METALLURGICAL LABORATORY HAZARDOUS WASTE MANAGEMENT FACILITY GROUNDWATER MONITORING REPORT (U)

FIRST QUARTER 1995

Publication Date: June 1995

Authorized Derivative Classifier
and Reviewing Official:

Joseph P. Karsfeiter, Senior Engineer 6/26/95

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Controlled Nuclear Information

Westinghouse Savannah River Company
Savannah River Site
Aiken, SC 29808

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MASTER

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Key Words

aluminum
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iron
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trichloroethylene

Westinghouse Savannah River Company
Savannah River Site
Aiken, SC 29808

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Abstract

During first quarter 1995, samples from AMB groundwater monitoring wells at the Metallurgical Laboratory Hazardous Waste Management Facility (Met Lab HWMF) were analyzed for selected heavy metals, field measurements, radionuclides, volatile organic compounds, and other constituents. Six parameters exceeded standards during the quarter.

As in previous quarters, tetrachloroethylene and trichloroethylene exceeded final Primary Drinking Water Standards (PDWS). Total organic halogens exceeded its Savannah River Site (SRS) Flag 2 criterion during first quarter 1995 as in fourth quarter 1994. Aluminum, iron, and manganese, which were not analyzed for during fourth quarter 1994, exceeded the Flag 2 criteria in at least two wells each during first quarter 1995.

Groundwater flow direction and rate in the M-Area Aquifer Zone were similar to previous quarters. Conditions affecting the determination of groundwater flow directions and rates in the Upper Lost Lake Aquifer Zone, Lower Lost Lake Aquifer Zone, and the Middle Sand Aquifer Zone of the Crouch Branch Confining Unit were also similar to previous quarters.

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Executive Summary

The 25 AMB wells at the Metallurgical Laboratory Hazardous Waste Management Facility (Met Lab HWMF) are monitored for selected constituents to comply with the Natural Resources Defense Council et al. Consent Decree of May 1988 that identifies the Met Lab HWMF as subject to the Resource Conservation and Recovery Act. In addition, the wells are monitored as requested for other constituents as part of the Savannah River Site (SRS) Groundwater Monitoring Program.

During first quarter 1995, all 25 wells were monitored at the facility. Well screen zone nomenclature uses the following hydrostratigraphic assignments: wells AMB 4D, 5, 6, 7, 8D, 9D, 10D, 11D, 12D, 14D, 15D, and 16D monitor the M-Area Aquifer Zone; wells AMB 11B, 18C, and 19C monitor the Upper Lost Lake Aquifer Zone; wells AMB 4B, 7B, and 10B monitor the Lower Lost Lake Aquifer Zone; wells AMB 4A, 7A, 10A, 13AR, 17A, and 18A monitor the Middle Sand Aquifer Zone of the Crouch Branch Confining Unit (CBCU); and well AMB 10DD monitors a perched groundwater zone beneath the Met Lab HWMF.

Samples from these wells were analyzed for selected heavy metals, field measurements, radionuclides, volatile organic compounds, and other constituents. The results of the analyses of these constituents are listed in Table 3. This report describes the results that exceeded final Primary Drinking Water Standards (PDWS) and SRS flagging criteria.

As in previous quarters, tetrachloroethylene and trichloroethylene exceeded the final PDWS. Tetrachloroethylene exceeded standards in wells AMB 4A, 4D, and 7A; trichloroethylene exceeded standards in wells AMB 4A, 4D, 5, 6, and 7A. Bis(2-ethylhexyl) phthalate, which exceeded the final PDWS in well AMB 7 during third quarter 1994, was not analyzed for during fourth quarter 1994 or first quarter 1995.

Total organic halogens exceeded its Flag 2 criterion in wells AMB 4A, 4D, and 7A. Several constituents that were not analyzed for during fourth quarter 1994 were elevated in at least one well each during first quarter 1995. Aluminum exceeded standards in wells AMB 4D, 5, 6, 7, 10A, 10D, and 13AR; iron exceeded standards in wells AMB 4D, 6, and 10DD; and manganese exceeded standards in well AMB 10DD. No constituents exceeded either the final PDWS or the Flag 2 criteria in upgradient wells AMB 11D and 12D or in downgradient wells AMB 4B, 7B, 8D, 9D, 10B, and 11B.

Groundwater flow direction and rate in the M-Area Aquifer Zone were similar to previous quarters; the flow rate estimate was 120 ft/year during first quarter 1995. Reliable estimates of flow directions and rates in the Upper Lost Lake Aquifer Zone could not be determined because data were unreliable. Estimates of flow directions and rates in the Lower Lost Lake Aquifer Zone and in the Middle Sand Aquifer Zone of the CBCU were not calculated for this quarter because of the low horizontal gradient and the near-linear distribution of the monitoring wells. Estimates will be developed at a later date from recently-obtained data and from M-Area well network data.

In response to the January 28, 1994, Notice of Deficiency issued by South Carolina Department of Health and Environmental Control on Revision 0 of the 1992 Met Lab HWMF Part B permit renewal application, SRS plans to obtain additional hydrogeologic and groundwater quality data to further define the groundwater contaminant plume near the Met Lab HWMF. During second

quarter 1994, SRS received approval for and constructed seven additional point-of-compliance and plume definition wells at the Met Lab HWMF. Analytical data from wells AMB 14D, 15D, 16D, 17A, 18A, 18C, and 19C are provided in this report for the first time. Tetrachloroethylene and trichloroethylene exceeded the final PDWS in wells AMB 14D and 17A. Trichloroethylene also exceeded standards in wells AMB 15D, 16D, and 18A. Several constituents exceeded Flag 2 criteria in the new wells: aluminum in AMB 14D, 15D, 16D, 17A, 18A, and 19C; iron in AMB 14D, 15D, and 18A; manganese in AMB 15D; and total organic halogens in AMB 14D and 17A.

Introduction

The Metallurgical Laboratory Hazardous Waste Management Facility (Met Lab HWMF) is located in the eastern section of A/M Areas at the Savannah River Site (SRS) (Figures 1 and 2, Appendix C). The facility consists of the unlined Metallurgical Laboratory Basin, the abandoned portion of the influent process sewer line, and an associated Carolina bay. The following description outlines important events at the facility:

- The Metallurgical Laboratory Basin was constructed and began receiving waste water effluent from the Metallurgical Laboratory Building in 1956 (WSRC, 1992a; WSRC, 1992b). Waste water released to the basin consisted of laboratory wastes from metallographic sample preparation and corrosion testing of stainless steel-based and nickel-based alloys. The quantity of waste water discharged to the basin was small, averaging approximately 1,000 gallons per day (Heffner and Exploration Resources, 1991).
- Release of hazardous waste from the Metallurgical Laboratory Building to the basin was discontinued in 1983 (WSRC, 1992a; WSRC, 1992b).
- Quarterly groundwater sampling began first quarter 1984 (WSRC, 1992a; WSRC, 1992b).
- Waste water flow to the Met Lab HWMF was terminated November 8, 1985 (WSRC, 1992a; WSRC, 1992b).
- The Met Lab HWMF was named in Section III of the Natural Resources Defense Council et al. Consent Decree, May 26, 1988 (Civil Action 1:85-2583-6, U.S. District Court, District of South Carolina, Aiken Division), thus becoming subject to the requirements of Subtitle C of the Resource Conservation and Recovery Act (RCRA).
- Revision 0 of the facility's RCRA Part B post-closure care permit application (WSRC, 1989) was submitted to the South Carolina Department of Health and Environmental Control (SCDHEC) August 18, 1989.
- A groundwater quality assessment plan (Jerome, 1990) was submitted to SCDHEC in October 1990.
- A revised groundwater quality assessment plan was submitted to SCDHEC in March 1991 and approved by SCDHEC in June 1991 (Jerome, 1991). The plan lists the selected heavy metals, indicator parameters, radionuclides, volatile organic compounds, and other constituents that currently require monitoring.
- In September 1991, a phased closure plan for the Met Lab HWMF was approved by SCDHEC, and construction to close the basin began (WSRC, 1992b).
- Revision 1 of the RCRA Part B post-closure care permit application (WSRC, 1991) was submitted to SCDHEC December 16, 1991.
- Closure construction of the basin was completed May 1, 1992; official closure for the basin was completed May 11, 1992; and closure certification of the basin was submitted to

SCDHEC July 10, 1992 (letter from J. Gray, Environmental Restoration Closures (ERC), to R. Sentelle, ERC, June 11, 1992). No decision has been made on closure of the Carolina bay.

- Revision 0 of the 1992 RCRA Part B post-closure permit renewal application (WSRC, 1992b) was submitted to SCDHEC in September 1992 in accordance with the regulatory requirement to update and resubmit permit applications every five years.
- Revision 1 of the 1992 RCRA Part B post-closure permit renewal application (WSRC, 1994a) was completed in March 1994 and resubmitted to SCDHEC. Revision 1 incorporated changes requested by SCDHEC.
- Revision 2 of the 1992 RCRA Part B post-closure permit renewal application (WSRC, 1994b) was submitted to SCDHEC in August 1994. Revision 3 incorporated changes requested by SCDHEC.

Presently, the Environmental Protection Department/Environmental Monitoring Section (EPD/EMS) samples the 25 AMB wells each quarter, and the Environmental Restoration Department reports the results of this sampling to SCDHEC to meet the requirements of the South Carolina Hazardous Waste Management Regulations (SCDHEC, 1990).

Discussion

Groundwater Monitoring Data

The sampling procedure (WSRC, 1992c) requires evacuation of a minimum of two well volumes and stabilization of pH, specific conductance, and turbidity prior to sample collection. Stability is established when a minimum of three successive measurements, taken within a given time period, are within a specified tolerance range. If a well pumps dry before two well volumes are purged or before stabilization is achieved, it must be revisited within 24 hours for the data to be considered from a single sampling event. On the second visit within 24 hours, samples are taken without purging or stability measurements; thus, these samples may not be representative of groundwater quality.

During first quarter 1995, the groundwater samples were analyzed by General Engineering Laboratories of Charleston, South Carolina, for selected heavy metals, field measurements, radionuclides, volatile organic compounds, and other constituents. This report describes the monitoring results that equaled or exceeded the following standards:

- Safe Drinking Water Act final Primary Drinking Water Standards (PDWS) or drinking water screening levels, as established by the U.S. Environmental Protection Agency (EPA) (Appendix A)
- South Carolina final PDWS for lead (Appendix A)
- SRS flagging criteria that are based on final PDWS, Secondary Drinking Water Standards, and method detection limits (Appendix B)

For simplicity, results that equaled or exceeded final PDWS or SRS Flag 2 criteria are described as *exceeding* standards, *above* standards, or as *elevated*. The final PDWS for individual analytes provided in Appendix A may not always match the SRS flagging criteria provided in Appendix B. The final PDWS are used as guidelines in this compliance report to meet regulatory requirements; the flagging criteria are used by EPD/EMS to identify relative levels of constituents in the groundwater and to guide scheduling of groundwater sampling.

Integrity of the Monitoring Well Network

The groundwater monitoring well network at the Met Lab HWMF has developed during the past decade as described below (EPD/EMS, 1995a):

- Groundwater monitoring wells AMB 1, 2, and 3 were installed in 1983.
- Wells AMB 1 and 3 were abandoned and replaced by wells AMB 1A and 3A in 1984.
- In 1988, wells AMB 4, 5, 6, and 7 were installed, and wells AMB 1A, 2, and 3A were abandoned.

- In 1989, wells AMB 8, 8D, 9, 9D, 10, 10D, 10DD, 11D, and 12D were installed. Subsequently that year, wells AMB 8, 9, and 10 were abandoned.
- In 1991, wells AMB 4A, 4B, 4D, 7A, 7B, 10A, 10B, 11B, and 13AR were installed, and well AMB 4 was abandoned.
- In 1994, wells AMB 14D, 15D, 16D, 17A, 18A, 18C, and 19C were installed in response to the January 28, 1994, Notice of Deficiency issued by SCDHEC on Revision 0 of the 1992 Met Lab HWMF Part B permit renewal application. SRS plans to obtain additional hydrogeologic and groundwater quality data to further define the groundwater contaminant plume near the Met Lab HWMF. The positions of the wells are based on present groundwater flow information in the respective aquifers. The locations provide three additional downgradient M-Area Aquifer Zone monitoring wells for the Met Lab Basin, one additional well downgradient to the Basin, one downgradient well immediately south of the Carolina bay in the Lost Lake Aquifer Zone, and two additional wells downgradient from the Met Lab Basin in the Middle Sand Aquifer Zone of the Crouch Branch Confining Unit (CBCU). Analytical data from these wells are presented in this report.

Well designations: Hydrostratigraphic nomenclature and well screen zone assignments (McAdams, Lewis, and Aadland, 1995) were revised fourth quarter 1993. Appendix D provides previous and current nomenclature and definitions for the screen zone abbreviations, and Table 3 (Appendix D) indicates the screen zone assignment for each well.

According to the revised nomenclature, the current groundwater monitoring well network at the Met Lab HWMF (Figures 3, 4, 5, and 6, Appendix C) is comprised of the following: wells AMB 4D, 5, 6, 7, 8D, 9D, 10D, 11D, 12D, 14D, 15D, and 16D screened within the M-Area Aquifer Zone; wells AMB 11B, 18C, and 19C screened within the Upper Lost Lake Aquifer Zone; wells AMB 4B, 7B, and 10B screened within the Lower Lost Lake Aquifer Zone; wells AMB 4A, 7A, 10A, 13AR, 17A, and 18A screened within the Middle Sand Aquifer Zone of the CBCU; and well AMB 10DD screened within a perched groundwater zone beneath the Met Lab HWMF. Figure 7 (Appendix C) (McAdams, Lewis, and Aadland, 1995) illustrates the hydrostratigraphy of A/M Areas.

Background wells for the facility were proposed in the Part B Met Lab HWMF post-closure permit renewal application (WSRC, 1992b).

Well purging: Table 3 (Appendix D) lists the number of well volumes purged from each well during first quarter 1995 and provides sampling statements that describe incomplete or unsuccessful sampling events. Wells AMB 4D, 6, 7, 10A, 14D and 15D went dry during purging and were sampled after they recovered. Thus, the samples from these wells may not be representative of the groundwater quality at the Met Lab HWMF.

Analytical Results Exceeding Standards

Results for analytes that exceeded the final PDWS (see Appendix A) during first quarter 1995 are provided in Table 1 (Appendix D). Tetrachloroethylene exceeded the final PDWS in wells AMB 4A, 4D, 7A, 14D, and 17A, with a maximum concentration of 34 $\mu\text{g/L}$ in well AMB 17A. Trichloroethylene was elevated in wells AMB 4A, 4D, 5, 6, 7A, 14D, 15D, 16D, 17A, and 18A, with a maximum concentration of 395 $\mu\text{g/L}$ in well AMB 17A.

Constituents that exceeded other Flag 2 criteria (see Appendix B) during first quarter 1995 are summarized in Table 2 (Appendix D). Aluminum exceeded the Flag 2 criteria in wells AMB 4D,

5, 6, 7, 10A, 10D, 13AR, 14D, 15D, 16D, 17A, 18A, and 19C, with a maximum concentration of 2,320 $\mu\text{g/L}$ in well AMB 6. Iron was elevated in wells AMB 4D, 6, 10DD, 14D, 15D, and 18A, with a maximum concentration of 6,060 $\mu\text{g/L}$ in well AMB 10DD. Manganese was elevated in wells AMB 10DD and 15D, with a maximum concentration of 337 $\mu\text{g/L}$ in well AMB 10DD. Total organic halogens exceeded the Flag 2 criterion in wells AMB 4A, 4D, 7A, 14D, and 17A, with a maximum concentration of 138 $\mu\text{g/L}$ in well AMB 4A.

Table 3 (Appendix D) presents all the results for individual wells and indicates the analytical laboratories that conducted the analyses and those analyses that received modifiers (which help identify laboratory accuracy and precision) or that exceeded the EPA-approved holding times during first quarter 1995. Constituent results in Table 3 that appear to equal the final PDWS, but are not marked in the *ST* column (exceeded final PDWS or screening level), are below the final PDWS in the database. Database results, the results that are compared to the final PDWS, are entered with more significant digits than the results given in this report. Apparent discrepancies are from the rounding of reported results.

Appendix D also provides definitions of the abbreviations and modifiers used in the results tables as well as descriptions of holding times, data rounding, and data qualification practices. Appendix E provides a general assessment of the quality and usability of the data provided by EPD/EMS.

Time Series Results

Time series plots of field pH, field specific conductance, tetrachloroethylene, total alpha-emitting radium, total organic carbon, total organic halogens, and trichloroethylene for 18 AMB wells are provided in Appendix F. Time series plots for the seven new AMB wells will be included in Appendix F after a year of sampling. Trends for these indicator parameters are as follows:

pH: Field pH values for most of the AMB wells have ranged between approximately pH 5 and 7 since sampling began. However, the pH in well AMB 10A consistently has exceeded the alkaline Flag 2 criterion of pH 10; during first quarter 1995, it was pH 11.5. The pH level in well AMB 13AR has exceeded the alkaline Flag 2 criterion during recent quarters; however, during first quarter 1995, it was pH 7.2. No AMB wells had pH levels exceeding the acidic Flag 2 criterion of pH 3 during first quarter 1995.

Specific conductance: Since first quarter 1994, field specific conductance for well AMB 10A consistently has exceeded the Flag 2 criterion of 500 $\mu\text{S/cm}$; during first quarter 1995, specific conductance in well AMB 10A was 177 $\mu\text{S/cm}$. The remaining wells had measurements of specific conductance ranging between 20 and 204 $\mu\text{S/cm}$. In recent years, specific conductance in the remaining wells has ranged between approximately 22 and 300 $\mu\text{S/cm}$.

Tetrachloroethylene: Tetrachloroethylene concentrations for most of the AMB wells have been near or below the final PDWS of 5 $\mu\text{g/L}$ since sampling began. Concentrations in well AMB 5 were consistently above the final PDWS until second quarter 1994. Since then, tetrachloroethylene in well AMB 5 has been either less than the detection limit or below the final PDWS. During first quarter 1995, the tetrachloroethylene value in well AMB 5 was 2.2 $\mu\text{g/L}$. Concentrations above the final PDWS have been found in well AMB 4D during recent quarters, and during first quarter 1995 the tetrachloroethylene concentration was 9 $\mu\text{g/L}$. Concentrations in wells AMB 4A and 7A have consistently exceeded the final PDWS. During first quarter 1995, the tetrachloroethylene concentrations in these wells were 29 and 17 $\mu\text{g/L}$, respectively.

Total alpha-emitting radium: All AMB wells have consistently exhibited total alpha-emitting radium activities below the Flag 2 criterion of 20 pCi/L, as the wells did during first-quarter 1995.

Total organic carbon: Total organic carbon concentrations in the AMB well series have been consistently less than the Flag 2 criterion of 10,000 $\mu\text{g/L}$ since shortly after sampling began, except for a few isolated analyses in different wells during late 1989 through early 1990.

Total organic halogens: Most AMB wells have exhibited total organic halogen concentrations less than the Flag 2 criterion of 50 $\mu\text{g/L}$ since sampling began. However, concentrations in wells AMB 4A and 7A have exceeded this standard during most quarters that samples were analyzed. Well AMB 5 consistently had elevated levels of total organic halogens through first quarter 1994; since then, it has exhibited levels less than the Flag 2 criterion. During first quarter 1995, concentrations exceeded standards in wells AMB 4A, 4D, and 7A, which had concentrations of 138, 71, and 115 $\mu\text{g/L}$, respectively.

Trichloroethylene: Trichloroethylene concentrations in wells AMB 4A, 4D, 5, and 7A have consistently exceeded the final PDWS of 5 $\mu\text{g/L}$ since sampling began. During first quarter 1995, these wells had trichloroethylene concentrations of 358, 129, 37, and 268 $\mu\text{g/L}$, respectively. Concentrations in wells AMB 6, 7, 7B, and 8D have fluctuated around the final PDWS. Trichloroethylene concentrations in well AMB 6 have been consistently elevated since fourth quarter 1993; during first quarter 1995, the concentration in well AMB 6 was 11 $\mu\text{g/L}$. Concentrations in the remaining AMB wells have consistently been less than the final PDWS or the detection limit.

Groundwater Elevations, Flow Directions, and Flow Rates

Figure 2 (Appendix C) provides water-elevation contours for the M-Area Aquifer Zone in A/M Areas. Figures 3 through 6 (Appendix C) present water-elevation data for the M-Area Aquifer Zone, the Upper Lost Lake Aquifer Zone, the Lower Lost Lake Aquifer Zone, and the Middle Sand Aquifer Zone of the CBCU beneath the Met Lab HWMF. Hydrographs for the AMB wells are in Appendix G, and potentiometric maps of the M-Area Aquifer Zone, the Upper Lost Lake Aquifer Zone, the Lower Lost Lake Aquifer Zone, and the Middle Sand Aquifer Zone of the CBCU are in Appendix H. Water-elevation figures in Appendix C are oriented to true north using universal transverse Mercator (UTM) coordinates, while maps in Appendix H are oriented to true north using latitude-longitude coordinates.

Historically, using UTM coordinates, the horizontal groundwater flow in the M-Area Aquifer Zone beneath the Met Lab HWMF is to the west-northwest, the flow in the Upper Lost Lake Aquifer Zone is to the south, the flow in the Lower Lost Lake Aquifer Zone is to the south-southwest, and the flow in the Middle Sand Aquifer Zone of the CBCU is to the southwest. During first quarter 1995, horizontal flow in the M-Area Aquifer Zone was northwest (Figure 3, Appendix C). The Upper Lost Lake Aquifer Zone was not contoured this quarter because of the near-linear water-elevation conditions between two of the wells and a suspect reading on the third well. Potentiometric surfaces in the Lower Lost Lake Aquifer Zone and in the Middle Sand Aquifer Zone of the CBCU were not contoured this quarter because of the low horizontal gradient or the near-linear distribution of the monitoring wells. This estimate will be provided once additional M-Area information is incorporated into the current data.

Estimated horizontal flow rates for the hydrostratigraphic divisions during the past four quarters are provided below.

Horizontal Groundwater Flow Rates (ft/year) in the Hydrostratigraphic Divisions beneath the Met Lab HWMF

Division	2Q94	3Q94	4Q94	1Q95
M-Area Aquifer Zone	150	120	130	120
Upper Lost Lake Aquifer Zone	N ^a	N	N	N
Lower Lost Lake Aquifer Zone	N	N	N	N
Middle Sand Aquifer Zone of the CBCU	N	N	N	N

^a N = Horizontal gradient too low, well orientation too linear, or not enough data points to determine the flow rate.

The groundwater flow rate beneath the Met Lab HWMF is estimated using the following equation:

$$\text{Flow (ft/day)} = \frac{\text{Hydraulic Conductivity (ft/day)}}{\text{Porosity (unitless)}} \times \frac{dh \text{ (ft)}}{dl \text{ (ft)}}$$

Hydraulic conductivity constants estimated for the M-Area Aquifer Zone, the Upper Lost Lake Aquifer Zone, the Lower Lost Lake Aquifer Zone, and the Middle Sand Aquifer Zone of the CBCU are 27, 45, 45, and 45 ft/day, respectively; the effective porosity value for each is 20 percent (McAdams, Lewis and Aadland, 1995). The value dh is the difference in head, and dl is the length of the flow path.

Flow path length is calculated to the nearest 50 ft for each hydrostratigraphic unit. Flow rate per day is calculated to two significant digits, then multiplied by 365 and rounded to two significant digits for the flow rate per year. Flow rate estimates vary depending on the vertical gradient between wells, the size of the area under consideration, and the number of data points. The values presented here are useful as order of magnitude estimates only.

The flow rate estimate for groundwater in the M-Area Aquifer Zone beneath the Met Lab HWMF during first quarter 1995 is as follows (Figure 3, Appendix C):

$$\frac{27}{0.20} \times \frac{2.0}{850} = 0.32 \text{ ft/day}$$

$$0.32 \text{ ft/day} \times 365 \text{ days} \approx 120 \text{ ft/year}$$

Upgradient vs. Downgradient Results

M-Area Aquifer Zone wells AMB 11D and 12D are upgradient relative to the Met Lab HWMF. No AMB wells monitor upgradient groundwater quality in the Upper and Lower Lost Lake Aquifer Zones or the Middle Sand Aquifer Zone of the CBCU. The 1992 RCRA Part B post-closure permit renewal application (WSRC, 1992b) identifies two new plume definition and five new point-of-compliance wells. AMB 14D and 15D are the plume definition wells, and AMB 16D, 17A, 18A, 18C, and 19C are the point-of-compliance wells. All seven of the wells are downgradient.

During first quarter 1995, no elevated constituents were found in the upgradient wells in the M-Area Aquifer Zone. Downgradient M-Area Aquifer Zone wells AMB 4D and 14D contained elevated levels of aluminum, iron, tetrachloroethylene, total organic halogens, and trichloroethylene. Wells AMB 5, 6, 7, 10D, 15D, and 16D contained elevated levels of aluminum, and wells AMB 5, 6, 15D, and 16D contained elevated levels of trichloroethylene. In addition, wells AMB 6, 10DD, and 15D contained elevated levels of iron. Wells AMB 10DD and 15D exhibited elevated levels of manganese.

In the Upper Lost Lake Aquifer Zone, downgradient well AMB 19C contained an elevated level of aluminum during first quarter 1995. No wells in the Lower Lost Lake Aquifer Zone exhibited elevated levels of constituents. Wells AMB 4A and 7A, screened in the Middle Sand Aquifer Zone, had elevated levels of tetrachloroethylene, total organic halogens, and trichloroethylene. Aluminum was elevated in wells AMB 10A, 13AR, 17A, and 18A, which are also screened in the Middle Sand Aquifer Zone. In addition, well AMB 17A had elevated levels of tetrachloroethylene, total organic halogens, and trichloroethylene, and well AMB 18A contained elevated levels of iron and trichloroethylene.

Quality Control Results

No AMB wells were selected to receive blind replicate analyses during first quarter 1995. Blind replicate analyses, representing approximately 5 percent of the quarter's total groundwater samples, are performed by the analytical laboratories each quarter for wells selected by EPD/EMS as part of the EPD/EMS quality assurance program (see Appendix E). The results of the analyses are used for both intralaboratory and interlaboratory comparisons. **The Savannah River Site's Groundwater Monitoring Program, First Quarter 1995 (U)** (EPD/EMS, 1995b, in preparation) provides full replicate results and statistical comparisons of both blind replicate and duplicate results. As a part of intralaboratory quality assurance procedures, certain analyses were duplicated by the laboratory. These results are reported in Table 3 (Appendix D).

Conclusions

During first quarter 1995, as in previous quarters, tetrachloroethylene and trichloroethylene exceeded the final PDWS in several AMB wells. Tetrachloroethylene exceeded standards in wells AMB 4A, 4D, 7A, 14D, and 17A, with values of 29, 9.0, 17, 20, and 34 $\mu\text{g/L}$, respectively. Trichloroethylene exceeded standards in wells AMB 4A, 4D, 5, 6, 7A, 14D, 15D, 16D, 17A, and 18A, with values of 358, 129, 37, 11, 268, 80, 30, 8.5, 395, and 50 $\mu\text{g/L}$, respectively. The RCRA Part B post-closure care permit application for the Met Lab HWMF (WSRC, 1991) indicates that a small, isolated plume of tetrachloroethylene and trichloroethylene, located in the M-Area Aquifer Zone near the Met Lab HWMF, is from the Metallurgical Laboratory Basin. The permit application also indicates that the primary source of the contamination in the deeper units near the Met Lab HWMF is the extensive organic halogens plume resulting from M-Area operations. SRS is addressing the effects of organic halogens near the Met Lab HWMF under the provisions of the corrective-action program of the M-Area HWMF Part B post-closure permit renewal application (WSRC, 1992b; WSRC, 1993; WSRC, 1994).

Similar to past quarters, laboratory analyses for total organic halogens exceeded the Flag 2 criterion in several of the AMB wells during first quarter 1995. Total organic halogens exceeded standards in wells AMB 4A, 4D, 7A, 14D, and 17A, with values of 138, 71, 115, 82, and 64 $\mu\text{g/L}$, respectively. During first quarter 1995, aluminum, iron, and manganese were elevated in at least two AMB wells. These analytes were not analyzed for during fourth quarter 1994. Wells AMB 4D, 5, 6, 7, 10A, 10D, 13AR, 14D, 15D, 16D, 17A, 18A, and 19C exhibited elevated levels of aluminum with values of 129, 111, 2,320, 156, 298, 89, 83, 167, 622, 109, 230, 972, and 89 $\mu\text{g/L}$, respectively. Iron was elevated in wells AMB 4D, 6, 10DD, 14D, 15D, and 18A with values of 615, 2,030, 6,060, 371, 963, and 487 $\mu\text{g/L}$, respectively. Wells AMB 10DD and 15D exhibited elevated levels of manganese with values of 337 and 106 $\mu\text{g/L}$, respectively.

During first quarter 1995, no elevated constituents were detected in upgradient wells AMB 11D and 12D. Also, elevated constituents were not found in downgradient wells AMB 4B, 7B, 8D, 9D, 10B, 11B, 11D, and 12D. In addition, new downgradient well AMB 18C did not exhibit elevated levels of any constituents.

Historically, the horizontal flow direction in the M-Area Aquifer Zone beneath the Met Lab HWMF has been west to northwest (UTM coordinates). The flow direction in the Upper Lost Lake Aquifer Zone has been to the south-southeast, the flow in the Lower Lost Lake Aquifer Zone has been to the south-southwest, and the flow in the Middle Sand Aquifer Zone of the CBCU has been to the southwest. During first quarter 1995, the horizontal flow direction in the M-Area Aquifer Zone was to the northwest. Data provided to determine the flow direction and rate in the Upper Lost Lake Aquifer Zone was unreliable to use for contouring. The low horizontal gradient or near-linear arrangement of the monitoring wells in the Lower Lost Lake Aquifer Zone and in the Middle Sand Aquifer Zone of the CBCU prevented determination of reliable flow directions and rates in these hydrostratigraphic divisions. The flow rate estimate for groundwater in the M-Area Aquifer Zone during first quarter was 120 ft/year.

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Errata

In tables with four quarters of data (Table 1, Appendix D), some values for earlier quarters may differ from values for those same quarters presented in earlier reports because some reanalyses may have been performed by the laboratories after the reports were printed. Also, samples for field data are collected once each quarter, but samples for analytical data may be collected more than once each quarter. Because the results tables present the highest analytical results for the quarter, a reported analytical result may be from a sample collected on a different date than the date the field data sample was collected.

First Quarter 1994 through Third Quarter 1994:

- No errata have been reported.

Fourth Quarter 1994:

- Time series plots for field specific conductance incorrectly provided numbers on the y axis representative of pH instead of specific conductance.

Appendix A

Final Primary Drinking Water Standards

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Final Primary Drinking Water Standards

Analyte	Unit	Level	Status	Source
Alachlor	µg/L	2	Final	EPA, 1993
Aldicarb ^a	µg/L	3	Final	EPA, 1993
Aldicarb sulfone ^a	µg/L	2	Final	EPA, 1993
Aldicarb sulfoxide ^a	µg/L	4	Final	EPA, 1993
Antimony	µg/L	6	Final	EPA, 1993
Arsenic	µg/L	50	Final	EPA, 1993
Asbestos	Fibers/L	7,000,000	Final	EPA, 1993
Atrazine	µg/L	3	Final	EPA, 1993
Barium	µg/L	2,000	Final	EPA, 1993
Benzene	µg/L	5	Final	EPA, 1993
Benzo[a]pyrene	µg/L	0.2	Final	EPA, 1993
Beryllium	µg/L	4	Final	EPA, 1993
Bis(2-ethylhexyl) phthalate	µg/L	6	Final	EPA, 1993
Bromodichloromethane	µg/L	100	Final	EPA, 1993
Bromoform	µg/L	100	Final	EPA, 1993
2-sec-Butyl-4,6-dinitrophenol	µg/L	7	Final	EPA, 1993
Cadmium	µg/L	5	Final	EPA, 1993
Carbofuran	µg/L	40	Final	EPA, 1993
Carbon tetrachloride	µg/L	5	Final	EPA, 1993
Chlordane	µg/L	2	Final	EPA, 1993
Chlorobenzene	µg/L	100	Final	EPA, 1993
Chloroethene (Vinyl chloride)	µg/L	2	Final	EPA, 1993
Chloroform	µg/L	100	Final	EPA, 1993
Chromium	µg/L	100	Final	EPA, 1993
Copper	µg/L	1,300	Final	EPA, 1993
Cyanide	µg/L	200	Final	EPA, 1993
Dalapon ^a	µg/L	200	Final	EPA, 1993
Dibromochloromethane	µg/L	100	Final	EPA, 1993
1,2-Dibromo-3-chloropropane	µg/L	0.2	Final	EPA, 1993
1,2-Dibromoethane	µg/L	0.05	Final	EPA, 1993
1,2-Dichlorobenzene	µg/L	600	Final	EPA, 1993
1,4-Dichlorobenzene	µg/L	75	Final	EPA, 1993
1,2-Dichloroethane	µg/L	5	Final	EPA, 1993
1,1-Dichloroethylene	µg/L	7	Final	EPA, 1993
1,2-Dichloroethylene	µg/L	50	Final	EPA, 1993
cis-1,2-Dichloroethylene	µg/L	70	Final	EPA, 1993
trans-1,2-Dichloroethylene	µg/L	100	Final	EPA, 1993
Dichloromethane (Methylene chloride)	µg/L	5	Final	EPA, 1993
2,4-Dichlorophenoxyacetic acid	µg/L	70	Final	EPA, 1993
1,2-Dichloropropane	µg/L	5	Final	EPA, 1993
Di(2-ethylhexyl) adipate ^a	µg/L	400	Final	EPA, 1993
Diquat dibromide ^a	µg/L	20	Final	EPA, 1993
Endothall ^a	µg/L	100	Final	EPA, 1993
Endrin	µg/L	2	Final	EPA, 1993
Ethylbenzene	µg/L	700	Final	EPA, 1993
Fluoride	µg/L	4,000	Final	EPA, 1993
Glyphosate ^a	µg/L	700	Final	EPA, 1993
Gross alpha ^b	pCi/L	1.5E+01	Final	EPA, 1993
Heptachlor	µg/L	0.4	Final	EPA, 1993
Heptachlor epoxide	µg/L	0.2	Final	EPA, 1993
Hexachlorobenzene	µg/L	1	Final	EPA, 1993
Hexachlorocyclopentadiene	µg/L	50	Final	EPA, 1993
Lead	µg/L	50	Final	SCDHEC, 1981

Analyte	Unit	Level	Status	Source
Lindane	µg/L	0.2	Final	EPA, 1993
Mercury	µg/L	2	Final	EPA, 1993
Methoxychlor	µg/L	40	Final	EPA, 1993
Nickel	µg/L	100	Final	EPA, 1993
Nitrate as nitrogen	µg/L	10,000	Final	EPA, 1993
Nitrate-nitrite as nitrogen	µg/L	10,000	Final	EPA, 1993
Nitrite as nitrogen	µg/L	1,000	Final	EPA, 1993
Nonvolatile beta	pCi/L	5E+01	Interim Final	EPA, 1977
Oxamyl ^a	µg/L	200	Final	EPA, 1993
PCB 1016	µg/L	0.5	Final	EPA, 1993
PCB 1221	µg/L	0.5	Final	EPA, 1993
PCB 1232	µg/L	0.5	Final	EPA, 1993
PCB 1242	µg/L	0.5	Final	EPA, 1993
PCB 1248	µg/L	0.5	Final	EPA, 1993
PCB 1254	µg/L	0.5	Final	EPA, 1993
PCB 1260	µg/L	0.5	Final	EPA, 1993
PCB 1262	µg/L	0.5	Final	EPA, 1993
Pentachlorophenol	µg/L	1	Final	EPA, 1993
Picloram ^a	µg/L	500	Final	EPA, 1993
Selenium	µg/L	50	Final	EPA, 1993
Simazine ^a	µg/L	4	Final	EPA, 1993
Strontium-89/90 ^c	pCi/L	8E+00	Final	EPA, 1993
Strontium-90	pCi/L	8E+00	Final	EPA, 1993
Styrene	µg/L	100	Final	EPA, 1993
2,3,7,8-TCDD	µg/L	0.00003	Final	EPA, 1993
Tetrachloroethylene	µg/L	5	Final	EPA, 1993
Thallium	µg/L	2	Final	EPA, 1993
Toluene	µg/L	1,000	Final	EPA, 1993
Toxaphene	µg/L	3	Final	EPA, 1993
2,4,5-TP (Silvex)	µg/L	50	Final	EPA, 1993
1,2,4-Trichlorobenzene	µg/L	70	Final	EPA, 1993
1,1,1-Trichloroethane	µg/L	200	Final	EPA, 1993
1,1,2-Trichloroethane	µg/L	5	Final	EPA, 1993
Trichloroethylene	µg/L	5	Final	EPA, 1993
Tritium	pCi/mL	2E+01	Final	EPA, 1993
Xylenes	µg/L	10,000	Final	EPA, 1993

^a At present, EMS does not perform this analysis because the constituent is not in the current contract.

^b The standard given is for gross alpha including radium-226 but excluding radon and uranium.

^c For double radionuclide analyses where each separate radionuclide has its own standard, the more stringent standard is used.

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Appendix B

Flagging Criteria

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Flagging Criteria

The Savannah River Site Environmental Protection Department/Environmental Monitoring Section (EPD/EMS) flagging criteria are as follows:

- Flag 2 criteria for constituents equal the Safe Drinking Water Act (SDWA) final Primary Drinking Water Standards (PDWS), the SDWA proposed PDWS, or the SDWA Secondary Drinking Water Standards (SDWS). If a constituent does not have a drinking water standard, the Flag 2 criterion equals 10 times the method detection limit (MDL) calculated as the 90th percentile detection limit obtained recently by one of the primary analytical laboratories.
- Flag 1 criteria for constituents equal one-half of the final PDWS, one-half the proposed PDWS, or one-half the SDWS. If a constituent does not have a drinking water standard, the Flag 1 criterion equals 5 times the MDL calculated as the 90th percentile detection limit obtained recently by one of the primary analytical laboratories.
- Flag 0 criteria are assigned to constituent levels below Flag 1 criteria, constituent levels below the sample detection limits, or constituents having no flagging criteria.

The following parameters are exceptions to the flagging rules:

- EPD/EMS sets flagging criteria for pH and specific conductance. No flags are set for alkalinity, calcium, carbonate, magnesium, potassium, silica, sodium, total dissolved solids, total phosphates (as P), and total phosphorus. Analyses for these parameters are conducted as part of the biennial comprehensive analyses or by special request.
- Aesthetic parameters such as color, corrosivity, Eh, odor, surfactants, and turbidity are not assigned flagging criteria but are analyzed by special request.
- Common laboratory contaminants and cleaners such as dichloromethane (methylene chloride), ketones, phthalates, and toluene are not assigned flagging criteria unless they have PDWS. These constituents are analyzed by special request.

Analyte	Unit	Flag 1	Flag 2	Source ^a
Acenaphthene	µg/L	50	100	EPA Method 8270
Acenaphthylene	µg/L	50	100	EPA Method 8270
Acetone	µg/L	500	1,000	EPA Method 8240
Acetonitrile (Methyl cyanide)	µg/L	500	1,000	EPA Method 8240
Acetophenone	µg/L	50	100	EPA Method 8270
2-Acetylaminofluorene	µg/L	50	100	EPA Method 8270
Acrolein	µg/L	100	200	EPA Method 8240
Acrylonitrile	µg/L	100	200	EPA Method 8240
Actinium-228	pCi/L	1.64E+03	3.27E+03	Proposed PDWS (EPA, 1991)
Alachlor	µg/L	1	2	Final PDWS (EPA, 1993a)
Aldicarb ^b	µg/L	1.5	3	Final PDWS (EPA, 1993a)
Aldicarb sulfone ^b	µg/L	1	2	Final PDWS (EPA, 1993a)
Aldicarb sulfoxide ^b	µg/L	2	4	Final PDWS (EPA, 1993a)
Aldrin	µg/L	0.25	0.5	EPA Method 8080
Alkalinity (as CaCO ₃)		No flag	No flag	Set by EPD/EMS
Allyl chloride	µg/L	250	500	EPA Method 8240
Aluminum	µg/L	25	50	SDWS (EPA, 1993b)
Aluminum, dissolved	µg/L	25	50	SDWS (EPA, 1993b)
Aluminum, total recoverable	µg/L	25	50	SDWS (EPA, 1993b)

Analyte	Unit	Flag 1	Flag 2	Source
Americium-241	pCi/L	3.17E+00	6.34E+00	Proposed PDWS (EPA, 1991)
Americium-243	pCi/L	3.19E+00	6.37E+00	Proposed PDWS (EPA, 1991)
4-Aminobiphenyl	µg/L	50	100	EPA Method 8270
Ammonia	µg/L	500	1,000	APHA Method 417B
Ammonia nitrogen	µg/L	500	1,000	EPA Method 350.1
Aniline	µg/L	50	100	EPA Method 8270
Anthracene	µg/L	50	100	EPA Method 8270
Antimony	µg/L	3	6	Final PDWS (EPA, 1993a)
Antimony, dissolved	µg/L	3	6	Final PDWS (EPA, 1993a)
Antimony, total recoverable	µg/L	3	6	Final PDWS (EPA, 1993a)
Antimony-125	pCi/L	1.5E+02	3E+02	Interim Final PDWS (EPA, 1977)
Aramite	µg/L	50	100	EPA Method 8270
Arsenic	µg/L	25	50	Final PDWS (EPA, 1993a)
Arsenic, dissolved	µg/L	25	50	Final PDWS (EPA, 1993a)
Arsenic, total recoverable	µg/L	25	50	Final PDWS (EPA, 1993a)
Asbestos	Fibers/L	3,500,000	7,000,000	Final PDWS (EPA, 1993a)
Atrazine	µg/L	1.5	3	Final PDWS (EPA, 1993a)
Azobenzene	µg/L	50	100	EPA Method 625
Barium	µg/L	1,000	2,000	Final PDWS (EPA, 1993a)
Barium, dissolved	µg/L	1,000	2,000	Final PDWS (EPA, 1993a)
Barium, total recoverable	µg/L	1,000	2,000	Final PDWS (EPA, 1993a)
Barium-140 ^c	pCi/L	4.5E+01	9E+01	Interim Final PDWS (EPA, 1977)
Benzene	µg/L	2.5	5	Final PDWS (EPA, 1993a)
alpha-Benzene hexachloride	µg/L	0.25	0.5	EPA Method 8080
beta-Benzene hexachloride	µg/L	0.25	0.5	EPA Method 8080
delta-Benzene hexachloride	µg/L	0.25	0.5	EPA Method 8080
Benzidine	µg/L	250	500	EPA Method 8270
Benzo[a]anthracene	µg/L	0.05	0.1	Proposed PDWS (EPA, 1990)
Benzo[b]fluoranthene	µg/L	0.1	0.2	Proposed PDWS (EPA, 1990)
Benzo[k]fluoranthene	µg/L	0.1	0.2	Proposed PDWS (EPA, 1990)
Benzoic acid	µg/L	250	500	EPA Method 8270
Benzo[g,h,i]perylene	µg/L	50	100	EPA Method 8270
Benzo[a]pyrene	µg/L	0.1	0.2	Final PDWS (EPA, 1993a)
1,4-Benzoquinone	µg/L	50	100	EPA Method 8270
Benzyl alcohol	µg/L	50	100	EPA Method 8270
Beryllium	µg/L	2	4	Final PDWS (EPA, 1993a)
Beryllium, dissolved	µg/L	2	4	Final PDWS (EPA, 1993a)
Beryllium, total recoverable	µg/L	2	4	Final PDWS (EPA, 1993a)
Beryllium-7	pCi/L	3E+03	6E+03	Interim Final PDWS (EPA, 1977)
Bis(2-chloroethoxy) methane	µg/L	50	100	EPA Method 8270
Bis(2-chloroethyl) ether	µg/L	50	100	EPA Method 8270
Bis(2-chloroisopropyl) ether	µg/L	50	100	EPA Method 8270
Bis(chloromethyl) ether	µg/L	50	100	EPA Method 8270
Bis(2-ethylhexyl) phthalate	µg/L	3	6	Final PDWS (EPA, 1993a)
Bismuth-214	pCi/L	9.4E+03	1.89E+04	Proposed PDWS (EPA, 1991)
Boron	µg/L	150	300	EPA Method 6010
Boron, dissolved	µg/L	150	300	EPA Method 6010
Boron, total recoverable	µg/L	150	300	EPA Method 6010
Bromide	µg/L	5,000	10,000	EPA Method 300.0
Bromodichloromethane	µg/L	50	100	Final PDWS (EPA, 1993a)
Bromoform	µg/L	50	100	Final PDWS (EPA, 1993a)
Bromomethane (Methyl bromide)	µg/L	5	10	EPA Method 8240
4-Bromophenyl phenyl ether	µg/L	50	100	EPA Method 8270
Butylbenzyl phthalate		No flag	No flag	Set by EPD/EMS
2-sec-Butyl-4,6-dinitrophenol	µg/L	3.5	7	Final PDWS (EPA, 1993a)

Analyte	Unit	Flag 1	Flag 2	Source
Cadmium	µg/L	2.5	5	Final PDWS (EPA, 1993a)
Cadmium, dissolved	µg/L	2.5	5	Final PDWS (EPA, 1993a)
Cadmium, total recoverable	µg/L	2.5	5	Final PDWS (EPA, 1993a)
Calcium		No flag	No flag	Set by EPD/EMS
Calcium, dissolved		No flag	No flag	Set by EPD/EMS
Calcium, total recoverable		No flag	No flag	Set by EPD/EMS
Carbofuran	µg/L	20	40	Final PDWS (EPA, 1993a)
Carbon-14	pCi/L	1E+03	2E+03	Interim Final PDWS (EPA, 1977)
Carbonate		No flag	No flag	Set by EPD/EMS
Carbon disulfide	µg/L	5	10	EPA Method 8240
Carbon tetrachloride	µg/L	2.5	5	Final PDWS (EPA, 1993a)
Cerium-141 ^c	pCi/L	1.5E+02	3E+02	Interim Final PDWS (EPA, 1977)
Cerium-144	pCi/L	1.31E+02	2.61E+02	Proposed PDWS (EPA, 1991)
Cesium-134 ^d	pCi/L	4.07E+01	8.13E+01	Proposed PDWS (EPA, 1991)
Cesium-137	pCi/L	1E+02	2E+02	Interim Final PDWS (EPA, 1977)
Chlordane	µg/L	1	2	Final PDWS (EPA, 1993a)
Chloride	µg/L	125,000	250,000	SDWS (EPA, 1993b)
4-Chloroaniline	µg/L	50	100	EPA Method 8270
Chlorobenzene	µg/L	50	100	Final PDWS (EPA, 1993a)
Chlorobenzilate	µg/L	50	100	EPA Method 8270
4-Chloro-m-cresol	µg/L	50	100	EPA Method 8270
Chloroethane	µg/L	5	10	EPA Method 8240
Chloroethene (Vinyl chloride)	µg/L	1	2	Final PDWS (EPA, 1993a)
Chloroethyl vinyl ether	µg/L	5	10	EPA Method 8240
2-Chloroethyl vinyl ether	µg/L	5	10	EPA Method 8240
Chloroform	µg/L	50	100	Final PDWS (EPA, 1993a)
Chloromethane (Methyl chloride)	µg/L	5	10	EPA Method 8240
2-Chloronaphthalene	µg/L	50	100	EPA Method 8240
2-Chlorophenol	µg/L	50	100	EPA Method 8270
4-Chlorophenyl phenyl ether	µg/L	50	100	EPA Method 8270
Chloroprene	µg/L	1,000	2,000	EPA Method 8240
Chromium	µg/L	50	100	Final PDWS (EPA, 1993a)
Chromium, dissolved	µg/L	50	100	Final PDWS (EPA, 1993a)
Chromium, total recoverable	µg/L	50	100	Final PDWS (EPA, 1993a)
Chromium-51 ^c	pCi/L	3E+03	6E+03	Interim Final PDWS (EPA, 1977)
Chrysene	µg/L	0.1	0.2	Proposed PDWS (EPA, 1990)
Cobalt	µg/L	20	40	EPA Method 6010
Cobalt, dissolved	µg/L	20	40	EPA Method 6010
Cobalt, total recoverable	µg/L	20	40	EPA Method 6010
Cobalt-57	pCi/L	5E+02	1E+03	Interim Final PDWS (EPA, 1977)
Cobalt-58 ^d	pCi/L	4.5E+03	9E+03	Interim Final PDWS (EPA, 1977)
Cobalt-60	pCi/L	5E+01	1E+02	Interim Final PDWS (EPA, 1977)
Color		No flag	No flag	Set by EPD/EMS
Copper	µg/L	500	1,000	Final PDWS (SCDHEC, 1981)
Copper, dissolved	µg/L	500	1,000	Final PDWS (SCDHEC, 1981)
Copper, total recoverable	µg/L	500	1,000	Final PDWS (SCDHEC, 1981)
Corrosivity		No flag	No flag	Set by EPD/EMS
m-Cresol (3-Methylphenol)	µg/L	50	100	EPA Method 8270
o-Cresol (2-Methylphenol)	µg/L	50	100	EPA Method 8270
p-Cresol (4-Methylphenol)	µg/L	50	100	EPA Method 8270
Curium-242	pCi/L	6.65E+01	1.33E+02	Proposed PDWS (EPA, 1991)
Curium-243	pCi/L	4.15E+00	8.3E+00	Proposed PDWS (EPA, 1991)
Curium-243/244 ^e	pCi/L	4.15E+00	8.3E+00	Proposed PDWS (EPA, 1991)
Curium-244	pCi/L	4.92E+00	9.84E+00	Proposed PDWS (EPA, 1991)
Curium-245/246 ^e	pCi/L	3.12E+00	6.23E+00	Proposed PDWS (EPA, 1991)

Analyte	Unit	Flag 1	Flag 2	Source
Curium-246	pCi/L	3.14E+00	6.27E+00	Proposed PDWS (EPA, 1991)
Cyanide	µg/L	100	200	Final PDWS (EPA, 1993a)
Dalapon ^b	µg/L	100	200	Final PDWS (EPA, 1993a)
p,p'-DDD	µg/L	0.5	1	EPA Method 8080
p,p'-DDE	µg/L	0.5	1	EPA Method 8080
p,p'-DDT	µg/L	0.5	1	EPA Method 8080
Diallate	µg/L	50	100	EPA Method 8270
Dibenz[a,h]anthracene	µg/L	0.15	0.3	Proposed PDWS (EPA, 1990)
Dibenzofuran	µg/L	50	100	EPA Method 8270
Dibromochloromethane	µg/L	50	100	Final PDWS (EPA, 1993a)
1,2-Dibromo-3-chloropropane	µg/L	0.1	0.2	Final PDWS (EPA, 1993a)
1,2-Dibromoethane	µg/L	0.025	0.05	Final PDWS (EPA, 1993a)
Dibromomethane	µg/L	5	10	EPA Method 8240
(Methylene bromide)				
Di-n-butyl phthalate		No flag	No flag	Set by EPD/EMS
1,2-Dichlorobenzene	µg/L	300	600	Final PDWS (EPA, 1993a)
1,3-Dichlorobenzene	µg/L	50	100	EPA Method 8270
1,4-Dichlorobenzene	µg/L	37.5	75	Final PDWS (EPA, 1993a)
3,3'-Dichlorobenzidine	µg/L	50	100	EPA Method 8270
trans-1,4-Dichloro-2-butene	µg/L	150	300	EPA Method 8240
Dichlorodifluoromethane	µg/L	5	10	EPA Method 8240
1,1-Dichloroethane	µg/L	5	10	EPA Method 8240
1,2-Dichloroethane	µg/L	2.5	5	Final PDWS (EPA, 1993a)
1,1-Dichloroethylene	µg/L	3.5	7	Final PDWS (EPA, 1993a)
1,2-Dichloroethylene	µg/L	25	50	Final PDWS (EPA, 1993a)
cis-1,2-Dichloroethylene	µg/L	35	70	Final PDWS (EPA, 1993a)
trans-1,2-Dichloroethylene	µg/L	50	100	Final PDWS (EPA, 1993a)
Dichloromethane	µg/L	2.5	5	Final PDWS (EPA, 1993a)
(Methylene chloride)				
2,4-Dichlorophenol	µg/L	50	100	EPA Method 8270
2,6-Dichlorophenol	µg/L	50	100	EPA Method 8270
2,4-Dichlorophenoxyacetic acid	µg/L	35	70	Final PDWS (EPA, 1993a)
1,2-Dichloropropane	µg/L	2.5	5	Final PDWS (EPA, 1993a)
cis-1,3-Dichloropropene	µg/L	5	10	EPA Method 8240
trans-1,3-Dichloropropene	µg/L	5	10	EPA Method 8240
Dieldrin	µg/L	2.5	5	EPA Method 8080
Di(2-ethylhexyl) adipate	µg/L	200	400	Final PDWS (EPA, 1993a)
Diethyl phthalate		No flag	No flag	Set by EPD/EMS
Dimethoate	µg/L	50	100	EPA Method 8270
p-Dimethylaminoazobenzene	µg/L	50	100	EPA Method 8270
p-(Dimethylamino)ethylbenzene	µg/L	50	100	EPA Method 8270
7,12-Dimethylbenz[a]anthracene	µg/L	50	100	EPA Method 8270
3,3'-Dimethylbenzidine	µg/L	50	100	EPA Method 8270
a,a-Dimethylphenethylamine	µg/L	50	100	EPA Method 8270
2,4-Dimethyl phenol	µg/L	50	100	EPA Method 8270
Dimethyl phthalate		No flag	No flag	Set by EPD/EMS
1,3-Dinitrobenzene	µg/L	50	100	EPA Method 8270
2,4-Dinitrophenol	µg/L	250	500	EPA Method 8270
2,4-Dinitrotoluene	µg/L	50	100	EPA Method 8270
2,6-Dinitrotoluene	µg/L	50	100	EPA Method 8270
Di-n-octyl phthalate		No flag	No flag	Set by EPD/EMS
1,4-Dioxane	µg/L	50	100	EPA Method 8270
Diphenylamine	µg/L	50	100	EPA Method 8270
1,2-Diphenylhydrazine	µg/L	50	100	EPA Method 8270
Diquat dibromide ^b	µg/L	10	20	Final PDWS (EPA, 1993a)

Analyte	Unit	Flag 1	Flag 2	Source
Dissolved organic carbon	µg/L	5,000	10,000	EPA Method 9060
Disulfoton	µg/L	50	100	EPA Method 8270
Eh		No flag	No flag	Set by EPD/EMS
Endosulfan I	µg/L	0.5	1	EPA Method 8080
Endosulfan II	µg/L	0.5	1	EPA Method 8080
Endosulfan sulfate	µg/L	0.5	1	EPA Method 8080
Endothall ^b	µg/L	50	100	Final PDWS (EPA, 1993a)
Endrin	µg/L	1	2	Final PDWS (EPA, 1993a)
Endrin aldehyde	µg/L	0.5	1	EPA Method 8080
Endrin ketone		No flag	No flag	Set by EPD/EMS
Ethylbenzene	µg/L	350	700	Final PDWS (EPA, 1993a)
Ethyl methacrylate	µg/L	50	100	EPA Method 8270
Ethyl methanesulfonate	µg/L	50	100	EPA Method 8270
Europium-152	pCi/L	3E+01	6E+01	Interim Final PDWS (EPA, 1977)
Europium-154	pCi/L	1E+02	2E+02	Interim Final PDWS (EPA, 1977)
Europium-155	pCi/L	3E+02	6E+02	Interim Final PDWS (EPA, 1977)
Famphur	µg/L	50	100	EPA Method 8270
Fluoranthene	µg/L	50	100	EPA Method 8270
Fluorene	µg/L	50	100	EPA Method 8270
Fluoride	µg/L	2,000	4,000	Final PDWS (EPA, 1993a)
Glyphosate ^b	µg/L	350	700	Final PDWS (EPA, 1993a)
Gross alpha	pCi/L	7.5E+00	1.5E+01	Final PDWS (EPA, 1993a)
Heptachlor	µg/L	0.2	0.4	Final PDWS (EPA, 1993a)
Heptachlor epoxide	µg/L	0.1	0.2	Final PDWS (EPA, 1993a)
Heptachlorodibenzo-p-dioxin isomers	µg/L	0.00325	0.0065	EPA Method 8280
1,2,3,4,6,7,8-HPCDD	µg/L	0.00325	0.0065	EPA Method 8280
Heptachlorodibenzo-p-furan isomers	µg/L	0.00225	0.0045	EPA Method 8280
1,2,3,4,6,7,8-HPCDF	µg/L	0.00225	0.0045	EPA Method 8280
Hexachlorobenzene	µg/L	0.5	1	Final PDWS (EPA, 1993a)
Hexachlorobutadiene	µg/L	50	100	EPA Method 8270
Hexachlorocyclopentadiene	µg/L	25	50	Final PDWS (EPA, 1993a)
Hexachlorodibenzo-p-dioxin isomers	µg/L	0.00225	0.0045	EPA Method 8280
1,2,3,4,7,8-HXCDD	µg/L	0.00225	0.0045	EPA Method 8280
Hexachlorodibenzo-p-furan isomers	µg/L	0.002	0.004	EPA Method 8280
1,2,3,4,7,8-HXCDF	µg/L	0.002	0.004	EPA Method 8280
Hexachloroethane	µg/L	50	100	EPA Method 8270
Hexachlorophene	µg/L	250	500	EPA Method 8270
Hexachloropropene	µg/L	50	100	EPA Method 8270
2-Hexanone	µg/L	50	100	EPA Method 8240
Indeno[1,2,3-c,d]pyrene	µg/L	50	100	EPA Method 8270
Iodine	µg/L	250	500	APHA Method 415A
Iodine-129	pCi/L	5E-01	1E+00	Interim Final PDWS (EPA, 1977)
Iodine-131 ^c	pCi/L	1.5E+00	3E+00	Interim Final PDWS (EPA, 1977)
Iodomethane (Methyl iodide)	µg/L	75	150	EPA Method 8240
Iron	µg/L	150	300	SDWS (EPA, 1993b)
Iron, dissolved	µg/L	150	300	SDWS (EPA, 1993b)
Iron, total recoverable	µg/L	150	300	SDWS (EPA, 1993b)
Iron-55 ^c	pCi/L	1E+03	2E+03	Interim Final PDWS (EPA, 1977)
Iron-59 ^c	pCi/L	1E+02	2E+02	Interim Final PDWS (EPA, 1977)
Isobutyl alcohol	µg/L	500	1,000	EPA Method 8240
Isodrin	µg/L	50	100	EPA Method 8270

Analyte	Unit	Flag 1	Flag 2	Source
Isophorone	µg/L	50	100	EPA Method 8270
Isosafrole	µg/L	50	100	EPA Method 8270
Kepone	µg/L	50	100	EPA Method 8270
Lanthanum-140 ^C	pCi/L	3E+01	6E+01	Interim Final PDWS (EPA, 1977)
Lead	µg/L	25	50	Final PDWS (SCDHEC, 1981)
Lead, dissolved	µg/L	25	50	Final PDWS (SCDHEC, 1981)
Lead, total recoverable	µg/L	25	50	Final PDWS (SCDHEC, 1981)
Lead-212	pCi/L	6.2E+01	1.23E+02	Proposed PDWS (EPA, 1991)
Lindane	µg/L	0.1	0.2	Final PDWS (EPA, 1993a)
Lithium	µg/L	25	50	EPA Method 6010
Lithium, dissolved	µg/L	25	50	EPA Method 6010
Lithium, total recoverable	µg/L	25	50	EPA Method 6010
Magnesium		No flag	No flag	Set by EPD/EMS
Magnesium, dissolved		No flag	No flag	Set by EPD/EMS
Magnesium, total recoverable		No flag	No flag	Set by EPD/EMS
Manganese	µg/L	25	50	SDWS (EPA, 1993b)
Manganese, dissolved	µg/L	25	50	SDWS (EPA, 1993b)
Manganese, total recoverable	µg/L	25	50	SDWS (EPA, 1993b)
Manganese-54	pCi/L	1.5E+02	3E+02	Interim Final PDWS (EPA, 1977)
Mercury	µg/L	1	2	Final PDWS (EPA, 1993a)
Mercury, dissolved	µg/L	1	2	Final PDWS (EPA, 1993a)
Mercury, total recoverable	µg/L	1	2	Final PDWS (EPA, 1993a)
Methacrylonitrile	µg/L	250	500	EPA Method 8240
Methapyrilene	µg/L	50	100	EPA Method 8270
Methoxychlor	µg/L	20	40	Final PDWS (EPA, 1993a)
3-Methylcholanthrene	µg/L	50	100	EPA Method 8270
2-Methyl-4,6-dinitrophenol	µg/L	250	500	EPA Method 8270
Methyl ethyl ketone		No flag	No flag	Set by EPD/EMS
Methyl isobutyl ketone		No flag	No flag	Set by EPD/EMS
Methyl methacrylate	µg/L	50	100	EPA Method 8270
Methyl methanesulfonate	µg/L	50	100	EPA Method 8270
2-Methylnaphthalene	µg/L	50	100	EPA Method 8270
Molybdenum	µg/L	250	500	EPA Method 6010
Molybdenum, dissolved	µg/L	250	500	EPA Method 6010
Molybdenum, total recoverable	µg/L	250	500	EPA Method 6010
Naphthalene	µg/L	50	100	EPA Method 8270
1,4-Naphthoquinone	µg/L	50	100	EPA Method 8270
1-Naphthylamine	µg/L	50	100	EPA Method 8270
2-Naphthylamine	µg/L	50	100	EPA Method 8270
Neptunium-237	pCi/L	3.53E+00	7.06E+00	Proposed PDWS (EPA, 1991)
Nickel	µg/L	50	100	Final PDWS (EPA, 1993a)
Nickel, dissolved	µg/L	50	100	Final PDWS (EPA, 1993a)
Nickel, total recoverable	µg/L	50	100	Final PDWS (EPA, 1993a)
Nickel-59 ^C	pCi/L	1.5E+02	3E+02	Interim Final PDWS (EPA, 1977)
Nickel-63 ^C	pCi/L	2.5E+01	5E+01	Interim Final PDWS (EPA, 1977)
Niobium-95 ^C	pCi/L	1.5E+02	3.E+02	Interim Final PDWS (EPA, 1977)
Nitrate as nitrogen	µg/L	5,000	10,000	Final PDWS (EPA, 1993a)
Nitrate-nitrite as nitrogen	µg/L	5,000	10,000	Final PDWS (EPA, 1993a)
Nitrite as nitrogen	µg/L	500	1,000	Final PDWS (EPA, 1993a)
m-Nitroaniline	µg/L	50	100	EPA Method 8270
o-Nitroaniline	µg/L	50	100	EPA Method 8270
p-Nitroaniline	µg/L	50	100	EPA Method 8270
Nitrobenzene	µg/L	50	100	EPA Method 8270
Nitrogen by Kjeldahl method	µg/L	500	1,000	EPA Method 351.2
2-Nitrophenol	µg/L	50	100	EPA Method 8270

Analyte	Unit	Flag 1	Flag 2	Source
4-Nitrophenol	µg/L	50	100	EPA Method 8270
4-Nitroquinoline-1-oxide	µg/L	50	100	EPA Method 8270
N-Nitrosodi-n-butylamine	µg/L	50	100	EPA Method 8270
N-Nitrosodiethylamine	µg/L	50	100	EPA Method 8270
N-Nitrosodimethylamine	µg/L	50	100	EPA Method 8270
N-Nitrosodiphenylamine	µg/L	50	100	EPA Method 8270
N-Nitrosodipropylamine	µg/L	50	100	EPA Method 8270
N-Nitrosomethylethylamine	µg/L	50	100	EPA Method 8270
N-Nitrosomorpholine	µg/L	50	100	EPA Method 8270
N-Nitrosopiperidine	µg/L	50	100	EPA Method 8270
N-Nitrosopyrrolidine	µg/L	50	100	EPA Method 8270
5-Nitro-α-toluidine	µg/L	50	100	EPA Method 8270
Nonvolatile beta	pCi/L	2.5E+01	5E+01	Interim Final PDWS (EPA, 1977)
Octachlorodibenzo-p-dioxin isomers	µg/L	0.005	0.01	EPA Method 8280
Octachlorodibenzo-p-furan isomers	µg/L	0.005	0.01	EPA Method 8280
Odor		No flag	No flag	Set by EPD/EMS
Oil & Grease	µg/L	5,000	10,000	EPA Method 413.1
Oxamyl ^b	µg/L	100	200	Final PDWS (EPA, 1993a)
Parathion	µg/L	0.25	0.5	EPA Method 8080
Parathion methyl	µg/L	0.25	0.5	EPA Method 8080
PCB 1016	µg/L	0.25	0.5	Final PDWS (EPA, 1993a)
PCB 1221	µg/L	0.25	0.5	Final PDWS (EPA, 1993a)
PCB 1232	µg/L	0.25	0.5	Final PDWS (EPA, 1993a)
PCB 1242	µg/L	0.25	0.5	Final PDWS (EPA, 1993a)
PCB 1248	µg/L	0.25	0.5	Final PDWS (EPA, 1993a)
PCB 1254	µg/L	0.25	0.5	Final PDWS (EPA, 1993a)
PCB 1260	µg/L	0.25	0.5	Final PDWS (EPA, 1993a)
PCB 1262	µg/L	0.25	0.5	Final PDWS (EPA, 1993a)
Pentachlorobenzene	µg/L	50	100	EPA Method 8270
Pentachlorodibenzo-p-dioxin isomers	µg/L	0.00275	0.0055	EPA Method 8280
1,2,3,7,8-PCDD	µg/L	0.00275	0.0055	EPA Method 8280
Pentachlorodibenzo-p-furan isomers	µg/L	0.00275	0.0055	EPA Method 8280
1,2,3,7,8-PCDF	µg/L	0.00275	0.0055	EPA Method 8280
Pentachloroethane	µg/L	50	100	EPA Method 8270
Pentachloronitrobenzene	µg/L	50	100	EPA Method 8270
Pentachlorophenol	µg/L	0.5	1	Final PDWS (EPA, 1993a)
pH	pH	8	10	Set by EPD/EMS
pH	pH	4	3	Set by EPD/EMS
Phenacetin	µg/L	50	100	EPA Method 8270
Phenanthrene	µg/L	50	100	EPA Method 8270
Phenol	µg/L	50	100	EPA Method 8270
Phenols	µg/L	25	50	EPA Method 420.1
p-Phenylenediamine	µg/L	50	100	EPA Method 8270
Phorate	µg/L	0.5	1	EPA Method 8080
Picloram ^b	µg/L	250	500	Final PDWS (EPA, 1993a)
2-Picoline	µg/L	50	100	EPA Method 8270
Plutonium-238	pCi/L	3.51E+00	7.02E+00	Proposed PDWS (EPA, 1991)
Plutonium-239	pCi/L	3.11E+01	6.21E+01	Proposed PDWS (EPA, 1991)
Plutonium-239/240 ^e	pCi/L	3.11E+01	6.21E+01	Proposed PDWS (EPA, 1991)
Plutonium-240	pCi/L	3.11E+01	6.22E+01	Proposed PDWS (EPA, 1991)
Plutonium-241 ^c	pCi/L	3.13E+01	6.26E+01	Proposed PDWS (EPA, 1991)

Analyte	Unit	Flag 1	Flag 2	Source
Plutonium-242 ^c	pCi/L	3.27E+01	6.54E+01	Proposed PDWS (EPA, 1991)
Potassium		No flag	No flag	Set by EPD/EMS
Potassium, dissolved		No flag	No flag	Set by EPD/EMS
Potassium, total recoverable		No flag	No flag	Set by EPD/EMS
Potassium-40	pCi/L	1.5E+02	3E+02	Proposed PDWS (EPA, 1986)
Promethium-144	pCi/L	5E+01	1E+02	EPA Method 901.1
Promethium-146	pCi/L	5E+01	1E+02	EPA Method 901.1
Promethium-147	pCi/L	2.62E+03	5.24E+03	Proposed PDWS (EPA, 1991)
Pronamid	µg/L	50	100	EPA Method 8270
Propionitrile	µg/L	1,000	2,000	EPA Method 8240
Pyrene	µg/L	50	100	EPA Method 8270
Pyridine	µg/L	50	100	EPA Method 8270
Radium (alpha-emitting) ^f	pCi/L	1E+01	2E+01	Proposed PDWS (EPA, 1991)
Radium-226	pCi/L	1E+01	2E+01	Proposed PDWS (EPA, 1991)
Radium-228	pCi/L	1E+01	2E+01	Proposed PDWS (EPA, 1991)
Radon-222	pCi/L	1.5E+02	3E+02	Proposed PDWS (EPA, 1991)
Ruthenium-103 ^c	pCi/L	1E+02	2E+02	Interim Final PDWS (EPA, 1977)
Ruthenium-106	pCi/L	1.5E+01	3E+01	Interim Final PDWS (EPA, 1977)
Safrole	µg/L	50	100	EPA Method 8270
Selenium	µg/L	25	50	Final PDWS (EPA, 1993a)
Selenium, dissolved	µg/L	25	50	Final PDWS (EPA, 1993a)
Selenium, total recoverable	µg/L	25	50	Final PDWS (EPA, 1993a)
Silica		No flag	No flag	Set by EPD/EMS
Silica, dissolved		No flag	No flag	Set by EPD/EMS
Silica, total recoverable		No flag	No flag	Set by EPD/EMS
Silver	µg/L	50	100	SDWS (EPA, 1993b)
Silver, dissolved	µg/L	50	100	SDWS (EPA, 1993b)
Silver, total recoverable	µg/L	50	100	SDWS (EPA, 1993b)
Simazine ^b	µg/L	2	4	Final PDWS (EPA, 1993a)
Sodium		No flag	No flag	Set by EPD/EMS
Sodium, dissolved		No flag	No flag	Set by EPD/EMS
Sodium, total recoverable		No flag	No flag	Set by EPD/EMS
Sodium-22	pCi/L	2.33E+02	4.66E+02	Proposed PDWS (EPA, 1991)
Specific conductance	µS/cm	250	500	Set by EPD/EMS
Strontium-89	pCi/L	1E+01	2E+01	Interim Final PDWS (EPA, 1977)
Strontium-89/90 ^e	pCi/L	4E+00	8E+00	Final PDWS (EPA, 1993a)
Strontium-90	pCi/L	4E+00	8E+00	Final PDWS (EPA, 1993a)
Styrene	µg/L	50	100	Final PDWS (EPA, 1993a)
Sulfate	µg/L	200,000	400,000	Proposed PDWS (EPA, 1990)
Sulfide	µg/L	5,000	10,000	EPA Method 9030
Sulfotep	µg/L	50	100	EPA Method 8270
Surfactants		No flag	No flag	Set by EPD/EMS
2,3,7,8-TCDD	µg/L	0.000015	0.00003	Final PDWS (EPA, 1993a)
2,3,7,8-TCDF	µg/L	0.002	0.004	EPA Method 8280
Technetium-99	pCi/L	4.5E+02	9E+02	Interim Final PDWS (EPA, 1977)
1,2,4,5-Tetrachlorobenzene	µg/L	50	100	EPA Method 8270
Tetrachlorodibenzo-p-dioxin isomers	µg/L	0.00225	0.0045	EPA Method 8280
Tetrachlorodibenzo-p-furan isomers	µg/L	0.002	0.004	EPA Method 8280
1,1,1,2-Tetrachloroethane	µg/L	5	10	EPA Method 8240
1,1,2,2-Tetrachloroethane	µg/L	5	10	EPA Method 8240
Tetrachloroethylene	µg/L	2.5	5	Final PDWS (EPA, 1993a)
2,3,4,6-Tetrachlorophenol	µg/L	50	100	EPA Method 8270
Thallium	µg/L	1	2	Final PDWS (EPA, 1993a)

Analyte	Unit	Flag 1	Flag 2	Source
Thallium, dissolved	µg/L	1	2	Final PDWS (EPA, 1993a)
Thallium, total recoverable	µg/L	1	2	Final PDWS (EPA, 1993a)
Thionazin	µg/L	50	100	EPA Method 8270
Thorium-228	pCi/L	6.25E+01	1.25E+02	Proposed PDWS (EPA, 1991)
Thorium-230	pCi/L	3.96E+01	7.92E+01	Proposed PDWS (EPA, 1991)
Thorium-232	pCi/L	4.4E+01	8.8E+01	Proposed PDWS (EPA, 1991)
Thorium-234	pCi/L	2E+02	4.01E+02	Proposed PDWS (EPA, 1991)
Tin	µg/L	10	20	EPA Method 282.2
Tin, dissolved	µg/L	10	20	EPA Method 282.2
Tin, total recoverable	µg/L	10	20	EPA Method 282.2
Tin-113 ^c	pCi/L	1.5E+02	3E+02	Interim Final PDWS (EPA, 1977)
Toluene	µg/L	500	1,000	Final PDWS (EPA, 1993a)
o-Toluidine	µg/L	50	100	EPA Method 8270
Total carbon	µg/L	5,000	10,000	EPA Method 9060
Total coliform		0	0	Final PDWS (EPA, 1993a)
Total dissolved solids		No flag	No flag	Set by EPD/EMS
Total hydrocarbons	µg/L	5,000	10,000	EPA Method 418.1
Total inorganic carbon	µg/L	5,000	10,000	EPA Method 9060
Total organic carbon	µg/L	5,000	10,000	EPA Method 9060
Total organic halogens	µg/L	25	50	EPA Method 9020
Total organic nitrogen	µg/L	500	1,000	APHA Method 420
Total petroleum hydrocarbons	µg/L	5,000	10,000	EPA Method 418.1
Total phosphates (as P)		No flag	No flag	Set by EPD/EMS
Total phosphorus		No flag	No flag	Set by EPD/EMS
Toxaphene	µg/L	1.5	3	Final PDWS (EPA, 1993a)
2,4,5-TP (Silvex)	µg/L	25	50	Final PDWS (EPA, 1993a)
Tributyl phosphate	µg/L	50	100	EPA Method 8270
1,2,4-Trichlorobenzene	µg/L	35	70	Final PDWS (EPA, 1993a)
1,1,1-Trichloroethane	µg/L	100	200	Final PDWS (EPA, 1993a)
1,1,2-Trichloroethane	µg/L	2.5	5	Final PDWS (EPA, 1993a)
Trichloroethylene	µg/L	2.5	5	Final PDWS (EPA, 1993a)
Trichlorofluoromethane	µg/L	5	10	EPA Method 8240
2,4,5-Trichlorophenol	µg/L	50	100	EPA Method 8270
2,4,6-Trichlorophenol	µg/L	50	100	EPA Method 8270
2,4,5-Trichlorophenoxyacetic acid	µg/L	2.5	5	EPA Method 8150
1,2,3-Trichloropropane	µg/L	5	10	EPA Method 8240
O,O,O-Triethyl phosphorothioate	µg/L	50	100	EPA Method 8270
1,3,5-Trinitrobenzene	µg/L	50	100	EPA Method 8270
Tritium	pCi/mL	1E+01	2E+01	Final PDWS (EPA, 1993a)
Turbidity ^g		No flag	No flag	Set by EPD/EMS
Uranium	µg/L	10	20	Proposed PDWS (EPA, 1991)
Uranium, dissolved	µg/L	10	20	Proposed PDWS (EPA, 1991)
Uranium, total recoverable	µg/L	10	20	Proposed PDWS (EPA, 1991)
Uranium alpha activity	pCi/L	1.5E+01	3E+01	Proposed PDWS (EPA, 1991)
Uranium-233/234 ^e	pCi/L	6.9E+00	1.38E+01	Proposed PDWS (EPA, 1991)
Uranium-234	pCi/L	6.95E+00	1.39E+01	Proposed PDWS (EPA, 1991)
Uranium-235	pCi/L	7.25E+00	1.45E+01	Proposed PDWS (EPA, 1991)
Uranium-238	pCi/L	7.3E+00	1.46E+01	Proposed PDWS (EPA, 1991)
Vanadium	µg/L	40	80	EPA Method 6010
Vanadium, dissolved	µg/L	40	80	EPA Method 6010
Vanadium, total recoverable	µg/L	40	80	EPA Method 6010
Vinyl acetate	µg/L	5	10	EPA Method 8240

Analyte	Unit	Flag 1	Flag 2	Source
Xylenes	μg/L	5,000	10,000	Final PDWS (EPA, 1993a)
Yttrium-88	pCi/L	5E+01	1E+02	EPA Method 901.1
Zinc	μg/L	2,500	5,000	SDWS (EPA, 1993b)
Zinc, dissolved	μg/L	2,500	5,000	SDWS (EPA, 1993b)
Zinc, total recoverable	μg/L	2,500	5,000	SDWS (EPA, 1993b)
Zinc-65	pCi/L	1.5E+02	3E+02	Interim Final PDWS (EPA, 1977)
Zirconium-95 ^c	pCi/L	1E+02	2E+02	Interim Final PDWS (EPA, 1977)
Zirconium/Niobium-95 ^c	pCi/L	1E+02	2E+02	Interim Final PDWS (EPA, 1977)

- ^a References for methods are in Appendix E; references for dated sources are at the end of this appendix.
- ^b EMS is currently unable to perform this analysis.
- ^c EMS discontinued monitoring this radionuclide because it is inappropriate for the SRS Groundwater Monitoring Program.
- ^d EPD/EMS set this flagging criterion using the 1991 proposed PDWS because the final PDWS in 1977 may have been in error.
- ^e For double radionuclide analyses where each separate radionuclide has its own standard, the more stringent standard is used.
- ^f The applied standard is for radium-226.
- ^g The primary maximum contaminant level range for turbidity is 1–5 NTU, which is inappropriate for the SRS Groundwater Monitoring Program.

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Appendix C

Figures

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Figure 1. Location of the Metallurgical Laboratory HWMF at the Savannah River Site

Figure 2. Piezometric Surface Map of the M-Area Aquifer Zone in A/M Areas

Figure 3. Piezometric Surface Map and Location of the M-Area Aquifer Zone Wells at the Metallurgical Laboratory HWMF

Figure 4. Water-Elevation Map and Location of Monitoring Wells in the Upper Lost Lake Aquifer Zone at the Metallurgical Laboratory HWMF

Figure 5. Water-Elevation Map and Location of Monitoring Wells in the Lower Lost Lake Aquifer Zone at the Metallurgical Laboratory HWMF

Figure 6. Water-Elevation Map and Location of Monitoring Wells in the Middle Sand Aquifer Zone of the Crouch Branch Confining Unit at the Metallurgical Laboratory HWMF

Figure 7. Hydrostratigraphy of A/M Areas

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Appendix D

Groundwater Monitoring Results Tables

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Key to Reading the Tables

The following abbreviations may appear in the data tables:

Constituents

PCB	polychlorinated biphenyl
Sp. conductance	specific conductance

Laboratories

CN	Clemson Technical Center, Inc.
EM	Environmental Protection Department/Environmental Monitoring Section (EPD/EMS) Laboratory
GE and GP	General Engineering Laboratories
SC	Savannah River Technology Center
SP	Spencer Testing Services, Inc.
TM	TMA/Eberline
WA and WS	Roy F. Weston, Inc.

Miscellaneous

CS	carbon steel
DF	dilution factor column in data tables
E	exponential notation (e.g., $1.1\text{E}-09 = 1.1 \times 10^{-9} = 0.0000000011$)
H	holding time column in data tables
Mod	modifier column in data tables
PDWS	primary drinking water standard
PVC	polyvinyl chloride
ST	exceeded standard column in data tables
SZ	screen zone column in data tables
TOC	top of casing

Nomenclature

AZ	Aquifer Zone
Crouch Branch AZ	previously Black Creek
• CBA	Crouch Branch Aquifer
• CBC or CBCU	Crouch Branch Confining Unit
• LCBC	Lost Lake AZ - CBCU
CZ	Confining Zone
Lower Lost Lake AZ	previously Lower Congaree
• L	Lost Lake (Undifferentiated) AZ
• LL	Lower Lost Lake AZ
• (LL)L/MCBC	Lower Lost Lake/Middle Sand AZ of the CBCU
M-Area AZ	previously Water Table
• GC	Green Clay CZ
• GCL	Green Clay - Lost Lake
• M	M-Area AZ
• MGC	M-Area AZ - Green Clay CZ

Nomenclature (cont.)

Middle Sand AZ of the CBCU
 • MCBC
 Upper Lost Lake AZ
 • UL
 Miscellaneous Nomenclature
 • MGCL
 • UD
 • VZ

previously Ellenton Sand
 Middle Sand AZ of the CBCU
 previously Upper Congaree
 Upper Lost Lake AZ

M-Area AZ - Green Clay CZ - Lost Lake AZ
 Undifferentiated
 Vadose Zone

Sampling Codes

B	blank sample was collected
C	well was pumping continuously
D	well was dry
E	equipment blank was collected
I	well went dry during sampling; insufficient water to collect all samples
L	well went dry before sampling began; only depth to water can be determined
P	inaccessibility or mechanical failure prevented sample collection and field analysis of the water
S	no water in standpipe; for water-level events only
X	well went dry during purging; samples collected after well recovered

Sampling Methods

B	sample collected using an open-bucket bailer
P	sample collected using a bladder pump
S	sample collected using a single-speed centrifugal downhole pump
V	sample collected using a variable-speed pump

Units

mg/L	milligrams per liter
msl	mean sea level
MSL	million structures per liter
NTU	nephelometric turbidity unit
pCi/L	picocuries per liter
pCi/mL	picocuries per milliliter
pH	pH unit
µg/L	micrograms per liter
µS/cm	microsiemens per centimeter

Holding Times

Standard analytical methods include a limit, called holding time, on the maximum elapsed time between sample collection and extraction or analysis by the laboratory. In the data tables, a large bullet (•) in the *H* (holding time) column indicates that holding time was exceeded. Analyses performed beyond holding times may not yield valid results.

The South Carolina Department of Health and Environmental Control allows only 15 minutes to elapse between sampling and analysis for pH. Thus, only field pH measurements can meet the holding time criterion; laboratory pH analyses always will exceed it.

The laboratory procedure used for the determination of specific conductance allows one day to elapse between sampling and analysis. Thus, laboratory specific conductance measurements may exceed the holding time criterion.

Data Rounding

Constituent results in analytical results tables that appear to equal the final PDWS but are not marked in the *ST* (exceeded the final PDWS or screening level) column are below the final PDWS in the database. Values stored in the database contain more significant digits than the reported results. Apparent discrepancies in the tables are due to the rounding of reported results.

Data Qualification

The contract laboratories submit sample- or batch-specific quality assurance/quality control information either at the same time as analytical results or in a quarterly summary. Properly defined and used data modifiers (also referred to as qualifiers) can be a key component in assessing data usability. Modifiers designed by EPD/EMS and provided to the primary laboratories are defined below. These modifiers appear in the data tables under the column *Mod*. The lettered modifiers are based on EPA's STORET codes.

Modifiers

(Blank)	Data are not qualified. Numbers should be interpreted exactly as reported.
I	The value in the result field is the instrument reading, not the sample quantification limit. Always used with the result qualifier <i>U</i> .
J	Value is estimated because quantitation in the sample or in associated quality control samples did not meet specifications.
L	Value is off-scale high. The actual value is not known but is known to be greater than the value shown.
R	Result was rejected because performance requirements in the sample analysis or associated quality control analyses were not met.
T	Analyte was not detected; if present, it was below the criteria for detection.

Modifiers (cont.)

U	Material analyzed for but not detected. Analytical result reported is less than the sample quantitation limit.
V or VV	Analyte was detected in an associated method blank.
Y	Result was obtained from an unpreserved or improperly preserved sample. Data may not be accurate.
1	Result may be an underestimation of the true value due to analytical bias.
2	Result may be an overestimation of the true value due to analytical bias.
3	The associated result may be of poor precision (high variability) due to analytical bias.

Note: These are only some of the qualifiers present in the database. All modifiers associated with the data are published in the result tables of EPD/EMS' quarterly groundwater monitoring reports, the official repository of the data.

Table 1. Maximum Levels of Constituents Exceeding the Final Primary Drinking Water Standards

M-Area Aquifer Zone

<u>Well</u>	<u>Constituent</u>	<u>Unit</u>	<u>2Q94</u>	<u>3Q94</u>	<u>4Q94</u>	<u>1Q95</u>	<u>Mod</u>
AMB 4D	Tetrachloroethylene	µg/L	— ^a	—	10	9.0	
	Trichloroethylene	µg/L	62	66	135	129	
AMB 5	Trichloroethylene	µg/L	39	60	40	37	
AMB 6	Trichloroethylene	µg/L	8.4	7.9	7.2	11	
AMB 7	Bis(2-ethylhexyl) phthalate	µg/L	NA ^b	21	NA	NA	
AMB 14D	Tetrachloroethylene	µg/L	NA	NA	NA	20	
	Trichloroethylene	µg/L	NA	NA	NA	80	
AMB 15D	Trichloroethylene	µg/L	NA	NA	NA	30	
AMB 16D	Trichloroethylene	µg/L	NA	NA	NA	8.5	

Upper Lost Lake Aquifer Zone

<u>Well</u>	<u>Constituent</u>	<u>Unit</u>	<u>2Q94</u>	<u>3Q94</u>	<u>4Q94</u>	<u>1Q95</u>	<u>Mod</u>
N ^c	None		N	N	N	N	

Lower Lost Lake Aquifer Zone

<u>Well</u>	<u>Constituent</u>	<u>Unit</u>	<u>2Q94</u>	<u>3Q94</u>	<u>4Q94</u>	<u>1Q95</u>	<u>Mod</u>
AMB 4B	Trichloroethylene	µg/L	5.2	—	—	—	

Middle Sand Aquifer Zone of the CBCU

<u>Well</u>	<u>Constituent</u>	<u>Unit</u>	<u>2Q94</u>	<u>3Q94</u>	<u>4Q94</u>	<u>1Q95</u>	<u>Mod</u>
AMB 4A	Tetrachloroethylene	µg/L	58	—	43	29	
	Trichloroethylene	µg/L	600	403	523	358	
AMB 7A	Tetrachloroethylene	µg/L	15	17	16	17	
	Trichloroethylene	µg/L	320	331	200	268	
AMB 17A	Tetrachloroethylene	µg/L	NA	NA	NA	34	
	Trichloroethylene	µg/L	NA	NA	NA	395	
AMB 18A	Trichloroethylene	µg/L	NA	NA	NA	50	

Notes: The modifier column applies to first quarter 1995 data only.
The groundwater samples are unfiltered. Thus, the results for metals are for total recoverable metals.

^a — = analyzed but not above the final PDWS.

^b NA = not analyzed.

^c N = not applicable.

Table 2. Maximum Levels of Constituents Exceeding Other Flag 2 Criteria

M-Area Aquifer Zone

<u>Well</u>	<u>Constituent</u>	<u>Unit</u>	<u>1Q95</u>	<u>Mod</u>
AMB 4D	Aluminum	µg/L	129	
	Iron	µg/L	615	
	Total organic halogens	µg/L	71	
AMB 5	Aluminum	µg/L	111	
AMB 6	Aluminum	µg/L	2,320	
	Iron	µg/L	2,030	
AMB 7	Aluminum	µg/L	156	
AMB 10D	Aluminum	µg/L	89	
AMB 10DD	Iron	µg/L	6,060	
	Manganese	µg/L	337	
AMB 14D	Aluminum	µg/L	167	V
	Iron	µg/L	371	
	Total organic halogens	µg/L	82	
AMB 15D	Aluminum	µg/L	622	V
	Iron	µg/L	963	
	Manganese	µg/L	106	
AMB 16D	Aluminum	µg/L	109	V

Upper Lost Lake Aquifer Zone

<u>Well</u>	<u>Constituent</u>	<u>Unit</u>	<u>1Q95</u>	<u>Mod</u>
AMB 19C	Aluminum	µg/L	89	V

Lower Lost Lake Aquifer Zone

<u>Well</u>	<u>Constituent</u>	<u>Unit</u>	<u>1Q95</u>	<u>Mod</u>
N ^a	None		N	

Middle Sand Aquifer Zone of the CBCU

<u>Well</u>	<u>Constituent</u>	<u>Unit</u>	<u>1Q95</u>	<u>Mod</u>
AMB 4A	Total organic halogens	µg/L	138	
AMB 7A	Total organic halogens	µg/L	115	
AMB 10A	Aluminum	µg/L	298	
AMB 13AR	Aluminum	µg/L	83	

Middle Sand Aquifer Zone of the CBCU

<u>Well</u>	<u>Constituent</u>	<u>Unit</u>	<u>1Q95</u>	<u>Mod</u>
AMB 17A	Aluminum	µg/L	230	V
	Total organic halogens	µg/L	64	
AMB 18A	Aluminum	µg/L	972	V
	Iron	µg/L	487	

Notes: These results do not include field data.
The groundwater samples are unfiltered. Thus, the results for metals are for total recoverable metals.
Flags are established by EPD/EMS and are based on final PDWS, Secondary Drinking Water Standards, or method detection limits (see Appendix B).

^a N = not applicable.

Table 3. Groundwater Monitoring Results for Individual Wells

WELL AMB 4A

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Formation</u>
N104131.6 E51469.8	33.340041 °N 81.733589 °W	126.3-121.3 ft msl	380.5 ft msl	4" PVC	S	MCBC

FIELD MEASUREMENTS

Sample date: 01/25/95
Depth to water: 160.60 ft (48.95 m) below TOC
Water elevation: 219.90 ft (67.03 m) msl
Sp. conductance: 40 µS/cm
Turbidity: 0.6 NTU
Water evacuated before sampling: 168 gal

Time: 11:23
pH: 7.0
Alkalinity: 3 mg/L
Water temperature: 18.7 °C

Volumes purged: 2.6 well volumes

LABORATORY ANALYSES

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		Acetone	<167	1		µg/L	0	GE
		Acetonitrile (Methyl cyanide)	<1.7	1		µg/L	0	GE
		Acrolein	<33	1		µg/L	0	GE
		Acrylonitrile	<33	1		µg/L	0	GE
		Allyl chloride	<83	1		µg/L	0	GE
		Aluminum, total recoverable	23	1	J	µg/L	0	GE
		Arsenic, total recoverable	2.3	1	J	µg/L	0	GE
		Barium, total recoverable	5.5	1		µg/L	0	GE
		Benzene	<1.7	1		µg/L	0	GE
		Bis(2-chloroisopropyl) ether	<10	1		µg/L	0	GE
		Bromodichloromethane	<1.7	1		µg/L	0	GE
		Bromoform	<1.7	1		µg/L	0	GE
		Bromomethane (Methyl bromide)	<1.7	1		µg/L	0	GE
		Cadmium, total recoverable	<3.3	1		µg/L	0	GE
		Carbon disulfide	<1.7	1		µg/L	0	GE
		Carbon tetrachloride	<1.7	1		µg/L	0	GE
		Chloride	1,920	1		µg/L	0	GE
		Chlorobenzene	<1.7	1		µg/L	0	GE
		Chloroethane	<1.7	1		µg/L	0	GE
		Chloroethene (Vinyl chloride)	<1.7	1		µg/L	0	GE
		Chloroform	<1.7	1		µg/L	0	GE
		Chloromethane (Methyl chloride)	<1.7	1		µg/L	0	GE
		Chloroprene	<333	1		µg/L	0	GE
		Chromium, total recoverable	<6.7	1		µg/L	0	GE
		Cyanide	<8.3	1		µg/L	0	GE
		Dibromochloromethane	<1.7	1		µg/L	0	GE
		1,2-Dibromo-3-chloropropane	<1.7	1		µg/L	0	GE
		1,2-Dibromomethane	<33	1		µg/L	0	GE
		Dibromomethane (Methylene bromide)	<1.7	1		µg/L	0	GE
		trans-1,4-Dichloro-2-butene	<50	1		µg/L	0	GE
		Dichlorodifluoromethane	<1.7	1		µg/L	0	GE
		1,1-Dichloroethane	<1.7	1		µg/L	0	GE
		1,2-Dichloroethane	<1.7	1		µg/L	0	GE
		cis-1,2-Dichloroethylene	5.2	1		µg/L	0	GE
		1,1-Dichloroethylene	<1.7	1		µg/L	0	GE
		trans-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		Dichloromethane (Methylene chloride)	<1.7	1		µg/L	0	GE
		2,4-Dichlorophenoxyacetic acid	<0.0028	1		µg/L	0	GE

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 4A collected on 01/25/95, laboratory analyses (cont.)

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		1,2-Dichloropropane	<1.7	1		µg/L	0	GE
		cis-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		trans-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		Endrin	<0.0096	1		µg/L	0	GE
		Ethylbenzene	<1.7	1		µg/L	0	GE
		Fluoride	<50	1		µg/L	0	GE
		2-Hexanone	<1.7	1		µg/L	0	GE
		Iodomethane (Methyl iodide)	<25	1		µg/L	0	GE
		Iron, total recoverable	6.2	1	J	µg/L	0	GE
		Isobutyl alcohol	<167	1		µg/L	0	GE
		Lead, total recoverable	<5.0	1		µg/L	0	GE
		Lindane	<0.0080	1		µg/L	0	GE
		Manganese, total recoverable	7.4	1		µg/L	0	GE
		Mercury, total recoverable	<0.33	1		µg/L	0	GE
		Methacrylonitrile	<83	1		µg/L	0	GE
		Methoxychlor	<0.80	1		µg/L	0	GE
		Methyl ethyl ketone	<1.7	1		µg/L	0	GE
		Methyl isobutyl ketone	<1.7	1		µg/L	0	GE
		Methyl methacrylate	<10	1		µg/L	0	GE
		Nickel, total recoverable	<6.7	1		µg/L	0	GE
		Nitrate-nitrite as nitrogen	884	1		µg/L	0	GE
		Phenol	<17	1		µg/L	0	GE
		Propionitrile	<333	1		µg/L	0	GE
		Selenium, total recoverable	<3.3	1		µg/L	0	GE
		Silver, total recoverable	<3.3	1		µg/L	0	GE
		Styrene	<1.7	1		µg/L	0	GE
		1,1,1,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		1,1,2,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
■		Tetrachloroethylene	29	1		µg/L	2	GE
		Toluene	<1.7	1		µg/L	0	GE
		Total organic carbon	<1,670	1		µg/L	0	GE
		Total organic halogens	138	1		µg/L	2	GE
		Total phosphates (as P)	<83	1		µg/L	0	GE
		Toxaphene	<0.39	1		µg/L	0	GE
		2,4,5-TP (Silvex)	<0.0071	1		µg/L	0	GE
		1,1,1-Trichloroethane	<1.7	1		µg/L	0	GE
		1,1,2-Trichloroethane	<1.7	1		µg/L	0	GE
■		Trichloroethylene	358	10		µg/L	2	GE
		Trichlorofluoromethane	<1.7	1		µg/L	0	GE
		1,2,3-Trichloropropane	<1.7	1		µg/L	0	GE
		Vinyl acetate	<1.7	1		µg/L	0	GE
		Xylenes	<3.3	1		µg/L	0	GE
		Zinc, total recoverable	<3.3	1		µg/L	0	GE
		Gross alpha	3.4E-01	1	UI	pCi/L	0	GP
		Nonvolatile beta	6.4E-01	1	UI	pCi/L	0	GP
		Radium, total alpha-emitting	1.0E-01	1	UI	pCi/L	0	GP

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 4B

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Formation
N104145.6 E51482.7	33.340093 °N 81.733582 °W	157.3-152.3 ft msl	380.4 ft msl	4" PVC	S	LL

FIELD MEASUREMENTS

Sample date: 02/01/95	Time: 11:10
Depth to water: 154.65 ft (47.14 m) below TOC	pH: 4.9
Water elevation: 225.75 ft (68.81 m) msl	Alkalinity: 0 mg/L
Sp. conductance: 27 µS/cm	Water temperature: 18.6 °C
Turbidity: 1.5 NTU	
Water evacuated before sampling: 130 gal	Volumes purged: 2.7 well volumes

LABORATORY ANALYSES

H	ST	Analyte	Result	DF	Mod	Unit	Flag	Lab
		Acetone	<167	1		µg/L	0	GE
		Acetonitrile (Methyl cyanide)	<1.7	1		µg/L	0	GE
		Acrolein	<33	1		µg/L	0	GE
		Acrylonitrile	<33	1		µg/L	0	GE
		Allyl chloride	<83	1		µg/L	0	GE
		Aluminum, total recoverable	30	1	J	µg/L	1	GE
		Arsenic, total recoverable	<3.3	1		µg/L	0	GE
		Barium, total recoverable	6.5	1		µg/L	0	GE
		Benzene	<1.7	1		µg/L	0	GE
		Bis(2-chloroisopropyl) ether	<10	1		µg/L	0	GE
		Bromodichloromethane	<1.7	1		µg/L	0	GE
		Bromoform	<1.7	1		µg/L	0	GE
		Bromomethane (Methyl bromide)	<1.7	1		µg/L	0	GE
		Cadmium, total recoverable	<3.3	1		µg/L	0	GE
		Carbon disulfide	<1.7	1		µg/L	0	GE
		Carbon tetrachloride	<1.7	1		µg/L	0	GE
		Chloride	4,400	1		µg/L	0	GE
		Chlorobenzene	<1.7	1		µg/L	0	GE
		Chloroethane	<1.7	1		µg/L	0	GE
		Chloroethene (Vinyl chloride)	<1.7	1		µg/L	0	GE
		Chloroform	<1.7	1		µg/L	0	GE
		Chloromethane (Methyl chloride)	<1.7	1		µg/L	0	GE
		Chloroprene	<333	1		µg/L	0	GE
		Chromium, total recoverable	<6.7	1		µg/L	0	GE
•		Cyanide	<8.3	1	J1	µg/L	0	GE
		Dibromochloromethane	<1.7	1		µg/L	0	GE
		1,2-Dibromo-3-chloropropane	<1.7	1		µg/L	0	GE
		1,2-Dibromoethane	<33	1		µg/L	0	GE
		Dibromomethane (Methylene bromide)	<1.7	1		µg/L	0	GE
		trans-1,4-Dichloro-2-butene	<50	1		µg/L	0	GE
		Dichlorodifluoromethane	<1.7	1		µg/L	0	GE
		1,1-Dichloroethane	<1.7	1		µg/L	0	GE
		1,2-Dichloroethane	<1.7	1		µg/L	0	GE
		cis-1,2-Dichloroethylene	1.3	1	J	µg/L	0	GE
		1,1-Dichloroethylene	<1.7	1		µg/L	0	GE
		trans-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		Dichloromethane (Methylene chloride)	<1.7	1		µg/L	0	GE
		2,4-Dichlorophenoxyacetic acid	<0.0025	1		µg/L	0	GE
		1,2-Dichloropropane	<1.7	1		µg/L	0	GE

• = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 4B collected on 02/01/95, laboratory analyses (cont.)

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		cis-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		trans-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		Endrin	<0.0096	1		µg/L	0	GE
		Ethylbenzene	<1.7	1		µg/L	0	GE
		Fluoride	<50	1		µg/L	0	GE
		2-Hexanone	<1.7	1		µg/L	0	GE
		Iodomethane (Methyl iodide)	<25	1		µg/L	0	GE
		Iron, total recoverable	4.8	1	J	µg/L	0	GE
		Isobutyl alcohol	<167	1		µg/L	0	GE
		Lead, total recoverable	<5.0	1		µg/L	0	GE
		Lindane	<0.0080	1		µg/L	0	GE
		Manganese, total recoverable	5.5	1		µg/L	0	GE
		Mercury, total recoverable	<0.33	1		µg/L	0	GE
		Methacrylonitrile	<83	1		µg/L	0	GE
		Methoxychlor	<0.80	1		µg/L	0	GE
		Methyl ethyl ketone	<1.7	1		µg/L	0	GE
		Methyl isobutyl ketone	<1.7	1		µg/L	0	GE
		Methyl methacrylate	<10	1		µg/L	0	GE
		Nickel, total recoverable	<6.7	1		µg/L	0	GE
		Nitrate-nitrite as nitrogen	640	1		µg/L	0	GE
		Nitrate-nitrite as nitrogen	724	1		µg/L	0	GE
		Phenol	<17	1		µg/L	0	GE
		Propionitrile	<333	1		µg/L	0	GE
		Selenium, total recoverable	<3.3	1		µg/L	0	GE
		Silver, total recoverable	<3.3	1		µg/L	0	GE
		Styrene	<1.7	1		µg/L	0	GE
		1,1,1,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		1,1,2,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		Tetrachloroethylene	<1.7	1		µg/L	0	GE
		Toluene	<1.7	1		µg/L	0	GE
		Total organic carbon	1,270	1	J	µg/L	0	GE
		Total organic halogens	18	1		µg/L	0	GE
		Total phosphates (as P)	<83	1		µg/L	0	GE
		Toxaphene	<0.39	1		µg/L	0	GE
		2,4,5-TP (Silvex)	<0.00075	1		µg/L	0	GE
		1,1,1-Trichloroethane	<1.7	1		µg/L	0	GE
		1,1,2-Trichloroethane	<1.7	1		µg/L	0	GE
		Trichloroethylene	3.3	1		µg/L	1	GE
		Trichlorofluoromethane	<1.7	1		µg/L	0	GE
		1,2,3-Trichloropropane	<1.7	1		µg/L	0	GE
		Vinyl acetate	<1.7	1		µg/L	0	GE
		Xylenes	<3.3	1		µg/L	0	GE
		Zinc, total recoverable	<3.3	1		µg/L	0	GE
		Gross alpha	7.1E-01	1	UI	pCi/L	0	GP
		Nonvolatile beta	1.4E+00	1	UI	pCi/L	0	GP
		Radium, total alpha-emitting	1.0E-01	1	UI	pCi/L	0	GP

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 4D

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Formation</u>
N104154.7 E51489.0	33.340124 °N 81.733584 °W	233.4-213.4 ft msl	380.3 ft msl	4" PVC	S	M

FIELD MEASUREMENTS

Sample date: 02/02/95
Depth to water: 146.23 ft (44.57 m) below TOC
Water elevation: 234.07 ft (71.35 m) msl
Sp. conductance: 49 µS/cm
Turbidity: 18.9 NTU
Water evacuated before sampling: 16 gal
The well went dry during purging.

Time: 10:16
pH: 4.8
Alkalinity: 3 mg/L
Water temperature: 17.4 °C

Volumes purged: 1.2 well volumes

LABORATORY ANALYSES

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		Acetone	<167	1		µg/L	0	GE
		Acetonitrile (Methyl cyanide)	<1.7	1		µg/L	0	GE
		Acrolein	<33	1		µg/L	0	GE
		Acrylonitrile	<33	1		µg/L	0	GE
		Allyl chloride	<83	1		µg/L	0	GE
		Aluminum, total recoverable	129	1		µg/L	2	GE
		Arsenic, total recoverable	<3.3	1		µg/L	0	GE
		Barium, total recoverable	10.0	1		µg/L	0	GE
		Benzene	<1.7	1		µg/L	0	GE
		Bis(2-chloroisopropyl) ether	<10	1		µg/L	0	GE
		Bromodichloromethane	<1.7	1		µg/L	0	GE
		Bromoform	<1.7	1		µg/L	0	GE
		Bromomethane (Methyl bromide)	<1.7	1		µg/L	0	GE
		Cadmium, total recoverable	<3.3	1		µg/L	0	GE
		Carbon disulfide	<1.7	1		µg/L	0	GE
		Carbon tetrachloride	1.6	1	J	µg/L	0	GE
		Chloride	3,450	1		µg/L	0	GE
		Chlorobenzene	<1.7	1		µg/L	0	GE
		Chloroethane	<1.7	1		µg/L	0	GE
		Chloroethene (Vinyl chloride)	<1.7	1		µg/L	0	GE
		Chloroform	<1.7	1		µg/L	0	GE
		Chloromethane (Methyl chloride)	<1.7	1		µg/L	0	GE
		Chloroprene	<333	1		µg/L	0	GE
		Chromium, total recoverable	<6.7	1		µg/L	0	GE
		Cyanide	<8.3	1		µg/L	0	GE
		Dibromochloromethane	<1.7	1		µg/L	0	GE
		1,2-Dibromo-3-chloropropane	<1.7	1		µg/L	0	GE
		1,2-Dibromoethane	<33	1		µg/L	0	GE
		Dibromomethane (Methylene bromide)	<1.7	1		µg/L	0	GE
		trans-1,4-Dichloro-2-butene	<50	1		µg/L	0	GE
		Dichlorodifluoromethane	<1.7	1		µg/L	0	GE
		1,1-Dichloroethane	1.2	1	J	µg/L	0	GE
		1,2-Dichloroethane	<1.7	1		µg/L	0	GE
		cis-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		1,1-Dichloroethylene	<1.7	1		µg/L	0	GE
		trans-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		Dichloromethane (Methylene chloride)	<1.7	1		µg/L	0	GE
		2,4-Dichlorophenoxyacetic acid	<0.0025	1		µg/L	0	GE
		1,2-Dichloropropane	<8.3	5		µg/L	0	GE

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 4D collected on 02/02/95, laboratory analyses (cont.)

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		cis-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		trans-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		Endrin	<0.0098	1		µg/L	0	GE
		Ethylbenzene	<1.7	1		µg/L	0	GE
		Fluoride	<50	1		µg/L	0	GE
		2-Hexanone	<1.7	1		µg/L	0	GE
		Iodomethane (Methyl iodide)	<25	1		µg/L	0	GE
		Iron, total recoverable	615	1		µg/L	2	GE
		Isobutyl alcohol	<167	1		µg/L	0	GE
		Lead, total recoverable	7.8	1		µg/L	0	GE
		Lindane	<0.0082	1		µg/L	0	GE
		Manganese, total recoverable	18	1		µg/L	0	GE
		Mercury, total recoverable	<0.33	1		µg/L	0	GE
		Methacrylonitrile	<83	1		µg/L	0	GE
		Methoxychlor	<0.82	1		µg/L	0	GE
		Methyl ethyl ketone	<1.7	1		µg/L	0	GE
		Methyl isobutyl ketone	<1.7	1		µg/L	0	GE
		Methyl methacrylate	<10	1		µg/L	0	GE
		Nickel, total recoverable	<6.7	1		µg/L	0	GE
		Nitrate-nitrite as nitrogen	1,970	2		µg/L	0	GE
		Phenol	<17	1		µg/L	0	GE
		Propionitrile	<333	1		µg/L	0	GE
		Selenium, total recoverable	<3.3	1		µg/L	0	GE
		Silver, total recoverable	<3.3	1		µg/L	0	GE
		Styrene	<1.7	1		µg/L	0	GE
		1,1,1,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		1,1,2,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
■		Tetrachloroethylene	9.0	1		µg/L	2	GE
		Toluene	<1.7	1		µg/L	0	GE
		Total organic carbon	<1,670	1		µg/L	0	GE
		Total organic halogens	71	1		µg/L	2	GE
		Total phosphates (as P)	<83	1		µg/L	0	GE
		Toxaphene	<0.39	1		µg/L	0	GE
		2,4,5-TP (Silvex)	<0.00074	1		µg/L	0	GE
		1,1,1-Trichloroethane	<1.7	1		µg/L	0	GE
		1,1,2-Trichloroethane	<1.7	1		µg/L	0	GE
■		Trichloroethylene	129	5		µg/L	2	GE
		Trichlorofluoromethane	<1.7	1		µg/L	0	GE
		1,2,3-Trichloropropane	<1.7	1		µg/L	0	GE
		Vinyl acetate	<1.7	1		µg/L	0	GE
		Xylenes	<3.3	1		µg/L	0	GE
		Zinc, total recoverable	23	1		µg/L	0	GE
		Gross alpha	1.1E+01	1		pCi/L	1	GP
		Nonvolatile beta	2.9E+00	1		pCi/L	0	GP
		Radium, total alpha-emitting	8.6E+00	1		pCi/L	0	GP

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 5

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Formation
N104083.4 E51467.2	33.339930 °N 81.733502 °W	242.1-222.1 ft msl	379.6 ft msl	4" PVC	S	MGCL

FIELD MEASUREMENTS

Sample date: 02/01/95
Depth to water: 145.02 ft (44.20 m) below TOC
Water elevation: 234.58 ft (71.50 m) msl
Sp. conductance: 42 µS/cm
Turbidity: 4.5 NTU
Water evacuated before sampling: 88 gal

Time: 12:02
pH: 5.3
Alkalinity: 5 mg/L
Water temperature: 19.0 °C

Volumes purged: 10.7 well volumes

LABORATORY ANALYSES

H	ST	Analyte	Result	DF	Mod	Unit	Flag	Lab
		Acetone	<167	1		µg/L	0	GE
		Acetonitrile (Methyl cyanide)	<1.7	1		µg/L	0	GE
		Acrolein	<33	1		µg/L	0	GE
		Acrylonitrile	<33	1		µg/L	0	GE
		Aldrin	<0.083	1		µg/L	0	GE
		Allyl chloride	<83	1		µg/L	0	GE
		Aluminum, total recoverable	111	1		µg/L	2	GE
		Arsenic, total recoverable	<3.3	1		µg/L	0	GE
		Barium, total recoverable	3.5	1	J	µg/L	0	GE
		Benzene	<1.7	1		µg/L	0	GE
		Bis(2-chloroisopropyl) ether	<10	1		µg/L	0	GE
		Bromodichloromethane	<1.7	1		µg/L	0	GE
		Bromoform	<1.7	1		µg/L	0	GE
		Bromomethane (Methyl bromide)	<1.7	1		µg/L	0	GE
		Cadmium, total recoverable	<3.3	1		µg/L	0	GE
		Carbon disulfide	<1.7	1		µg/L	0	GE
		Carbon tetrachloride	<1.7	1		µg/L	0	GE
		Chloride	3,250	1		µg/L	0	GE
		Chlorobenzene	<1.7	1		µg/L	0	GE
		Chloroethane	<1.7	1		µg/L	0	GE
		Chloroethene (Vinyl chloride)	<1.7	1		µg/L	0	GE
		Chloroform	<1.7	1		µg/L	0	GE
		Chloromethane (Methyl chloride)	<1.7	1		µg/L	0	GE
		Chloroprene	<333	1		µg/L	0	GE
		Chromium, total recoverable	<6.7	1		µg/L	0	GE
•		Cyanide	<8.3	1	J1	µg/L	0	GE
		p,p'-DDT	<0.17	1		µg/L	0	GE
		Dibromochloromethane	<1.7	1		µg/L	0	GE
		1,2-Dibromo-3-chloropropane	<1.7	1		µg/L	0	GE
		1,2-Dibromoethane	<33	1		µg/L	0	GE
		Dibromomethane (Methylene bromide)	<1.7	1		µg/L	0	GE
		trans-1,4-Dichloro-2-butene	<50	1		µg/L	0	GE
		Dichlorodifluoromethane	<1.7	1		µg/L	0	GE
		1,1-Dichloroethane	<1.7	1		µg/L	0	GE
		1,2-Dichloroethane	<1.7	1		µg/L	0	GE
		cis-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		1,1-Dichloroethylene	<1.7	1		µg/L	0	GE
		trans-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		Dichloromethane (Methylene chloride)	<1.7	1		µg/L	0	GE

• = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 5 collected on 02/01/95, laboratory analyses (cont.)

H	ST	Analyte	Result	DF	Mod	Unit	Flag	Lab
		2,4-Dichlorophenoxyacetic acid	<0.0025	1		µg/L	0	GE
		1,2-Dichloropropane	<1.7	1		µg/L	0	GE
		cis-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		trans-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		Dieldrin	<0.83	1		µg/L	0	GE
		Endrin	<0.010	1		µg/L	0	GE
		Endrin	<0.010	1		µg/L	0	GE
		Ethylbenzene	<1.7	1		µg/L	0	GE
		Fluoride	<50	1		µg/L	0	GE
		Heptachlor	<0.083	1		µg/L	0	GE
		2-Hexanone	<1.7	1		µg/L	0	GE
		Iodomethane (Methyl iodide)	<25	1		µg/L	0	GE
		Iron, total recoverable	64	1		µg/L	0	GE
		Isobutyl alcohol	<167	1		µg/L	0	GE
		Lead, total recoverable	<5.0	1		µg/L	0	GE
		Lindane	<0.0083	1		µg/L	0	GE
		Lindane	<0.0083	1		µg/L	0	GE
		Manganese, total recoverable	5.1	1		µg/L	0	GE
		Mercury, total recoverable	<0.33	1		µg/L	0	GE
		Methacrylonitrile	<83	1		µg/L	0	GE
		Methoxychlor	<0.83	1		µg/L	0	GE
		Methoxychlor	<0.83	1		µg/L	0	GE
		Methyl ethyl ketone	<1.7	1		µg/L	0	GE
		Methyl isobutyl ketone	<1.7	1		µg/L	0	GE
		Methyl methacrylate	<10	1		µg/L	0	GE
		Nickel, total recoverable	<6.7	1		µg/L	0	GE
		Nitrate-nitrite as nitrogen	726	1		µg/L	0	GE
		Phenol	<17	1		µg/L	0	GE
		Propionitrile	<333	1		µg/L	0	GE
		Selenium, total recoverable	<3.3	1		µg/L	0	GE
		Silver, total recoverable	<3.3	1		µg/L	0	GE
		Styrene	<1.7	1		µg/L	0	GE
		1,1,1,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		1,1,2,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		Tetrachloroethylene	2.2	1		µg/L	0	GE
		Toluene	<1.7	1		µg/L	0	GE
		Total organic carbon	1,100	1	J	µg/L	0	GE
		Total organic halogens	15	1		µg/L	0	GE
		Total phosphates (as P)	<83	1		µg/L	0	GE
		Toxaphene	<0.40	1		µg/L	0	GE
		Toxaphene	<0.40	1		µg/L	0	GE
		2,4,5-TP (Silvex)	<0.00074	1		µg/L	0	GE
		1,1,1-Trichloroethane	<1.7	1		µg/L	0	GE
		1,1,2-Trichloroethane	<1.7	1		µg/L	0	GE
■		Trichloroethylene	37	1		µg/L	2	GE
		Trichlorofluoromethane	<1.7	1		µg/L	0	GE
		1,2,3-Trichloropropane	<1.7	1		µg/L	0	GE
		Vinyl acetate	<1.7	1		µg/L	0	GE
		Xylenes	<3.3	1		µg/L	0	GE
		Zinc, total recoverable	<3.3	1		µg/L	0	GE
		Gross alpha	4.1E+00	1	J	pCi/L	0	GP
		Nonvolatile beta	2.6E+00	1	J	pCi/L	0	GP
		Radium, total alpha-emitting	2.9E+00	1		pCi/L	0	GP

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 6

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Formation</u>
N104034.1 E51466.0	33.339819 °N 81.733410 °W	242.6-222.6 ft msl	377.2 ft msl	4" PVC	S	GCL

FIELD MEASUREMENTS

Sample date: 02/02/95	Time: 10:36
Depth to water: 142.55 ft (43.45 m) below TOC	pH: 5.5
Water elevation: 234.65 ft (71.52 m) msl	Alkalinity: 10 mg/L
Sp. conductance: 48 µS/cm	Water temperature: 17.9 °C
Turbidity: 62.8 NTU	
Water evacuated before sampling: 3 gal	Volumes purged: 0.4 well volumes
The well went dry during purging.	

LABORATORY ANALYSES

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		Acetone	<167	1		µg/L	0	GE
		Acetonitrile (Methyl cyanide)	<1.7	1		µg/L	0	GE
		Acrolein	<33	1		µg/L	0	GE
		Acrylonitrile	<33	1		µg/L	0	GE
		Allyl chloride	<83	1		µg/L	0	GE
		Aluminum, total recoverable	2,300	1		µg/L	2	GE
		Aluminum, total recoverable	2,320	1		µg/L	2	GE
		Arsenic, total recoverable	<3.3	1		µg/L	0	GE
		Arsenic, total recoverable	<3.3	1		µg/L	0	GE
		Barium, total recoverable	6.2	1		µg/L	0	GE
		Barium, total recoverable	6.3	1		µg/L	0	GE
		Benzene	<1.7	1		µg/L	0	GE
		Bis(2-chloroisopropyl) ether	<10	1		µg/L	0	GE
		Bromodichloromethane	<1.7	1		µg/L	0	GE
		Bromoform	<1.7	1		µg/L	0	GE
		Bromomethane (Methyl bromide)	<1.7	1		µg/L	0	GE
		Cadmium, total recoverable	<3.3	1		µg/L	0	GE
		Cadmium, total recoverable	<3.3	1		µg/L	0	GE
		Carbon disulfide	<1.7	1		µg/L	0	GE
		Carbon tetrachloride	<1.7	1		µg/L	0	GE
		Chloride	2,790	1		µg/L	0	GE
		Chlorobenzene	<1.7	1		µg/L	0	GE
		Chloroethane	<1.7	1		µg/L	0	GE
		Chloroethene (Vinyl chloride)	<1.7	1		µg/L	0	GE
		Chloroform	<1.7	1		µg/L	0	GE
		Chloromethane (Methyl chloride)	<1.7	1		µg/L	0	GE
		Chloroprene	<333	1		µg/L	0	GE
		Chromium, total recoverable	<6.7	1		µg/L	0	GE
		Chromium, total recoverable	<6.7	1		µg/L	0	GE
		Cyanide	<8.3	1		µg/L	0	GE
		Dibromochloromethane	<1.7	1		µg/L	0	GE
		1,2-Dibromo-3-chloropropane	<1.7	1		µg/L	0	GE
		1,2-Dibromoethane	<33	1		µg/L	0	GE
		Dibromomethane (Methylene bromide)	<1.7	1		µg/L	0	GE
		trans-1,4-Dichloro-2-butene	<50	1		µg/L	0	GE
		Dichlorodifluoromethane	<1.7	1		µg/L	0	GE
		1,1-Dichloroethane	<1.7	1		µg/L	0	GE
		1,2-Dichloroethane	<1.7	1		µg/L	0	GE
		cis-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 6 collected on 02/02/95, laboratory analyses (cont.)

H	ST	Analyte	Result	DF	Mod	Unit	Flag	Lab
		1,1-Dichloroethylene	<1.7	1		µg/L	0	GE
		trans-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		Dichloromethane (Methylene chloride)	<1.7	1		µg/L	0	GE
		1,2-Dichloropropane	<1.7	1		µg/L	0	GE
		cis-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		trans-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		Ethylbenzene	<1.7	1		µg/L	0	GE
		Fluoride	<50	1		µg/L	0	GE
		2-Hexanone	<1.7	1		µg/L	0	GE
		Iodomethane (Methyl iodide)	<25	1		µg/L	0	GE
		Iron, total recoverable	2,020	1		µg/L	2	GE
		Iron, total recoverable	2,030	1		µg/L	2	GE
		Isobutyl alcohol	<167	1		µg/L	0	GE
		Lead, total recoverable	37	1		µg/L	1	GE
		Lead, total recoverable	37	1		µg/L	1	GE
		Lead, total recoverable	38	1		µg/L	1	GE
		Manganese, total recoverable	7.7	1		µg/L	0	GE
		Manganese, total recoverable	7.8	1		µg/L	0	GE
		Mercury, total recoverable	<0.33	1		µg/L	0	GE
		Methacrylonitrile	<83	1		µg/L	0	GE
		Methyl ethyl ketone	<1.7	1		µg/L	0	GE
		Methyl isobutyl ketone	<1.7	1		µg/L	0	GE
		Methyl methacrylate	<10	1		µg/L	0	GE
		Nickel, total recoverable	<6.7	1		µg/L	0	GE
		Nickel, total recoverable	<6.7	1		µg/L	0	GE
		Nitrate-nitrite as nitrogen	365	1		µg/L	0	GE
		Phenol	<17	1		µg/L	0	GE
		Propionitrile	<333	1		µg/L	0	GE
		Selenium, total recoverable	<3.3	1		µg/L	0	GE
		Selenium, total recoverable	<3.3	1		µg/L	0	GE
		Silver, total recoverable	<3.3	1		µg/L	0	GE
		Silver, total recoverable	<3.3	1		µg/L	0	GE
		Styrene	<1.7	1		µg/L	0	GE
		1,1,1,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		1,1,2,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		Tetrachloroethylene	<1.7	1		µg/L	0	GE
		Toluene	<1.7	1		µg/L	0	GE
		Total organic carbon	<1,670	1		µg/L	0	GE
		Total organic halogens	36	1		µg/L	1	GE
		Total phosphates (as P)	149	1		µg/L	0	GE
		1,1,1-Trichloroethane	<1.7	1		µg/L	0	GE
		1,1,2-Trichloroethane	<1.7	1		µg/L	0	GE
■		Trichloroethylene	11	1		µg/L	2	GE
		Trichlorofluoromethane	<1.7	1		µg/L	0	GE
		1,2,3-Trichloropropane	<1.7	1		µg/L	0	GE
		Vinyl acetate	<1.7	1		µg/L	0	GE
		Xylenes	<3.3	1		µg/L	0	GE
		Zinc, total recoverable	24	1		µg/L	0	GE
		Zinc, total recoverable	25	1		µg/L	0	GE
		Gross alpha	1.1E+00	1		pCi/L	0	GP
		Nonvolatile beta	1.2E+00	1	UI	pCi/L	0	GP
		Radium, total alpha-emitting	1.0E+00	1		pCi/L	0	GP

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 7

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Formation</u>
N103920.0 E51624.9	33.339827 °N 81.732769 °W	242.1-222.1 ft msl	369.9 ft msl	4" PVC	S	M

FIELD MEASUREMENTS

Sample date: 02/02/95	Time: 11:00
Depth to water: 134.93 ft (41.13 m) below TOC	pH: 6.0
Water elevation: 234.97 ft (71.62 m) msl	Alkalinity: 25 mg/L
Sp. conductance: 66 µS/cm	Water temperature: 17.8 °C
Turbidity: 8.6 NTU	
Water evacuated before sampling: 10 gal	Volumes purged: 1.2 well volumes
The well went dry during purging.	

LABORATORY ANALYSES

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		Acetone	<167	1		µg/L	0	GE
		Acetonitrile (Methyl cyanide)	<1.7	1		µg/L	0	GE
		Acrolein	<33	1		µg/L	0	GE
		Acrylonitrile	<33	1		µg/L	0	GE
		Allyl chloride	<83	1		µg/L	0	GE
		Aluminum, total recoverable	156	1		µg/L	2	GE
		Arsenic, total recoverable	<3.3	1		µg/L	0	GE
		Arsenic, total recoverable	<3.3	1		µg/L	0	GE
		Barium, total recoverable	8.4	1		µg/L	0	GE
		Benzene	<1.7	1		µg/L	0	GE
		Bis(2-chloroisopropyl) ether	<10	1		µg/L	0	GE
		Bromodichloromethane	<1.7	1		µg/L	0	GE
		Bromoform	<1.7	1		µg/L	0	GE
		Bromomethane (Methyl bromide)	<1.7	1		µg/L	0	GE
		Cadmium, total recoverable	<3.3	1		µg/L	0	GE
		Carbon disulfide	<1.7	1		µg/L	0	GE
		Carbon tetrachloride	<1.7	1		µg/L	0	GE
		Chloride	2,070	1		µg/L	0	GE
		Chlorobenzene	<1.7	1		µg/L	0	GE
		Chloroethane	<1.7	1		µg/L	0	GE
		Chloroethene (Vinyl chloride)	<1.7	1		µg/L	0	GE
		Chloroform	<1.7	1		µg/L	0	GE
		Chloromethane (Methyl chloride)	<1.7	1		µg/L	0	GE
		Chloroprene	<333	1		µg/L	0	GE
		Chromium, total recoverable	<6.7	1		µg/L	0	GE
		Cyanide	<8.3	1		µg/L	0	GE
		Dibromochloromethane	<1.7	1		µg/L	0	GE
		1,2-Dibromo-3-chloropropane	<1.7	1		µg/L	0	GE
		1,2-Dibromoethane	<33	1		µg/L	0	GE
		Dibromomethane (Methylene bromide)	<1.7	1		µg/L	0	GE
		trans-1,4-Dichloro-2-butene	<50	1		µg/L	0	GE
		Dichlorodifluoromethane	<1.7	1		µg/L	0	GE
		1,1-Dichloroethane	<1.7	1		µg/L	0	GE
		1,2-Dichloroethane	<1.7	1		µg/L	0	GE
		cis-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		1,1-Dichloroethylene	<1.7	1		µg/L	0	GE
		trans-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		Dichloromethane (Methylene chloride)	<1.7	1		µg/L	0	GE
		2,4-Dichlorophenoxyacetic acid	<0.0025	1		µg/L	0	GE

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 7 collected on 02/02/95, laboratory analyses (cont.)

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		1,2-Dichloropropane	<1.7	1		µg/L	0	GE
		cis-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		trans-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		Endrin	<0.010	1		µg/L	0	GE
		Ethylbenzene	<1.7	1		µg/L	0	GE
		Fluoride	<50	1		µg/L	0	GE
		2-Hexanone	<1.7	1		µg/L	0	GE
		Iodomethane (Methyl iodide)	<25	1		µg/L	0	GE
		Iron, total recoverable	167	1		µg/L	1	GE
		Isobutyl alcohol	<167	1		µg/L	0	GE
		Lead, total recoverable	11	1		µg/L	0	GE
		Lead, total recoverable	11	1		µg/L	0	GE
		Lindane	<0.0083	1		µg/L	0	GE
		Manganese, total recoverable	3.6	1		µg/L	0	GE
		Mercury, total recoverable	<0.33	1		µg/L	0	GE
		Methacrylonitrile	<83	1		µg/L	0	GE
		Methoxychlor	<0.83	1		µg/L	0	GE
		Methyl ethyl ketone	<1.7	1		µg/L	0	GE
		Methyl isobutyl ketone	<1.7	1		µg/L	0	GE
		Methyl methacrylate	<10	1		µg/L	0	GE
		Nickel, total recoverable	<6.7	1		µg/L	0	GE
		Nitrate-nitrite as nitrogen	239	1		µg/L	0	GE
		Phenol	<17	1		µg/L	0	GE
		Propionitrile	<333	1		µg/L	0	GE
		Selenium, total recoverable	<3.3	1		µg/L	0	GE
		Selenium, total recoverable	<3.3	1		µg/L	0	GE
		Silver, total recoverable	<3.3	1		µg/L	0	GE
		Styrene	<1.7	1		µg/L	0	GE
		1,1,1,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		1,1,2,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		Tetrachloroethylene	<1.7	1		µg/L	0	GE
		Toluene	<1.7	1		µg/L	0	GE
		Total organic carbon	<1,670	1		µg/L	0	GE
		Total organic halogens	<8.3	1	J3	µg/L	0	GE
		Total organic halogens	<8.3	1	J3	µg/L	0	GE
		Total phosphates (as P)	<83	1		µg/L	0	GE
		Toxaphene	<0.40	1		µg/L	0	GE
		2,4,5-TP (Silvex)	<0.00076	1		µg/L	0	GE
		1,1,1-Trichloroethane	<1.7	1		µg/L	0	GE
		1,1,2-Trichloroethane	<1.7	1		µg/L	0	GE
		Trichloroethylene	4.2	1		µg/L	1	GE
		Trichlorofluoromethane	<1.7	1		µg/L	0	GE
		1,2,3-Trichloropropane	<1.7	1		µg/L	0	GE
		Vinyl acetate	<1.7	1		µg/L	0	GE
		Xylenes	<3.3	1		µg/L	0	GE
		Zinc, total recoverable	114	1		µg/L	0	GE
		Gross alpha	1.2E+00	1		pCi/L	0	GP
		Nonvolatile beta	1.0E+00	1	UI	pCi/L	0	GP
		Radium, total alpha-emitting	1.0E-01	1	UI	pCi/L	0	GP

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WELL AMB 7A

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Formation</u>
N103987.1 E51591.0	33.339920 °N 81.732989 °W	125.6-115.6 ft msl	373.6 ft msl	4" PVC	S	MCBC

FIELD MEASUREMENTS

Sample date: 02/02/95	Time: 12:20
Depth to water: 153.35 ft (46.74 m) below TOC	pH: 5.9
Water elevation: 220.25 ft (67.13 m) msl	Alkalinity: 5 mg/L
Sp. conductance: 25 µS/cm	Water temperature: 18.5 °C
Turbidity: 1.7 NTU	
Water evacuated before sampling: 197 gal	Volumes purged: 2.9 well volumes

LABORATORY ANALYSES

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		Acetone	<834	5		µg/L	0	GE
		Acetonitrile (Methyl cyanide)	<8.3	5		µg/L	0	GE
		Acrolein	<167	5		µg/L	0	GE
		Acrylonitrile	<167	5		µg/L	0	GE
		Allyl chloride	<417	5		µg/L	0	GE
		Aluminum, total recoverable	<33	1		µg/L	0	GE
		Arsenic, total recoverable	<3.3	1		µg/L	0	GE
		Barium, total recoverable	4.6	1	J	µg/L	0	GE
		Benzene	<8.3	5		µg/L	0	GE
		Bis(2-chloroisopropyl) ether	<50	5		µg/L	0	GE
		Bromodichloromethane	<8.3	5		µg/L	0	GE
		Bromoform	<8.3	5		µg/L	0	GE
		Bromomethane (Methyl bromide)	<8.3	5		µg/L	0	GE
		Cadmium, total recoverable	<3.3	1		µg/L	0	GE
		Carbon disulfide	<8.3	5		µg/L	0	GE
		Carbon tetrachloride	<8.3	5		µg/L	0	GE
		Chloride	1,690	1		µg/L	0	GE
		Chlorobenzene	<8.3	5		µg/L	0	GE
		Chloroethane	<8.3	5		µg/L	0	GE
		Chloroethene (Vinyl chloride)	<8.3	5		µg/L	0	GE
		Chloroform	<8.3	5		µg/L	0	GE
		Chloromethane (Methyl chloride)	<8.3	5		µg/L	0	GE
		Chloroprene	<1,670	5		µg/L	0	GE
		Chromium, total recoverable	<6.7	1		µg/L	0	GE
		Cyanide	<8.3	1		µg/L	0	GE
		Dibromochloromethane	<8.3	5		µg/L	0	GE
		1,2-Dibromo-3-chloropropane	<8.3	5		µg/L	0	GE
		1,2-Dibromoethane	<167	5		µg/L	0	GE
		Dibromomethane (Methylene bromide)	<8.3	5		µg/L	0	GE
		trans-1,4-Dichloro-2-butene	<250	5		µg/L	0	GE
		Dichlorodifluoromethane	<8.3	5		µg/L	0	GE
		1,1-Dichloroethane	<8.3	5		µg/L	0	GE
		1,2-Dichloroethane	<8.3	5		µg/L	0	GE
		cis-1,2-Dichloroethylene	<8.3	5		µg/L	0	GE
		1,1-Dichloroethylene	<8.3	5		µg/L	0	GE
		trans-1,2-Dichloroethylene	<8.3	5		µg/L	0	GE
		Dichloromethane (Methylene chloride)	<8.3	5		µg/L	0	GE
		2,4-Dichlorophenoxyacetic acid	<0.0026	1		µg/L	0	GE
		1,2-Dichloropropane	<8.3	5		µg/L	0	GE

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 7A collected on 02/02/95, laboratory analyses (cont.)

H	ST	Analyte	Result	DF	Mod	Unit	Flag	Lab
		cis-1,3-Dichloropropene	<8.3	5		µg/L	0	GE
		trans-1,3-Dichloropropene	<8.3	5		µg/L	0	GE
		Endrin	<0.011	1		µg/L	0	GE
		Ethylbenzene	<8.3	5		µg/L	0	GE
		Fluoride	<50	1		µg/L	0	GE
		2-Hexanone	<8.3	5		µg/L	0	GE
		Iodomethane (Methyl iodide)	<125	5		µg/L	0	GE
		Iron, total recoverable	4.7	1	J	µg/L	0	GE
		Isobutyl alcohol	<834	5		µg/L	0	GE
		Lead, total recoverable	<5.0	1		µg/L	0	GE
		Lindane	<0.0093	1		µg/L	0	GE
		Manganese, total recoverable	5.9	1		µg/L	0	GE
		Mercury, total recoverable	<0.33	1		µg/L	0	GE
		Methacrylonitrile	<417	5		µg/L	0	GE
		Methoxychlor	<0.93	1		µg/L	0	GE
		Methyl ethyl ketone	<8.3	5		µg/L	0	GE
		Methyl isobutyl ketone	<8.3	5		µg/L	0	GE
		Methyl methacrylate	<50	5		µg/L	0	GE
		Nickel, total recoverable	<6.7	1		µg/L	0	GE
		Nitrate-nitrite as nitrogen	811	1		µg/L	0	GE
●		Phenol	<17	1	J1	µg/L	0	GE
		Propionitrile	<1,670	5		µg/L	0	GE
		Selenium, total recoverable	<3.3	1		µg/L	0	GE
		Silver, total recoverable	<3.3	1		µg/L	0	GE
		Styrene	<8.3	5		µg/L	0	GE
		1,1,1,2-Tetrachloroethane	<8.3	5		µg/L	0	GE
		1,1,2,2-Tetrachloroethane	<8.3	5		µg/L	0	GE
■		Tetrachloroethylene	17	5		µg/L	2	GE
		Toluene	<8.3	5		µg/L	0	GE
		Total organic carbon	<1,670	1		µg/L	0	GE
		Total organic halogens	115	1		µg/L	2	GE
		Total phosphates (as P)	<83	1		µg/L	0	GE
		Toxaphene	<0.44	1		µg/L	0	GE
		2,4,5-TP (Silvex)	<0.00077	1		µg/L	0	GE
		1,1,1-Trichloroethane	<8.3	5		µg/L	0	GE
		1,1,2-Trichloroethane	<8.3	5		µg/L	0	GE
■		Trichloroethylene	268	5		µg/L	2	GE
		Trichlorofluoromethane	<8.3	5		µg/L	0	GE
		1,2,3-Trichloropropane	<8.3	5		µg/L	0	GE
		Vinyl acetate	<8.3	5		µg/L	0	GE
		Xylenes	<17	5		µg/L	0	GE
		Zinc, total recoverable	5.4	1		µg/L	0	GE
		Gross alpha	4.2E-01	1	UI	pCi/L	0	GP
		Nonvolatile beta	8.0E-01	1	UI	pCi/L	0	GP
		Radium, total alpha-emitting	3.0E-01	1	UI	pCi/L	0	GP

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 7B

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Formation</u>
N103972.0 E51590.3	33.339885 °N 81.732961 °W	162.9-152.9 ft msl	373 ft msl	4" PVC	S	LL

FIELD MEASUREMENTS

Sample date: 02/02/95	Time: 12:02
Depth to water: 147.00 ft (44.81 m) below TOC	pH: 5.0
Water elevation: 226.00 ft (68.89 m) msl	Alkalinity: 1 mg/L
Sp. conductance: 24 µS/cm	Water temperature: 18.8 °C
Turbidity: 0.5 NTU	
Water evacuated before sampling: 200 gal	Volumes purged: 4.2 well volumes

LABORATORY ANALYSES

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		Acetone	<167	1		µg/L	0	GE
		Acetonitrile (Methyl cyanide)	<1.7	1		µg/L	0	GE
		Acrolein	<33	1		µg/L	0	GE
		Acrylonitrile	<33	1		µg/L	0	GE
		Allyl chloride	<83	1		µg/L	0	GE
		Aluminum, total recoverable	<33	1		µg/L	0	GE
		Arsenic, total recoverable	<3.3	1		µg/L	0	GE
		Barium, total recoverable	<5.0	1		µg/L	0	GE
		Benzene	<1.7	1		µg/L	0	GE
		Bis(2-chloroisopropyl) ether	<10	1		µg/L	0	GE
		Bromodichloromethane	<1.7	1		µg/L	0	GE
		Bromoform	<1.7	1		µg/L	0	GE
		Bromomethane (Methyl bromide)	<1.7	1		µg/L	0	GE
		Cadmium, total recoverable	<3.3	1		µg/L	0	GE
		Carbon disulfide	<1.7	1		µg/L	0	GE
		Carbon tetrachloride	<1.7	1		µg/L	0	GE
		Chloride	3,350	1		µg/L	0	GE
		Chlorobenzene	<1.7	1		µg/L	0	GE
		Chloroethane	<1.7	1		µg/L	0	GE
		Chloroethene (Vinyl chloride)	<1.7	1		µg/L	0	GE
		Chloroform	<1.7	1		µg/L	0	GE
		Chloromethane (Methyl chloride)	<1.7	1		µg/L	0	GE
		Chloroprene	<333	1		µg/L	0	GE
		Chromium, total recoverable	<6.7	1		µg/L	0	GE
		Cyanide	<8.3	1		µg/L	0	GE
		Dibromochloromethane	<1.7	1		µg/L	0	GE
		1,2-Dibromo-3-chloropropane	<1.7	1		µg/L	0	GE
		1,2-Dibromoethane	<33	1		µg/L	0	GE
		Dibromomethane (Methylene bromide)	<1.7	1		µg/L	0	GE
		trans-1,4-Dichloro-2-butene	<50	1		µg/L	0	GE
		Dichlorodifluoromethane	<1.7	1		µg/L	0	GE
		1,1-Dichloroethane	<1.7	1		µg/L	0	GE
		1,2-Dichloroethane	<1.7	1		µg/L	0	GE
		cis-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		1,1-Dichloroethylene	<1.7	1		µg/L	0	GE
		trans-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		Dichloromethane (Methylene chloride)	<1.7	1		µg/L	0	GE
		2,4-Dichlorophenoxyacetic acid	<0.0025	1		µg/L	0	GE
		1,2-Dichloropropane	<1.7	1		µg/L	0	GE

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 7B collected on 02/02/95, laboratory analyses (cont.)

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		cis-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		trans-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		Endrin	<0.010	1		µg/L	0	GE
		Ethylbenzene	<1.7	1		µg/L	0	GE
		Fluoride	<50	1		µg/L	0	GE
		2-Hexanone	<1.7	1		µg/L	0	GE
		Iodomethane (Methyl iodide)	<25	1		µg/L	0	GE
		Iron, total recoverable	<6.7	1		µg/L	0	GE
		Isobutyl alcohol	<167	1		µg/L	0	GE
		Lead, total recoverable	<5.0	1		µg/L	0	GE
		Lindane	<0.0084	1		µg/L	0	GE
		Manganese, total recoverable	<3.3	1		µg/L	0	GE
		Mercury, total recoverable	<0.33	1		µg/L	0	GE
		Methacrylonitrile	<83	1		µg/L	0	GE
		Methoxychlor	<0.84	1		µg/L	0	GE
		Methyl ethyl ketone	<1.7	1		µg/L	0	GE
		Methyl isobutyl ketone	<1.7	1		µg/L	0	GE
		Methyl methacrylate	<10	1		µg/L	0	GE
		Nickel, total recoverable	<6.7	1		µg/L	0	GE
		Nitrate-nitrite as nitrogen	410	1		µg/L	0	GE
		Phenol	<16	1		µg/L	0	GE
		Propionitrile	<333	1		µg/L	0	GE
		Selenium, total recoverable	<3.3	1		µg/L	0	GE
		Silver, total recoverable	<3.3	1		µg/L	0	GE
		Styrene	<1.7	1		µg/L	0	GE
		1,1,1,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		1,1,2,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		Tetrachloroethylene	<1.7	1		µg/L	0	GE
		Toluene	<1.7	1		µg/L	0	GE
		Total organic carbon	<1,670	1		µg/L	0	GE
		Total organic halogens	19	1		µg/L	0	GE
		Total organic halogens	21	1		µg/L	0	GE
		Total phosphates (as P)	<83	1		µg/L	0	GE
		Toxaphene	<0.40	1		µg/L	0	GE
		2,4,5-TP (Silvex)	<0.00076	1		µg/L	0	GE
		1,1,1-Trichloroethane	<1.7	1		µg/L	0	GE
		1,1,2-Trichloroethane	<1.7	1		µg/L	0	GE
		Trichloroethylene	4.0	1		µg/L	1	GE
		Trichlorofluoromethane	<1.7	1		µg/L	0	GE
		1,2,3-Trichloropropane	<1.7	1		µg/L	0	GE
		Vinyl acetate	<1.7	1		µg/L	0	GE
		Xylenes	<3.3	1		µg/L	0	GE
		Zinc, total recoverable	14	1		µg/L	0	GE
		Gross alpha	2.5E-01	1	UI	pCi/L	0	GP
		Nonvolatile beta	1.1E+00	1	UI	pCi/L	0	GP
		Radium, total alpha-emitting	2.0E-01	1	UI	pCi/L	0	GP
		Radium, total alpha-emitting	4.0E-01	1	UI	pCi/L	0	GP

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WELL AMB 8D

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Formation</u>
N103874.7 E51400.5	33.339360 °N 81.733272 °W	240.8-220.8 ft msl	369.6 ft msl	4" PVC	S	M

FIELD MEASUREMENTS

Sample date: 02/01/95
Depth to water: 134.95 ft (41.13 m) below TOC
Water elevation: 234.65 ft (71.52 m) msl
Sp. conductance: 49 μ S/cm
Turbidity: 0.7 NTU
Water evacuated before sampling: 53 gal

Time: 13:04
pH: 5.5
Alkalinity: 15 mg/L
Water temperature: 18.5 °C

Volumes purged: 5.8 well volumes

LABORATORY ANALYSES

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		Acetone	<167	1		μ g/L	0	GE
		Acetonitrile (Methyl cyanide)	<1.7	1		μ g/L	0	GE
		Acrolein	<33	1		μ g/L	0	GE
		Acrylonitrile	<33	1		μ g/L	0	GE
		Allyl chloride	<83	1		μ g/L	0	GE
		Aluminum, total recoverable	<33	1		μ g/L	0	GE
		Arsenic, total recoverable	<3.3	1		μ g/L	0	GE
		Barium, total recoverable	<5.0	1		μ g/L	0	GE
		Benzene	<1.7	1		μ g/L	0	GE
		Bis(2-chloroisopropyl) ether	<10	1		μ g/L	0	GE
		Bromodichloromethane	<1.7	1		μ g/L	0	GE
		Bromoform	<1.7	1		μ g/L	0	GE
		Bromomethane (Methyl bromide)	<1.7	1		μ g/L	0	GE
		Cadmium, total recoverable	<3.3	1		μ g/L	0	GE
		Carbon disulfide	<1.7	1		μ g/L	0	GE
		Carbon tetrachloride	<1.7	1		μ g/L	0	GE
		Chloride	2,940	1		μ g/L	0	GE
		Chlorobenzene	<1.7	1		μ g/L	0	GE
		Chloroethane	<1.7	1		μ g/L	0	GE
		Chloroethene (Vinyl chloride)	<1.7	1		μ g/L	0	GE
		Chloroform	<1.7	1		μ g/L	0	GE
		Chloromethane (Methyl chloride)	<1.7	1		μ g/L	0	GE
		Chloroprene	<333	1		μ g/L	0	GE
		Chromium, total recoverable	<6.7	1		μ g/L	0	GE
●		Cyanide	<8.3	1	J1	μ g/L	0	GE
		Dibromochloromethane	<1.7	1		μ g/L	0	GE
		1,2-Dibromo-3-chloropropane	<1.7	1		μ g/L	0	GE
		1,2-Dibromoethane	<33	1		μ g/L	0	GE
		Dibromomethane (Methylene bromide)	<1.7	1		μ g/L	0	GE
		trans-1,4-Dichloro-2-butene	<50	1		μ g/L	0	GE
		Dichlorodifluoromethane	<1.7	1		μ g/L	0	GE
		1,1-Dichloroethane	<1.7	1		μ g/L	0	GE
		1,2-Dichloroethane	<1.7	1		μ g/L	0	GE
		cis-1,2-Dichloroethylene	<1.7	1		μ g/L	0	GE
		1,1-Dichloroethylene	<1.7	1		μ g/L	0	GE
		trans-1,2-Dichloroethylene	<1.7	1		μ g/L	0	GE
		Dichloromethane (Methylene chloride)	<1.7	1		μ g/L	0	GE
		2,4-Dichlorophenoxyacetic acid	<0.0024	1		μ g/L	0	GE
		1,2-Dichloropropane	<1.7	1		μ g/L	0	GE

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 8D collected on 02/01/95, laboratory analyses (cont.)

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		cis-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		trans-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		Endrin	<0.0098	1		µg/L	0	GE
		Ethylbenzene	<1.7	1		µg/L	0	GE
		Fluoride	<50	1		µg/L	0	GE
		2-Hexanone	<1.7	1		µg/L	0	GE
		Iodomethane (Methyl iodide)	<25	1		µg/L	0	GE
		Iron, total recoverable	32	1		µg/L	0	GE
		Isobutyl alcohol	<167	1		µg/L	0	GE
		Lead, total recoverable	<5.0	1		µg/L	0	GE
		Lindane	<0.0082	1		µg/L	0	GE
		Manganese, total recoverable	<3.3	1		µg/L	0	GE
		Mercury, total recoverable	<0.33	1		µg/L	0	GE
		Methacrylonitrile	<83	1		µg/L	0	GE
		Methoxychlor	<0.82	1		µg/L	0	GE
		Methyl ethyl ketone	<1.7	1		µg/L	0	GE
		Methyl isobutyl ketone	<1.7	1		µg/L	0	GE
		Methyl methacrylate	<10	1		µg/L	0	GE
		Nickel, total recoverable	<6.7	1		µg/L	0	GE
		Nitrate-nitrite as nitrogen	499	1		µg/L	0	GE
		Phenol	<16,700	1		µg/L	0	GE
		Phenol	<17	1		µg/L	0	GE
		Propionitrile	<333	1		µg/L	0	GE
		Selenium, total recoverable	<3.3	1		µg/L	0	GE
		Silver, total recoverable	<3.3	1		µg/L	0	GE
		Styrene	<1.7	1		µg/L	0	GE
		1,1,1,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		1,1,2,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		Tetrachloroethylene	<1.7	1		µg/L	0	GE
		Toluene	<1.7	1		µg/L	0	GE
		Total organic carbon	1,720	1		µg/L	0	GE
		Total organic halogens	13	1		µg/L	0	GE
		Total phosphates (as P)	<83	1		µg/L	0	GE
		Toxaphene	<0.39	1		µg/L	0	GE
		2,4,5-TP (Silvex)	<0.00072	1		µg/L	0	GE
		1,1,1-Trichloroethane	<1.7	1		µg/L	0	GE
		1,1,2-Trichloroethane	<1.7	1		µg/L	0	GE
		Trichloroethylene	<1.7	1		µg/L	0	GE
		Trichlorofluoromethane	<1.7	1		µg/L	0	GE
		1,2,3-Trichloropropane	<1.7	1		µg/L	0	GE
		Vinyl acetate	<1.7	1		µg/L	0	GE
		Xylenes	<3.3	1		µg/L	0	GE
		Zinc, total recoverable	<3.3	1		µg/L	0	GE
		Gross alpha	1.7E+00	1	J	pCi/L	0	GP
		Nonvolatile beta	1.0E+00	1	UI	pCi/L	0	GP
		Radium, total alpha-emitting	3.0E-01	1	UI	pCi/L	0	GP

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 9D

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Formation</u>
N103585.2 E51263.0	33.338496 °N 81.733071 °W	239.7-219.7 ft msl	367.9 ft msl	4" PVC	S	M

FIELD MEASUREMENTS

Sample date: 02/01/95
Depth to water: 132.84 ft (40.49 m) below TOC
Water elevation: 235.06 ft (71.65 m) msl
Sp. conductance: 37 μ S/cm
Turbidity: 0.5 NTU
Water evacuated before sampling: 65 gal

Time: 13:39
pH: 5.5
Alkalinity: 5 mg/L
Water temperature: 17.5 °C

Volumes purged: 6.5 well volumes

LABORATORY ANALYSES

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		Acetone	<167	1		μ g/L	0	GE
		Acetonitrile (Methyl cyanide)	<1.7	1		μ g/L	0	GE
		Acrolein	<33	1		μ g/L	0	GE
		Acrylonitrile	<33	1		μ g/L	0	GE
		Allyl chloride	<83	1		μ g/L	0	GE
		Aluminum, total recoverable	<33	1		μ g/L	0	GE
		Arsenic, total recoverable	<3.3	1		μ g/L	0	GE
		Barium, total recoverable	<5.0	1		μ g/L	0	GE
		Benzene	<1.7	1		μ g/L	0	GE
		Bis(2-chloroisopropyl) ether	<10	1		μ g/L	0	GE
		Bromodichloromethane	<1.7	1		μ g/L	0	GE
		Bromoform	<1.7	1		μ g/L	0	GE
		Bromomethane (Methyl bromide)	<1.7	1		μ g/L	0	GE
		Cadmium, total recoverable	<3.3	1		μ g/L	0	GE
		Carbon disulfide	<1.7	1		μ g/L	0	GE
		Carbon tetrachloride	<1.7	1		μ g/L	0	GE
		Chloride	3,090	1		μ g/L	0	GE
		Chlorobenzene	<1.7	1		μ g/L	0	GE
		Chloroethane	<1.7	1		μ g/L	0	GE
		Chloroethene (Vinyl chloride)	<1.7	1		μ g/L	0	GE
		Chloroform	<1.7	1		μ g/L	0	GE
		Chloromethane (Methyl chloride)	<1.7	1		μ g/L	0	GE
		Chloroprene	<333	1		μ g/L	0	GE
		Chromium, total recoverable	<6.7	1		μ g/L	0	GE
●		Cyanide	<8.3	1	J1	μ g/L	0	GE
		Dibromochloromethane	<1.7	1		μ g/L	0	GE
		1,2-Dibromo-3-chloropropane	<1.7	1		μ g/L	0	GE
		1,2-Dibromoethane	<33	1		μ g/L	0	GE
		Dibromomethane (Methylene bromide)	<1.7	1		μ g/L	0	GE
		trans-1,4-Dichloro-2-butene	<50	1		μ g/L	0	GE
		Dichlorodifluoromethane	<1.7	1		μ g/L	0	GE
		1,1-Dichloroethane	<1.7	1		μ g/L	0	GE
		1,2-Dichloroethane	<1.7	1		μ g/L	0	GE
		cis-1,2-Dichloroethylene	<1.7	1		μ g/L	0	GE
		1,1-Dichloroethylene	<1.7	1		μ g/L	0	GE
		trans-1,2-Dichloroethylene	<1.7	1		μ g/L	0	GE
		Dichloromethane (Methylene chloride)	<1.7	1		μ g/L	0	GE
		2,4-Dichlorophenoxyacetic acid	<0.0025	1		μ g/L	0	GE
		1,2-Dichloropropane	<1.7	1		μ g/L	0	GE

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 9D collected on 02/01/95, laboratory analyses (cont.)

H	ST	Analyte	Result	DF	Mod	Unit	Flag	Lab
		cis-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		trans-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		Endrin	<0.0096	1		µg/L	0	GE
		Ethylbenzene	<1.7	1		µg/L	0	GE
		Fluoride	<50	1		µg/L	0	GE
		2-Hexanone	<1.7	1		µg/L	0	GE
		Iodomethane (Methyl iodide)	<25	1		µg/L	0	GE
		Iron, total recoverable	29	1		µg/L	0	GE
		Isobutyl alcohol	<167	1		µg/L	0	GE
		Lead, total recoverable	<5.0	1		µg/L	0	GE
		Lindane	<0.0080	1		µg/L	0	GE
		Manganese, total recoverable	2.1	1	J	µg/L	0	GE
		Mercury, total recoverable	<0.33	1		µg/L	0	GE
		Methacrylonitrile	<83	1		µg/L	0	GE
		Methoxychlor	<0.80	1		µg/L	0	GE
		Methyl ethyl ketone	<1.7	1		µg/L	0	GE
		Methyl isobutyl ketone	<1.7	1		µg/L	0	GE
		Methyl methacrylate	<10	1		µg/L	0	GE
		Nickel, total recoverable	<6.7	1		µg/L	0	GE
		Nitrate-nitrite as nitrogen	148	1		µg/L	0	GE
		Phenol	<16	1		µg/L	0	GE
		Propionitrile	<333	1		µg/L	0	GE
		Selenium, total recoverable	<3.3	1		µg/L	0	GE
		Silver, total recoverable	<3.3	1		µg/L	0	GE
		Styrene	<1.7	1		µg/L	0	GE
		1,1,1,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		1,1,2,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		Tetrachloroethylene	<1.7	1		µg/L	0	GE
		Toluene	<1.7	1		µg/L	0	GE
		Total organic carbon	1,380	1	J	µg/L	0	GE
		Total organic halogens	13	1		µg/L	0	GE
		Total phosphates (as P)	<83	1		µg/L	0	GE
		Toxaphene	<0.39	1		µg/L	0	GE
		2,4,5-TP (Silvex)	<0.00075	1		µg/L	0	GE
		1,1,1-Trichloroethane	<1.7	1		µg/L	0	GE
		1,1,2-Trichloroethane	<1.7	1		µg/L	0	GE
		Trichloroethylene	<1.7	1		µg/L	0	GE
		Trichlorofluoromethane	<1.7	1		µg/L	0	GE
		1,2,3-Trichloropropane	<1.7	1		µg/L	0	GE
		Vinyl acetate	<1.7	1		µg/L	0	GE
		Xylenes	<3.3	1		µg/L	0	GE
		Zinc, total recoverable	15	1		µg/L	0	GE
		Gross alpha	6.8E-01	1	UI	pCi/L	0	GP
		Nonvolatile beta	7.3E-01	1	UI	pCi/L	0	GP
		Radium, total alpha-emitting	1.2E+00	1		pCi/L	0	GP

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 10A

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Formation</u>
N103326.4 E51410.0	33.338163 °N 81.732180 °W	111.4-106.4 ft msl	366.5 ft msl	4" PVC	S	MCBC

FIELD MEASUREMENTS

Sample date: 01/27/95	Time: 9:56
Depth to water: 147.55 ft (44.97 m) below TOC	pH: 11.5
Water elevation: 218.95 ft (66.74 m) msl	Alkalinity: 84 mg/L
Sp. conductance: 177 µS/cm	Water temperature: 14.7 °C
Turbidity: 13.5 NTU	
Water evacuated before sampling: 84 gal	Volumes purged: 1.1 well volumes
The well went dry during purging.	

LABORATORY ANALYSES

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		Acetone	<167	1		µg/L	0	GE
		Acetonitrile (Methyl cyanide)	<1.7	1		µg/L	0	GE
		Acrolein	<33	1		µg/L	0	GE
		Acrylonitrile	<33	1		µg/L	0	GE
		Allyl chloride	<83	1		µg/L	0	GE
		Aluminum, total recoverable	298	1		µg/L	2	GE
		Arsenic, total recoverable	<3.3	1		µg/L	0	GE
		Arsenic, total recoverable	<3.3	1		µg/L	0	GE
		Barium, total recoverable	24	1		µg/L	0	GE
		Benzene	<1.7	1		µg/L	0	GE
		Bis(2-chloroisopropyl) ether	<10	1		µg/L	0	GE
		Bromodichloromethane	<1.7	1		µg/L	0	GE
		Bromoform	<1.7	1		µg/L	0	GE
		Bromomethane (Methyl bromide)	<1.7	1		µg/L	0	GE
		Cadmium, total recoverable	<3.3	1		µg/L	0	GE
		Carbon disulfide	<1.7	1		µg/L	0	GE
		Carbon tetrachloride	<1.7	1		µg/L	0	GE
		Chloride	1,640	1		µg/L	0	GE
		Chlorobenzene	<1.7	1		µg/L	0	GE
		Chloroethane	<1.7	1		µg/L	0	GE
		Chloroethene (Vinyl chloride)	<1.7	1		µg/L	0	GE
		Chloroform	<1.7	1		µg/L	0	GE
		Chloromethane (Methyl chloride)	<1.7	1		µg/L	0	GE
		Chloroprene	<333	1		µg/L	0	GE
		Chromium, total recoverable	<6.7	1		µg/L	0	GE
		Cyanide	<8.3	1		µg/L	0	GE
		Dibromochloromethane	<1.7	1		µg/L	0	GE
		1,2-Dibromo-3-chloropropane	<1.7	1		µg/L	0	GE
		1,2-Dibromoethane	<33	1		µg/L	0	GE
		Dibromomethane (Methylene bromide)	<1.7	1		µg/L	0	GE
		trans-1,4-Dichloro-2-butene	<50	1		µg/L	0	GE
		Dichlorodifluoromethane	<1.7	1		µg/L	0	GE
		1,1-Dichloroethane	<1.7	1		µg/L	0	GE
		1,2-Dichloroethane	<1.7	1		µg/L	0	GE
		cis-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		1,1-Dichloroethylene	<1.7	1		µg/L	0	GE
		trans-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		Dichloromethane (Methylene chloride)	<1.7	1		µg/L	0	GE
		2,4-Dichlorophenoxyacetic acid	<0.0025	1		µg/L	0	GE

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 10A collected on 01/27/95, laboratory analyses (cont.)

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		1,2-Dichloropropane	<1.7	1		µg/L	0	GE
		cis-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		trans-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		Endrin	<0.010	1		µg/L	0	GE
		Ethylbenzene	<1.7	1		µg/L	0	GE
		Fluoride	46	1	J	µg/L	0	GE
		2-Hexanone	<1.7	1		µg/L	0	GE
		Iodomethane (Methyl iodide)	<25	1		µg/L	0	GE
		Iron, total recoverable	58	1		µg/L	0	GE
		Isobutyl alcohol	<167	1		µg/L	0	GE
		Lead, total recoverable	<5.0	1		µg/L	0	GE
		Lead, total recoverable	<5.0	1		µg/L	0	GE
		Lindane	<0.0083	1		µg/L	0	GE
		Manganese, total recoverable	3.3	1	J	µg/L	0	GE
		Mercury, total recoverable	<0.33	1		µg/L	0	GE
		Methacrylonitrile	<83	1		µg/L	0	GE
		Methoxychlor	<0.83	1		µg/L	0	GE
		Methyl ethyl ketone	1.2	1	J	µg/L	0	GE
		Methyl isobutyl ketone	<1.7	1		µg/L	0	GE
		Methyl methacrylate	<10	1		µg/L	0	GE
		Nickel, total recoverable	<6.7	1		µg/L	0	GE
		Nitrate-nitrite as nitrogen	153	1		µg/L	0	GE
		Phenol	<17	1		µg/L	0	GE
		Propionitrile	<333	1		µg/L	0	GE
		Selenium, total recoverable	<3.3	1		µg/L	0	GE
		Selenium, total recoverable	<3.3	1		µg/L	0	GE
		Silver, total recoverable	<3.3	1		µg/L	0	GE
		Styrene	<1.7	1		µg/L	0	GE
		1,1,1,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		1,1,2,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		Tetrachloroethylene	<1.7	1		µg/L	0	GE
		Toluene	<1.7	1		µg/L	0	GE
		Total organic carbon	<1,670	1		µg/L	0	GE
		Total organic halogens	6.4	1	J	µg/L	0	GE
		Total phosphates (as P)	<83	1		µg/L	0	GE
		Toxaphene	<0.40	1		µg/L	0	GE
		2,4,5-TP (Silvex)	<0.00074	1		µg/L	0	GE
		1,1,1-Trichloroethane	<1.7	1		µg/L	0	GE
		1,1,2-Trichloroethane	<1.7	1		µg/L	0	GE
		Trichloroethylene	<1.7	1		µg/L	0	GE
		Trichlorofluoromethane	<1.7	1		µg/L	0	GE
		1,2,3-Trichloropropane	<1.7	1		µg/L	0	GE
		Vinyl acetate	<1.7	1		µg/L	0	GE
		Xylenes	<3.3	1		µg/L	0	GE
		Zinc, total recoverable	2.2	1	J	µg/L	0	GE
		Gross alpha	8.9E-01	1	UI	pCi/L	0	GP
		Nonvolatile beta	4.4E+00	1		pCi/L	0	GP
		Radium, total alpha-emitting	0.0E+00	1	UI	pCi/L	0	GP

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 10B

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Formation</u>
N103337.3 E51418.3	33.338201 °N 81.732180 °W	154.3-149.3 ft msl	366.4 ft msl	4" PVC	S	LL

FIELD MEASUREMENTS

Sample date: 02/01/95	Time: 14:27
Depth to water: 141.80 ft (43.22 m) below TOC	pH: 6.2
Water elevation: 224.60 ft (68.46 m) msl	Alkalinity: 14 mg/L
Sp. conductance: 45 µS/cm	Water temperature: 18.4 °C
Turbidity: 1.6 NTU	
Water evacuated before sampling: 140 gal	Volumes purged: 2.8 well volumes

LABORATORY ANALYSES

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		Acetone	<167	1		µg/L	0	GE
		Acetone	<167	1		µg/L	0	GE
		Acetonitrile (Methyl cyanide)	<1.7	1		µg/L	0	GE
		Acetonitrile (Methyl cyanide)	<1.7	1		µg/L	0	GE
		Acrolein	<33	1		µg/L	0	GE
		Acrolein	<33	1		µg/L	0	GE
		Acrylonitrile	<33	1		µg/L	0	GE
		Acrylonitrile	<33	1		µg/L	0	GE
		Allyl chloride	<83	1		µg/L	0	GE
		Allyl chloride	<83	1		µg/L	0	GE
		Aluminum, total recoverable	<33	1		µg/L	0	GE
		Arsenic, total recoverable	<3.3	1		µg/L	0	GE
		Barium, total recoverable	13	1		µg/L	0	GE
		Benzene	<1.7	1		µg/L	0	GE
		Benzene	<1.7	1		µg/L	0	GE
		Bis(2-chloroisopropyl) ether	<10	1		µg/L	0	GE
		Bis(2-chloroisopropyl) ether	<10	1		µg/L	0	GE
		Bromodichloromethane	<1.7	1		µg/L	0	GE
		Bromodichloromethane	<1.7	1		µg/L	0	GE
		Bromoform	<1.7	1		µg/L	0	GE
		Bromoform	<1.7	1		µg/L	0	GE
		Bromomethane (Methyl bromide)	<1.7	1		µg/L	0	GE
		Bromomethane (Methyl bromide)	<1.7	1		µg/L	0	GE
		Cadmium, total recoverable	<3.3	1		µg/L	0	GE
		Carbon disulfide	<1.7	1		µg/L	0	GE
		Carbon disulfide	<1.7	1		µg/L	0	GE
		Carbon tetrachloride	<1.7	1		µg/L	0	GE
		Carbon tetrachloride	<1.7	1		µg/L	0	GE
		Chloride	3,370	1		µg/L	0	GE
		Chlorobenzene	<1.7	1		µg/L	0	GE
		Chlorobenzene	<1.7	1		µg/L	0	GE
		Chloroethane	<1.7	1		µg/L	0	GE
		Chloroethane	<1.7	1		µg/L	0	GE
		Chloroethene (Vinyl chloride)	<1.7	1		µg/L	0	GE
		Chloroethene (Vinyl chloride)	<1.7	1		µg/L	0	GE
		Chloroform	<1.7	1		µg/L	0	GE
		Chloroform	<1.7	1		µg/L	0	GE
		Chloromethane (Methyl chloride)	<1.7	1		µg/L	0	GE
		Chloromethane (Methyl chloride)	<1.7	1		µg/L	0	GE

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WELL AMB 10B collected on 02/01/95, laboratory analyses (cont.)

H	ST	Analyte	Result	DF	Mod	Unit	Flag	Lab
		Chloroprene	<333	1		µg/L	0	GE
		Chloroprene	<333	1		µg/L	0	GE
		Chromium, total recoverable	<6.7	1		µg/L	0	GE
●		Cyanide	<8.3	1	J1	µg/L	0	GE
		Dibromochloromethane	<1.7	1		µg/L	0	GE
		Dibromochloromethane	<1.7	1		µg/L	0	GE
		1,2-Dibromo-3-chloropropane	<1.7	1		µg/L	0	GE
		1,2-Dibromo-3-chloropropane	<1.7	1		µg/L	0	GE
		1,2-Dibromoethane	<33	1		µg/L	0	GE
		1,2-Dibromoethane	<33	1		µg/L	0	GE
		Dibromomethane (Methylene bromide)	<1.7	1		µg/L	0	GE
		Dibromomethane (Methylene bromide)	<1.7	1		µg/L	0	GE
		trans-1,4-Dichloro-2-butene	<50	1		µg/L	0	GE
		trans-1,4-Dichloro-2-butene	<50	1		µg/L	0	GE
		Dichlorodifluoromethane	<1.7	1		µg/L	0	GE
		Dichlorodifluoromethane	<1.7	1		µg/L	0	GE
		1,1-Dichloroethane	<1.7	1		µg/L	0	GE
		1,1-Dichloroethane	<1.7	1		µg/L	0	GE
		1,2-Dichloroethane	<1.7	1		µg/L	0	GE
		1,2-Dichloroethane	<1.7	1		µg/L	0	GE
		cis-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		cis-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		1,1-Dichloroethylene	<1.7	1		µg/L	0	GE
		1,1-Dichloroethylene	<1.7	1		µg/L	0	GE
		trans-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		trans-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		Dichloromethane (Methylene chloride)	<1.7	1		µg/L	0	GE
		Dichloromethane (Methylene chloride)	<1.7	1		µg/L	0	GE
		2,4-Dichlorophenoxyacetic acid	<0.0025	1		µg/L	0	GE
		2,4-Dichlorophenoxyacetic acid	<0.0025	1		µg/L	0	GE
		1,2-Dichloropropane	<1.7	1		µg/L	0	GE
		1,2-Dichloropropane	<1.7	1		µg/L	0	GE
		cis-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		cis-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		trans-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		trans-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		Endrin	<0.010	1		µg/L	0	GE
		Ethylbenzene	<1.7	1		µg/L	0	GE
		Ethylbenzene	<1.7	1		µg/L	0	GE
		Fluoride	<50	1		µg/L	0	GE
		2-Hexanone	<1.7	1		µg/L	0	GE
		2-Hexanone	<1.7	1		µg/L	0	GE
		Iodomethane (Methyl iodide)	<25	1		µg/L	0	GE
		Iodomethane (Methyl iodide)	<25	1		µg/L	0	GE
		Iron, total recoverable	<6.7	1		µg/L	0	GE
		Isobutyl alcohol	<167	1		µg/L	0	GE
		Isobutyl alcohol	<167	1		µg/L	0	GE
		Lead, total recoverable	<5.0	1		µg/L	0	GE
		Lindane	<0.0083	1		µg/L	0	GE
		Manganese, total recoverable	14	1		µg/L	0	GE
		Mercury, total recoverable	<0.33	1		µg/L	0	GE
		Methacrylonitrile	<83	1		µg/L	0	GE
		Methacrylonitrile	<83	1		µg/L	0	GE
		Methoxychlor	<0.83	1		µg/L	0	GE
		Methyl ethyl ketone	1.6	1	J	µg/L	0	GE
		Methyl ethyl ketone	<1.7	1		µg/L	0	GE

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 10B collected on 02/01/95, laboratory analyses (cont.)

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		Methyl isobutyl ketone	<1.7	1		µg/L	0	GE
		Methyl isobutyl ketone	<1.7	1		µg/L	0	GE
		Methyl methacrylate	<10	1		µg/L	0	GE
		Methyl methacrylate	<10	1		µg/L	0	GE
		Nickel, total recoverable	<6.7	1		µg/L	0	GE
		Nitrate-nitrite as nitrogen	98	1		µg/L	0	GE
		Phenol	<17	1		µg/L	0	GE
		Propionitrile	<333	1		µg/L	0	GE
		Propionitrile	<333	1		µg/L	0	GE
		Selenium, total recoverable	<3.3	1		µg/L	0	GE
		Silver, total recoverable	<3.3	1		µg/L	0	GE
		Styrene	<1.7	1		µg/L	0	GE
		Styrene	<1.7	1		µg/L	0	GE
		2,4,5-T	<0.00074	1		µg/L	0	GE
		1,1,1,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		1,1,1,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		1,1,2,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		1,1,2,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		Tetrachloroethylene	<1.7	1		µg/L	0	GE
		Tetrachloroethylene	<1.7	1		µg/L	0	GE
		Toluene	<1.7	1		µg/L	0	GE
		Toluene	<1.7	1		µg/L	0	GE
		Total organic carbon	1,050	1	J	µg/L	0	GE
		Total organic halogens	17	1		µg/L	0	GE
		Total phosphates (as P)	<83	1		µg/L	0	GE
		Total phosphates (as P)	<83	1		µg/L	0	GE
		Toxaphene	<0.40	1		µg/L	0	GE
		2,4,5-TP (Silvex)	<0.00070	1		µg/L	0	GE
		2,4,5-TP (Silvex)	<0.00074	1		µg/L	0	GE
		1,1,1-Trichloroethane	<1.7	1		µg/L	0	GE
		1,1,1-Trichloroethane	<1.7	1		µg/L	0	GE
		1,1,2-Trichloroethane	<1.7	1		µg/L	0	GE
		1,1,2-Trichloroethane	<1.7	1		µg/L	0	GE
		Trichloroethylene	<1.7	1		µg/L	0	GE
		Trichloroethylene	<1.7	1		µg/L	0	GE
		Trichlorofluoromethane	<1.7	1		µg/L	0	GE
		Trichlorofluoromethane	<1.7	1		µg/L	0	GE
		1,2,3-Trichloropropane	<1.7	1		µg/L	0	GE
		1,2,3-Trichloropropane	<1.7	1		µg/L	0	GE
		Vinyl acetate	<1.7	1		µg/L	0	GE
		Vinyl acetate	<1.7	1		µg/L	0	GE
		Xylenes	<3.3	1		µg/L	0	GE
		Xylenes	<3.3	1		µg/L	0	GE
		Zinc, total recoverable	3.9	1		µg/L	0	GE
		Gross alpha	5.7E-01	1	UI	pCi/L	0	GP
		Nonvolatile beta	8.1E-01	1	UI	pCi/L	0	GP
		Radium, total alpha-emitting	-1.0E-01	1	UI	pCi/L	0	GP

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 10D

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Formation</u>
N103293.4 E51456.0	33.338166 °N 81.731995 °W	239.4-219.4 ft msl	365.5 ft msl	4" PVC	S	M

FIELD MEASUREMENTS

Sample date: 02/02/95
Depth to water: 129.10 ft (39.35 m) below TOC
Water elevation: 236.40 ft (72.06 m) msl
Sp. conductance: 41 μ S/cm
Turbidity: 0.6 NTU
Water evacuated before sampling: 84 gal

Time: 13:41
pH: 5.4
Alkalinity: 10 mg/L
Water temperature: 17.8 °C

Volumes purged: 7.5 well volumes

LABORATORY ANALYSES

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		Acetone	<167	1		μ g/L	0	GE
		Acetonitrile (Methyl cyanide)	<1.7	1		μ g/L	0	GE
		Acrolein	<33	1		μ g/L	0	GE
		Acrylonitrile	<33	1		μ g/L	0	GE
		Allyl chloride	<83	1		μ g/L	0	GE
		Aluminum, total recoverable	89	1		μ g/L	2	GE
		Arsenic, total recoverable	<3.3	1		μ g/L	0	GE
		Barium, total recoverable	5.3	1		μ g/L	0	GE
		Benzene	<1.7	1		μ g/L	0	GE
		Bis(2-chloroisopropyl) ether	<10	1		μ g/L	0	GE
		Bromodichloromethane	<1.7	1		μ g/L	0	GE
		Bromoform	<1.7	1		μ g/L	0	GE
		Bromomethane (Methyl bromide)	<1.7	1		μ g/L	0	GE
		Cadmium, total recoverable	<3.3	1		μ g/L	0	GE
		Carbon disulfide	<1.7	1		μ g/L	0	GE
		Carbon tetrachloride	<1.7	1		μ g/L	0	GE
		Chloride	3,570	1		μ g/L	0	GE
		Chlorobenzene	<1.7	1		μ g/L	0	GE
		Chloroethane	<1.7	1		μ g/L	0	GE
		Chloroethene (Vinyl chloride)	<1.7	1		μ g/L	0	GE
		Chloroform	<1.7	1		μ g/L	0	GE
		Chloromethane (Methyl chloride)	<1.7	1		μ g/L	0	GE
		Chloroprene	<333	1		μ g/L	0	GE
		Chromium, total recoverable	<6.7	1		μ g/L	0	GE
		Cyanide	<8.3	1		μ g/L	0	GE
		Cyanide	<8.3	1		μ g/L	0	GE
		Dibromochloromethane	<1.7	1		μ g/L	0	GE
		1,2-Dibromo-3-chloropropane	<1.7	1		μ g/L	0	GE
		1,2-Dibromoethane	<33	1		μ g/L	0	GE
		Dibromomethane (Methylene bromide)	<1.7	1		μ g/L	0	GE
		trans-1,4-Dichloro-2-butene	<50	1		μ g/L	0	GE
		Dichlorodifluoromethane	<1.7	1		μ g/L	0	GE
		1,1-Dichloroethane	<1.7	1		μ g/L	0	GE
		1,2-Dichloroethane	<1.7	1		μ g/L	0	GE
		cis-1,2-Dichloroethylene	<1.7	1		μ g/L	0	GE
		1,1-Dichloroethylene	<1.7	1		μ g/L	0	GE
		trans-1,2-Dichloroethylene	<1.7	1		μ g/L	0	GE
		Dichloromethane (Methylene chloride)	<1.7	1		μ g/L	0	GE
		2,4-Dichlorophenoxyacetic acid	<0.0025	1		μ g/L	0	GE

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 10D collected on 02/02/95, laboratory analyses (cont.)

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		1,2-Dichloropropane	<1.7	1		µg/L	0	GE
		cis-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		trans-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		Endrin	<0.0098	1		µg/L	0	GE
		Ethylbenzene	<1.7	1		µg/L	0	GE
		Fluoride	<50	1		µg/L	0	GE
		2-Hexanone	<1.7	1		µg/L	0	GE
		Iodomethane (Methyl iodide)	<25	1		µg/L	0	GE
		Iron, total recoverable	29	1		µg/L	0	GE
		Isobutyl alcohol	<167	1		µg/L	0	GE
		Lead, total recoverable	<5.0	1		µg/L	0	GE
		Lindane	<0.0082	1		µg/L	0	GE
		Manganese, total recoverable	3.9	1		µg/L	0	GE
		Mercury, total recoverable	<0.33	1		µg/L	0	GE
		Methacrylonitrile	<83	1		µg/L	0	GE
		Methoxychlor	<0.82	1		µg/L	0	GE
		Methyl ethyl ketone	<1.7	1		µg/L	0	GE
		Methyl isobutyl ketone	<1.7	1		µg/L	0	GE
		Methyl methacrylate	<10	1		µg/L	0	GE
		Nickel, total recoverable	<6.7	1		µg/L	0	GE
		Nitrate-nitrite as nitrogen	107	1		µg/L	0	GE
		Phenol	<17	1		µg/L	0	GE
		Propionitrile	<333	1		µg/L	0	GE
		Selenium, total recoverable	<3.3	1		µg/L	0	GE
		Silver, total recoverable	<3.3	1		µg/L	0	GE
		Styrene	<1.7	1		µg/L	0	GE
		1,1,1,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		1,1,2,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		Tetrachloroethylene	<1.7	1		µg/L	0	GE
		Toluene	<1.7	1		µg/L	0	GE
		Total organic carbon	<1,670	1		µg/L	0	GE
		Total organic halogens	14	1		µg/L	0	GE
		Total phosphates (as P)	<83	1		µg/L	0	GE
		Toxaphene	<0.39	1		µg/L	0	GE
		2,4,5-TP (Silvex)	<0.00074	1		µg/L	0	GE
		1,1,1-Trichloroethane	<1.7	1		µg/L	0	GE
		1,1,2-Trichloroethane	<1.7	1		µg/L	0	GE
		Trichloroethylene	<1.7	1		µg/L	0	GE
		Trichlorofluoromethane	<1.7	1		µg/L	0	GE
		1,2,3-Trichloropropane	<1.7	1		µg/L	0	GE
		Vinyl acetate	<1.7	1		µg/L	0	GE
		Xylenes	<3.3	1		µg/L	0	GE
		Zinc, total recoverable	<3.3	1		µg/L	0	GE
		Gross alpha	1.3E+00	1		pCi/L	0	GP
		Nonvolatile beta	1.6E+00	1	UI	pCi/L	0	GP
		Radium, total alpha-emitting	1.0E+00	1		pCi/L	0	GP

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 10DD

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Formation
N103278.7 E51456.0	33.338133 °N 81.731966 °W	358.6-338.6 ft msl	365.4 ft msl	4" PVC	S	M

FIELD MEASUREMENTS

Sample date: 02/02/95
Depth to water: 6.10 ft (1.86 m) below TOC
Water elevation: 359.30 ft (109.52 m) msl
Sp. conductance: 107 µS/cm
Turbidity: 1.0 NTU
Water evacuated before sampling: 74 gal

Time: 14:09
pH: 6.4
Alkalinity: 50 mg/L
Water temperature: 17.4 °C

Volumes purged: 5.4 well volumes

LABORATORY ANALYSES

H	ST	Analyte	Result	DF	Mod	Unit	Flag	Lab
		Acetone	<167	1		µg/L	0	GE
		Acetonitrile (Methyl cyanide)	<1.7	1		µg/L	0	GE
		Acrolein	<33	1		µg/L	0	GE
		Acrylonitrile	<33	1		µg/L	0	GE
		Allyl chloride	<83	1		µg/L	0	GE
		Aluminum, total recoverable	<33	1		µg/L	0	GE
		Arsenic, total recoverable	3.1	1	J	µg/L	0	GE
		Barium, total recoverable	11	1		µg/L	0	GE
		Benzene	<1.7	1		µg/L	0	GE
		Bis(2-chloroisopropyl) ether	<10	1		µg/L	0	GE
		Bromodichloromethane	<1.7	1		µg/L	0	GE
		Bromoform	<1.7	1		µg/L	0	GE
		Bromomethane (Methyl bromide)	<1.7	1		µg/L	0	GE
		Cadmium, total recoverable	<3.3	1		µg/L	0	GE
		Carbon disulfide	<1.7	1		µg/L	0	GE
		Carbon tetrachloride	<1.7	1		µg/L	0	GE
		Chloride	2,660	1		µg/L	0	GE
		Chlorobenzene	<1.7	1		µg/L	0	GE
		Chloroethane	<1.7	1		µg/L	0	GE
		Chloroethene (Vinyl chloride)	<1.7	1		µg/L	0	GE
		Chloroform	<1.7	1		µg/L	0	GE
		Chloromethane (Methyl chloride)	<1.7	1		µg/L	0	GE
		Chloroprene	<333	1		µg/L	0	GE
		Chromium, total recoverable	<6.7	1		µg/L	0	GE
		Cyanide	<8.3	1		µg/L	0	GE
		Dibromochloromethane	<1.7	1		µg/L	0	GE
		1,2-Dibromo-3-chloropropane	<1.7	1		µg/L	0	GE
		1,2-Dibromoethane	<33	1		µg/L	0	GE
		Dibromomethane (Methylene bromide)	<1.7	1		µg/L	0	GE
		trans-1,4-Dichloro-2-butene	<50	1		µg/L	0	GE
		Dichlorodifluoromethane	<1.7	1		µg/L	0	GE
		1,1-Dichloroethane	<1.7	1		µg/L	0	GE
		1,2-Dichloroethane	<1.7	1		µg/L	0	GE
		cis-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		1,1-Dichloroethylene	<1.7	1		µg/L	0	GE
		trans-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		Dichloromethane (Methylene chloride)	<1.7	1		µg/L	0	GE
		2,4-Dichlorophenoxyacetic acid	<0.0024	1		µg/L	0	GE
		1,2-Dichloropropane	<1.7	1		µg/L	0	GE

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 10DD collected on 02/02/95, laboratory analyses (cont.)

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		cis-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		trans-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		Endrin	<0.0096	1		µg/L	0	GE
		Ethylbenzene	<1.7	1		µg/L	0	GE
		Fluoride	<50	1		µg/L	0	GE
		2-Hexanone	<1.7	1		µg/L	0	GE
		Iodomethane (Methyl iodide)	<25	1		µg/L	0	GE
		Iron, total recoverable	6,060	1		µg/L	2	GE
		Isobutyl alcohol	<167	1		µg/L	0	GE
		Lead, total recoverable	<5.0	1		µg/L	0	GE
		Lindane	<0.0080	1		µg/L	0	GE
		Manganese, total recoverable	337	1		µg/L	2	GE
		Mercury, total recoverable	<0.33	1		µg/L	0	GE
		Mercury, total recoverable	<0.33	1		µg/L	0	GE
		Methacrylonitrile	<83	1		µg/L	0	GE
		Methoxychlor	<0.80	1		µg/L	0	GE
		Methyl ethyl ketone	<1.7	1		µg/L	0	GE
		Methyl isobutyl ketone	<1.7	1		µg/L	0	GE
		Methyl methacrylate	<10	1		µg/L	0	GE
		Nickel, total recoverable	<6.7	1		µg/L	0	GE
		Nitrate-nitrite as nitrogen	<83	1		µg/L	0	GE
		Phenol	<16	1		µg/L	0	GE
		Phenols	<8.3	1		µg/L	0	GE
		Propionitrile	<333	1		µg/L	0	GE
		Selenium, total recoverable	<3.3	1		µg/L	0	GE
		Silver, total recoverable	<3.3	1		µg/L	0	GE
		Styrene	<1.7	1		µg/L	0	GE
		1,1,1,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		1,1,2,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		Tetrachloroethylene	<1.7	1		µg/L	0	GE
		Toluene	<1.7	1		µg/L	0	GE
		Total organic carbon	2,400	1		µg/L	0	GE
		Total organic halogens	<8.3	1		µg/L	0	GE
		Total phosphates (as P)	<83	1		µg/L	0	GE
		Toxaphene	<0.39	1		µg/L	0	GE
		2,4,5-TP (Silvex)	<0.00073	1		µg/L	0	GE
		1,1,1-Trichloroethane	<1.7	1		µg/L	0	GE
		1,1,2-Trichloroethane	<1.7	1		µg/L	0	GE
		Trichloroethylene	<1.7	1		µg/L	0	GE
		Trichlorofluoromethane	<1.7	1		µg/L	0	GE
		1,2,3-Trichloropropane	<1.7	1		µg/L	0	GE
		Vinyl acetate	<1.7	1		µg/L	0	GE
		Xylenes	<3.3	1		µg/L	0	GE
		Zinc, total recoverable	<3.3	1		µg/L	0	GE
		Gross alpha	7.4E-01	1	UI	pCi/L	0	GP
		Nonvolatile beta	9.6E-01	1	UI	pCi/L	0	GP
		Radium, total alpha-emitting	3.0E-01	1	UI	pCi/L	0	GP

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WELL AMB 11B

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Formation</u>
N103154.2 E51919.5	33.338615 °N 81.730503 °W	184.5-174.5 ft msl	364.6 ft msl	4" PVC	S	UL

FIELD MEASUREMENTS

Sample date: 02/03/95
Depth to water: 140.42 ft (42.80 m) below TOC
Water elevation: 224.18 ft (68.33 m) msl
Sp. conductance: 44 µS/cm
Turbidity: 0.6 NTU
Water evacuated before sampling: 98 gal

Time: 9:30
pH: 6.1
Alkalinity: 12 mg/L
Water temperature: 17.2 °C
Volumes purged: 3.0 well volumes

LABORATORY ANALYSES

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		Acetone	<167	1		µg/L	0	GE
		Acetonitrile (Methyl cyanide)	<1.7	1		µg/L	0	GE
		Acrolein	<33	1		µg/L	0	GE
		Acrylonitrile	<33	1		µg/L	0	GE
		Allyl chloride	<83	1		µg/L	0	GE
		Aluminum, total recoverable	<33	1		µg/L	0	GE
		Aluminum, total recoverable	<33	1		µg/L	0	GE
		Arsenic, total recoverable	<3.3	1		µg/L	0	GE
		Barium, total recoverable	33	1		µg/L	0	GE
		Barium, total recoverable	33	1		µg/L	0	GE
		Benzene	<1.7	1		µg/L	0	GE
		Bis(2-chloroisopropyl) ether	<10	1		µg/L	0	GE
		Bromodichloromethane	<1.7	1		µg/L	0	GE
		Bromoform	<1.7	1		µg/L	0	GE
		Bromomethane (Methyl bromide)	<1.7	1		µg/L	0	GE
		Cadmium, total recoverable	<3.3	1		µg/L	0	GE
		Cadmium, total recoverable	<3.3	1		µg/L	0	GE
		Carbon disulfide	<1.7	1		µg/L	0	GE
		Carbon tetrachloride	<1.7	1		µg/L	0	GE
		Chloride	3,730	1		µg/L	0	GE
		Chlorobenzene	<1.7	1		µg/L	0	GE
		Chloroethane	<1.7	1		µg/L	0	GE
		Chloroethene (Vinyl chloride)	<1.7	1		µg/L	0	GE
		Chloroform	<1.7	1		µg/L	0	GE
		Chloromethane (Methyl chloride)	<1.7	1		µg/L	0	GE
		Chloroprene	<333	1		µg/L	0	GE
		Chromium, total recoverable	<6.7	1		µg/L	0	GE
		Chromium, total recoverable	<6.7	1		µg/L	0	GE
		Cyanide	<8.3	1		µg/L	0	GE
		Dibromochloromethane	<1.7	1		µg/L	0	GE
		1,2-Dibromo-3-chloropropane	<1.7	1		µg/L	0	GE
		1,2-Dibromoethane	<33	1		µg/L	0	GE
		Dibromomethane (Methylene bromide)	<1.7	1		µg/L	0	GE
		trans-1,4-Dichloro-2-butene	<50	1		µg/L	0	GE
		Dichlorodifluoromethane	<1.7	1		µg/L	0	GE
		1,1-Dichloroethane	<1.7	1		µg/L	0	GE
		1,2-Dichloroethane	<1.7	1		µg/L	0	GE
		cis-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		1,1-Dichloroethylene	<1.7	1		µg/L	0	GE

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 11B collected on 02/03/95, laboratory analyses (cont.)

H	ST	Analyte	Result	DF	Mod	Unit	Flag	Lab
		trans-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		Dichloromethane (Methylene chloride)	<1.7	1		µg/L	0	GE
		2,4-Dichlorophenoxyacetic acid	<0.0025	1		µg/L	0	GE
		1,2-Dichloropropane	<1.7	1		µg/L	0	GE
		cis-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		trans-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		Endrin	<0.010	1		µg/L	0	GE
		Ethylbenzene	<1.7	1		µg/L	0	GE
		Fluoride	<50	1		µg/L	0	GE
		2-Hexanone	<1.7	1		µg/L	0	GE
		Iodomethane (Methyl iodide)	<25	1		µg/L	0	GE
		Iron, total recoverable	4.2	1	J	µg/L	0	GE
		Iron, total recoverable	<6.7	1		µg/L	0	GE
		Isobutyl alcohol	<167	1		µg/L	0	GE
		Lead, total recoverable	<25	1		µg/L	0	GE
		Lead, total recoverable	<5.0	1		µg/L	0	GE
		Lindane	<0.0084	1		µg/L	0	GE
		Manganese, total recoverable	12	1		µg/L	0	GE
		Manganese, total recoverable	12	1		µg/L	0	GE
		Mercury, total recoverable	<0.33	1		µg/L	0	GE
		Methacrylonitrile	<83	1		µg/L	0	GE
		Methoxychlor	<0.84	1		µg/L	0	GE
		Methyl ethyl ketone	<1.7	1		µg/L	0	GE
		Methyl isobutyl ketone	<1.7	1		µg/L	0	GE
		Methyl methacrylate	<10	1		µg/L	0	GE
		Nickel, total recoverable	<6.7	1		µg/L	0	GE
		Nickel, total recoverable	<6.7	1		µg/L	0	GE
		Nitrate-nitrite as nitrogen	324	1		µg/L	0	GE
		Nitrate-nitrite as nitrogen	329	1		µg/L	0	GE
•		Phenol	<17	1	J1	µg/L	0	GE
		Propionitrile	<333	1		µg/L	0	GE
		Selenium, total recoverable	<3.3	1		µg/L	0	GE
		Silver, total recoverable	<3.3	1		µg/L	0	GE
		Silver, total recoverable	<3.3	1		µg/L	0	GE
		Styrene	<1.7	1		µg/L	0	GE
		1,1,1,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		1,1,2,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		Tetrachloroethylene	<1.7	1		µg/L	0	GE
		Toluene	<1.7	1		µg/L	0	GE
		Total organic carbon	<1,670	1		µg/L	0	GE
		Total organic halogens	<8.3	1		µg/L	0	GE
		Total phosphates (as P)	<83	1	J3	µg/L	0	GE
		Total phosphates (as P)	<83	1	J3	µg/L	0	GE
		Toxaphene	<0.40	1		µg/L	0	GE
		2,4,5-TP (Silvex)	<0.00076	1		µg/L	0	GE
		1,1,1-Trichloroethane	<1.7	1		µg/L	0	GE
		1,1,2-Trichloroethane	<1.7	1		µg/L	0	GE
		Trichloroethylene	<1.7	1		µg/L	0	GE
		Trichlorofluoromethane	<1.7	1		µg/L	0	GE
		1,2,3-Trichloropropane	<1.7	1		µg/L	0	GE
		Vinyl acetate	<1.7	1		µg/L	0	GE
		Xylenes	<3.3	1		µg/L	0	GE
		Zinc, total recoverable	7.2	1		µg/L	0	GE
		Zinc, total recoverable	7.3	1		µg/L	0	GE
		Gross alpha	5.0E-01	1	UI	pCi/L	0	GP

• = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 11B collected on 02/03/95, laboratory analyses (cont.)

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		Nonvolatile beta	5.9E-01	1	UI	pCi/L	0	GP
		Radium, total alpha-emitting	1.0E-01	1	UI	pCi/L	0	GP

WELL AMB 11D

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Formation</u>
N103132.3 E51932.6	33.338588 °N 81.730426 °W	240.5-220.5 ft msl	364 ft msl	4" PVC	S	M

FIELD MEASUREMENTS

Sample date: 02/03/95
Depth to water: 127.20 ft (38.77 m) below TOC
Water elevation: 236.80 ft (72.18 m) msl
Sp. conductance: 51 μ S/cm
Turbidity: 0.5 NTU
Water evacuated before sampling: 94 gal

Time: 10:10
pH: 6.0
Alkalinity: 2 mg/L
Water temperature: 17.5 °C
Volumes purged: 8.8 well volumes

LABORATORY ANALYSES

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		Acetone	<167	1		μ g/L	0	GE
		Acetonitrile (Methyl cyanide)	<1.7	1		μ g/L	0	GE
		Acrolein	<33	1		μ g/L	0	GE
		Acrylonitrile	<33	1		μ g/L	0	GE
		Allyl chloride	<83	1		μ g/L	0	GE
		Aluminum, total recoverable	<33	1		μ g/L	0	GE
		Arsenic, total recoverable	<3.3	1		μ g/L	0	GE
		Barium, total recoverable	7.6	1		μ g/L	0	GE
		Benzene	<1.7	1		μ g/L	0	GE
		Bis(2-chloroisopropyl) ether	<10	1		μ g/L	0	GE
		Bromodichloromethane	<1.7	1		μ g/L	0	GE
		Bromoform	<1.7	1		μ g/L	0	GE
		Bromomethane (Methyl bromide)	<1.7	1		μ g/L	0	GE
		Cadmium, total recoverable	<3.3	1		μ g/L	0	GE
		Carbon disulfide	<1.7	1		μ g/L	0	GE
		Carbon tetrachloride	<1.7	1		μ g/L	0	GE
		Chloride	2,470	1		μ g/L	0	GE
		Chlorobenzene	<1.7	1		μ g/L	0	GE
		Chloroethane	<1.7	1		μ g/L	0	GE
		Chloroethene (Vinyl chloride)	<1.7	1		μ g/L	0	GE
		Chloroform	<1.7	1		μ g/L	0	GE
		Chloromethane (Methyl chloride)	<1.7	1		μ g/L	0	GE
		Chloroprene	<333	1		μ g/L	0	GE
		Chromium, total recoverable	<6.7	1		μ g/L	0	GE
		Cyanide	<8.3	1		μ g/L	0	GE
		Dibromochloromethane	<1.7	1		μ g/L	0	GE
		1,2-Dibromo-3-chloropropane	<1.7	1		μ g/L	0	GE
		1,2-Dibromoethane	<33	1		μ g/L	0	GE
		Dibromomethane (Methylene bromide)	<1.7	1		μ g/L	0	GE
		trans-1,4-Dichloro-2-butene	<50	1		μ g/L	0	GE
		Dichlorodifluoromethane	<1.7	1		μ g/L	0	GE
		1,1-Dichloroethane	<1.7	1		μ g/L	0	GE
		1,2-Dichloroethane	<1.7	1		μ g/L	0	GE

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 11D collected on 02/03/95, laboratory analyses (cont.)

H	ST	Analyte	Result	DF	Mod	Unit	Flag	Lab
		cis-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		1,1-Dichloroethylene	<1.7	1		µg/L	0	GE
		trans-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		Dichloromethane (Methylene chloride)	<1.7	1		µg/L	0	GE
		2,4-Dichlorophenoxyacetic acid	<0.0025	1		µg/L	0	GE
		1,2-Dichloropropane	<1.7	1		µg/L	0	GE
		cis-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		trans-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		Endrin	<0.0100	1		µg/L	0	GE
		Ethylbenzene	<1.7	1		µg/L	0	GE
		Fluoride	<50	1		µg/L	0	GE
		2-Hexanone	<1.7	1		µg/L	0	GE
		Iodomethane (Methyl iodide)	<25	1		µg/L	0	GE
		Iron, total recoverable	<6.7	1		µg/L	0	GE
		Isobutyl alcohol	<167	1		µg/L	0	GE
		Lead, total recoverable	<5.0	1		µg/L	0	GE
		Lindane	<0.0083	1		µg/L	0	GE
		Manganese, total recoverable	<3.3	1		µg/L	0	GE
		Mercury, total recoverable	<0.33	1		µg/L	0	GE
		Methacrylonitrile	<83	1		µg/L	0	GE
		Methoxychlor	<0.83	1		µg/L	0	GE
		Methyl ethyl ketone	<1.7	1		µg/L	0	GE
		Methyl isobutyl ketone	<1.7	1		µg/L	0	GE
		Methyl methacrylate	<10	1		µg/L	0	GE
		Nickel, total recoverable	<6.7	1		µg/L	0	GE
		Nitrate-nitrite as nitrogen	93	1		µg/L	0	GE
●		Phenol	<17	1	J1	µg/L	0	GE
		Propionitrile	<333	1		µg/L	0	GE
		Selenium, total recoverable	<3.3	1		µg/L	0	GE
		Silver, total recoverable	<3.3	1		µg/L	0	GE
		Styrene	<1.7	1		µg/L	0	GE
		1,1,1,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		1,1,2,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		Tetrachloroethylene	<1.7	1		µg/L	0	GE
		Toluene	<1.7	1		µg/L	0	GE
		Total organic carbon	<1,670	1		µg/L	0	GE
		Total organic halogens	<8.3	1		µg/L	0	GE
		Total organic halogens	<8.3	1		µg/L	0	GE
		Total phosphates (as P)	<83	1		µg/L	0	GE
		Toxaphene	<0.40	1		µg/L	0	GE
		2,4,5-TP (Silvex)	<0.00075	1		µg/L	0	GE
		1,1,1-Trichloroethane	<1.7	1		µg/L	0	GE
		1,1,2-Trichloroethane	<1.7	1		µg/L	0	GE
		Trichloroethylene	<1.7	1		µg/L	0	GE
		Trichlorofluoromethane	<1.7	1		µg/L	0	GE
		1,2,3-Trichloropropane	<1.7	1		µg/L	0	GE
		Vinyl acetate	<1.7	1		µg/L	0	GE
		Xylenes	<3.3	1		µg/L	0	GE
		Zinc, total recoverable	<3.3	1		µg/L	0	GE
		Gross alpha	4.8E-01	1	UI	pCi/L	0	GP
		Nonvolatile beta	3.0E-01	1	UI	pCi/L	0	GP
		Radium, total alpha-emitting	2.0E-01	1	UI	pCi/L	0	GP
		Radium, total alpha-emitting	-2.0E-01	1	UI	pCi/L	0	GP

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 12D

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Formation</u>
N103602.4 E51901.6	33.339576 °N 81.731422 °W	239.4-219.4 ft msl	369.8 ft msl	4" PVC	S	M

FIELD MEASUREMENTS

Sample date: 02/03/95
Depth to water: 134.31 ft (40.94 m) below TOC
Water elevation: 235.49 ft (71.78 m) msl
Sp. conductance: 24 µS/cm
Turbidity: 1.1 NTU
Water evacuated before sampling: 81 gal

Time: 11:04
pH: 5.6
Alkalinity: 3 mg/L
Water temperature: 18.7 °C
Volumes purged: 7.7 well volumes

LABORATORY ANALYSES

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		Acetone	<167	1		µg/L	0	GE
		Acetonitrile (Methyl cyanide)	<1.7	1		µg/L	0	GE
		Acrolein	<33	1		µg/L	0	GE
		Acrylonitrile	<33	1		µg/L	0	GE
		Allyl chloride	<83	1		µg/L	0	GE
		Aluminum, total recoverable	35	1		µg/L	1	GE
		Arsenic, total recoverable	<3.3	1		µg/L	0	GE
		Barium, total recoverable	4.6	1	J	µg/L	0	GE
		Benzene	<1.7	1		µg/L	0	GE
		Bis(2-chloroisopropyl) ether	<10	1		µg/L	0	GE
		Bromodichloromethane	<1.7	1		µg/L	0	GE
		Bromoform	<1.7	1		µg/L	0	GE
		Bromomethane (Methyl bromide)	<1.7	1		µg/L	0	GE
		Cadmium, total recoverable	<3.3	1		µg/L	0	GE
		Carbon disulfide	<1.7	1		µg/L	0	GE
		Carbon tetrachloride	<1.7	1		µg/L	0	GE
		Chloride	1,460	1		µg/L	0	GE
		Chlorobenzene	<1.7	1		µg/L	0	GE
		Chloroethane	<1.7	1		µg/L	0	GE
		Chloroethene (Vinyl chloride)	<1.7	1		µg/L	0	GE
		Chloroform	<1.7	1		µg/L	0	GE
		Chloromethane (Methyl chloride)	<1.7	1		µg/L	0	GE
		Chloroprene	<333	1		µg/L	0	GE
		Chromium, total recoverable	<6.7	1		µg/L	0	GE
		Cyanide	<8.3	1		µg/L	0	GE
		Dibromochloromethane	<1.7	1		µg/L	0	GE
		1,2-Dibromo-3-chloropropane	<1.7	1		µg/L	0	GE
		1,2-Dibromoethane	<33	1		µg/L	0	GE
		Dibromomethane (Methylene bromide)	<1.7	1		µg/L	0	GE
		trans-1,4-Dichloro-2-butene	<50	1		µg/L	0	GE
		Dichlorodifluoromethane	<1.7	1		µg/L	0	GE
		1,1-Dichloroethane	<1.7	1		µg/L	0	GE
		1,2-Dichloroethane	<1.7	1		µg/L	0	GE
		cis-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		1,1-Dichloroethylene	<1.7	1		µg/L	0	GE
		trans-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		Dichloromethane (Methylene chloride)	<1.7	1		µg/L	0	GE
		2,4-Dichlorophenoxyacetic acid	<0.0025	1		µg/L	0	GE
		1,2-Dichloropropane	<1.7	1		µg/L	0	GE

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WELL AMB 12D collected on 02/03/95, laboratory analyses (cont.)

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		cis-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		trans-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		Endrin	<0.0095	1		µg/L	0	GE
		Ethylbenzene	<1.7	1		µg/L	0	GE
		Fluoride	<50	1		µg/L	0	GE
		2-Hexanone	<1.7	1		µg/L	0	GE
		Iodomethane (Methyl iodide)	<25	1		µg/L	0	GE
		Iron, total recoverable	6.8	1		µg/L	0	GE
		Isobutyl alcohol	<167	1		µg/L	0	GE
		Lead, total recoverable	<5.0	1		µg/L	0	GE
		Lindane	<0.0079	1		µg/L	0	GE
		Manganese, total recoverable	12	1		µg/L	0	GE
		Mercury, total recoverable	<0.33	1		µg/L	0	GE
		Methacrylonitrile	<83	1		µg/L	0	GE
		Methoxychlor	<0.79	1		µg/L	0	GE
		Methyl ethyl ketone	<1.7	1		µg/L	0	GE
		Methyl isobutyl ketone	<1.7	1		µg/L	0	GE
		Methyl methacrylate	<10	1		µg/L	0	GE
		Nickel, total recoverable	<6.7	1		µg/L	0	GE
		Nitrate-nitrite as nitrogen	868	1		µg/L	0	GE
•		Phenol	<16	1	J1	µg/L	0	GE
		Propionitrile	<333	1		µg/L	0	GE
		Selenium, total recoverable	<3.3	1		µg/L	0	GE
		Silver, total recoverable	<3.3	1		µg/L	0	GE
		Styrene	<1.7	1		µg/L	0	GE
		1,1,1,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		1,1,2,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		Tetrachloroethylene	<1.7	1		µg/L	0	GE
		Toluene	<1.7	1		µg/L	0	GE
		Total organic carbon	<1,670	1		µg/L	0	GE
		Total organic halogens	23	1		µg/L	0	GE
		Total phosphates (as P)	<83	1		µg/L	0	GE
		Toxaphene	<0.38	1		µg/L	0	GE
		2,4,5-TP (Silvex)	<0.00076	1		µg/L	0	GE
		1,1,1-Trichloroethane	<1.7	1		µg/L	0	GE
		1,1,2-Trichloroethane	<1.7	1		µg/L	0	GE
		Trichloroethylene	<1.7	1		µg/L	0	GE
		Trichlorofluoromethane	<1.7	1		µg/L	0	GE
		1,2,3-Trichloropropane	<1.7	1		µg/L	0	GE
		Vinyl acetate	<1.7	1		µg/L	0	GE
		Xylenes	<3.3	1		µg/L	0	GE
		Zinc, total recoverable	8.9	1		µg/L	0	GE
		Gross alpha	1.2E+00	1		pCi/L	0	GP
		Nonvolatile beta	1.1E+00	1	UI	pCi/L	0	GP
		Radium, total alpha-emitting	1.0E-01	1	UI	pCi/L	0	GP

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WELL AMB 13AR

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Formation
N103082.0 E51396.0	33.337600 °N 81.731742 °W	110.9-100.9 ft msl	365.1 ft msl	4" PVC	S	MCBC

FIELD MEASUREMENTS

Sample date: 02/02/95
Depth to water: 145.00 ft (44.20 m) below TOC
Water elevation: 220.10 ft (67.09 m) msl
Sp. conductance: 83 µS/cm
Turbidity: 14.4 NTU
Water evacuated before sampling: 190 gal

Time: 16:06
pH: 7.2
Alkalinity: 33 mg/L
Water temperature: 19.1 °C

Volumes purged: 2.4 well volumes

LABORATORY ANALYSES

H	ST	Analyte	Result	DF	Mod	Unit	Flag	Lab
		Acetone	<167	1		µg/L	0	GE
		Acetonitrile (Methyl cyanide)	<1.7	1		µg/L	0	GE
		Acrolein	<33	1		µg/L	0	GE
		Acrylonitrile	<33	1		µg/L	0	GE
		Allyl chloride	<83	1		µg/L	0	GE
		Aluminum, total recoverable	83	1		µg/L	2	GE
		Arsenic, total recoverable	<3.3	1		µg/L	0	GE
		Barium, total recoverable	31	1		µg/L	0	GE
		Benzene	<1.7	1		µg/L	0	GE
		Bis(2-chloroisopropyl) ether	<10	1		µg/L	0	GE
		Bromodichloromethane	<1.7	1		µg/L	0	GE
		Bromoform	<1.7	1		µg/L	0	GE
		Bromomethane (Methyl bromide)	<1.7	1		µg/L	0	GE
		Cadmium, total recoverable	<3.3	1		µg/L	0	GE
		Carbon disulfide	<1.7	1		µg/L	0	GE
		Carbon tetrachloride	<1.7	1		µg/L	0	GE
		Chloride	2,420	1		µg/L	0	GE
		Chlorobenzene	<1.7	1		µg/L	0	GE
		Chloroethane	<1.7	1		µg/L	0	GE
		Chloroethene (Vinyl chloride)	<1.7	1		µg/L	0	GE
		Chloroform	<1.7	1		µg/L	0	GE
		Chloromethane (Methyl chloride)	<1.7	1		µg/L	0	GE
		Chloroprene	<333	1		µg/L	0	GE
		Chromium, total recoverable	<6.7	1		µg/L	0	GE
		Cyanide	<8.3	1		µg/L	0	GE
		Dibromochloromethane	<1.7	1		µg/L	0	GE
		1,2-Dibromo-3-chloropropane	<1.7	1		µg/L	0	GE
		1,2-Dibromoethane	<33	1		µg/L	0	GE
		Dibromomethane (Methylene bromide)	<1.7	1		µg/L	0	GE
		trans-1,4-Dichloro-2-butene	<50	1		µg/L	0	GE
		Dichlorodifluoromethane	<1.7	1		µg/L	0	GE
		1,1-Dichloroethane	<1.7	1		µg/L	0	GE
		1,2-Dichloroethane	<1.7	1		µg/L	0	GE
		cis-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		1,1-Dichloroethylene	<1.7	1		µg/L	0	GE
		trans-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		Dichloromethane (Methylene chloride)	<1.7	1		µg/L	0	GE
		2,4-Dichlorophenoxyacetic acid	<0.0025	1		µg/L	0	GE
		1,2-Dichloropropane	<1.7	1		µg/L	0	GE

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 13AR collected on 02/02/95, laboratory analyses (cont.)

H	ST	Analyte	Result	DF	Mod	Unit	Flag	Lab
		cis-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		trans-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		Endrin	<0.010	1		µg/L	0	GE
		Ethylbenzene	<1.7	1		µg/L	0	GE
		Fluoride	<50	1		µg/L	0	GE
		2-Hexanone	<1.7	1		µg/L	0	GE
		Iodomethane (Methyl iodide)	<25	1		µg/L	0	GE
		Iron, total recoverable	84	1		µg/L	0	GE
		Isobutyl alcohol	<167	1		µg/L	0	GE
		Lead, total recoverable	<5.0	1		µg/L	0	GE
		Lindane	<0.0085	1		µg/L	0	GE
		Manganese, total recoverable	5.6	1		µg/L	0	GE
		Mercury, total recoverable	<0.33	1		µg/L	0	GE
		Methacrylonitrile	<83	1		µg/L	0	GE
		Methoxychlor	<0.85	1		µg/L	0	GE
		Methyl ethyl ketone	<1.7	1		µg/L	0	GE
		Methyl isobutyl ketone	<1.7	1		µg/L	0	GE
		Methyl methacrylate	<10	1		µg/L	0	GE
		Nickel, total recoverable	<6.7	1		µg/L	0	GE
		Nitrate-nitrite as nitrogen	988	1		µg/L	0	GE
		Phenol	<17	1		µg/L	0	GE
		Propionitrile	<333	1		µg/L	0	GE
		Selenium, total recoverable	<3.3	1		µg/L	0	GE
		Silver, total recoverable	<3.3	1		µg/L	0	GE
		Styrene	<1.7	1		µg/L	0	GE
		1,1,1,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		1,1,2,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		Tetrachloroethylene	<1.7	1		µg/L	0	GE
		Toluene	<1.7	1		µg/L	0	GE
		Total organic carbon	<1,670	1		µg/L	0	GE
		Total organic halogens	17	1		µg/L	0	GE
		Total phosphates (as P)	218	1		µg/L	0	GE
		Toxaphene	<0.41	1		µg/L	0	GE
		2,4,5-TP (Silvex)	<0.00075	1		µg/L	0	GE
		1,1,1-Trichloroethane	<1.7	1		µg/L	0	GE
		1,1,2-Trichloroethane	<1.7	1		µg/L	0	GE
		Trichloroethylene	1.5	1	J	µg/L	0	GE
		Trichlorofluoromethane	<1.7	1		µg/L	0	GE
		1,2,3-Trichloropropane	<1.7	1		µg/L	0	GE
		Vinyl acetate	<1.7	1		µg/L	0	GE
		Xylenes	<3.3	1		µg/L	0	GE
		Zinc, total recoverable	2.4	1	J	µg/L	0	GE
		Gross alpha	2.6E+00	1	UI	pCi/L	0	GP
		Gross alpha	1.2E+00	1		pCi/L	0	GP
		Nonvolatile beta	4.3E+00	1		pCi/L	0	GP
		Nonvolatile beta	1.9E+00	1		pCi/L	0	GP
		Radium, total alpha-emitting	1.1E+00	1		pCi/L	0	GP

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 14D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Formation
N104278.7 E51360.8	33.340188 °N 81.734162 °W	235.1-215.1 ft msl	382.4 ft msl	2" PVC	V	M

FIELD MEASUREMENTS

Sample date: 03/17/95
Depth to water: 149.88 ft (45.68 m) below TOC
Water elevation: 232.52 ft (70.87 m) msl
Sp. conductance: 204 µS/cm
Turbidity: 47.4 NTU
Water evacuated before sampling: 1 gal
The well went dry during purging.

Time: 8:56
pH: 7.6
Alkalinity: 89 mg/L
Water temperature: 17.4 °C
Volumes purged: 0.4 well volumes

LABORATORY ANALYSES

H	ST	Analyte	Result	DF	Mod	Unit	Flag	Lab
•		pH	7.1	1	J1	pH	0	GE
		Specific conductance	125	1		µS/cm	0	GE
		Acetone	<167	1		µg/L	0	GE
		Acetonitrile (Methyl cyanide)	<1.7	1		µg/L	0	GE
		Acrolein	<33	1		µg/L	0	GE
		Acrylonitrile	<33	1		µg/L	0	GE
		Aldrin	<0.025	1		µg/L	0	GE
		Allyl chloride	<83	1		µg/L	0	GE
		Aluminum, total recoverable	166	1	V	µg/L	2	GE
		Aluminum, total recoverable	167	1	V	µg/L	2	GE
		Arsenic, total recoverable	<5.0	1		µg/L	0	GE
		Barium, total recoverable	14	1	V	µg/L	0	GE
		Barium, total recoverable	13	1	V	µg/L	0	GE
		Benzene	<1.7	1		µg/L	0	GE
		Bis(2-chloroisopropyl) ether	<10	1		µg/L	0	GE
		Boron, total recoverable	13	1	J	µg/L	0	GE
		Bromodichloromethane	<1.7	1		µg/L	0	GE
		Bromoform	<1.7	1		µg/L	0	GE
		Bromomethane (Methyl bromide)	<1.7	1		µg/L	0	GE
		Cadmium, total recoverable	<2.0	1		µg/L	0	GE
		Cadmium, total recoverable	<2.0	1		µg/L	0	GE
		Calcium, total recoverable	8,160	1		µg/L	0	GE
		Calcium, total recoverable	8,120	1		µg/L	0	GE
		Carbon disulfide	<1.7	1		µg/L	0	GE
		Carbon tetrachloride	<1.7	1		µg/L	0	GE
		Chloride	2,110	1		µg/L	0	GE
		Chlorobenzene	<1.7	1		µg/L	0	GE
		Chloroethane	<1.7	1		µg/L	0	GE
		Chloroethene (Vinyl chloride)	<1.7	1		µg/L	0	GE
		Chloroform	1.0	1	J	µg/L	0	GE
		Chloromethane (Methyl chloride)	<1.7	1		µg/L	0	GE
		Chloroprene	<333	1		µg/L	0	GE
		Chromium, total recoverable	3.7	1	JV	µg/L	0	GE
		Chromium, total recoverable	3.5	1	JV	µg/L	0	GE

• = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 14D collected on 03/17/95, laboratory analyses (cont.)

H	ST	Analyte	Result	DF	Mod	Unit	Flag	Lab
		Cyanide	<20	1		µg/L	0	GE
		p,p'-DDT	<0.10	1		µg/L	0	GE
		Dibromochloromethane	<1.7	1		µg/L	0	GE
		1,2-Dibromo-3-chloropropane	<1.7	1		µg/L	0	GE
		1,2-Dibromoethane	<33	1		µg/L	0	GE
		Dibromomethane (Methylene bromide)	<1.7	1		µg/L	0	GE
		trans-1,4-Dichloro-2-butene	<50	1		µg/L	0	GE
		Dichlorodifluoromethane	<1.7	1		µg/L	0	GE
		1,1-Dichloroethane	<1.7	1		µg/L	0	GE
		1,2-Dichloroethane	<1.7	1		µg/L	0	GE
		cis-1,2-Dichloroethylene	1.2	1	J	µg/L	0	GE
		1,1-Dichloroethylene	1.1	1	J	µg/L	0	GE
		trans-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		Dichloromethane (Methylene chloride)	<1.7	1		µg/L	0	GE
		2,4-Dichlorophenoxyacetic acid	<0.051	1		µg/L	0	GE
		1,2-Dichloropropane	<1.7	1		µg/L	0	GE
		cis-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		trans-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		Dieldrin	<0.050	1		µg/L	0	GE
		Endrin	<0.050	1		µg/L	0	GE
		Endrin	<0.050	1		µg/L	0	GE
		Ethylbenzene	<1.7	1		µg/L	0	GE
		Fluoride	<500	5		µg/L	0	GE
		Heptachlor	<0.050	1		µg/L	0	GE
		2-Hexanone	<1.7	1		µg/L	0	GE
		Iodomethane (Methyl iodide)	<25	1		µg/L	0	GE
		Iron, total recoverable	371	1		µg/L	2	GE
		Iron, total recoverable	370	1		µg/L	2	GE
		Isobutyl alcohol	<167	1		µg/L	0	GE
		Lead, total recoverable	<25	1		µg/L	0	GE
		Lead, total recoverable	2.0	1	J	µg/L	0	GE
		Lindane	<0.025	1		µg/L	0	GE
		Lindane	<0.025	1		µg/L	0	GE
		Lithium, total recoverable	10	1		µg/L	0	GE
		Lithium, total recoverable	9.9	1		µg/L	0	GE
		Magnesium, total recoverable	411	1		µg/L	0	GE
		Magnesium, total recoverable	409	1		µg/L	0	GE
		Manganese, total recoverable	33	1		µg/L	1	GE
		Manganese, total recoverable	33	1		µg/L	1	GE
		Mercury, total recoverable	<0.20	1		µg/L	0	GE
		Methacrylonitrile	<83	1		µg/L	0	GE
		Methoxychlor	<0.50	1		µg/L	0	GE
		Methoxychlor	<0.50	1		µg/L	0	GE
		Methyl ethyl ketone	<1.7	1	VV	µg/L	0	GE
		Methyl isobutyl ketone	<1.7	1		µg/L	0	GE
		Methyl methacrylate	<10	1		µg/L	0	GE
		Nickel, total recoverable	13	1	V	µg/L	0	GE
		Nickel, total recoverable	12	1	VV	µg/L	0	GE
		Nitrate-nitrite as nitrogen	300	1		µg/L	0	GE
		Phenol	<17	1	J	µg/L	0	GE
		Phenols	<10	1		µg/L	0	GE
		Potassium, total recoverable	5,270	1	V	µg/L	0	GE
		Potassium, total recoverable	5,250	1	V	µg/L	0	GE
		Propionitrile	<333	1		µg/L	0	GE

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 14D collected on 03/17/95, laboratory analyses (cont.)

H	ST	Analyte	Result	DF	Mod	Unit	Flag	Lab
		Selenium, total recoverable	1.4	1	JVV	µg/L	0	GE
		Silica, total recoverable	13,400	1		µg/L	0	GE
		Silica, total recoverable	13,300	1		µg/L	0	GE
		Silver, total recoverable	<0.65	1	VV	µg/L	0	GE
		Silver, total recoverable	<0.65	1	VV	µg/L	0	GE
		Sodium, total recoverable	18,100	1		µg/L	0	GE
		Sodium, total recoverable	18,100	1		µg/L	0	GE
		Styrene	<1.7	1		µg/L	0	GE
		Sulfate	3,430	1		µg/L	0	GE
		1,1,1,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		1,1,2,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
■		Tetrachloroethylene	20	1		µg/L	2	GE
		Toluene	<1.7	1		µg/L	0	GE
		Total dissolved solids	76,000	1		µg/L	0	GE
		Total organic carbon	1,880	1		µg/L	0	GE
		Total organic halogens	82	1		µg/L	2	GE
		Total phosphates (as P)	50	1	J	µg/L	0	GE
		Toxaphene	<1.0	1		µg/L	0	GE
		Toxaphene	<1.0	1		µg/L	0	GE
		2,4,5-TP (Silvex)	<0.026	1	J	µg/L	0	GE
		1,1,1-Trichloroethane	<1.7	1		µg/L	0	GE
		1,1,2-Trichloroethane	<1.7	1		µg/L	0	GE
■		Trichloroethylene	80	1		µg/L	2	GE
		Trichlorofluoromethane	<1.7	1		µg/L	0	GE
		1,2,3-Trichloropropane	<1.7	1		µg/L	0	GE
		Vinyl acetate	<1.7	1		µg/L	0	GE
		Xylenes	<3.3	1		µg/L	0	GE
		Zinc, total recoverable	19	1		µg/L	0	GE
		Zinc, total recoverable	19	1		µg/L	0	GE
		Gross alpha	-5.1E-01	1	UI	pCi/L	0	GP
		Nonvolatile beta	2.3E+00	1		pCi/L	0	GP
		Radium, total alpha-emitting	2.0E-01	1	UI	pCi/L	0	GP
		Total activity	2.3E+03	10		pCi/L	0	EM
		Tritium	1.3E+00	1		pCi/mL	0	GP

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 15D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Formation
N104500.6 E51383.8	33.340716 °N 81.734534 °W	236.2-216.2 ft msl	383.4 ft msl	2" PVC	V	M

FIELD MEASUREMENTS

Sample date: 03/17/95
Depth to water: 148.56 ft (45.28 m) below TOC
Water elevation: 234.84 ft (71.58 m) msl
Sp. conductance: 186 μ S/cm
Turbidity: 281 NTU
Water evacuated before sampling: 2 gal
The well went dry during purging.

Time: 15:14
pH: 6.6
Alkalinity: 79 mg/L
Water temperature: 22.0 °C
Volumes purged: 0.7 well volumes

LABORATORY ANALYSES

H	ST	Analyte	Result	DF	Mod	Unit	Flag	Lab
•		pH	6.9	1	J1	pH	0	GE
		Specific conductance	172	1		μ S/cm	0	GE
		Acetone	<167	1		μ g/L	0	GE
		Acetonitrile (Methyl cyanide)	<1.7	1		μ g/L	0	GE
		Acrolein	<33	1		μ g/L	0	GE
		Acrylonitrile	<33	1		μ g/L	0	GE
		Allyl chloride	<83	1		μ g/L	0	GE
		Aluminum, total recoverable	622	1	V	μ g/L	2	GE
		Arsenic, total recoverable	<5.0	1		μ g/L	0	GE
		Barium, total recoverable	30	1	V	μ g/L	0	GE
		Benzene	<1.7	1		μ g/L	0	GE
		Bis(2-chloroisopropyl) ether	<10	1		μ g/L	0	GE
		Boron, total recoverable	<50	1		μ g/L	0	GE
		Bromodichloromethane	<1.7	1		μ g/L	0	GE
		Bromoform	<1.7	1		μ g/L	0	GE
		Bromomethane (Methyl bromide)	<1.7	1		μ g/L	0	GE
		Cadmium, total recoverable	0.70	1	J	μ g/L	0	GE
		Calcium, total recoverable	10,700	1		μ g/L	0	GE
		Carbon disulfide	<1.7	1		μ g/L	0	GE
		Carbon tetrachloride	<1.7	1		μ g/L	0	GE
		Chloride	2,540	1		μ g/L	0	GE
		Chlorobenzene	<1.7	1		μ g/L	0	GE
		Chloroethane	<1.7	1		μ g/L	0	GE
		Chloroethene (Vinyl chloride)	<1.7	1		μ g/L	0	GE
		Chloroform	<1.7	1		μ g/L	0	GE
		Chloromethane (Methyl chloride)	<1.7	1		μ g/L	0	GE
		Chloroprene	<333	1		μ g/L	0	GE
		Chromium, total recoverable	5.9	1		μ g/L	0	GE
		Cyanide	<20	1		μ g/L	0	GE
		Dibromochloromethane	<1.7	1		μ g/L	0	GE
		1,2-Dibromo-3-chloropropane	<1.7	1		μ g/L	0	GE
		1,2-Dibromoethane	<33	1		μ g/L	0	GE
		Dibromomethane (Methylene bromide)	<1.7	1		μ g/L	0	GE
		trans-1,4-Dichloro-2-butene	<50	1		μ g/L	0	GE
		Dichlorodifluoromethane	<1.7	1		μ g/L	0	GE
		1,1-Dichloroethane	<1.7	1		μ g/L	0	GE
		1,2-Dichloroethane	<1.7	1		μ g/L	0	GE
		cis-1,2-Dichloroethylene	1.2	1	J	μ g/L	0	GE
		1,1-Dichloroethylene	<1.7	1		μ g/L	0	GE
		trans-1,2-Dichloroethylene	<1.7	1		μ g/L	0	GE

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WELL AMB 15D collected on 03/17/95, laboratory analyses (cont.)

H	ST	Analyte	Result	DF	Mod	Unit	Flag	Lab
		Dichloromethane (Methylene chloride)	<1.7	1		µg/L	0	GE
		2,4-Dichlorophenoxyacetic acid	0.041	1	J	µg/L	0	GE
		1,2-Dichloropropane	<1.7	1		µg/L	0	GE
		cis-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		trans-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		Endrin	<0.050	1		µg/L	0	GE
		Ethylbenzene	<1.7	1		µg/L	0	GE
		Fluoride	<500	5		µg/L	0	GE
		2-Hexanone	<1.7	1		µg/L	0	GE
		Iodomethane (Methyl iodide)	<25	1		µg/L	0	GE
		Iron, total recoverable	963	1		µg/L	2	GE
		Isobutyl alcohol	<167	1		µg/L	0	GE
		Lead, total recoverable	32	1		µg/L	1	GE
		Lindane	<0.025	1		µg/L	0	GE
		Lithium, total recoverable	40	1		µg/L	1	GE
		Magnesium, total recoverable	688	1		µg/L	0	GE
		Manganese, total recoverable	106	1		µg/L	2	GE
		Mercury, total recoverable	<0.20	1		µg/L	0	GE
		Methacrylonitrile	<83	1		µg/L	0	GE
		Methoxychlor	<0.50	1		µg/L	0	GE
		Methyl ethyl ketone	<1.7	1	VV	µg/L	0	GE
		Methyl isobutyl ketone	<1.7	1		µg/L	0	GE
		Methyl methacrylate	<10	1		µg/L	0	GE
		Nickel, total recoverable	39	1		µg/L	0	GE
		Nitrate-nitrite as nitrogen	640	1		µg/L	0	GE
		Phenol	<17	1	J	µg/L	0	GE
		Phenols	<10	1		µg/L	0	GE
		Potassium, total recoverable	5,590	1		µg/L	0	GE
		Propionitrile	<333	1		µg/L	0	GE
		Selenium, total recoverable	1.9	1	JVV	µg/L	0	GE
		Silica, total recoverable	9,610	1		µg/L	0	GE
		Silver, total recoverable	<0.65	1		µg/L	0	GE
		Sodium, total recoverable	27,300	2		µg/L	0	GE
		Styrene	<1.7	1		µg/L	0	GE
		Sulfate	5,890	1		µg/L	0	GE
		1,1,1,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		1,1,2,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		Tetrachloroethylene	<1.7	1		µg/L	0	GE
		Toluene	<1.7	1		µg/L	0	GE
		Total dissolved solids	152,000	1		µg/L	0	GE
		Total organic carbon	1,240	1		µg/L	0	GE
		Total organic halogens	14	1		µg/L	0	GE
		Total phosphates (as P)	700	1		µg/L	0	GE
		Toxaphene	<1.0	1		µg/L	0	GE
		2,4,5-TP (Silvex)	<0.026	1	J	µg/L	0	GE
		1,1,1-Trichloroethane	<1.7	1		µg/L	0	GE
		1,1,2-Trichloroethane	<1.7	1		µg/L	0	GE
■		Trichloroethylene	30	1		µg/L	2	GE
		Trichlorofluoromethane	<1.7	1		µg/L	0	GE
		1,2,3-Trichloropropane	<1.7	1		µg/L	0	GE
		Vinyl acetate	<1.7	1		µg/L	0	GE
		Xylenes	<3.3	1		µg/L	0	GE
		Zinc, total recoverable	85	1		µg/L	0	GE
		Gross alpha	3.9E+00	1		pCi/L	0	GP
		Nonvolatile beta	4.1E+00	1		pCi/L	0	GP
		Radium, total alpha-emitting	8.0E-01	1		pCi/L	0	GP

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 15D collected on 03/17/95, laboratory analyses (cont.)

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		Total activity	1.1E+04	10		pCi/L	0	EM
		Tritium	2.7E-01	1	UI	pCi/mL	0	GP

WELL AMB 16D

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Formation</u>
N104268.8	33.340488 °N	233.4-213.4 ft msl	380.4 ft msl	2" PVC	V	M
E51557.5	81.733625 °W					

FIELD MEASUREMENTS

Sample date: 03/16/95
Depth to water: 146.01 ft (44.50 m) below TOC
Water elevation: 234.39 ft (71.44 m) msl
Sp. conductance: 35 μ S/cm
Turbidity: 4.9 NTU
Water evacuated before sampling: 8 gal

Time: 11:08
pH: 5.7
Alkalinity: 8 mg/L
Water temperature: 22.5 °C

Volumes purged: 2.3 well volumes

LABORATORY ANALYSES

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
•		pH	5.8	1	J1	pH	0	GE
		Specific conductance	44	1		μ S/cm	0	GE
		Acetone	<167	1		μ g/L	0	GE
		Acetonitrile (Methyl cyanide)	<1.7	1		μ g/L	0	GE
		Acrolein	<33	1		μ g/L	0	GE
		Acrylonitrile	<33	1		μ g/L	0	GE
		Allyl chloride	<83	1		μ g/L	0	GE
		Aluminum, total recoverable	109	1	V	μ g/L	2	GE
		Arsenic, total recoverable	<5.0	1		μ g/L	0	GE
		Barium, total recoverable	1.2	1	JV	μ g/L	0	GE
		Benzene	<1.7	1		μ g/L	0	GE
		Bis(2-chloroisopropyl) ether	<10	1		μ g/L	0	GE
		Boron, total recoverable	9.6	1	J	μ g/L	0	GE
		Bromodichloromethane	<1.7	1		μ g/L	0	GE
		Bromoform	<1.7	1		μ g/L	0	GE
		Bromomethane (Methyl bromide)	<1.7	1		μ g/L	0	GE
		Cadmium, total recoverable	<2.0	1		μ g/L	0	GE
		Calcium, total recoverable	1,740	1		μ g/L	0	GE
		Carbon disulfide	<1.7	1		μ g/L	0	GE
		Carbon tetrachloride	<1.7	1		μ g/L	0	GE
		Chloride	2,710	1		μ g/L	0	GE
		Chlorobenzene	<1.7	1		μ g/L	0	GE
		Chloroethane	<1.7	1		μ g/L	0	GE
		Chloroethene (Vinyl chloride)	<1.7	1		μ g/L	0	GE
		Chloroform	<1.7	1		μ g/L	0	GE
		Chloromethane (Methyl chloride)	<1.7	1		μ g/L	0	GE
		Chloroprene	<333	1		μ g/L	0	GE
		Chromium, total recoverable	<4.0	1		μ g/L	0	GE
		Cyanide	<20	1		μ g/L	0	GE
		Dibromochloromethane	<1.7	1		μ g/L	0	GE
		1,2-Dibromo-3-chloropropane	<1.7	1		μ g/L	0	GE
		1,2-Dibromoethane	<33	1		μ g/L	0	GE
		Dibromomethane (Methylene bromide)	<1.7	1		μ g/L	0	GE

• = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 16D collected on 03/16/95, laboratory analyses (cont.)

H	ST	Analyte	Result	DF	Mod	Unit	Flag	Lab
		trans-1,4-Dichloro-2-butene	<50	1		µg/L	0	GE
		Dichlorodifluoromethane	<1.7	1		µg/L	0	GE
		1,1-Dichloroethane	<1.7	1		µg/L	0	GE
		1,2-Dichloroethane	<1.7	1		µg/L	0	GE
		cis-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		1,1-Dichloroethylene	<1.7	1		µg/L	0	GE
		trans-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		Dichloromethane (Methylene chloride)	<1.7	1		µg/L	0	GE
		2,4-Dichlorophenoxyacetic acid	<0.051	1		µg/L	0	GE
		1,2-Dichloropropane	<1.7	1		µg/L	0	GE
		cis-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		trans-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		Endrin	<0.054	1		µg/L	0	GE
		Ethylbenzene	<1.7	1		µg/L	0	GE
		Fluoride	<100	1		µg/L	0	GE
		2-Hexanone	<1.7	1		µg/L	0	GE
		Iodomethane (Methyl iodide)	<25	1		µg/L	0	GE
		Iron, total recoverable	71	1		µg/L	0	GE
		Isobutyl alcohol	<167	1		µg/L	0	GE
		Lead, total recoverable	<5.0	1		µg/L	0	GE
		Lindane	<0.027	1		µg/L	0	GE
		Lithium, total recoverable	<5.0	1		µg/L	0	GE
		Magnesium, total recoverable	77	1		µg/L	0	GE
		Manganese, total recoverable	2.9	1		µg/L	0	GE
		Mercury, total recoverable	<0.20	1		µg/L	0	GE
		Methacrylonitrile	<83	1		µg/L	0	GE
		Methoxychlor	<0.54	1		µg/L	0	GE
		Methyl ethyl ketone	<1.7	1	VV	µg/L	0	GE
		Methyl isobutyl ketone	<1.7	1		µg/L	0	GE
		Methyl methacrylate	<10	1		µg/L	0	GE
		Nickel, total recoverable	2.7	1	J	µg/L	0	GE
		Nitrate-nitrite as nitrogen	510	1		µg/L	0	GE
		Phenol	<17	1	J	µg/L	0	GE
		Phenols	<10	1		µg/L	0	GE
		Potassium, total recoverable	132	1	J	µg/L	0	GE
		Propionitrile	<333	1		µg/L	0	GE
		Selenium, total recoverable	<5.0	1	VV	µg/L	0	GE
		Silica, total recoverable	7,710	1		µg/L	0	GE
		Silver, total recoverable	<0.65	1		µg/L	0	GE
		Sodium, total recoverable	6,780	1		µg/L	0	GE
		Styrene	<1.7	1		µg/L	0	GE
		Sulfate	3,310	1		µg/L	0	GE
		1,1,1,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		1,1,2,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		Tetrachloroethylene	<1.7	1		µg/L	0	GE
		Toluene	<1.7	1		µg/L	0	GE
		Total dissolved solids	24,000	1		µg/L	0	GE
		Total organic carbon	1,140	1	JV	µg/L	0	GE
		Total organic halogens	<10	1		µg/L	0	GE
		Total phosphates (as P)	<100	1		µg/L	0	GE
		Toxaphene	<1.1	1		µg/L	0	GE
		2,4,5-TP (Silvex)	<0.026	1	J	µg/L	0	GE
		1,1,1-Trichloroethane	<1.7	1		µg/L	0	GE
		1,1,2-Trichloroethane	<1.7	1		µg/L	0	GE
■		Trichloroethylene	8.5	1		µg/L	2	GE
		Trichlorofluoromethane	<1.7	1		µg/L	0	GE
		1,2,3-Trichloropropane	<1.7	1		µg/L	0	GE

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 16D collected on 03/16/95, laboratory analyses (cont.)

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		Vinyl acetate	<1.7	1		µg/L	0	GE
		Xylenes	<3.3	1		µg/L	0	GE
		Zinc, total recoverable	<5.0	1		µg/L	0	GE
		Gross alpha	5.1E-01	1	UI	pCi/L	0	GP
		Nonvolatile beta	1.4E+00	1	UI	pCi/L	0	GP
		Radium, total alpha-emitting	2.0E-01	1	UI	pCi/L	0	GP
		Total activity	7.4E+03	10		pCi/L	0	EM
		Total activity	7.4E+03	10		pCi/L	0	EM
		Tritium	8.2E-01	1		pCi/mL	0	GP

WELL AMB 17A

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Formation</u>
N104056.7 E51465.4	33.339868 °N 81.733455 °W	125.0-120.0 ft msl	379.1 ft msl	4" PVC	S	MCBC

FIELD MEASUREMENTS

Sample date: 03/16/95
Depth to water: 158.37 ft (48.27 m) below TOC
Water elevation: 220.73 ft (67.28 m) msl
Sp. conductance: 20 µS/cm
Turbidity: 209 NTU
Water evacuated before sampling: 357 gal

Time: 15:19
pH: 5.2
Alkalinity: 1 mg/L
Water temperature: 19.0 °C

Volumes purged: 5.4 well volumes

LABORATORY ANALYSES

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
•		pH	7.0	1	J1	pH	0	GE
		Specific conductance	26	1		µS/cm	0	GE
		Acetone	<167	1		µg/L	0	GE
		Acetonitrile (Methyl cyanide)	<1.7	1		µg/L	0	GE
		Acrolein	<33	1		µg/L	0	GE
		Acrylonitrile	<33	1		µg/L	0	GE
		Allyl chloride	<83	1		µg/L	0	GE
		Aluminum, total recoverable	230	1	V	µg/L	2	GE
		Arsenic, total recoverable	<5.0	1		µg/L	0	GE
		Barium, total recoverable	6.8	1	V	µg/L	0	GE
		Benzene	<1.7	1		µg/L	0	GE
		Bis(2-chloroisopropyl) ether	<10	1		µg/L	0	GE
		Boron, total recoverable	10	1	J	µg/L	0	GE
		Bromodichloromethane	<1.7	1		µg/L	0	GE
		Bromoform	<1.7	1		µg/L	0	GE
		Bromomethane (Methyl bromide)	<1.7	1		µg/L	0	GE
		Cadmium, total recoverable	<2.0	1		µg/L	0	GE
		Calcium, total recoverable	1,580	1		µg/L	0	GE
		Carbon disulfide	<1.7	1		µg/L	0	GE
		Carbon tetrachloride	1.1	1	J	µg/L	0	GE
		Chloride	1,690	1		µg/L	0	GE
		Chlorobenzene	<1.7	1		µg/L	0	GE
		Chloroethane	<1.7	1		µg/L	0	GE
		Chloroethene (Vinyl chloride)	<1.7	1		µg/L	0	GE
		Chloroform	<1.7	1		µg/L	0	GE
		Chloromethane (Methyl chloride)	<1.7	1		µg/L	0	GE

• = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 17A collected on 03/16/95, laboratory analyses (cont.)

H	ST	Analyte	Result	DF	Mod	Unit	Flag	Lab
		Chloroprene	<333	1		µg/L	0	GE
		Chromium, total recoverable	<4.0	1		µg/L	0	GE
		Cyanide	<20	1		µg/L	0	GE
		Dibromochloromethane	<1.7	1		µg/L	0	GE
		1,2-Dibromo-3-chloropropane	<1.7	1		µg/L	0	GE
		1,2-Dibromoethane	<33	1		µg/L	0	GE
		Dibromomethane (Methylene bromide)	<1.7	1		µg/L	0	GE
		trans-1,4-Dichloro-2-butene	<50	1		µg/L	0	GE
		Dichlorodifluoromethane	<1.7	1		µg/L	0	GE
		1,1-Dichloroethane	<1.7	1		µg/L	0	GE
		1,2-Dichloroethane	<1.7	1		µg/L	0	GE
		cis-1,2-Dichloroethylene	7.2	1		µg/L	0	GE
		1,1-Dichloroethylene	<1.7	1		µg/L	0	GE
		trans-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		Dichloromethane (Methylene chloride)	<1.7	1		µg/L	0	GE
		2,4-Dichlorophenoxyacetic acid	<0.053	1		µg/L	0	GE
		1,2-Dichloropropane	<1.7	1		µg/L	0	GE
		cis-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		trans-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		Endrin	<0.050	1		µg/L	0	GE
		Ethylbenzene	<1.7	1		µg/L	0	GE
		Fluoride	<100	1		µg/L	0	GE
		2-Hexanone	<1.7	1		µg/L	0	GE
		Iodomethane (Methyl iodide)	<25	1		µg/L	0	GE
		Iron, total recoverable	203	1		µg/L	1	GE
		Isobutyl alcohol	<167	1		µg/L	0	GE
		Lead, total recoverable	1.2	1	J	µg/L	0	GE
		Lindane	<0.025	1		µg/L	0	GE
		Lithium, total recoverable	1.4	1	J	µg/L	0	GE
		Magnesium, total recoverable	299	1		µg/L	0	GE
		Manganese, total recoverable	44	1		µg/L	1	GE
		Mercury, total recoverable	<0.20	1		µg/L	0	GE
		Methacrylonitrile	<83	1		µg/L	0	GE
		Methoxychlor	<0.50	1		µg/L	0	GE
		Methyl ethyl ketone	<8.3	5	V	µg/L	0	GE
		Methyl isobutyl ketone	<1.7	1		µg/L	0	GE
		Methyl methacrylate	<10	1		µg/L	0	GE
		Nickel, total recoverable	<10	1		µg/L	0	GE
		Nitrate-nitrite as nitrogen	940	1		µg/L	0	GE
		Phenol	<17	1	J3	µg/L	0	GE
		Phenols	<10	1		µg/L	0	GE
		Phenols	<10	1		µg/L	0	GE
		Potassium, total recoverable	242	1	J	µg/L	0	GE
		Propionitrile	<333	1		µg/L	0	GE
		Selenium, total recoverable	<5.0	1	VV	µg/L	0	GE
		Silica, total recoverable	11,300	1		µg/L	0	GE
		Silver, total recoverable	<0.65	1		µg/L	0	GE
		Sodium, total recoverable	2,960	1		µg/L	0	GE
		Styrene	<1.7	1		µg/L	0	GE
		Sulfate	795	1	J	µg/L	0	GE
		1,1,1,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		1,1,2,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
	■	Tetrachloroethylene	34	1		µg/L	2	GE
		Toluene	<1.7	1		µg/L	0	GE
		Total dissolved solids	59,000	1		µg/L	0	GE
		Total organic carbon	208	1	JVV	µg/L	0	GE
		Total organic halogens	64	2		µg/L	2	GE

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 17A collected on 03/16/95, laboratory analyses (cont.)

<u>H</u>	<u>SI</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		Total phosphates (as P)	120	1		µg/L	0	GE
		Toxaphene	<1.0	1		µg/L	0	GE
		2,4,5-TP (Silvex)	<0.026	1	J	µg/L	0	GE
		1,1,1-Trichloroethane	<1.7	1		µg/L	0	GE
		1,1,2-Trichloroethane	<1.7	1		µg/L	0	GE
■		Trichloroethylene	395	5		µg/L	2	GE
		Trichlorofluoromethane	<1.7	1		µg/L	0	GE
		1,2,3-Trichloropropane	<1.7	1		µg/L	0	GE
		Vinyl acetate	<1.7	1		µg/L	0	GE
		Xylenes	<3.3	1		µg/L	0	GE
		Zinc, total recoverable	6.1	1		µg/L	0	GE
		Gross alpha	5.4E-01	1	UI	pCi/L	0	GP
		Nonvolatile beta	6.0E-01	1	UI	pCi/L	0	GP
		Radium, total alpha-emitting	4.0E-01	1	UI	pCi/L	0	GP
		Radium, total alpha-emitting	6.0E-01	1		pCi/L	0	GP
		Total activity	4.1E+03	10		pCi/L	0	EM
		Tritium	5.6E-01	1	UI	pCi/mL	0	GP

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

Unclassified

WELL AMB 18A

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Formation
N103988.8 E51418.8	33.339642 °N 81.733446 °W	136.4-131.4 ft msl	377.3 ft msl	4" PVC	S	MCBC

FIELD MEASUREMENTS

Sample date: 03/15/95
 Depth to water: 157.34 ft (47.96 m) below TOC
 Water elevation: 219.96 ft (67.04 m) msl
 Sp. conductance: 23 μ S/cm
 Turbidity: 29.7 NTU
 Water evacuated before sampling: 238 gal

Time: 15:46
 pH: 5.5
 Alkalinity: 4 mg/L
 Water temperature: 19.1 °C

Volumes purged: 4.1 well volumes

LABORATORY ANALYSES

H	ST	Analyte	Result	DF	Mod	Unit	Flag	Lab
•		pH	5.8	1	J1	pH	0	GE
•		pH	5.8	1	J1	pH	0	GE
		Specific conductance	28	1		μ S/cm	0	GE
		Specific conductance	28	1		μ S/cm	0	GE
		Acetone	<167	1		μ g/L	0	GE
		Acetonitrile (Methyl cyanide)	<1.7	1		μ g/L	0	GE
		Acrolein	<33	1		μ g/L	0	GE
		Acrylonitrile	<33	1		μ g/L	0	GE
		Aldrin	<0.025	1	J	μ g/L	0	GE
		Allyl chloride	<83	1		μ g/L	0	GE
		Aluminum, total recoverable	972	1	V	μ g/L	2	GE
		Arsenic, total recoverable	<5.0	1		μ g/L	0	GE
		Barium, total recoverable	8.7	1	V	μ g/L	0	GE
		Benzene	<1.7	1		μ g/L	0	GE
		Bis(2-chloroisopropyl) ether	<10	1		μ g/L	0	GE
		Boron, total recoverable	<50	1		μ g/L	0	GE
		Bromodichloromethane	<1.7	1		μ g/L	0	GE
		Bromoform	<1.7	1		μ g/L	0	GE
		Bromomethane (Methyl bromide)	<1.7	1		μ g/L	0	GE
		Cadmium, total recoverable	<2.0	1		μ g/L	0	GE
		Calcium, total recoverable	1,350	1		μ g/L	0	GE
		Carbon disulfide	<1.7	1		μ g/L	0	GE
		Carbon tetrachloride	<1.7	1		μ g/L	0	GE
		Chloride	2,150	1		μ g/L	0	GE
		Chlorobenzene	<1.7	1		μ g/L	0	GE
		Chloroethane	<1.7	1		μ g/L	0	GE
		Chloroethene (Vinyl chloride)	<1.7	1		μ g/L	0	GE
		Chloroform	<1.7	1		μ g/L	0	GE
		Chloromethane (Methyl chloride)	<1.7	1		μ g/L	0	GE
		Chloroprene	<333	1		μ g/L	0	GE
		Chromium, total recoverable	<4.0	1	V	μ g/L	0	GE
		Cyanide	<20	1		μ g/L	0	GE
		p,p'-DDT	<0.10	1		μ g/L	0	GE
		Dibromochloromethane	<1.7	1		μ g/L	0	GE
		1,2-Dibromo-3-chloropropane	<1.7	1		μ g/L	0	GE
		1,2-Dibromoethane	<33	1		μ g/L	0	GE
		Dibromomethane (Methylene bromide)	<1.7	1		μ g/L	0	GE
		trans-1,4-Dichloro-2-butene	<50	1		μ g/L	0	GE
		Dichlorodifluoromethane	<1.7	1		μ g/L	0	GE

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WELL AMB 18A collected on 03/15/95, laboratory analyses (cont.)

H	ST	Analyte	Result	DF	Mod	Unit	Flag	Lab
		1,1-Dichloroethane	<1.7	1		µg/L	0	GE
		1,2-Dichloroethane	<1.7	1		µg/L	0	GE
		cis-1,2-Dichloroethylene	4.1	1		µg/L	0	GE
		1,1-Dichloroethylene	<1.7	1		µg/L	0	GE
		trans-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		Dichloromethane (Methylene chloride)	<1.7	1		µg/L	0	GE
		2,4-Dichlorophenoxyacetic acid	<0.051	1		µg/L	0	GE
		1,2-Dichloropropane	<1.7	1		µg/L	0	GE
		cis-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		trans-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		Dieldrin	<0.050	1		µg/L	0	GE
		Endrin	<0.050	1		µg/L	0	GE
		Endrin	<0.050	1		µg/L	0	GE
		Ethylbenzene	<1.7	1		µg/L	0	GE
		Fluoride	<100	1		µg/L	0	GE
		Heptachlor	<0.050	1		µg/L	0	GE
		2-Hexanone	<1.7	1		µg/L	0	GE
		Iodomethane (Methyl iodide)	<25	1		µg/L	0	GE
		Iron, total recoverable	487	1		µg/L	2	GE
		Isobutyl alcohol	<167	1		µg/L	0	GE
		Lead, total recoverable	<5.0	1		µg/L	0	GE
		Lindane	<0.025	1	J	µg/L	0	GE
		Lindane	<0.025	1	J	µg/L	0	GE
		Lithium, total recoverable	<5.0	1		µg/L	0	GE
		Magnesium, total recoverable	369	1		µg/L	0	GE
		Manganese, total recoverable	17	1		µg/L	0	GE
		Mercury, total recoverable	<0.20	1		µg/L	0	GE
		Methacrylonitrile	<83	1		µg/L	0	GE
		Methoxychlor	<0.50	1		µg/L	0	GE
		Methoxychlor	<0.50	1		µg/L	0	GE
		Methyl ethyl ketone	<1.7	1		µg/L	0	GE
		Methyl isobutyl ketone	<1.7	1		µg/L	0	GE
		Methyl methacrylate	<10	1		µg/L	0	GE
		Nickel, total recoverable	2.0	1	JVV	µg/L	0	GE
		Nitrate-nitrite as nitrogen	1,020	1		µg/L	0	GE
		Phenol	<17	1	J	µg/L	0	GE
		Phenols	<10	1		µg/L	0	GE
		Potassium, total recoverable	260	1	JV	µg/L	0	GE
		Propionitrile	<333	1		µg/L	0	GE
		Selenium, total recoverable	<5.0	1		µg/L	0	GE
		Silica, total recoverable	13,600	1		µg/L	0	GE
		Silver, total recoverable	<0.65	1	VV	µg/L	0	GE
		Sodium, total recoverable	3,150	1		µg/L	0	GE
		Styrene	<1.7	1		µg/L	0	GE
		Sulfate	907	1	J	µg/L	0	GE
		1,1,1,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		1,1,2,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		Tetrachloroethylene	3.1	1		µg/L	1	GE
		Toluene	<1.7	1		µg/L	0	GE
		Total dissolved solids	38,000	1		µg/L	0	GE
		Total dissolved solids	39,000	1		µg/L	0	GE
		Total organic carbon	199	1	J	µg/L	0	GE
		Total organic halogens	20	1		µg/L	0	GE
		Total phosphates (as P)	<100	1		µg/L	0	GE
		• Toxaphene	<1.0	1		µg/L	0	GE
		Toxaphene	<1.0	1		µg/L	0	GE

• = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 18A collected on 03/15/95, laboratory analyses (cont.)

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		2,4,5-TP (Silvex)	<0.026	1	J	µg/L	0	GE
		1,1,1-Trichloroethane	<1.7	1		µg/L	0	GE
		1,1,2-Trichloroethane	<1.7	1		µg/L	0	GE
■		Trichloroethylene	50	1		µg/L	2	GE
		Trichlorofluoromethane	<1.7	1		µg/L	0	GE
		1,2,3-Trichloropropane	<1.7	1		µg/L	0	GE
		Vinyl acetate	<1.7	1		µg/L	0	GE
		Xylenes	<3.3	1		µg/L	0	GE
		Zinc, total recoverable	4.3	1	J	µg/L	0	GE
		Gross alpha	1.4E+00	1		pCi/L	0	GP
		Nonvolatile beta	1.4E+00	1	UI	pCi/L	0	GP
		Radium, total alpha-emitting	0.0E+00	1	UI	pCi/L	0	GP
		Total activity	5.5E+03	10		pCi/L	0	EM
		Tritium	-4.9E-02	1	UI	pCi/mL	0	GP

WELL AMB 18C

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Formation</u>
N103983.4 E51432.8	33.339653 °N 81.733398 °W	214.2-209.2 ft msl	376 ft msl	2" PVC	V	UL

FIELD MEASUREMENTS

Sample date: 03/16/95
Depth to water: 141.51 ft (43.13 m) below TOC
Water elevation: 234.49 ft (71.47 m) msl
Sp. conductance: 33 µS/cm
Turbidity: 4.5 NTU
Water evacuated before sampling: 8 gal

Time: 9:21
pH: 6.0
Alkalinity: 9 mg/L
Water temperature: 22.0 °C

Volumes purged: 2.0 well volumes

LABORATORY ANALYSES

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
•		pH	6.0	1	J1	pH	0	GE
		Specific conductance	41	1		µS/cm	0	GE
		Acetone	<167	1		µg/L	0	GE
		Acetonitrile (Methyl cyanide)	<1.7	1		µg/L	0	GE
		Acrolein	<33	1		µg/L	0	GE
		Acrylonitrile	<33	1		µg/L	0	GE
		Allyl chloride	<83	1		µg/L	0	GE
		Aluminum, total recoverable	25	1	V	µg/L	1	GE
		Arsenic, total recoverable	<5.0	1		µg/L	0	GE
		Barium, total recoverable	3.5	1	V	µg/L	0	GE
		Benzene	<1.7	1		µg/L	0	GE
		Bis(2-chloroisopropyl) ether	<10	1		µg/L	0	GE
		Boron, total recoverable	5.1	1	J	µg/L	0	GE
		Bromodichloromethane	<1.7	1		µg/L	0	GE
		Bromoform	<1.7	1		µg/L	0	GE
		Bromomethane (Methyl bromide)	<1.7	1		µg/L	0	GE
		Cadmium, total recoverable	<2.0	1		µg/L	0	GE
		Calcium, total recoverable	2,730	1		µg/L	0	GE
		Carbon disulfide	<1.7	1		µg/L	0	GE

• = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 18C collected on 03/16/95, laboratory analyses (cont.)

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		Carbon tetrachloride	<1.7	1		µg/L	0	GE
		Chloride	2,670	1		µg/L	0	GE
		Chlorobenzene	<1.7	1		µg/L	0	GE
		Chloroethane	<1.7	1		µg/L	0	GE
		Chloroethene (Vinyl chloride)	<1.7	1		µg/L	0	GE
		Chloroform	<1.7	1		µg/L	0	GE
		Chloromethane (Methyl chloride)	<1.7	1		µg/L	0	GE
		Chloroprene	<333	1		µg/L	0	GE
		Chromium, total recoverable	3.4	1	J	µg/L	0	GE
		Cyanide	<20	1		µg/L	0	GE
		Dibromochloromethane	<1.7	1		µg/L	0	GE
		1,2-Dibromo-3-chloropropane	<1.7	1		µg/L	0	GE
		1,2-Dibromoethane	<33	1		µg/L	0	GE
		Dibromomethane (Methylene bromide)	<1.7	1		µg/L	0	GE
		trans-1,4-Dichloro-2-butene	<50	1		µg/L	0	GE
		Dichlorodifluoromethane	<1.7	1		µg/L	0	GE
		1,1-Dichloroethane	<1.7	1		µg/L	0	GE
		1,2-Dichloroethane	<1.7	1		µg/L	0	GE
		cis-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		1,1-Dichloroethylene	<1.7	1		µg/L	0	GE
		trans-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		Dichloromethane (Methylene chloride)	<1.7	1		µg/L	0	GE
		2,4-Dichlorophenoxyacetic acid	<0.053	1		µg/L	0	GE
		1,2-Dichloropropane	<1.7	1		µg/L	0	GE
		cis-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		trans-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		Endrin	<0.053	1		µg/L	0	GE
		Ethylbenzene	<1.7	1		µg/L	0	GE
		Fluoride	<100	1		µg/L	0	GE
		2-Hexanone	<1.7	1		µg/L	0	GE
		Iodomethane (Methyl iodide)	<25	1		µg/L	0	GE
		Iron, total recoverable	35	1		µg/L	0	GE
		Isobutyl alcohol	<167	1		µg/L	0	GE
		Lead, total recoverable	<5.0	1		µg/L	0	GE
		Lindane	<0.027	1		µg/L	0	GE
		Lithium, total recoverable	<5.0	1		µg/L	0	GE
		Magnesium, total recoverable	169	1		µg/L	0	GE
		Manganese, total recoverable	12	1		µg/L	0	GE
		Mercury, total recoverable	<0.20	1		µg/L	0	GE
		Methacrylonitrile	<83	1		µg/L	0	GE
		Methoxychlor	<0.53	1		µg/L	0	GE
		Methyl ethyl ketone	<1.7	1	VV	µg/L	0	GE
		Methyl isobutyl ketone	<1.7	1		µg/L	0	GE
		Methyl methacrylate	<10	1		µg/L	0	GE
		Nickel, total recoverable	6.9	1	J	µg/L	0	GE
		Nitrate-nitrite as nitrogen	410	1		µg/L	0	GE
		Phenol	<17	1	J	µg/L	0	GE
		Phenols	<10	1		µg/L	0	GE
		Potassium, total recoverable	207	1	J	µg/L	0	GE
		Propionitrile	<333	1		µg/L	0	GE
		Selenium, total recoverable	<5.0	1	VV	µg/L	0	GE
		Silica, total recoverable	7,190	1		µg/L	0	GE
		Silver, total recoverable	<0.65	1		µg/L	0	GE
		Sodium, total recoverable	5,210	1		µg/L	0	GE

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 18C collected on 03/16/95, laboratory analyses (cont.)

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		Styrene	<1.7	1		µg/L	0	GE
		Sulfate	1,790	1		µg/L	0	GE
		1,1,1,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		1,1,2,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		Tetrachloroethylene	<1.7	1		µg/L	0	GE
		Toluene	<1.7	1		µg/L	0	GE
		Total dissolved solids	28,000	1		µg/L	0	GE
		Total organic carbon	839	1	JVV	µg/L	0	GE
		Total organic halogens	<10	1		µg/L	0	GE
		Total phosphates (as P)	<100	1		µg/L	0	GE
		Toxaphene	<1.1	1		µg/L	0	GE
		2,4,5-TP (Silvex)	<0.026	1	J	µg/L	0	GE
		1,1,1-Trichloroethane	<1.7	1		µg/L	0	GE
		1,1,2-Trichloroethane	<1.7	1		µg/L	0	GE
		Trichloroethylene	<1.7	1		µg/L	0	GE
		Trichlorofluoromethane	<1.7	1		µg/L	0	GE
		1,2,3-Trichloropropane	<1.7	1		µg/L	0	GE
		Vinyl acetate	<1.7	1		µg/L	0	GE
		Xylenes	<3.3	1		µg/L	0	GE
		Zinc, total recoverable	4.4	1	J	µg/L	0	GE
		Gross alpha	4.8E-01	1	UI	pCi/L	0	GP
		Nonvolatile beta	5.8E-01	1	UI	pCi/L	0	GP
		Radium, total alpha-emitting	-4.0E-01	1	UI	pCi/L	0	GP
		Total activity	1.2E+04	10		pCi/L	0	EM
		Tritium	5.5E-01	1	UI	pCi/mL	0	GP

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 19C

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Formation</u>
N102941.1 E51503.7	33.337465 °N 81.731184 °W	196.7-191.7 ft msl	363.7 ft msl	2" PVC	V	UL

FIELD MEASUREMENTS

Sample date: 03/16/95
Depth to water: 131.47 ft (40.07 m) below TOC
Water elevation: 232.23 ft (70.78 m) msl
Sp. conductance: 49 μ S/cm
Turbidity: 10.0 NTU
Water evacuated before sampling: 13 gal

Time: 13:39
pH: 5.7
Alkalinity: 2 mg/L
Water temperature: 20.4 °C

Volumes purged: 2.0 well volumes

LABORATORY ANALYSES

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
•		pH	6.1	1	J1	pH	0	GE
		Specific conductance	61	1		μ S/cm	0	GE
		Acetone	<167	1		μ g/L	0	GE
		Acetonitrile (Methyl cyanide)	<1.7	1		μ g/L	0	GE
		Acrolein	<33	1		μ g/L	0	GE
		Acrylonitrile	<33	1		μ g/L	0	GE
		Allyl chloride	<83	1		μ g/L	0	GE
		Aluminum, total recoverable	89	1	V	μ g/L	2	GE
		Arsenic, total recoverable	<5.0	1		μ g/L	0	GE
		Barium, total recoverable	0.99	1	JV	μ g/L	0	GE
		Benzene	<1.7	1		μ g/L	0	GE
		Bis(2-chloroisopropyl) ether	<10	1		μ g/L	0	GE
		Boron, total recoverable	9.0	1	J	μ g/L	0	GE
		Bromodichloromethane	<1.7	1		μ g/L	0	GE
		Bromoform	<1.7	1		μ g/L	0	GE
		Bromomethane (Methyl bromide)	<1.7	1		μ g/L	0	GE
		Cadmium, total recoverable	<2.0	1		μ g/L	0	GE
		Calcium, total recoverable	1,380	1		μ g/L	0	GE
		Carbon disulfide	<1.7	1		μ g/L	0	GE
		Carbon tetrachloride	<1.7	1		μ g/L	0	GE
		Chloride	2,210	1		μ g/L	0	GE
		Chlorobenzene	<1.7	1		μ g/L	0	GE
		Chloroethane	<1.7	1		μ g/L	0	GE
		Chloroethene (Vinyl chloride)	<1.7	1		μ g/L	0	GE
		Chloroform	<1.7	1		μ g/L	0	GE
		Chloromethane (Methyl chloride)	<1.7	1		μ g/L	0	GE
		Chloroprene	<333	1		μ g/L	0	GE
		Chromium, total recoverable	2.5	1	J	μ g/L	0	GE
		Cyanide	<20	1		μ g/L	0	GE
		Cyanide	<20	1		μ g/L	0	GE
		Dibromochloromethane	<1.7	1		μ g/L	0	GE
		1,2-Dibromo-3-chloropropane	<1.7	1		μ g/L	0	GE
		1,2-Dibromoethane	<33	1		μ g/L	0	GE
		Dibromomethane (Methylene bromide)	<1.7	1		μ g/L	0	GE
		trans-1,4-Dichloro-2-butene	<50	1		μ g/L	0	GE
		Dichlorodifluoromethane	<1.7	1		μ g/L	0	GE
		1,1-Dichloroethane	<1.7	1		μ g/L	0	GE
		1,2-Dichloroethane	<1.7	1		μ g/L	0	GE
		cis-1,2-Dichloroethylene	<1.7	1		μ g/L	0	GE

• = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 19C collected on 03/16/95, laboratory analyses (cont.)

H	ST	Analyte	Result	DF	Mod	Unit	Flag	Lab
		1,1-Dichloroethylene	<1.7	1		µg/L	0	GE
		trans-1,2-Dichloroethylene	<1.7	1		µg/L	0	GE
		Dichloromethane (Methylene chloride)	<1.7	1		µg/L	0	GE
		2,4-Dichlorophenoxyacetic acid	<0.051	1		µg/L	0	GE
		2,4-Dichlorophenoxyacetic acid	<0.051	1		µg/L	0	GE
		1,2-Dichloropropane	<1.7	1		µg/L	0	GE
		cis-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		trans-1,3-Dichloropropene	<1.7	1		µg/L	0	GE
		Endrin	<0.052	1		µg/L	0	GE
		Ethylbenzene	<1.7	1		µg/L	0	GE
		Fluoride	<100	1		µg/L	0	GE
		2-Hexanone	<1.7	1		µg/L	0	GE
		Iodomethane (Methyl iodide)	<25	1		µg/L	0	GE
		Iron, total recoverable	72	1		µg/L	0	GE
		Isobutyl alcohol	<167	1		µg/L	0	GE
		Lead, total recoverable	<5.0	1		µg/L	0	GE
		Lindane	<0.026	1		µg/L	0	GE
		Lithium, total recoverable	<5.0	1		µg/L	0	GE
		Magnesium, total recoverable	88	1		µg/L	0	GE
		Manganese, total recoverable	1.3	1	J	µg/L	0	GE
		Mercury, total recoverable	<0.20	1		µg/L	0	GE
		Methacrylonitrile	<83	1		µg/L	0	GE
		Methoxychlor	<0.52	1		µg/L	0	GE
		Methyl ethyl ketone	<1.7	1	VV	µg/L	0	GE
		Methyl isobutyl ketone	<1.7	1		µg/L	0	GE
		Methyl methacrylate	<10	1		µg/L	0	GE
		Nickel, total recoverable	2.5	1	J	µg/L	0	GE
		Nitrate-nitrite as nitrogen	90	1	J	µg/L	0	GE
		Phenol	<19	1	J	µg/L	0	GE
		Phenol	<19	1	J	µg/L	0	GE
		Phenols	<10	1		µg/L	0	GE
		Potassium, total recoverable	239	1	J	µg/L	0	GE
		Propionitrile	<333	1		µg/L	0	GE
		Selenium, total recoverable	1.7	1	JVV	µg/L	0	GE
		Silica, total recoverable	4,940	1		µg/L	0	GE
		Silver, total recoverable	<0.65	1		µg/L	0	GE
		Sodium, total recoverable	10,900	1		µg/L	0	GE
		Styrene	<1.7	1		µg/L	0	GE
		Sulfate	9,430	1		µg/L	0	GE
		2,4,5-T	<0.00046	1		µg/L	0	GE
		1,1,1,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		1,1,2,2-Tetrachloroethane	<1.7	1		µg/L	0	GE
		Tetrachloroethylene	<1.7	1		µg/L	0	GE
		Toluene	<1.7	1		µg/L	0	GE
		Total dissolved solids	34,000	1		µg/L	0	GE
		Total organic carbon	585	1	JVV	µg/L	0	GE
		Total organic carbon	469	1	JVV	µg/L	0	GE
		Total organic halogens	<10	1		µg/L	0	GE
		Total phosphates (as P)	<100	1		µg/L	0	GE
		Toxaphene	<1.0	1		µg/L	0	GE
		2,4,5-TP (Silvex)	<0.026	1	J	µg/L	0	GE
		2,4,5-TP (Silvex)	<0.026	1	J	µg/L	0	GE
		1,1,1-Trichloroethane	<1.7	1		µg/L	0	GE
		1,1,2-Trichloroethane	<1.7	1		µg/L	0	GE
		Trichloroethylene	<1.7	1		µg/L	0	GE
		Trichlorofluoromethane	<1.7	1		µg/L	0	GE

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

WELL AMB 19C collected on 03/16/95, laboratory analyses (cont.)

<u>H</u>	<u>ST</u>	<u>Analyte</u>	<u>Result</u>	<u>DF</u>	<u>Mod</u>	<u>Unit</u>	<u>Flag</u>	<u>Lab</u>
		1,2,3-Trichloropropane	<1.7	1		µg/L	0	GE
		Vinyl acetate	<1.7	1		µg/L	0	GE
		Xylenes	<3.3	1		µg/L	0	GE
		Zinc, total recoverable	<5.0	1		µg/L	0	GE
		Gross alpha	-3.2E-01	1	UI	pCi/L	0	GP
		Nonvolatile beta	3.7E-01	1	UI	pCi/L	0	GP
		Radium, total alpha-emitting	-4.0E-01	1	UI	pCi/L	0	GP
		Total activity	7.4E+03	10		pCi/L	0	EM
		Tritium	3.7E-01	1	UI	pCi/mL	0	GP

● = exceeded holding time. ■ = exceeded screening level or final PDWS.

Appendix E

Data Quality/Usability Assessment

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Data Quality/Usability Assessment

Quality assurance/quality control (QA/QC) procedures relating to accuracy and precision of analyses performed on groundwater samples are followed in the field and laboratory and are reviewed prior to publication of results. The review by the Environmental Protection Department/Environmental Monitoring Section (EPD/EMS) of the volume of analytical data acquired each quarter and presented in various reports is an ongoing process; EPD/EMS' review of the QA/QC data cannot be completed in time to meet the deadlines for the groundwater monitoring reports required by the Resource Conservation and Recovery Act and associated regulations. Other site and regulatory personnel can obtain further information on the data quality and usability in a variety of ways, including those described below.

Results below Detection

For radiological analyses, the analytical result field contains the result recorded on the analytical instrument and reported by the laboratory, even if it is negative. For non-radiological analyses, if the analyte is not detected, the sample-specific estimated quantitative limit (EQL) is entered into the result field (with a less than [<] sign). The EQL is defined as the lowest concentration that can be achieved reliably within specified limits of precision and accuracy during routine laboratory operating conditions. The sample-specific EQL is modified for sample concentration or dilution or unusual aliquot size that affects analytical sensitivity.

Data Qualification

The contract laboratories continually assess their own accuracy and precision according to U.S. Environmental Protection Agency (EPA) guidelines. They submit sample- or batch-specific QA/QC information either at the same time as analytical results or in quarterly summaries. Properly defined and used modifiers (also referred to as qualifiers) can be a key component in assessing data usability. Modifiers designed by EPD/EMS and used by the primary laboratories are presented in Appendix D.

Assessment of Accuracy of the Data

Accuracy, or the nearness of the reported result to the true concentration of a constituent in a sample, can be assessed in several ways.

A laboratory's general accuracy can be judged by analysis of results obtained from known samples. The non-radionuclide contract laboratories analyze commercial reference samples every quarter at EPD/EMS' request. The results of these analyses are presented in the EPD/EMS groundwater monitoring quarterly reports. The primary laboratories also seek or maintain state certification by participating periodically in performance studies; reference samples and analysis of results are provided by EPA. Results of these studies also are published in the EPD/EMS quarterly reports.

Analysis of blanks provides a tool for assessing the accuracy of both sampling and laboratory analysis. Results for all field blanks for the quarter can be found in the EPD/EMS quarterly reports. Any field or laboratory blanks that exceed established minimums are identified in the same reports, in tables associating them with groundwater samples analyzed in the same batches. In these regulatory reports, the modifier V is applied to every result that is run in the same batch as a laboratory blank with positive results for that analyte. A second V qualifier is added if the analyte concentration is less than five times the concentration in the blank (or, for common laboratory contaminants, less than ten times.)

Surrogates, organic compounds similar in chemical behavior to the compounds of interest but not normally found in environmental samples, are used to monitor the effect of the matrix on the accuracy of analyses for organic parameters. For example, for analyses of volatile organics by EPA Method 8240, three surrogate compounds are added to all samples and blanks in each analytical batch. In analyses of semivolatile organics, three acid compounds and three base/neutral compounds are used. Two surrogates are used in organochlorine pesticides analyses. Percent recoveries for surrogate analyses are calculated by laboratory personnel, reported to EPD/EMS, reviewed, and entered into the database, but they are not published. If recoveries are not within specified limits, the laboratory is expected to reanalyze the samples or attach qualifiers to the data identifying the anomalous results.

Sample-specific accuracy for both organic and inorganic parameters can be assessed by examination of matrix spike/matrix spike duplicate results. A sample is analyzed unspiked to determine a baseline set of values. A second portion of the sample is spiked with known concentrations of compounds appropriate to the analyses being performed, typically five volatile organic compounds for volatile organics analyses, eleven semivolatile compounds for semivolatiles, six pesticide compounds for pesticides, all metals for metals analyses by SW-846 methods (EPA, 1986), and a known quantity of cyanide for cyanide analysis. The percentage of the spike compound that is recovered (i.e., measured in excess of the value obtained for the unspiked sample) is a direct measure of analytical accuracy. EPA requires matrix spike/matrix spike duplicates to be run at least once per 20 samples of similar matrix.

Matrix spike/matrix spike duplicate results are reported to EPD/EMS but are not published. For organic compounds, according to EPA guidelines, no action is taken on the basis of matrix spike/matrix spike duplicate data alone (i.e., no result modifiers are assigned solely on the basis of matrix spike results); however, the results can indicate if a laboratory is having a systematic problem in the analysis of one or more analytes.

In the case of inorganic compounds, such as metals, the matrix spike sample analysis provides information about the effect of each sample matrix on the digestion and measurement methodology. Data qualifiers assigned by the laboratories on the basis of the percentage of spike recovery are reported in the EPD/EMS results tables.

Assessment of Precision

Precision of the analyses, or agreement of a set of replicate results among themselves, is assessed through the use of duplicates initiated by the laboratory and blind replicates provided by EPD/EMS. The results of duplicate and replicate analyses are presented in results tables that report only one quarter of data, usually during first, second, and third quarters. Duplicate and replicate results are not presented in results tables that report more than one quarter of data, generally provided in fourth quarter reports. In this case, the results tables instead present only the highest result for each analyte for each quarter of the year.

The laboratories assess precision by calculating the relative percent difference (RPD) for each pair of laboratory-initiated duplicate results. The contract laboratories use a data qualifier to modify metals analyses when the RPD for laboratory duplicates is greater than 20 percent. This qualifier is published in the EPD/EMS quarterly reports.

Additional statistical comparisons of laboratory duplicate and blind replicate results, both intra- and interlaboratory, are presented in the EPD/EMS quarterly reports. The calculation used for these reports is the mean relative difference (MRD) which is similar to EPA's RPD except that the MRD is the average of all the RPD values from one laboratory for each compound (intralab-

oratory MRD) or all the RPD values from all laboratories for each compound (interlaboratory MRD), during one quarter. Because detection limits may vary among samples, the MRD requires calculation of a reference detection limit, which is the detection limit at the 90th percentile of the array of limits in the population of all duplicate and replicate analyses for a given analyte during a particular quarter. The MRD is not method-specific.

Method-Specific Accuracy and Precision

The contract laboratories' EPA-approved laboratory procedures include QA/QC requirements as an integral part of the methods. Thus, knowledge of the method used in obtaining data is an important component of determining data usability. EPA has conducted extensive research and development on the methods approved for the analysis of water and waste water. Information on the accuracy and precision of a method is available from EPA publications, as is full information on required QA/QC procedures. A listing of the methods used by the primary laboratories during fourth quarter 1993 is given below along with the source for the method description. Many, if not all, of these sources include presentations of representative accuracy and precision results.

Methods Used by the Contract Laboratories

<u>Method</u>	<u>Used to Analyze</u>	<u>Source</u>
EPA120.1	Specific conductance	EPA EMSL, 1983
EPA150.1	pH	EPA EMSL, 1983
EPA160.1	Total dissolved solids	EPA EMSL, 1983
EPA160.2	Total dissolved solids, total suspended solids	EPA EMSL, 1983
EPA180.1	Turbidity	EPA EMSL, 1983
EPA200.7	Metals	EPA EMSL, 1983
EPA204.2	Antimony	EPA EMSL, 1983
EPA206.2	Arsenic	EPA EMSL, 1983
EPA239.2	Lead	EPA EMSL, 1983
EPA245.1	Mercury	EPA EMSL, 1983
EPA270.2	Selenium	EPA EMSL, 1983
EPA279.2	Thallium	EPA EMSL, 1983
EPA300.0	Chloride, nitrite, sulfate	EPA EMSL, 1991
EPA310.1	Alkalinity	EPA EMSL, 1983
EPA325.2	Chloride	EPA EMSL, 1983
EPA335.3	Cyanide	EPA EMSL, 1983
EPA340.2	Fluoride	EPA EMSL, 1983
EPA353.1	Nitrogen, nitrate-nitrite	EPA EMSL, 1983
EPA353.2	Nitrogen, nitrate, nitrite, or combined	EPA EMSL, 1983
EPA365.1	Phosphorus, all forms (reported as total phosphates)	EPA EMSL, 1983
EPA365.2	Phosphorus, all forms (reported as total phosphates)	EPA EMSL, 1983
EPA376.2	Sulfide	EPA EMSL, 1983
EPA413.1	Oil & grease	EPA EMSL, 1983
EPA415.1	Dissolved organic carbon, total inorganic carbon, total organic carbon	EPA EMSL, 1983
EPA418.1	Total petroleum hydrocarbons	EPA EMSL, 1983
EPA420.2	Phenols	EPA EMSL, 1983
EPA900.0	Gross alpha, nonvolatile beta	EPA EMSL, 1980
EPA900.1	Total alpha-emitting radium	EPA EMSL, 1980
EPA906.0	Tritium	EPA EMSL, 1980
EPA6010	Metals	EPA, 1986
EPA7041	Antimony	EPA, 1986
EPA7060	Arsenic	EPA, 1986

<u>Method</u>	<u>Used to Analyze</u>	<u>Source</u>
EPA7421	Lead	EPA, 1986
EPA7470	Mercury	EPA, 1986
EPA7740	Selenium	EPA, 1986
EPA7841	Thallium	EPA, 1986
EPA8010	Chlorinated volatile organics	EPA, 1986
EPA8080	Organochlorine pesticides and PCBs	EPA, 1986
EPA8150	Chlorinated herbicides	EPA, 1986
EPA8240	GCMS volatiles	EPA, 1986
EPA8270	GCMS semivolatiles	EPA, 1986
EPA8280	Dioxins and furans	EPA, 1986
EPA9012	Cyanide	EPA, 1986
EPA9020	Total organic halogens	EPA, 1986
EPA9020A	Total organic halogens	EPA, 1986
EPA9030	Sulfide	EPA, 1986
EPA9060	Dissolved organic carbon, total inorganic carbon, total organic carbon	EPA, 1986

An example of available method-specific QA/QC information is that for the analysis of metals by EPA Method 6010/200.7 (EPA, 1986/EPA EMSL, 1983). The primary laboratories, General Engineering Laboratories (GE) and Roy F. Weston, Inc. (Weston), use this inductively coupled plasma (ICP) atomic emission spectrometric method.

The following precision and accuracy data are based on the experience of seven laboratories that applied the ICP technique to acid-distilled water matrices that had been spiked with various metal concentrates. (Note: Not all seven laboratories analyzed all 14 elements.) The references give results for samples having three concentration ranges; the results here are for samples having the lowest values, similar to actual groundwater results for the Savannah River Site.

ICP Precision and Accuracy Data

<u>Element</u>	<u>True value ($\mu\text{g/L}$)</u>	<u>Mean reported value ($\mu\text{g/L}$)</u>	<u>Mean percent RSD^a</u>
Aluminum	60	62	33
Arsenic	22	19	23
Beryllium	20	20	9.8
Cadmium	2.5	2.9	16
Chromium	10	10	18
Cobalt	20	20	4.1
Copper	11	11	40
Iron	20	19	15
Lead	24	30	32
Manganese	15	15	6.7
Nickel	30	28	11
Selenium	6	8.5	42
Vanadium	70	69	2.9
Zinc	16	19	45

^a Relative standard deviation. In EPA (1986), the column heading is Mean Standard Deviation (%).

As another example, EPA Method 601/8010 (EPA, 1991/EPA, 1986) is used by both GE and Weston for analyses of halogenated volatile organics. In the presentation of the method in both references, the following table gives method-specific accuracy and precision as functions of concentration. Contract laboratories are expected to achieve or at least approach these limits.

Accuracy and Precision as Functions of Concentration for EPA Method 601/8010

Parameter	Accuracy as recovery, X'^a ($\mu\text{g/L}$)	Single analyst precision ($\mu\text{g/L}$) ^b	Overall precision ($\mu\text{g/L}$) ^c
Bromodichloromethane	$1.12C-1.02^d$	$0.11\bar{X}+0.04^e$	$0.20\bar{X}+1.00$
Bromoform	$0.96C-2.05$	$0.12\bar{X}+0.58$	$0.21\bar{X}+2.41$
Bromomethane	$0.76C-1.27$	$0.28\bar{X}+0.27$	$0.36\bar{X}+0.94$
Carbon tetrachloride	$0.98C-1.04$	$0.15\bar{X}+0.38$	$0.20\bar{X}+0.39$
Chlorobenzene	$1.00C-1.23$	$0.15\bar{X}-0.02$	$0.18\bar{X}+1.21$
Chloroethane	$0.99C-1.53$	$0.14\bar{X}-0.13$	$0.17\bar{X}+0.63$
2-Chloroethyl vinyl ether ^f	$1.00C$	$0.20\bar{X}$	$0.35\bar{X}$
Chloroform	$0.93C-0.39$	$0.13\bar{X}+0.15$	$0.19\bar{X}-0.02$
Chloromethane	$0.77C+0.18$	$0.28\bar{X}-0.31$	$0.52\bar{X}+1.31$
Dibromochloromethane	$0.94C+2.72$	$0.11\bar{X}+1.10$	$0.24\bar{X}+1.68$
1,2-Dichlorobenzene	$0.93C+1.70$	$0.20\bar{X}+0.97$	$0.13\bar{X}+6.13$
1,3-Dichlorobenzene	$0.95C+0.43$	$0.14\bar{X}+2.33$	$0.26\bar{X}+2.34$
1,4-Dichlorobenzene	$0.93C-0.09$	$0.15\bar{X}+0.29$	$0.20\bar{X}+0.41$
1,1-Dichloroethane	$0.95C-1.08$	$0.09\bar{X}+0.17$	$0.14\bar{X}+0.94$
1,2-Dichloroethane	$1.04C-1.06$	$0.11\bar{X}+0.70$	$0.15\bar{X}+0.94$
1,1-Dichloroethene	$0.98C-0.87$	$0.21\bar{X}-0.23$	$0.29\bar{X}-0.40$
trans-1,2-Dichloroethene	$0.97C-0.16$	$0.11\bar{X}+1.46$	$0.17\bar{X}+1.46$
Dichloromethane (Methylene chloride)	$0.91C-0.93$	$0.11\bar{X}+0.33$	$0.21\bar{X}+1.43$
1,2-Dichloropropane ^f	$1.00C$	$0.13\bar{X}$	$0.23\bar{X}$
cis-1,3-Dichloropropene ^f	$1.00C$	$0.18\bar{X}$	$0.32\bar{X}$
trans-1,3-Dichloropropene ^f	$1.00C$	$0.18\bar{X}$	$0.32\bar{X}$
1,1,2,2-Tetrachloroethane	$0.95C+0.19$	$0.14\bar{X}+2.41$	$0.23\bar{X}+2.79$
Tetrachloroethylene	$0.94C+0.06$	$0.14\bar{X}+0.38$	$0.18\bar{X}+2.21$
1,1,1-Trichloroethane	$0.90C-0.16$	$0.15\bar{X}+0.04$	$0.20\bar{X}+0.37$
1,1,2-Trichloroethane	$0.86C+0.30$	$0.13\bar{X}-0.14$	$0.19\bar{X}+0.67$
Trichloroethylene	$0.87C+0.48$	$0.13\bar{X}-0.03$	$0.23\bar{X}+0.30$
Trichlorofluoromethane	$0.89C-0.07$	$0.15\bar{X}+0.67$	$0.26\bar{X}+0.91$
Vinyl chloride	$0.97C-0.36$	$0.13\bar{X}+0.65$	$0.27\bar{X}+0.40$

^a X' = expected recovery for one or more measurements of a sample containing a concentration of C , in $\mu\text{g/L}$.

^b Expected single analyst standard deviation of measurements.

^c Expected interlaboratory standard deviation of measurements.

^d C = true value for the concentration, in $\mu\text{g/L}$.

^e $\bar{X}$ = average recovery found for measurements of samples containing a concentration of C , in $\mu\text{g/L}$.

^f Estimates based on performance of a single laboratory.

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EPA EMSL (U.S. Environmental Protection Agency, Environmental Monitoring and Systems Laboratory), 1983. **Methods for Chemical Analysis of Water and Wastes**. Cincinnati, OH.

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Appendix F

Time Series Plots

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Field pH Well Cluster AMB 4

Field pH Wells AMB 5 Through AMB 7B

Field pH Wells AMB 8D Through AMB 13AR

Field Specific Conductance Well Cluster AMB 4

Field Specific Conductance Wells AMB 5 Through AMB 7B

Field Specific Conductance Wells AMB 8D Through AMB 13AR

Field Specific Conductance Well AMB 10A

Tetrachloroethylene Concentrations Well AMB 4

Tetrachloroethylene Concentrations Well AMB 4A

Tetrachloroethylene Concentrations Well AMB 4B

Tetrachloroethylene Concentrations Well AMB 4D

Tetrachloroethylene Concentrations Well AMB 5

Tetrachloroethylene Concentrations Well AMB 6

Tetrachloroethylene Concentrations Well AMB 7

Tetrachloroethylene Concentrations Well AMB 7A

Tetrachloroethylene Concentrations Well AMB 7B

Tetrachloroethylene Concentrations Well AMB 8D

Tetrachloroethylene Concentrations Well AMB 9D

Tetrachloroethylene Concentrations Well AMB 10A

Tetrachloroethylene Concentrations Well AMB 10B

Tetrachloroethylene Concentrations Well AMB 10D

Tetrachloroethylene Concentrations Well AMB 10DD

Tetrachloroethylene Concentrations Well AMB 11B

Tetrachloroethylene Concentrations Well AMB 11D

Result

Detection Limit

Mean

Tetrachloroethylene Concentrations Well AMB 12D

Tetrachloroethylene Concentrations Well AMB 13AR

Total Alpha-Emitting Radium Activities Well AMB 4

Negative detection limit values are not included on the plot.

Total Alpha-Emitting Radium Activities Well AMB 4A

Total Alpha-Emitting Radium Activities Well AMB 4B

□ Result △ Detection Limit —◆— Mean

Negative detection limit values are not included on the plot.

Total Alpha-Emitting Radium Activities Well AMB 4D

Negative detection limit values are not included on the plot.

Total Alpha-Emitting Radium Activities Well AMB 5

Total Alpha-Emitting Radium Activities Well AMB 6

□ Result △ Detection Limit —◆— Mean

Negative detection limit values are not included on the plot.

Total Alpha-Emitting Radium Activities Well AMB 7

□ Result △ Detection Limit —◆— Mean

Negative detection limit values are not included on the plot.

Total Alpha-Emitting Radium Activities Well AMB 7A

Negative detection limit values are not included on the plot.

Total Alpha-Emitting Radium Activities Well AMB 7B

Negative detection limit values are not included on the plot.

Total Alpha-Emitting Radium Activities Well AMB 8D

Total Alpha-Emitting Radium Activities Well AMB 9D

Total Alpha-Emitting Radium Activities Well AMB 10A

Total Alpha-Emitting Radium Activities Well AMB 10B

Total Alpha-Emitting Radium Activities Well AMB 10D

Total Alpha-Emitting Radium Activities Well AMB 10DD

Negative detection limit values are not included on the plot.

Total Alpha-Emitting Radium Activities Well AMB 11B

Total Alpha-Emitting Radium Activities Well AMB 11D

Total Alpha-Emitting Radium Activities Well AMB 12D

Total Alpha-Emitting Radium Activities Well AMB 13AR

Negative detection limit values are not included on the plot.

Total Organic Carbon Concentrations Well AMB 4

Total Organic Carbon Concentrations Well AMB 4A

Total Organic Carbon Concentrations Well AMB 4B

Total Organic Carbon Concentrations Well AMB 4D

Total Organic Carbon Concentrations Well AMB 5

Total Organic Carbon Concentrations Well AMB 6

Total Organic Carbon Concentrations Well AMB 7

Total Organic Carbon Concentrations Well AMB 7A

Total Organic Carbon Concentrations Well AMB 7B

Total Organic Carbon Concentrations Well AMB 8D

Total Organic Carbon Concentrations Well AMB 9D

Total Organic Carbon Concentrations Well AMB 10A

Total Organic Carbon Concentrations Well AMB 10B

Total Organic Carbon Concentrations Well AMB 10D

Total Organic Carbon Concentrations Well AMB 10DD

Total Organic Carbon Concentrations Well AMB 11B

Total Organic Carbon Concentrations Well AMB 11D

Total Organic Carbon Concentrations Well AMB 12D

Total Organic Carbon Concentrations Well AMB 13AR

Total Organic Halogens Concentrations Well AMB 4

Total Organic Halogens Concentrations Well AMB 4A

Total Organic Halogens Concentrations Well AMB 4B

Total Organic Halogens Concentrations Well AMB 4D

Total Organic Halogens Concentrations Well AMB 5

Total Organic Halogens Concentrations Well AMB 6

Total Organic Halogens Concentrations Well AMB 7

Total Organic Halogens Concentrations Well AMB 7A

Total Organic Halogens Concentrations Well AMB 7B

Total Organic Halogens Concentrations Well AMB 8D

Total Organic Halogens Concentrations Well AMB 9D

Total Organic Halogens Concentrations Well AMB 10A

Total Organic Halogens Concentrations Well AMB 10B

Total Organic Halogens Concentrations Well AMB 10D

Total Organic Halogens Concentrations Well AMB 10DD

Total Organic Halogens Concentrations Well AMB 11B

Total Organic Halogens Concentrations Well AMB 11D

Total Organic Halogens Concentrations Well AMB 12D

Total Organic Halogens Concentrations Well AMB 13AR

Trichloroethylene Concentrations Well AMB 4

Trichloroethylene Concentrations Well AMB 4A

Trichloroethylene Concentrations Well AMB 4B

Trichloroethylene Concentrations Well AMB 4D

Trichloroethylene Concentrations Well AMB 5

Trichloroethylene Concentrations Well AMB 6

Trichloroethylene Concentrations Well AMB 7

Trichloroethylene Concentrations Well AMB 7A

Trichloroethylene Concentrations Well AMB 7B

Trichloroethylene Concentrations Well AMB 8D

Trichloroethylene Concentrations Well AMB 9D

Trichloroethylene Concentrations Well AMB 10A

Trichloroethylene Concentrations Well AMB 10D

Trichloroethylene Concentrations Well AMB 10DD

Trichloroethylene Concentrations Well AMB 11B

Trichloroethylene Concentrations Well AMB 11D

Trichloroethylene Concentrations Well AMB 12D

Trichloroethylene Concentrations Well AMB 13AR

Appendix G

Hydrographs

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Hydrograph Well AMB 4

Hydrograph Well AMB 4A

Hydrograph Well AMB 4B

Hydrograph Well AMB 4D

Hydrograph Well AMB 5

Hydrograph Well AMB 6

Hydrograph Well AMB 7

Hydrograph Well AMB 7A

Hydrograph Well AMB 7B

Hydrograph Well AMB 8D

Hydrograph Well AMB 9D

Hydrograph Well AMB 10A

Hydrograph Well AMB 10B

Hydrograph Well AMB 10D

Hydrograph Well AMB 10DD

Hydrograph
Well AMB 11B

Hydrograph Well AMB 11D

Hydrograph Well AMB 12D

Hydrograph Well AMB 13AR

Appendix H

M-Area Water-Elevation Contour Maps

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REFERENCE DOCUMENT #
WSRC-TR-95-0138-1 for 1Q95
M-Area Hazardous Waste Management
Facility Groundwater Monitoring Report

LEGEND

- **PAVED ROAD**
- **UNPAVED ROAD**
- **SRS SITE BOUNDARY**
- **RAILROAD**
- **TOPOGRAPHIC CONTOUR**
CONTOUR INTERVAL 10 FT
- **INFERRED**
ISOCONCENTRATION CONTOUR
- **CONSTITUENT**
ISOCONCENTRATION CONTOUR
- **STREAM**
- **WASTE UNIT**
- **BUILDING**
- **GROUNDWATER**
MONITORING WELL
- **RECOVERY WELL**

- STREAM
- WASTE UNIT
- BUILDING
- GROUNDWATER MONITORING WELL
- RECOVERY WELL

TITLE:

**SAVANNAH RIVER SITE
ADMINISTRATION AND
MATERIALS AREA 1Q'95**

**M-Area
Aquifer Zone**

NOTES:

**Potentiometric
Surface**

*** Water elevation appeared to differ from the pattern of surrounding water elevations and was not used for contouring.

REFERENCE DOCUMENT #
WSRC-TR-95-0138-1 for 1Q95
M-Area Hazardous Waste Management
Facility Groundwater Monitoring Report

LEGEND

- **PAVED ROAD**
- **UNPAVED ROAD**
- **SRS SITE BOUNDARY**
- **RAILROAD**
- **TOPOGRAPHIC CONTOUR**
CONTOUR INTERVAL 10 FT
- **INFERRED**
ISOCONCENTRATION CONTOUR
- **CONSTITUENT**
ISOCONCENTRATION CONTOUR
- **STREAM**
- **WASTE UNIT**
- **BUILDING**
- **GROUNDWATER**
MONITORING WELL
- **RECOVERY WELL**

- BUILDING
- ▲ GROUNDWATER MONITORING WELL
- RECOVERY WELL

TITLE:

**SAVANNAH RIVER SITE
ADMINISTRATION AND
MATERIALS AREA 1Q'95**

**Upper Lost Lake
Aquifer Zone**

NOTES:

**Potentiometric
Surface**

*** Water elevation appeared to differ from the
pattern of surrounding water elevations
and was not used for contouring.

REFERENCE DOCUMENT #
WSRC-TR-95-0138-1 for 1Q95
M-Area Hazardous Waste Management
Facility Groundwater Monitoring Report

LEGEND

- **PAVED ROAD**
- **UNPAVED ROAD**
- **SRS SITE BOUNDARY**
- **RAILROAD**
- **TOPOGRAPHIC CONTOUR**
CONTOUR INTERVAL 10 FT
- **INFERRED**
ISOCONCENTRATION CONTOUR
- **CONSTITUENT**
ISOCONCENTRATION CONTOUR
- **STREAM**
- **WASTE UNIT**
- **BUILDING**
- **GROUNDWATER**
MONITORING WELL
- **RECOVERY WELL**

Scale 1:900 FT

■ BUILDING
▲ GROUNDWATER MONITORING WELL

● RECOVERY WELL

TITLE:

SAVANNAH RIVER SITE
ADMINISTRATION AND
MATERIALS AREA 1Q'95

Lower Lost Lake
Aquifer Zone

NOTE:

Potentiometric
Surface

"* Water elevation appeared to differ from the pattern of surrounding water elevations and was not used for contouring.

REFERENCE DOCUMENT #
WSRC-TR-95-0138-1 for 1Q95
M-Area Hazardous Waste Management
Facility Groundwater Monitoring Report

LEGEND

PAVED ROAD

UNPAVED ROAD

SRS SITE BOUNDARY

RAILROAD

TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL 10 FT

INFERRED
ISOCONCENTRATION CONTOUR

CONSTITUENT
ISOCONCENTRATION CONTOUR

STREAM

WASTE UNIT

BUILDING

GROUNDWATER
MONITORING WELL

RECOVERY WELL

▲ GROUNDWATER
MONITORING WELL

● RECOVERY WELL

Scale 1:900 FT
1:274 M

TITLE:

SAVANNAH RIVER SITE
ADMINISTRATION AND
MATERIALS AREA 1Q'95

Middle Sand
of the CBCU

NOTE:

Potentiometric
Surface

** Water elevation appeared to differ from the
pattern of surrounding water elevations
and was not used for contouring.