELLANEOUS ANALYTES										
pH (standard units)	6.78	.	6.88	.	7.74	.	7.87	.	6.53	.
Conductivity (umho/cm)	921	.	911	.	413	.	415	.	578	.
TDS (mg/L)	575	.	580	.	220	.	231	.	340	.
TSS (mg/L)	<1	.	1	.	3	.	<1	.	1	.
Turbidity (NTU)	0.352	.	0.711	.	1.59	.	5.23	.	9.59	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	907.36	.	907.36	.	921.64	.	921.64	.	1008.83	.
Depth to Water (ft)	8.49	.	8.94	.	20.20	.	20.37	.	6.52	.
Water-Level Elev. (ft)	898.87	.	898.42	.	901.44	.	901.27	.	1002.31	.
Water Temp. (degrees C)	17.9	.	18.6	.	15.3	.	15.7	.	17.5	.
pH (standard units)	6.43	.	6.81	.	7.7	.	7.75	.	6.44	.
Conductivity (umho/cm)	778	.	808	.	357	.	373	.	489	.
Dissolved Oxygen (ppm)	0.22	.	1.42	.	2.39	.	1.12	.	0.28	.
Oxidation/Reduction (mV)	134	.	228	.	193	.	321	.	24	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-192		GW-193				GW-207			
Location	B4		T2331				EXP-SR			
Date Sampled	11/30/98		03/16/98		07/28/98		06/24/98		12/09/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.02	<0.02	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Antimony	.	.	<0.05	<0.05	.	.	.	.	.	.
Antimony (PMS)	<0.0005	<0.0005	.	.	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	0.0065	0.0059	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.177	0.178	0.1	0.11	0.109	0.108	0.0466	0.0448	0.0539	0.0511
Beryllium	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron	<0.1	<0.1	0.065	0.066	<0.1	<0.1	0.145	0.148	0.128	0.126
Cadmium	.	.	<0.003	<0.003	.	.	.	.	.	.
Cadmium (PMS)	<0.0005	<0.0005	.	.	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Iron	4.44	3.97	0.0072	0.0099	<0.05	<0.05	0.264	0.235	0.219	0.216
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	0.0015	0.0005	0.0015	<0.0005	<0.0005	<0.0005
Lithium	<0.01	0.011	<0.004	<0.004	<0.01	<0.01	0.0305	0.0303	0.0322	0.033
Manganese	1.31	1.32	0.44	0.44	0.526	0.506	0.015	0.0138	0.0131	0.0123
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium	.	.	<0.05	<0.05	.	.	.	.	.	.
Selenium (PMS)	<0.01	<0.01	.	.	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Strontium	0.291	0.298	0.47	0.47	0.468	0.461	0.639	0.642	0.583	0.571
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	0.0023	0.0023	0.001	0.0011	<0.0005	0.0005	<0.0005	<0.0005
Vanadium	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	<0.05	<0.05	<0.002	<0.002	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	135	137	88	87	94.4	91	67	67.4	62.8	61.7
Magnesium	18.3	18.5	19	19	18.7	18.4	42.4	42.8	40	39.2
Potassium	3.16	3.09	6.8	6.6	6.73	7.22	3.26	3.13	3.08	3.22
Sodium	6.58	6.71	5.3	5.3	6.07	5.82	11.5	11.6	10.9	10.8
Alkalinity-HCO ₃	408	.	238	.	310	.	252	.	272	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	12.8	.	5.15	.	4.24	.	1.31	.	1.17	.
Fluoride	0.33	.	0.52	.	0.51	.	0.18	.	0.23	.
Nitrate-N	0.03	.	<0.028	.	<0.028	.	<0.028	.	<0.028	.
Sulfate	3.78	.	68.8	.	4.27	.	109	.	52.5	.
Ion Charge Balance (RPD)	0.7	.	-0.5	.	0.5	.	0.8	.	2.1	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.93	.	7.6	.	7.52	.	7.49	.	7.66	.
Conductivity (umho/cm)	777	.	600	.	608	.	654	.	589	.
TDS (mg/L)	448	.	323	.	371	.	418	.	338	.
TSS (mg/L)	7	.	<1	.	<1	.	1	.	<1	.
Turbidity (NTU)	50.8	.	59.5	.	31.4	.	2.26	.	2.5	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	1008.83	.	934.17	.	934.17	.	898.36	.	898.36	.
Depth to Water (ft)	8.47	.	8.61	.	8.77	.	0.00	.	0.00	.
Water-Level Elev. (ft)	1000.36	.	925.56	.	925.40	.	898.36	.	898.36	.
Water Temp. (degrees C)	17.5	.	14.1	.	23.7	.	16	.	12.9	.
pH (standard units)	7.02	.	7.71	.	6.44	.	7.38	.	7.51	.
Conductivity (umho/cm)	748	.	583	.	561	.	643	.	595	.
Dissolved Oxygen (ppm)	0.59	.	0.12	.	0.13	.	0.26	.	1.22	.
Oxidation/Reduction (mV)	-64	.	-238	.	-275	.	-49	.	-13	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-208				GW-219		GW-220			
Location	EXP-SR				UOV		NHP			
Date Sampled	06/09/98		12/09/98		09/04/98		05/28/98		12/07/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.431	<0.2	0.301	<0.2
Antimony	.	.	.	.	.	.	.	.	.	.
Antimony (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0442	0.0448	0.0441	0.0438	0.0582	0.056	0.1	0.0968	0.0981	0.0939
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron	0.237	0.245	0.24	0.237	0.139	0.138	<0.1	<0.1	<0.1	<0.1
Cadmium	.	.	.	.	.	.	.	.	.	.
Cadmium (PMS)	0.0035	<0.0005	0.0008	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Iron	2.42	0.836	1.11	0.759	0.302	<0.05	0.425	<0.05	0.213	<0.05
Lead (PMS)	0.0136	0.0008	0.0018	<0.0005	<0.0005	0.0008	0.0007	0.0008	<0.0005	<0.0005
Lithium	0.0321	0.0331	0.0331	0.0332	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Manganese	0.0241	0.0203	0.0189	0.0183	0.0895	0.0384	0.0187	<0.005	0.0113	<0.005
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	<0.05	<0.05	<0.05	<0.05	0.189	0.176	<0.05	<0.05	<0.05	<0.05
Selenium	.	.	.	.	.	.	.	.	.	.
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Strontium	1.59	1.62	1.59	1.57	0.16	0.156	0.43	0.424	0.422	0.409
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	0.229	0.264	<0.0005	<0.0005	<0.0005	<0.0005
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	6.95	1.83	3.06	2.13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	85.1	86.5	84.5	82.1	96.9	93.7	61.3	60.2	59.3	57
Magnesium	27.1	27.7	27.1	26	9.38	9.18	25.9	25.6	25.4	24.3
Potassium	3.11	3.16	3.19	3.39	3.73	3.46	2.39	2.39	2.31	2.29
Sodium	16.5	16.9	16.9	16.6	15.7	17.4	4.71	4.7	4.7	4.56
Alkalinity-HCO3	230	.	228	.	288	.	232	.	230	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	1.66	.	1.58	.	9.16	.	11.237	.	12.3	.
Fluoride	0.28	.	0.44	.	0.1	.	<0.1	.	0.16	.
Nitrate-N	<0.028	.	<0.028	.	<0.028	.	0.959	.	0.85	.
Sulfate	123	.	121	.	15.3	.	15.106	.	13.8	.
Ion Charge Balance (RPD)	1.3	.	-0.7	.	-0.5	.	0.4	.	-1.9	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.46	.	7.83	.	7.55	.	7.53	.	7.69	.
Conductivity (umho/cm)	651	.	647	.	584	.	485	.	487	.
TDS (mg/L)	424	.	405	.	306	.	217	.	256	.
TSS (mg/L)	13	.	3	.	4	.	4	.	2	.
Turbidity (NTU)	24.4	.	13.2	.	6.23	.	9.02	.	1.62	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	897.72	.	897.72	.	935.64	.	915.84	.	915.84	.
Depth to Water (ft)	0.00	.	0.00	.	13.59	.	15.98	.	16.26	.
Water-Level Elev. (ft)	897.72	.	897.72	.	922.05	.	899.86	.	899.58	.
Water Temp. (degrees C)	15.6	.	14.5	.	27.8	.	16.9	.	16.8	.
pH (standard units)	7.53	.	7.89	.	7	.	7.47	.	7.64	.
Conductivity (umho/cm)	618	.	597	.	590	.	412	.	422	.
Dissolved Oxygen (ppm)	0.34	.	0.88	.	1.75	.	0.48	.	0.2	.
Oxidation/Reduction (mV)	-102	.	-133	.	188	.	180	.	190	.

(CONTINUED)

APPENDIX F.1: UPPER EAST FORK POPLAR CREEK HYDROGEOLOGIC REGIME, 1998

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-251				GW-332				GW-380	
Location	S2				WC				NHP	
Date Sampled	05/26/98		12/02/98		03/24/98				06/02/98	
Sample Type					DUP					
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.2	<0.2	0.029	<0.02	0.034	<0.02	<0.2	<0.2
Antimony	.	.	.	.	<0.05	<0.05	<0.05	<0.05	.	.
Antimony (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	.	.	.	.	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.123	0.124	0.0514	0.0499	0.091	0.095	0.094	0.092	0.0289	0.0284
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.0003	<0.0003	<0.0003	<0.0003	<0.001	<0.001
Boron	<0.1	<0.1	<0.1	<0.1	0.052	0.054	0.054	0.052	<0.1	<0.1
Cadmium	.	.	.	.	<0.003	<0.003	<0.003	<0.003	.	.
Cadmium (PMS)	0.16	0.164	0.0471	0.048	.	.	.	.	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	0.0572	<0.02
Cobalt	0.0267	0.0254	<0.02	<0.02	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02
Copper	0.336	0.317	0.11	0.103	<0.004	<0.004	<0.004	<0.004	<0.02	<0.02
Iron	0.115	<0.05	<0.05	<0.05	0.042	<0.005	0.026	0.039	0.459	<0.05
Lead (PMS)	0.0013	0.0006	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	<0.01	<0.01	<0.01	<0.01	0.0042	0.0041	<0.004	<0.004	<0.01	<0.01
Manganese	5.02	4.95	1.04	1.02	0.0087	0.0068	0.0086	0.0065	0.0362	0.0286
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05
Nickel	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	0.194	0.181
Selenium	.	.	.	.	<0.05	<0.05	<0.05	<0.05	.	.
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	.	.	.	.	<0.01	<0.01
Silver	<0.02	<0.02	<0.02	<0.02	<0.006	<0.006	<0.006	<0.006	<0.02	<0.02
Strontium	0.273	0.274	0.112	0.109	0.084	0.088	0.087	0.085	0.0374	0.0375
Thallium (PMS)	0.0031	0.0032	0.0011	0.0011	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.0063	0.0063	0.0033	0.0033	<0.0005	<0.0005	<0.0005	<0.0005	0.0012	0.0011
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02
Zinc	0.0695	0.0718	<0.05	<0.05	0.0031	0.0034	0.0024	0.0025	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	130	128	88.9	87.4	20	21	21	20	33.5	33.3
Magnesium	17.8	17.6	11.9	11.7	3.1	3.2	3.2	3.1	14.4	14.3
Potassium	3.55	3.65	<2	<2	1.1	1.4	0.99	0.99	<2	<2
Sodium	19.2	19.7	7.83	7.62	6.7	7	7	6.8	105	106
Alkalinity-HCO3	154	.	190	.	48	.	48	.	162	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	9.026	.	5.28	.	6.67	.	6.35	.	144	.
Fluoride	1.12	.	1.75	.	<0.1	.	<0.1	.	0.16	.
Nitrate-N	89.565	.	31.6	.	1.78	.	1.79	.	4.43	.
Sulfate	23.441	.	9.73	.	8.02	.	7.89	.	12.4	.
Ion Charge Balance (RPD)	-7.8	.	-6.9	.	6.8	.	4.8	.	-2.8	.
MISCELLANEOUS ANALYTES										
pH (standard units)	6.32	.	6.85	.	6.01	.	6.05	.	6.97	.
Conductivity (umho/cm)	1093	.	649	.	170.6	.	168.8	.	793	.
TDS (mg/L)	807	.	420	.	101	.	100	.	423	.
TSS (mg/L)	1	.	<1	.	<1	.	<1	.	1.2	.
Turbidity (NTU)	2.87	.	0.351	.	0.651	.	0.635	.	3.79	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	1003.80	.	1003.80	.	981.07	.	981.07	.	913.75	.
Depth to Water (ft)	16.73	.	26.88	.	10.52	.	10.52	.	9.39	.
Water-Level Elev. (ft)	987.07	.	976.92	.	970.55	.	970.55	.	904.36	.
Water Temp. (degrees C)	18.4	.	14.9	.	15.5	.	15.5	.	16.9	.
pH (standard units)	6.29	.	6.59	.	5.85	.	5.85	.	6.55	.
Conductivity (umho/cm)	969	.	600	.	164	.	164	.	678	.
Dissolved Oxygen (ppm)	0.45	.	0.23	.	1.24	.	1.24	.	5.8	.
Oxidation/Reduction (mV)	280	.	259	.	212	.	212	.	57	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-380		GW-383				GW-605			
Location	NHP		NHP				EXP-1			
Date Sampled	12/10/98		06/01/98		12/08/98		03/12/98		07/27/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.23	<0.02	<0.2	<0.2
Antimony	.	.	.	.	.	.	<0.05	<0.05	.	.
Antimony (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	.	.	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0306	0.029	0.59	0.567	0.562	0.51	0.075	0.071	0.0437	0.0418
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001
Boron	<0.1	<0.1	<0.1	<0.1	0.104	<0.1	0.16	0.16	<0.1	<0.1
Cadmium	.	.	.	.	.	.	<0.003	<0.003	.	.
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	.	.	<0.0005	<0.0005
Chromium	0.228	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02
Copper	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02
Iron	2.08	1.3	1.05	0.627	0.958	0.473	0.25	<0.005	0.0574	<0.05
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0016	0.0013	<0.0005	<0.0005
Lithium	<0.01	<0.01	0.016	0.0159	0.0156	0.0128	<0.004	<0.004	<0.01	<0.01
Manganese	0.187	0.167	0.266	0.235	0.164	0.107	0.76	0.1	0.2	0.081
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05
Nickel	0.434	0.39	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05
Selenium	.	.	.	.	.	.	<0.05	<0.05	.	.
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	.	.	<0.01	<0.01
Silver	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02
Strontium	0.0416	0.0404	0.425	0.413	0.4	0.365	0.24	0.24	0.12	0.118
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.001	0.001	<0.0005	<0.0005	<0.0005	<0.0005	0.33	0.32	0.0464	0.0468
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02
Zinc	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.002	0.0029	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	38.6	37.1	91.8	89.9	86.5	79.5	90	89	71.7	70
Magnesium	14.5	14.1	11.2	10.9	10.6	9.7	18	18	12.4	12.1
Potassium	<2	<2	2.78	2.64	2.63	2.39	4.3	4.3	2.23	2.02
Sodium	52.2	51.2	14.1	13.9	13.4	12	24	24	7.31	7.15
Alkalinity-HCO3	164	.	228	.	230	.	252	.	184	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	46.5	.	37.324	.	43.2	.	44.1	.	12.8	.
Fluoride	0.31	.	<0.1	.	0.13	.	0.11	.	<0.1	.
Nitrate-N	1.46	.	<0.028	.	<0.028	.	0.36	.	0.773	.
Sulfate	24.3	.	19.859	.	18.5	.	33.2	.	36	.
Ion Charge Balance (RPD)	0.2	.	0.3	.	-7.4	.	0.5	.	0.1	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.36	.	7.18	.	7.68	.	7.2	.	7.57	.
Conductivity (umho/cm)	420	.	573	.	587	.	658	.	476	.
TDS (mg/L)	268	.	300	.	332	.	390	.	258	.
TSS (mg/L)	4	.	<1	.	<1	.	3	.	<1	.
Turbidity (NTU)	18.6	.	9.78	.	8.41	.	6.52	.	5.08	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	913.75	.	908.77	.	908.77	.	919.06	.	919.06	.
Depth to Water (ft)	11.42	.	9.11	.	9.32	.	10.59	.	10.71	.
Water-Level Elev. (ft)	902.33	.	899.66	.	899.45	.	908.47	.	908.35	.
Water Temp. (degrees C)	19.1	.	17.2	.	18.1	.	14.9	.	18.7	.
pH (standard units)	6.9	.	7.31	.	7.28	.	7.12	.	6.3	.
Conductivity (umho/cm)	548	.	487	.	580	.	548	.	405	.
Dissolved Oxygen (ppm)	0.42	.	0.08	.	0.15	.	0.51	.	0.35	.
Oxidation/Reduction (mV)	-25	.	-78	.	-57	.	91	.	109	.

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APPENDIX F.1: UPPER EAST FORK POPLAR CREEK HYDROGEOLOGIC REGIME, 1998

8

Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point Location Date Sampled Sample Type	GW-606				GW-618				GW-620	
	EXP-I				EXP-E				FTF	
	03/12/98		07/28/98		06/01/98		11/30/98		05/26/98	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.02	<0.02	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.624	0.563
Antimony	<0.05	<0.05	.	.	.	.	.	.	.	.
Antimony (PMS)	.	.	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.12	0.12	0.109	0.11	0.0522	0.0508	0.05	0.0522	0.0396	0.0372
Beryllium	<0.0003	<0.0003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron	0.018	0.018	<0.1	<0.1	0.114	0.113	0.122	0.128	<0.1	<0.1
Cadmium	<0.003	<0.003	.	.	.	.	.	.	.	.
Cadmium (PMS)	.	.	<0.0005	0.0032	0.0078	0.0045	0.0075	0.0039	<0.0005	<0.0005
Chromium	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cobalt	<0.005	<0.005	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	<0.004	<0.004	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Iron	DIS>TOT	DIS>TOT	<0.05	<0.05	0.632	0.368	0.469	0.496	<0.05	<0.05
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	0.0088	0.0079	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0199	0.0195
Manganese	0.0039	0.0048	<0.005	<0.005	1.51	1.45	1.61	1.67	<0.005	<0.005
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium	<0.05	<0.05	.	.	.	.	.	.	.	.
Selenium (PMS)	.	.	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.006	<0.006	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Strontium	0.41	0.42	0.393	0.396	0.197	0.193	0.182	0.19	0.389	0.368
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.0027	0.0032	0.0022	0.0022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Vanadium	<0.005	<0.005	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	<0.002	<0.002	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	51	52	44.6	44.5	107	106	101	105	91.5	78.2
Magnesium	29	29	25.9	26.1	8.9	8.73	8.29	8.58	<0.2	<0.2
Potassium	3.1	3.4	3.28	3.29	3.69	3.77	3.33	3.68	14.2	13.4
Sodium	4.9	4.9	4.81	4.85	17.5	17.6	15.8	16.6	2.26	2.22
Alkalinity-HCO ₃	188	.	144	.	310	.	314	.	<1	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.	12	.
Chloride	17.4	.	17.3	.	15.907	.	20.3	.	2.321	.
Fluoride	0.18	.	0.17	.	0.2	.	0.29	.	0.16	.
Nitrate-N	4.67	.	4.69	.	0.324	.	0.41	.	7.042	.
Sulfate	43.9	.	48.1	.	19.117	.	21	.	1.569	.
Ion Charge Balance (RPD)	-2.1	.	-0.5	.	-1.5	.	-4.0	.	-2.5	.
MISCELLANEOUS ANALYTES										
pH (standard units)	8.02	.	8.11	.	6.79	.	7.49	.	11.57	.
Conductivity (umho/cm)	515	.	476	.	653	.	693	.	714	.
TDS (mg/L)	308	.	286	.	332	.	371	.	161	.
TSS (mg/L)	<1	.	<1	.	1	.	<1	.	<1	.
Turbidity (NTU)	0.293	.	1.42	.	5.77	.	5.41	.	0.448	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	919.59	.	919.59	.	985.14	.	985.14	.	1015.54	.
Depth to Water (ft)	14.16	.	14.20	.	13.50	.	16.59	.	24.80	.
Water-Level Elev. (ft)	905.43	.	905.39	.	971.64	.	968.55	.	990.74	.
Water Temp. (degrees C)	13.6	.	19.2	.	17.3	.	17.8	.	21.4	.
pH (standard units)	8.3	.	7.57	.	6.7	.	6.53	.	11.96	.
Conductivity (umho/cm)	431	.	413	.	554	.	677	.	1195	.
Dissolved Oxygen (ppm)	0.29	.	0.22	.	0.18	.	0.12	.	1.04	.
Oxidation/Reduction (mV)	126	.	148	.	-83	.	12	.	-26	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-620		GW-686		GW-687		GW-722-06			
Location	FTF		CPT		CPT		EXP-J			
Date Sampled	12/02/98		03/23/98		03/24/98		02/17/98		07/29/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	0.024	0.038	<0.1	<0.1	0.26	0.043	<0.2	<0.2
Antimony			<0.05	<0.05	<0.25	<0.25	<0.05	<0.05		
Antimony (PMS)	<0.0005	<0.0005							<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0067	0.006	<0.005	<0.005
Barium	0.0395	0.035	0.043	0.046	0.018	0.016	0.04	0.043	0.0977	0.112
Beryllium	<0.001	<0.001	<0.0003	<0.0003	<0.0015	<0.0015	<0.0003	<0.0003	<0.001	<0.001
Boron	<0.1	<0.1	0.026	0.03	0.088	0.046	0.64	0.67	0.551	0.485
Cadmium			<0.003	0.0038	<0.015	<0.015	<0.003	<0.003		
Cadmium (PMS)	<0.0005	<0.0005							<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.01	0.016	<0.05	<0.05	<0.01	<0.01	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.005	<0.005	<0.025	<0.025	<0.005	<0.005	<0.02	<0.02
Copper	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02
Iron	<0.05	<0.05	0.2	0.17	0.2	<0.025	0.42	0.21	0.294	<0.05
Lead (PMS)	<0.0005	<0.0005	DIS>TOT	DIS>TOT	<0.0005	<0.0005	<0.0005	0.0006	0.0023	0.008
Lithium	0.0172	0.017	<0.004	<0.004	0.048	0.052	0.12	0.13	0.107	0.0949
Manganese	<0.005	<0.005	0.4	0.46	0.07	0.022	0.017	0.012	0.0142	0.0115
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05
Nickel	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05
Selenium			<0.05	<0.05	<0.25	<0.25	<0.05	<0.05		
Selenium (PMS)	<0.01	<0.01							0.0584	0.0414
Silver	<0.02	<0.02	<0.006	<0.006	<0.03	<0.03	<0.006	<0.006	<0.02	<0.02
Strontium	0.442	0.406	0.32	0.32	1.4	1.4	4.1	4.3	3.81	3.32
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<1	<1	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	0.0009	0.0008	0.0069	0.0079	<0.0005	<0.0005	<0.0005	<0.0005
Vanadium	<0.02	<0.02	<0.005	<0.005	<0.025	<0.025	<0.005	<0.005	<0.02	<0.02
Zinc	<0.05	<0.05	<0.002	0.002	<0.01	<0.01	0.048	0.065	1.64	<0.05
MAJOR IONS (mg/L)										
Calcium	3.57	3.41	140	140	560	550	24	21	22.1	19.5
Magnesium	0.571	0.539	18	18	260	260	13	14	12.4	11
Potassium	12.4	11.8	2.8	2.8	5.2	8.2	5.5	6.5	4.98	8.19
Sodium	2.19	2.09	12	12	75	73	160	170	146	132
Alkalinity-HCO ₃	<1		300		446		264		252	
Alkalinity-CO ₃	20		<1		<1		<1		<1	
Chloride	2.12		11.8		19.3		145		133	
Fluoride	0.16		<0.1		<0.1		0.99		0.79	
Nitrate-N	1.42		0.427		0.22		<0.028		<0.028	
Sulfate	5.13		128		1920		34		34	
Ion Charge Balance (RPD)	-9.6		0.2		2.7		-1.8		-9.8	
MISCELLANEOUS ANALYTES										
pH (standard units)	9.78		6.97		6.71		8.01		8.09	
Conductivity (umho/cm)	96.6		827		3460		1025		882	
TDS (mg/L)	51		525		3377		556		15	
TSS (mg/L)	<1		<1		<1		25		10	
Turbidity (NTU)	0.22		1.81		1.69		29.9		10.9	
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	1015.54		963.76		964.89					
Depth to Water (ft)	33.17		13.22		11.56					
Water-Level Elev. (ft)	982.37		950.54		953.33					
Water Temp. (degrees C)	17.1		14.4		16.2		14.2		23.8	
pH (standard units)	10.28		6.84		6.82		7.02		7.1	
Conductivity (umho/cm)	95		729		2940		896		694	
Dissolved Oxygen (ppm)	5.64		4.18		0.67		8.62		7.3	
Oxidation/Reduction (mV)	139		402		159		-159		-12	

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-722-10				GW-722-14				GW-722-17	
Location	EXP-J				EXP-J				EXP-J	
Date Sampled	02/18/98		08/03/98		02/19/98		08/04/98		02/25/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.02	<0.02	<0.2	<0.2	0.28	0.12	<0.2	<0.2	0.25	<0.02
Antimony	<0.05	<0.05	.	.	<0.05	<0.05	.	.	<0.05	<0.05
Antimony (PMS)	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.065	0.06	0.115	0.0918	0.088	0.083	0.11	0.13	0.099	0.086
Beryllium	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003
Boron	0.28	0.35	0.287	0.375	0.075	0.083	<0.1	<0.1	0.059	0.058
Cadmium	<0.003	<0.003	.	.	<0.003	<0.003	.	.	<0.003	<0.003
Cadmium (PMS)	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.
Chromium	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01
Cobalt	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005
Copper	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004
Iron	0.2	0.17	0.231	0.0884	0.33	0.3	0.185	<0.05	0.4	0.045
Lead (PMS)	<0.0005	<0.0005	0.0027	0.0007	<0.0005	0.00088	0.0021	0.0008	<0.0005	0.0014
Lithium	0.059	0.071	0.0631	0.0818	0.013	0.014	0.0163	0.0151	0.012	0.011
Manganese	0.011	0.016	0.0112	0.0131	0.0093	0.0058	0.00657	0.00564	0.0096	0.0032
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01
Nickel	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01
Selenium	<0.05	<0.05	.	.	<0.05	<0.05	.	.	<0.05	<0.05
Selenium (PMS)	.	.	0.0347	0.0179	.	.	<0.01	<0.01	.	.
Silver	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006
Strontium	2.5	3	2.23	2.53	0.78	0.87	0.765	0.798	0.79	0.77
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.00052	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0014
Vanadium	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005
Zinc	0.11	0.11	2.1	0.139	0.28	0.24	1.67	0.349	0.77	0.045
MAJOR IONS (mg/L)										
Calcium	44	41	35.1	35	59	52	52	43.7	63	53
Magnesium	30	28	22	22.6	29	29	26.7	23.6	28	28
Potassium	3.3	4.1	2.7	5.93	1.7	1.8	<2	5.12	1.3	1.8
Sodium	75	94	81.6	110	16	18	16.8	16.9	12	12
Alkalinity-HCO3	210	.	214	.	224	.	200	.	214	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	79	.	81.5	.	20	.	20.2	.	18.1	.
Fluoride	0.6	.	0.58	.	0.32	.	0.33	.	0.28	.
Nitrate-N	0.45	.	0.234	.	3.09	.	2.32	.	3.36	.
Sulfate	48.5	.	47.7	.	29.3	.	25.6	.	25.8	.
Ion Charge Balance (RPD)	6.5	.	5.7	.	-0.7	.	-2.9	.	-0.6	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.97	.	7.92	.	7.71	.	7.71	.	7.81	.
Conductivity (umho/cm)	737	.	715	.	527	.	532	.	514	.
TDS (mg/L)	431	.	322	.	306	.	185	.	294	.
TSS (mg/L)	<1	.	7	.	33	.	3	.	9	.
Turbidity (NTU)	3.38	.	2.94	.	16	.	4.89	.	20.5	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	.	.	.	.	.	.	.	.	.	.
Depth to Water (ft)	.	.	.	.	.	.	.	.	.	.
Water-Level Elev. (ft)	.	.	.	.	.	.	.	.	.	.
Water Temp. (degrees C)	11.9	.	18.1	.	11.62	.	21.1	.	17.3	.
pH (standard units)	7.06	.	7.63	.	7.03	.	7.17	.	7.04	.
Conductivity (umho/cm)	769	.	732	.	487	.	414	.	452	.
Dissolved Oxygen (ppm)	7.6	.	7.2	.	7.86	.	6.4	.	6.47	.
Oxidation/Reduction (mV)	-30	.	217	.	-22	.	207	.	14	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-722-17		GW-722-20				GW-722-22			
Location	EXP-J		EXP-J				EXP-J			
Date Sampled	08/11/98		02/24/98		08/18/98		02/26/98		08/19/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	0.23	<0.02	<0.2	<0.2	<0.02	<0.02	<0.2	<0.2
Antimony	.	.	<0.05	<0.05	.	.	<0.05	<0.05	.	.
Antimony (PMS)	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0051	<0.005	<0.005
Barium	0.0999	0.0804	0.075	0.072	0.0918	0.0805	0.089	0.091	0.0898	0.0932
Beryllium	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001
Boron	<0.1	<0.1	0.063	0.062	<0.1	<0.1	0.072	0.073	<0.1	<0.1
Cadmium	.	.	<0.003	<0.003	.	.	<0.003	<0.003	.	.
Cadmium (PMS)	<0.0005	<0.0005	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02
Copper	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02
Iron	0.146	<0.05	0.75	0.013	0.338	<0.05	0.13	0.032	<0.05	<0.05
Lead (PMS)	0.0017	0.0008	0.0017	<0.0005	0.0025	0.0012	0.0006	<0.0005	0.919	0.0011
Lithium	0.0112	0.0296	0.012	0.012	0.0126	0.0118	0.012	0.013	0.0137	0.0142
Manganese	0.00682	<0.005	0.011	0.019	0.00813	<0.005	0.003	0.0041	<0.005	<0.005
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05
Nickel	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05
Selenium	.	.	<0.05	<0.05	.	.	<0.05	<0.05	.	.
Selenium (PMS)	0.011	<0.01	.	.	0.0124	0.0104	.	.	0.0112	0.0137
Silver	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02
Strontium	0.812	0.858	0.77	0.77	0.729	0.685	0.73	0.75	0.677	0.698
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	0.0006
Vanadium	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02
Zinc	1.05	0.1	0.098	0.041	1.03	0.158	0.072	0.06	0.146	0.0879
MAJOR IONS (mg/L)										
Calcium	48.9	46.4	62	53	52.1	43.5	55	54	49.3	48.4
Magnesium	26.9	28.9	29	29	27.2	25.6	28	30	27.9	27.9
Potassium	<2	6.67	3.3	0.69	<2	4.8	1.5	2.3	<2	4.27
Sodium	12.3	13.2	14	14	13.5	12.9	13	13	14.5	14.1
Alkalinity-HCO3	202	.	218	.	206	.	216	.	206	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	22.2	.	18.5	.	19.5	.	18.9	.	18.8	.
Fluoride	0.3	.	0.44	.	0.44	.	0.33	.	0.33	.
Nitrate-N	2.28	.	2.71	.	2.51	.	2.41	.	2.61	.
Sulfate	24.1	.	27.5	.	29.6	.	28.1	.	27.4	.
Ion Charge Balance (RPD)	0.9	.	-0.1	.	-5.0	.	1.4	.	0.1	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.79	.	7.92	.	7.78	.	7.74	.	7.95	.
Conductivity (umho/cm)	497	.	503	.	417	.	517	.	517	.
TDS (mg/L)	297	.	304	.	276	.	285	.	287	.
TSS (mg/L)	17	.	11	.	6	.	9	.	2	.
Turbidity (NTU)	4.51	.	28.2	.	21.3	.	4.65	.	1.04	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	.	.	.	.	.	.	.	.	.	.
Depth to Water (ft)	.	.	.	.	.	.	.	.	.	.
Water-Level Elev. (ft)	.	.	.	.	.	.	.	.	.	.
Water Temp. (degrees C)	17.5	.	15.5	.	18	.	16	.	22.1	.
pH (standard units)	7.62	.	7.04	.	7.68	.	7.04	.	7.78	.
Conductivity (umho/cm)	467	.	448	.	440	.	461	.	457	.
Dissolved Oxygen (ppm)	6.6	.	5.97	.	6.4	.	2.82	.	6	.
Oxidation/Reduction (mV)	173	.	116	.	137	.	121	.	145	.

(CONTINUED)

Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point Location Date Sampled Sample Type	GW-722-26				GW-722-30					
	EXP-J				EXP-J					
	02/26/98		08/25/98		02/02/98	02/25/98		08/26/98		
	TOT	DIS	TOT	DIS	TOT	TOT	DIS	TOT	DIS	TOT
TRACE METALS (mg/L)										
Aluminum	<0.02	0.036	<0.2	<0.2	.	0.66	<0.02	<0.2	<0.2	<0.2
Antimony	<0.05	<0.05	.	.	.	<0.05	<0.05	.	.	.
Antimony (PMS)	.	.	<0.0005	<0.0005	.	.	.	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	.	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.33	0.31	0.318	0.305	.	0.044	0.044	0.0572	0.0624	0.0597
Beryllium	<0.0003	<0.0003	<0.001	<0.001	.	<0.0003	<0.0003	<0.001	<0.001	<0.001
Boron	0.078	0.079	<0.1	<0.1	.	0.015	0.013	<0.1	<0.1	<0.1
Cadmium	<0.003	<0.003	.	.	.	<0.003	<0.003	.	.	.
Cadmium (PMS)	.	.	<0.0005	<0.0005	.	.	.	<0.0005	<0.0005	<0.0005
Chromium	<0.01	<0.01	<0.02	<0.02	.	<0.01	<0.01	<0.02	<0.02	<0.02
Cobalt	<0.005	<0.005	<0.02	<0.02	.	<0.005	<0.005	<0.02	<0.02	<0.02
Copper	<0.004	<0.004	<0.02	<0.02	.	<0.004	<0.004	<0.02	<0.02	<0.02
Iron	2.8	2	2.31	1.69	.	0.59	0.18	0.307	0.126	0.338
Lead (PMS)	<0.0005	<0.0005	<0.0005	0.0007	.	0.0007	<0.0005	0.0014	<0.0005	0.0015
Lithium	0.01	0.01	<0.01	0.01	.	0.0047	0.0061	<0.01	<0.01	<0.01
Manganese	0.14	0.14	0.124	0.121	.	0.013	0.016	0.012	0.0125	0.0127
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	.	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.05	<0.05	.	<0.01	<0.01	<0.05	<0.05	<0.05
Nickel	<0.01	<0.01	<0.05	<0.05	.	<0.01	<0.01	<0.05	<0.05	<0.05
Selenium	<0.05	<0.05	.	.	.	<0.05	<0.05	.	.	.
Selenium (PMS)	.	.	<0.01	<0.01	.	.	.	<0.01	<0.01	<0.01
Silver	<0.006	<0.006	<0.02	<0.02	.	<0.006	<0.006	<0.02	<0.02	<0.02
Strontium	2.3	2.3	2.22	2.22	.	0.075	0.12	0.0854	0.107	0.0889
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	.	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	.	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	.	<0.0005	<0.0005	0.0005	<0.0005	<0.0005
Vanadium	<0.005	<0.005	<0.02	<0.02	.	<0.005	<0.005	<0.02	<0.02	<0.02
Zinc	0.23	0.024	0.271	0.0627	.	0.039	0.039	0.595	0.0696	0.623
MAJOR IONS (mg/L)										
Calcium	60	61	54.7	55.4	.	38	39	34.3	35.4	36.1
Magnesium	23	24	23.2	23.7	.	14	15	12.6	13.1	13.2
Potassium	3.1	3.9	2.95	9.9	.	0.68	1.5	<2	3.62	<2
Sodium	4	4.6	3.92	4.45	.	0.7	1.3	0.723	0.852	0.752
Alkalinity-HCO ₃	248	.	228	.	.	152	.	140	.	140
Alkalinity-CO ₃	<1	.	<1	.	.	<1	.	<1	.	<1
Chloride	5.07	.	4.58	.	4.95	2.4	.	1.96	.	2.18
Fluoride	1.22	.	1.21	.	.	0.22	.	0.2	.	0.19
Nitrate-N	<0.028	.	<0.028	.	0.65	<0.028	.	<0.028	.	<0.028
Sulfate	<0.25	.	0.26	.	12.9	5.44	.	8.42	.	8.2
Ion Charge Balance (RPD)	1.5	.	4.1	.	.	0.7	.	-1.1	.	-0.6
MISCELLANEOUS ANALYTES										
pH (standard units)	7.54	.	7.56	.	.	7.92	.	8.11	.	8
Conductivity (umho/cm)	467	.	456	.	.	294	.	280	.	290
TDS (mg/L)	246	.	255	.	.	174	.	161	.	160
TSS (mg/L)	4	.	1	.	.	8	.	3	.	4
Turbidity (NTU)	17	.	9.36	.	.	6.88	.	7.72	.	3.95
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	.	.	.	.	.	.	.	.	.	.
Depth to Water (ft)	.	.	.	.	.	.	.	.	.	.
Water-Level Elev. (ft)	.	.	.	.	.	.	.	.	.	.
Water Temp. (degrees C)	16.7	.	17.2	.	.	14.9	.	18.2	.	18.2
pH (standard units)	7.04	.	7.6	.	.	7.06	.	7.6	.	7.6
Conductivity (umho/cm)	411	.	424	.	.	276	.	331	.	331
Dissolved Oxygen (ppm)	4.15	.	4.6	.	.	2.34	.	5.1	.	5.1
Oxidation/Reduction (mV)	-85	.	-95	.	.	-72	.	12	.	12

(CONTINUED)

Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-722-30	GW-722-32				GW-722-33				
Location	EXP-J	EXP-J				EXP-J				
Date Sampled	08/26/98	02/02/98	03/05/98	09/03/98		01/21/98				
Sample Type	DUP					DUP				
	DIS	TOT	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	.	0.67	0.063	<0.2	<0.2	0.061	<0.02	0.046	<0.02
Antimony	.	.	<0.05	<0.05	.	.	<0.05	<0.05	<0.05	<0.05
Antimony (PMS)	<0.0005	.	.	.	<0.0005	<0.0005	.	.	.	.
Arsenic (PMS)	<0.005	.	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.063	.	0.039	0.052	0.0508	0.0613	0.038	0.043	0.037	0.043
Beryllium	<0.001	.	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003	<0.0003	<0.0003
Boron	<0.1	.	0.0045	0.0091	<0.1	<0.1	<0.004	0.0052	<0.004	0.0042
Cadmium	.	.	<0.003	<0.003	.	.	<0.003	<0.003	<0.003	<0.003
Cadmium (PMS)	0.0007	.	.	.	<0.0005	<0.0005	.	.	.	.
Chromium	<0.02	.	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.02	.	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.005	<0.005
Copper	<0.02	.	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004	<0.004	<0.004
Iron	0.121	.	0.97	0.16	0.203	<0.05	0.18	0.073	0.19	0.062
Lead (PMS)	<0.0005	.	0.0015	0.001	0.0016	0.0008	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	<0.01	.	0.0071	<0.004	<0.01	<0.01	0.0057	0.005	0.0049	0.0062
Manganese	0.0127	.	0.023	0.024	0.0103	<0.005	0.0045	0.003	0.0045	0.0033
Mercury (CVAA)	<0.0002	.	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	.	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01
Nickel	<0.05	.	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01
Selenium	.	.	<0.05	<0.05	.	.	<0.05	<0.05	<0.05	<0.05
Selenium (PMS)	<0.01	.	.	.	<0.01	<0.01	.	.	.	.
Silver	<0.02	.	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006	<0.006	0.0072
Strontium	0.107	.	0.085	0.2	0.0914	0.108	0.072	0.092	0.071	0.091
Thallium (PMS)	<0.0005	.	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	.	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	.	<0.0005	<0.0005	0.0006	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Vanadium	<0.02	.	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.005	<0.005
Zinc	0.0697	.	0.061	0.093	0.429	0.183	0.037	0.045	0.038	0.043
MAJOR IONS (mg/L)										
Calcium	35.8	.	75	73	75	72.5	77	78	76	77
Magnesium	13.2	.	11	11	13.5	13.4	10	10	10	10
Potassium	3.69	.	2.9	4.8	2.29	10.1	1.9	1.7	1.8	1.8
Sodium	0.86	.	3.3	3.3	3.4	3.56	3.3	3.6	3.2	3.5
Alkalinity-HCO ₃	.	.	210	.	240	.	232	.	232	.
Alkalinity-CO ₃	.	.	<1	.	<1	.	<1	.	<1	.
Chloride	.	2.37	3.94	.	4.23	.	4.95	.	4.62	.
Fluoride	.	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	.	<0.028	0.77	.	0.83	.	0.67	.	0.67	.
Sulfate	.	6.68	11.5	.	13.4	.	13.6	.	13.5	.
Ion Charge Balance (RPD)	.	.	2.2	.	-1.2	.	-1.9	.	-2.3	.
MISCELLANEOUS ANALYTES										
pH (standard units)	.	.	7.4	.	7.67	.	7.74	.	7.71	.
Conductivity (umho/cm)	.	.	432	.	479	.	465	.	464	.
TDS (mg/L)	.	.	237	.	248	.	262	.	274	.
TSS (mg/L)	.	.	4	.	5	.	1.1	.	1.8	.
Turbidity (NTU)	.	.	10.9	.	12.9	.	2.76	.	2.66	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	.	.	.	.	.	.	.	.	.	.
Depth to Water (ft)	.	.	.	.	.	.	.	.	.	.
Water-Level Elev. (ft)	.	.	.	.	.	.	.	.	.	.
Water Temp. (degrees C)	.	.	12.5	.	18.1	.	12.8	.	12.8	.
pH (standard units)	.	.	7.05	.	7.55	.	6.94	.	6.94	.
Conductivity (umho/cm)	.	.	391	.	255	.	362	.	362	.
Dissolved Oxygen (ppm)	.	.	2.53	.	5.6	.	2.01	.	2.01	.
Oxidation/Reduction (mV)	.	.	171	.	74	.	-48	.	-48	.

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APPENDIX F.1: UPPER EAST FORK POPLAR CREEK HYDROGEOLOGIC REGIME, 1998

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-722-33				GW-733				GW-735	
Location	EXP-J				EXP-J				EXP-J	
Date Sampled	03/05/98		09/03/98		03/12/98		07/27/98		06/04/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	0.076	<0.02	<0.2	<0.2	<0.02	<0.02	<0.2	<0.2	<0.2	<0.2
Antimony	<0.05	<0.05	.	.	<0.05	<0.05	.	.	.	.
Antimony (PMS)	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.034	0.034	0.054	0.0517	0.022	0.022	0.0199	0.0209	0.362	0.36
Beryllium	<0.0003	<0.0003	<0.001	<0.001	<0.0003	<0.0003	<0.001	<0.001	<0.001	<0.001
Boron	0.0042	0.0065	<0.1	<0.1	0.011	0.0072	<0.1	<0.1	<0.1	<0.1
Cadmium	<0.003	<0.003	.	.	<0.003	<0.003	.	.	.	.
Cadmium (PMS)	.	.	<0.0005	<0.0005	.	.	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02
Cobalt	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.02	<0.02
Copper	<0.004	<0.004	<0.02	<0.02	<0.004	<0.004	<0.02	<0.02	<0.02	<0.02
Iron	0.12	0.036	<0.05	<0.05	0.39	0.0071	0.326	<0.05	<0.05	<0.05
Lead (PMS)	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	0.0052	<0.004	<0.01	<0.01	<0.004	<0.004	<0.01	<0.01	<0.01	<0.01
Manganese	0.0034	0.0018	<0.005	<0.005	0.018	0.0021	0.0461	0.0447	0.473	0.462
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05
Nickel	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05
Selenium	<0.05	<0.05	.	.	<0.05	<0.05	.	.	.	.
Selenium (PMS)	.	.	<0.01	<0.01	.	.	<0.01	<0.01	<0.01	<0.01
Silver	<0.006	<0.006	<0.02	<0.02	<0.006	<0.006	<0.02	<0.02	<0.02	<0.02
Strontium	0.073	0.079	0.0828	0.0834	0.098	0.098	0.0873	0.089	0.295	0.295
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	0.0006	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Vanadium	<0.005	<0.005	<0.02	<0.02	<0.005	<0.005	<0.02	<0.02	<0.02	<0.02
Zinc	0.11	0.04	0.317	0.145	<0.002	<0.002	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	73	73	71.3	66.8	42	42	41.4	42.3	131	130
Magnesium	10	11	14.3	13.3	17	17	16.8	17.1	9.45	9.42
Potassium	2.3	3.6	3.77	3.27	2.3	2.2	2.13	2.17	2.48	2.57
Sodium	3.2	3.3	3.71	3.42	2.8	2.9	2.49	2.55	4.1	4.17
Alkalinity-HCO3	214	.	230	.	160	.	160	.	318	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	4	.	3.9	.	7.8	.	7.99	.	17.7	.
Fluoride	<0.1	.	<0.1	.	0.25	.	0.22	.	<0.1	.
Nitrate-N	0.73	.	0.75	.	0.31	.	0.302	.	0.049	.
Sulfate	11.7	.	14.3	.	8.58	.	7.9	.	23.2	.
Ion Charge Balance (RPD)	1.0	.	-4.1	.	0.6	.	0.9	.	1.1	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.54	.	7.79	.	7.91	.	7.92	.	6.96	.
Conductivity (umho/cm)	438	.	490	.	335	.	349	.	691	.
TDS (mg/L)	233	.	253	.	193	.	209	.	433	.
TSS (mg/L)	<1	.	<1	.	1	.	<1	.	<1	.
Turbidity (NTU)	1.32	.	1.4	.	3.68	.	3.56	.	1.84	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	.	.	.	.	959.84	.	959.84	.	924.46	.
Depth to Water (ft)	.	.	.	.	56.81	.	58.35	.	21.07	.
Water-Level Elev. (ft)	.	.	.	.	903.03	.	901.49	.	903.39	.
Water Temp. (degrees C)	13.5	.	18.4	.	9.9	.	19.2	.	15.5	.
pH (standard units)	7.06	.	7.61	.	7.9	.	7.13	.	7.1	.
Conductivity (umho/cm)	404	.	300	.	280	.	308	.	672	.
Dissolved Oxygen (ppm)	2.41	.	5.8	.	2.1	.	1.47	.	0.57	.
Oxidation/Reduction (mV)	47	.	92	.	-53	.	149	.	116	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point Location Date Sampled Sample Type	GW-735						GW-744			
	EXP-J						GRIDK1			
	06/04/98		12/14/98				06/03/98		12/10/98	
	DUP		DUP							
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Antimony	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Antimony (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	0.359	0.357	0.383	0.378	0.391	0.397	0.204	0.21	0.261	0.268
Barium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Beryllium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Boron	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Cadmium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cadmium (PMS)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chromium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	0.0981	<0.05	0.061	<0.05	<0.05	0.054	0.0893	0.0865	0.179	0.114
Iron	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lead (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0264	0.0268	0.027	0.027
Lithium	0.492	0.459	0.539	0.53	0.552	0.557	0.123	0.126	0.0892	0.0937
Manganese	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Mercury (CVAA)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Selenium (PMS)	0.292	0.292	0.3	0.297	0.307	0.311	1.17	1.2	1.28	1.32
Silver	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Strontium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Uranium (PMS)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Vanadium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Zinc										
MAJOR IONS (mg/L)										
Calcium	130	129	125	124	120	131	56.9	58.3	51.4	51.8
Magnesium	9.34	9.34	9.54	9.5	9.81	9.96	9.96	10.3	11	11.4
Potassium	2.33	2.52	2.61	2.69	2.69	2.83	3.28	3.21	3.4	3.32
Sodium	4.06	4.09	3.51	3.51	3.53	3.68	31.4	32.6	33.5	34.6
Alkalinity-HCO3	320	.	302	.	298	.	228	.	220	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	17.7	.	14.1	.	13.9	.	7.04	.	6.95	.
Fluoride	<0.1	.	0.12	.	0.11	.	0.11	.	0.18	.
Nitrate-N	0.056	.	<0.028	.	<0.028	.	<0.028	.	<0.028	.
Sulfate	23.2	.	24.1	.	24.2	.	17.7	.	16.1	.
Ion Charge Balance (RPD)	0.4	.	1.8	.	5.1	.	1.2	.	1.7	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7	.	7.29	.	7.33	.	7.69	.	8.21	.
Conductivity (umho/cm)	676	.	644	.	645	.	469	.	461	.
TDS (mg/L)	418	.	355	.	358	.	293	.	259	.
TSS (mg/L)	1	.	<1	.	<1	.	1.2	.	<1	.
Turbidity (NTU)	1.43	.	1.01	.	1.01	.	1.85	.	5.84	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	924.46	.	924.46	.	924.46	.	907.62	.	907.62	.
Depth to Water (ft)	21.07	.	20.38	.	20.38	.	5.95	.	6.32	.
Water-Level Elev. (ft)	903.39	.	904.08	.	904.08	.	901.67	.	901.30	.
Water Temp. (degrees C)	15.5	.	13.4	.	13.4	.	19.7	.	16.6	.
pH (standard units)	7.1	.	7.39	.	7.39	.	7.76	.	8.18	.
Conductivity (umho/cm)	672	.	606	.	606	.	389	.	400	.
Dissolved Oxygen (ppm)	0.57	.	0.13	.	0.13	.	1.26	.	0.11	.
Oxidation/Reduction (mV)	116	.	114	.	114	.	-190	.	-228	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-747				GW-750				GW-763	
Location	GRIDK2				EXP-J				GRIDJ3	
Date Sampled	06/03/98		12/15/98		06/04/98		12/14/98		05/27/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Antimony	.	.	.	.	.	.	.	.	.	.
Antimony (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.139	0.133	0.143	0.14	0.728	0.719	0.773	0.748	0.0472	0.0486
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron	<0.1	<0.1	0.11	0.107	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium	.	.	.	.	.	.	.	.	.	.
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Iron	0.342	0.32	<0.05	<0.05	0.312	0.247	0.291	0.283	24.5	24.7
Lead (PMS)	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	0.0208	0.0195	0.0224	0.0219	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Manganese	0.0135	0.0134	0.00837	0.00826	0.0645	0.0628	0.0576	0.0562	0.845	0.864
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium	.	.	.	.	.	.	.	.	.	.
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Strontium	0.451	0.438	0.423	0.414	0.636	0.631	0.683	0.661	0.206	0.211
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	35.9	35	32.5	32.1	89.5	88.6	87	87.3	107	109
Magnesium	6.96	6.77	6.47	6.31	11.4	11.3	12	11.7	14	14.3
Potassium	<2	<2	2.01	<2	4.41	4.24	4.83	4.57	<2	<2
Sodium	45.9	44.2	55.8	54.3	4.93	4.96	5.24	5.07	14.4	14.7
Alkalinity-HCO3	200	.	202	.	248	.	238	.	270	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	1.75	.	1.79	.	4.11	.	5.33	.	55.996	.
Fluoride	0.25	.	0.36	.	<0.1	.	0.12	.	0.23	.
Nitrate-N	<0.028	.	<0.028	.	<0.028	.	<0.028	.	<0.028	.
Sulfate	15.9	.	15.2	.	21.8	.	22.6	.	3.269	.
Ion Charge Balance (RPD)	-1.9	.	0.7	.	1.3	.	2.5	.	1.4	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.66	.	7.98	.	7.26	.	7.59	.	6.69	.
Conductivity (umho/cm)	403	.	414	.	514	.	514	.	703	.
TDS (mg/L)	252	.	225	.	310	.	275	.	389	.
TSS (mg/L)	1	.	<1	.	1	.	<1	.	42	.
Turbidity (NTU)	2.08	.	0.582	.	3.54	.	3.33	.	208	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	921.13	.	921.13	.	919.03	.	919.03	.	915.05	.
Depth to Water (ft)	5.59	.	4.35	.	9.24	.	8.96	.	9.97	.
Water-Level Elev. (ft)	915.54	.	916.78	.	909.79	.	910.07	.	905.08	.
Water Temp. (degrees C)	21.9	.	14.5	.	16.9	.	14.6	.	18.6	.
pH (standard units)	7.62	.	7.86	.	7.39	.	7.55	.	6.98	.
Conductivity (umho/cm)	325	.	392	.	502	.	478	.	648	.
Dissolved Oxygen (ppm)	1.03	.	0.39	.	1.49	.	7.66	.	0.48	.
Oxidation/Reduction (mV)	-129	.	158	.	-35	.	-30	.	-116	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point Location Date Sampled Sample Type	GW-763		GW-769							
	GRIDJ3		GRIDG3							
	12/03/98		05/19/98				11/11/98			
					DUP				DUP	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Antimony	.	.	.	.	.	.	.	.	.	.
Antimony (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0431	0.044	0.367	0.362	0.363	0.378	0.372	0.366	0.38	0.371
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium	.	.	.	.	.	.	.	.	.	.
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Iron	21.3	21.4	<0.05	<0.05	0.0611	0.0588	<0.05	<0.05	<0.05	<0.05
Lead (PMS)	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	<0.01	<0.01	0.0145	0.0134	0.0137	0.0148	0.0152	0.0139	0.015	0.014
Manganese	0.725	0.749	0.0108	0.0101	0.0109	0.011	0.0082	0.00786	0.00852	0.00811
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium	.	.	.	.	.	.	.	.	.	.
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Strontium	0.184	0.191	0.379	0.375	0.378	0.392	0.371	0.366	0.382	0.372
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	99.6	103	73.4	71.1	74	74.2	78.2	76.6	79.9	76.4
Magnesium	13.6	14	9.03	8.82	9.17	9.3	8.94	8.67	9.14	8.82
Potassium	<2	<2	2.63	2.46	2.52	2.75	2.74	2.56	2.55	2.62
Sodium	13.6	14	6.9	6.63	6.54	7.03	7.66	7.58	7.77	7.61
Alkalinity-HCO3	270	.	198	.	200	.	206	.	206	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	57.1	.	11	.	11.1	.	11.6	.	11.3	.
Fluoride	0.29	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	<0.028	.	0.24	.	0.24	.	0.304	.	0.3	.
Sulfate	2.78	.	19	.	19	.	18.3	.	18.4	.
Ion Charge Balance (RPD)	-1.3	.	-0.6	.	1.3	.	0.9	.	1.0	.
MISCELLANEOUS ANALYTES										
pH (standard units)	6.84	.	7.33	.	7.3	.	7.38	.	7.35	.
Conductivity (umho/cm)	678	.	447	.	447	.	444	.	446	.
TDS (mg/L)	387	.	258	.	260	.	278	.	280	.
TSS (mg/L)	23	.	2	.	1	.	<1	.	<1	.
Turbidity (NTU)	202	.	0.361	.	0.372	.	0.888	.	0.917	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	915.05	.	944.44	.	944.44	.	944.44	.	944.44	.
Depth to Water (ft)	10.51	.	10.19	.	10.19	.	8.64	.	8.64	.
Water-Level Elev. (ft)	904.54	.	934.25	.	934.25	.	935.80	.	935.80	.
Water Temp. (degrees C)	21	.	19.8	.	19.8	.	19.9	.	19.9	.
pH (standard units)	6.66	.	7.52	.	7.52	.	7.53	.	7.53	.
Conductivity (umho/cm)	688	.	424	.	424	.	447	.	447	.
Dissolved Oxygen (ppm)	0.37	.	1.2	.	1.2	.	0.22	.	0.22	.
Oxidation/Reduction (mV)	-77	.	-5	.	-5	.	128	.	128	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point Location Date Sampled Sample Type	GW-770				GW-775				GW-776	
	GRIDG3				GRIDH3				GRIDH3	
	05/19/98		11/10/98		06/17/98		11/18/98		06/17/98	
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.256	<0.2
Antimony	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Antimony (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0532	0.053	0.0665	0.0671	0.201	0.201	0.187	0.201	0.0958	0.0765
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	1.75	<0.02
Cobalt	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Iron	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	11.5	<0.05
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	<0.01	<0.01	<0.01	<0.01	0.0102	<0.01	0.011	0.0102	<0.01	<0.01
Manganese	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.109	0.0164
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.736	0.479
Selenium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Strontium	0.0728	0.0729	0.0822	0.0817	0.245	0.246	0.229	0.246	0.182	0.171
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	55.8	56.6	64.7	63.7	97.8	98.4	88.9	95.3	105	97.4
Magnesium	4.13	4.23	4.49	4.49	7.55	7.63	7.17	7.64	6.15	5.72
Potassium	<2	<2	2.33	2.31	2.6	2.62	2.34	2.41	2.97	2.72
Sodium	5.06	4.88	6.19	6.13	5.52	5.69	4.05	4.39	16.2	15.6
Alkalinity-HCO3	130	.	154	.	184	.	200	.	180	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	5.52	.	9.81	.	39.1	.	34.3	.	46.9	.
Fluoride	0.18	.	0.26	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	0.71	.	1.51	.	0.85	.	0.45	.	1.4	.
Sulfate	25.4	.	24.9	.	34.4	.	29.7	.	43.2	.
Ion Charge Balance (RPD)	0.6	.	-1.5	.	2.6	.	0.2	.	1.3	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.11	.	7.34	.	7.44	.	7.48	.	7.43	.
Conductivity (umho/cm)	327	.	382	.	544	.	537	.	588	.
TDS (mg/L)	186	.	230	.	343	.	323	.	367	.
TSS (mg/L)	<1	.	<1	.	<1	.	<1	.	5	.
Turbidity (NTU)	0.266	.	0.187	.	0.458	.	0.233	.	28.7	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	944.71	.	944.71	.	931.35	.	931.35	.	931.25	.
Depth to Water (ft)	13.31	.	12.53	.	13.18	.	15.78	.	13.48	.
Water-Level Elev. (ft)	931.40	.	932.18	.	918.17	.	915.57	.	917.77	.
Water Temp. (degrees C)	17.2	.	21.4	.	18.7	.	18.7	.	22	.
pH (standard units)	7.38	.	7.18	.	7.4	.	7.52	.	7.36	.
Conductivity (umho/cm)	373	.	364	.	537	.	479	.	567	.
Dissolved Oxygen (ppm)	4.65	.	2.01	.	0.75	.	0.28	.	2.13	.
Oxidation/Reduction (mV)	178	.	198	.	200	.	175	.	132	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-776		GW-781				GW-782			
Location	GRIDH3		GRIDE3				GRIDE3			
Date Sampled	11/18/98		05/20/98		11/11/98		05/20/98		11/12/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Antimony	.	.	.	.	.	.	.	.	.	.
Antimony (PMS)	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0871	0.0842	0.296	0.293	0.3	0.298	0.668	0.644	0.609	0.598
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron	<0.1	<0.1	0.483	0.482	0.514	0.515	0.127	0.124	0.13	0.132
Cadmium	.	.	.	.	.	.	.	.	.	.
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	0.0333	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Iron	0.413	<0.05	<0.05	<0.05	<0.05	<0.05	1.31	<0.05	1.38	0.0959
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0014	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	<0.01	<0.01	0.0564	0.0587	0.0619	0.0604	0.021	0.0198	0.0203	0.0217
Manganese	0.0275	0.0219	<0.005	<0.005	0.0124	0.0122	0.0794	0.017	0.0709	0.0476
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	0.629	0.57	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium	.	.	.	.	.	.	.	.	.	.
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Strontium	0.173	0.169	0.592	0.589	0.581	0.578	1.16	1.14	1.16	1.16
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0019	0.0019	0.0014	0.0014
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	101	99.9	11	11	10.3	10.2	80	80	80.5	80.4
Magnesium	5.49	5.29	3.77	3.71	3.59	3.57	16.4	16.4	16.6	16.6
Potassium	2.54	2.65	4.93	5.19	5.76	5.7	5.31	5.18	5.1	5.12
Sodium	11.6	11.5	77.2	77.7	81.2	80.5	9.71	9.23	9.23	9.25
Alkalinity-HCO3	196	.	198	.	202	.	256	.	248	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	45.3	.	8.97	.	9.62	.	11.3	.	17.3	.
Fluoride	<0.1	.	<0.1	.	<0.1	.	<0.1	.	<0.1	.
Nitrate-N	1.06	.	0.14	.	<0.028	.	0.05	.	<0.028	.
Sulfate	38.4	.	9.73	.	8.69	.	17.6	.	17.5	.
Ion Charge Balance (RPD)	-0.7	.	-0.7	.	-0.5	.	0.6	.	0.9	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.3	.	8.57	.	8.42	.	7.26	.	7.3	.
Conductivity (umho/cm)	599	.	417	.	412	.	541	.	525	.
TDS (mg/L)	381	.	256	.	259	.	306	.	322	.
TSS (mg/L)	<1	.	<1	.	<1	.	3	.	1	.
Turbidity (NTU)	3.79	.	0.555	.	0.203	.	11.3	.	12.1	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	931.25	.	947.89	.	947.89	.	947.76	.	947.76	.
Depth to Water (ft)	16.13	.	8.78	.	9.39	.	9.79	.	9.54	.
Water-Level Elev. (ft)	915.12	.	939.11	.	938.50	.	937.97	.	938.22	.
Water Temp. (degrees C)	17.6	.	24.4	.	17.3	.	18.3	.	18.1	.
pH (standard units)	7.39	.	8.66	.	8.76	.	7.26	.	7.54	.
Conductivity (umho/cm)	564	.	394	.	383	.	507	.	488	.
Dissolved Oxygen (ppm)	0.73	.	2.95	.	0.16	.	0.52	.	0.05	.
Oxidation/Reduction (mV)	225	.	15	.	155	.	22	.	-21	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-783				GW-788				GW-789	
Location	GRIDE3				GRIDF3				GRIDF3	
Date Sampled	05/20/98		11/12/98		05/14/98		11/09/98		05/18/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Antimony	.	.	.	.	.	.	.	.	.	.
Antimony (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.0925	0.0902	0.131	0.126	0.146	0.152	0.15	0.145	0.307	0.308
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron	<0.1	<0.1	<0.1	<0.1	1.2	1.23	1.31	1.29	<0.1	<0.1
Cadmium	.	.	.	.	.	.	.	.	.	.
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	0.0808	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Iron	0.594	0.0588	0.382	<0.05	<0.05	0.0876	<0.05	<0.05	0.0553	0.118
Lead (PMS)	0.0139	<0.0005	0.0005	0.0006	0.0008	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	<0.01	<0.01	<0.01	<0.01	0.0698	0.0743	0.0763	0.0739	0.0114	0.0117
Manganese	0.029	0.025	0.163	0.131	<0.005	<0.005	0.0146	0.0142	<0.005	<0.005
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	0.432	0.396	0.635	0.572	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium	.	.	.	.	.	.	.	.	.	.
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Strontium	0.147	0.146	0.249	0.236	0.62	0.648	0.604	0.587	0.289	0.289
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.0011	0.001	0.0012	0.0011	0.0018	0.0016	0.0013	0.0013	<0.0005	<0.0005
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	75.4	74.6	102	101	10	10.3	10.7	10.5	61.7	61.8
Magnesium	4.28	4.26	7.28	6.87	3.72	3.9	3.63	3.56	9.85	9.82
Potassium	<2	<2	<2	<2	5.22	5.65	5.29	5.2	2.82	2.71
Sodium	18.3	18.7	18	18.4	118	123	124	121	5.74	5.86
Alkalinity-HCO3	158	.	236	.	254	.	268	.	180	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	41.4	.	48.2	.	9.79	.	9.8	.	6.22	.
Fluoride	<0.1	.	0.12	.	1.12	.	1.21	.	<0.1	.
Nitrate-N	0.88	.	0.66	.	0.81	.	0.37	.	0.61	.
Sulfate	18.8	.	21.3	.	32.2	.	31.1	.	19.1	.
Ion Charge Balance (RPD)	1.1	.	-1.3	.	1.5	.	-1.3	.	0.0	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.24	.	7.15	.	8.42	.	8.36	.	7.58	.
Conductivity (umho/cm)	490	.	619	.	573	.	594	.	397	.
TDS (mg/L)	288	.	335	.	343	.	364	.	220	.
TSS (mg/L)	1	.	<1	.	<1	.	<1	.	<1	.
Turbidity (NTU)	5.7	.	3.72	.	0.752	.	0.32	.	0.293	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	948.49	.	948.49	.	937.23	.	937.23	.	937.48	.
Depth to Water (ft)	10.80	.	10.56	.	0.83	.	1.63	.	4.16	.
Water-Level Elev. (ft)	937.69	.	937.93	.	936.40	.	935.60	.	933.32	.
Water Temp. (degrees C)	15	.	17.6	.	27.3	.	16.7	.	22.1	.
pH (standard units)	7.17	.	7.21	.	8.63	.	8.59	.	7.31	.
Conductivity (umho/cm)	432	.	562	.	572	.	592	.	397	.
Dissolved Oxygen (ppm)	1.93	.	0.91	.	0.3	.	0.42	.	1.63	.
Oxidation/Reduction (mV)	24	.	79	.	111	.	199	.	174	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-789		GW-791				GW-792			
Location	GRIDF3		GRIDD2				GRIDD2			
Date Sampled	11/09/98		05/20/98		11/16/98		05/20/98		11/16/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Antimony	.	.	.	.	.	.	.	.	.	.
Antimony (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.344	0.348	0.247	0.252	0.263	0.254	0.0887	0.0862	0.115	0.114
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium	.	.	.	.	.	.	.	.	.	.
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Iron	<0.05	<0.05	0.0662	0.062	0.497	0.0513	0.0628	<0.05	0.058	<0.05
Lead (PMS)	<0.0005	0.001	<0.0005	<0.0005	<0.0005	0.0018	<0.0005	<0.0005	0.0007	0.0007
Lithium	0.0122	0.0138	0.0127	0.0132	0.0148	0.0136	<0.01	<0.01	0.0105	<0.01
Manganese	<0.005	<0.005	0.0176	0.018	0.0202	0.0179	0.0141	0.0232	0.025	0.0247
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.0955	0.0924
Selenium	.	.	.	.	.	.	.	.	.	.
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Strontium	0.316	0.32	0.418	0.426	0.427	0.414	0.0799	0.078	0.103	0.104
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAJOR IONS (mg/L)										
Calcium	63	63	66.9	68.9	68.1	67	41.3	40	55.3	56.6
Magnesium	11.1	11.2	13.8	14.4	14.1	13.7	4.29	4.1	5.18	5.3
Potassium	3.32	3.18	<2	2.02	<2	<2	<2	<2	<2	<2
Sodium	6	6.11	7.03	6.96	7.33	7.12	8.75	9.11	9.94	9.99
Alkalinity-HCO ₃	182	.	222	.	224	.	66	.	82	.
Alkalinity-CO ₃	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	6.72	.	5.64	.	5.58	.	26	.	44.6	.
Fluoride	0.14	.	<0.1	.	0.14	.	<0.1	.	0.13	.
Nitrate-N	0.39	.	<0.028	.	<0.028	.	3.47	.	6.02	.
Sulfate	19.6	.	11.6	.	10.5	.	26.7	.	22.1	.
Ion Charge Balance (RPD)	1.6	.	1.4	.	-0.8	.	-2.3	.	-1.3	.
MISCELLANEOUS ANALYTES										
pH (standard units)	7.71	.	7.31	.	7.61	.	6.18	.	6.43	.
Conductivity (umho/cm)	400	.	449	.	450	.	299	.	401	.
TDS (mg/L)	238	.	251	.	268	.	191	.	292	.
TSS (mg/L)	<1	.	1	.	<1	.	<1	.	<1	.
Turbidity (NTU)	0.331	.	0.4	.	0.387	.	1.04	.	0.379	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	937.48	.	992.16	.	992.16	.	992.74	.	992.74	.
Depth to Water (ft)	4.47	.	22.68	.	24.29	.	24.46	.	26.00	.
Water-Level Elev. (ft)	933.01	.	969.48	.	967.87	.	968.28	.	966.74	.
Water Temp. (degrees C)	19.5	.	22.2	.	18.6	.	21.9	.	20.1	.
pH (standard units)	7.87	.	7.55	.	7.5	.	6.22	.	6.17	.
Conductivity (umho/cm)	383	.	424	.	418	.	304	.	379	.
Dissolved Oxygen (ppm)	1.42	.	0.81	.	1.2	.	0.73	.	1.12	.
Oxidation/Reduction (mV)	210	.	-16	.	69	.	204	.	204	.

(CONTINUED)

Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-816				GW-818		GW-819		GW-820	
Location	EXP-SR				B9201-2		B9201-2		B9201-2	
Date Sampled	06/03/98		12/08/98		03/26/98		03/26/98		03/26/98	
Sample Type										
	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)										
Aluminum	<0.2	<0.2	0.268	<0.2	0.42	0.035	0.027	<0.02	<0.02	0.021
Antimony	.	.	.	.	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Antimony (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	.	.	.	.	.	.
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.015	0.014	<0.005	<0.005
Barium	0.416	0.402	0.348	0.357	0.076	0.074	0.45	0.44	0.2	0.2
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Boron	<0.1	<0.1	<0.1	<0.1	0.024	0.022	0.026	0.026	0.07	0.067
Cadmium	.	.	.	.	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	.	.	.	.	.	.
Chromium	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.02	<0.02	0.0307	0.0338	<0.005	<0.005	<0.005	0.0053	<0.005	<0.005
Copper	<0.02	<0.02	<0.02	<0.02	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron	23.2	21.1	10.7	10.1	0.39	0.018	39	37	0.26	0.24
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	0.0014	<0.0005	<0.0005	<0.0005	<0.0005	0.0005
Lithium	<0.01	<0.01	<0.01	<0.01	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Manganese	2.32	2.24	1.65	1.73	0.021	0.016	0.9	0.89	0.34	0.32
Mercury (CVAA)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.05	<0.05	<0.05	<0.05	<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
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	.	.	.	.	.	.
Silver	<0.02	<0.02	<0.02	<0.02	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Strontium	0.131	0.128	0.113	0.117	0.21	0.21	1	1	0.35	0.34
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	0.005	0.0048	<0.0005	<0.0005	<0.0005	<0.0005
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	<0.05	<0.05	<0.05	<0.05	0.0052	0.0043	0.0049	0.0055	0.0057	0.0027
MAJOR IONS (mg/L)										
Calcium	51.8	51.4	57.4	60.1	91	90	170	170	73	72
Magnesium	20.5	19.9	14	14.6	13	13	15	14	13	13
Potassium	5.91	5.88	6.3	6.48	4	3.6	9.3	9.5	3.2	3.5
Sodium	4.21	4.21	4.64	4.78	3.1	3.2	22	22	8.6	8.7
Alkalinity-HCO3	212	.	170	.	228	.	492	.	200	.
Alkalinity-CO3	<1	.	<1	.	<1	.	<1	.	<1	.
Chloride	3.16	.	5.13	.	3.15	.	53	.	15.1	.
Fluoride	<0.1	.	0.15	.	0.2	.	0.11	.	0.19	.
Nitrate-N	<0.028	.	<0.028	.	0.481	.	<0.056	.	<0.056	.
Sulfate	16.8	.	60.4	.	50.5	.	0.52	.	33.7	.
Ion Charge Balance (RPD)	-1.5	.	-2.5	.	0.4	.	-2.3	.	-0.0	.
MISCELLANEOUS ANALYTES										
pH (standard units)	6.72	.	6.76	.	7.22	.	6.84	.	7.38	.
Conductivity (umho/cm)	440	.	465	.	531	.	1112	.	492	.
TDS (mg/L)	241	.	253	.	337	.	602	.	313	.
TSS (mg/L)	35	.	12	.	13	.	70	.	<1	.
Turbidity (NTU)	221	.	25.1	.	10.1	.	302	.	2.6	.
FIELD MEASUREMENTS										
Measuring Pt. Elev. (ft)	898.41	.	898.41	.	927.93	.	928.75	.	929.57	.
Depth to Water (ft)	12.11	.	12.77	.	8.10	.	9.69	.	10.10	.
Water-Level Elev. (ft)	886.30	.	885.64	.	919.83	.	919.06	.	919.47	.
Water Temp. (degrees C)	18.1	.	15.5	.	17.7	.	21.9	.	18.2	.
pH (standard units)	6.91	.	6.59	.	7.12	.	6.9	.	7.48	.
Conductivity (umho/cm)	456	.	451	.	472	.	1013	.	435	.
Dissolved Oxygen (ppm)	0.5	.	0.85	.	0.59	.	0.2	.	1.23	.
Oxidation/Reduction (mV)	-99	.	-17	.	50	.	-125	.	-33	.

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Trace Metals, Major Ions, Miscellaneous Analytes, and Field Measurements

Sampling Point	GW-845	LRSPW			
Location	EXP	EXP-SW			
Date Sampled	05/21/98	06/02/98	12/10/98		
Sample Type					
	TOT	TOT	DIS	TOT	DIS
TRACE METALS (mg/L)					
Aluminum	<0.2	<0.2	<0.2	<0.2	<0.2
Antimony					
Antimony (PMS)	<0.0005	<0.0005	0.0007	<0.0005	<0.0005
Arsenic (PMS)	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.111	0.0502	0.0497	0.0537	0.0524
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.001
Boron	<0.1	0.108	0.112	<0.1	<0.1
Cadmium					
Cadmium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	<0.02	<0.02	<0.02	<0.02	<0.02
Cobalt	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	<0.02	<0.02	<0.02	<0.02	<0.02
Iron	0.118	0.157	<0.05	0.123	0.23
Lead (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium	0.0103	0.0336	0.0346	0.0381	0.0366
Manganese	<0.005	0.0236	0.0185	0.0209	0.0173
Mercury (CVAA)	<0.0002	0.0003	<0.0002	0.000521	<0.0002
Molybdenum	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium					
Selenium (PMS)	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.02	<0.02	<0.02	<0.02	<0.02
Strontium	0.512	0.128	0.13	0.134	0.134
Thallium (PMS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Thorium	<0.2	<0.2	<0.2	<0.2	<0.2
Uranium (PMS)	0.0005	0.0197	0.0206	0.0335	0.0326
Vanadium	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	<0.05	<0.05	<0.05	<0.05	0.111
MAJOR IONS (mg/L)					
Calcium	52.8	52.4	53.1	53.2	52.6
Magnesium	27.9	9.62	9.79	11.9	11.7
Potassium	<2	2.33	2.25	2.77	2.58
Sodium	11.3	8.19	8.37	12.5	12.4
Alkalinity-HCO ₃		130		120	
Alkalinity-CO ₃		<1		<1	
Chloride		11.2		15.1	
Fluoride		0.34		0.73	
Nitrate-N		2.79		4.84	
Sulfate		32.8		40.6	
Ion Charge Balance (RPD)		0.8		1.7	
MISCELLANEOUS ANALYTES					
pH (standard units)		7.48		8.19	
Conductivity (umho/cm)		376		401	
TDS (mg/L)	276	237		217	
TSS (mg/L)	<1	2.8		1	
Turbidity (NTU)	1.42	4.32		2.12	
FIELD MEASUREMENTS					
Measuring Pt. Elev. (ft)	926.47				
Depth to Water (ft)	25.19				
Water-Level Elev. (ft)	901.28				
Water Temp. (degrees C)	16.4	22.8		14.6	
pH (standard units)	7.56	7.22		8.2	
Conductivity (umho/cm)	472	300		368	
Dissolved Oxygen (ppm)	1.23	7.84		7.96	
Oxidation/Reduction (mV)	63	91		226	

APPENDIX F.2
VOLATILE ORGANIC COMPOUNDS

Volatile Organic Compounds

Sampling Point	56-2A	56-2B	56-2C	59-1A	59-1B	59-1C	GW-108		
Location	GRIDC3	GRIDC3	GRIDC3	B9202	B9202	B9202	S3		
Date Sampled	03/23/98	03/23/98	03/24/98	03/17/98	03/18/98	03/18/98	03/16/98	07/28/98	
Sample Type								DUP	
ORGANIC COMPOUNDS (ug/L)									
Acetone	10U	FP2	10U	FP2	10U	FP2	FP2	FP2	19
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	3	3	3
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	FP1	2
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	29	28	30
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
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	3	7	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	4	75	184	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	4	74	180	5U	5U	5U	5U	5U	5U
trans-1,2-Dichloroethene	5U	1	4	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
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	51	48	51
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	48	870	1400	5U	5U	5U	1	1	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	1	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	7	50	380	5U	5U	7	3	3	3
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	6	10U	10U	10U	10U	10U	10U

(CONTINUED)

Volatile Organic Compounds

Sampling Point	GW-108	GW-148	GW-153	GW-192	GW-193
Location	S3	NHP	NHP	B4	T2331
Date Sampled	07/28/98	05/27/98	12/03/98	05/28/98	12/07/98
Sample Type	DUP				
ORGANIC COMPOUNDS (ug/L)					
Acetone	38	FP2	10U	10U	10U
Acrolein	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	120
Bromochloromethane	10U	10U	10U	10U	10U
Bromodichloromethane	5U	5U	5U	5U	5U
Bromoform	3	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U
2-Butanone	2	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	86	270	5U
Chlorobenzene	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U
Chloroform	30	5U	4	14	5U
Chloromethane	10U	10U	10U	10U	10U
Chlorodibromomethane	5U	5U	5U	16	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U
1,1-Dichloroethane	5U	5U	5U	2	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U
1,2-Dichloroethene	5U	13	13	22	4
cis-1,2-Dichloroethene	5U	13	13	22	4
trans-1,2-Dichloroethene	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U
Dimethylbenzene	5U	5U	5U	5U	9
Ethanol	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	13
Ethyl methacrylate	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U
Methylene chloride	53	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	3	7	4
Toluene	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	2
1,1,2-Trichloroethane	5U	5U	5U	5U	5U
Trichloroethene	3	5U	5U	2	7
Trichlorofluoromethane	5U	5U	5U	5U	2
1,2,3-Trichloropropane	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U

(CONTINUED)

Volatile Organic Compounds

Sampling Point	GW-207		GW-208		GW-219	GW-220		GW-251	
Location	EXP-SR		EXP-SR		UOV	NHP		S2	
Date Sampled	06/24/98	12/09/98	06/09/98	12/09/98	09/04/98	05/28/98	12/07/98	05/26/98	12/02/98
Sample Type									
ORGANIC COMPOUNDS (ug/L)									
Acetone	FP1	10U	9	10U	3	2	10U	10U	10U
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	410	600	19	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	23	38	14	7
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
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	2	4	11	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	2	4	11	5U
trans-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
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	26	53	410	66
Toluene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5	13	200	29
Trichlorofluoromethane	5U	5U	5U	5U	5U	1	2	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	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

(CONTINUED)

Volatile Organic Compounds

Sampling Point	GW-332		GW-380		GW-383		GW-605		GW-606
Location	WC		NHP		NHP		EXP-1		EXP-1
Date Sampled	03/24/98		06/02/98	12/10/98	06/01/98	12/08/98	03/12/98	07/27/98	03/12/98
Sample Type		DUP							
ORGANIC COMPOUNDS (ug/L)									
Acetone	FP1	FP1	10U	10U	10U	10U	10U	FP2	10U
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	4	42	130
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	11	150
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethane	20	19	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	28	23	5U	5U	3	3	5U	5U	5U
1,2-Dichloroethene	1001	909	5U	5U	111	122	5U	79	5U
cis-1,2-Dichloroethene	990	900	5U	5U	110	120	5U	79	5U
trans-1,2-Dichloroethene	11	9	5U	5U	1	2	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
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	660	610	5U	5U	400	440	5U	35	8
Toluene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	16	14	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	120	120	5U	5U	150	170	5U	43	5U
Trichlorofluoromethane	15	12	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	20	18	10U	10U	2	2	10U	1	10U

(CONTINUED)

Volatile Organic Compounds

Sampling Point	GW-606	GW-618		GW-620		GW-686	GW-687	GW-722-06	
Location	EXP-I	EXP-E		FTF		CPT	CPT	EXP-J	
Date Sampled	07/28/98	06/01/98	11/30/98	05/26/98	12/02/98	03/23/98	03/24/98	02/17/98	07/29/98
Sample Type									
ORGANIC COMPOUNDS (ug/L)									
Acetone	2	FP1	10U	FP2	10U	FP2	FP1	FP2	1
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	5	7
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	FP1	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	120	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	140	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
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	15	23	56	18	6	5U	5U	5U
cis-1,2-Dichloroethene	5U	15	23	56	18	6	5U	5U	5U
trans-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
Dimethylbenzene	5U	5U	5U	1	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	1	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	7	11	19	31	14	5U	5U	5U	5U
Toluene	5U	5U	5U	1	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	8	16	18	6	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	1	2	10U	10U	1	10U	10U	10U

(CONTINUED)

Volatile Organic Compounds

Sampling Point	GW-722-10		GW-722-14		GW-722-17		GW-722-20		GW-722-22
Location	EXP-J		EXP-J		EXP-J		EXP-J		EXP-J
Date Sampled	02/18/98	08/03/98	02/19/98	08/04/98	02/25/98	08/11/98	02/24/98	08/18/98	02/26/98
Sample Type									
ORGANIC COMPOUNDS (ug/L)									
Acetone	FP2	20	FP2	10U	FP1	FP2	FP1	FP2	FP2
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	FP2	10U	FP1	10U	FP1	10U	FP2
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	86	57	970	410	1100	550	630	460	420
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	26	22	48	30	51	35	56	51	48
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethane	5U	5U	1	5U	2	5U	2	1	1
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	3	2	5	2	4	2	2
1,2-Dichloroethene	2	2	7	4	10	5	9	6	7
cis-1,2-Dichloroethene	2	2	7	4	10	5	9	6	7
trans-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
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	10	8	59	30	75	43	71	52	45
Toluene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	4	2	5	3	5	3	3
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	2	2	8	4	10	6	9	6	6
Trichlorofluoromethane	2	1	13	6	16	8	15	9	7
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	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

(CONTINUED)

Volatile Organic Compounds

Sampling Point	GW-722-22	GW-722-26		GW-722-30			GW-722-32		GW-722-33
Location	EXP-J	EXP-J		EXP-J			EXP-J		EXP-J
Date Sampled	08/19/98	02/26/98	08/25/98	02/25/98	08/26/98		03/05/98	09/03/98	01/21/98
Sample Type						DUP			
ORGANIC COMPOUNDS (ug/L)									
Acetone	FP2	FP2	34	FP2	FP2	FP2	FP2	FP1	FP2
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	32	30	2	10U	1	10U	10U	10U
Benzene	5U	2	1	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	FP2	6	FP1	10U	2	FP2	10U	FP2
Carbon disulfide	5U	5U	5U	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	680	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	38	5U	5U	5U	5U	1	2	2	2
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethane	1	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	2	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	5	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	5	5U	5U	5U	5U	5U	5U	5U	5U
trans-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
Dimethylbenzene	5U	2	2	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	3	3	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	3	3	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	47	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5	4	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	3	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	6	5U	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	8	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	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

(CONTINUED)

Volatile Organic Compounds

Sampling Point Location Date Sampled Sample Type	GW-722-33			GW-733			GW-735		
	EXP-J			EXP-J			EXP-J		
	01/21/98	03/05/98	09/03/98	03/12/98	07/27/98		06/04/98		12/14/98
	DUP						DUP		DUP
ORGANIC COMPOUNDS (ug/L)									
Acetone	FP2	FP2	1	FP2	FP2		10U	10U	10U
Acrolein	10U	10U	10U	10U	10U		10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U		10U	10U	10U
Benzene	5U	1	5U	5U	5U		5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U		10U	10U	10U
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	FP2	10U	10U	10U	10U		10U	10U	10U
Carbon disulfide	5U	1	5U	5U	5U		5U	5U	5U
Carbon tetrachloride	5U	1	5U	11	11		5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U		5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U		10U	10U	10U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U		10U	10U	10U
Chloroform	2	2	2	FP2	2		5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U		10U	10U	10U
Chlorodibromomethane	5U	5U	5U	5U	5U		5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U		10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U		5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U		10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U		5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U		5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U		5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U		5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U		5U	5U	5U
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	1	5U	5U	5U		5U	5U	5U
1,2-Dichloroethene	5U	5U	5U	5U	5U		5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U		5U	5U	5U
trans-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
Dimethylbenzene	5U	5U	5U	5U	5U		5U	5U	5U
Ethanol	500U	500U	500U	500U	500U		500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U		5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U		5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U		10U	10U	10U
Iodomethane	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
Styrene	5U	5U	5U	5U	5U		5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U		10U	10U	10U
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	1	5U	5U	5U		5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U		5U	5U	5U
1,2,3-Trichloropropane	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

(CONTINUED)

Volatile Organic Compounds

Sampling Point	GW-744		GW-747		GW-750		GW-763		GW-769
Location	GRIDK1		GRIDK2		EXP-J		GRIDJ3		GRIDG3
Date Sampled	06/03/98	12/10/98	06/03/98	12/15/98	06/04/98	12/14/98	05/27/98	12/03/98	05/19/98
Sample Type									
ORGANIC COMPOUNDS (ug/L)									
Acetone	10U	10U	10U	10U	12	10U	FP2	4	10U
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U	11
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U	2
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
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	1
1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	1
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	1
trans-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
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U	5U	6
Toluene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U	5U	2
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	2	2	10U

(CONTINUED)

Volatile Organic Compounds

Sampling Point	GW-769			GW-770		GW-775		GW-776	
Location	GRIDG3			GRIDG3		GRIDH3		GRIDH3	
Date Sampled	05/19/98	11/11/98		05/19/98	11/10/98	06/17/98	11/18/98	06/17/98	11/18/98
Sample Type	DUP		DUP						
ORGANIC COMPOUNDS (ug/L)									
Acetone	FP2	FP1	FP1	53	FP1	FP2	10U	FP2	10U
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	5U	5U	5U	5U
Carbon tetrachloride	11	12	12	3	7	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	2	2	2	4	7	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
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	1	1	1	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene	1	2	1	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	1	2	1	5U	5U	5U	5U	5U	5U
trans-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
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	6	7	7	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	2	2	2	5U	5U	6	4	2	5
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	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

(CONTINUED)

Volatile Organic Compounds

Sampling Point	GW-781		GW-782		GW-783		GW-788		GW-789
Location	GRIDE3		GRIDE3		GRIDE3		GRIDF3		GRIDF3
Date Sampled	05/20/98	11/11/98	05/20/98	11/12/98	05/20/98	11/12/98	05/14/98	11/09/98	05/18/98
Sample Type									
ORGANIC COMPOUNDS (ug/L)									
Acetone	FP2	10U	21	FP1	10U	10U	1	10U	71
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	1	2	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	1	4	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U	1
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethane	5U	5U	99	150	1	12	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	29	37	5U	4	5U	5U	5U
1,2-Dichloroethene	5U	5U	20	18	4	19	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	15	14	3	13	5U	5U	5U
trans-1,2-Dichloroethene	5U	5U	5	4	1	6	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
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	46	11	230	210	6	24	5U	5U	1
Toluene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	1	5U	2	8	5U	2	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5	5U	64	64	2	12	5U	5U	2
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl acetate	10U	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	1	4	10U	10U	10U	10U	10U

(CONTINUED)

Volatile Organic Compounds

Sampling Point	GW-789	GW-791		GW-792		GW-816		GW-818	GW-819
Location	GRIDF3	GRIDD2		GRIDD2		EXP-SR		B9201-2	B9201-2
Date Sampled	11/09/98	05/20/98	11/16/98	05/20/98	11/16/98	06/03/98	12/08/98	03/26/98	03/26/98
Sample Type									
ORGANIC COMPOUNDS (ug/L)									
Acetone	FP1	10U	10U	FP2	10U	10U	10U	FP2	FP2
Acrolein	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Bromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
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	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloroethyl vinyl ether	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	1	5U	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorodibromomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
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	1	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	1	5U
trans-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
Dimethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	3	330	70	6	5	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	3	2	5U	5U	5U	5U	5U	6	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U	5U	5U
1,2,3-Trichloropropene	5U	5U	5U	5U	5U	5U	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

(CONTINUED)

Volatile Organic Compounds

Sampling Point	GW-820	GW-845	LRSPW	
Location	B9201-2	EXP	EXP-SW	
Date Sampled	03/26/98	05/21/98	06/02/98	12/10/98
Sample Type				
ORGANIC COMPOUNDS (ug/L)				
Acetone	FP2	10U	28	10U
Acrolein	10U	10U	10U	10U
Acrylonitrile	10U	10U	10U	10U
Benzene	5U	5U	5U	5U
Bromochloromethane	10U	.	10U	10U
Bromodichloromethane	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U
Carbon tetrachloride	5U	1600	16	5U
Chlorobenzene	1	5U	5U	5U
Chloroethane	10U	10U	10U	10U
2-Chloroethyl vinyl ether	10U	10U	10U	10U
Chloroform	5U	60	3	5U
Chloromethane	10U	10U	10U	10U
Chlorodibromomethane	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	.	10U	10U
1,2-Dibromoethane	5U	5U	5U	5U
Dibromomethane	10U	10U	10U	10U
1,2-Dichlorobenzene	5U	5U	5U	5U
1,4-Dichlorobenzene	2	5U	5U	5U
1,4-Dichloro-2-butene	5U	.	5U	5U
trans-1,4-Dichloro-2-butene	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U
1,1-Dichloroethane	1	2	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U
1,1-Dichloroethene	4	5	5U	5U
1,2-Dichloroethene	876	10	5U	5U
cis-1,2-Dichloroethene	870	10	5U	5U
trans-1,2-Dichloroethene	6	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U
Dimethylbenzene	5U	.	5U	5U
Ethanol	500U	500U	500U	500U
Ethylbenzene	5U	5U	5U	5U
Ethyl methacrylate	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U
Iodomethane	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U
Methylene chloride	5U	5U	5U	5U
Styrene	5U	5U	5U	5U
1,1,1,2-Tetrachloroethane	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U
Tetrachloroethene	7300	85	3	5U
Toluene	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	6	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U
Trichloroethene	590	12	5U	5U
Trichlorofluoromethane	5U	19	5U	5U
1,2,3-Trichloropropane	5U	.	5U	5U
Vinyl acetate	10U	10U	10U	10U
Vinyl chloride	65	10U	10U	10U

APPENDIX F.3
RADIOLOGICAL ANALYTES

Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point	56-2A			56-2B			56-2C		
Location	GRIDC3			GRIDC3			GRIDC3		
Date Sampled	03/23/98			03/23/98			03/24/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.7	<MDA	.	3.1	<MDA	.	3.4
Gross Beta	<MDA	.	13	<MDA	.	12	<MDA	.	11

(CONTINUED)

Sampling Point	59-1A			59-1B			59-1C		
Location	B9202			B9202			B9202		
Date Sampled	03/17/98			03/18/98			03/18/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	6.9	3.4	3.4	5.5	3.2	3.7	<MDA	.	3
Gross Beta	<MDA	.	44	<MDA	.	14	<MDA	.	12

(CONTINUED)

Sampling Point	GW-108								
Location	S3								
Date Sampled	03/16/98						07/28/98		
Sample Type	DUP								
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	320	<MDA	.	380	<MDA	.	400
Gross Beta	10000	1000	1200	10000	990	1200	14000	1200	870

(CONTINUED)

Sampling Point	GW-108			GW-148					
Location	S3			NHP					
Date Sampled	07/28/98			05/27/98			12/03/98		
Sample Type	DUP								
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	610	<MDA	.	5.6	<MDA	.	4.4
Gross Beta	14000	1200	810	<MDA	.	7.5	<MDA	.	8.4

(CONTINUED)

Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point	GW-153						GW-192		
Location	NHP						B4		
Date Sampled	05/28/98			12/07/98			05/26/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.2	<MDA	.	4.5	<MDA	.	3.1
Gross Beta	<MDA	.	6.8	<MDA	.	8.7	<MDA	.	8.1

(CONTINUED)

Sampling Point	GW-192			GW-193					
Location	B4			T2331					
Date Sampled	11/30/98			03/16/98			07/28/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	5.8	<MDA	.	3.1	<MDA	.	4
Gross Beta	<MDA	.	8.4	<MDA	.	43	9.3	4.9	7.2

(CONTINUED)

Sampling Point	GW-207						GW-208		
Location	EXP-SR						EXP-SR		
Date Sampled	06/24/98			12/09/98			06/09/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	5.7	<MDA	.	4.1	<MDA	.	4.8
Gross Beta	<MDA	.	7.9	<MDA	.	7.6	<MDA	.	7.9

(CONTINUED)

Sampling Point Location Date Sampled Sample Type	GW-208			GW-219			GW-220		
	EXP-SR			UOV			NHP		
	12/09/98			09/04/98			05/28/98		
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	5.8	90	14	7.6	<MDA	.	3.3
Gross Beta	<MDA	.	7.1	48	8.3	9.1	<MDA	.	8.1

(CONTINUED)

Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point	GW-220			GW-251					
Location	NHP			S2					
Date Sampled	12/07/98			05/26/98			12/02/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	5.1	8.5	5.7	7	8.3	4	3.4
Gross Beta	<MDA	.	9.4	8.7	5.3	8.1	<MDA	.	8.1

(CONTINUED)

Sampling Point	GW-332			GW-380					
Location	WC			NHP					
Date Sampled	03/24/98			06/02/98					
Sample Type				DUP					
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.5	<MDA	.	3	<MDA	.	4.4
Gross Beta	<MDA	.	11	<MDA	.	13	<MDA	.	8.1

(CONTINUED)

Sampling Point	GW-380			GW-383					
Location	NHP			NHP					
Date Sampled	12/10/98			06/01/98			12/08/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	6.5	<MDA	.	3.2	<MDA	.	5.4
Gross Beta	<MDA	.	7.4	<MDA	.	7.7	<MDA	.	8.3

(CONTINUED)

Sampling Point	GW-605			GW-606					
Location	EXP-I			EXP-I					
Date Sampled	03/12/98			07/27/98			03/12/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	130	15	3.2	29	7.1	3.3	5	2.7	1
Gross Beta	35	6.4	14	<MDA	.	8	<MDA	.	13

(CONTINUED)

Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point	GW-606			GW-618					
Location	EXP-I			EXP-E					
Date Sampled	07/28/98			06/01/98			11/30/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	4.8	<MDA	.	3.5	<MDA	.	6.2
Gross Beta	<MDA	.	8.8	<MDA	.	7.7	<MDA	.	8.6

(CONTINUED)

Sampling Point	GW-620			GW-686					
Location	FTF			CPT					
Date Sampled	05/26/98			12/02/98			03/23/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.5	<MDA	.	2.6	<MDA	.	4
Gross Beta	14	5.5	7.6	<MDA	.	8.7	<MDA	.	13

(CONTINUED)

Sampling Point	GW-687			GW-722-06					
Location	CPT			EXP-J					
Date Sampled	03/24/98			02/17/98			07/29/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	90	<MDA	.	5.8	<MDA	.	7.2
Gross Beta	<MDA	.	240	<MDA	.	12	<MDA	.	7.8

(CONTINUED)

Sampling Point	GW-722-10			GW-722-14					
Location	EXP-J			EXP-J					
Date Sampled	02/18/98			08/03/98			02/19/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	1.3	< CE	1.8	1.4	<MDA	.	3.2
Gross Beta	<MDA	.	12	<MDA	.	8.2	<MDA	.	14

(CONTINUED)

Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point	GW-722-14			GW-722-17					
Location	EXP-J			EXP-J					
Date Sampled	08/04/98			02/25/98			08/11/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	5.9	<MDA	.	6.2	<MDA	.	5.1
Gross Beta	<MDA	.	8.5	<MDA	.	25	<MDA	.	8.9

(CONTINUED)

Sampling Point	GW-722-20						GW-722-22		
Location	EXP-J						EXP-J		
Date Sampled	02/24/98			08/18/98			02/26/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3	<MDA	.	3.7	<MDA	.	5
Gross Beta	<MDA	.	11	<MDA	.	8.1	<MDA	.	12

(CONTINUED)

Sampling Point	GW-722-22			GW-722-26					
Location	EXP-J			EXP-J					
Date Sampled	08/19/98			02/26/98			08/25/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	4.8	3.2	3.5	1.5	1.5	1	<MDA	.	4.6
Gross Beta	9.7	4.5	6.3	<MDA	.	11	<MDA	.	8.1

(CONTINUED)

Sampling Point	GW-722-30								
Location	EXP-J								
Date Sampled	02/25/98			08/26/98					
Sample Type							DUP		
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.2	<MDA	.	4.9	3.4	2.2	1
Gross Beta	<MDA	.	14	<MDA	.	8.2	<MDA	.	7.3

(CONTINUED)

Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point Location Date Sampled Sample Type	GW-722-32						GW-722-33		
	EXP-J						EXP-J		
	03/05/98			09/03/98			01/21/98		
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	2.9	<MDA	.	6.6	<MDA	.	4.5
Gross Beta	<MDA	.	31	<MDA	.	7.6	<MDA	.	14

(CONTINUED)

Sampling Point	GW-722-33								
Location	EXP-J								
Date Sampled	01/21/98			03/05/98			09/03/98		
Sample Type	DUP								
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.3	3.2	2.3	2.8	<MDA	.	5.7
Gross Beta	<MDA	.	14	<MDA	.	34	<MDA	.	7.9

(CONTINUED)

Sampling Point	GW-733						GW-735		
Location	EXP-J						EXP-J		
Date Sampled	03/12/98			07/27/98			06/04/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.9	6.5	4.4	5.2	<MDA	.	3.5
Gross Beta	<MDA	.	15	9.9	5.1	7.4	<MDA	.	8.3

(CONTINUED)

Sampling Point	GW-735								
Location	EXP-J								
Date Sampled	06/04/98			12/14/98					
Sample Type	DUP						DUP		
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.5	<MDA	.	6.1	<MDA	.	4.8
Gross Beta	<MDA	.	8.5	<MDA	.	8.6	<MDA	.	8.3

(CONTINUED)

Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point	GW-744						GW-747		
Location	GRIDK1						GRIDK2		
Date Sampled	06/03/98			12/10/98			06/03/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	4.4	<MDA	.	3.4	<MDA	.	3.2
Gross Beta	<MDA	.	7.3	<MDA	.	8.2	<MDA	.	6.8

(CONTINUED)

Sampling Point	GW-747			GW-750					
Location	GRIDK2			EXP-J					
Date Sampled	12/15/98			06/04/98			12/14/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.5	<MDA	.	4.1	<MDA	.	3.5
Gross Beta	<MDA	.	7.4	8.8	5.4	8.3	<MDA	.	8.3

(CONTINUED)

Sampling Point	GW-763						GW-769		
Location	GRIDJ3						GRIDG3		
Date Sampled	05/27/98			12/03/98			05/19/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.4	<MDA	.	5.8	<MDA	.	2.8
Gross Beta	<MDA	.	9.2	<MDA	.	8.3	<MDA	.	6.7

(CONTINUED)

Sampling Point	GW-769								
Location	GRIDG3								
Date Sampled	05/19/98			11/11/98					
Sample Type	DUP			DUP					
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	4.9	<MDA	.	5.2	<MDA	.	4.9
Gross Beta	<MDA	.	8.9	<MDA	.	8.2	<MDA	.	6.4

(CONTINUED)

Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point	GW-770						GW-775		
Location	GRIDG3						GRIDH3		
Date Sampled	05/19/98			11/10/98			06/17/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	1	<MDA	.	3.8	<MDA	.	3.3
Gross Beta	<MDA	.	9.1	<MDA	.	8.3	<MDA	.	7.3

(CONTINUED)

Sampling Point	GW-775			GW-776					
Location	GRIDH3			GRIDH3					
Date Sampled	11/18/98			06/17/98			11/18/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	5.4	<MDA	.	25	<MDA	.	3.9
Gross Beta	<MDA	.	7.8	<MDA	.	71	<MDA	.	7.8

(CONTINUED)

Sampling Point	GW-781						GW-782		
Location	GRIDE3						GRIDE3		
Date Sampled	05/20/98			11/11/98			05/20/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	4.7	<MDA	.	3.6	64	14	8.7
Gross Beta	<MDA	.	7.8	9.4	4.7	6.8	<MDA	.	15

(CONTINUED)

Sampling Point	GW-782			GW-783					
Location	GRIDE3			GRIDE3					
Date Sampled	11/12/98			05/20/98			11/12/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	53	9.9	3.5	<MDA	.	3.5	2.7	2.2	1.2
Gross Beta	15	5.8	8	<MDA	.	8.1	<MDA	.	7.6

(CONTINUED)

Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point	GW-788						GW-789		
Location	GRIDF3						GRIDF3		
Date Sampled	05/14/98			11/09/98			05/18/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	5.7	<MDA	.	3.9	<MDA	.	2.9
Gross Beta	<MDA	.	8.2	<MDA	.	7.5	<MDA	.	7.8

(CONTINUED)

Sampling Point	GW-789			GW-791					
Location	GRIDF3			GRIDD2					
Date Sampled	11/09/98			05/20/98			11/16/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	4.4	<MDA	.	4.2	<MDA	.	3.9
Gross Beta	<MDA	.	7.9	<MDA	.	7.5	<MDA	.	7.9

(CONTINUED)

Sampling Point	GW-792						GW-816		
Location	GRIDD2						EXP-SR		
Date Sampled	05/20/98			11/16/98			06/03/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	4.2	3.4	1.9	<MDA	.	5.2	<MDA	.	4.8
Gross Beta	<MDA	.	16	<MDA	.	7.4	<MDA	.	9

(CONTINUED)

Sampling Point	GW-816			GW-818			GW-819		
Location	EXP-SR			B9201-2			B9201-2		
Date Sampled	12/08/98			03/26/98			03/26/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	4.9	3.1	3.2	<MDA	.	3.4	<MDA	.	3.7
Gross Beta	8.9	4.6	6.7	<MDA	.	15	<MDA	.	15

(CONTINUED)

Radiological Analytes: Gross Alpha and Gross Beta Activity

Sampling Point	GW-820			GW-845			LRSPW		
Location	B9201-2			EXP			EXP-SW		
Date Sampled	03/26/98			05/21/98			06/02/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	4.2	<MDA	.	3.5	5.8	3.6	4.5
Gross Beta	<MDA	.	15	<MDA	.	8.1	<MDA	.	7.9

(CONTINUED)

Sampling Point	LRSPW		
Location	EXP-SW		
Date Sampled	12/10/98		
Sample Type			
	ACT	ERR	MDA
ACTIVITY (pCi/L)			
Gross Alpha	<MDA	.	3.9
Gross Beta	8.2	5	7.6

Radiological Analytes: Isotope Activity

Sampling Point Location Date Sampled Sample Type	GW-108								
	S3								
	03/16/98						07/28/98		
	DUP								
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	320	<MDA	.	380	<MDA	.	400
Gross Beta	10000	1000	1200	10000	990	1200	14000	1200	870
Americium 241	.	.	.	.	.	.	.	.	.
Iodine 129	.	.	.	.	.	.	.	.	.
Neptunium 237	.	.	.	.	.	.	.	.	.
Plutonium 238	.	.	.	.	.	.	.	.	.
Plutonium 239	.	.	.	.	.	.	.	.	.
Radium 223/224/226	.	.	.	.	.	.	.	.	.
Strontium 89/90	.	.	.	.	.	.	.	.	.
Technetium 99	21000	81	14	21000	81	14	22000	84	13
Thorium 228	.	.	.	.	.	.	.	.	.
Thorium 230	.	.	.	.	.	.	.	.	.
Thorium 232	.	.	.	.	.	.	.	.	.
Thorium 234	.	.	.	.	.	.	.	.	.
Tritium	.	.	.	.	.	.	.	.	.
Uranium 234	.	.	.	.	.	.	.	.	.
Uranium 235	.	.	.	.	.	.	.	.	.
Uranium 238	.	.	.	.	.	.	.	.	.

(CONTINUED)

Sampling Point	GW-108			GW-193					
Location	S3			T2331					
Date Sampled	07/28/98			03/16/98			07/28/98		
Sample Type	DUP								
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	610	<MDA	.	3.1	<MDA	.	4
Gross Beta	14000	1200	810	<MDA	.	43	9.3	4.9	7.2
Americium 241	.	.	.	.	.	.	.	.	.
Iodine 129	.	.	.	.	.	.	.	.	.
Neptunium 237	.	.	.	.	.	.	.	.	.
Plutonium 238	.	.	.	.	.	.	.	.	.
Plutonium 239	.	.	.	.	.	.	.	.	.
Radium 223/224/226	.	.	.	.	.	.	.	.	.
Strontium 89/90	.	.	.	.	.	.	.	.	.
Technetium 99	23000	85	13	<MDA	.	14	<MDA	.	13
Thorium 228	.	.	.	.	.	.	.	.	.
Thorium 230	.	.	.	.	.	.	.	.	.
Thorium 232	.	.	.	.	.	.	.	.	.
Thorium 234	.	.	.	.	.	.	.	.	.
Tritium	.	.	.	.	.	.	.	.	.
Uranium 234	.	.	.	.	.	.	.	.	.
Uranium 235	.	.	.	.	.	.	.	.	.
Uranium 238	.	.	.	.	.	.	.	.	.

(CONTINUED)

Radiological Analytes: Isotope Activity

Sampling Point	GW-219			GW-605					
Location	UOV			EXP-I					
Date Sampled	09/04/98			03/12/98			07/27/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	90	14	7.6	130	15	3.2	29	7.1	3.3
Gross Beta	48	8.3	9.1	35	6.4	14	<MDA	.	8
Americium 241	<MDA	.	0.19	.	.	.	.	.	.
Iodine 129	<MDA	.	12	.	.	.	.	.	.
Neptunium 237	<MDA	.	0.2	.	.	.	.	.	.
Plutonium 238	<MDA	.	0.28	.	.	.	.	.	.
Plutonium 239	<MDA	.	0.18	.	.	.	.	.	.
Radium 223/224/226	2.7	1.6	2.5	.	.	.	.	.	.
Strontium 89/90	<MDA	.	5.9	.	.	.	.	.	.
Technetium 99	<MDA	.	13	<MDA	.	14	<MDA	.	13
Thorium 228	0.68	0.29	0.24	.	.	.	.	.	.
Thorium 230	0.9	0.32	0.07	.	.	.	.	.	.
Thorium 232	<MDA	.	0.17	.	.	.	.	.	.
Thorium 234	98	11	0.23	.	.	.	.	.	.
Tritium	<MDA	.	820	.	.	.	.	.	.
Uranium 234	14	2	0.36	.	.	.	.	.	.
Uranium 235	0.81	0.38	0.12	.	.	.	.	.	.
Uranium 238	98	11	0.23	.	.	.	.	.	.

(CONTINUED)

Sampling Point	GW-606			GW-686					
Location	EXP-I			CPT					
Date Sampled	03/12/98			07/28/98			03/23/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	5	2.7	1	<MDA	.	4.8	<MDA	.	4
Gross Beta	<MDA	.	13	<MDA	.	8.8	<MDA	.	13
Americium 241	.	.	.	.	.	.	.	.	.
Iodine 129	.	.	.	.	.	.	.	.	.
Neptunium 237	.	.	.	.	.	.	.	.	.
Plutonium 238	.	.	.	.	.	.	.	.	.
Plutonium 239	.	.	.	.	.	.	.	.	.
Radium 223/224/226	.	.	.	.	.	.	.	.	.
Strontium 89/90	.	.	.	.	.	.	<MDA	.	4.1
Technetium 99	<MDA	.	14	<MDA	.	13	140	10	14
Thorium 228	.	.	.	.	.	.	.	.	.
Thorium 230	.	.	.	.	.	.	.	.	.
Thorium 232	.	.	.	.	.	.	.	.	.
Thorium 234	.	.	.	.	.	.	.	.	.
Tritium	.	.	.	.	.	.	.	.	.
Uranium 234	.	.	.	.	.	.	0.39	0.21	0.075
Uranium 235	.	.	.	.	.	.	<MDA	.	0.093
Uranium 238	.	.	.	.	.	.	0.3	0.19	0.075

(CONTINUED)

Radiological Analytes: Isotope Activity

Sampling Point	GW-687			GW-733					
Location	CPT			EXP-J					
Date Sampled	03/24/98			03/12/98			07/27/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	90	<MDA	.	3.9	6.5	4.4	5.2
Gross Beta	<MDA	.	240	<MDA	.	15	9.9	5.1	7.4
Americium 241	.	.	.	.	.	.	.	.	.
Iodine 129	.	.	.	.	.	.	.	.	.
Neptunium 237	.	.	.	.	.	.	.	.	.
Plutonium 238	.	.	.	.	.	.	.	.	.
Plutonium 239	.	.	.	.	.	.	.	.	.
Radium 223/224/226	.	.	.	.	.	.	.	.	.
Strontium 89/90	<MDA	.	9.9	.	.	.	.	.	.
Technetium 99	<MDA	.	14	<MDA	.	14	<MDA	.	13
Thorium 228	.	.	.	.	.	.	.	.	.
Thorium 230	.	.	.	.	.	.	.	.	.
Thorium 232	.	.	.	.	.	.	.	.	.
Thorium 234	.	.	.	.	.	.	.	.	.
Tritium	.	.	.	.	.	.	.	.	.
Uranium 234	4.1	0.78	0.073	.	.	.	.	.	.
Uranium 235	<MDA	.	0.091	.	.	.	.	.	.
Uranium 238	2.4	0.56	0.18	.	.	.	.	.	.

(CONTINUED)

Sampling Point	GW-818			GW-819			GW-820		
Location	B9201-2			B9201-2			B9201-2		
Date Sampled	03/26/98			03/26/98			03/26/98		
Sample Type									
	ACT	ERR	MDA	ACT	ERR	MDA	ACT	ERR	MDA
ACTIVITY (pCi/L)									
Gross Alpha	<MDA	.	3.4	<MDA	.	3.7	<MDA	.	4.2
Gross Beta	<MDA	.	15	<MDA	.	15	<MDA	.	15
Americium 241	.	.	.	.	.	.	.	.	.
Iodine 129	.	.	.	.	.	.	.	.	.
Neptunium 237	.	.	.	.	.	.	.	.	.
Plutonium 238	.	.	.	.	.	.	.	.	.
Plutonium 239	.	.	.	.	.	.	.	.	.
Radium 223/224/226	.	.	.	.	.	.	.	.	.
Strontium 89/90	<MDA	.	4.2	<MDA	.	3.7	<MDA	.	6.1
Technetium 99	<MDA	.	13	<MDA	.	13	<MDA	.	13
Thorium 228	.	.	.	.	.	.	.	.	.
Thorium 230	.	.	.	.	.	.	.	.	.
Thorium 232	.	.	.	.	.	.	.	.	.
Thorium 234	.	.	.	.	.	.	.	.	.
Tritium	.	.	.	.	.	.	.	.	.
Uranium 234	1.4	0.41	0.072	<MDA	.	0.076	0.2	0.15	0.077
Uranium 235	<MDA	.	0.22	<MDA	.	0.094	<MDA	.	0.23
Uranium 238	1.6	0.44	0.072	0.14	0.13	0.076	0.11	0.11	0.077

APPENDIX G

CY 1998 QUALITY ASSURANCE/QUALITY CONTROL DATA

EXPLANATION

SAMPLING POINT:

BCK	-	Bear Creek Kilometer
GW	-	Monitoring Well (also the 56- and 59- series)
LRSPW	-	Lake Reality Emergency Spillway (surface water station)
NT	-	Northern Tributary to Bear Creek
SCR	-	South Chestnut Ridge (tributary prefix)
SP	-	Spring (suffix, Chestnut Ridge Regime)
SS	-	Spring (Bear Creek Regime)
D	-	Field Duplicate Sample

UNITS:

ug/L	-	micrograms per liter (all samples)
umho/cm	-	micromhos per centimeter (equipment rinsates)
mg/L	-	milligrams per liter (equipment rinsates)
NTU	-	Nephelometric Turbidity Units (equipment rinsates)
pCi/L	-	picoCuries per liter (equipment rinsates)

NOTES:

Only compounds that were detected in blank samples are presented in the respective subappendices. All trace metal and cation analyses were performed using inductively coupled plasma spectroscopy unless otherwise noted. All gross alpha and gross beta activities reported for the equipment rinsates were below the minimum detectable activity (MDA).

U	-	Organic compound not detected at the reporting limit.
<	-	Inorganic compound not detected at the reporting limit.
PMS	-	Plasma Mass Spectroscopy
TDS	-	Total Dissolved Solids
TSS	-	Total Suspended Solids

APPENDIX G.1

CORRELATION WITH ASSOCIATED GROUNDWATER AND SURFACE WATER SAMPLES

Appendix G.1

1

Correlation with Associated Groundwater and Surface Water Samples Bear Creek Hydrogeologic Regime, CY 1998

Sampling Point	Date Sampled	Sample Number	Trip Blank Number	Laboratory Blank Number
BCK-00.63	02/18/98	A980490308	A980490307	Q980540065
BCK-00.63	07/29/98	A982100258	A982100263	Q982290281
BCK-04.55	02/18/98	A980490313	A980490307	Q980560153
BCK-04.55	07/29/98	A982100259	A982100263	Q982290281
BCK-07.75	02/18/98	A980490312	A980490307	Q980560153
BCK-07.75	07/30/98	A982110104	A982110108	Q982290281
BCK-07.87	08/11/98	A982230113	A982230112	Q982300000
BCK-09.40	02/18/98	A980490310	A980490307	Q980560153
BCK-09.40 D	02/18/98	A980490311	A980490307	Q980560153
BCK-09.40	08/03/98	A982150120	A982150117	Q982290281
BCK-09.40 D	08/03/98	A982150119	A982150117	Q982290281
BCK-10.60	02/19/98	A980500110	A980500118	Q980570026
BCK-11.97	02/19/98	A980500112	A980500118	Q980570026
BCK-11.97	08/04/98	A982160057	A982160053	Q982240024
GW-008	01/26/98	A980260098	A980260097	Q980330000
GW-008	07/20/98	A982020039	A982020038	Q982080031
GW-046	01/29/98	A980290157	A980290159	Q980370000
GW-046	07/22/98	A982030281	A982030280	Q982090003
GW-053	03/11/98	A980710050	A980710048	Q980770000
GW-053	09/02/98	A982460014	A982460013	Q982540016
GW-056	02/02/98	A980340033	A980340032	Q980400061
GW-056	07/27/98	A982090010	A982090008	Q982150027
GW-085	03/03/98	A980620200	A980620199	Q980650050
GW-085	08/31/98	A982440009	A982440007	Q982470041
GW-115	01/15/98	A980150123	A980150122	Q980210049
GW-115	07/13/98	A981940137	A981940139	Q982010031
GW-226	03/10/98	A980690179	A980690185	Q980750020
GW-226	09/02/98	A982460012	A982460013	Q982540016
GW-276	01/22/98	A980230001	A980230000	Q980290009
GW-276	07/16/98	A981980011	A981980009	Q982030059
GW-287	03/02/98	A980610247	A980610251	Q980650050
GW-287	09/03/98	A982470004	A982470003	Q982540019
GW-311	03/05/98	A980640072	A980640078	Q980720000
GW-311	08/27/98	A982390096	A982390094	Q982470041
GW-315	03/02/98	A980610248	A980610251	Q980650050
GW-315	08/27/98	A982390095	A982390094	Q982470041
GW-537	03/03/98	A980620201	A980620199	Q980690072
GW-537 D	03/03/98	A980620202	A980620199	Q980690072
GW-537	08/31/98	A982440010	A982440007	Q982470041
GW-537 D	08/31/98	A982440011	A982440007	Q982470041
GW-621	02/02/98	A980340034	A980340032	Q980400061
GW-621	07/29/98	A982100257	A982100263	Q982160123
GW-627	03/11/98	A980710051	A980710048	Q980770000
GW-627	09/01/98	A982450003	A982450001	Q982530007
GW-653	03/10/98	A980690180	A980690185	Q980750020
GW-653	09/01/98	A982450002	A982450001	Q982470041
GW-683	02/17/98	A980480114	A980480118	Q980540033
GW-683	08/03/98	A982150118	A982150117	Q982290281
GW-684	02/16/98	A980480001	A980480000	Q980540033

Appendix G.1
Correlation with Associated Groundwater and Surface Water Samples
Bear Creek Hydrogeologic Regime, CY 1998

Sampling Point	Date Sampled	Sample Number	Trip Blank Number	Laboratory Blank Number
GW-684 D	02/16/98	A980480002	A980480000	Q980540033
GW-684	08/04/98	A982160054	A982160053	Q982290281
GW-684 D	08/04/98	A982160055	A982160053	Q982240024
GW-685	02/05/98	A980360265	A980360264	Q980440143
GW-685	07/27/98	A982090009	A982090008	Q982150027
GW-695	02/17/98	A980480115	A980480118	Q980540033
GW-695	07/30/98	A982110102	A982110108	Q982290281
GW-703	02/16/98	A980480003	A980480000	Q980540033
GW-703	08/10/98	A982220061	A982220065	Q982300000
GW-704	01/05/98	A980050124	A980050126	Q980090024
GW-704	08/13/98	A982250135	A982250134	Q982300000
GW-706	01/05/98	A980050127	A980050129	Q980090024
GW-706	08/10/98	A982220062	A982220065	Q982300000
GW-712	01/20/98	A980200126	A980200132	Q980270106
GW-712	07/14/98	A981960005	A981960004	Q982010042
GW-713	01/20/98	A980200127	A980200132	Q980270106
GW-713 D	01/20/98	A980200128	A980200132	Q980270106
GW-713	07/15/98	A981960100	A981960099	Q982010042
GW-713 D	07/15/98	A981960101	A981960099	Q982010042
GW-714	01/21/98	A980210075	A980210079	Q980290009
GW-714	07/14/98	A981960006	A981960004	Q982010042
GW-715	01/21/98	A980210076	A980210079	Q980290009
GW-715	07/16/98	A981980010	A981980009	Q982030059
GW-724	03/05/98	A980640073	A980640078	Q980720000
GW-724	09/01/98	A982450004	A982450001	Q982530007
GW-725	03/10/98	A980690181	A980690185	Q980750020
GW-725	09/02/98	A982460015	A982460013	Q982540016
GW-738	03/04/98	A980630142	A980630146	Q980690072
GW-738	09/01/98	A982450005	A982450001	Q982530007
GW-740	03/04/98	A980630143	A980630146	Q980690072
GW-740	08/31/98	A982440012	A982440007	Q982470041
GW-829	03/05/98	A980640074	A980640078	Q980720000
GW-829	08/31/98	A982440008	A982440007	Q982470041
NT-01	02/19/98	A980500108	A980500118	Q980560153
NT-01	08/05/98	A982170090	A982170089	Q982240024
SS-1	02/19/98	A980500109	A980500118	Q980560153
SS-1	08/05/98	A982170091	A982170089	Q982240024
SS-4	02/19/98	A980500111	A980500118	Q980570026
SS-4	08/04/98	A982160056	A982160053	Q982240024
SS-5	02/18/98	A980490309	A980490307	Q980540065
SS-5	08/03/98	A982150121	A982150117	Q982290281
SS-6	02/18/98	A980490314	A980490307	Q980560153
SS-6	07/30/98	A982110103	A982110108	Q982290281

Appendix G.1

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Correlation with Associated Groundwater and Surface Water Samples Chestnut Ridge Hydrogeologic Regime, CY 1998

Sampling Point	Date Sampled	Sample Number	Trip Blank Number	Laboratory Blank Number
GW-141	01/08/98	A980080140	A980080138	Q980160090
GW-141 D	01/08/98	A980080141	A980080138	Q980160090
GW-141	07/09/98	A981900176	A981900175	Q981960023
GW-141 D	07/09/98	A981900177	A981900175	Q981960023
GW-142	04/27/98	A981170147	A981170153	Q981210000
GW-142	04/28/98	A981180128	A981180134	Q981250017
GW-142	04/29/98	A981190140	A981190139	Q981260147
GW-142 D	04/29/98	A981190141	A981190139	Q981270115
GW-142	04/30/98	A981200067	A981200073	Q981310025
GW-142	10/19/98	A982920393	A982920381	Q982950045
GW-142	10/20/98	A982930239	A982930231	Q982950045
GW-142	10/21/98	A982940190	A982940180	Q983000000
GW-142 D	10/21/98	A982940191	A982940180	Q983000000
GW-142	10/22/98	A982950618	A982950593	Q983000000
GW-143	04/27/98	A981170148	A981170153	Q981210000
GW-143	04/28/98	A981180129	A981180134	Q981250017
GW-143	04/29/98	A981190142	A981190139	Q981270115
GW-143	04/30/98	A981200068	A981200073	Q981310025
GW-143	10/19/98	A982920394	A982920381	Q982950045
GW-143	10/20/98	A982930240	A982930231	Q982950045
GW-143	10/21/98	A982940192	A982940180	Q983000000
GW-143	10/22/98	A982950619	A982950593	Q983000000
GW-144	04/27/98	A981170149	A981170153	Q981210000
GW-144	04/28/98	A981180130	A981180134	Q981250017
GW-144	04/29/98	A981190143	A981190139	Q981270115
GW-144	04/30/98	A981200069	A981200073	Q981310025
GW-144	10/19/98	A982920395	A982920381	Q982950045
GW-144	10/20/98	A982930241	A982930231	Q982960004
GW-144	10/21/98	A982940189	A982940179	Q982960004
GW-144	10/22/98	A982950620	A982950593	Q983030016
GW-145	04/27/98	A981170158	A981170162	Q981240006
GW-145	04/28/98	A981180106	A981180103	Q981250017
GW-145	04/29/98	A981190152	A981190150	Q981260147
GW-145	04/30/98	A981200064	A981200062	Q981260147
GW-145	10/19/98	A982920380	A982920376	Q982940018
GW-145	10/20/98	A982930242	A982930232	Q982960004
GW-145	10/21/98	A982940188	A982940179	Q982960004
GW-145	10/22/98	A982950622	A982950594	Q983030016
GW-217	01/07/98	A980070169	A980070173	Q980160090
GW-217	07/08/98	A981890434	A981890433	Q981950003
GW-231	04/27/98	A981170159	A981170162	Q981240006
GW-231	04/28/98	A981180104	A981180103	Q981240006
GW-231 D	04/28/98	A981180105	A981180103	Q981250017
GW-231	04/29/98	A981190151	A981190150	Q981270115
GW-231	04/30/98	A981200063	A981200062	Q981260147
GW-231	10/19/98	A982920379	A982920376	Q982940018
GW-231	10/20/98	A982930243	A982930232	Q982960004
GW-231 D	10/20/98	A982930244	A982930232	Q982960004
GW-231	10/21/98	A982940187	A982940179	Q982960004
GW-231	10/22/98	A982950621	A982950594	Q983030016
GW-301	01/06/98	A980070012	A980070016	Q980090024
GW-301	07/10/98	A981910044	A981910042	Q981970008
GW-305	01/12/98	A980130068	A980130070	Q980160093

Appendix G.1
Correlation with Associated Groundwater and Surface Water Samples
Chestnut Ridge Hydrogeologic Regime, CY 1998

Sampling Point	Date Sampled	Sample Number	Trip Blank Number	Laboratory Blank Number
GW-305	07/13/98	A981940020	A981940019	Q982010031
GW-322	01/12/98	A980130014	A980130012	Q980160093
GW-521	01/07/98	A980070170	A980070173	Q980160090
GW-521	07/09/98	A981900178	A981900175	Q981960023
GW-522	01/08/98	A980080139	A980080138	Q980160090
GW-522	07/09/98	A981900179	A981900175	Q981960023
GW-540	03/11/98	A980710049	A980710048	Q980770000
GW-540	04/20/98	A981101758	A981101762	Q981130043
GW-540	10/13/98	A982860170	A982860153	Q982890005
GW-542	04/21/98	A981110939	A981110935	Q981190133
GW-542	10/14/98	A982870198	A982870162	Q982890005
GW-543	04/22/98	A981120078	A981120077	Q981190133
GW-543	10/15/98	A982880150	A982880147	Q982940018
GW-544	04/22/98	A981120079	A981120077	Q981190133
GW-544	10/15/98	A982880151	A982880147	Q982940018
GW-557	01/13/98	A980130101	A980130109	Q980210043
GW-557 D	01/13/98	A980130102	A980130109	Q980210043
GW-557	07/14/98	A981960023	A981960030	Q982010031
GW-557 D	07/14/98	A981960024	A981960030	Q982010031
GW-609	01/05/98	A980050130	A980050129	Q980090024
GW-609	07/16/98	A981980012	A981980009	Q982030059
GW-709	04/20/98	A981101759	A981101762	Q981130043
GW-709	10/13/98	A982860171	A982860153	Q982890005
GW-757	04/21/98	A981110936	A981110935	Q981130043
GW-757 D	04/21/98	A981110937	A981110935	Q981130043
GW-757	10/13/98	A982860168	A982860153	Q982890005
GW-757 D	10/13/98	A982860169	A982860153	Q982890005
GW-796	01/14/98	A980140170	A980140174	Q980210049
GW-796	07/15/98	A981960129	A981960135	Q982010042
GW-797	01/14/98	A980140171	A980140174	Q980210049
GW-797	07/15/98	A981960130	A981960135	Q982020017
GW-798	01/12/98	A980130013	A980130012	Q980160093
GW-798	07/09/98	A981900173	A981900172	Q981960023
GW-799	01/13/98	A980130103	A980130109	Q980210043
GW-799	07/14/98	A981960022	A981960030	Q982010031
GW-801	01/13/98	A980130104	A980130109	Q980210043
GW-801	07/15/98	A981960131	A981960135	Q982020017
GW-827	04/21/98	A981110938	A981110935	Q981190133
GW-827	10/14/98	A982870197	A982870162	Q982890005
GW-831	01/06/98	A980070013	A980070016	Q980090024
GW-831	07/10/98	A981910043	A981910042	Q981970008
SCR2.1SP	01/13/98	A980130093	A980130092	Q980210043
SCR2.1SP	07/08/98	A981890215	A981890214	Q981950003
SCR2.2SP	01/12/98	A980130016	A980130012	Q980160093
SCR2.2SP	07/08/98	A981890217	A981890214	Q981950003
SCR3.4SP	01/13/98	A980130094	A980130092	Q980210043
SCR3.4SP	07/08/98	A981890218	A981890214	Q981950003
SCR4.3SP	01/12/98	A980130062	A980130070	Q980210037
SCR4.3SP	07/14/98	A981960025	A981960030	Q982010042
SCR5.1SP	01/12/98	A980130064	A980130070	Q980210037
SCR5.1SP	07/08/98	A981890216	A981890214	Q981950003
SCR5.4SP	01/12/98	A980130065	A980130070	Q980210037
SCR5.4SP	07/08/98	A981890219	A981890214	Q981960023

Appendix G.1

Correlation with Associated Groundwater and Surface Water Samples
Upper East Fork Poplar Creek Hydrogeologic Regime, CY 1998

Sampling Point	Date Sampled	Sample Number	Trip Blank Number	Laboratory Blank Number
56-2A	03/23/98	A980830029	A980830035	Q980860003
56-2B	03/23/98	A980830030	A980830035	Q980860003
56-2C	03/24/98	A980840001	A980840000	Q980900001
59-1A	03/17/98	A980760128	A980760127	Q980820000
59-1B	03/18/98	A980780002	A980780001	Q980840043
59-1C	03/18/98	A980780003	A980780001	Q980840043
GW-108	03/16/98	A980760005	A980760011	Q980820000
GW-108 D	03/16/98	A980760006	A980760011	Q980820000
GW-108	07/28/98	A982100250	A982100247	Q982160024
GW-108 D	07/28/98	A982100251	A982100247	Q982160024
GW-148	05/27/98	A981480026	A981480024	Q981530018
GW-148	12/03/98	A983370105	A983370102	Q983450000
GW-153	05/28/98	A981480101	A981480100	Q981560004
GW-153	12/07/98	A983410182	A983410179	Q983450000
GW-192	05/26/98	A981470001	A981470000	Q981530018
GW-192	11/30/98	A983340103	A983340099	Q983410028
GW-193	03/16/98	A980760007	A980760011	Q980820000
GW-193	07/28/98	A982100249	A982100247	Q982160024
GW-207	06/24/98	A981590044	A981750176	Q981800032
GW-207	12/09/98	A983430351	A983430335	Q983490069
GW-208	06/09/98	A981590045	A981590043	Q981620007
GW-208	12/09/98	A983430352	A983430335	Q983490069
GW-219	09/04/98	A982470085	A982470084	Q982540019
GW-220	05/28/98	A981480102	A981480100	Q981560004
GW-220	12/07/98	A983410183	A983410179	Q983450000
GW-251	05/26/98	A981470002	A981470000	Q981530018
GW-251	12/02/98	A983360469	A983360460	Q983410028
GW-332	03/24/98	A980840002	A980840000	Q980900001
GW-332 D	03/24/98	A980840003	A980840000	Q980900001
GW-380	06/02/98	A981540002	A981540001	Q981590036
GW-380	12/10/98	A983440300	A983440250	Q983490069
GW-383	06/01/98	A981530001	A981530000	Q981560025
GW-383	12/08/98	A983420218	A983420213	Q983490051
GW-605	03/12/98	A980710124	A980710121	Q980820000
GW-605	07/27/98	A982090002	A982090000	Q982150027
GW-606	03/12/98	A980710125	A980710121	Q980820000
GW-606	07/28/98	A982100248	A982100247	Q982160024
GW-618	06/01/98	A981530002	A981530000	Q981560025
GW-618	11/30/98	A983340104	A983340099	Q983410028
GW-620	05/26/98	A981470003	A981470000	Q981530018
GW-620	12/02/98	A983360470	A983360460	Q983410028
GW-686	03/23/98	A980830031	A980830035	Q980860003
GW-687	03/24/98	A980840004	A980840000	Q980900001
GW-722-06	02/17/98	A980490237	A980490236	Q980540065
GW-722-06	07/29/98	A982110024	A982110023	Q982160123
GW-722-10	02/18/98	A980500049	A980500047	Q980540065
GW-722-10	08/03/98	A982150116	A982150115	Q982290281
GW-722-14	02/19/98	A980500186	A980500185	Q980560153
GW-722-14	08/04/98	A982170088	A982170086	Q982240024
GW-722-17	02/25/98	A980571041	A980571040	Q980650008

Appendix G.1
Correlation with Associated Groundwater and Surface Water Samples
Upper East Fork Poplar Creek Hydrogeologic Regime, CY 1998

Sampling Point	Date Sampled	Sample Number	Trip Blank Number	Laboratory Blank Number
GW-722-17	08/11/98	A982230146	A982230145	Q982300000
GW-722-20	02/24/98	A980560036	A980560035	Q980630004
GW-722-20	08/18/98	A982300199	A982300186	Q982330264
GW-722-22	02/26/98	A980571157	A980571156	Q980650047
GW-722-22	08/19/98	A982320028	A982320026	Q982380045
GW-722-26	02/26/98	A980571159	A980571156	Q980650047
GW-722-26	08/25/98	A982370167	A982370160	Q982400116
GW-722-30	02/25/98	A980560088	A980560087	Q980650008
GW-722-30	08/26/98	A982380089	A982380087	Q982430004
GW-722-30 D	08/26/98	A982380100	A982380087	Q982430004
GW-722-32	03/05/98	A980640051	A980640050	Q980720000
GW-722-32	09/03/98	A982460409	A982460407	Q982540016
GW-722-33	01/21/98	A980220062	A980220066	Q980280089
GW-722-33 D	01/21/98	A980220063	A980220066	Q980280089
GW-722-33	03/05/98	A980640053	A980640050	Q980720000
GW-722-33	09/03/98	A982460411	A982460407	Q982540019
GW-733	03/12/98	A980710123	A980710121	Q980820000
GW-733	07/27/98	A982090001	A982090000	Q982150027
GW-735	06/04/98	A981560001	A981560000	Q981620007
GW-735 D	06/04/98	A981560002	A981560000	Q981620007
GW-735	12/14/98	A983480218	A983480211	Q983510044
GW-735 D	12/14/98	A983480219	A983480211	Q983510044
GW-744	06/03/98	A981540275	A981540273	Q981620004
GW-744	12/10/98	A983440302	A983440250	Q983490069
GW-747	06/03/98	A981540276	A981540273	Q981620004
GW-747	12/15/98	A983490119	A983490117	Q983510044
GW-750	06/04/98	A981560003	A981560000	Q981620007
GW-750	12/14/98	A983480220	A983480211	Q983510044
GW-763	05/27/98	A981480025	A981480024	Q981530018
GW-763	12/03/98	A983370106	A983370102	Q983450000
GW-769	05/19/98	A981400002	A981400000	Q981420006
GW-769 D	05/19/98	A981400003	A981400000	Q981420006
GW-769	11/11/98	A983150345	A983150341	Q983210008
GW-769 D	11/11/98	A983150346	A983150341	Q983220038
GW-770	05/19/98	A981400001	A981400000	Q981420006
GW-770	11/10/98	A983140440	A983140432	Q983210008
GW-775	06/17/98	A981680143	A981680142	Q981740000
GW-775	11/18/98	A983220812	A983220808	Q983240020
GW-776	06/17/98	A981680144	A981680142	Q981740000
GW-776	11/18/98	A983220813	A983220808	Q983240020
GW-781	05/20/98	A981400158	A981400157	Q981460043
GW-781	11/11/98	A983150347	A983150341	Q983220038
GW-782	05/20/98	A981400148	A981400147	Q981420006
GW-782	11/12/98	A983160124	A983160121	Q983220038
GW-783	05/20/98	A981400159	A981400157	Q981460043
GW-783	11/12/98	A983160125	A983160121	Q983220038
GW-788	05/14/98	A981340048	A981340047	Q981410083
GW-788	11/09/98	A983130130	A983130127	Q983150052
GW-789	05/18/98	A981390011	A981390010	Q981410083
GW-789	11/09/98	A983130131	A983130127	Q983150052

Appendix G.1

7

**Correlation with Associated Groundwater and Surface Water Samples
Upper East Fork Poplar Creek Hydrogeologic Regime, CY 1998**

Sampling Point	Date Sampled	Sample Number	Trip Blank Number	Laboratory Blank Number
GW-791	05/20/98	A981400150	A981400147	Q981460043
GW-791	11/16/98	A983200091	A983200088	Q983230012
GW-792	05/20/98	A981400149	A981400147	Q981460043
GW-792	11/16/98	A983200092	A983200088	Q983230012
GW-816	06/03/98	A981540274	A981540273	Q981620004
GW-816	12/08/98	A983420219	A983420213	Q983490051
GW-818	03/26/98	A980851893	A980851899	Q980910000
GW-819	03/26/98	A980851894	A980851899	Q980910000
GW-820	03/26/98	A980851895	A980851899	Q980910000
GW-845	05/21/98	A981410244	A981410243	Q981490003
LRSPW	06/02/98	A981540009	A981540001	Q981590036
LRSPW	12/10/98	A983440298	A983440250	Q983490069

APPENDIX G.2
TRIP BLANK DATA SUMMARY

Trip Blank Samples, CY 1998

Sample Number	A980050126	A980050129	A980070016	A980070173	A980080138	A980130012
ORGANICS (ug/L)						
Acetone	11	5	6	4	7	5
2-Butanone	3	10U	3	4	4	10U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U
Chloroform	5U	5U	5U	2	2	4
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	2	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample Number	A980130070	A980130092	A980130109	A980140174	A980150122	A980200132
ORGANICS (ug/L)						
Acetone	11	3	4	4	4	130
2-Butanone	4	4	3	4	5	4
Carbon tetrachloride	5U	5U	5U	5U	5U	5U
Chloroform	5	12	5U	6	5U	5U
Dichlorodifluoromethane	1	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5	4	2	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample Number	A980210079	A980220066	A980230000	A980260097	A980290159	A980340032
ORGANICS (ug/L)						
Acetone	4	3	7	4	3	4
2-Butanone	3	6	4	3	2	4
Carbon tetrachloride	5U	5U	5U	5U	5U	5U
Chloroform	5U	5U	6	1	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5	5U	3	1	5U	7
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	2
Ethanol	500U	500U	500U	500U	500U	500U
Tetrachloroethene	5U	5U	5U	5U	5U	4
1,1,1-Trichloroethane	5U	5U	1	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	2

(CONTINUED)

Sample Number	A980360264	A980480000	A980480118	A980490236	A980490307	A980500047
ORGANICS (ug/L)						
Acetone	4	6	5	3	6	4
2-Butanone	3	4	6	3		6
Carbon tetrachloride	5U	5U	5U	5U	10U	5U
Chloroform	5U	2	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	6	5U
1,2-Dichloroethane	5U	7	5U	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	2	5U
Ethanol	500U	500U	500U	500U	500U	500U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U

(CONTINUED)

Trip Blank Samples, CY 1998

Sample Number	A980500118	A980500185	A980560035	A980560087	A980571040	A980571156
ORGANICS (ug/L)						
Acetone	7	3	3	7	2	7
2-Butanone	5	5	3	10U	4	5
Carbon tetrachloride	5U	5U	5U	5U	5U	5U
Chloroform	2	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	1	5U	5U	5U

(CONTINUED)

Sample Number	A980610251	A980620199	A980630146	A980640050	A980640078	A980690185
ORGANICS (ug/L)						
Acetone	5	6	9	2	4	2
2-Butanone	4	6	6	4	2	2
Carbon tetrachloride	5U	5U	5U	5U	5U	5U
Chloroform	10	4	17	5U	23	11
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample Number	A980710048	A980710121	A980760011	A980760127	A980780001	A980830035
ORGANICS (ug/L)						
Acetone	5	4	3	8	2	4
2-Butanone	10U	3	10U	3	10U	3
Carbon tetrachloride	5U	5U	5U	5U	5U	5U
Chloroform	4	4	2	4	5U	5
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	2	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample Number	A980840000	A980851899	A981101762	A981110935	A981120077	A981170153
ORGANICS (ug/L)						
Acetone	10U	3	10U	10U	10U	1
2-Butanone	10U	10U	10U	10U	10U	10U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U
Chloroform	3	2	11	20	21	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U
Tetrachloroethene	5U	3	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U

(CONTINUED)

Trip Blank Samples, CY 1998

Sample Number	A981170162	A981180103	A981180134	A981190139	A981190150	A981200062
ORGANICS (ug/L)						
Acetone	10U	10U	10U	10U	1	10U
2-Butanone	10U	10U	10U	10U	10U	10U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U
Chloroform	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample Number	A981200073	A981340047	A981390010	A981400000	A981400147	A981400157
ORGANICS (ug/L)						
Acetone	10U	10U	7	5	2	2
2-Butanone	10U	10U	10U	10U	10U	10U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U
Chloroform	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample Number	A981410243	A981470000	A981480024	A981480100	A981530000	A981540001
ORGANICS (ug/L)						
Acetone	2	1	4	10U	2	10U
2-Butanone	10U	10U	10U	10U	10U	10U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U
Chloroform	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U
Ethanol	500U	520	500U	500U	500U	500U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	2	5U	5U	5U
Trichloroethene	1	5U	5U	5U	5U	5U

(CONTINUED)

Sample Number	A981540273	A981560000	A981590043	A981680142	A981750176	A981890214
ORGANICS (ug/L)						
Acetone	10U	10U	10U	3	2	1
2-Butanone	10U	10U	10U	10U	10U	10U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U
Chloroform	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U

(CONTINUED)

Trip Blank Samples, CY 1998

Sample Number	A981890433	A981900172	A981900175	A981910042	A981940019	A981940139
ORGANICS (ug/L)						
Acetone	1	2	1	10U	2	1
2-Butanone	10U	2	10U	10U	10U	2
Carbon tetrachloride	5U	5U	5U	5U	5U	5U
Chloroform	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	1	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample Number	A981960004	A981960030	A981960099	A981960135	A981980009	A982020038
ORGANICS (ug/L)						
Acetone	10U	10U	14	1	1	2
2-Butanone	10U	10U	10U	10U	1	10U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U
Chloroform	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample Number	A982030280	A982090000	A982090008	A982100247	A982100263	A982110023
ORGANICS (ug/L)						
Acetone	2	1	7	10U	10U	10U
2-Butanone	2	10U	3	10U	10U	10U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U
Chloroform	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample Number	A982110108	A982150115	A982150117	A982160053	A982170086	A982170089
ORGANICS (ug/L)						
Acetone	10U	10U	10U	25	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U
Carbon tetrachloride	5U	5U	5U	5U	5U	1
Chloroform	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U

(CONTINUED)

Trip Blank Samples, CY 1998

Sample Number	A982220065	A982230112	A982230145	A982250134	A982300186	A982320026
ORGANICS (ug/L)						
Acetone	10U	10U	10U	10U	10U	10U
2-Butanone	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U
Chloroform	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample Number	A982370160	A982380087	A982390094	A982440007	A982450001	A982460013
ORGANICS (ug/L)						
Acetone	10U	10U	10U	10U	10U	10U
2-Butanone	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U
Chloroform	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample Number	A982460407	A982470003	A982470084	A982860153	A982870162	A982880147
ORGANICS (ug/L)						
Acetone	10U	10U	10U	10U	10U	10U
2-Butanone	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U
Chloroform	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample Number	A982920376	A982920381	A982930231	A982930232	A982940179	A982940180
ORGANICS (ug/L)						
Acetone	10U	10U	10U	10U	10U	10U
2-Butanone	5U	5U	5U	5U	5U	5U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U
Chloroform	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U

(CONTINUED)

Trip Blank Samples, CY 1998

Sample Number	A982950593	A982950594	A983130127	A983140432	A983150341	A983160121
ORGANICS (ug/L)						
Acetone	2	3	1	10U	10U	2
2-Butanone	10U	10U	10U	10U	10U	10U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U
Chloroform	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample Number	A983200088	A983220808	A983340099	A983360460	A983370102	A983410179
ORGANICS (ug/L)						
Acetone	1	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U
Carbon tetrachloride	5U	5U	5U	5U	5U	5U
Chloroform	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U	500U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample Number	A983420213	A983430335	A983440250	A983480211	A983490117
ORGANICS (ug/L)					
Acetone	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U
Carbon tetrachloride	5U	5U	5U	5U	5U
Chloroform	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U
cis-1,2-Dichloroethene	5U	5U	5U	5U	5U
Ethanol	500U	500U	500U	500U	500U
Tetrachloroethene	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U

APPENDIX G.3
LABORATORY BLANK DATA SUMMARY

Appendix G.3: Quality Assurance/Quality Control Data

1

Laboratory Blank Samples, CY 1998

Sample Number	Q980090024	Q980160090	Q980160093	Q980210037	Q980210043	Q980210049
ORGANICS (ug/L)						
Acetone	2	2	2	1	3	1
2-Butanone	10U	3	4	3	3	3
Carbon disulfide	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	2	10U	10U	10U
1,4-Dichloro-2-butene	5U	5U	1	5U	5U	5U
Dichlorodifluoromethane	5U	5U	2	5U	5U	5U
Dimethylbenzene	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample Number	Q980270106	Q980280089	Q980290009	Q980330000	Q980370000	Q980400061
ORGANICS (ug/L)						
Acetone	1	2	2	2	3	2
2-Butanone	10U	4	3	3	3	3
Carbon disulfide	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	1	5U
Dimethylbenzene	5U	5U	5U	5U	1	5U
Tetrachloroethene	5U	5U	5U	5U	1	5U
1,1,1-Trichloroethane	5U	1	5U	5U	5U	5U

(CONTINUED)

Sample Number	Q980440143	Q980540033	Q980540065	Q980560153	Q980570026	Q980630004
ORGANICS (ug/L)						
Acetone	2	2	2	2	2	3
2-Butanone	4	4	4	3	4	4
Carbon disulfide	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
Dimethylbenzene	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample Number	Q980650008	Q980650047	Q980650050	Q980690072	Q980720000	Q980750020
ORGANICS (ug/L)						
Acetone	2	2	3	10U	1	2
2-Butanone	4	10U	4	10U	2	3
Carbon disulfide	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
Dimethylbenzene	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U

(CONTINUED)

Appendix G.3: Quality Assurance/Quality Control Data

2

Laboratory Blank Samples, CY 1998

Sample Number	Q980770000	Q980820000	Q980840043	Q980860003	Q980900001	Q980910000
ORGANICS (ug/L)						
Acetone	10U	10U	10U	10U	10U	10U
2-Butanone	5U	5U	5U	5U	5U	5U
Carbon disulfide	10U	10U	10U	10U	10U	10U
1,2-Dibromo-3-chloropropane	5U	5U	5U	5U	5U	5U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
Dimethylbenzene	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample Number	Q981130043	Q981190133	Q981210000	Q981240006	Q981250017	Q981260147
ORGANICS (ug/L)						
Acetone	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
Dimethylbenzene	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample Number	Q981270115	Q981310025	Q981410083	Q981420006	Q981460043	Q981490003
ORGANICS (ug/L)						
Acetone	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
Dimethylbenzene	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample Number	Q981530018	Q981560004	Q981560025	Q981590036	Q981620004	Q981620007
ORGANICS (ug/L)						
Acetone	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
Dimethylbenzene	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U

(CONTINUED)

Laboratory Blank Samples, CY 1998

Sample Number	Q981740000	Q981800032	Q981950003	Q981960023	Q981970008	Q982010031
ORGANICS (ug/L)						
Acetone		2	10U	10U	10U	10U
2-Butanone	10U	2	1	2	1	10U
Carbon disulfide	5U	1	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
Dimethylbenzene	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample Number	Q982010042	Q982020017	Q982030059	Q982080031	Q982090003	Q982150027
ORGANICS (ug/L)						
Acetone	10U	10U	10U	10U	10U	10U
2-Butanone	10U	10U	2	10U	2	3
Carbon disulfide	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	5U	10U	10U	10U	10U	10U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
Dimethylbenzene	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample Number	Q982160024	Q982160123	Q982240024	Q982290281	Q982300000	Q982330264
ORGANICS (ug/L)						
Acetone	10U	10U	2	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
Dimethylbenzene	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample Number	Q982380045	Q982400116	Q982430004	Q982470041	Q982530007	Q982540016
ORGANICS (ug/L)						
Acetone	10U	3	10U	8	10U	23
2-Butanone	10U	10U	10U	1	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
Dimethylbenzene	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U

(CONTINUED)

Appendix G.3: Quality Assurance/Quality Control Data

4

Laboratory Blank Samples, CY 1998

Sample Number	Q982540019	Q982890005	Q982940018	Q982950045	Q982960004	Q983000000
ORGANICS (ug/L)						
Acetone	10U	10U	10U	10U	10U	4
2-Butanone	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
Dimethylbenzene	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample Number	Q983030016	Q983150052	Q983210008	Q983220038	Q983230012	Q983240020
ORGANICS (ug/L)						
Acetone	2	1	3	3	10U	10U
2-Butanone	10U	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U	10U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U	5U
Dimethylbenzene	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U

(CONTINUED)

Sample Number	Q983410028	Q983450000	Q983490051	Q983490069	Q983510044
ORGANICS (ug/L)					
Acetone	10U	10U	10U	10U	10U
2-Butanone	10U	10U	10U	10U	10U
Carbon disulfide	5U	5U	5U	5U	5U
1,2-Dibromo-3-chloropropane	10U	10U	10U	10U	10U
1,4-Dichloro-2-butene	5U	5U	5U	5U	5U
Dichlorodifluoromethane	5U	5U	5U	5U	5U
Dimethylbenzene	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U

APPENDIX G.4

EQUIPMENT RINSATE DATA SUMMARY

Appendix G.4: Quality Assurance/Quality Control Data

Equipment Rinsate Data Summary, CY 1998

Associated Well	56-2C	59-1C	GW-722-30	GW-722-33
Date Sampled	03/30/98	03/30/98	08/26/98	01/22/98
Pump Number	B	A	NA	NA
ORGANICS (ug/L)				
Acetone	2	10U	1	4
2-Butanone	10U	10U	10U	7
Chloroform	12	11	5U	5U
Tetrachloroethene	5U	3	5U	5U
TRACE METALS (mg/L)				
Aluminum	0.035	0.031	<0.2	<0.02
Boron	0.013	0.0091	<0.1	<0.004
Iron	0.006	<0.005	<0.05	<0.005
Lead (PMS)	0.0008	0.0012	<0.0005	<0.0005
Strontium	0.0007	0.00087	<0.005	<0.0004
Zinc	0.0056	0.006	<0.05	<0.002
MAJOR IONS (mg/L)				
Calcium	0.2	0.25	<0.2	0.013
Magnesium	0.048	0.058	<0.2	0.0033
Potassium	1.3	1.4	<2	<0.6
Sodium	1.8	1.6	<0.2	<0.02
Alkalinity-HCO ₃	2	2	2	2
Chloride	0.13	0.16	<0.05	<0.05
MISCELLANEOUS ANALYTES				
Conductivity (umho/cm)	1.7	2	1.1	1.1
TDS (mg/L)	7	<1	<1	17
pH (standard units)	6.58	6.29	5.68	6.13
TSS (mg/L)	1	1	<1	<1
Turbidity (NTU)	0.317	0.424	<0.1	0.106
ACTIVITY < MDA (pCi/L)				
Gross Alpha MDA	0.89	3.9	4.6	2.5
Gross Beta MDA	13	12	7.6	12

APPENDIX G.5
FIELD BLANK DATA SUMMARY

Field Blank Data Summary, CY 1998

Hydrogeologic Regime	Bear Creek		Chestnut Ridge	East Fork	
Associated Well	GW-008	GW-276	GW-799	GW-722-30	GW-733
Date Sampled	01/26/98	07/16/98	07/14/98	08/26/98	03/12/98
ORGANICS (ug/L)					
Acetone	5	1	10U	2	3
2-Butanone	5	2	10U	1	1
Chloroform	2	5U	5U	5U	3
Toluene	1	5U	5U	5U	5U

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