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Mr. Benito Garcia, Bureau Chief
New Mexico Environment Department
Hazardous and Radioactive Materials Bureau
2044 Galisteo Street
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Santa Fe, NM 87505-2100

Dear Mr. Garcia:

Enclosed are two copies of the Summary Report of Groundwater Investigations at Technical Area V, Operable Units 1306 and 1307, Volumes I and II, prepared by the Sandia National Laboratories/New Mexico (SNL/NM) Environmental Restoration Project. The report was prepared in response to NMED's March 27, 1998, second Notice of Deficiency (NOD) requesting DOE/SNL to submit a plan for assessing groundwater contamination at TA-V. Prior to proposing significant new work, DOE/SNL offered to create this report, which examines all available reports, investigations, analytical data, and other information that pertains to groundwater contamination at TA-V. The report also includes recommendations for further study. It is anticipated that this report will assist in directing appropriate future decisions regarding assessment of the groundwater contamination at TA-V.

If you have any questions, please contact John Gould at (505) 845-6089.

Sincerely,

George K. Jackson

for Michael J. Zamorski
Area Manager

Enclosure

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Sandia National Laboratories/New Mexico

SUMMARY REPORT OF GROUNDWATER INVESTIGATIONS AT TECHNICAL AREA V, OPERABLE UNITS 1306 AND 1307

March 1999

Environmental
Restoration
Project

United States Department of Energy
Albuquerque Operations Office

SNL1109

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Document title: Summary Report of Groundwater Investigations at Technical Area V, Operable Units 1306 and 1307; Volume 1 Text, Tables, and Figures and Volume 2 Appendices and Attachments. Sandia National Laboratories/New Mexico, Environmental Restoration Project

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EXECUTIVE SUMMARY

Trichloroethylene (TCE) has been detected in groundwater in several of the Technical Area (TA) V monitoring wells. The most recent sampling event (in November 1998) revealed 23 micrograms per liter (L) TCE in LWDS-MW1. Low concentrations of TCE have been detected in soil vapor samples and soil samples, but none of the numerous investigations completed to date for sites within TA-V have conclusively identified the source for this contaminant.[1,2] The New Mexico Environment Department (NMED) Hazardous and Radioactive Materials Bureau (HRMB) has requested additional documentation and further investigation of the groundwater contamination at TA-V.[3,4] The U.S. Department of Energy and Sandia National Laboratories/New Mexico (SNL/NM) Environmental Restoration (ER) Project is responding to this request by completing this report, which includes a comprehensive review of all available reports, investigations, analytical data, and any other information pertinent to TA-V groundwater contamination. Recommendations for further study are also included.

Since the initial discovery of TCE in groundwater, SNL/NM ER has voluntarily undertaken activities to determine the nature and extent of groundwater contamination. These activities have included drilling and sampling monitoring wells, active and passive soil vapor sampling, aquifer testing, and vadose zone and groundwater modeling. The results of many of these activities have not yet been formally provided to the NMED HRMB. This report summarizes the results from these activities.

The regional and local geologic and hydrologic setting has been reevaluated using recently generated information such as borehole data and water level monitoring data. Geologic cross sections have been constructed to reflect interpretations of the most recent data.

Potentiometric surface maps have been constructed with recent groundwater levels. Beneath the TA-V area, there is an apparent groundwater mound approximately 1 to 2 feet (ft) higher than the regional water table. Horizontal and vertical groundwater gradients have been calculated as 0.003 ft/ft and 0.02 ft/year (yr), respectively. Hydraulic conductivity values obtained from aquifer test and slug test data range from 8.2×10^{-4} ft/minute (min) to 1.9×10^{-2} ft/min. Horizontal groundwater flow velocities at TA-V are estimated at 4 to 10 ft/yr.

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[1] Sandia National Laboratories/New Mexico, June 1996. "Results of the Technical Areas III and V RCRA Facility Investigation, Sandia National Laboratories, Albuquerque, New Mexico," Sandia National Laboratories/New Mexico, Albuquerque, New Mexico.

[2] Sandia National Laboratories/New Mexico, September 1995. "Results of the Liquid Waste Disposal System RCRA Facility Investigation, Sandia National Laboratories, Albuquerque, New Mexico," Sandia National Laboratories/New Mexico, Albuquerque, New Mexico.

[3] Garcia, B. New Mexico Environment Department, 2nd Notice of Deficiency: Results of the Technical Areas III and V RCRA Facility Investigation. March 27, 1998.

[4] Dinwiddie, S., September 10, 1997. "Request for Supplemental Information: Liquid Waste Disposal System RFI Report," Hazardous and Radioactive Materials Bureau, New Mexico Environment Department, Santa Fe, New Mexico.

Groundwater analytical data have been collected for 19 quarters for the oldest monitoring wells with results for volatile organic compounds, semivolatile compounds, metals, major ions, and other water chemistry parameters. In general, the water chemistry from one group of monitoring wells within TA-V (LWDS-MW1, TAV-MW1, TAV-MW4, and TAV-MWL) reflects a groundwater composition different from that in the remaining TA-V wells. Piper trilinear and Stiff diagrams indicate that water in these wells is a mixture of natural groundwater and water with elevated sulfate and chloride concentrations. This mixture of several water types suggests that some of the approximately 6 million gallons of reactor coolant water disposed of in the Liquid Waste Disposal System (LWDS) drainfield may have migrated to groundwater, perhaps carrying contaminants with it. TCE has been regularly detected in one well (LWDS-MW1) above the U.S. Environmental Protection Agency (EPA) maximum concentration level (MCL) and in one well (TAV-MW1) at just below the MCL. TCE has also been detected at very low levels in TAV-MW4. Degradation products of TCE (cis-1,2-dichloroethene and 1,1-dichloroethene) have been detected in TA-V groundwater. TCE concentrations are generally detected at increasing levels in LWDS-MW1 and TAV-MW1. Low levels of nitrate have been detected in all TA-V monitoring wells. Nitrate concentrations have occasionally exceeded the EPA MCL of 10 milligrams/L as N in several TA-V monitoring wells. However, unlike TCE, nitrate concentrations do not appear to be increasing with time.

Numerous groundwater modeling studies have been completed to improve understanding of the hydrogeologic conditions at TA-V, to predict future groundwater contaminant levels and to evaluate the cause of the apparent groundwater mound. Modeling results indicate that TCE-contaminated groundwater is unlikely to pose a threat to future Mesa del Sol water supply wells proposed near the western boundary of Kirtland Air Force Base. The results also suggest that geologic heterogeneity may be partially responsible for the groundwater mound.

In summary, existing information in the form of reports, analytical data, investigations, and internal memoranda completed for TA-V have been reviewed and summarized for this report. Additional activities have been performed including revising the localized geologic cross sections and potentiometric map, updating the geochemical database, conducting slug tests on monitoring wells, and reviewing all pertinent geohydrologic and geochemical modeling exercises. Based on this information, the LWDS drainfield (SWMU 5) is the most likely source for the TCE groundwater contamination at TA-V. Interviews with SNL/NM personnel revealed undocumented use and disposal of solvents to drains leading to the LWDS prior to 1980.

Recommendations for future activities at TA-V include the installation of additional borehole/monitoring wells, continued groundwater monitoring, and additional soil vapor sampling. These activities will help to define the vertical and horizontal extent of contamination as well as the rate of contaminant migration. The data from these proposed activities will be used to improve evaluation of the risk to human health and the environment from the groundwater contamination.

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ACRONYMS AND ABBREVIATIONS

ACRR	Annular Core Research Reactor Facility
amsl	above mean sea level
ARG	ancestral Rio Grande
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylene
COC	constituent(s) of concern
CWL	Chemical Waste Landfill
d	day(s)
DCE	1,2-dichloroethene
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
ER	environmental restoration
ERDMS	Environmental Restoration Database Management System
ft	foot (feet)
ft^2	square foot (feet)
GC	gas chromatograph
GIF	gamma irradiation facility
gpm	gallon(s) per minute
HBWSF	High Bay Waste Storage Facility
HCF	Hot Cell Facility
HERMES	High Energy Radiation Megavolt Electron Source
HRMB	Hazardous and Radioactive Materials Bureau
in.	inch(es)
KAFB	Kirtland Air Force Base
kg	kilogram(s)
L	liter(s)
LECS	Liquid Effluent Control System
LWDS	Liquid Waste Disposal System
m	meter(s)
Ma	million years ago
MCL	maximum concentration levels
mg	milligram(s)
min	minute(s)
MS	mass spectroscopy
MWL	Mixed Waste Landfill
N	nitrogen
NERI	Northeast Research Institute
NFA	no further action
NMED	New Mexico Environment Department
NOD	notice of deficiency
NPN	nitrate plus nitrite

ACRONYMS AND ABBREVIATIONS (Concluded)

OB	Oversight Bureau
OU	Operable Unit
PCB	polychlorinated biphenyls
PCE	perchloroethylene
pCi	picocurie(s)
PID	photoionization detector
ppm	parts per million
ppmv	part(s) per million by volume
ppbv	part(s) per billion by volume
QA	quality assurance
QC	quality control
RCRA	Resource Conservation and Recovery Act
RFI	RCRA facility investigation
SERF	Sandia Engineering Reactor Facility
SNL/NM	Sandia National Laboratories/New Mexico
SPR	Sandia Pulsed Reactor
SVOC	semivolatile organic compound
SVS	soil vapor survey
SWHCP	Site-Wide Hydrogeologic Characterization Project
SWMU	Solid Waste Management Unit
TA	Technical Area
TCE	trichloroethylene
TechLaw	TechLaw, Inc.
tic	total ion count(s)
TPH	total petroleum hydrocarbon
USGS	U.S. Geological Survey
UST	underground storage tank
VOC	volatile organic compound
yr	year(s)
°	degree(s)
µg	microgram(s)

1.0 INTRODUCTION

1.1 Purpose

The Sandia National Laboratories/New Mexico (SNL/NM) Environmental Restoration (ER) Project has reported concentrations of trichloroethylene (TCE) exceeding the U.S. Environmental Protection Agency (EPA) maximum concentration level (MCL) in groundwater from one Technical Area (TA) V monitoring well (LWDS-MW1) since 1993 (SNL/NM September 1995). The other primary groundwater contaminant at TA-V is nitrate, which has exceeded New Mexico Environment Department (NMED) Hazardous and Radioactive Materials Bureau (HRMB) maximum background levels and occasionally has exceeded EPA MCLs in several wells. The HRMB has requested additional documentation and further investigation of the groundwater contamination at TA-V (Dinwiddie September 1997, Garcia March 1998). The U.S. Department of Energy (DOE) and SNL/NM proposed preparing a groundwater data summary report to inform the NMED more fully on the current status of SNL/NM's groundwater characterization and source identification at TA-V (SNL/NM July 1998). This report summarizes the studies conducted, presents conclusions based upon these studies, and proposes recommendations for additional studies that would complete groundwater characterization.

TA-V has 12 designated solid waste management units (SWMU): three are within the Operable Unit (OU)1307 boundaries and are associated with the Liquid Waste Disposal System (LWDS); the remaining nine are within the OU 1306 boundaries. OU 1306 includes sites within both TA-V and TA-III. The NMED HRMB has received and reviewed the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) report associated with OU 1307 (SNL/NM September 1995) and responses to comments from the NMED were submitted (SNL/NM January 1998). The OU 1306 RFI Report (SNL/NM June 1996) was reviewed by the NMED and the DOE/SNL/NM has responded to two Notice of Deficiencies (NOD) on this report (SNL/NM October 1997, SNL/NM July 1998).

Although low concentrations of TCE have been detected in soil vapor samples and soil samples, none of the 12 SWMUs investigated in these RFIs were identified conclusively as the primary source of TCE contamination in groundwater. As part of the RFIs, the old septic system for TA-V, also called the TA-V seepage pits, was added to the Hazardous and Solid Waste Amendments permit as SWMU 275 and was investigated as a potential source for groundwater contamination. A proposal for no further action (NFA) for SWMU 275 was submitted to the NMED HRMB in September 1998 (SNL/NM September 1998) because of the minimal levels of contamination present at the site. Chapter 3.0 of this report summarizes the environmental investigations that were conducted at TA-V.

Since the initial discovery of TCE in groundwater, the ER Project has voluntarily undertaken various activities to determine the nature and extent of groundwater contamination and particularly to identify potential sources for this contamination. These activities have included drilling and well installation, collecting soil and groundwater samples, performing active and passive soil vapor surveys (SVS), aquifer testing, and modeling the vadose zone and groundwater. Many of these activities were not conducted as part of a formal RFI or NFA proposal; therefore, the results of these studies were not included in previous reports submitted to the NMED. This report should provide the NMED HRMB with a better understanding of the

current knowledge of the nature and extent of groundwater contamination at TA-V. This will, in turn, allow for constructive discussions with the NMED HRMB on the optimal approach to complete characterization.

1.2 Scope of Report

This report provides a brief overview of the operational history of TA-V (Chapter 2.0), summarizes the environmental investigations completed to date (Chapter 3.0), presents the current understanding of the hydrogeology of the area (Chapter 4.0), discusses the full suite of analytical results from quarterly groundwater monitoring (Chapter 5.0), and summarizes the numerical and analytical modeling performed (Chapter 6.0). The summary (Chapter 7.0) identifies the most likely contamination source(s) as well as the nature and extent of contamination and proposes recommendations for future study.

2.0 DESCRIPTION OF FACILITIES AND GROUNDWATER MONITORING NETWORK

This chapter briefly describes the facilities and their operations at TA-V and summarizes the ER groundwater monitoring network in the vicinity of TA-V. SWMUs are described in detail in Chapter 3.0.

2.1 Facility Description

SNL/NM is located on Kirtland Air Force Base (KAFB), directly south of Albuquerque, New Mexico. SNL/NM operates five TAs and remote test facilities covering a total area of approximately 7,500 acres (Figure 2.1-1). TA-III and TA-V are located in the south central portion of KAFB land. TA-V is located in the northeastern corner of TA-III and occupies approximately 35 acres (Figure 2.1-2). TA-V is a secured research and testing area; facilities located in TA-V are designed to test radiation effects on components. TA-V houses large electron beam accelerators, three research reactors in two reactor facilities, an intense gamma irradiation facility (GIF), and a hot cell facility (HCF). A molybdenum-99 processing facility is currently being constructed within TA-V. A brief summary of the major facilities and operations within TA-V is provided below to assist in the identification of potential sources of groundwater contamination.

2.1.1 High Bay Waste Storage Facility, Building 6596

The High Bay Waste Storage Facility (HBWSF) is defined as the main wing of Building 6596, which is located in TA-V (Figure 2.1-2). The facility is used for the storage and/or treatment of RCRA-regulated hazardous waste. It accepts wastes in both solid and liquid forms. Incompatible wastes are stored in separate specifically designated areas. Inspection of the HBWSF is conducted on a regular basis and includes checking for leaks or potential leak sources and, if waste containers hold liquids, ensuring that secondary containment systems are both adequate in size and free of liquids (SNL/NM February 1997).

2.1.2 Annular Core Research Reactor Facility, Building 6588

The Annular Core Research Reactor (ACRR) Facility is located within Building 6588 at TA-V (Figure 2.1-2). The ACRR is an annular core of 226 fuel elements (enriched uranium oxide and beryllium oxide) in a 28-foot- (ft) deep open water tank. It provides a neutron-enriched environment for the evaluation of a variety of experiments. The stainless steel reactor tank is surrounded by thick reinforced concrete that retains the surrounding ground but does not provide structural support for the vessel. Currently, the ACRR is being retrofitted to manufacture molybedenum-99, which is a medical radioisotope with a half-life of 67 hours and is the precursor of technetium-99 (SNL/NM February 1997, SNL/NM June 1996).

Liquid radioactive wastes resulting from the ACRR operations are kept at a minimum and concentrations are typical of low-level radioactive waste values. The coolant system consists of the reactor pool, the bulk coolant loop, the cooling tower subsystem, and the cleanup loop. The reactor pool and the coolant system contain approximately 16,000 gallons of water maintained at a pH of approximately 5.5. The water level in the pool is constantly monitored. Liquids that occur from spills or wash down of the reactor room floor are drained into the sewage system that discharges directly into the Liquid Effluent Control System (LECS) (SNL/NM February 1997).

2.1.3 GIF, Building 6588

The GIF occupies the east side of the high bay of Building 6588. Support systems include the water recirculation system and the water makeup subsystem for replenishing water lost from the pool, which occurs primarily through evaporation. The GIF consists of a 16-ft-deep water pool, part of which underlies two dry irradiation cells. The pool is constructed of reinforced concrete with a stainless steel liner and has a total water volume of approximately 13,000 gallons. Sealed cobalt-60 pins are used as radioactive sources in the GIF. The cobalt is insoluble in water. In the past, the GIF used cesium-137, which is usually in the form of a water-soluble salt. The cesium-137 pins are no longer present at the facility (SNL/NM February 1997).

2.1.4 Sandia Pulsed Reactor Facility, Building 6590

The Sandia Pulsed Reactor (SPR) Facility in Building 6590 includes the SPR II and SPR III reactors, which are unreflected, unmoderated assemblies of enriched uranium. The reactors are operated in a dry "kiva" with 4.5-ft-thick reinforced concrete walls and are stored in shielded vaults. An array of stainless steel sealed storage holes outside of the SPR Facility holds sealed experiments, primarily from the ACRR. There are no water pools in the SPR Facility (SNL/NM February 1997).

2.1.5 HCF, Building 6580

The HCF is located in the basement of Building 6580 at TA-V and is used for the safe handling of and experimentation with special nuclear materials. No liquids are used within the HCF. All nuclear materials are contained and radioactive emissions are shielded at this facility (SNL/NM February 1997).

2.1.6 LECS, Building 6585D

The LECS provides for the collection and screening of process wastes from the TA-V facilities. Process water from sinks and floor drains is collected and isolated in three 5,000-gallon holding tanks (housed in Building 6585D) and is analyzed for radionuclides. If radionuclides are detected, the water is treated by ion exchange and the resin is disposed of as mixed waste.

The water is subsequently disposed of in the City of Albuquerque sanitary sewer system (SNL/NM February 1997).

2.1.7 LWDS

The LWDS, located northwest of Building 6580, was used for the disposal of reactor cooling process water from the Sandia Engineering Reactor Facility (SERF). The LWDS also received liquid wastes from the reactor support facilities located in Buildings 6580, 6581, 6582, and 6583. The SERF consisted of a main reactor and experimental facilities housed in Buildings 6580 and 6581 and of support facilities housed in Buildings 6582 and 6583 (SNL/NM March 1993). The SERF was operational from October 1962 through June 1969 and was decommissioned in July 1971. The LWDS consists of a set of three holding tanks (designated as SWMU 52), an associated pumping system, a drainfield (designated as SWMU 5), and two surface impoundments (designated as SWMU 4).

The drainfield was operated from 1963 until it reportedly collapsed in 1967 (SNL/NM 1993). The total volume of wastewater discharged from the SERF to the drainfield was 6,486,000 gallons. The drainfield is buried approximately 30 ft deep and is located approximately 30 ft south of the LWDS holding tanks. Details regarding the construction of the drainfield are uncertain; but according to the LWDS Work Plan (SNL/NM 1993), a 36-ft-deep trench was constructed with a gravel-filled base, and a 3-ft-diameter, open-jointed concrete pipe was placed along the base of the drainfield. The drainfield was backfilled with a mixture of gravel and soil. A 3-inch- (in.) diameter drainpipe connects the holding tanks to the concrete pipe at the base of the drainfield. Recent interviews confirm the general construction details of the drainfield (see Attachment 1). The impoundments were constructed after the drainfield became inoperable. A total of 12,556,970 gallons were discharged to the surface impoundments between 1967 and 1971. Chapter 3.0 summarizes the RFI investigation of the LWDS.

2.1.8 HERMES II Facility, Building 6596

The High Energy Radiation Megavolt Electron Source (HERMES) II Facility was built in 1968 and used until late 1989. Large quantities of transformer oil, which were stored in five underground storage tanks (UST) north of Building 6596, were used as an electrical insulating medium for radiation-effects testing operations. Chapter 3.0 summarizes the results of investigations of the UST site as SWMU 36 (SNL/NM June 1996).

2.1.9 PROTO I Facility, Building 6597

The PROTO I Facility[1] and associated transformer oil tanks (USTs) were constructed in 1978; the facility operation was terminated in 1989 when the PROTO II Facility in TA-IV became operable. The facility, which was located in Building 6597 on the southeastern side of TA-V, was used to test radiation effects on instrument and weapons components. The PROTO USTs (SWMU 155) were removed in 1992 and a UST investigation was conducted. No

[1] From prototype.

contamination above 100 parts per million (ppm) total petroleum hydrocarbons (TPH) was detected in samples collected from the bottom of the excavation. SWMU 37 was designated to determine whether contamination resulted from reported surface spills. No contamination above background was found at SWMU 37. Chapter 3.0 summarizes the investigation.

Recent interviews with TA-V personnel (Attachment 1) provided information on the use of solvents at the PROTO I facility. It was reported that hexane was used as a cleaning solvent at this facility and that TCE was not used.

2.1.10 Septic Systems

Two septic tanks and six seepage pits are located directly south of Building 6588 and were investigated as SWMU 275. The seepage pits system is connected to Buildings 6590, 6591, 6592, 6593, and 6596 and to an unnumbered building located near Building 6594. The seepage pits system received an estimated 3,000 to 5,000 gallons of water per day from the early 1960s until 1992, when TA-V was connected with the City of Albuquerque sanitary sewer system. This site was not identified in the first phase of the Comprehensive Environmental Assessment and Response Program, currently the SNL/NM ER Project. SWMU 275 was subsequently identified as a potential source for groundwater contamination after an investigation of the LWDS was completed (SNL/NM September 1998). Additional details on the RFI and the NFA proposal are provided in Chapter 3.0. Other septic systems may exist at TA-V but have not been investigated at this time. Section 3.7.2 provides the current status of these investigations.

2.2 Historical Use and Disposal of Industrial Solvents

Documentation of the historical use and disposal of chemicals at TA-V is very limited. Discharges to the LWDS were monitored for radioactivity and radionuclides routinely but not for chemical constituents. Likewise, no records have been found of chemical analyses for wastewater discharges to the septic systems. Recent discussions with TA-V personnel have provided more information on the possible use of solvents (Attachment 1). Organic solvents, possibly TCE and hexane, were used at the former PROTO I and PROTO II facilities within Building 6597. Solvents were needed to keep the diodes and other parts operating. Buildings 6591 and 6596 have been used as machine shops, which typically use solvents for degreasing parts although there is no documented use of these materials. These buildings drain to the TA-V seepage pits. Buildings 6595 and 6581 also have been used as machine shops in the past and it is known that Building 6581 drained to the LWDS. Building 6580 housed chemistry laboratories and a machine shop in the basement that had sink and floor drains connected to the LWDS. Recent interviews (Attachment 1) with TA-V personnel revealed information on the disposal of solvents to these floor drains. At times, these disposals created fumes throughout the building.

2.3 Monitoring Well Network

The monitoring well network in and around TA-V consists of nine wells completed to various depths. Table 2.3 lists boreholes and monitoring wells in the TA-V area. Figure 2.1-2 shows the locations of the SWMUs, monitoring wells, and some of the boreholes at TA-V. Appendix A includes well completion logs. Details of the borehole/monitoring well installations and sampling results are discussed in Chapter 3.0.

In addition to the TA-V monitoring network, there are other SNL/NM monitoring wells in the vicinity of TA-V that provide important regional geologic and hydrologic information. Wells at TA-III and TA-V are shown on Figure 2.3-1. Details on these wells are not included in this report.

3.0 PREVIOUS INVESTIGATIONS

Chapter 3.0 summarizes the results of environmental investigations conducted to date in and around TA-V at SNL/NM. Figures 2.1-1 and 2.1-2 show the SWMU locations, monitoring wells, and some of the boreholes discussed in this report. More detailed maps of specific SWMUs showing additional boreholes are included in the following sections. Appendix A contains well construction logs for monitoring wells in and around TA-V. Table 2.3 summarizes boreholes and monitoring wells that have been completed in or around TA-V for various investigations. This chapter addresses the following:

- The LWDS surface impoundments (SWMU 4), drainfield (SWMU 5), and holding tanks (SWMU 52)
- The HERMES oil spill (SWMU 36)
- The PROTO oil spill (SWMU 37)
- Building 6597 Cistern (SWMU 196)
- TA-V Seepage Pits (SWMU 275)
- TA-V SVSs
- Recent soil vapor and groundwater sampling
- Miscellaneous USTs and septic and drain systems.

3.1 LWDS

The LWDS (Figure 3.1-1) was designed to receive, hold, monitor, and provide a discharge point for radioactive liquid wastes from the SERF (see Section 2.1.7 for details) located in TA-V. Results of the LWDS RFI described the nature and extent of contamination at each of the three SWMUs that comprise the LWDS, identified potential contaminant transport pathways, evaluated potential risks, and provided guidance for selecting remedial alternatives (SNL/NM September 1995). The three LWDS sites are as follows:

- LWDS Holding Tanks (SWMU 52)
- LWDS Drainfield (SWMU 5)
- LWDS Surface Impoundments (SWMU 4).

This section summarizes the investigation and results for each of these sites.

3.1.1 LWDS Holding Tanks

The LWDS holding tanks (SWMU 52) consist of a series of two concrete tanks (Tanks 1 and 2) and one steel tank (Tank 4) that served as holding tanks for the liquid waste from the SERF to allow short-lived radionuclides to decay before discharge to the drainfield and/or surface impoundments. Historically, the LWDS drainfield was referred to as Tank 3. Before each discharge to the drainfield, the liquid was thoroughly mixed and monitored for total radioactivity and fission products.

The liquid contents of two of the three LWDS holding tanks (Tanks 2 and 4) were sampled in July 1992, for volatile organic compounds (VOC), metals, and radionuclides (Attachment 2). Results are discussed in the RFI report (SNL/NM September 1995). Several solvent components, metals, and radionuclides were detected. Of the three samples collected, the highest values were 28 micrograms (µg)/liter (L) for TCE, 160 µg/L for dichloroethane, 58 µg/L for lead, 300 picocuries (pCi)/L for gross beta, 80 pCi/L for cobalt-60, and 520 pCi/L for cesium 137.

In September 1992, three angled boreholes (LWDS-BH-6, LWDS-BH-7, and LWDS-BH-8) were drilled at the LWDS holding tanks (Figure 3.1.1-1). These boreholes were advanced at a 30-degree (°) angle in order to sample beneath the building. Soil samples were collected at approximately 5-ft intervals along the angled borehole and were analyzed for tritium, gamma-emitting radionuclides, VOCs and semivolatile organic compounds (SVOC), and metals. No VOCs were identified in soil analyses and no change in soil moisture was observed during drilling. However, low organic vapor concentrations were detected during field screening with a photoionization detector (PID) between 30 and 43 ft below ground surface (bgs) in LWDS-BH-7. At that time, the LWDS holding tanks subsurface investigation was postponed because of an SNL/NM moratorium on generating mixed waste.

The exact nature of the organic vapors was not determined during these activities. An extensive gas chromatograph (GC) analysis was performed to identify the organic compounds with inconclusive results. The GC analysis identified the presence of a heavy complex of organic compounds, typical of petroleum products. A release of petroleum products would not be expected from the LWDS tanks, a conclusion based on the process knowledge of facilities using the tanks. Another contamination source was suspected because the tanks are located in an industrial area with several known fuel and oil releases. In 1992, the LWDS drainfield (SWMU 4, see Section 3.1.2) and HERMES site (SWMU 36, see Section 3.2.1) were identified as potential source areas for the unknown organic compounds.

In March 1994, the LWDS holding tanks subsurface investigation resumed after the ER Project received permission to generate mixed waste. A fourth angled borehole (LWDS-BH-15, see Figure 3.1.1-1) was drilled at the LWDS holding tanks. No VOCs were identified in soil samples from borehole LWDS-BH-15. After drilling this borehole, the subsurface soil investigation of the holding tanks, as originally scoped, had been completed and no source area was identified for the contaminants detected in borehole LWDS-BH-7. A fifth angled borehole (LWDS-BH-16) located directly adjacent to borehole LWDS-BH-7 was added to the investigation and was drilled to 43 ft bgs. No VOCs were identified in soil samples from this borehole.

In 1994, the LECS was constructed to manage all process water from TA-V (see Section 2.1.6). This includes all liquids discharged to the holding tanks. The system allows for the water to be

held and sampled prior to discharging to the City of Albuquerque publicly owned treatment works. The LECS connects into the LWDS downstream from the holding tanks, which are still being used to store process and storm run-off water.

3.1.2 LWDS Drainfield

The LWDS drainfield (SWMU 5) was designed to receive liquid wastes discharged from the LWDS holding tanks prior to the installation of the surface impoundments. The below-grade drainfield was operational from 1963 until it collapsed in 1967. The drainfield, also known as Tank 3, is buried approximately 30 ft south of the LWDS holding tanks. The total holding capacity of the drainfield was reported as approximately 12,000 gallons (SNL/NM September 1995). Chapter 2.0 gives construction details of the LWDS drainfield.

In May 1993, a borehole for monitoring well LWDS-MW1 was drilled to a total depth of 525 ft bgs. LWDS-MW1 was installed to investigate any groundwater effects (e.g., mounding and contamination) from the LWDS drainfield. The well was developed in July 1993 and has been sampled on a quarterly basis since development. TCE and 1,2-dichloroethene (DCE) have been detected in groundwater samples from LWDS-MW1. Chapter 5.0 provides additional details on the results of quarterly sampling.

Four boreholes (LWDS-BH-11, LWDS-BH-12, LWDS-BH-13 and LWDS-BH-14) were advanced at the LWDS drainfield in March 1994. Figure 3.1.1-1 shows the borehole locations. Soil samples were collected for laboratory analysis for tritium, gamma-emitting radionuclides, VOCs, SVOCs, and metals. A review of the results of the soil analysis data indicates elevated levels of several metals, some radionuclides, and toluene.

Toluene was detected in four soil samples from the LWDS drainfield area. The highest concentration of toluene was 51 µg/kg detected at 50 ft bgs in borehole LWDS-BH-11. It is suspected that the toluene is a laboratory contamination because it also was detected in the associated trip blank. Five metals were identified as potential constituents of concern (COC) in soil samples from the LWDS drainfield: beryllium, cadmium, chromium, zinc, and copper. Cesium-137 and cobalt-60 were the only radioisotopes detected in the soil samples collected from the drainfield area. A summary of the LWDS drainfield soil analytical data as well as cross sections of the metal contamination beneath the drainfield can be found in the LWDS RFI (SNL/NM September 1995). Additional metal cross-sections at the LWDS surface impoundments and holding tanks were supplied to the NMED (Zamorski November 1998).

At the time of the RFI report, the drainfield was not considered the source of VOC groundwater contamination beneath TA-V because no TCE was identified in soil samples from the LWDS drainfield, and it is believed that the toluene detected was the result of laboratory contamination (SNL/NM September 1995).

3.1.3 LWDS Surface Impoundments

The LWDS Surface Impoundments (SWMU 4) consist of two surface impoundments: Impoundment 1 (to the east) was constructed in 1967 after the collapse of the LWDS drainfield, and Impoundment 2 (to the west) was completed in 1970 (Figure 3.1.3-1). Neither

impoundment is lined. The impoundments were used for the disposal of primary coolant water from the SERF and for the disposal of potentially contaminated water from experiments and operations in the SERF buildings. In addition, waste oil and resin beads were disposed of in the surface impoundments on at least one occasion. The volume and radionuclide content of the discharges to the impoundments between 1967 and 1971 were monitored and recorded. Approximately 12 million gallons of wastewater containing approximately 14 curies of measured radioactivity were discharged over that 5-year period. The last discharge of radioactive wastewater from reactor operations occurred in April 1970. The impoundments continued to receive intermittent wastewater discharges consisting of unmonitored, reportedly uncontaminated process chill water and waste fluids discharged to the LWDS through sinks and floor drains. The DOE ordered the termination of the discharges in September 1992, and the impoundments are now inactive.

Water, soil, and sludge samples were collected at both impoundments from 1971 through 1984. The sampling was sporadic and the methods and locations were poorly documented. Cobalt-60, cesium-137, manganese-54, and some alpha and beta activity were identified at low levels.

The borehole for monitoring well LWDS-MW2 was completed in October 1992. The borehole was advanced to a depth of 531 ft bgs. Well development was completed in May 1993, and the well has been sampled on a quarterly basis since that time.

Nine boreholes were drilled at the LWDS surface impoundments in order to obtain additional information. Boreholes LWDS-BH1 through 5 were completed in August 1992. Boreholes LWDS-BH9 and 10 were installed in March 1994, and boreholes LWDS-BH17 and 18 were completed in December 1994. Soil samples were collected during the drilling activities and were submitted for laboratory analysis for metals, VOCs, and radionuclides. Extensive surface sampling was also conducted within the surface impoundments. Results from the borehole sampling and the surface sampling revealed metals contamination, but the contamination was limited to the upper 5 ft of the impoundments. Radionuclides were detected above background levels but only from samples collected from the surface. Polychlorinated biphenyls (PCB) were detected in soil samples from Impoundment 2, but were not expected based on process knowledge of TA-V activities. Detailed results of the soil sample analyses can be found in the LWDS RFI (SNL/NM September 1995).

In summary, contamination was detected at all three LWDS sites. However, contamination levels are low (in most cases barely discernable above background) and are limited to the near surface of the LWDS surface impoundments, the vicinity of the LWDS drainfield, and the inside of the LWDS holding tanks. The LWDS RFI (SNL/NM September 1995) report provides a detailed analysis of these contamination levels and a proposal for NFA was submitted for all three sites.

3.2 TA-III and TA-V RFI

An RFI was conducted in 1994 and 1995 at 21 SWMUs within TA-III and TA-V (SNL/NM June 1996). The three SWMUs of concern to this report are the HERMES Oil Spill (SWMU 36), the PROTO Oil Spill (SWMU 37), and the Building 6597 cistern (SWMU 196). This section briefly

summarizes the investigation, and additional information can be found in the RFI report (SNL/NM June 1996).

3.2.1 HERMES Oil Spill

The HERMES Oil Spill (SWMU 36) is a 1-acre site located in the eastern portion of TA-V northeast of Building 6596, which houses the HERMES II Facility. Mineral oil was stored in five 35,000-gallon USTs north of Building 6596 and was pumped in a circulating system between the building and the tanks. Several large spills of oil from the tanks occurred throughout the course of the operation of the facility from 1968 until the facility was permanently closed in 1989.

In August 1991, the five USTs and associated piping at the HERMES II Facility were excavated and removed. During these removal activities, soil stains were observed throughout the excavated pit area. In accordance with New Mexico UST regulations, an on-site investigation was conducted: Six boreholes (HERMES-C, E1, SE, SW, NW, NE) were drilled in late 1991 and early 1992 within and adjacent to the backfilled UST excavation to assess the extent of petroleum hydrocarbon contamination in the subsurface soil underlying the former USTs (Figure 3.2.1-1). The depth of these boreholes varies (to a maximum depth of 280 ft bgs). In addition, seven shallow soil sampling points (36-G1 through 36-G7) were advanced with a Geoprobe to a maximum depth of 35 ft bgs during the on-site investigation. Soil samples were collected during all drilling activities.

The analytical results of soil samples from three boreholes (HERMES-NW, HERMES-NE, and HERMES-SE) indicated no TPH contamination from the surface to a depth of approximately 280 ft. The analytical results of soil samples for boreholes HERMES-C and HERMES-E1 revealed TPH contamination of various levels from the surface to a total depth of 270 ft bgs. These results defined the horizontal extent of mineral oil in the northwest, northeast, and southeast directions. The horizontal extent of contamination in the southwest direction, however, was not completely defined because TPH was present at depths ranging from 30 to 230 ft in the HERMES-SW borehole. A detailed discussion of the drilling and sampling activities and the analytical results can be found in the on-site investigation report (IT March 1992).

The results of the shallow Geoprobe points indicated TPH contamination for GP-1 and GP-6. At GP-1, samples between 25 ft and 35 ft bgs, the bottom of the hole, were contaminated. At GP-6, samples collected at 25 ft bgs were contaminated; the hole was terminated in noncontaminated soil at 30 ft bgs. The soil samples from the other five Geoprobe points revealed no detectable hydrocarbon contamination.

Because of the presence of TPH in the HERMES-SW borehole, two additional deep boreholes (36-BH-01 and 36-BH-02) were drilled in early 1995 in order to determine the horizontal extent of mineral oil to the southwest as well as the vertical extent of oil beneath the HERMES-C. The sampling plan for these boreholes also included active soil vapor sampling and soil sampling for VOCs. An additional seven shallow sampling points (36-G1 through 36-G7 to a maximum depth of 15 ft bgs) were advanced with a hydraulic probe in the vicinity of the HERMES tank hold.

The results of the investigation have more precisely defined the contamination in the subsurface. Analysis of soil samples from borehole 36-BH-01 verifies that the vertical extent of mineral oil at the site is approximately 220 ft bgs. Horizontal extent in the southwest direction was defined by the absence of contamination in borehole 36-BH-02 and is bracketed (as closely as physically possible) by this borehole and the HERMES-SW borehole drilled during the earlier investigation. The results of the shallow sampling points revealed elevated TPH concentrations in two of the samples, but both of these samples were found to contain asphalt fragments. The other samples from the shallow points revealed no detectable hydrocarbon contamination.

The highest levels of VOCs were at a depth of 200 ft bgs, and levels decrease abruptly below this depth. It is believed that the origin of most of the VOCs is bacterial fermentation of the mineral oil. Furthermore, all concentrations were several orders of magnitude below their proposed RCRA Subpart S soil action levels. The NMED UST Bureau issued an NFA (Hovda April 1995) for this site. The issue was discussed further in the Responses to NMED second NOD (SNL/NM July 1998).

3.2.2 PROTO Oil Spill

The PROTO I Facility (PROTO Oil Spill, SWMU 37) was used to test the radiation effects on instruments and weapons components between 1978 and 1989. Transformer oil was stored in seven 25,000-gallon USTs adjacent to Building 6597 and was pumped in a closed-loop system between the building and the USTs (Figure 3.2.2-1). Undocumented spills occurred during the transfer of oil from the building to the USTs. It was reported that two spills of approximately 100 gallons each occurred at a former trailer near the tanks.

The oil spill site encompasses SWMU 155, the PROTO UST site. The USTs were excavated and removed in 1993, in accordance with state regulations. Sampling beneath the tanks indicated that soil beneath the tanks did not contain levels of TPH in excess of the state standard of 100 milligrams (mg)/kg. Based on this information, SWMU 155 was subsequently deleted from the SWMU list following a Class 1 permit modification with prior EPA approval.

Eleven boreholes (37-A1 through 37-A11) were advanced in the vicinity of the former PROTO USTs (Figure 3.2.2-1). Twenty-two soil samples were collected from the depths of 1 and 5 ft bgs using a hand auger. Field screening of soil samples included immunoassay tests for PCBs and PID screening for VOCs. Soil samples were submitted for analysis for VOCs, SVOCs, TPH and PCBs. Analytical results indicated that 1,2-dichloroethane was detected above the proposed RCRA Subpart S soil action level of 8 mg/kg. No TPH or PCBs were detected above their method detection limits.

3.2.3 Building 6597 Cistern

The Building 6597 cistern (SWMU 196) is a concrete-walled tank located approximately 30 ft west of Building 6597 in the central portion of TA-V (Figure 3.2.3-1). The tank is 20 ft deep and 25 ft in diameter. Mineral oil possibly contaminated with water, Freon, and PCBs were occasionally discharged into the cistern in small quantities. Approximately 5 gallons of contaminated waste oil per week was discharged into the cistern from the PROTO Facility

(SNL/NM June 1996). The waste oil was routinely removed from the cistern; however, a small amount of residual waste oil remains in the bottom. The PROTO Facility was closed in 1989, and no further waste oil has been discharged to the cistern.

Although oil was the only COC (based on process knowledge), sampling for VOCs, PCBs, and metals was conducted to determine whether they were present from undocumented disposals. Preliminary sampling was conducted at the cistern in June 1994. An initial grab sample (sample point G on Figure 3.2.3-1) of soil was collected from the bottom of the cistern and analyzed for VOCs, PCBs, TPH, and metals in accordance with EPA methods. This sample revealed elevated levels of TPH, copper, lead, and zinc. Samples B1 and B2 were collected for gamma spectroscopic analysis. Additional samples (A1, A2, and A3) were collected in which the upper 3 ft of material was profiled for metals content (total copper, lead, and zinc). These results indicated that the metals contamination occurred in the upper 6 in. of material. A vertical contamination profile was conducted to determine the extent of TPH and VOC contamination. Three auger holes (D1 through D3) were advanced in the bottom of the cistern. Soil samples for Boreholes D1 and D2 revealed elevated levels of TPH and no detectable levels of VOCs; soil from Borehole D3 revealed minor levels of TPH and no detectable levels of VOCs. Soil vapor samples from these boreholes revealed minor levels of VOCs; Borehole D1 contained minor TCE and methylene chloride, Borehole D2 contained no detectable VOC vapors, Borehole D3 contained minor TCE, trichloroethane, benzene, and toluene. Details of the sampling methods and summaries of the analytical results of each phase of sampling at the cistern are presented in detail in the TA-III/V RFI (SNL/NM June 1996).

Although the cistern did not have a concrete base or other lining material in the bottom, metals contamination was restricted to the upper 0.5 to 1.0 ft of soil. None of the metals were present in a concentration that exceeded the respective proposed RCRA Subpart S soil action level. Soil samples revealed elevated TPH concentrations. Mineral oil, as manufactured is considered nonhazardous, and none of the metals or the TPH associated with the soil would render the oil hazardous.

Because no hazardous constituents were detected during the site investigation and the mineral oil has not migrated to groundwater, the site has been proposed for NFA (SNL/NM June 1996).

3.3 TA-V Seepage Pits

The TA-V Seepage Pits (SWMU 275) consist of two septic tanks connected by distribution boxes to six seepage pits (Figure 3.3-1). The seepage pit system was connected by sewer lines to at least five buildings (6590, 6591, 6592, 6593, and 6596) and to an unnumbered building located between Buildings 6594 and MO94. The two septic tanks have storage capabilities of 5,000 and 4,200 gallons and are constructed approximately 8 ft bgs. The seepage pits are concrete/cinder block construction and form open-bottomed cylinders approximately 11 ft high and have a diameter of 6.5 ft. The bottoms of the seepage pits are approximately 19 to 20 ft bgs and contain a 3-ft-thick layer of 1- to 1.5-in.-diameter gravel.

Most of the industrial process water from TA-V was disposed of to these seepage pits during the early 1960s up to 1992, at which time the seepage pits were abandoned. It is estimated that as much as 3,000 to 5,000 gallons of water were disposed of at the pits on a daily basis

during these years. An exact volume of water is not known because discharge records were not kept.

The TA-V Seepage Pits were further investigated during a drilling program conducted between January and April 1995. Work conducted in the vicinity of the TA-V seepage pits included the following:

- Drilling boreholes in the vicinity of the seepage pits (TAV-BH-01) and downgradient of the seepage pits (TAV-BH-02)
- Collecting soil and active soil vapor samples from each borehole at selected depth intervals
- Completing the two seepage pits boreholes as groundwater monitoring wells and collecting groundwater samples from each well (TAV-MW1 and TAV-MW2)
- Conducting geophysical logging in the boreholes
- Conducting hydraulic tests in the TA-V and the nearby LWDS monitoring wells (see Section 4.2.6).

During the drilling activities, soil samples and active soil vapor samples were collected at selected intervals. Soil samples from TAV-BH-01 were submitted for laboratory analysis for VOCs, SVOCs, TPH, radionuclides, and target analyte list (TAL) metals. Soil vapor samples were submitted for laboratory analyses for VOCs and SVOCs. Laboratory results for soil samples from TAV-BH-01 revealed no metal concentrations above established background levels. Several VOCs and SVOCs were detected, but these are associated with laboratory and field sampling equipment contamination (plastic components from the sand catchers in the split-spoon samplers). No detectable levels of TPH were found. Minor radionuclide concentrations were found but were attributable to insufficient soil moisture content or the values were several orders of magnitude below the preliminary remedial goal for the isotope of concern. Soil vapor samples from TAV-BH-01 indicated concentrations of ethylbenzene (76 parts per billion by volume [ppbv] at 10 ft bgs), xylene (140 ppbv at 10 ft bgs and 120 ppbv at 20 ft bgs), toluene (26 ppbv at 70 ft bgs), and TCE (44 ppbv at 80 ft bgs).

Soil samples from TAV-BH-02 were submitted for laboratory analysis for VOCs, SVOCs, and TAL metals. Laboratory results revealed no VOC concentrations above detection levels, although several constituents (toluene, methylene chloride, and acetone) were identified as J values. Several SVOCs were detected, but these constituents are associated with field sampling equipment contamination.

A monitoring well was installed into each of the boreholes TAV-BH-01 and TAV-BH-02 (TAV-MW1 and TAV-MW2, respectively). Groundwater from these wells has been sampled on a quarterly basis (see results in Chapter 5.0).

Review and analysis of all relevant data for the seepage pits indicate that concentrations of COCs are less than applicable risk assessment action levels and do not currently pose a threat

to groundwater at TA-V. SNL/NM has proposed a risk-based NFA decision for the seepage pits (SWMU 275) (SNL/NM September 1998).

3.4 TA-V Active Soil Vapor Characterization

To further investigate VOC contamination in the TA-V area, two boreholes/sample points (SP1 and SP2) were drilled in the LWDS drainfield in June 1994 (Figure 3.4-1). An SVS was conducted where vapor samples were collected at 15 and 30 ft bgs and analyzed by GC/mass spectroscopy (MS). Trace concentrations of benzene, TCE, and perchloroethylene (PCE) were detected by the on-site laboratory, but at J value concentrations. Analytical results of conventional soil samples revealed no detectable contamination levels. The analytical results of the LWDS drainfield SVS are included in Appendix B.

In July 1994, a second active SVS investigation was conducted in the vicinity of the TA-V seepage pits (Figure 3.4-1). The soil vapor samples were collected from three boreholes/sample points (SP1, 2, 3) drilled with a Geoprobe. Active soil vapor samples were collected at 15-ft intervals until refusal. One borehole was drilled to 30 ft bgs, the second borehole was drilled to 44 ft bgs, and the third borehole was drilled to 45 ft bgs. All soil samples were first analyzed on site with GC/MS and then sent to an off-site laboratory. Trace concentrations of benzene, toluene, TCE, PCE, and total xylene were detected in soil vapor samples that were analyzed by the on-site laboratory. All concentrations were identified as J values, except for TCE detected in soil vapor at 45 ft bgs in the deepest borehole. Laboratory analysis by the off-site laboratory revealed that 1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113) was detected in the deepest borehole in soil vapor at 0.1 ppm at 30 ft bgs. Analytical results from the off-site laboratory are included in Appendix C.

3.5 TA-V Passive Soil Vapor Characterization

This section summarizes two phases of passive SVS investigations conducted within TA-V in 1994. PETREX soil vapor samplers were placed on the surface of the ground and were allowed to collect available soil vapor for a specified period of time. The results of the passive SVSs are recorded in total ion counts (tic) as measured on a mass spectrometer. The primary purpose of these passive SVSs was to help identify potential source areas for TCE and other constituents detected in groundwater in the monitoring well LWDS-MW1. Figure 3.5-1 illustrates the Northeast Research Institute (NERI, the contracting analytical laboratory) sample point locations for the SVSs conducted during Phase I (solid triangle points on Figure 3.5-1) and Phase II (solid round dots on Figure 3.5-1). Results of both SVSs are illustrated on Figures 3.5-2 through 3.5.5 for benzene, toluene, ethylbenzene, and xylene (BTEX); TPH; TCE; and PCE respectively. Analytical results for both phases of passive SVSs are included in Appendix D. Tables cross-referencing the NERI sample number with the results for each of the COCs for which samples were analyzed can be found in the laboratory analytical reports (Appendix D).

<u>Phase I Passive SVS</u>

Phase I SVS was conducted in August 1994. A total of 67 passive collectors (including quality assurance [QA]/quality control [QC] samples) were installed at or near the seepage pits and in

the area between the seepage pits and monitoring well LWDS-MW1. The results of the SVS are discussed herein.

Phase 2 Passive SVS

Phase II SVS was conducted in October and November 1994. The second passive SVS encompassed a larger area of TA-V. Seventy-three passive SVS collectors (including QA/QC samples) were installed throughout TA-V. The SVS collectors were installed in several of the TA-V SWMUs, as well as at areas of surface disturbances, visible stains, and dry wells.

Passive SVS Investigations Summary

Significant levels of contaminants were not detected at any of the Phase I survey locations based on the NERI criteria for individual and compound groups respectively (Appendix D). VOCs in soil vapor that measure below approximately 100,000 tics are not considered environmentally significant and are probably not indicative of contamination (Appendix D). The Phase II survey identified BTEX throughout TA-V, but the majority of the highest concentrations were detected in areas of known oil releases, including HERMES and PROTO. Figure 3.5-2 is a contour map of the BTEX values in ion counts. The highest value (NERI sample number 70) of 2,849,939 tics is on the western boundary of TA-V in the vicinity of SWMU 181, Building 6500 UST (see Section 3.7). In addition, areas of high BTEX concentrations were usually accompanied by high concentrations of TPH (maximum of 19,959,176 tics), which are likely indicative of vehicle fluid leakage. Figure 3.5-3 illustrates the TPH ion count contours (TPH was analyzed during the Phase II survey only). The high values of TPH are also associated with SWMU 181 USTs. TCE was detected in soil vapor east of the TA-V seepage pits (maximum of 400,989 tics) and north of the LWDS holding tanks (Figure 3.5-4 illustrates TCE ion count contours). Figure 3.5-5 illustrates ion count contours for PCE (at a maximum of 2,487,530 tics) north of the LWDS holding tanks. Low levels of TCE and PCE were detected east of the TA-V seepage pits and north of the LWDS holding tanks but do not conclusively identify a deep source for groundwater contamination.

An interview, dated January 6, 1999 (see Attachment 1), between ER personnel and key TA-V facility personnel addressed the operational history and possible use of solvents at TA-V facilities. It was stated in the interview that a machine shop was located in the northern portion of Building 6591 and that industrial solvents may have been used in the machine shop. The TCE and PCE concentrations detected on the ground surface during the passive SVS may reflect this usage (and subsequent release onto the ground surface). The machine shop is no longer in operation.

3.6 Sitewide Investigation

The Site-Wide Hydrogeologic Characterization Project (SWHCP) Report (SNL/NM March 1996) describes the hydrogeology of the area based on studies of the regional geology, surface water, groundwater or saturated zone, and unsaturated zone or vadose zone (the area between the surface and groundwater table). The hydrogeologic summary discusses the occurrence and movement of water in the subsurface.

Investigation activities included drilling, well completion, well development, and hydrogeology at seven drilling locations in 1995. Of importance to this report is the drilling and installation of two wells located north of TA-V (AVN-1 and AVN-2). The AVN wells were installed to characterize the subsurface geology and for monitoring groundwater quality and movement in the vicinity of TA-V. In addition, the wells filled a geologic and hydrologic data gap and made it possible to correlate the stratigraphy and hydrogeology at the Chemical Waste Landfill (CWL) with that of TA-V.

The well locations at AVN were selected to provide a sitewide perspective on groundwater contamination problems with nearby SWMUs: the TA-V seepage pits, the HERMES oil spill, and the LWDS. Geologic data that included a detailed lithologic log and a geophysical log suite were gathered. The lithologic and geophysical logs indicated that the top of the saturated zone occurs in massive silty sand with a significant amount of clay that overlies a well-graded permeable sand. Drilling and monitoring well construction details for the AVN wells can be found in the SWHCP report (SNL/NM March 1996).

3.7 Miscellaneous USTs and Septic and Other Drain Systems

Numerous USTs within TA-V have been investigated and final closure reports have been submitted to the NMED UST Bureau. Septic systems within TA-V have been identified based on facility maps and have been investigated as part of the SNL/NM ER Project. Various types of drain systems have been associated with facilities and operations within TA-V. This section summarizes investigations of all known USTs and septic and drain systems.

3.7.1 USTs

SWMU 181

SWMU 181 (Figure 2.1-2) is the former location of a 600-gallon fuel oil UST (SNL/NM tank ID No. 6500-1) that was installed in 1976 and was removed on January 28, 1991 (IT February 1991). Approximately 24 cubic yards of visibly contaminated soil were removed from the site and placed on a plastic sheet at the KAFB landfill. Analyses of soil samples from boreholes at the site indicated that the highest contamination (TPH at 8,100 to 14,700 ppm) was found between 10 and 20 ft bgs, and contamination decreased to 106 ppm TPH at 25 ft bgs at the bottom of the boring (Williamson August 1992).

SWMU 174

SWMU 174 (Figure 2.1-2) is the former location of a 560-gallon fuel oil UST (SNL/NM tank ID No. 6581-2) that was installed in 1961 and was removed on May 18, 1990 (IT November 1990). The excavation zone and removed soils were not visibly contaminated, and no petroleum odors were detected. Soil samples collected from the tank bottom area revealed TPH levels of less than 25 ppm from the side of the excavation and 409 ppm from the bottom center line. The results of the preliminary site investigation indicated that the contamination found in the soil sample was from spill/overfill rather than from a release from a leaking tank. Because no

release was confirmed at the site at the time of the closure, the excavation was backfilled. The NMED determined that the site posed no immediate public health or environmental threat (Williamson August 1992).

Tank 6581-1

Tank 6581-1 was a 500-gallon fuel oil UST that was installed in 1958 and was removed on July 3, 1989 (IT February 1991). The UST was located on the northeast side of Building 6590A, the uninterrupted power supply building (Figure 2.1-2). The excavation zone was assessed for releases, and no releases were determined to have occurred (Williamson August 1992).

SWMU 175

SWMU 175 (Figure 2.1-2) is the former location of a 5,000-gallon fuel oil UST (SNL/NM tank ID No. 6588-1) that was installed in 1978 and was removed on September 10, 1990 (IT November 1990). No visible indication of soil contamination was present at the site, but leaks were discovered in the UST during inspection. Soils contaminated from spill/overflow were removed to the extent practicable and were transported to the KAFB landfill and placed on a plastic sheet. Two soil samples were collected from approximately 8 ft bgs. The analysis results indicated that TPH levels were above 100 ppm but were not "highly contaminated" (based on the filter-paper test) as defined in the New Mexico Environmental Improvement Board UST regulations (Williamson August 1992).

SWMU 216

SWMU 216 (Figure 2.1-2) is the former location of a 1,000-gallon fuel oil UST (SNL/NM tank ID No. 6596-5) that was installed in 1968 and was removed on August 30, 1989 (IT February 1991). The piping was coated or wrapped and the tank had a tar coating. After the UST was removed it was inspected for holes, and no holes were found. It appeared that the only source of leaks were from the supply/return lines. The excavation was assessed for releases, and it is believed that no releases occurred (Williamson August 1992).

3.7.2 Septic and Other Drain Systems

Available information indicates that as many as eight small septic and other drain systems may be present in TA-V. "Septic systems" are defined as one or more septic tanks plumbed to one or more seepage pits or a drainfield. "Other drain systems" may include drywells and seepage pits without septic tanks and outfalls. However, numerous discrepancies, contradictions, and uncertainties in the available information about these potential TA-V systems make it difficult to determine how many of these systems actually exist and where they may be located. An ongoing investigation and evaluation of miscellaneous septic and other drain systems throughout SNL/NM (including those in TA-V) are currently being conducted by the SNL/NM ER Project. Individual systems have been and will continue to be located (1) by researching historical SNL/NM facilities engineering drawings, maps, and other available information; (2) by

interviewing SNL/NM personnel familiar with the particular area in which such systems may be located; and (3) for units not exposed on the surface, by using a backhoe to confirm the existence and precise location of system components. After a system has been precisely located, subsurface soil samples will be collected to determine whether COCs are present. Results of these investigations will be summarized in SWMU assessment reports similar to those already completed for some of the non-ER septic systems. Copies of these reports are forwarded to the NMED HRMB for review and comment as they are completed.

4.0 HYDROGEOLOGIC DATA SUMMARY

This section describes the geologic setting at TA-V, the regional and local hydrologic setting, groundwater flow gradients, aquifer parameters, and estimated flow velocities. Section 4.1 describes the regional and local geologic setting and provides an interpretation of the stratigraphy at TA-V within the context of KAFB/SNL/NM's geologic framework. Section 4.2 summarizes the regional and local hydrologic settings as they pertain to TA-V.

4.1 Geology

The ER SWHCP provided the basic foundation for the geologic interpretation of lithologic and geophysical borehole logs at TA-V. A conceptual model of the geology at KAFB/SNL/NM was completed and is included as an attachment to the SWHCP report (SNL/NM March 1996). The purpose of this section is to describe the stratigraphy and structure at TA-V in more detail than the SWHCP report provided.

4.1.1 Geologic Data Set

The TA-V subsurface geology has been interpreted using data from nine monitoring wells, one water supply well, and nineteen boreholes. Geophysical logs and lithologic descriptions exist for eight of the nine monitoring wells and provide the principal geologic correlation tools (Table 4.1.1-1). Nine of the boreholes have partial lithologic descriptions determined from the analyses of split-spoon core samples, but the value of these data is limited. The remaining boreholes were not logged during drilling. A summary of the borehole drilling and monitoring well installation is included in Chapter 3.0.

4.1.2 Stratigraphy

The general stratigraphy of TA-V is shown on Figure 4.1.2-1 with two east-west cross sections based on the eight monitoring wells with geophysical logs. The stratigraphy under TA-V consists of a thin layer of surficial post-Santa Fe Group sediments of late to middle Pleistocene age, and an underlying sequence of upper Santa Fe Group sediments of early Pleistocene to late Pliocene age. Post-Santa Fe Group deposition began about 0.5 million years ago (Ma) when deposition by the ancestral Rio Grande (ARG) ceased and the modern Rio Grande began to incise the valley as it exists today. The post-Santa Fe Group surficial deposits consist approximately of 20 to 40 ft of alluvial conglomerates, sands, and silts deposited by the Arroyo del Coyote alluvial fan. The post-Santa Fe Group sequence is designated "late Pleistocene alluvial fan #5" or "Pf5" in the surficial geology maps constructed by the SWHCP (SNL/NM March 1996). From the base of the post-Santa Fe Group deposits to a depth of over 1,000 ft (total depth of the abandoned production well, KAFB-10) is a sequence of upper Santa Fe Group sediments, consisting of alluvial-fan deposits derived from the mountains to the east, and axial-stream deposits of the ARG derived from sources to the north.

Alluvial Fan Lithofacies

The upper Santa Fe Group alluvial fan sequence is characterized by a general downward fining of sediments (Figure 4.1.2-1). Poorly sorted conglomerates and coarse sands predominate at the top of the sequence and are replaced downward by silty and clayey sands.

The poor connectivity of alluvial fan sand bodies precludes reliable detailed correlation from well to well. Therefore, the functional unit of correlation is the sedimentary package (i.e., a thickness of sediment with similar lithologic and geophysical log characteristics). Subdivision of such a gradational sequence can be arguable in places and subjective in most, but it does provide a sense of order to the stratigraphy.

The SWHCP recognized a two-fold subdivision of the alluvial fan sequence into upper "coarse" and lower "fine" sections based on sample descriptions and geophysical log characteristics (SNL/NM March 1996). Many of the geophysical logs correlated in the SWHCP were run in mud-filled holes and included resistivity logs. Resistivity curves are extremely sensitive and allow fairly reliable correlation and regional subdivision of the alluvial fan sequence. All but one of the well boreholes logged in the TA-V area were in steel-cased, air-filled holes and, as a result, did not include resistivity logs (Table 4.1.1-1). The gamma-ray and neutron-log curves for the TA-V monitoring wells are the principal correlation tools available, and even these log signals have been attenuated by the steel casing. The boundary between the coarse and fine alluvial fan sections identified in the regional SWHCP cross sections (SNL/NM March 1996) could not be extended across TA-V with any confidence. Therefore, the upper Santa Fe Group alluvial fan sequence has been locally subdivided into an upper "coarse" unit, a middle "transitional" unit, and a lower "fine" unit (Figure 4.1.2-1). These subdivisions are based on subtle changes in the geophysical logs and lithological descriptions.

Upper ARG Lithofacies

For discerning the distribution of lithofacies in the TA-V subsurface, the most significant control point is TAV-MW3, located 850 ft east of TA-V. The lithologic log for the well indicates the presence of small amounts of volcanic pumice in samples collected between the depths of 210 and 515 ft. Pumice is a light-colored, vesicular, glassy volcanic rock that does not occur locally. Pumice was produced in prodigious volumes during the two eruptive events of the Bandelier Tuff in the Jémez Mountains at 1.6 and 1.2 Ma (Caress 1996). Each of the eruptions produced a basal air-fall pumice unit. The Bandelier Tuff forms the cap on the extensive Pajarito Plateau on the east side of the caldera, on which the city of Los Alamos is located. Erosion of the Pajarito Plateau began immediately after formation and large volumes of the pumaceous sediment was transported via the ARG downstream as far south as Socorro.

Pumaceous sediment has been found throughout the Albuquerque Basin and is the best identifier of the "B" and "C" units of the ARG deposits. Based on lithologic logs, pumice occurs west of TA-V, indicating the presence of the ARG "B" and "C" units (SNL/NM March 1996). The presence of pumice in the TAV-MW3 borehole (drilled in 1997 after the SWHCP report was completed) strongly indicates these sediments to be ARG "B" and perhaps ARG "C." The ARG "B" and "C" units will be collectively referred to in this report as the upper ARG.

Boreholes for wells TAV-MW3, TAV-MW4, and TAV-MW5 were logged by the same geologist, who specifically noted that pumice was in the sediment samples from TAV-MW3 but not in TAV-MW4 and TAV-MW5 (Appendix E). The upper ARG does not appear to be present at the mixed waste landfill (MWL), where there is no pumice and hydraulic conductivities are low. In general, the presence of pumice is necessary to identify the upper ARG lithofacies, however, the absence of pumice is no assurance that upper ARG sediments are not present. The upper ARG lithofacies is an important hydrologic distinction because it is typically characterized by much higher hydraulic conductivities than are typical in the alluvial fan facies.

Previously, the eastern limit of the ARG lithofacies has been mapped west of TA-V (located at the northeastern corner of TA-III) and it passed through TA-III from the north-central area to the southeastern area. The margins of the ARG were assumed to be relatively straight, consistent with a high-energy fluvial environment (SNL/NM March 1996). It now appears that at TA-V, the eastern margin of the upper ARG lithofacies is situated west of TAV-MW4 and TAV-MW5 but then curves to the north and east of TAV-MW3. This interpretation of a bend in the ARG eastern margin is based upon the presence of pumaceous sediments in TAV-MW3 borehole samples and the absence of pumice in all the other TA-V wells. The possible explanation for this unusual geometry is discussed in the structural section (Section 4.1.3).

Lower ARG Lithofacies

The lower unit of the ARG, ARG "A," lacks pumice because it was deposited before the production of the Bandelier Tuff in the Jémez Mountains 1.2 to 16 Ma. The presence of the ARG "A" in the samples from a borehole must be interpreted based on distinctive texture (e.g., fine to coarse sands and gravels with little or no fines) and geologic context. The lithologic description and observations made during drilling suggest that the ARG "A" unit occurs near the bottom of the boreholes for TAV-MW3, TAV-MW5, AVN-1, MWL-MW2, and MWL-MW4 (Figure 2.3-1). No indication of ARG "A" was found in samples from TAV-MW4. In TAV-MW5, from a depth of 515 ft to the total depth of 517 ft, the samples were clean, coarse to fine-grained sand with little or no fines. During shutdown of the rig overnight, the sands encountered at these depths flowed up the drive-casing to a depth of 494 ft, further indicating that these sediments were of fluvial rather than alluvial origin because only very clean sands tend to "heave and flow." If the contact between ARG "A" and alluvial-fan deposits is interpreted to occur at a depth of 515 ft in TAV-MW5, then the top of the ARG "A" is at an elevation of 4,890 ft above mean sea level (amsl). In TAV-MW3, the samples taken from 556 to 560 ft were described as fairly clean gravels with little or no fines. No samples were recovered from 560 ft to the wells total depth of 568 ft bgs. At this well, if the ARG "A" and alluvial fan contact occurs at 556 ft, then the top of the unit is at an elevation of 4,904 ft amsl.

ARG "A" is also believed to be present at the bottom of AVN-1 because samples from 550 to 620 ft were predominantly clean coarse-grained sands. The pumping test described in Section 4.2.6 indicates a hydraulic conductivity more typical of the ARG rather than alluvial-fan lithofacies. ARG "A" is also believed to be present near the bottom of MWL-MW2 and MWL-MW4. The top of the ARG "A" unit is interpreted to occur at an elevation of 4,877 ft amsl in MWL-MW2 and 4,857 ft amsl in MWL-MW4.

4.1.3 Sitewide Structural Context

The geologic interpretation for the TA-V region must agree with the regional geology in terms of structure and paleogeography. Specifically, the site geology must be compatible with structural interpretations at nearby sites: the TA-III MWL; the TA-III CWL; and the TA-I/II area, otherwise known as Sandia North, about 2 miles to the north of TA-V (Figure 2.1-1). The following discussion relates the stratigraphy at TA-V to the stratigraphy at the MWL, the CWL, and the Sandia North area. The correlation among these areas is related by the structure and depositional setting of the region.

Structure of the Upper ARG

A structure map of the contact of the upper ARG with the Santa Fe Group alluvial-fan facies (Figure 4.1.3-1) was constructed as part of the SWHCP, was refined for the Sandia North Groundwater Investigation (Fritts and Van Hart 1997), and was revised with TA-V data for this report. The purpose of a structure map of the top of a major stratigraphic unit such as the ARG "A" is to ensure that correlations can be made.

West of the MWL the top of ARG "A" is generally recognized by a thin radioactive unit (gamma-ray spike on the geophysical logs) and by the occurrence of pumice-bearing upper ARG above it. Toward the eastern limit of the ARG "A" lithofacies such as at the MWL correlations become tenuous because the unit occurs only at the bottom of the deepest wells. The geophysical log for well MWL-MW2 was included in an SWHCP regional cross section (see Figure 3.1-16, SNL/NM March 1996), in which the unit at 411 ft was interpreted to be a stray sandy unit within the fine alluvial fan lithofacies. It may be that this unit is actually upper ARG because the unit occupies the same stratigraphic position as the upper ARG to the west, and the geophysical-log curves define sharp tops and bottoms of the unit, which is more characteristic of ARG lithofacies.

For structure-map construction and correlation between TA-V and areas where subsurface information is available, three-point dip solutions were calculated at the MWL and the CWL. Markers selected from geophysical logs for correlation were fine-grained units, or units encased in fine-grained sequences within the alluvial fan lithofacies. Because of their depositional environment, fine-grained sequences are best for approximating original horizontal surfaces. At the MWL geophysical logs exist for three wells. Although, the spatial arrangement of the three wells is that of a flattened triangle (an equilateral triangle would be ideal) and the elevation differences are slight, the calculation is nevertheless useful as shown on Table 4.1.3-1. Ground-level elevations were not surveyed for these wells but are assumed to be 1 to 1.5 ft below the top of the surveyed top-of-casing elevations. The calculated dip of the marker unit at the MWL is 2.3° east-northeast.

Two three-point dip solutions were also calculated at the CWL from two marker units (at approximately 423 to 432 and 529 to 586 ft bgs) selected from geophysical logs (Table 4.1.3-2 and 4.1.3-3). In each, the triangular arrangements are more equilateral than those at MWL and are, therefore, more reliable. The calculated dips at the CWL of 3.8° SE for the upper marker unit and 3.6° SE for the lower unit indicate that a dip of 2.3° ENE calculated at the MWL is

reasonable, although the dip direction is off by as much as 75°. It should be noted that dip directions on such extremely gently dipping surfaces are often ambiguous.

ARG "A" is present in MWL-MW4 and probably exists below the total depths of the other wells at the MWL. At MWL-MW4 (the deepest well at the MWL), the top of a very fine to very coarse-grained pebbly sand unit occurs at 528 ft (elevation 4,853 ft amsl). Assuming this unit in MWL-MW4 is the top of ARG "A," then ARG "A" is 141 ft lower in elevation than at the NWTA-3 well, about 1 mile to the northwest. This correlation requires an average dip between the wells of 2.1° S-SE, which is comparable with the shallow dips calculated at the MWL and the CWL. No evidence exists to indicate that upper ARG "B" is present at the MWL.

The elevation of 4,853 ft amsl at the top of the interpreted ARG in MWL-MW4 compares to provisional elevations of 4,890 and 4,904 ft amsl at TAV-MW5 and TAV-MW3, respectively. It is, therefore, necessary to interpret the presence of a synclinal axis (assuming no faulting) between the MWL and TA-V. A south-plunging synclinal axis area within the coarse alluvial fan lithofacies has already been documented about 2 miles to the north of TA-V in the SNL/NM north area (Fritts and Van Hart March 1997). This axis may connect with the one postulated in the TA-III/V area.

In conclusion, the upper and lower ARG lithofacies is present at TAV-MW3. Lower ARG lithofacies is present at TA-MW5, AVN-1, MWL-MW2, and MWL-MW4. The ARG is probably present beneath the total depth of the other wells at TA-V and the MWL as well. While ARG "A" is present at an elevation of 4,904 ft amsl in TAV-MW3 and 4,890 ft amsl in TAV-MW5, it does not exist at this elevation at LWDS-MW1 and TA-MW1, located directly beneath TA-V. The elevation of the ARG "A" unit is unknown beneath the TA-V operations area but is postulated to be around 4,880 ft amsl based on the structural map (Figure 4.1.3-1).

Tectonic Control of Lithofacies

The most probable cause of the bend of the margin of the ARG east of TA-V is tectonic. The basin-margin Sandia Fault is located approximately 1 mile to the south and southeast of TA-V. The relationship of tectonic activity along basin-margin faults and the responding sedimentation is codified by a two-phase depositional model of alluvial fan and axial-river sedimentation (Mack and Seager 1990; see Figure 3.1-12, SNL/NM March 1996). First is the synorogenic phase, during which rapid subsidence along the boundary faults exceeds the rate of sediment production from the mountains thereby creating topographic lows along the mountain front. The axial river exploits the lows and flows close to the mountain front. Next is the postorogenic phase, during which the rate of subsidence diminishes, the rate of sediment production overwhelms the rate of subsidence, and alluvial fans prograde basinward and displace the axial river away from the mountain front.

Tectonic movement along the Sandia Fault may have produced a topographic low in the vicinity of TAV-MW3 in ARG time. The ARG exploited the topographic low by veering to the east across the southern part of TA-V (Figure 4.1.3-1). The interpreted eastern swerve of the ARG "A" lithofacies distribution to TA-V is not unreasonable. However, the probable absence of the pumaceous upper ARG at the MWL means that the upper ARG lithofacies boundary circumvents the MWL area and swings east to the TAV-MW3 area. Perhaps mountain-front

faulting created a persistent and pronounced topographic low, which was flooded periodically and which trapped the hard-to-deposit, lighter-than-water pumice particles. This interpretation, while not entirely satisfying, is currently the best available. This geologic interpretation could be a plausible explanation for the anomalous water levels at TA-V (see Section 4.2).

4.2 Hydrology

Section 4.2 discusses the regional and local hydrologic setting, groundwater aquifer parameters, flow gradients, and estimated flow velocities. Sections 4.2.1 and 4.2.2 summarize the regional and local hydrologic settings as they pertain to TA-V. Section 4.2.3 presents available water level data and the potentiometric surface for TA-V and vicinity. Section 4.2.4 provides the calculated horizontal and vertical flow gradients, including results from a colloidal borescope study. Section 4.2.5 presents a summary of the water level trends at TA-V wells and its vicinity. Section 4.2.6 discusses results of all the aquifer tests. Section 4.2.7 provides estimates for groundwater flow velocities at TA-V.

4.2.1 Regional Hydrology

This section presents a brief discussion of the regional groundwater setting. The hydrology in the area of Albuquerque and KAFB is presented in more detail in the SWHCP report (SNL/NM March 1996). The KAFB/SNL/NM area is located in the eastern portion of the Albuquerque basin. The Albuquerque metropolitan area, including KAFB/SNL/NM, relies on the groundwater in this basin as the principal source of water supply. The basin is part of a series of large basins extending from southern Colorado to the border with Mexico at El Paso. These basins are associated with south-trending structural features of the Rio Grande rift system (Hawley and Haase 1992).

The Albuquerque basin, located in central New Mexico covers approximately 2,100 square miles. The basin is approximately 70 miles long and ranges in width from 10 miles in the north to 40 miles near the center. The vertical thickness of the basin fill sediments exceeds 14,000 ft in some areas. The eastern boundary of the basin is a series of faults running parallel to the fronts of the Sandia, Manzanita, and Manzano Mountains.

The stratigraphy of the basin fill sediments is divided into the lower, middle, and upper Santa Fe Group. The major fresh-water aquifers in the basin are located within the upper Santa Fe Group and, to a limited extent, in the middle of the sequence. The upper Santa Fe Group sediments attain a thickness of up to 1,200 ft. The sedimentary framework for this unit is characterized by intertonguing piedmont-slope and fluvial valley floor deposits. The alluvial and debris flow materials characteristic of piedmont slopes consist of poorly sorted, weakly stratified sand and conglomerate with a silt-clay matrix. The fluvial deposits include cross-stratified channel deposits characterized by thick zones of clean sand and well-rounded gravel as well as fine- to medium-grained overbank sediments. Major basin aggradation ceased about 0.5 Ma and post-Santa Fe Group deposition is the result of a series of episodes of river incisions and partial backfilling. The most recent surficial sediments include fan, eolian, and floodplain deposits including some volcanic terrains.

Most of the city of Albuquerque's large water supply wells are completed in the upper Santa Fe Group with some extending into the middle unit. Local cones of depression associated with the large amount of groundwater pumping at the city well fields have altered the direction of groundwater flow in the areas of influence of these fields. Pumping in excess of recharge has led to significant declines of the regional water table. This lowering is not uniform and is most pronounced along the eastern edge of the basin where the cones of depression of the wells in this area are bounded by the Sandia Fault. The area of the largest water-level decline is just to the north of KAFB, on the west side of the Sandia Fault. In this area, the water level has dropped approximately 140 ft since 1960 (Thorn et al. 1993).

4.2.2 Local Groundwater Setting

The basin-boundary fault system subdivides the groundwater regime into three distinct hydrogeologic regions on KAFB/SNL/NM (SNL/NM March 1996). Hydrogeologic Region 1 is located west of the fault system and is characterized by upper Santa Fe Group sediments. Hydrogeologic Region 2 is associated with the fault system and is characterized by both unconsolidated and bedrock aquifer units. Hydrogeologic Region 3 is located east of the fault system and is characterized by shallow alluvial and deep fractured bedrock aquifers.

TA-V is situated within Hydrogeologic Region 1 and thus only this region is discussed further in this report. The uppermost aquifer in Hydrogeologic Region 1 is within the upper Santa Fe Group and is an unconsolidated to partially indurated, porous-media aquifer. Sediments include a mix of coarse- to fine-grained sands, silts, and clays that exhibit a complex sedimentary framework with highly variable bedding thickness, continuity, and connectivity. ARG fluvial facies intertongue with alluvial fan facies extending westward from the highlands to the east. The fluvial facies include thick, well-sorted, cross-stratified sand and pebbly gravel channel deposits, and fine- to medium-grained sand overbank deposits. The alluvial fan facies is generally characterized by poorly sorted, weakly stratified sand and conglomerate with an abundant silt and clay matrix. Bedding is less continuous in alluvial fan facies than in the fluvial facies.

A discussion of the stratigraphy and depositional facies beneath TA-V is provided in detail in Section 4.1. In summary, the upper ARG lithofacies is documented to be present in TAV-MW3 but does not appear to be present in other wells at TA-V. The ARG "A" (lower unit) is believed to be present at the bottom of TAV-MW5 and AVN-1. At LWDS-MW1, TAV-MW1, and TAV-MW2 the lithofacies at the screen interval and water table are finer-grained, poorly sorted alluvial-fan sediments. The lithofacies distribution and the structure of the major stratigraphic units probably produces significant affects on the groundwater flow at TA-V. Section 4.2.3 presents several potentiometric surface maps that illustrate these potential geologic controls.

4.2.3 Groundwater Flow

Water level data at SNL/NM and KAFB are collected by several SNL/NM and KAFB organizations. Quarterly and monthly water level data are summarized in annual groundwater surveillance reports prepared by the SNL/NM Groundwater Protection Program (Department 7575) that are submitted to the NMED and the EPA. At TA-III/V, water levels from

monitoring wells are currently measured on a monthly basis with the exception of the CWL, where water levels are measured quarterly. Depth to water and calculated groundwater level elevations for the monitoring wells at TA-V are contained in Appendix F.

A potentiometric surface map for the entire KAFB/SNL/NM area for December 1998 is shown on Figure 4.2.3-1. In general, groundwater flow is to the west and northwest across KAFB. East of the major north-south trending faults (Sandia Fault) groundwater is 300 to 700 ft higher than west of the fault system. The hydraulic connection between the regional aquifer in the Santa Fe Group west of the faults and the shallow alluvial aquifers and bedrock aquifers east of the faults has not been established although several hypotheses have been published (Haneberg 1995). Groundwater in the upper Santa Fe Group regional aquifer is generally unconfined although semiconfined conditions do occur, especially in the saturated alluvial fan lithofacies.

Near the study area, groundwater is present at depths ranging from about 530 ft at the TA-III/V eastern boundary (TAV-MW3) to about 420 ft at the TA-III western boundary (MRN-2). Water level elevations from May and June 1998 listed on Table 4.2.3-1 were used to construct a potentiometric surface map for the TA-III/V area (Figure 4.2.3-2) and a potentiometric surface map for the TA-V area (Figure 4.2.3-3). Figures 4.2.3-4 and 4.2.3-5, respectively, show the potentiometric surface for the same areas for August and July 1996. These data are listed in Table 4.2.3-2. It should be noted that horizontal flow in a homogeneous and isotropic porous media is assumed when constructing these potentiometric surface maps.

From these figures it is apparent that groundwater level elevations beneath TA-V are higher than would be expected from the regional potentiometric surface and that water levels southeast of TA-V are lower than expected (TAV-MW3). This creates the appearance of a mound or ridge of approximately 1 to 2 ft above the regional water table beneath TA-V. The mound or ridge in the 1996 potentiometric surface maps is less apparent than in the 1998 maps because of the lack of data to the east at what is now TAV-MW3.

As described in Section 4.2.4, downward vertical gradients do exist in the study area. Because LWDS-MW1 is screened 11 ft below the water table, a downward vertical gradient would result in a lower water level (approximately 1 ft) in this well than is the actual phreatic surface at this location. The potentiometric surface map is constructed using the actual measured water levels for all the wells.

This groundwater ridge or mound beneath TA-V could be caused by several factors:

- Lithofacies distributions and structural geometry in the vicinity of TA-V coupled with regional transient flow conditions have created the mound. Declines in the regional water table are not uniform and are dependent on the proximity of the groundwater withdrawal area and the hydraulic conductivities of units. Lithologic logs of monitoring wells at TA-V show significant differences in the lithologies of the saturated zones for wells located directly beneath TA-V and those wells surrounding the area (Figure 4.1.2-1). In particular, the lithologies of TAV-MW5, AVN-1, and TAV-MW3, located upgradient of TA-V, are ARG "A" fluvial sediments. TAV-MW3 has several hundred feet of upper ARG lithofacies as well. Whereas, LWDS-MW1, TAV-MW1, and TA-V monitoring wells located directly beneath and to the west and north of TA-V are

screened in finer-grained alluvial fan deposits. The structural map (Figure 4.1.3-1) shows the interpreted eastern margin of high conductivity ARG facies curving eastward of TA-V with a synclinal axis beneath TA-V. The potentiometric surface map for KAFB/SNL/NM shown in Figure 4.2.3-1 (and compared to the structure of the ARG in Figure 4.1.3-1) shows how groundwater is withdrawn preferentially (i.e., a higher rate) from saturated ARG units in the KAFB/SNL/NM area of the Albuquerque Basin. In general, the potentiometric surface contours shown on Figures 4.2.3-2 through 4.2.3-5 indicate water level elevations are lower in wells screened in the ARG lithofacies and higher in wells screened in the in the alluvial fan facies.

- Process water and wastewater discharges from sources at TA-V have reached the aquifer and are creating a groundwater "mound." The largest quantities of water discharged at the TA-V were at the LWDS drainfield (approximately 6 million gallons) and the TA-V seepage pits (estimated 1 million gallons per year or 20 million gallons total). Several modeling studies have been conducted to estimate how long discharges would take to reach the water table, what the rise in the water table could be and how long it might take before a slug or slugs of wastewater would dissipate. In general, it was found that although a mound of 1 to 2 ft above the regional water table could be created locally by such discharges, the mound should dissipate fairly rapidly. These modeling studies are discussed in Chapter 6.0.

The combination of both these factors could be affecting the local groundwater flow regime at TA-V. Combined effects of stratigraphic and structural controls and TA-V discharges could have created a sustained ridge or mound beneath TA-V. Although the major influence on groundwater flow is probably geologic as described in the first bullet, water levels directly beneath TA-V could have been raised even more by TA-V past discharges, as described in the second bullet.

4.2.4 Groundwater Gradients

Horizontal Gradients

Based on the potentiometric surface contours, the regional horizontal gradient (TA-V to TA-III western boundary) is west at approximately 0.009 ft/ft. At TA-V, flow is generally to the west; however, a ridge or mound beneath TA-V causes flow to be redirected to the south, west, and north (Figures 4.2.3-1 through 4.2.3-4). At TA-V (LWDS-MW1 to TAV-MW5) horizontal gradients are approximately 0.003 ft/ft, somewhat lower than the gradients to the west of TA-V. Again, this may be caused by the stratigraphic and structural controls in this area and/or the influence of TA-V wastewater discharges on the local groundwater regime.

Vertical Gradients

Vertical flow gradients can be estimated for the TA-III/V area from several well pairs (AVN-1/AVN-2, MRN-1/MRN-2, CWL-5U/CWL-5L, CWL-6U/CWL-6L). In the immediate vicinity of TA-V, the AVN-1/AVN-2 well pair indicate a vertical gradient downward of 0.02 ft/ft. Vertical

downward gradients at the MWL range between 0.11 to 0.88 ft/ft. At the CWL, the average vertical downward gradient in the uppermost groundwater zone are also approximately 0.06 ft/ft. Along the west boundary of TA-III, the MRN-1/MRN-2 pair, and the PL-1/PL-2 pair show a downward vertical gradient of only 0.001 to 0.008 ft/ft, respectively. The wells with the higher vertical gradients reflect differences in hydraulic conductivities between the alluvial fan lithofacies and the underlying ARG lithofacies. West of TA-III the saturated zone is within ARG lithofacies only.

Colloidal Borescope Results

In November 1996, a colloidal borescope was used to measure groundwater directions (gradients) and flow velocities in five groundwater monitoring wells at TA-V (see Attachment 3, LLNL March 1997). Multiple intervals were logged in two of the wells. The colloidal borescope directly observes suspended colloids (particles generally 1 to 10 microns in size) to measure real-time local groundwater flow direction and velocity in a monitoring well. In addition, the borescope can be used to observe colloid mobilization during well sampling and groundwater pumping. A remotely controlled, variable-focus borescope was developed by Lawrence Livermore National Laboratories (LLNL) and used in the SNL/NM study.

The colloidal borescope measured a southern groundwater flow direction in wells AVN-2, LWDS-MW1, and TAV-MW1. A west-southwest flow direction was measured in TAV-MW2 and a south to southeast flow direction was measured in LWDS-MW2. No vertical flow was observed in the wells tested. Both the flow directions determined from the colloidal borescope study (Figure 4.2.4-1) and the inferred flow directions from the potentiometric surface maps for July 1996 (Figure 4.2.3-5) and June 1998 (Figure 4.2.3-3) indicate that groundwater is traveling in a complex manner beneath TA-V. A comparison of the flow velocities from the colloidal borescope study and velocities based on Darcy's Law will be discussed in Section 4.2.7.

4.2.5 Water Level Declines

Hydrographs of TA-V wells and some TA-III wells have been constructed to evaluate the long-term patterns of water levels in these wells. One of the goals was to evaluate whether water level trends for wells in the mound area displayed any significant difference from water level trends for those wells located on the periphery of the mound. The record of water level measurements is fairly short in this area, with LWDS-MW1 and LWDS-MW2 installed in 1993 and 1992, respectively. Figure 4.2.5-1 shows the groundwater elevation trends for TA-V based on water level data summarized in Appendix F (with early time data and measurement errors removed). Appendix G contains hydrographs for each of the TA-V wells. Average water level declines shown on Appendix G figures were calculated using linear regression analysis. Some wells have too short a measurement period to permit confident calculation of their rate of water level decline.

Water levels in most wells appear to be declining at a rate of approximately 0.66 ft/year (yr) regardless of their location relative to the groundwater mound in this area. The exceptions are the most recently installed wells (TAV-MW3, TAV-MW4, and TAV-MW5), and KAFB-10 (1993-1995). These wells all show higher rates of decline ranging from 0.7 to 1.4 ft/yr (Appendix G).

These calculated rates may be erroneously high because of the short period of record but could result from more transmissive units in hydraulic connection with production areas to the north. At least TAV-MW3, TAV-MW5, and KAFB-10 are screened in ARG deposits and the calculated rates may indicate more transmissive materials in these wells. The rate of water level decline noted in KAFB-10 (1.4 ft/yr) before it was abandoned indicates the sediments underlying the alluvial fan deposits are more transmissive. The well also had a significantly lower water level than the monitoring wells in the vicinity (approximately 15 to 20 ft), indicating a strong downward vertical gradient (not quantifiable). Wells screened in these underlying permeable units should exhibit faster rates of water level declines than wells screened in the alluvial fan lithofacies. In general, the areas with the lower groundwater elevations (Figure 4.2.3-1) also appear to have the highest rates of water level declines, although more monitoring is needed to verify this.

Wells at the MWL and the CWL have average rates of decline of 0.8 and 0.85 ft/yr respectively. Wells located along the western boundary of TA-III show declines in water levels of 1 to 2 ft/yr.

Since LWDS-MW1 shows approximately the same rate of decline as other wells in the area, the groundwater mound discussed above is clearly in hydraulic connection with the regional aquifer. The differences between water levels in LWDS-MW1 (at the approximate center of the mound) and several surrounding wells were calculated and graphed to evaluate whether flow gradients and decline rates were changing over time. That no obvious patterns could be discerned from this analysis indicates that the distribution of lithofacies coupled with regional water level declines is the dominant cause of the mound beneath TA-V.

4.2.6 Aquifer Parameters

A variety of aquifer tests have been performed at several wells in and near TA-V. The objective of these tests was to add to the understanding of basic aquifer parameters controlling the flow of groundwater and the possible transport of contaminants in the groundwater. In addition to field parameter testing, laboratory tests have been conducted on soil samples for hydrologic parameters. These include initial moisture content, total porosity, and dry bulk density, saturated hydraulic conductivity, and sieve, hydrometer, and particle-size graphs. Attachment 4 contains these results and these data are not discussed in this report.

Aquifer well testing provides estimates of hydraulic parameters by measuring the effects of inducing stress in an aquifer around a well. Stress can be induced by withdrawing water from the well or injecting water into the well creating a change in the water level in the well. The induced change in water level can be made continuously over an extended period of time, referred to as a pumping test. The change in water level can also be made instantaneously with a discrete volume, referred to as a slug test. Slug tests are faster and easier to perform than pumping tests with the understanding that the test only stresses a small radius around the well. Slug tests are more affected by local heterogeneity and by disturbed areas around the well caused by drilling and well installation.

4.2.6.1 Pumping Tests Results

An aquifer pumping test was conducted at monitoring well AVN-1 in March 1996 (see Attachment 5 for details). AVN-1 was pumped for 48 hours at an average rate of 19.3 gallons per minute (gpm). The calculated transmissivity from drawdown and recovery data is 1,509 square ft (ft^2)/day (d) and 1,560 ft^2/d, respectively. The corresponding hydraulic conductivities for drawdown and recovery data are 2.62×10^{-2} ft/minute (min) and 2.71×10^{-2} ft/min, respectively. The saturated thickness was assumed to be 40 ft, the saturated gravel pack thickness for AVN-1. The calculated hydraulic conductivity for AVN-1 compare closely to the average hydraulic conductivity values calculated from pumping test data for wells (MRN-1 and PL-1) screened at similar depths in the ARG facies of the Santa Fe Group (Attachment 5).

An aquifer pumping test was conducted at monitoring well TAV-MW2 in June 1996 (see Attachment 6 for details). TAV-MW2 was pumped for more than six days at an average rate of 0.35 gpm. The calculated transmissivity from recovery data is 2.4 ft^2/d, with a corresponding hydraulic conductivity of 6.4×10^{-5} ft/min, assuming a saturated thickness of 26 ft (saturated gravel pack thickness of TAV-MW2).

4.2.6.2 Slug Tests Results

This section discusses hydraulic conductivity values calculated from slug tests performed for this report as well as for all previous aquifer tests (pumping tests and slug tests). Table 4.2.6.2-1 summarizes previous tests and Table 4.2.6.2-2 summarizes tests recently performed for this report. In May 1995, slug tests were conducted in monitoring wells TAV-MW1, TAV-MW2, LWDS-MW1, and LWDS-MW2 (see Attachment 7 for detailed description). Slug tests were conducted in September 1998 in wells in the TA-V area that were installed in April 1997 (TAV-MW3, TAV-MW4, TAV-MW5). At the same time, slug tests were also conducted in AVN-1 for comparison with previous aquifer pumping test results and in AVN-2, the shallow well adjacent to AVN-1 that was not tested in the past. Attachment 8 provides the details for these tests.

In general, slug tests were conducted with a solid aluminum rod lowered into the well to raise or lower the water level in the well. Water level changes induced in the test wells were measured automatically with electronic pressure transducers and data logger software (Geoguard loggerhead transducer and Geoguard software).

An example of a water level displacement versus time plot for a slug test is shown in Figure 4.2.6-1. Each well was tested twice to ensure accurate data collection. The "slug out" (removal of slug from the water column) portion of the test for each well was recorded and analyzed, because this portion of the test provides the most reliable water level readings.

The slug test analysis method used for estimating aquifer properties from slug test data was developed by Peres et al. (July 1989). The method uses the measured slug test head versus time data to generate the equivalent head and head derivative versus time data that would be obtained if the well were produced at a constant rate. Deconvolution techniques are used to remove the effect of well bore storage. After the equivalent data for the classical constant

discharge problem are obtained, well/aquifer parameters using known constant discharge analysis techniques can be established without resorting to slug test analysis procedures. The resulting data can be analyzed using semilog straight-line method (Figure 4.2.6-2). Peres et al. demonstrated that the early-time response is related to skin zone properties; whereas the late-time response is controlled by aquifer properties. Peres et al. also pointed out that because of the similarity of the shapes of the theoretical curves, the coefficient of storage is of questionable accuracy. It has also been shown that storativity and skin factor cannot be uniquely determined from any single well test (Fort et al. 1998).

The slug test data were also analyzed by two additional methods for comparison. The method developed by Cooper and Jacobs (1946) enables direct calculation of transmissivity by plotting drawdown versus log time and matching field data with type curves (Figure 4.2.6-3). The Bouwer and Rice (1976) method allows the measure of hydraulic conductivity around wells that are partially penetrating and partially screened (Figure 4.2.6-4). Table 4.2.6.2-2 summarizes the hydraulic conductivity values and parameters calculated by each of the methods mentioned above. In general, the values calculated via the deconvolution method ranged from 8.2×10^{-4} ft/min in AVN-2 to 1.9×10^{-2} ft/min in TAV-MW5. The hydraulic conductivity calculated from the pumping test that was conducted on the monitoring well AVN-1 in 1995 is 2.66×10^{-2} ft/min. The hydraulic conductivity values from purnping tests and from slug tests all compare within 7 percent.

4.2.7 Groundwater Flow Velocities

Groundwater horizontal and vertical flow velocities for the TA-V area were calculated using Darcy flow velocity equation:

$$v = K\,(dh/dx)/n_e \ ,$$

where

v	= linear, or pore, velocity, in ft/min
K	= hydraulic conductivity, in ft/min (horizontal or vertical)
dh/dx	= horizontal gradient (ft/ft), or dh/dy = vertical gradient (ft/ft)
n_e	= effective porosity.

Groundwater flow velocities were estimated using the K values listed in Table 4.2.7-1, dh/dx calculated from Figures 4.2.3-1 through 4.2.3-4, and n_e values from the literature (Domenico and Schwartz 1990). Total porosity values provided in Attachment 4 for TAV-MW4 and TAV-MW5 ranged from 0.24 to 0.43 while effectively porosity values used in the calculations were 0.25 to 0.35. The hydraulic conductivity data set for TA-V (Table 4.2.7-1) were separated into three subsets: higher range (AVN-1 pumping test value), middle range (geometric mean of all slug and pumping tests values), and lower range (geometric mean slug and pumping tests except for AVN-1 results). The groundwater flow gradients used in the velocity calculations varied from 0.009 to 0.003 ft/ft. Listed in Table 4.2.7-1 are the parameters and velocity calculations.

The calculated regional horizontal flow velocities range from 20 ft/yr up to more than 500 ft/yr. In the area of TA-V, however, the calculated horizontal flow velocities are significantly lower and range from 4 to 10 ft/yr, primarily because of the shallower horizontal gradient in this area.

The resulting velocities listed in Table 4.2.7-1 are lower by one to two orders of magnitude than those velocities calculated by the colloidal borescope method (see Figure 4.2.4-1). Groundwater velocities were calculated to range from (0.35 to 0.95 meters [m]/d) (420 to 1140 ft/yr) with the exception of LWDS-MW2 which had a flow velocity of (3.5 m/d) (4,200 ft/yr). The colloidal borescope measures colloidal movement in an open well and may not be a reliable indicator of actual flow velocities even using a correction factor (see Attachment 3). Based on the known extent of contamination at TA-V it appears that the velocity values calculated using Darcy's Law are more realistic (see Chapter 5.0). Additionally as Figure 4.2.4-1 shows, the flow directions are variable for each well so that, on average, the prevailing regional flow velocities (in the west direction) could be significantly lower than the borescope method indicates.

A vertical flow velocity using Darcy's Law with the vertical hydraulic gradient and estimated vertical hydraulic conductivity was also calculated to provide a rough estimate of the potential maximum depth of contaminants at TA-V.

Vertical Flow Velocity of Contaminants

In unconsolidated sediments such as those found in the Albuquerque Basin, the vertical hydraulic conductivity can be estimated to be 1/10 to 1/100 of the horizontal hydraulic conductivity of the aquifer (Freeze and Cherry 1979). The highest horizontal hydraulic conductivity measured at TA-V is 2.01×10^{-2} ft/min, estimated from slug tests conducted at TAV-MW5 (see Section 4.2.6). Therefore, a conservatively high estimate for the vertical hydraulic conductivity at TA-V is 2.01×10^{-3} ft/min. The downward vertical gradient at TA-V is approximately 0.02 ft/ft.

By applying Darcy's Law and using the measured downward vertical gradient of 0.02, an effective porosity of 0.3 and a vertical hydraulic conductivity of 2.01×10^{-3} ft/min, the maximum vertical groundwater flow velocity at TA-V is calculated at 70 ft/yr.

A more realistic estimate of the average vertical flow velocity of contaminants beneath TA-V can be made using the average (geometric mean) horizontal hydraulic conductivity, rather than the maximum horizontal hydraulic conductivity. The average horizontal hydraulic conductivity of all tested TA-V monitoring wells (except AVN-1, which was completed in a deeper, more transmissive zone than the other wells) is 1.24×10^{-4} ft/min (see Section 4.2.6) and the corresponding average vertical flow velocity in groundwater is estimated at 4.3 ft/yr.

In summary, these estimates of the vertical flow velocities for TA-V groundwater range from 4.3 to 70 ft/yr. These estimates are conservative, and should be considered an upper bound because they are based on a horizontal to vertical anisotropy ratio of 10:1. In reality, the anisotropy ratio may be an order of magnitude greater, resulting in significantly lower vertical flow velocities and, therefore, much slower migration of contaminants.

5.0 GROUNDWATER QUALITY

Groundwater quality and water levels at TA-V have been monitored since October 1992. The current monitoring well network consists of nine wells located in and around TA-V (see Figure 2.1-2). Groundwater at TA-V has been monitored on a quarterly basis since October 1992, when the first TA-V monitoring well (LWDS-MW2) was installed.

Section 5.1 discusses the current groundwater monitoring program at TA-V. Section 5.2 presents the groundwater analytical data generated during the six years of groundwater sampling at TA-V. Section 5.3 discusses the nature and extent of TCE and nitrate contamination, which have been detected at levels exceeding the EPA drinking water standards in the groundwater at TA-V. Section 5.4 presents the results from a borehole vapor profiling study conducted to evaluate whether VOC contaminants are reaching groundwater through the borehole annulus of one of the wells.

5.1 The TA-V Groundwater Monitoring Program

The current groundwater monitoring program at TA-V consists of full-suite analyses conducted once a year in June and limited-suite analyses conducted during the remaining three quarters of the year. Groundwater is sampled annually for nitrate plus nitrite (NPN), VOCs, SVOCs, RCRA metals, major anions and cations, tritium, gamma spectroscopy, and gross alpha and beta. During the remaining three quarters, groundwater is sampled for NPN and VOCs in six of the nine TA-V wells. The three remaining wells (TAV-MW3, TAV-MW4, and TAV-MW5) were installed in the spring of 1997 and are still being characterized for baseline water quality. These wells are sampled quarterly for the full suite of parameters; however, provided no contamination is detected, SNL/NM plans to reduce the suite of analytes for these wells following the June 1999 sampling event.

In the past, dedicated Bennett pumps were installed in TA-V monitoring wells LWDS-MW1, LWDS-MW2, TAV-MW1, TAV-MW2, AVN-1, and AVN-2. These pumps were replaced with dedicated low-flow pumps in February 1996 because SNL/NM personnel believed that they obtain the most representative groundwater samples possible, and because low-flow pumps minimize purge-water production and resulting waste generation. All samples collected at TA-V since that time have been sampled with the low-flow QED pumps, with the exception of several samples collected during a joint EPA/DOE Oversight Bureau (OB) study conducted August 1998.

Dedicated low-flow pumps were also installed in the three newer monitoring wells, TAV-MW3, TAV-MW4, and TAV-MW5. Each low-flow pump is located at the midpoint of the wellscreen as recommended by the manufacturer .

Comparison of Results from QED Low-Flow Versus Bennett Pumps

The joint EPA/DOE OB study conducted in August 1998 consisted of sampling 12 SNL/NM monitoring wells, including six TA-V wells. The wells were sampled for various parameters based on the COCs at a particular site. TechLaw, Inc. (TechLaw) used a Bennett pump to conduct the sampling.

To allow comparison of the analytical results of samples collected by the QED MicroPurge low-flow pump and by the Bennett pump, SNL/NM used low-flow pumps in some of the 12 wells sampled by TechLaw to collect duplicate samples prior to the sampling that used the Bennett pump. SNL/NM obtained splits of the Bennett-pump samples to ensure that differences in laboratories did not affect the comparison. Table 5.1-1 lists the wells sampled and parameters for which the samples were analyzed.

The analytical results of this comparison study have not been fully validated and have not been entered into the ER Database Management System (ERDMS). For this reason, a detailed comparison of the results for samples collected using low-flow and Bennett pumps has not been completed. In addition, the comparison of low-flow pump and Bennett pump data presented here does not include the analytical results from the samples collected by TechLaw because these results were not available.

However, preliminary data for samples collected by SNL/NM have been obtained and are discussed below. These data demonstrate that results for TA-V groundwater samples that were collected using low-flow pumps are basically equivalent to those for samples that were collected using the Bennett pump.

Figure 5.1-1 compares concentrations of major ions (calcium, sodium, sulfate, and bicarbonate) and total dissolved solids for samples that were collected from wells TAV-MW3, TAV-MW4, and TAV-MW5 using the low-flow pump (solid colors) and the Bennett pump (striped colors).

Figure 5.1-2 compares concentrations of potassium, magnesium, silicon, and chloride. On both figures, the relative percent differences in concentrations between samples collected with the two types of pumps are generally small.

Figure 5.1-3 compares NPN concentrations collected with both types of pumps in the wells LWDS-MW1, TAV-MW1, TAV-MW3, TAV-MW4, and TAV-MW5. Again, the results are essentially equivalent.

Figure 5.1-4 compares the concentrations of TCE in samples that were collected from TA-V wells using both types of pumps. Figure 5.1-5 compares the concentrations of cis-1,2-DCE in samples collected from TA-V wells. Differences shown in the two figures are insignificant, considering that the laboratory analytical error for low levels of VOCs (<20 µg/L) can range up to 30 percent (Barnett 1999).

In summary, the data for samples collected using low-flow pumps and for those collected using Bennett pumps compare favorably for both inorganic constituents and VOCs. These results provide additional verification that, for the purposes of TA-V groundwater monitoring, the

quarterly monitoring data from the low-flow pumps at TA-V is valid for evaluating the nature and magnitude of contaminants in groundwater.

5.2 Groundwater Analytical Data

Historical TA-V groundwater quality data from the ERDMS are included in Appendix H. Appendix H1 presents miscellaneous groundwater data such as alkalinity, total dissolved solids, pH, and specific conductance for samples collected from TA-V monitoring wells. Appendix H2 presents inorganic analysis results, while Appendix H3 presents organic analysis results for TA-V groundwater. Appendix H4 presents radionuclide analysis results for TA-V groundwater from the ERDMS.

5.2.1 Major Ion Chemistry

Major ion chemistry data from groundwater quality analyses can reveal distinct characteristics useful for interpreting aquifer flow characteristics and identifying zones of mixing between contaminated and noncontaminated groundwater (Freeze and Cherry 1979). To characterize the major ion groundwater chemistry at TA-V, analyses for major anions and cations, pH and specific conductance were conducted on groundwater samples collected from TA-V monitoring wells. The major ion chemistry data for TA-V, as well as all inorganic groundwater quality data, are included in Appendix H2.

To evaluate possible changes in groundwater chemistry over time at TA-V, Piper trilinear and Stiff diagrams were developed for samples collected from each of the TA-V monitoring wells. The complete set of these major ion chemistry diagrams are presented in Appendix I and are discussed in detail below. The most pertinent major ion chemistry diagrams are also presented as figures in the text of this report.

Piper Trilinear Diagrams

Figure 5.2.1-1 presents a Piper trilinear diagram showing the most recent (November 1998) TA-V groundwater samples. In general, groundwater from the TA-V wells is a calcium-bicarbonate or sodium-bicarbonate-type water.

Figure 5.2.1-1 suggests recent groundwater samples from TA-V plot in two groups. Group A contains a slightly higher percentage of sulfate and chloride ions and a lower percentage of bicarbonate ions than Group B. Group A includes wells LWDS-MW1, TAV-MW1, TAV-MW4, and LWDS-MW2. Group B includes wells AVN-1, AVN-2, LWDS-MW2, TAV-MW3, and TAV-MW5.

Figures I-1 through I-4 in Appendix I present Piper trilinear diagrams that show major ion concentrations in groundwater samples from the TA-V monitoring wells during June 1995, December 1995, June 1998, and December 1998. During this period, water quality in Group A changed slightly, with gradually increasing relative percentages of sulfate and chloride over

time. This change in water quality over time is shown by the shift in point locations on the Piper trilinear diagram in Figure 5.2.1-2.

Figure 5.2.1-3 shows the evolution in water quality in LWDS-MW1 for the period from November 1993 through November 1998. During this five year period, water quality in LWDS-MW1 changed from a sodium-bicarbonate-type water to a calcium-bicarbonate-type water.

Similar changes are also observed in the other wells in Group A. Figures I-5 through I-13 in Appendix I present Piper trilinear diagrams for all monitoring wells at TA-V, showing changes in water quality (if any) over time for each well. Changes in water quality were observed for all the wells in Group A, shown in Figures I-7, I-8, I-10, and I-12.

These subtle changes in water quality in the wells within Group A reflect the mixing of two water types. Apparently, a slug of water with different chemical characteristics is moving through wells LWDS-MW1, TAV-MW1, TAV-MW4, and TAV-MW2. Perhaps not coincidentally, three of these four wells in Group A are TCE-contaminated, whereas no wells in Group B.

Furthermore, it appears that as the water quality changes in these wells, TCE concentrations increase (see Section 5.3.2), indicating that the water moving through LWDS-MW1, TAV-MW1, TAV-MW4, and TAV-MW2 contains TCE. Thus, it appears that a significant quantity of contaminated water is moving through these wells.

To evaluate the specific changes in major ion concentrations within Group A, the concentrations of major cations and major anions in LWDS-MW1 are plotted over time in Figures 5.2.1-4 and 5.2.1-5. Figure 5.2.1-4, which presents the major cations over time, demonstrates that sodium concentrations in LWDS-MW1 decreased by nearly half during the period from 1993 to 1998, while other cation concentrations remained relatively constant. Similarly, Figure 5.2.1-5, which presents the major anions over time, demonstrates that bicarbonate concentrations decreased during this period, while the concentrations of other anions remained relatively constant.

The water quality of one well in Group B, TAV-MW3, also appears to be changing slightly over time (Figure I-9). However, the direction of shift in the Piper trilinear diagram for this well differs slightly from the direction of shift shown on the Piper trilinear diagrams for the Group A wells (Figures I-7, I-8, I-10, and I-12), indicating that the water quality changes in TAV-MW3 do not result from the same slug of contaminated water that is causing the changes in the wells of Group A.

Although the reason for the change in water quality in TAV-MW3 is not known for certain, it is believed that these changes reflect the presence of residual bentonite grout, which could remain in the gravel pack of this well. Unfortunately, during construction of the well, some bentonite grout entered this well, apparently through the gravel pack and well screen. Although the well was later developed and the bentonite grout in the well casing was removed, the residual bentonite in the gravel pack could be affecting the major ion chemistry of this well.

Stiff Diagrams

Stiff diagrams are an alternative method of presenting major ion chemistry data. Stiff diagrams for groundwater samples collected in November 1998 from all TA-V monitoring wells are presented in Figure 5.2.1-6. Stiff diagrams for groundwater samples from all TA-V wells for June 1995, December 1995, June 1998, and November 1998 are presented in Figures I-14 through I-17. Stiff diagrams for each individual monitoring wells showing water quality changes (if any) over time are presented in Figures I-18 through I-26.

Figures 5.2.1-7, 5.2.1-8, 5.2.1-9, and 5.2.1-10 present Stiff diagrams for LWDS-MW1, TAV-MW1, TAV-MW2, and TAV-MW4, respectively. Each of these wells is a member of Group A, discussed above, and the Stiff diagrams indicate that the major ion chemistry for these wells is changing slightly with time.

This is not the case for the wells in Group B, with the exception of TAV-MW3. The Stiff diagram for TAV-MW3 (Figure I-22) also shows some changes over the last year that could be caused by the residual bentonite grout in the gravel pack of this well.

5.2.2 Metals and Nitrate

The TA-V monitoring wells are sampled annually for metals and nitrate. The metals and nitrate data are presented in Appendix H2, which includes all the inorganic data for TA-V groundwater (with the exception of radionuclides).

Concentrations of metals and nitrate in TA-V groundwater that exceed the EPA MCL or the HRMB approved maximum background values are presented in Table 5.2-1. As this table indicates, at least one result for each of the following analytes exceeded the pertinent EPA MCL and the HRMB approved maximum background values for groundwater.

- Arsenic
- Barium
- Beryllium
- Chromium
- Lead
- Mercury
- Nickel
- Nitrate
- Selenium
- Thallium.

However, some of these data in Table 5.2-1 are suspect because many of the elevated concentration values were measured on one particular date (May 3, 1993) in a sample from LWDS-MW1. These elevated concentration levels were never repeated in any of the subsequent samples from this well and appear anomalous. For example, concentrations of beryllium and nickel exceeded the MCL on May 3, 1993, but never exceeded the MCL on any other date. In addition, the May 3, 1993, sample from LWDS-MW1 was the first groundwater

sample collected from this well, and the groundwater chemistry in the sample from the well may not have been in equilibrium with the aquifer.

A review of the laboratory data for this particular sample showed nothing unusual, other than the fact that the groundwater sample was diluted for analysis. One possible reason for the anomalous concentration values might be that the laboratory personnel did not account properly for the dilution when reporting their data.

The TA-V groundwater data that exceeded MCLs are discussed further below.

Arsenic

Two TA-V groundwater samples contained arsenic concentrations exceeding the EPA MCL of 0.05 mg/L and the HRMB approved maximum background value of 0.014 mg/L. The maximum concentration of arsenic in TA-V groundwater was measured on June 9, 1995, in a sample from TAV-MW1 at a concentration of 2.3 mg/L. This value is suspect because arsenic was not detected in TAV-MW1 in any other samples. Arsenic also exceeded the MCL once in LWDS-MW1 on May 3, 1993. Low levels of arsenic (up to 0.007 mg/L) were occasionally detected in TA-V groundwater samples (see Appendix H2), but with the exception of the two samples discussed above, all remained below the HRMB approved maximum background value.

Barium

The May 3, 1993 sample from LWDS-MW1 contained a concentration of 6.8 mg/L barium, well above the EPA MCL of 2 mg/L. However, this value is suspect because all other detections of barium in TA-V monitoring wells were nearly two orders of magnitude lower in concentration. Furthermore, no other samples from this well or any other TA-V monitoring wells exceeded the MCL for barium in any of the other quarterly samples, although one other sample (0.13 mg/L) exceeded the HRMB approved maximum background value of 0.12 mg/L for barium.

Beryllium

The maximum concentration of beryllium measured in TA-V groundwater was 0.055 mg/L in a May 3, 1993, sample from LWDS-MW1. This concentration is well above the EPA MCL (and the HRMB approved maximum background) for beryllium of 0.004 mg/L. No other samples in this or any other well exceeded either the EPA MCL or the background value.

Chromium

Groundwater samples exceeded both the EPA MCL of 0.1 mg/L and the HRMB approved maximum background value of 0.043 mg/L for chromium in monitoring wells LWDS-MW1 and TAV-MW1 (one sample each). The May 3, 1993, sample from LWDS-MW1 contained a chromium level of 3.7 mg/L; and the June 9, 1995, sample from TAV-MW1 contained a chromium level of 2 mg/L. However, the June 1995 sample also contained chromium in the

equipment blank. No chromium measurement exceeded the MCL or the background value in any other TA-V samples.

Lead

Lead was detected in the May 3, 1993, sample from LWDS-MW1 at 0.51 mg/L. This significantly exceeds the EPA MCL of 0.015 mg/L. No other concentrations of lead exceeded the MCL in any of the other groundwater samples from this or any other TA-V wells.

The HRMB approved maximum background value for lead in groundwater is 0.01 mg/L. Although no TA-V groundwater samples exceeded the HRMB approved maximum background value, the October 21, 1992, sample from LWDS-MW2 contained lead at 0.01 mg/L.

Mercury

Mercury exceeded both the EPA MCL and the HRMB approved maximum background value of 0.002 mg/L in all TA-V monitoring wells sampled during December 1996. Mercury concentrations in monitoring wells AVN-2, LWDS-MW1, LWDS-MW2, TAV-MW1, and TAV-MW2 ranged from 2.8 mg/L to 3.7 mg/L. These data are suspect because mercury values have never exceeded the EPA MCL in these wells during any other sampling events at TA-V.

Nickel

The May 3, 1993, sample from LWDS-MW1 contained nickel at a concentration of 0.79 mg/L (approximately 8 times higher than the EPA MCL of 0.1 mg/L and significantly higher than the HRMB approved maximum background value of 0.028 mg/L). No other concentrations of nickel exceeded the EPA MCL or the HRMB approved maximum background value in any other samples from TA-V wells.

Nitrate

Some NPN concentrations in all TA-V monitoring wells exceeded the HRMB approved maximum background value of 4 mg/L nitrate (as nitrogen [N]). In addition, nitrate concentrations exceeded the EPA MCL of 10 mg/L nitrate (as N) in TA-V wells AVN-1, AVN-2, LWDS-MW1, LWDS-MW2, TAV-MW1, and TAV-MW2.

The November 1997 samples are suspect because they all contained extremely elevated and anomalous concentrations of nitrate, ranging from 88 to 560 mg/L. The reason for this is unknown.

Excluding the November 1997 data, nitrate concentrations exceeded the EPA MCL of 10 mg/L nitrate (as N) in monitoring wells LWDS-MW1, LWDS-MW2, AVN-1, and AVN-2. The highest nitrate concentration (excluding the November 1997 data) was 36 mg/L, measured in a sample

from LWDS-MW2 taken on December 7, 1994. The duplicate of this sample contained a nitrate concentration of 13 mg/L.

Selenium

The maximum selenium concentration measured in TA-V groundwater was 5.2 mg/L (detected in a sample from TAV-MW1 on June 9, 1995). The MCL for selenium in groundwater is 0.05 mg/L, and the HRMB approved maximum background value for selenium is 0.005 mg/L. Selenium did not exceed the MCL in any other samples from TAV-MW1 or other TA-V monitoring wells but did exceed the HRMB approved maximum background value six other times in LWDS-MW1, once in TAV-MW2, and once in TAV-MW4.

Thallium

The maximum concentration of thallium detected in TA-V groundwater was 0.00281 mg/L (in a December 18, 1995, sample from TAV-MW2). This value exceeds both the EPA MCL and the HRMB approved maximum value of 0.002 mg/L. No other thallium concentration exceeded the EPA MCL or the DOE OB background value; however, the method detection limit for thallium was often greater than the MCL, and therefore, it is difficult to determine whether thallium actually exceeded the MCL in any of the TA-V wells during past sampling events.

Summary for Metals and Nitrate:

In summary, concentrations of arsenic, barium, beryllium, chromium, lead, mercury, nickel, nitrate, selenium and thallium exceeded the EPA MCLs in groundwater samples from TA-V at least once (Table 5.2-1). The most widespread inorganic contaminant in TA-V groundwater is nitrate, which exceeded the EPA MCL in six of the nine TA-V monitoring wells. Most of the other parameters exceeded the MCL only once or twice.

5.2.3 Organic Compounds

The TA-V monitoring wells are sampled quarterly for VOCs using EPA Method 8260 (EPA November 1986). The results are presented in Appendix H3, which includes the results of SVOC and VOC analyses of all TA-V groundwater samples.

Table 5.2-2 lists organic compounds in TA-V groundwater, which were detected at concentrations exceeding the MDL. Many of these parameters were also detected in the method blanks (as indicated by the B qualifier), indicating that the detections could have been laboratory contaminants rather than actual contaminants in TA-V groundwater. Some of these parameters were detected at nonquantifiable levels, as indicated by the J qualifier.

Table 5.2-3 summarizes all organic compounds in TA-V groundwater detected at concentrations exceeding the EPA MCLs. Benzene was detected once in LWDS-MW1 (in

November 1993), at a concentration above the MCL. TCE commonly exceeds the MCL in LWDS-MW1 but never exceeded the MCL in any other TA-V wells.

Two organic contaminants, TCE and cis-1,2-DCE, are detected regularly in TA-V groundwater (Table 5.2-2) and are the primary organic contaminants in TA-V groundwater. Both of these contaminants are degradation products of PCE, which has never been detected in TA-V groundwater. However, PCE was detected at high levels near the LWDS drainfield during the TA-V passive soil vapor characterization (Section 3.5). PCE was also detected in the vapor within the LWDS-MW1 borehole (Section 5.4).

PCE degrades through reductive dehalogenation to TCE, which degrades to cis-1,2-DCE and trans-1,2-DCE as well as 1,1-DCE. If biogeochemical conditions allow, these compounds could further degrade to vinyl chloride and ethene (McCarty and Semprini 1994), neither of which were detected in TA-V groundwater. Although both PCE and TCE are commonly used industrial solvents, the DCEs are not; therefore, the presence of these compounds indicates degradation when found in groundwater.

TCE

TCE concentrations in LWDS-MW1 exceed the EPA MCL of 5 µg/L and were detected at concentrations of up to 23 µg/L. TCE is also detected regularly in TAV-MW1 at concentrations of up to 3.79 µg/L (Table 5.2-2).

In 1995, TCE was detected at 2.2 µg/L in a bailed sample from KAFB-10, a former production well that was located approximately 600 ft west of TA-V. KAFB-10 was screened from 495 to 1,050 ft bgs. Because of concerns that KAFB-10 may have been acting as a flow conduit for contaminants to migrate deeper within the regional aquifer, the well was plugged and abandoned in April 1996.

DCE

Cis-1,2-DCE is detected regularly in LWDS-MW1 (see Table 5.2-3) at concentrations of up to 4.6 µg/L (Table 5.2-2). Cis-1,2-DCE was not detected in any other TA-V wells. The EPA MCL for cis-1,2-DCE is 70 µg/L.

The compound 1,1-DCE was detected in LWDS-MW1, LWDS-MW2, and TAV-MW2 at concentrations of up to 0.18 µg/L. The MCL for 1,1-DCE is 7 µg/L. The compound (total) 1,2-DCE was detected in LWDS-MW1 at concentrations of up to 4.8 µg/L. Total 1,2-DCE includes both cis-1,2-DCE and trans-1,2-DCE. There is no MCL for total 1,2-DCE.

5.2.4 Radionuclides

Monitoring wells at TA-V are sampled annually for various radionuclides, including tritium, gross alpha, gross beta, and gamma spectroscopy. The results of these analyses are presented in Appendix H4.

To facilitate review of the data, Table 5.2-4 summarizes the data for radionuclides detected in TA-V groundwater. These include gross alpha, gross beta, bismuth-214, lead-212, lead-214, potassium-40, radium-224, strontium-85, thorium-234, tritium, uranium (total), and uranium-238. Table 5.2-4 also lists the EPA MCL and HRMB approved maximum background values, where available, for the radionuclides that were detected.

Thorium-234 and uranium-238 exceeded the HRMB approved maximum background values in LWDS-MW1 in September 1994 and June 1995 samples. However, no other samples yielded above-background values for these radionuclides in any other sampling events. Based on the radionuclide data presented in Table 5.2-4, there is no evidence to suggest that groundwater at TA-V has been contaminated by radionuclides.

5.3 Nature and Extent of Contamination

Nitrate, TCE, and cis-1,2-DCE are the primary contaminants in TA-V groundwater. This section discusses the nature and extent of contamination for these parameters.

5.3.1 Nitrate Contamination in TA-V Groundwater

Nitrate concentrations in TA-V groundwater generally exceed the HRMB approved maximum background value of 4 mg/L (as N). In fact, the average nitrate concentration in TA-V groundwater is 7.5 mg/L (as N). Figure 5.3.1-1 shows NPN concentrations in TA-V groundwater during March 1996 and June 1998. No significant spatial trends are apparent in the nitrate distribution in TA-V groundwater.

The complete set of nitrate data for TA-V is included in Appendix H2. Table 5.2-1 lists parameters that exceeded the EPA MCL or HRMB approved maximum background value for inorganic parameters, including nitrate. The nitrate data from November 1997 are suspect because they contained extremely high and anomalous concentrations of nitrate that ranged from 88 to 560 mg/L as N. These data were not used to calculate the average nitrate concentration in TA-V groundwater (discussed above).

Excluding the November 1997 data, nitrate concentrations exceeded the EPA MCL of 10 mg/L (as N) in wells LWDS-MW1, LWDS-MW2, AVN-1, and AVN-2. Historical nitrate data for these wells (excluding the November 1997 data) are plotted in Figures 5.3.1-2 and 5.3.1-3. In general, nitrate concentrations in TA-V groundwater are not increasing over time and only occasionally exceeded the EPA MCL.

However, nitrate concentrations in TA-V groundwater frequently exceed the HRMB approved maximum background value of 4 mg/L as N. One potential source for the elevated nitrate levels at TA-V is sewage discharge to the various septic tanks and drainfields at TA-V.

5.3.2 TCE Contamination in TA-V Groundwater

TCE has been detected in several wells at TA-V, and TCE concentrations are gradually increasing. This section discusses the nature and extent of TCE contamination in TA-V groundwater. TCE data for TA-V groundwater are summarized in Table 5.2-2, which presents data for all organic compounds detected in TA-V groundwater, and in Table 5.2-3, which lists parameters that exceeded EPA MCLs for organic compounds. Figures 5.3.2-1 and 5.3.2-2 show TCE concentrations in TA-V groundwater in December 1995 and November 1998.

TCE Detections

TCE was detected in five of the nine monitoring wells at TA-V and in KAFB-10, the former production well. TCE was first detected in LWDS-MW1 in November 1993 at a concentration of 6 µg/L and was later detected in TAV-MW1 in April 1995 at 0.39 µg/L J (Table 5.2-2). TCE concentrations gradually increased in these wells. The most recent (November 1998) TCE concentrations in wells LWDS-MW1 and TAV-MW1 were 23 and 3.1 µg/L, respectively.

TCE was also detected at low concentrations in wells LWDS-MW2, TAV-MW2, and TAV-MW4. Table 5.2-2 summarizes TCE and other VOC concentrations in TA-V monitoring wells. The complete set of VOC data for TA-V groundwater is presented in Appendix H3.

TCE was detected at concentrations of up to 2.2 µg/L in October 1995 in samples from the former production well KAFB-10 located approximately 600 ft west of LWDS-MW1. Samples were collected using both a bailer and a submersible pump, and TCE was detected in both samples. The bailed sample contained a TCE concentration of 2.2 µg/L, while the pumped samples contained TCE concentrations ranging from ND (<0.5 µg/L) to 1.6 µg/L J. KAFB-10 was subsequently plugged and abandoned to prevent the downward migration of TCE through the preferential-flow pathway of the well annulus deeper into the regional aquifer.

On August 31, 1994, TCE was detected at a concentration of 3 µg/L in the sample from monitoring well LWDS-MW2. TCE has not been detected in more recent samples from this well.

TCE was detected once in March 1997 in a sample from monitoring well TAV-MW2 at a concentration of 0.99 µg/L J. Low (semiquantifiable) concentrations of TCE were also detected in monitoring well TAV-MW4 at concentrations ranging from 1.2 µg/L J in February 1998 to 1.7 µg/L J in November 1998.

TCE has not been detected to date in monitoring wells AVN-1, AVN-2, TAV-MW3, or TAV-MW5.

Increasing TCE Concentrations

The historical trends of TCE concentrations in LWDS-MW1 and TAV-MW1 are shown in Figures 5.3.2-3 and 5.3.2-4. The apparent increase in TCE levels could reflect the installation

of the low-flow pumps in January 1996; however, if this were the case, the TCE concentrations should have stabilized within the last 3 years, and this has not happened.

Because these TCE concentrations are in the µg/L range, the analytical error in these values could be as high as 30 percent (Barnett 1999). Figure 5.3.2-5 shows TCE concentrations for LWDS-MW1 and TAV-MW1 with error bars representing a 30-percent analytical error.

Lateral Extent of Contamination

The TCE contaminant plume in TA-V groundwater has been reasonably well-defined laterally, and TCE was detected in five of the nine monitoring wells and in the former production well, KAFB-10. Figures 5.3.2-1 and 5.3.2-2 show TCE concentrations in TA-V groundwater in December 1995 and November 1998, roughly 3 years apart. The lateral extent of the contaminant plume, as shown by the isopleths on these figures, was estimated using the geostatistical technique of kriging and the computer contouring program Surfer.

The gradual increase in TCE concentrations in LWDS-MW1 and in TAV-MW1 is apparent in these figures; in December 1995 the maximum concentration detected was 14.9 µg/L in LWDS-MW1; while in November 1998 the maximum concentration detected was 23 µg/L.

Figure 5.3.2-2 shows the most recent TCE concentration distributions in TA-V groundwater. The TCE isopleths on the map indicate that the zone of contaminated groundwater defined by the 5 µg/L isopleth (the EPA MCL) is approximately 1,100 ft long and 800 ft wide.

Vertical Extent of TCE Contamination

The vertical extent of TCE contamination in the aquifer beneath TA-V is unknown, because eight of the nine monitoring wells were completed in the upper part of the water table. The ninth well (AVN-1) was completed to a depth of approximately 80 ft below the water table, in a more transmissive unit (see Section 4.2.6). However, AVN-1 is located approximately 1,100 ft north of LWDS-MW1 and has revealed no TCE contamination to date. This well could be upgradient of or cross-gradient to the contaminant plume.

Although the vertical extent of contamination at TA-V has not been defined, TCE and other VOC concentrations in TAV-MW4 and in LWDS-MW1 were profiled vertically in November 1998 using low-flow (QED) sampling pumps. Samples from TAV-MW4 were collected from 1.5 ft below the water table and at the middle of the screen. Samples from LWDS-MW1 were collected from three locations: 1.5 ft below the top of the 15-ft-long screen, at the middle of the screen, and 1.5 ft above the bottom of the screen. These profiling locations were selected to allow easy placement of the pump, rather than based on lithology. Tables 5.3.2-1 and 5.3.2-2 show the profiling results from these wells.

Tables 5.3.2-1 and 5.3.2-2 demonstrate that TCE occurs throughout the screened zone in each well, although concentrations vary slightly, depending on sample depth. In TAV-MW4, TCE concentrations are nonquantifiable at both depths sampled, and variations in concentration are

insignificant. However, in LWDS-MW1, TCE and cis-1,2-DCE concentrations increased slightly with depth, although the increase may not be statistically significant.

In contrast, at the CWL, TCE is detectable only at the top of the water table rather than in the middle of the wellscreen (SNL/NM October 1995). This difference in vertical contaminant profiles in groundwater suggests different contaminant migration mechanisms at the sites. Chapter 7.0 provides further discussion of this.

5.3.3 Cis-1,2-DCE Contamination in TA-V

Cis-1,2-DCE was detected at levels of up to 4.5 µg/L in LWDS-MW1, which is the well that also contained the highest TCE concentrations. The EPA MCL for cis-1,2-DCE is 70 µg/L. Cis-1,2-DCE was not detected in any other monitoring wells at TA-V. Figure 5.3.2-6 shows historical concentrations of cis-1,2-DCE in LWDS-MW1. Like TCE, concentrations of cis-1,2-DCE in LWDS-MW1 appear to be gradually increasing.

The horizontal extent of cis-1,2-DCE is more limited than that of TCE: It has only been detected in LWDS-MW1. The vertical extent of cis-1,2-DCE is unknown.

5.4 Borehole Vapor Profiling

To improve understanding of the contaminant migration mechanism for VOCs in groundwater at TA-V, relative concentrations of VOCs were measured in the LWDS-MW1 borehole using Gore-Sorber screening modules. These screening modules are the same devices commonly used to conduct passive SVSs at ground surface. The objective of this study was to evaluate whether VOC contaminants are reaching groundwater in the vapor phase through the borehole annulus, as was observed recently at the CWL where VOCs are thought to be entering at joints in the PVC casing (INTERA February 1997, INTERA August 1997).

During the TA-V borehole vapor investigation, a string of seven Gore-Sorber screening modules was suspended in the LWDS-MW1 borehole and left in place for two weeks. The Gore-Sorber modules were placed at depths ranging from 490.3 to 165.7 ft bgs, with the lowermost module (490.3 ft bgs) placed in the groundwater. The LWDS-MW1 Gore-Sorber Screening Survey results are presented in Attachment 8.

During the 2-week period of the study, pressures within the LWDS-MW1 borehole were allowed to remain at ambient conditions with the well cap on. Thus, the vapor concentration gradients measured in LWDS-MW1 reflected natural conditions within the borehole.

After two weeks, the Gore-Sorber modules were removed from the well and analyzed for chlorinated solvents and fuel hydrocarbons (modified EPA Method 8260A/8270B [EPA November 1986]) using a GC equipped with mass-selective detectors and coupled with an automated thermal desorption unit.

Figures 5.4-1 through 5.4-5 show the results of the vertical vapor profiles for the five VOCs detected during this survey. The primary contaminants detected were TCE and cis-1,2,-DCE. However, low

levels of 1,4-dichlorobenzene, PCE, and chloroform were also detected. The presence of these minor constituents demonstrates the high degree of sensitivity of this approach for measuring organic contaminants in groundwater or in the vadose zone slightly above the groundwater table.

All five vapor profiles in LWDS-MW1 show decreasing vapor gradients upward from the groundwater table, with the highest concentrations of contaminants at or immediately below the groundwater table. These profiles are consistent with molecular diffusion upward from the groundwater table and, as such, provide no evidence that contaminants are entering groundwater through the borehole annulus.

6.0 GROUNDWATER MODELING RESULTS

A number of groundwater modeling studies were conducted to improve understanding of the hydrogeology at TA-V. These studies evaluated the effects of the seepage of wastewater from the LWDS drainfield (SWMU 5) and the TA-V seepage pits (SWMU 275). Groundwater modeling was also used to evaluate the cause of the apparent groundwater mound beneath TA-V (see Section 4.2.3).

In addition, several other groundwater modeling studies were conducted for nearby sites in TA-III. These include an infiltration study at the MWL and a study of the fate and transport of TCE in groundwater at the CWL.

6.1 Modeling Infiltration from the LWDS Drainfield

In 1991, Peterson modeled seepage from the LWDS drainfield (Attachment 9) using the U.S. Geological Survey (USGS) flow and transport code, VS2DT (Healy 1990). The objective of this exercise was to estimate hydraulic head and moisture content distributions beneath the LWDS drainfield prior to monitoring well installation at the site.

Historical records indicate that approximately 6 million gallons of disposal water was discharged to the LWDS drainfield between 1963 and 1967 (Goodrich September 1989). To determine the effects of this disposal water on the vadose zone and aquifer beneath the site, Peterson conducted a series of variably saturated flow simulations of a 28-year period between 1963 and 1990. The purpose of the exercise was to provide rough estimates of moisture contents to be encountered during drilling activities at the LWDS.

Because no hydraulic properties of the underlying geologic strata at the LWDS had been measured at the time of the study, the modeling was considered only approximate. The hydraulic properties used in the model were taken from data and studies conducted at the CWL (McTigue and Stein 1990, SNL/NM 1991) and the MWL (SNL/NM and E&E 1990). The CWL is located approximately 1.8 miles to the south of TA-V, whereas the MWL is located only 0.75 mile to the southwest of TA-V.

Most of the simulations assumed homogeneous materials beneath the LWDS; however, several simulations assumed underlying sand and gravel layers similar to subsurface geologic conditions observed at the CWL.

The variably saturated flow simulations were conducted with a two-dimensional model representing an area 500 ft deep and 400 ft wide. The water table was simulated at a depth of 495 ft using a prescribed head boundary condition, while prescribed flux boundary conditions were used to represent seepage from the LWDS drainfield. The simulations spanned a 28-year period from 1963 to 1990, with disposal water discharging to the drainfield from 1963 through 1967.

The results from this modeling investigation are as follows:

- Simulations conducted with homogeneous materials exhibiting saturated hydraulic conductivities of 3 and 1 ft/d and an anisotropy ratio of 10 (horizontal hydraulic conductivity divided by the vertical hydraulic conductivity) showed that seepage from the LWDS drainfield was predicted to reach the water table within 10 to 20 years.

- Simulations performed with similar hydraulic conductivities and an anisotropy ratios of 25 and 50 show that seepage from the drainfield does not reach the water table during the 28-year simulation period. Because of these relatively high anisotropy ratios, seepage tends to move laterally rather than vertically.

- Simulations of a shallow, high-permeability gravel layer near the base of the LWDS drainfield and less permeable homogeneous material elsewhere indicated that the gravel had only minor effects on the movement of infiltrating water from the drainfield.

In summary, Peterson's modeling investigation was an approximate simulation of infiltration from the drainfield and suggested that infiltration from the LWDS drainfield could potentially have reached groundwater within 10 to 20 years from the time of initial disposal (approximately 1963) at the drainfield.

6.2 Estimates of Travel Time to Groundwater from the TA-V Seepage Pits

In 1994, McCord conducted scoping calculations to estimate the time required for water to migrate from the TA-V seepage pits to groundwater (Attachment 10). McCord used a simple mass-balance calculation and a modification of Darcy's Law to simulate the infiltration of the approximately 3,000 to 5,000 gallons of water/day that is reported to have been disposed of in the TA-V seepage pits (see Section 3.3).

Using both approaches, McCord demonstrated that the estimated travel time was short enough to allow water from the seepage pit to reach the water table very early in the 30-year operational period (i.e., within approximately 1.5 years). Furthermore, McCord predicted that the considerable quantity of wastewater disposed of in the TA-V seepage pits would create a groundwater mound beneath the seepage pits, which could provide the driving potential to move contaminants such as TCE in a northwesterly direction to LWDS-MW1.

In summary, McCord's "back of the envelope" calculations yielded gross estimates of travel time through the vadose zone to groundwater and predicted the subsequent lateral movement in the saturated zone to nearby monitoring wells. Based on the results of his calculations, McCord concluded that it was entirely reasonable to assume that TCE concentrations detected in LWDS-MW1 and TAV-MW1 originated from wastewater disposed of in the TA-V seepage pit rather than from the LWDS drainfield operations.

McCord's travel time results differed from the Peterson results (Attachment 9) discussed previously, because McCord's approach was more simplistic, while Peterson's approach more rigorously incorporated the physics of unsaturated zone flow. In addition, McCord simulated a flux three times greater than that assumed by Peterson in 1991, and Peterson did not specifically evaluate the development of a groundwater mound and its subsequent decay.

6.3 Simulations of the TA-V Groundwater Mound Using MODFLOW

In 1996 Brinkman conducted a series of two-dimensional MODFLOW simulations of the development of a groundwater mound beneath the TA-V seepage pits (Brinkman March 1996). The purpose of the simulations were to attempt to explain high water levels in monitoring well LWDS-MW1. It was demonstrated that by modifying the model parameters, a groundwater mound could be artificially generated. Based on the results of his modeling, Brinkman concluded that there were three primary data needs at TA-V:

1. The existence of a groundwater mound at TA-V must be proved or disproved.

2. If the groundwater mound exists, it was either generated by some type of continuous leak from the TA-V facilities or may be simply caused by natural conditions such as a relatively low permeability zone in the aquifer beneath TA-V. If the latter is the case, this zone of low permeability must be characterized.

3. If a leak exists at TA-V, "it must be found and stopped."

Unfortunately, MODFLOW is a saturated groundwater flow model and ignores the effects of the extensive 480-ft-thick vadose zone beneath TA-V. Consequently, the MODFLOW simulations provided little additional information on the origin of the groundwater mound at TA-V.

6.4 Evaluating Natural Causes for the TA-V Groundwater Mound

In 1997, Ruskauff (November 1998) evaluated the water level data from LWDS-MW1 using a bounding solution developed in stochastic hydrology by Naff (1978) for a three-dimensional anisotropic layered aquifer. The solution was presented by Gelhar (1986) as a tool to assess local fluctuations from unknown heterogeneity. Based on this scoping analysis, Ruskauff concluded that geologic heterogeneity may be responsible for the groundwater mound beneath TA-V (Attachment 11).

This interpretation is supported by the lower hydraulic conductivity measured in the vicinity of LWDS-MW1 (see Section 4.2.6). The relatively higher TCE concentrations measured in this well also support this interpretation, as flushing and dilution in the low-permeability area would be correspondingly slower than in higher permeability areas.

Ruskauff recommended constructing a variably saturated flow model with appropriate leakage rates and a potentiometric gradient similar to that currently underlying TA-V. The purpose of this simulation would be to determine the length of time required for infiltration from the TA-V seepage pits to create a groundwater mound and to determine how quickly such a groundwater mound would dissipate.

6.5 Modeling Infiltration from the TA-V Seepage Pits

Based on these recommendations, in 1997 another computer simulation was conducted (Attachment 12) using VS2DT (Healy 1990), a two-dimensional variably saturated flow and transport code developed by the USGS. The purpose of this simulation was to evaluate whether infiltration from the TA-V seepage pits could account for the anomalously high groundwater levels identified in wells LWDS-MW1 and TAV-MW1.

The simulation covered 40 years, divided into a 30-year period, during which water was applied to the seepage pits, and was followed by a 10-year redistribution period, during which no water was applied. The length of time was selected to represent a starting time in the early 1960s when seepage pit operations began and an ending time in the early 2000s.

The code was run in two-dimensional vertical planar flow, simulating an area 500 ft deep and 850 ft wide. The subsurface hydrogeologic properties for the model were consistent with hydrogeologic properties measured at nearby sites, including the MWL and CWL in TA-III, and the Building 9960 Septic Systems (SWMU 154).

The conclusions from the modeling results were as follows:

- Any groundwater mound caused by infiltration from the TA-V seepage pits would be attenuated relatively quickly over the distance between the pits and the nearby monitoring wells.

- Even if the groundwater mound extended laterally to LWDS-MW1 and TAV-MW1, water levels within the groundwater mound perimeter would decay fairly rapidly. This is not currently observed at TA-V.

- It is difficult to distinguish declining water levels from a diminishing groundwater mound and regionally declining water levels as a result of overpumping. The regional decline in water levels of 0.5 to 1.0 ft/yr observed in TA-V wells overshadows any diminishing groundwater mound, if this is occurring.

In summary, the VS2DT simulations indicate that infiltration from the TA-V seepage pits could generate a 2- to 3-ft rise in water levels in nearby monitoring wells. However, because the TA-V seepage pits are no longer being used for wastewater disposal, the groundwater mound would eventually dissipate with time, and water levels in LWDS-MW1 and TAV-MW1 would decline at a greater rate than water levels in other nearby wells.

6.6 Analytical Modeling of Downgradient Contaminant Concentrations

In 1998 Tharp calculated maximum contaminant concentrations in groundwater at the nearest potential downgradient receptor from TA-V (Attachment 13) using an analytical model developed by Domenico and Robbins (1985). This approach was recently adapted by the NMED (November 1998) in their draft "New Mexico Underground Storage Tank Bureau Guidelines for Corrective Action." The nearest potential downgradient receptor was assumed to

be a hypothetical residence located near the proposed Mesa del Sol subdivision approximately 9,000 ft west (downgradient) of TA-V, at the KAFB boundary.

Contaminant concentrations that were modeled included nitrate and various VOCs that had been detected in TA-V groundwater samples from past sampling activities. Some of these VOCs were probably laboratory contaminants but were nevertheless modeled in this exercise to be conservative. In each simulation, the maximum concentration of each contaminant in TA-V groundwater was used to predict the resulting concentrations at the downgradient receptor. All contaminant source concentrations were assumed to be continuous over time with the exception of TCE. TCE was assumed to increase at a rate of 3.61 µg/L/yr for 50 years to a maximum concentration of 202 µg/L. This assumption is based on the historical trend of TCE contamination observed in well LWDS-MW1 (Figure 5.3.2-3).

To be conservative, contaminant retardation into the underlying sediments was not accounted for in the model. However, dispersivity of the contaminant plume was included in the analysis. Predicted concentrations were modeled with and without biological degradation of organic contaminants.

The results of this modeling (Attachment 13) indicated that no contaminant concentrations at the nearest downgradient receptor from TA-V are likely to exceed the remedial action standards or to exceed even 10 percent of the preliminary remediation goals. This includes scenarios with and without biological degradation. Therefore, it was concluded that the predicted groundwater concentrations at the hypothetical nearest receptor should pose no risk to potential future residents at the KAFB boundary and should not threaten human health.

6.7 Other Related Modeling Studies

Several other modeling studies conducted at SNL/NM directly apply to the contaminant transport issues at TA-V. These include modeling contaminant travel times from various sites across KAFB to production wells, and modeling infiltration of reactor coolant water at the MWL. This section discusses these studies.

6.7.1 Modeling Travel Times to KAFB Production Wells

In 1997, the USGS particle-tracking program MODPATH was used to estimate flow paths and travel times of particles released at various locations across KAFB (SNL/NM August 1998). The analysis consisted of steady-state simulations in which single particles (representing contaminants) were released simultaneously from four locations: the LWDS at TA-V, TA-II, the MWL, and the CWL. Each simulation was set up such that the particle tracking stopped when the particles encountered production wells or the model boundary.

The results of this study indicated that travel time from the LWDS to the current nearest downgradient production well, Ridgecrest 3, was approximately 70 years. Hence, under current groundwater flow conditions and with the present production well network, considerable time would be required for contaminants in TA-V groundwater to migrate to the nearest production well.

6.7.2 Modeling Infiltration at the MWL

In 1967 nearly 0.25 million gallons of reactor coolant water from the TA-V reactor facilities were disposed of over a 1-month period in one of the trenches at the MWL. The coolant water may have contained up to 1 curie of relatively short-lived radionuclides, including tritium. The infiltration from this trench was modeled (Wolford March 1997) to evaluate the migration and fate of the coolant water and any radionuclides that may have been present in the water.

Hydraulic parameters for the model were obtained from core samples from MWL-MW4 (SNL/NM September 1996) and from the field instantaneous profile test conducted at a nearby location (Roepke et al. August 1996). The variably saturated flow and transport model VS2DT was used to simulate infiltration from the trench. The simulation was conducted in radial mode, because the disposal trench was too small to be considered an infinite line source. Based upon geophysics the trench dimensions were 35 ft wide, 180 ft long, and 20 ft deep.

A number of conservative assumptions were made for the MWL model. These assumptions include no evapotranspiration, an approximate 30-percent overestimate of the quantity of reactor coolant water disposed of in the trench, and the elimination of an impeding layer that apparently exists 100 ft beneath the site.

In spite of these conservative assumptions, the modeling results indicated that the reactor coolant water most likely did not infiltrate deeper than 120 ft bgs. These results are consistent with the findings of the RFIs conducted at the MWL, which found no evidence of tritium contamination below this depth.

Whereas the modeling of reactor coolant water at the MWL predicted that no infiltration would reach groundwater at the site, the modeling of seepage at TA-V predicted infiltration to groundwater within 1.5 to 20 years. The reasons for these differences are as follows:

- The quantity of water disposed of at the MWL (approximately 270,000 gallons) was considerably less than the quantities discharged into the LWDS drainfield (approximately 6 million gallons), into the LWDS surface impoundments (approximately 12 million gallons), or into the TA-V seepage pits (approximately 30 to 50 million gallons). Figure 6.7.2-1 shows the cumulative water discharged into the LWDS facilities, the TA-V seepage pits, and Trench D of the MWL.

- The disposal rates and total duration of disposal at each of these sites also vary considerably. The discharge rates into the LWDS drainfield, the LWDS surface impoundments, the TA-V seepage pits, and Trench D of the MWL are shown by the slope of the cumulative discharge curve on Figure 6.7.2-1.

Thus, because considerably less water was disposed of at the MWL (and over a significantly shorter period of time), it is reasonable to believe that the wastewater discharged at the MWL did not reach groundwater. However, at TA-V the millions of gallons of wastewater disposed of in the TA-V seepage pits and the LWDS drainfield over the years very probably reached groundwater.

6.7.3 Solute Transport of TCE at the CWL

Recently the fate and transport of TCE in the aquifer was modeled beneath the CWL (Ruskauff November 1998). The objectives of this study were to predict the TCE plume behavior in groundwater downgradient of the site and to identify the dominant processes controlling the fate of TCE in groundwater. These same processes are likely to control the migration of TCE in groundwater at TA-V.

Ruskauff (November 1998) used the groundwater flow model developed by the SWHCP (SNL/NM March 1996) to establish the flow field for the study. Solute transport at the site was simulated by coupling the groundwater model with the EPA code, MT3D.

The conceptual model for the transport of TCE in groundwater at the CWL has the TCE migrating to the west with some dispersion, little retardation, and no decay. Groundwater in the vicinity of the CWL moves almost due west until it encounters a higher permeability "trough," where it turns and heads almost due north to be captured at the Ridgecrest well fields (SNL/NM August 1998).

The model simulations were run for 100 years, an arbitrary time selected to be longer than the largest travel time determined from advective particle tracking. Sensitivity analyses were conducted to determine the effects of dispersion, adsorption (i.e., a retardation factor of 1), and decay. Reducing dispersion resulted in higher concentrations at the western boundary of KAFB (near SWTA-3), because the simulated plume was not attenuated by extra spreading. Eliminating retardation had little effect, because retardation was already minimal in the model simulations to begin with. However, the incorporation of decay dramatically reduced TCE concentrations at the KAFB boundary, even with a conservative half-life of 4.5 years. According to Howard et al. (1992), decay half-lives for TCE range from 10.7 months to 4.5 years in groundwater, with the longer time period being the more conservative value because less TCE is removed through decay.

The conclusions from the CWL contaminant transport modeling were as follows:

- Dilution can significantly reduce contaminant concentrations downgradient.
- Even assuming a continuous source of contaminants at the CWL, the simulated plume never exceeds the EPA drinking water standard of 5 µg/L at the northern KAFB boundary.
- Even minor amounts of biological degradation will significantly reduce contaminant concentrations because of the relatively slow groundwater velocities (approximately 16 ft/yr) in groundwater at the CWL (SNL/NM October 1995).

The results of this modeling exercise suggest that dilution and biological degradation could be reducing TCE concentrations in groundwater downgradient of TA-V, also. It is plausible that biological degradation has occurred in TA-V groundwater, because degradation products such as cis-1,2-DCE are regularly detected in samples from LWDS-MW1 (see Section 5.2.3).

Additional discussion of the results of dilution and biological degradation is presented in Attachment 13.

6.8 Summary of Modeling Studies

No comprehensive numerical modeling study has been conducted for TA-V that incorporates the effects on groundwater of wastewater discharges from both the LWDS drainfield and the TA-V seepage pits. However, treated separately in several smaller studies and as the sophistication of the modeling approach increased over the years, the relative impacts from these sites on the groundwater flow regime is now better understood. Some of the conclusions from the modeling studies provide validation of water level trends and contaminant distribution (Chapters 4.0 and 5.0) and provide a stronger foundation for the conclusions and recommendations (Chapter 7.0). These modeling conclusions are as follows:

- The estimated range of travel times for wastewater from the LWDS drainfield and the TA-V seepage pits to reach groundwater is 2 to 20 years. These estimates were used in calculations in Chapter 5.0 and seem to provide a realistic estimate for migration of TCE to monitoring well LWDS-MW1 from this site.

- Simulations supported the formation of a groundwater mound from discharges at either the LWDS drainfield or the TA-V seepage pits. However, later modeling of the TA-V seepage pits indicates that any groundwater mound created would dissipate fairly rapidly.

- Simulations also support the theory that geologic controls could be a contributing factor to the formation of the groundwater mound. Groundwater withdrawals north of Albuquerque have caused water levels to decrease significantly; in the area of TA-V, water levels are decreasing approximately 0.75 ft/yr (see Chapter 4.0). Areas of lower hydraulic conductivities such as in the vicinity of LWDS-MW1 may decline at slightly lower rates than areas of higher hydraulic conductivities, creating elevated water levels relative to the surrounding aquifer.

7.0 SUMMARY AND RECOMMENDATIONS

This chapter summarizes the activities completed for this report (Section 7.1), summarizes the results of these activities and provides conclusions based on these results (Section 7.2), and recommends additional studies to complete the groundwater characterization (Section 7.3).

7.1 Summary of Available Data

An extensive review of all available investigations, reports, data, and facility maps related to TA-V SWMUs resulted in this summary report. RFI reports have been reviewed for the LWDS SWMUs (1995) and for the TA-III and V SWMUs (1996). On-site investigations concerning USTs completed for the NMED UST Bureau were reviewed. During these investigations the following activities were performed:

- Drilling and sampling 26 boreholes
- Installing 9 groundwater monitoring wells
- Collecting 139 surface passive soil vapor samples
- Installing and sampling 5 active soil vapor points
- Installing and sampling numerous shallow geoprobe points
- Completing 19 quarterly groundwater sampling events
- Performing aquifer tests and analyses for six TA-V monitoring wells.

In addition to the above-mentioned investigations, proposals for NFA (SNL/NM September 1998) for SWMU 275, the SWHCP report (SNL/NM March 1996), annual groundwater reports (various years), numerous correspondence between SNL/NM and NMED, and internal reports were reviewed and summarized.

Activities discussed in this summary report include the following:

- Aquifer tests and analysis conducted on five TA-V monitoring wells
- Vertical profiling for VOCs and nitrate in LWDS-MW1 and TAV-MW4
- Borehole vapor sampling in LWDS-MW1
- Geochemical trend analysis for groundwater quality results
- Development of updated local and regional groundwater potentiometric maps
- Contouring of passive soil vapor sampling results for BTEX, TPH, TCE, and PCE
- Review of facility maps at various TA-V operations
- Construction of geologic cross sections for TA-V and the surrounding area
- Modeling of groundwater contaminant impacts using an approach used in preliminary risk assessments.

Upon review of all available previous investigations, reports, and data and upon the completion of the above-listed activities, the following summary and conclusions were developed. Requirements for future data needs were identified and recommendations with a proposed schedule for continued activities are presented in the following sections.

7.2 Summary of Data Findings

This section summarizes the findings presented in this report.

Environmental Investigations

- Numerous environmental investigations were performed at TA-V indicating that surface and subsurface soil contamination of TCE and other VOCs is minor. COCs in soils are select radionuclides, metals, and hydrocarbons. The specific source of groundwater contamination had never been conclusively identified in any previous studies, and most of the SWMU and UST sites have shown only limited soil contamination to be present. However, HERMES (SWMU 36) yielded significant mineral oil contamination to a depth of 220 ft bgs. Although minor concentrations of VOCs were detected in soils, no significant TCE concentrations were found during surface soil investigations.

- Only three operations at TA-V produced the quantity of discharge water needed to travel through the 500-ft vadose zone. These are the LWDS drainfield, the LWDS impoundments, and the TA-V seepage pits. TCE was found in sludge samples in the LWDS tanks associated with the drainfield, in low concentrations in soil samples around the LWDS drainfield, and also in low concentrations at the TA-V seepage pits. No records of solvent use and disposal were kept for any TA-V operations. However, interviews with TA-V personnel reveal that solvents were used at various locations (Attachment 1). Operations in Buildings 6591, 6595, and 6596 could have used solvents for cleaning equipment and parts. These buildings had sink and floor drains that discharged into the TA-V seepage pits (SWMU 275). There were chemistry laboratories and a machine shop located in Building 6580 where there was undocumented use and disposal of solvents to the sink and floor drains discharging to the LWDS.

Hydrogeology

- Based on limited geologic information, groundwater at TA-V occurs within two Santa Fe Group units, the alluvial fan facies and ARG fluvial facies. These two lithofacies have distinct hydrologic characteristics that could have an impact on the direction and rate of groundwater flow. Low- to moderate-permeability alluvial-fan facies occur below the water table directly beneath the TA-V operations. High-permeability ARG facies exist at the water table in several wells east and west of TA-V. It is believed that these fluvial facies occur directly beneath TA-V at depths 50 to 80 ft below the water table. The most unusual geologic feature is the presence of ARG facies over 200 ft above the water table in a well east of TA-V (TAV-MW3). It is believed that tectonic activity caused this feature and the syncline beneath TA-V and portions of TA-III.

- Groundwater occurs at TA-V at depths of between 478 and 512 ft bgs in an unconfined regional aquifer. The groundwater potentiometric surfaces constructed for 1996 and 1998 shows that a 1- to 2-ft-high groundwater mound occurs beneath TA-V relative to the immediate vicinity. Groundwater flow directions are to the west, south, and north

from this potential groundwater mound. The horizontal gradient is approximately 0.003 ft/ft. Hydraulic conductivities range from 10^{-2} ft/min in fluvial lithofacies to 10^{-5} ft/min in alluvial lithofacies. Estimated horizontal flow velocities range from 4 to 10 ft/yr.

Analytical Results

- Subtle temporal changes in groundwater quality are occurring in wells LWDS-MW1, TAV-MW1, TAV-MW4, and TAV-MW2. Apparently, a slug of water with different chemical characteristics from the natural TA-V groundwater is moving through the aquifer. Three of these four wells are also contaminated by TCE, and it appears that some of the approximately 6 million gallons of reactor coolant water disposed of at the LWDS has reached groundwater and is affecting water quality in these wells.

- Concentrations of arsenic, barium, beryllium, chromium, lead, nickel, nitrate, selenium, and thallium have exceeded the EPA MCLs in groundwater at TA-V. However, with the exception of nitrate, these contaminants are not considered to be the primary COCs in groundwater at TA-V.

- Excluding the erroneous November 1997 data, nitrate concentrations exceeded the EPA MCL of 10 mg/L (as N) in samples from wells LWDS-MW1, LWDS-MW2, AVN-1, and AVN-2. However, nitrate concentrations in TA-V groundwater frequently exceed the HRMB approved maximum background value of 4 mg/L as N. The source for this widespread nitrate contamination at TA-V is most likely sewage discharge to the various septic tanks and drainfields across TA-V.

- TCE consistently exceeded the EPA MCL of 5 µg/L in monitoring well LWDS-MW1 (at a maximum concentration of 23 µg/L). In addition, TCE was regularly detected in TAV-MW1 (at a maximum concentration of 3.79 µg/L). Concentrations appear to be increasing in LWDS-MW1 and TA-MW1 over time. Low (nonquantifiable) levels of TCE were also detected in TAV-MW4.

- Other VOCs found in groundwater at TA-V are degradation products of TCE: cis-1,2-DCE, and 1,1-DCE.

- Thorium-234 and uranium-238 have exceeded the HRMB approved maximum background values in several groundwater samples from LWDS-MW1. These isotopes are naturally occurring in the sediments of the Albuquerque Basin. However, there is no evidence of radionuclide contamination of groundwater resulting from operations at TA-V.

Based on these data, the following has been concluded:

- The groundwater mound beneath TA-V could be a result of wastewater discharges from the site reaching the aquifer. However, it appears more likely that geologic anisotropy and heterogeneity in the area along with the regional water level declines have created relatively high groundwater levels in the area of TA-V. It is possible that both

wastewater discharge and geologic variations are contributing to high groundwater levels beneath TA-V.

- Large quantities of wastewater have been discharged into the vadose zone at TA-V and has infiltrated to the aquifer. Aqueous transport of contaminants by infiltration of the wastewater is the most probable transport mechanism for both volatile organic and inorganic constituents in the vadose zone and into the aquifer. The passive soil vapor samples from the LWDS-MW1 borehole indicate that TCE and other VOC concentrations are highest just above the water table and rapidly decline with increasing distance above the water table. This study showed no evidence of vapor transport into the well casing through casing joints, as was found at the CWL.

- The TCE plume in TA-V groundwater appears to originate from the LWDS tank and drainfield area. The TCE plume map is based on concentrations from LWDS-MW1 and TAV-MW1 with minor concentrations (with J qualifiers) in several other wells.

- Although it was believed that the LWDS surface impoundments (SWMU 4) and the TA-V seepage pits (SWMU 275) were potential sources for TCE in groundwater, the findings of this report indicate that these are not the primary source(s) of the TCE contamination at TA-V.

- DOE/SNL/NM believe that the primary source of TCE in groundwater at TA-V was from the approximately 6 million gallons of wastewater discharged to the LWDS holding tanks (SWMU 52) and drainfield (SWMU 5) in the 1960s. Interviews with SNL/NM personnel revealed undocumented use and disposal of solvents to drains leading to the LWDS prior to 1980.

- The vertical extent of contamination is undetermined. TCE was detected in MicroPurge samples collected from various depths within the wellscreens of LWDS-MW1 and TAV-MW4. The vertical downward hydraulic gradient observed in the aquifer beneath TA-V could be causing TCE to migrate downward by advection.

- Preliminary analytical modeling indicates that TCE-contaminated groundwater is unlikely to threaten the water supply at the western boundary of KAFB, even if contaminant levels at TA-V were ten times the current levels.

7.3 Recommendations

This section provides recommendations needed to complete the characterization of the TA-V groundwater investigation. DOE/SNL/NM expects that further discussion with the NMED of the approach to characterization will occur after review of this report. No funding has been provided in the fiscal year 1999 budget for the recommendations provided below. The goals of these recommendations are to provide additional characterization of the nature and extent of contamination, as required by RCRA regulations and to continue gathering sufficient data to select the best risk-based corrective measure for contamination in TA-V groundwater.

7.3.1 Confirmation of Source

Although the source of TCE and other contaminants in groundwater is believed to be the LWDS drainfield (SWMU 5), further characterization of this site is necessary to verify this. A groundwater monitoring well is needed adjacent to the drainfield in order to assess the levels of contaminants directly beneath the site.

One deep boring (up to 100 ft below water table) is recommended to characterize the vadose zone and groundwater beneath the LWDS drainfield. Characterization of the vadose zone will be conducted in as much detail as possible through extensive sampling during drilling activities. Characterization will include collecting both soil gas samples and soil samples for VOC analyses. Lithologic descriptions will be recorded and geophysical logging will be performed. Upon completion of borehole characterization, a monitoring well will be installed in the more transmissive unit as determined during borehole characterization. A second well will be installed adjacent to the first and will be screened across the water table. This well pair will be used to determine vertical hydraulic gradients and vertical contaminant concentration gradients.

7.3.2 Identification of the Vertical Extent of Contamination

The depth of contamination in groundwater was not determined in any of the previous investigations. Installation of another well pair downgradient, would allow determination of the horizontal and vertical extent of contamination. The location of this well will be subject to negotiations with SNL/NM facilities but it is expected to be located in the parking lot west of LWDS-MW1.

Groundwater quality and water levels will be monitored in these wells on a quarterly basis for 2 years, after which an evaluation will be made regarding whether monitoring frequency and the analytical suite sampled for can be reduced.

7.3.3 Aquifer Parameter Characterization

To allow better prediction of the fate and transport of TCE and other contaminants in groundwater at TA-V, more aquifer tests are necessary. The geologic information currently available indicates a fairly complex flow system beneath TA-V. Aquifer tests are needed to provide more accurate data on the hydraulic conductivities of the formation. At least two pumping tests will be performed on monitoring wells at TA-V. The selection of these wells will be determined after the location and design of the new monitoring wells have been finalized.

7.3.4 Areas of TCE and TPH Detection by Passive SVSs

The passive soil gas survey results indicate that the relatively high levels of PCE and TCE near Buildings 6591 and 6597 have not been fully characterized. Additional active soil gas sampling and soil sampling in this area will determine whether a release to the environment has occurred. DOE/SNL/NM recommend sampling soil vapor and soils at six locations in the vicinity of Buildings 6591 and 6597. The borings will be advanced to a maximum depth of 30 ft. If

significant contamination is present to a depth of 30 ft, then additional studies could be recommended.

7.3.5 Supplemental Investigation Report

Upon completion of supplemental investigation activities discussed above, DOE/SNL/NM will prepare a report summarizing findings. This will include an evaluation of risk-based corrective measures for groundwater contamination at TA-V.

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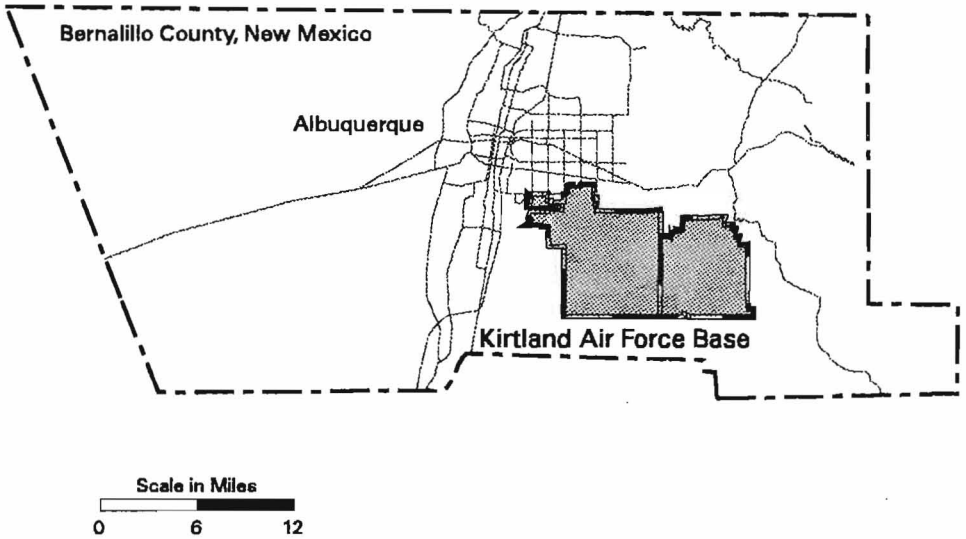
FIGURES

Figure 2.1-1 Location Map of Sandia National Laboratories & Technical Areas III & V



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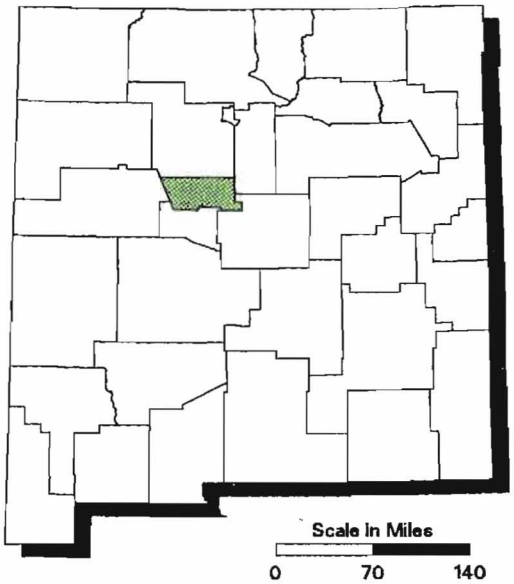
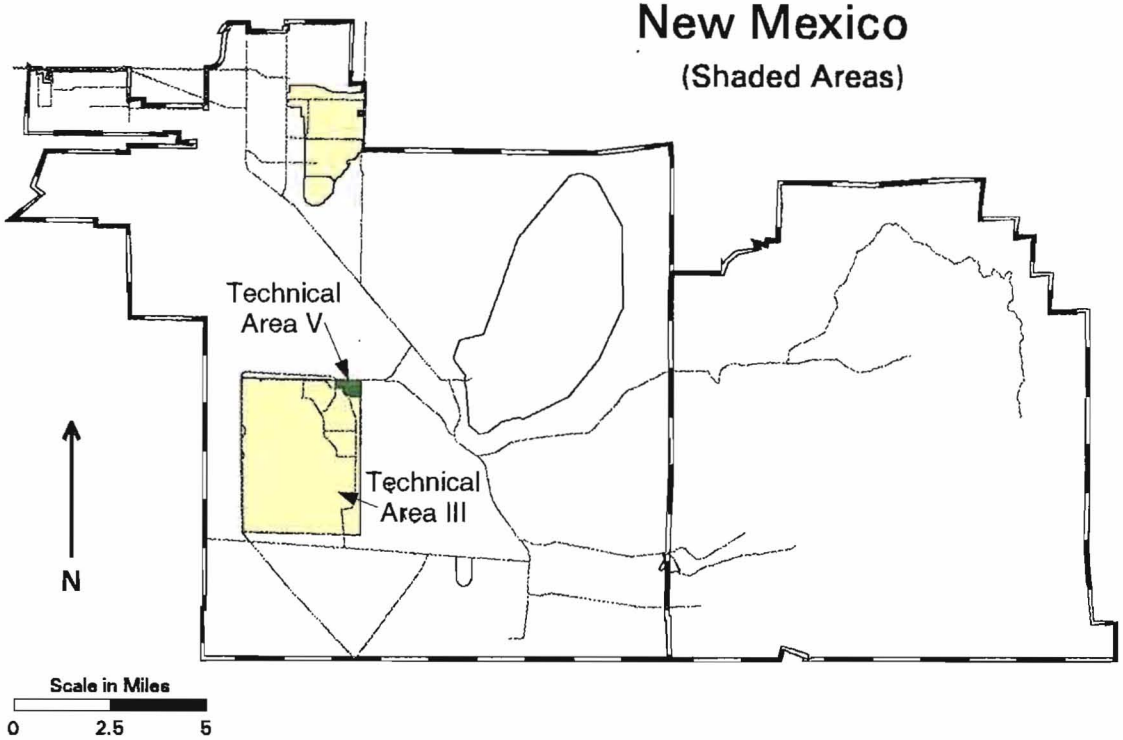


Sandia National Laboratories New Mexico

(Shaded Areas)



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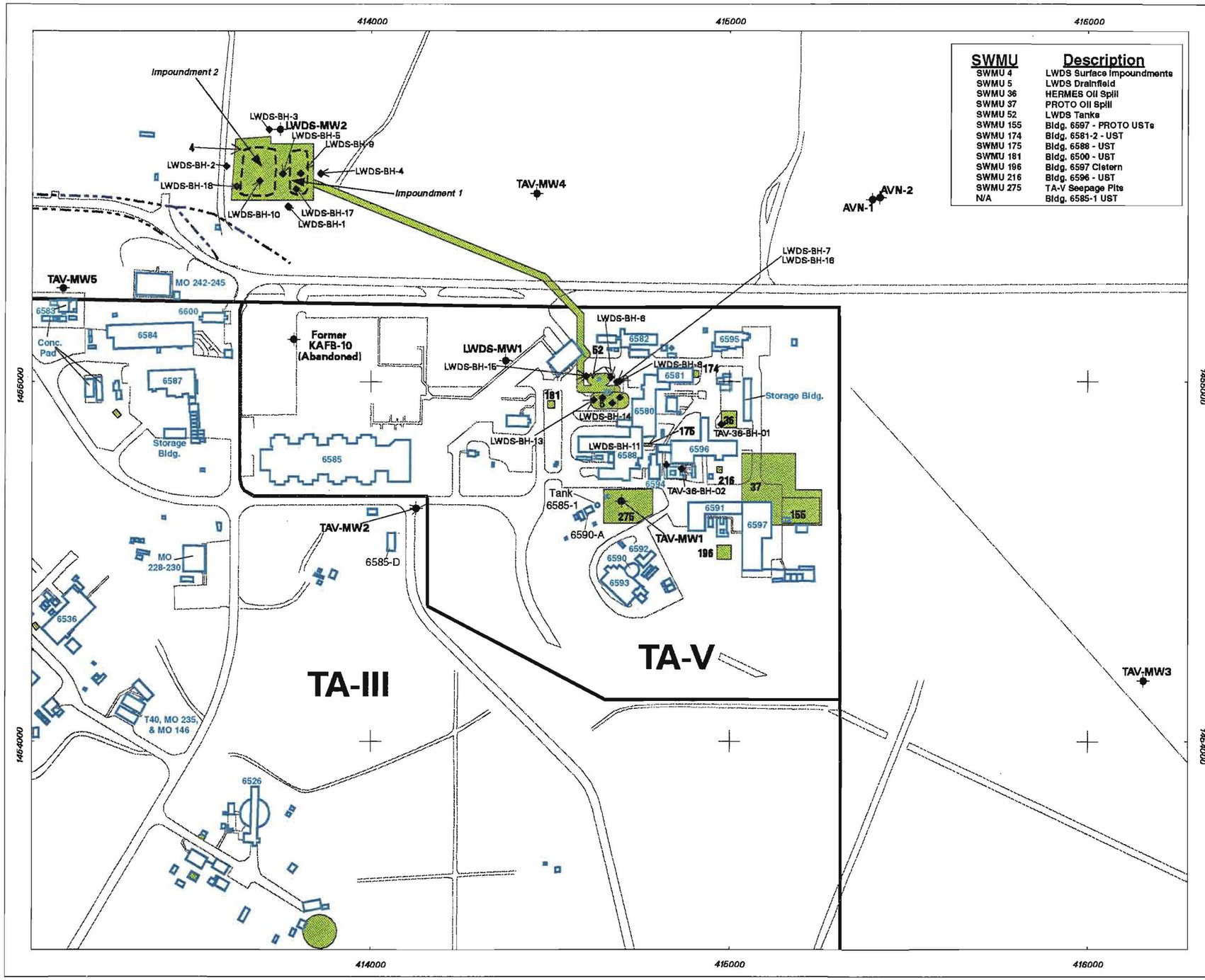


SWMU	Description
SWMU 4	LWDS Surface Impoundments
SWMU 5	LWDS Drainfield
SWMU 36	HERMES Oil Spill
SWMU 37	PROTO Oil Spill
SWMU 52	LWDS Tanks
SWMU 155	Bldg. 6597 - PROTO USTs
SWMU 174	Bldg. 6581-2 - UST
SWMU 175	Bldg. 6588 - UST
SWMU 181	Bldg. 6500 - UST
SWMU 196	Bldg. 6597 Cistern
SWMU 216	Bldg. 6596 - UST
SWMU 275	TA-V Seepage Pits
N/A	Bldg. 6585-1 UST

Legend

TAV-36-BH-2 — Borehole

LWDS-MW2 — Monitoring well

Surface drainage

Road

Impoundment boundary

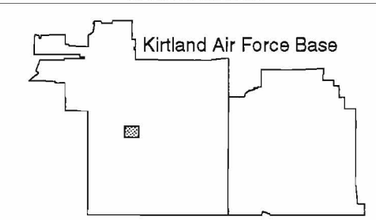
Solid waste management unit (SWMU)

SNL/NM technical area (TA)

6585 — Building

0 300 600
Scale in Feet

0 80 160
Scale in Meters



Sandia National Laboratories, New Mexico
Environmental Geographic Information System

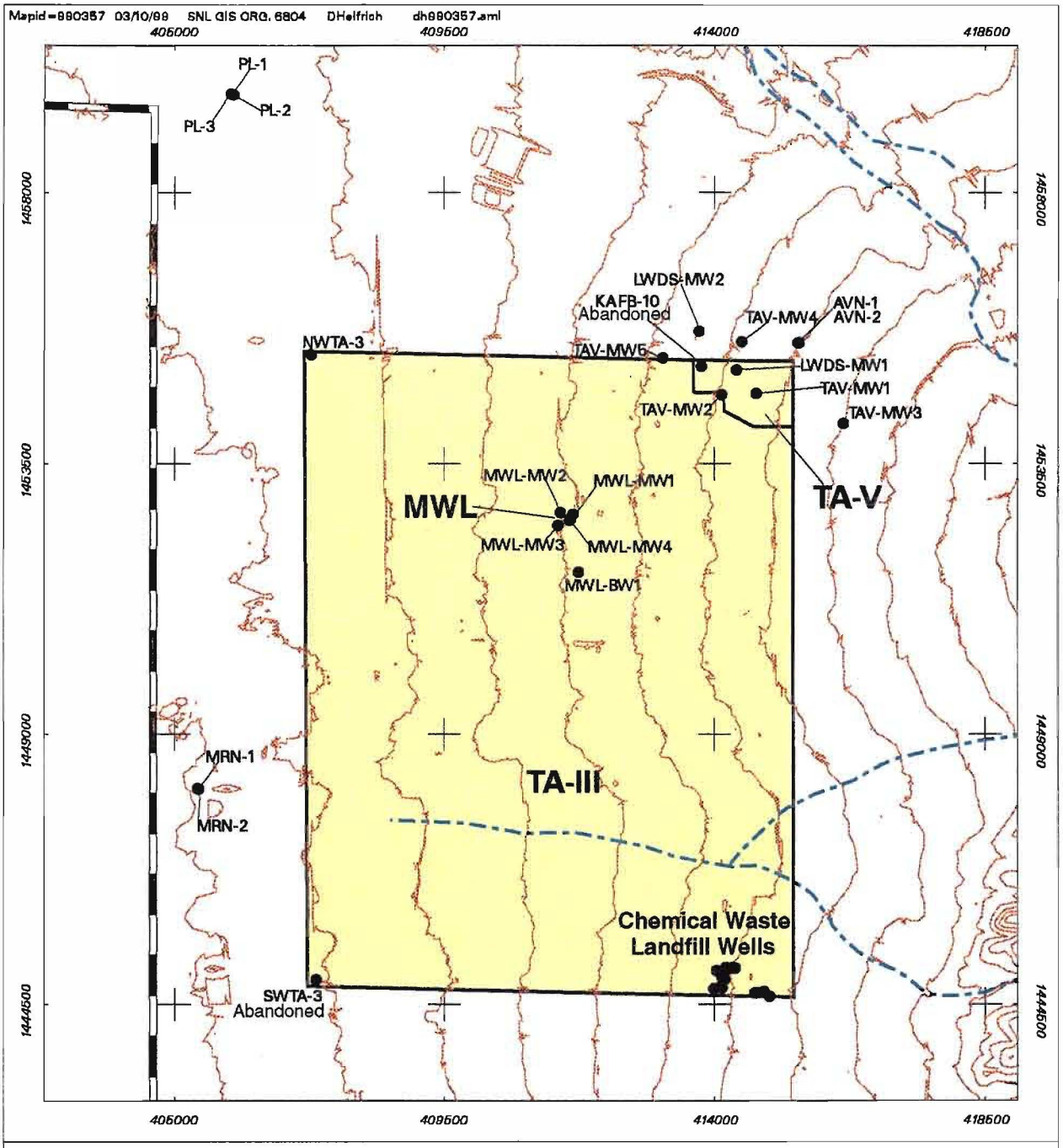
Figure 2.1-2
TA-V Location Map

Transverse Mercator Projection, New Mexico State Plane Coordinate System, Central Zone, 1927 North American Horizontal Datum, 1929 North American Vertical Datum

MAPID=990014a

Unclassified | SNL GIS ORG. 6804

DHelfrich | dh990014.aml | 01/11/99



Legend

- Groundwater monitoring well
- Drainage
- 20-foot ground surface contour
- Kirtland boundary
- SNL technical area

Figure 2.3-1
TA-III and TA-V Monitoring Well Locations

0 1350 2700
Scale in Feet

0 324 648
Scale in Meters

Sandia National Laboratories, New Mexico
Environmental Geographic Information System

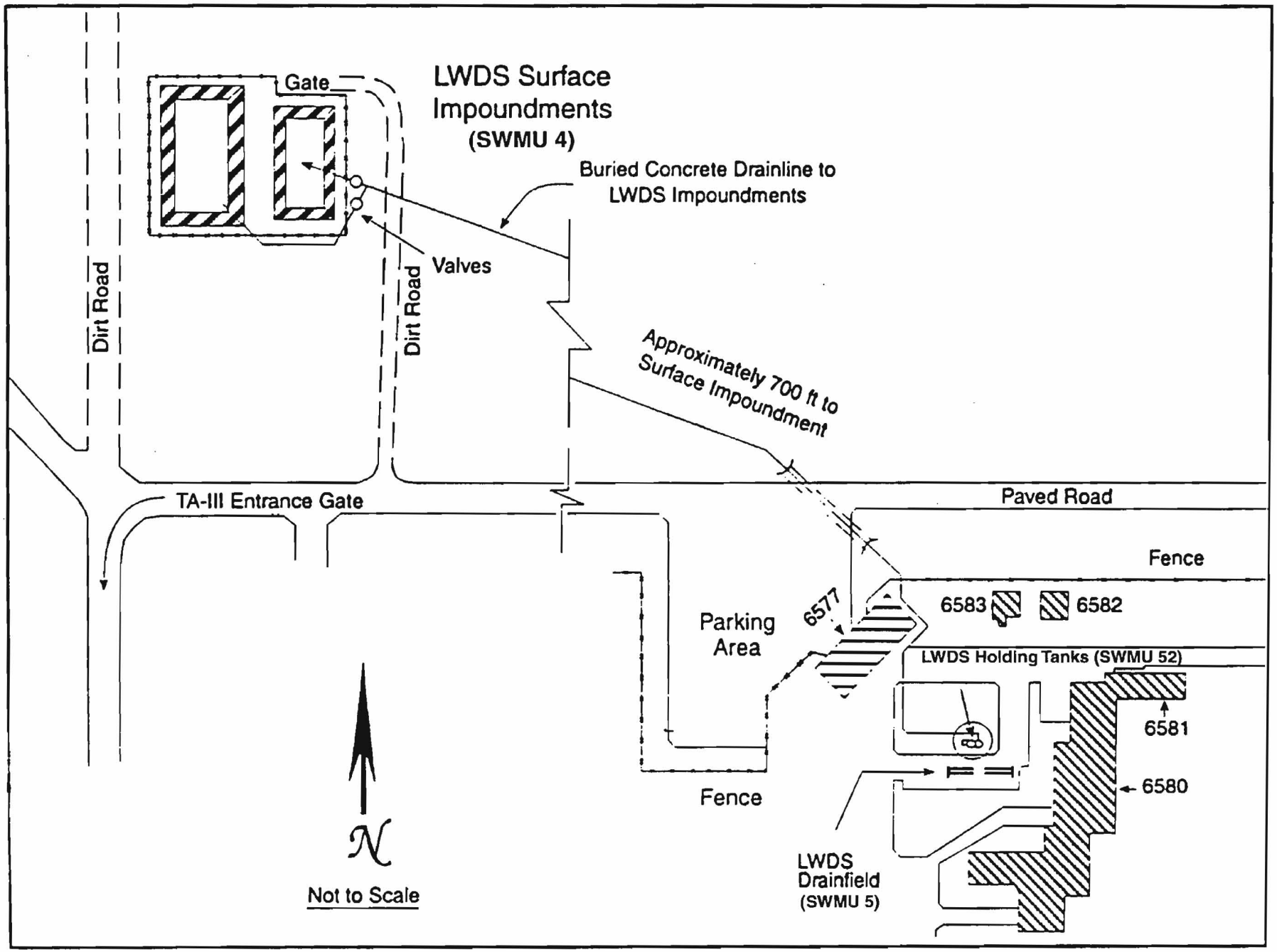
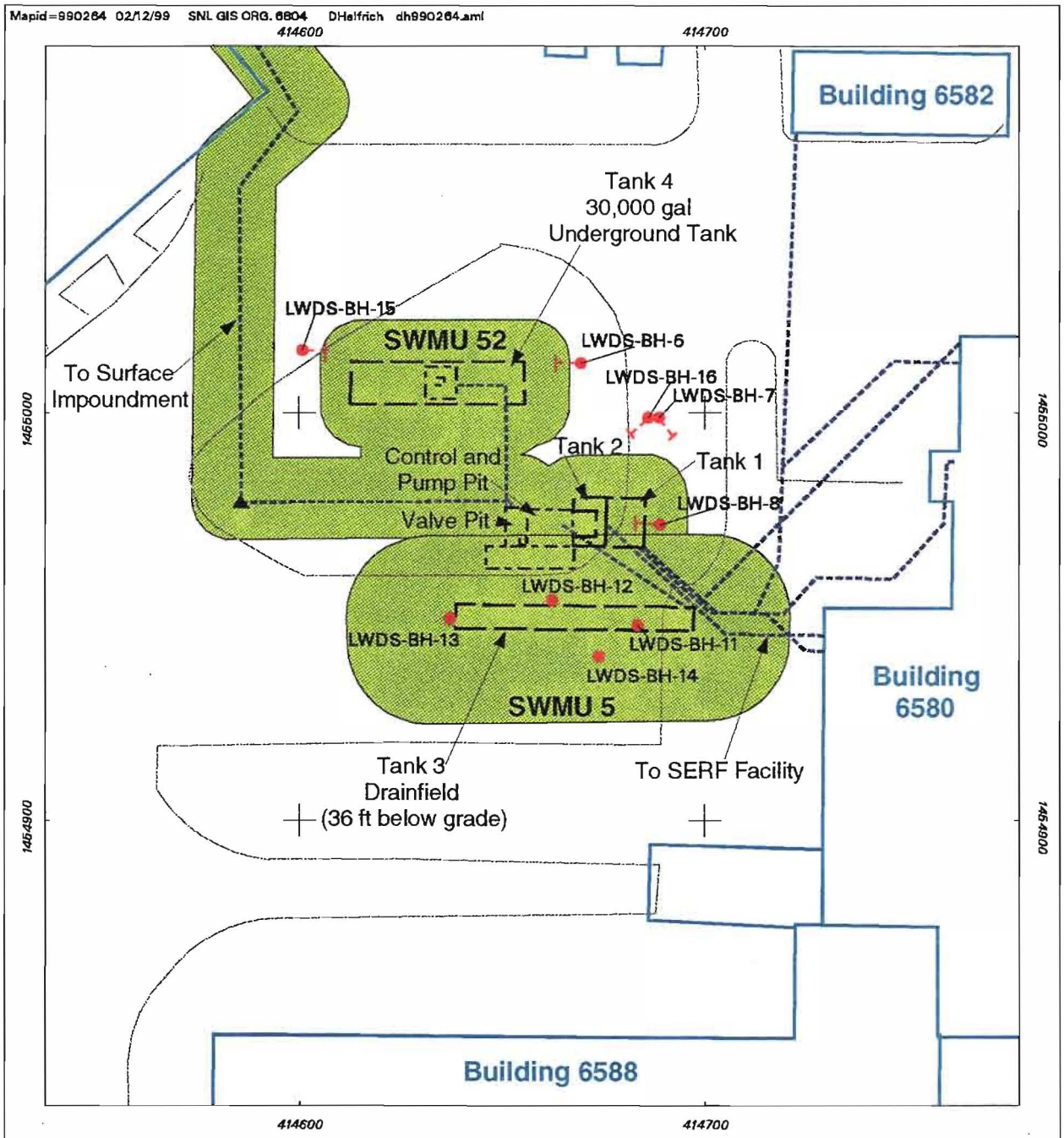


Figure 3.1-1 Liquid Waste Disposal System Site Map



Legend

- 30 Angled Borehole (w/ inferred direction)
- Borehole
- Excavation Pit Soil Sample Location
- Road
- Concrete Structure
- Building
- Drain Line
- Underground Tank / Drainfield
- Solid Waste Management Unit (SWMU)

Figure 3.1.1-1
LWDS Drainfield & Holding Tanks Sample Location Map

0 20 40
Scale in Feet

0 4.8 9.6
Scale in Meters

Sandia National Laboratories, New Mexico
Environmental Geographic Information System

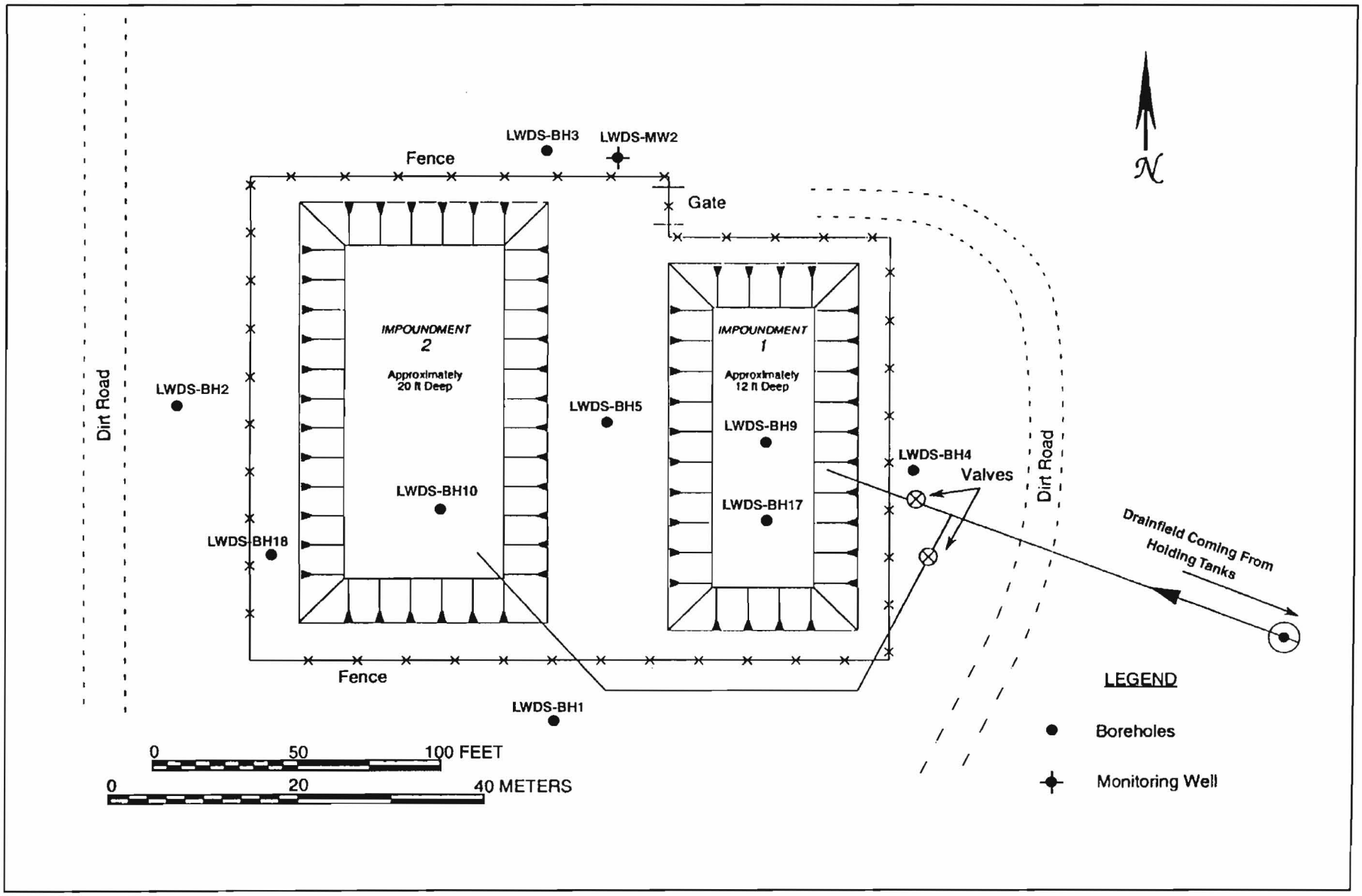
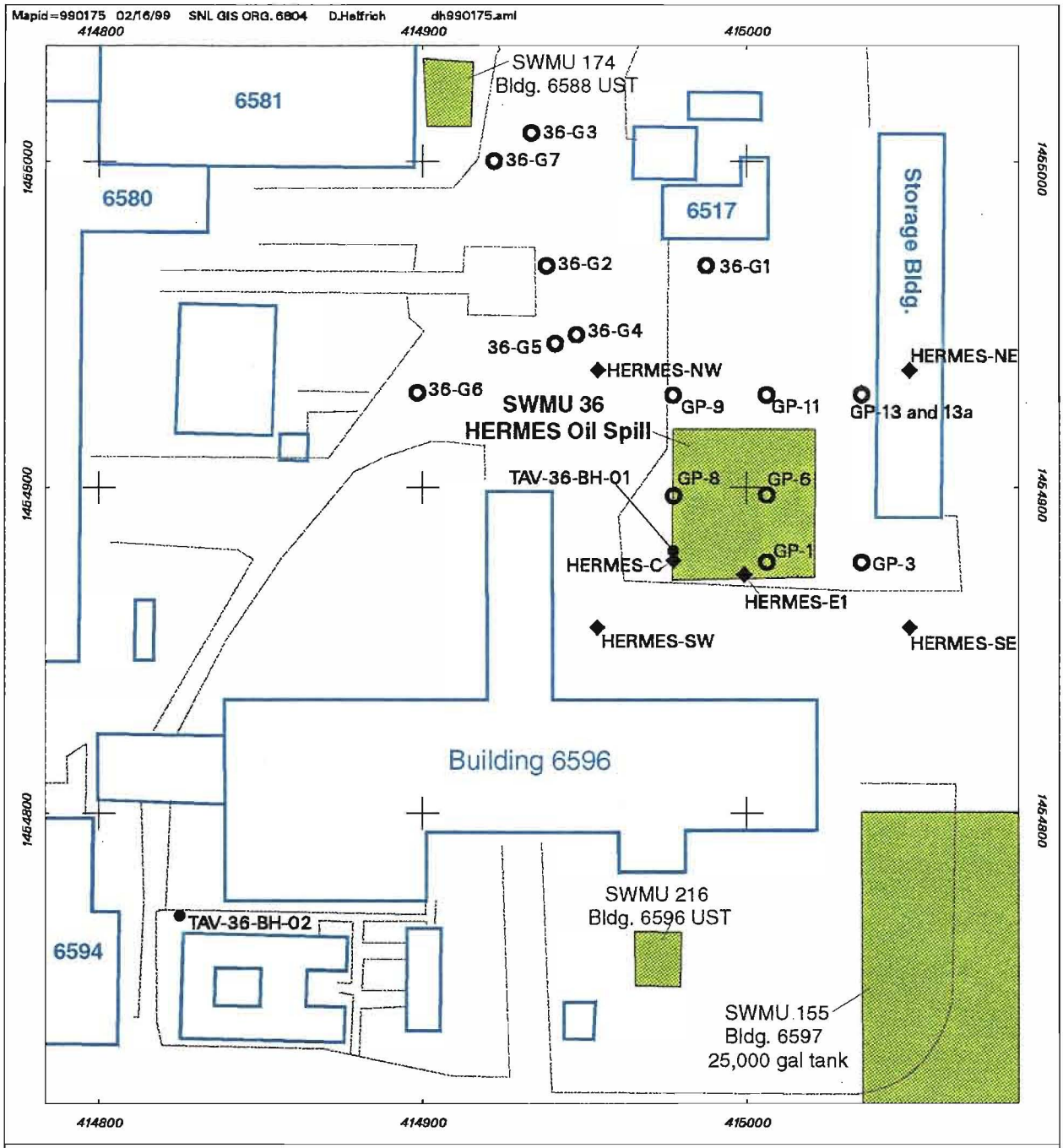


Figure 3.1.3-1 LWDS Surface Impoundments Borehole Locations



Legend

- ◆ 1991 UST investigation borehole location
- O 1994 Shallow RFI geoprobe borehole
- ● 1995 Deep RFI borehole location
- Road
- Building
- Solid waste management unit

Figure 3.2.1-1
HERMES (SWMU 36)
Location of Shallow- and Deep-Subsurface Soil Boreholes, TA-V

0 25 50
Scale in Feet

0 6 12
Scale in Meters

Sandia National Laboratories, New Mexico
Environmental Geographic Information System

Legend

- SWMU 37
- Building
- Road
- 37-A1 Auger soil sample

Sandia National Laboratories, New Mexico
Environmental Restoration Geographic Information System

Figure 3.2.2-1 PROTO Facility
Location of
Near-Surface Soil Samples, TA-V

0 25 50
Scale in Feet

0 6 12
Scale in Meters

Unclassified

Transverse Mercator Projection, New Mexico State Plane Coordinate System, Central Zone
1927 North American Horizontal Datum, 1929 North American Vertical Datum

DHeffrich SNL GIS ORG. 6804 03/04/99 MAPID= 990345

Legend

- SWMU 196
- Building
- Road
- Fence

Auger Hole Locations

- G Grab sample
- A1 Metals profile sample
- B1 Gamma spec sample
- D1 TPH/VOC profile sample

Sandia National Laboratories, New Mexico
Environmental Restoration Geographic Information System

Figure 3.2.3-1
Building 6597 Cistern (SWMU 196)
Location of Soil Borings, TA-V

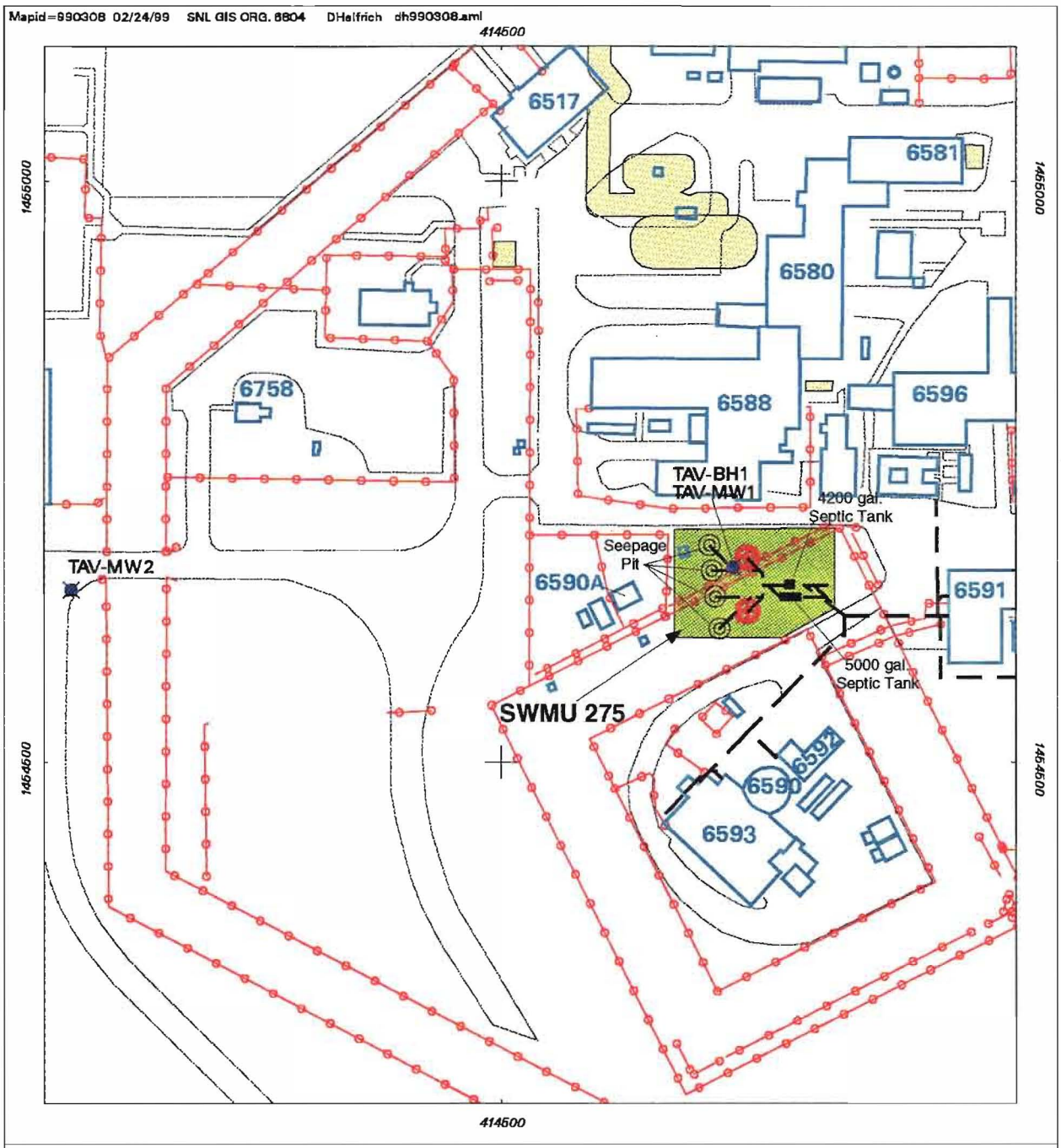
0 12.5 25
Scale in Feet

0 3 6
Scale in Meters

Unclassified

Transverse Mercator Projection, New Mexico State Plane Coordinate System, Central Zone
1927 North American Horizontal Datum, 1929 North American Vertical Datum.

DHelfrich SNL Org. 6804 03/04/99 MAPID = dh990344



Legend

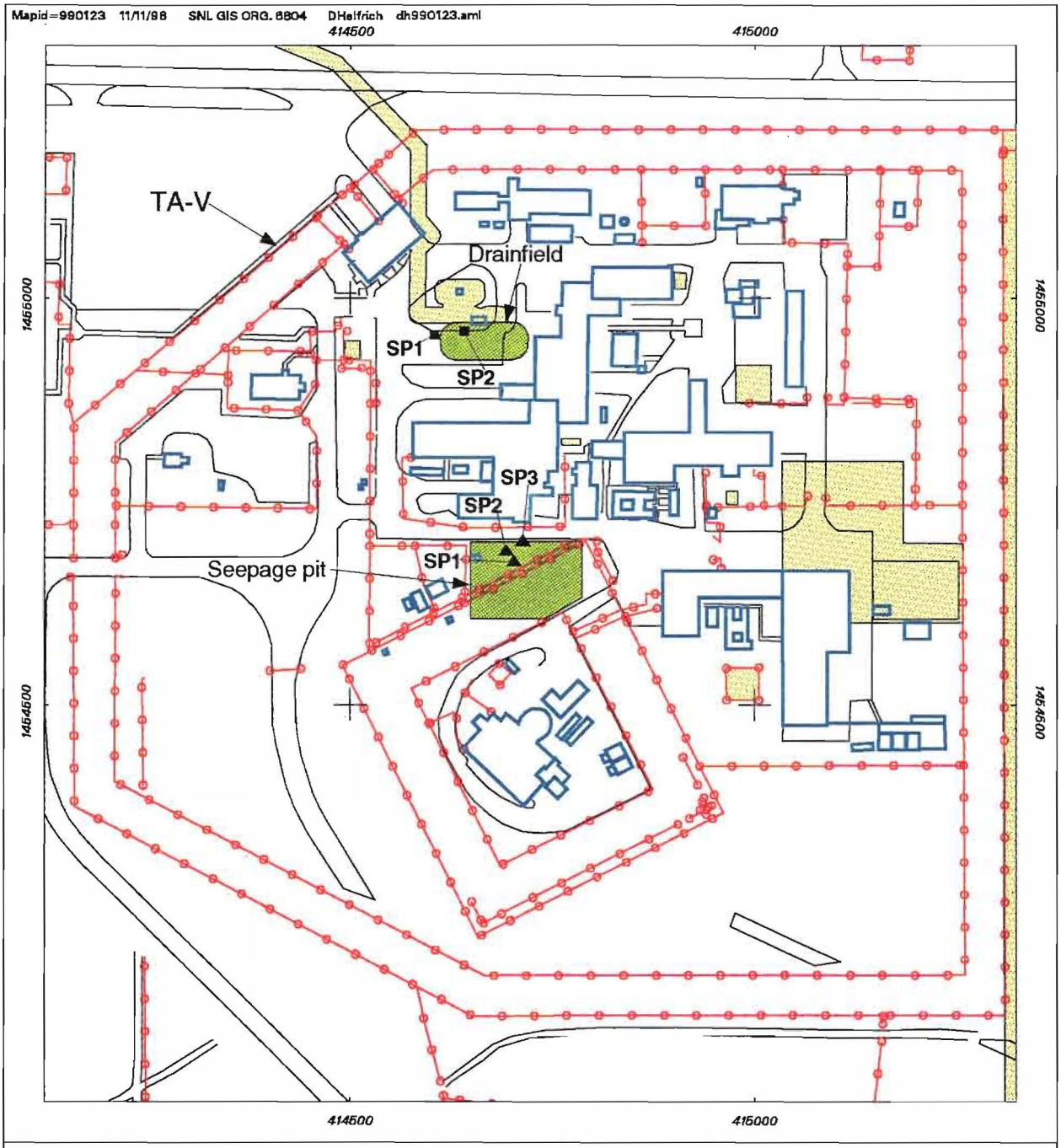
- Seepage Pit with Manhole
- Seepage Pit
- Well/Borehole
- Fence
- Road
- Sewer Line
- SWMU 275
- Other SWMUs
- Building
- Septic Tank

Figure 3.3-1
TA-V Seepage Pits
(SWMU 275)

0 70 140
Scale in Feet

0 16.8 33.6
Scale in Meters

Sandia National Laboratories, New Mexico
Environmental Geographic Information System



Legend

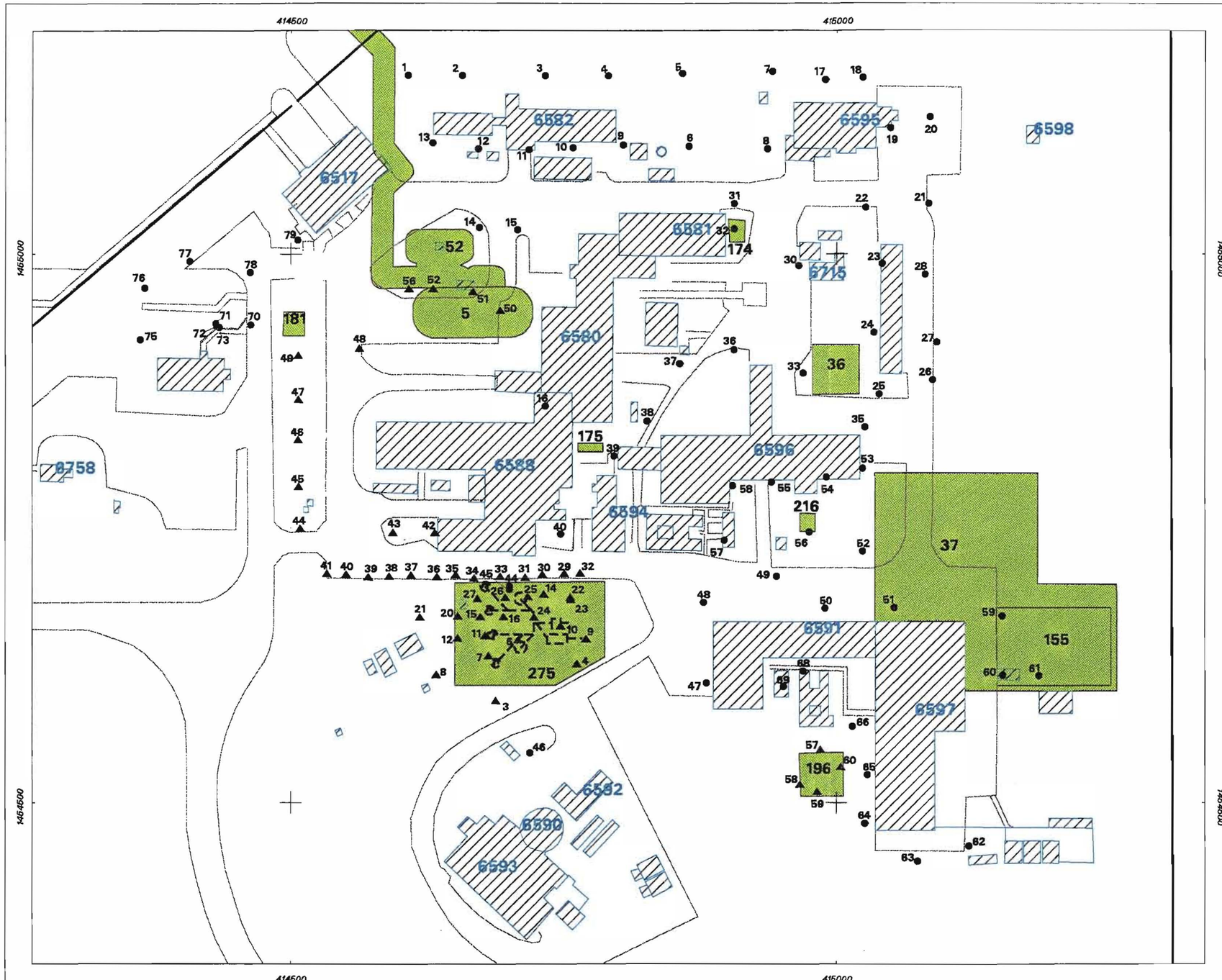
- ▲ TA-V Seepage pit sample point (SP)
- ■ LWDS drainfield sample point (SP)
- Road
- Fence
- Building / Structure
- TA-V Seepage Pit & LWDS Drainfield
- Other SWMUs

Figure 3.4-1
TA-V Active Soil-VaporSurvey Borehole/Sample Point Locations, 1994

0 100 200
Scale in Feet

0 24 48
Scale in Meters

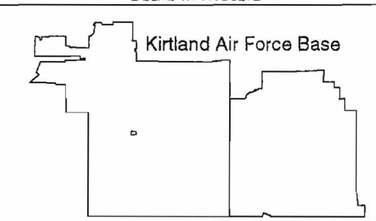
Sandia National Laboratories, New Mexico
Environmental Geographic Information System



Legend

NERI # ▲	Phase I passive soil gas sample point
NERI # ●	Phase II passive soil gas sample point
	Roadway (all types)
	TA-V septic system
	TA-V boundary
	Building
	SWMU

0 100 200
Scale in Feet
0 20 40
Scale in Meters



Sandia National Laboratories, New Mexico
Environmental Geographic Information System

Figure 3.5-1
Phase I & II Passive Soil Vapor Survey Sample Point Locations, 1994

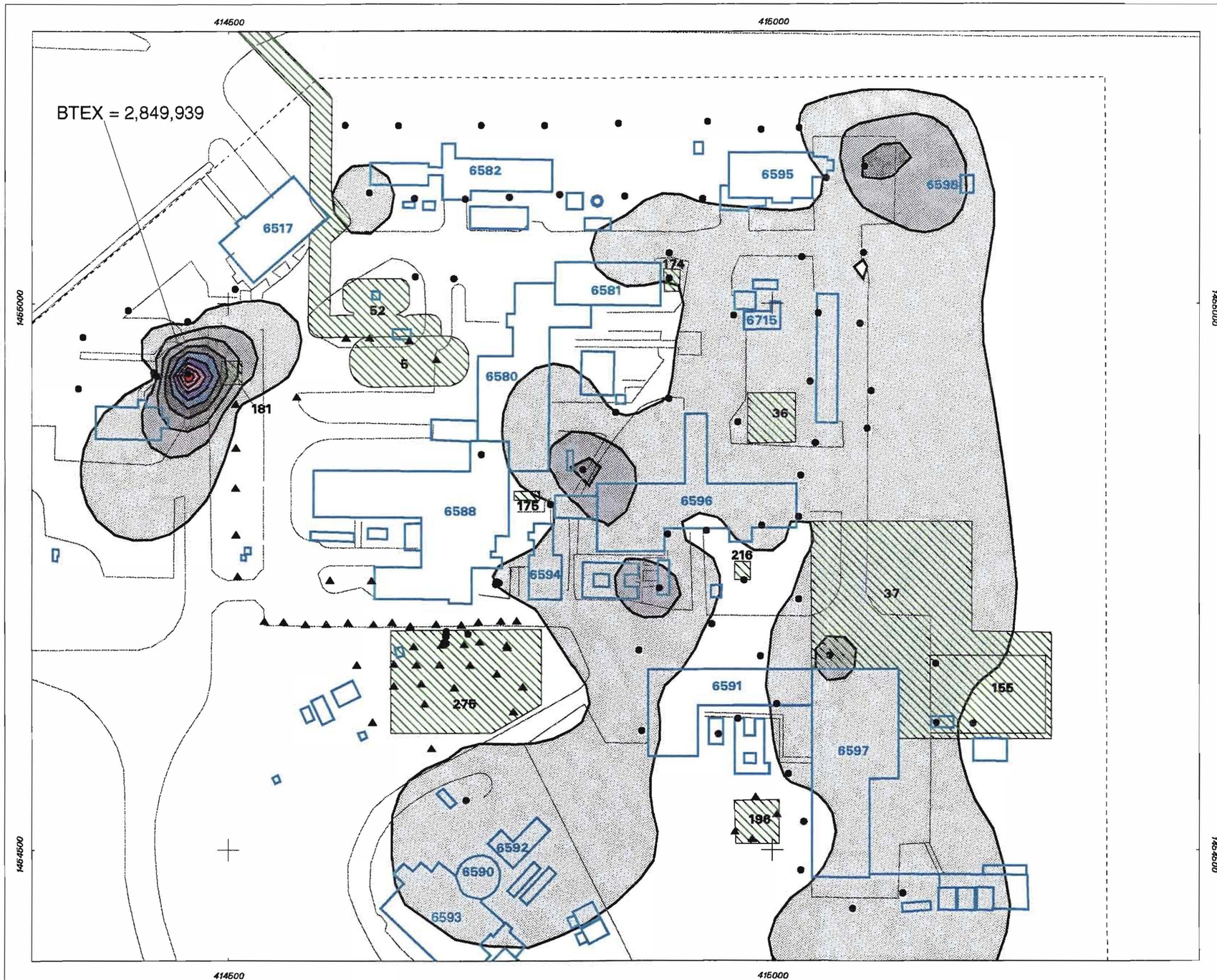
Transverse Mercator Projection, New Mexico State Plane Coordinate System, Central Zone, 1927 North American Horizontal Datum, 1929 North American Vertical Datum

MAPID=980116

Unclassified

SNL GIS ORG. 6804

DHelfrich dh980116.aml 12/23/98



Legend

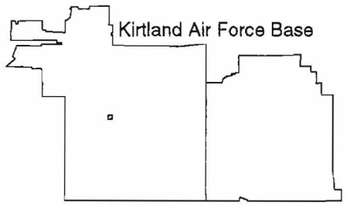
- Phase 1 sample location
- Phase 2 sample location
- Road
- TA-V boundary
- Building / structure
- SWMU

TPH Ion Count Contours

- 100,000
- 400,000
- 700,000
- 1,000,000
- 1,300,000
- 1,300,000
- 1,900,000
- 2,200,000
- 2,500,000

0 100 200
Scale in Feet

0 20 40
Scale in Meters



Sandia National Laboratories, New Mexico
Environmental Geographic Information System

Figure 3.5-2
Phase I & II Passive Soil Vapor Survey Results for BTEX, 1994

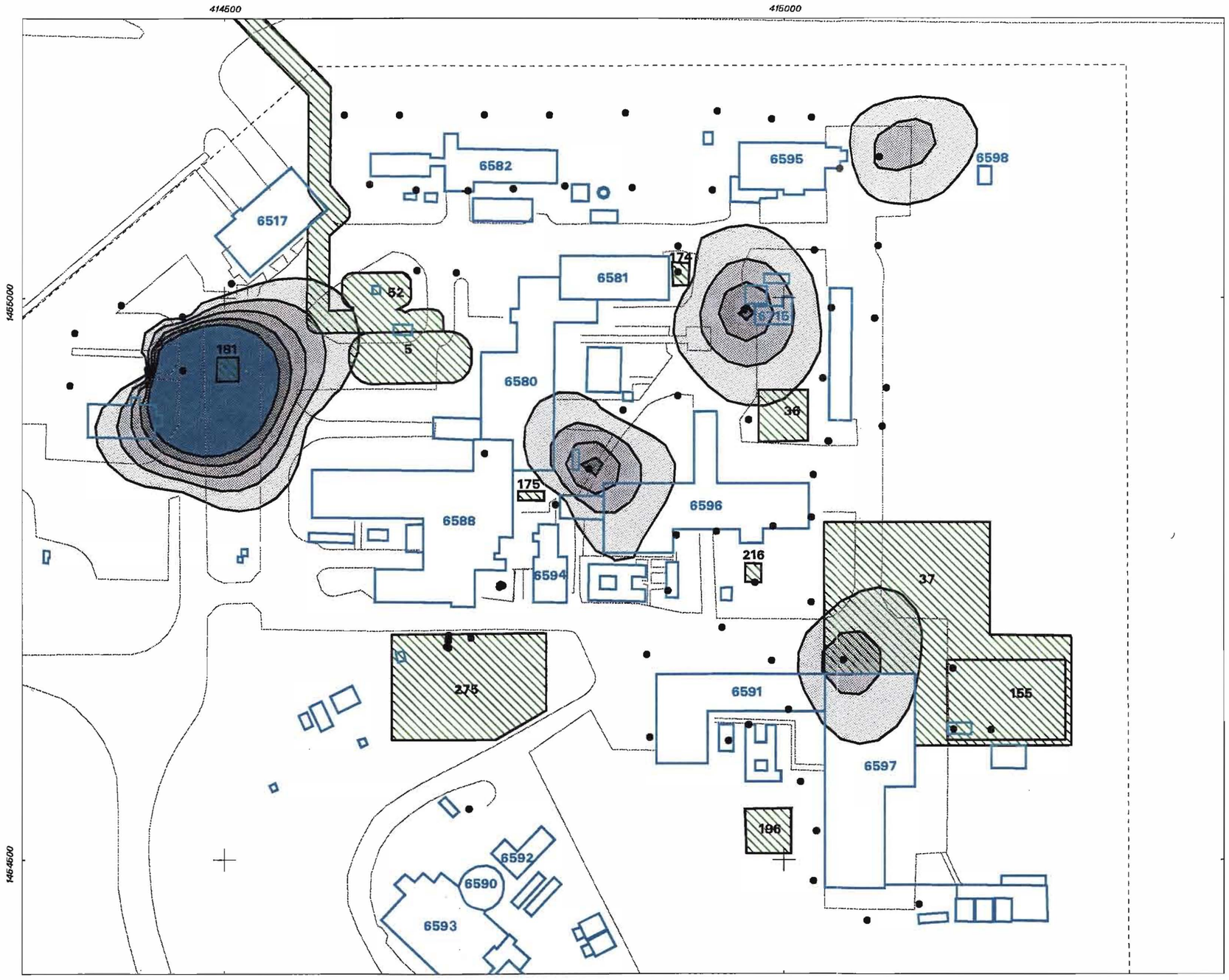
Transverse Mercator Projection, New Mexico State Plane Coordinate System, Central Zone, 1927 North American Horizontal Datum, 1929 North American Vertical Datum

MAPID=990194

Unclassified

SNL GIS ORG. 6804

DHelfrich dh990194.aml 02/18/99



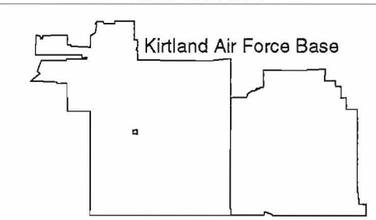
Legend

- Phase 2 sample location
- Road
- TA-V boundary
- Building / structure
- SWMU

TPH Ion Count Contours

- 1,000,000
- 2,000,000
- 3,000,000
- 4,000,000
- 5,000,000

0 100 200
Scale in Feet
0 20 40
Scale in Meters



Sandia National Laboratories, New Mexico
Environmental Geographic Information System

Figure 3.5-3
Phase II Passive Soil
Vapor Survey Results for
TPH, 1994

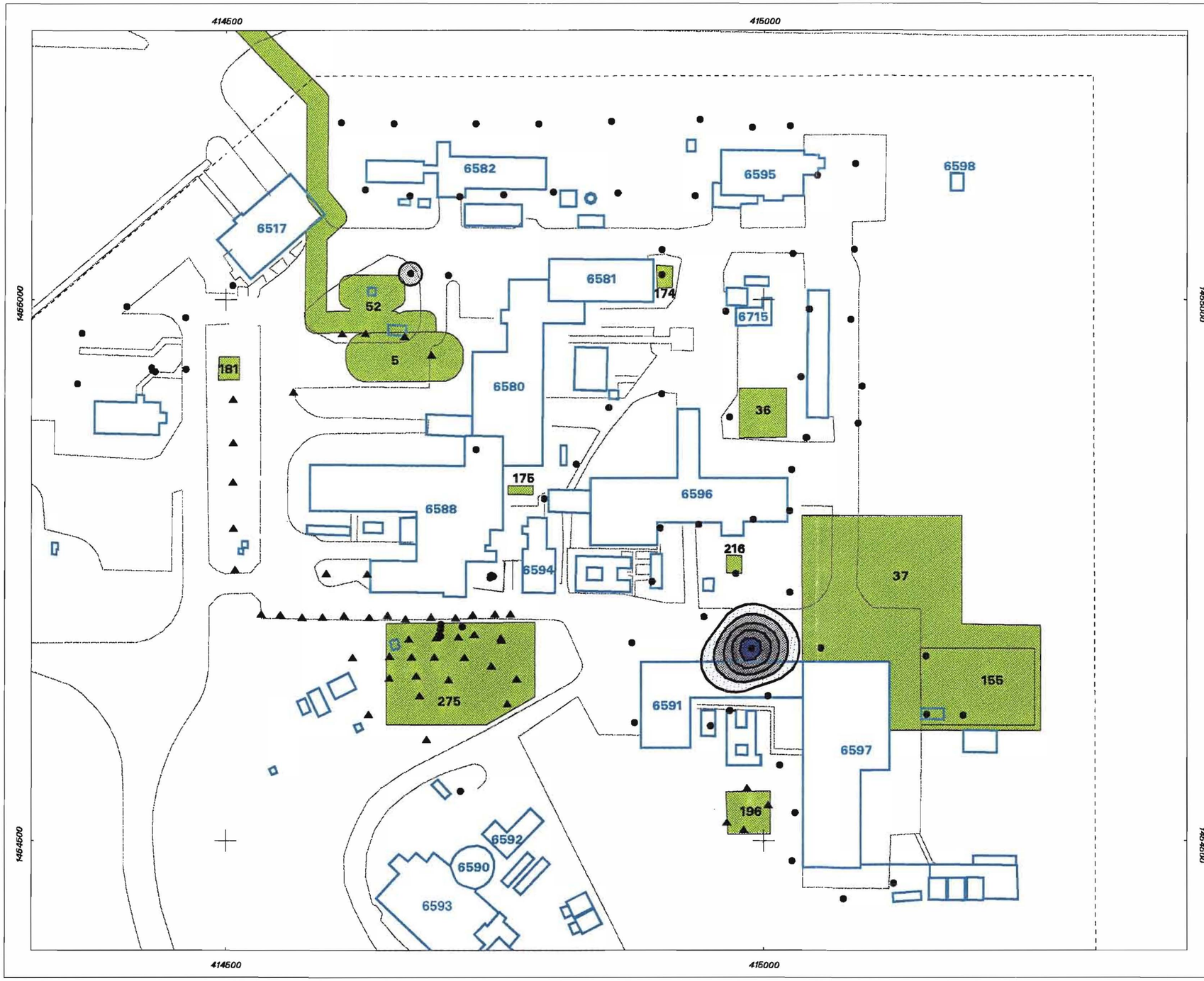
Transverse Mercator Projection, New Mexico State Plane Coordinate System, Central Zone, 1927 North American Horizontal Datum, 1929 North American Vertical Datum

MAPID=990197

Unclassified

SNL GIS ORG. 6804

DHelfrich dh990197.aml 02/18/99



Legend

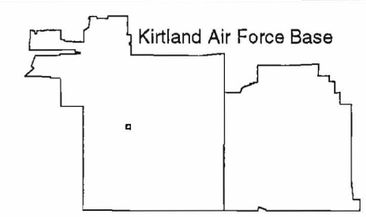
- Phase 1 sample location
- Phase 2 sample location
- Road
- TA-V boundary
- Building / structure
- SWMU

TCE Ion Count Contours

- 100,000
- 150,000
- 200,000
- 250,000
- 300,000

0 100 200
Scale in Feet

0 20 40
Scale in Meters



Sandia National Laboratories, New Mexico
Environmental Geographic Information System

Figure 3.5-4
Phase I & II Passive Soil Vapor Survey Results for TCE, 1994

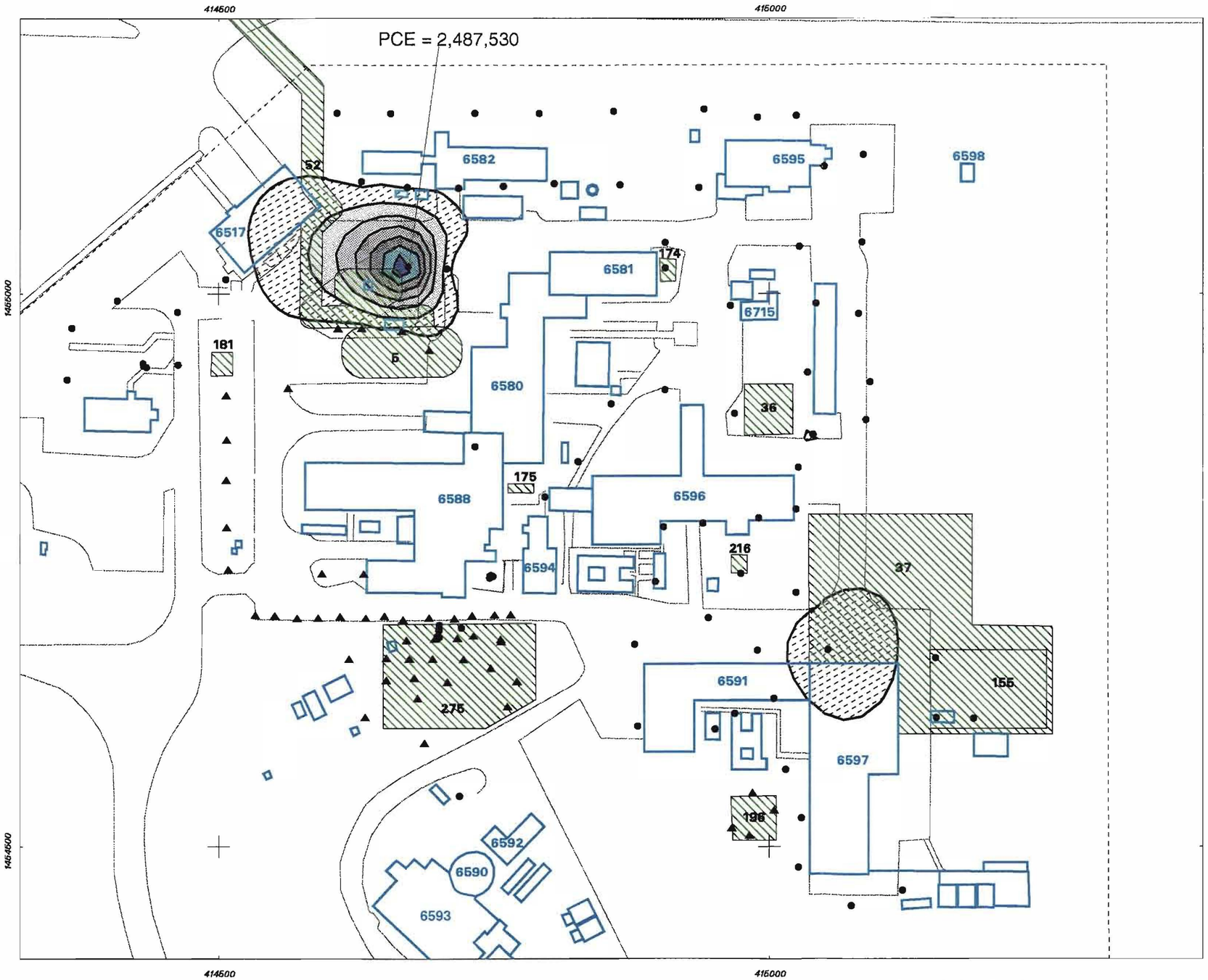
Transverse Mercator Projection, New Mexico State Plane Coordinate System, Central Zone, 1927 North American Horizontal Datum, 1929 North American Vertical Datum

MAPID=990196

Unclassified

SNL GIS ORG. 6804

DHelfrich dh990196.aml 12/18/98



Legend

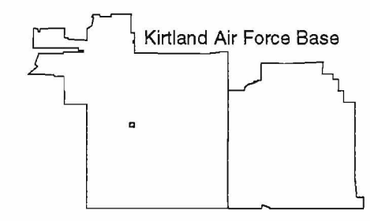
- Phase 1 sample location
- Phase 2 sample location
- Road
- TA-V boundary
- Building / structure
- SWMU

PCE Ion Count Contours

- 100,000
- 400,000
- 700,000
- 1,000,000
- 1,300,000
- 1,600,000
- 1,900,000

0 100 200
Scale in Feet

0 24 48
Scale in Meters



Sandia National Laboratories, New Mexico
Environmental Geographic Information System

Figure 3.5-5
Phase I & II Passive Soil Vapor Survey Results for PCE, 1994

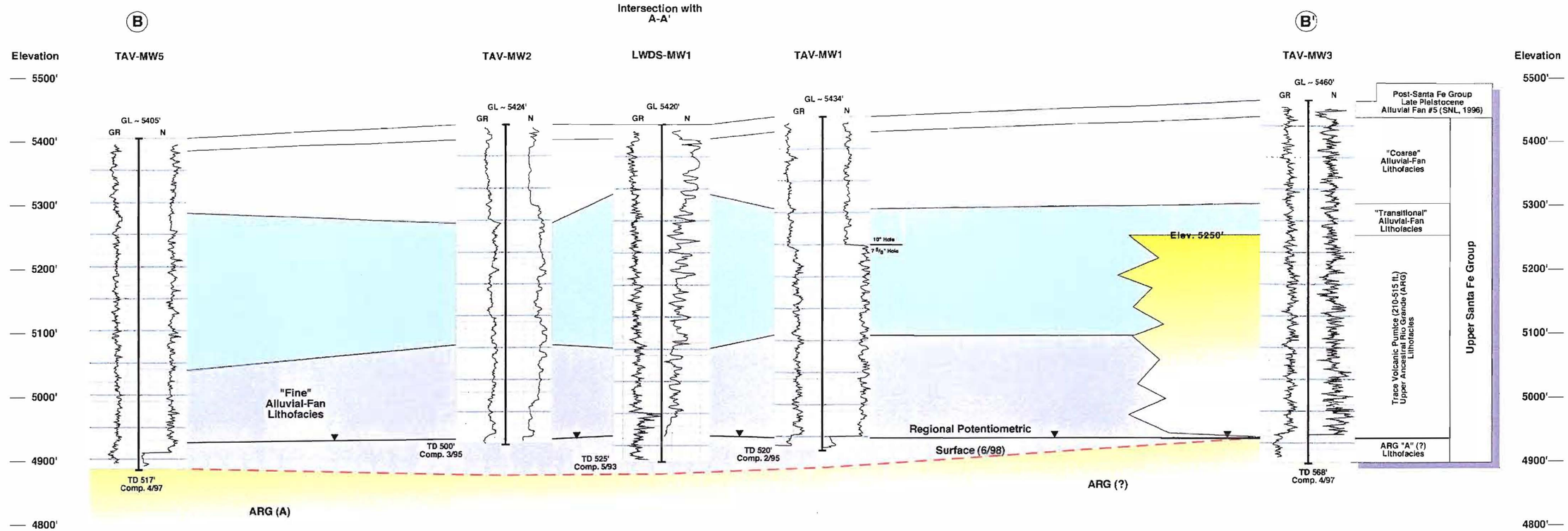
Transverse Mercator Projection, New Mexico State Plane Coordinate System, Central Zone, 1927 North American Horizontal Datum, 1929 North American Vertical Datum

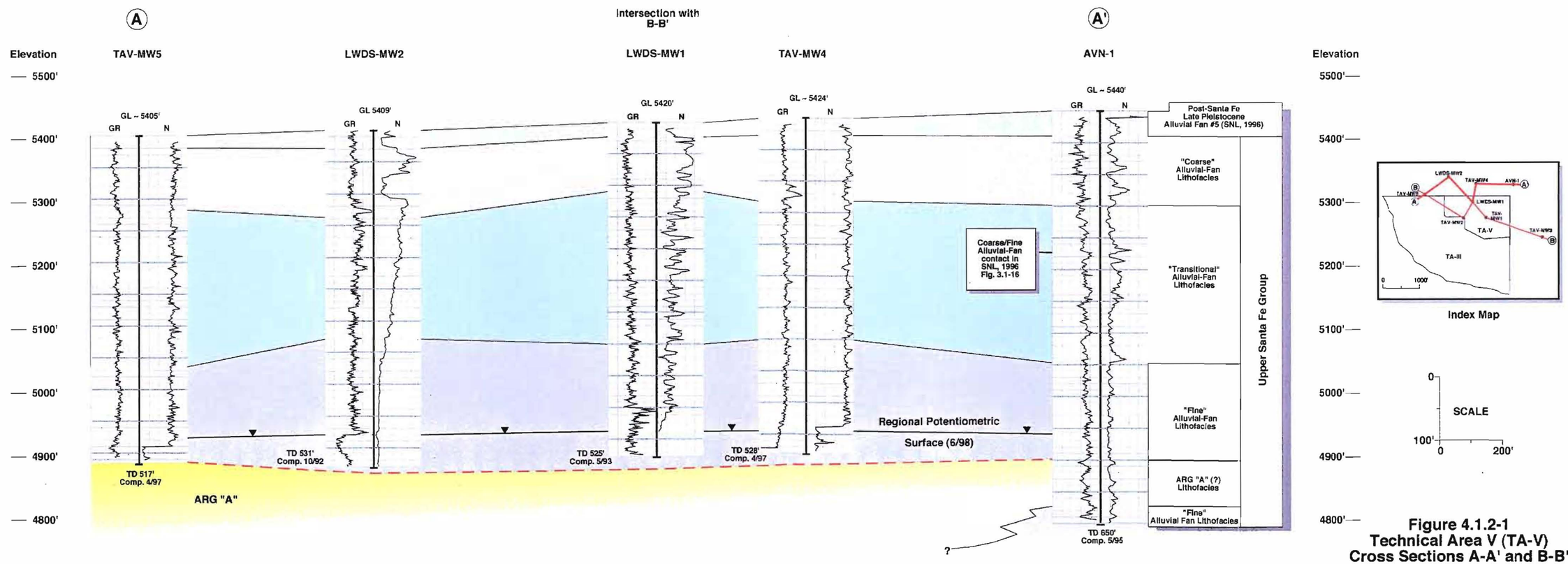
MAPID=990195

Unclassified

SNL GIS ORG. 6804

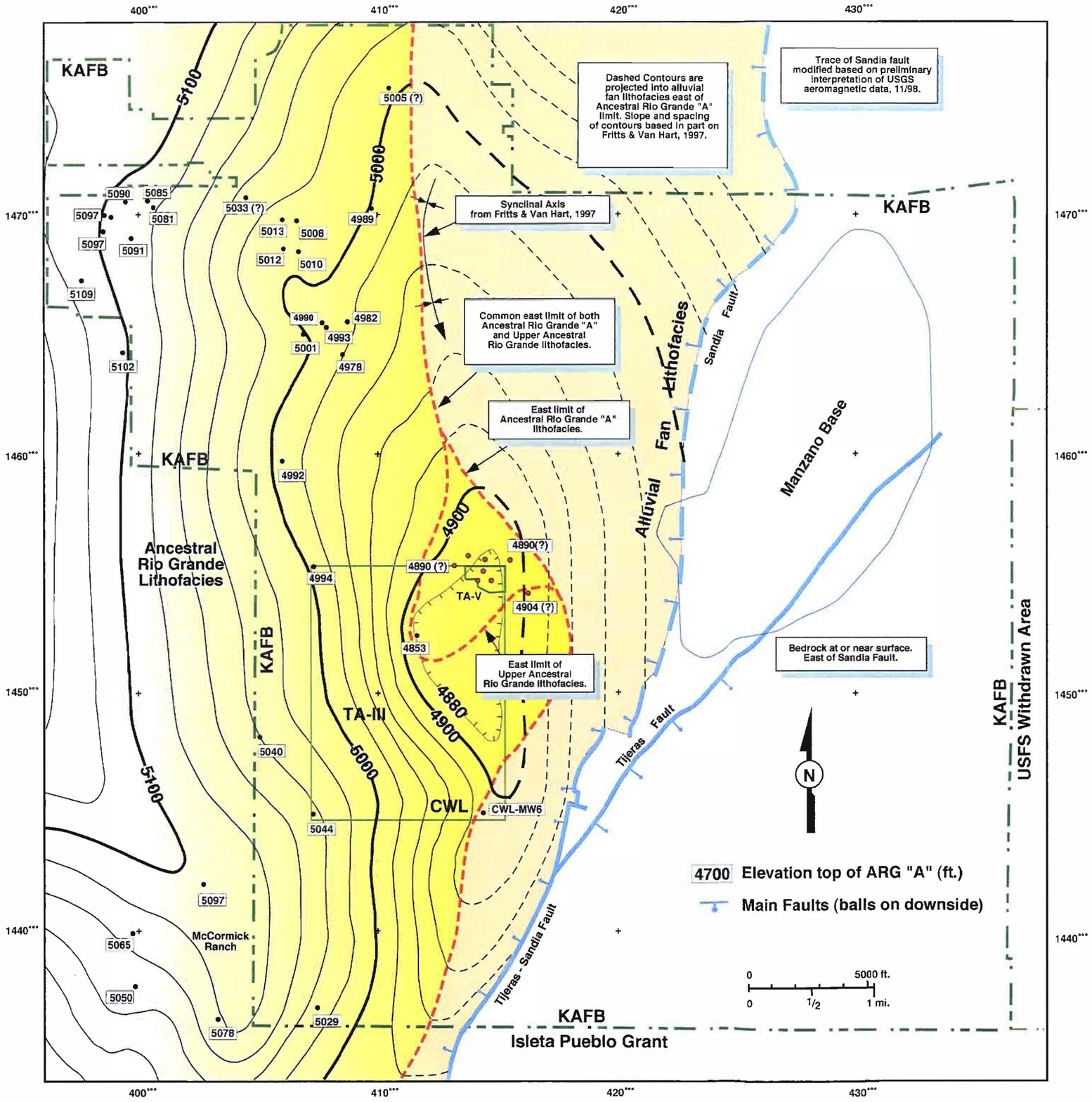
DHelfrich dh990195.aml 02/17/99

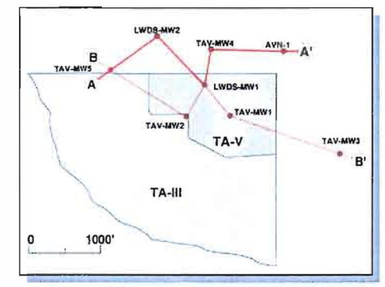




Index Map

Figure 4.1.2-1
Technical Area V (TA-V)
Cross Sections A-A' and B-B'





Index Map
(Cross Sections Shown in Figure 4.1.2-1)

Figure 4.1.3-1
Technical Area V (TA-V) Structural Map on Top of Ancestral Rio Grande (ARG) "A" and Lithofacies Distribution.
CI=20 ft.

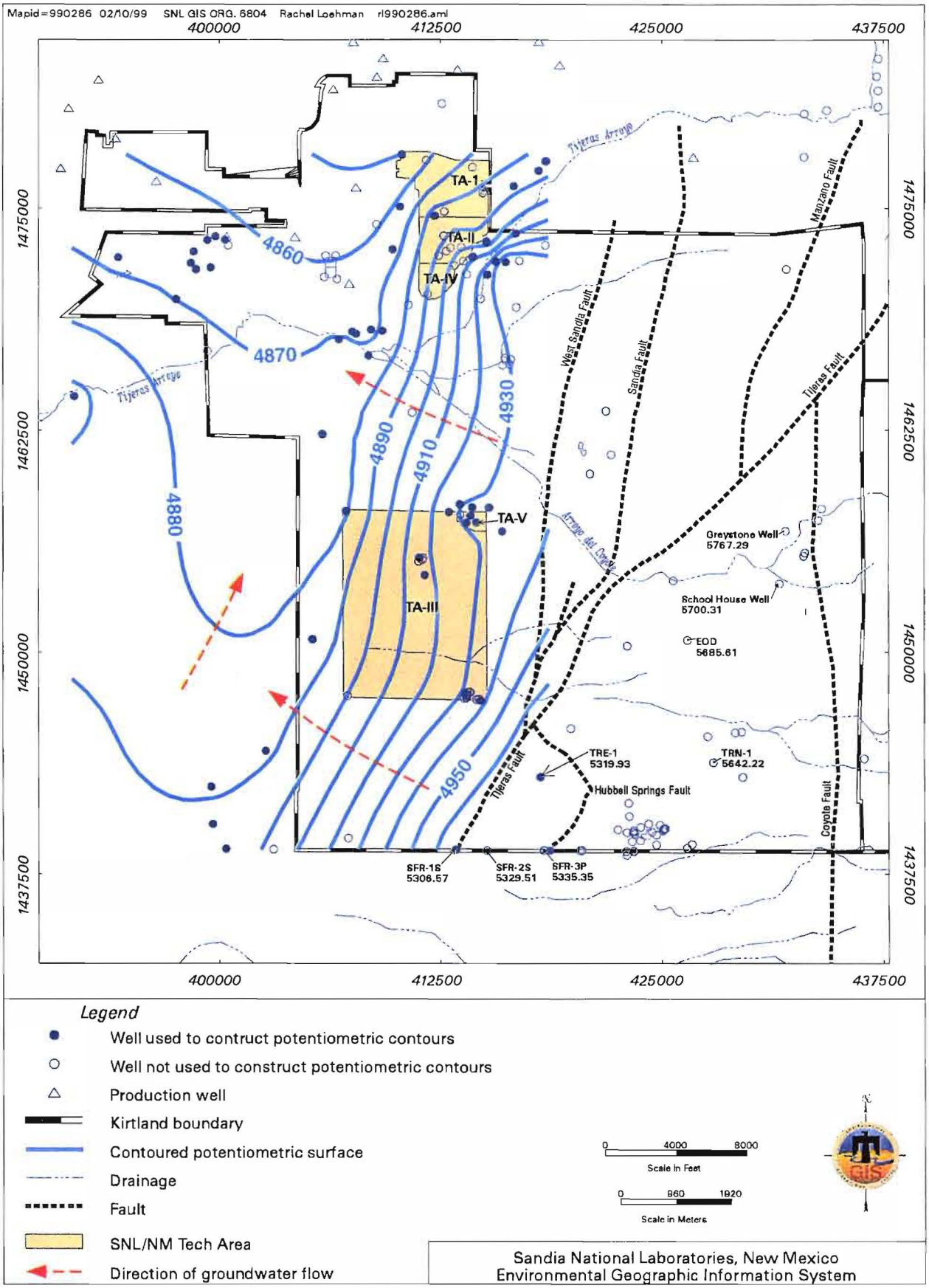
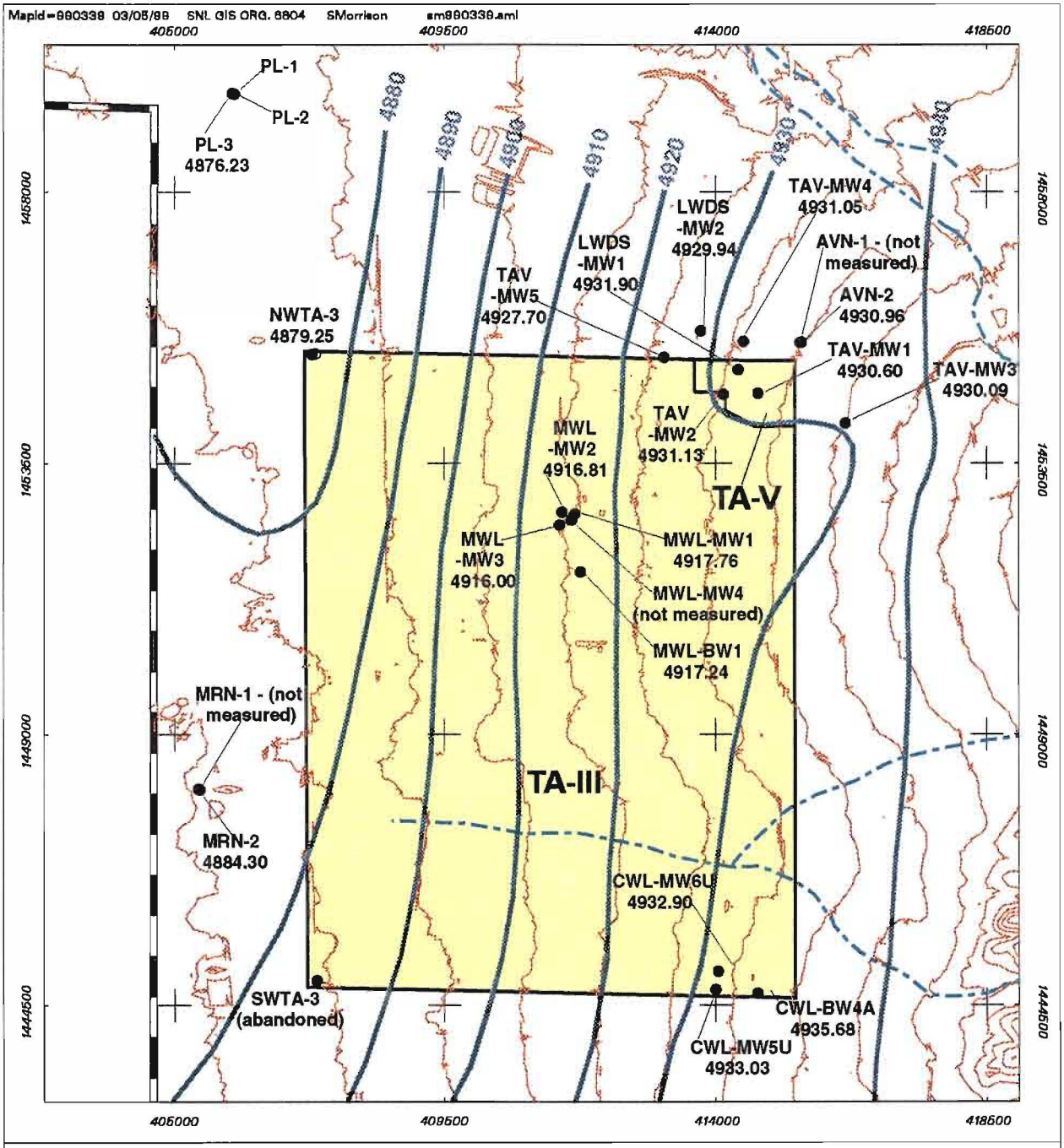


Figure 4.2.3-1. Potentiometric Surface for the Regional Groundwater System at SNL/KAFB, January 1999



Legend

- 4929.53 Groundwater Monitoring Well elevation (FAMSL)
  * Shallowest well in well nests used. PL-3 measured in March 1998; CWL wells measured in May 1998; all other wells measured in June 1998
- Drainage
- 20-foot Ground Surface Contour
- Kirtland Boundary
- Potentiometric Surface Contour
- SNL Technical Area

Figure 4.2.3-2
TA-III and TA-V Potentiometric Surface, June 1998

0 1350 2700
Scale in Feet

0 324 648
Scale in Meters

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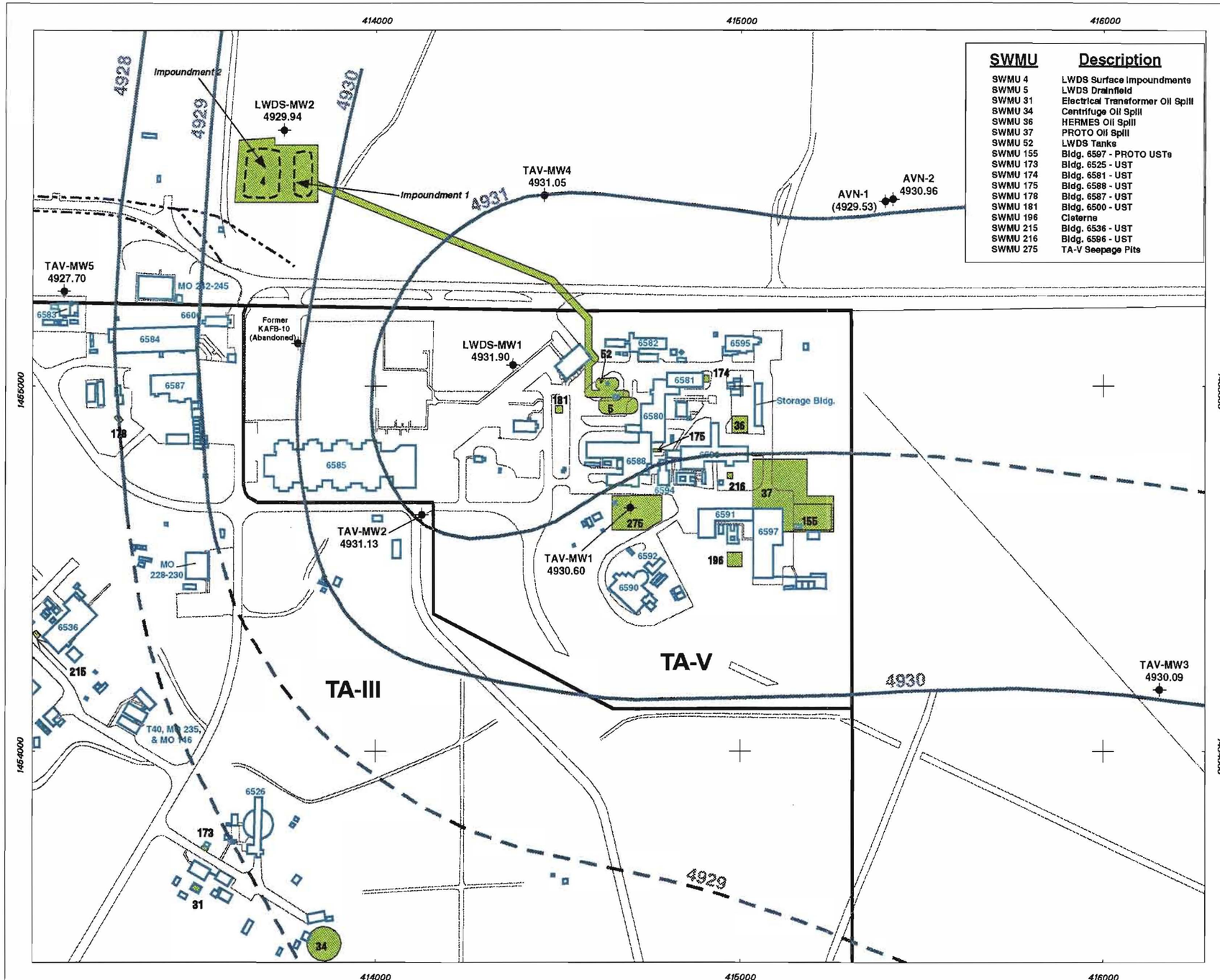
Environmental Geographic Information System



SWMU	Description
SWMU 4	LWDS Surface Impoundments
SWMU 5	LWDS Drainfield
SWMU 31	Electrical Transformer Oil Spill
SWMU 34	Centrifuge Oil Spill
SWMU 36	HERMES Oil Spill
SWMU 37	PROTO Oil Spill
SWMU 52	LWDS Tanks
SWMU 155	Bldg. 6597 - PROTO USTs
SWMU 173	Bldg. 6525 - UST
SWMU 174	Bldg. 6581 - UST
SWMU 175	Bldg. 6588 - UST
SWMU 178	Bldg. 6587 - UST
SWMU 181	Bldg. 6500 - UST
SWMU 196	Cisterns
SWMU 215	Bldg. 6536 - UST
SWMU 216	Bldg. 6596 - UST
SWMU 275	TA-V Seepage Pits

Legend

LWDS-MW2 — Monitoring Well

Water Level Elevation Contour, 1-foot interval (dashed where approximate)

Road

Impoundment Boundary

Solid Waste Management Unit (SWMU)

SNL/NM Technical Area

6585 — Building

NOTE: Shallowest wells in well nest used for contouring

0 300 600
Scale in Feet

0 72 144
Scale in Meters

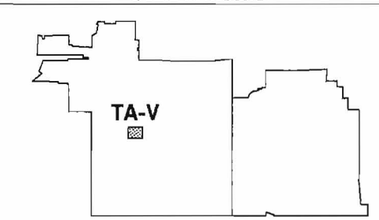
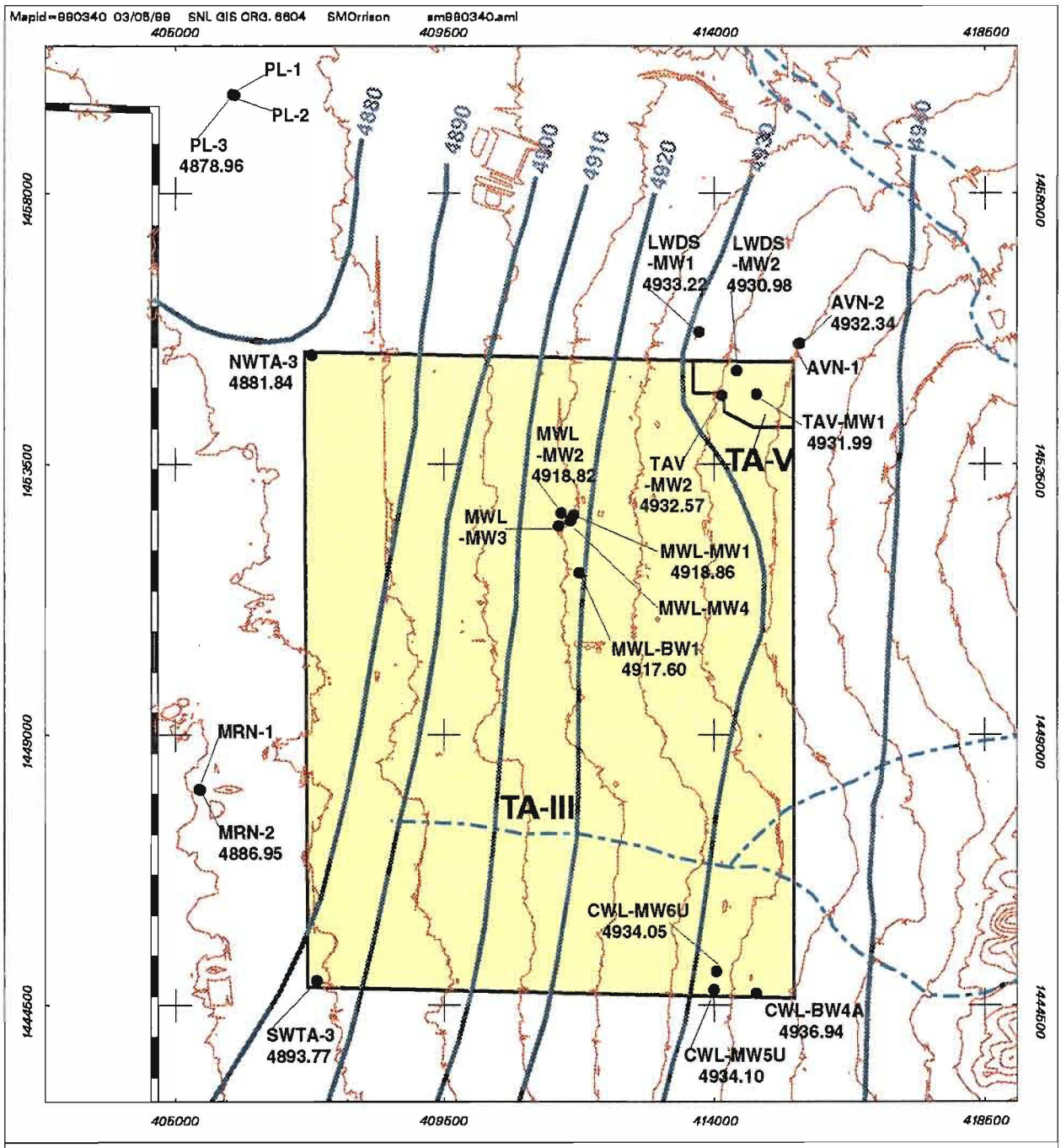


Figure 4.2.3-3
Potentiometric Surface
June 2, 1998
TA-V

Transverse Mercator Projection, New Mexico State Plane Coordinate System, Central Zone, 1927 North American Horizontal Datum, 1929 North American Vertical Datum



Legend

- 4929.53 Groundwater monitoring well elevation (FAMSL)
  * Shallowest well in well nests used. CWL wells NWTA-3 and SWTA-3 measured in August 1996; all other wells measured in July 1996
- Drainage
- 20-foot Ground Surface Contour
- Kirtland Boundary
- Potentiometric Surface Contour
- SNL Technical Area

Figure 4.2.3-4
TA-III and TA-V Potentiometric Surface, July 1996

0 1350 2700
Scale in Feet

0 324 648
Scale in Meters

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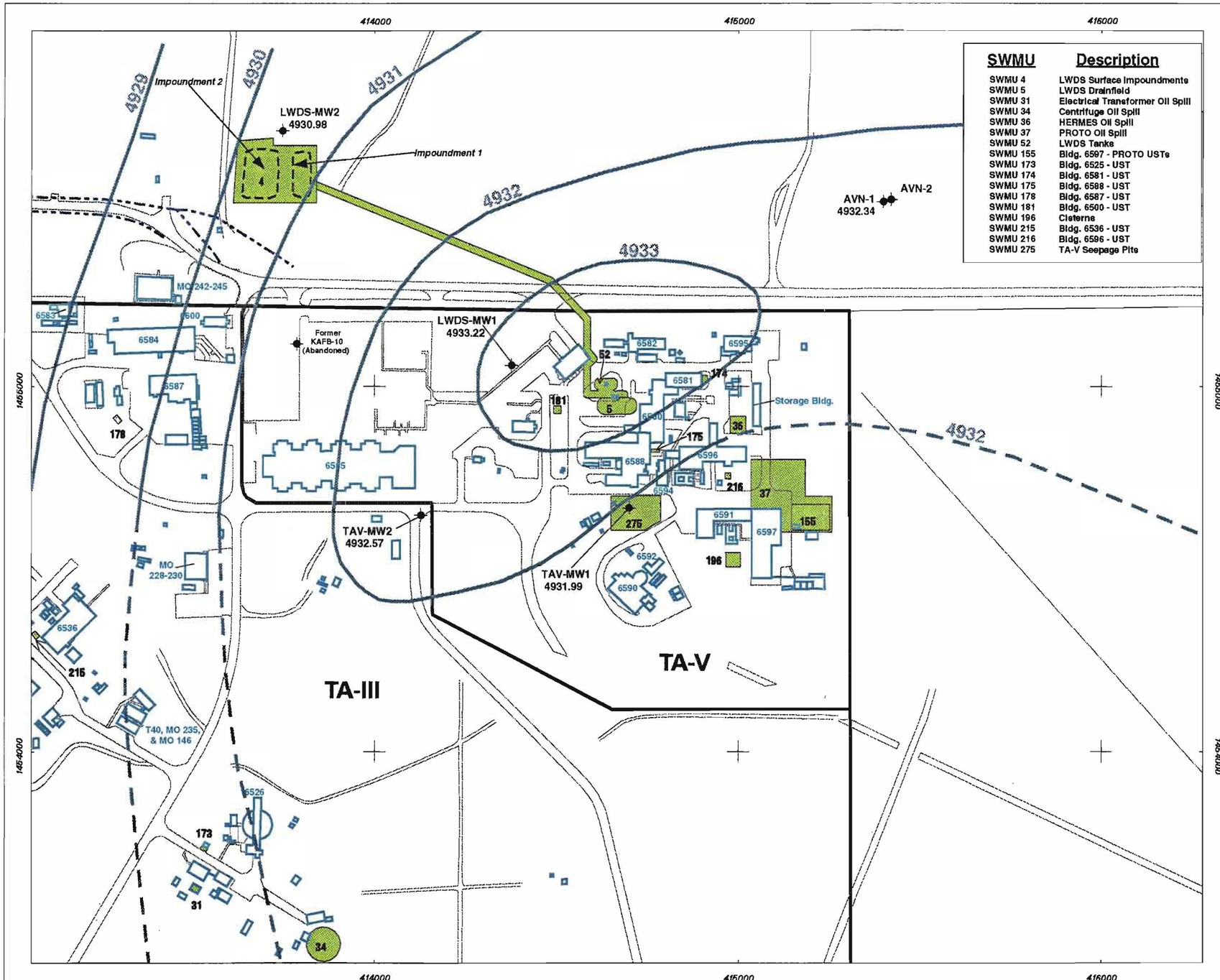
Environmental Geographic Information System



SWMU	Description
SWMU 4	LWDS Surface Impoundments
SWMU 5	LWDS Drainfield
SWMU 31	Electrical Transformer Oil Spill
SWMU 34	Centrifuge Oil Spill
SWMU 36	HERMES Oil Spill
SWMU 37	PROTO Oil Spill
SWMU 52	LWDS Tanks
SWMU 155	Bldg. 6597 - PROTO USTs
SWMU 173	Bldg. 6525 - UST
SWMU 174	Bldg. 6581 - UST
SWMU 175	Bldg. 6588 - UST
SWMU 178	Bldg. 6587 - UST
SWMU 181	Bldg. 6500 - UST
SWMU 196	Cisterns
SWMU 215	Bldg. 6536 - UST
SWMU 216	Bldg. 6596 - UST
SWMU 275	TA-V Seepage Pits

Legend

LWDS-MW2 — Monitoring Well

Water Level Elevation Contour, 1-foot interval (dashed where approximate)

Road

Impoundment Boundary

Solid Waste Management Unit (SWMU)

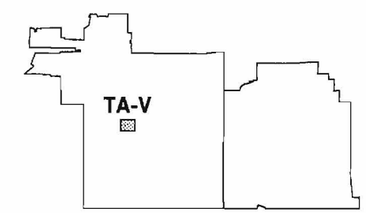
SNL/NM Technical Area

6585 — Building

NOTE: Shallowest wells in well nest used for contouring

0 300 600
Scale in Feet

0 72 144
Scale in Meters

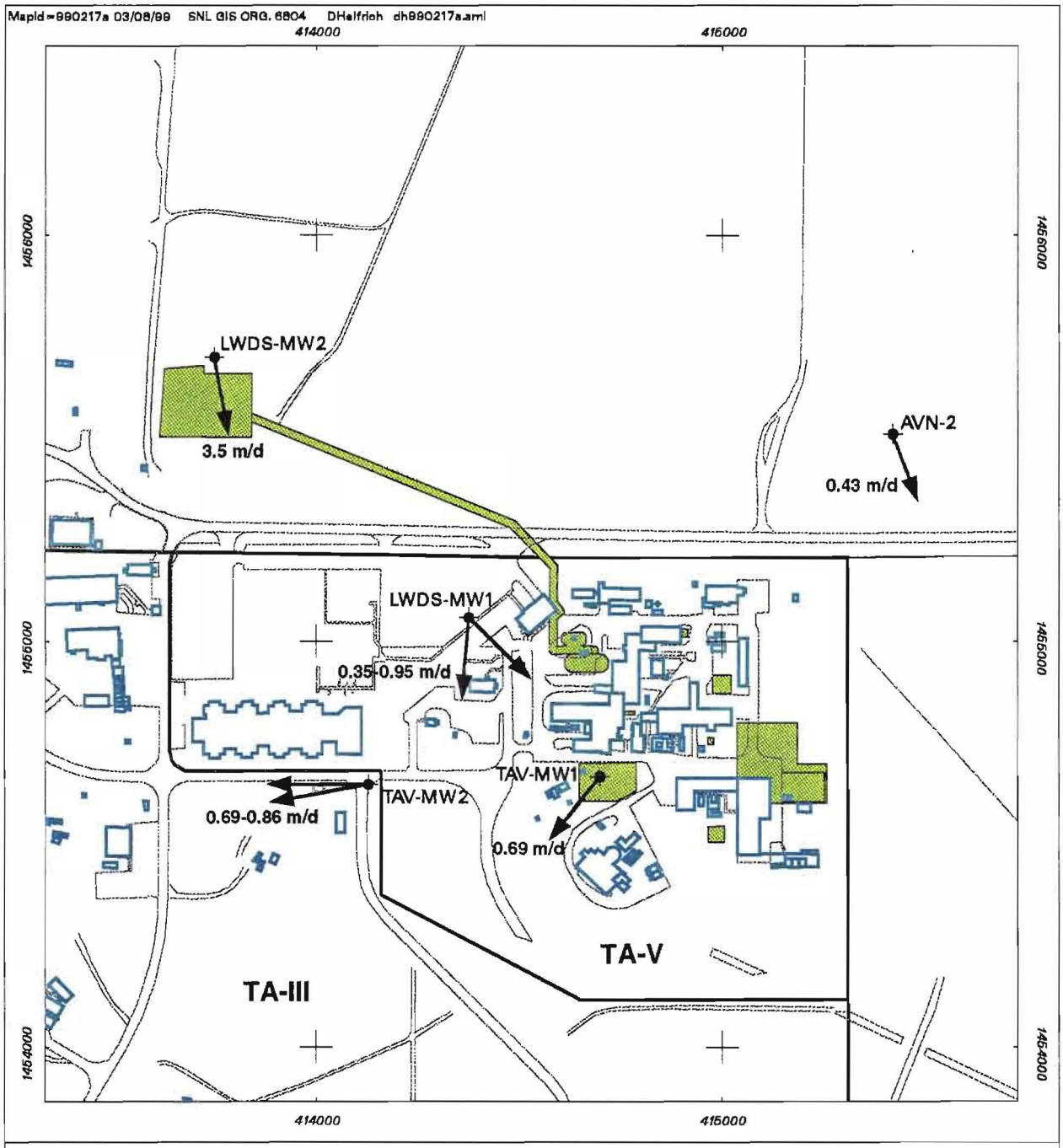


Sandia National Laboratories, New Mexico
Environmental Geographic Information System

Figure 4.2.3-5
Potentiometric Surface
July 19, 1996
TA-V

Transverse Mercator Projection, New Mexico State Plane Coordinate System, Central Zone, 1927 North American Horizontal Datum, 1929 North American Vertical Datum

	1:3600	MAPID=990342
Unclassified		SNL GIS ORG. 6804
SMorrison	sm990342.aml	03/08/99



Legend

- 0.69 m/d — Monitoring Well showing ground water velocity and direction (m/d = meters per day)
- Road
- SNL Technical Area
- Building
- SWMU

Figure 4.2.4-1
Colloidal borescope measurements at TA-V, Sandia National Laboratory, New Mexico

0 200 400
Scale in Feet

0 48 96
Scale in Meters

From: (LLNL, 1997)

Sandia National Laboratories, New Mexico
Environmental Geographic Information System

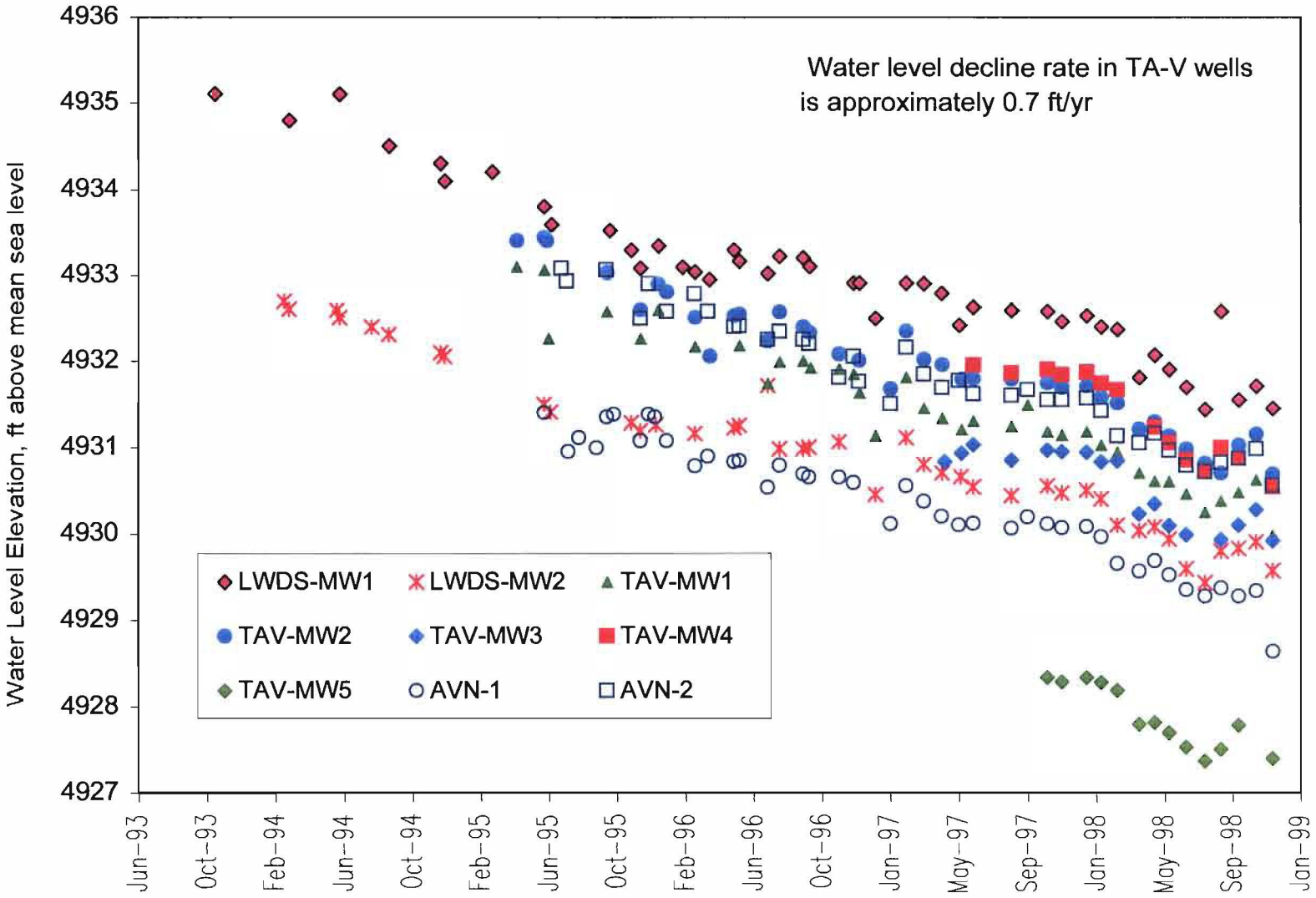


Figure 4.2.5-1 TA-V Water Level Data, 1993 - 1998

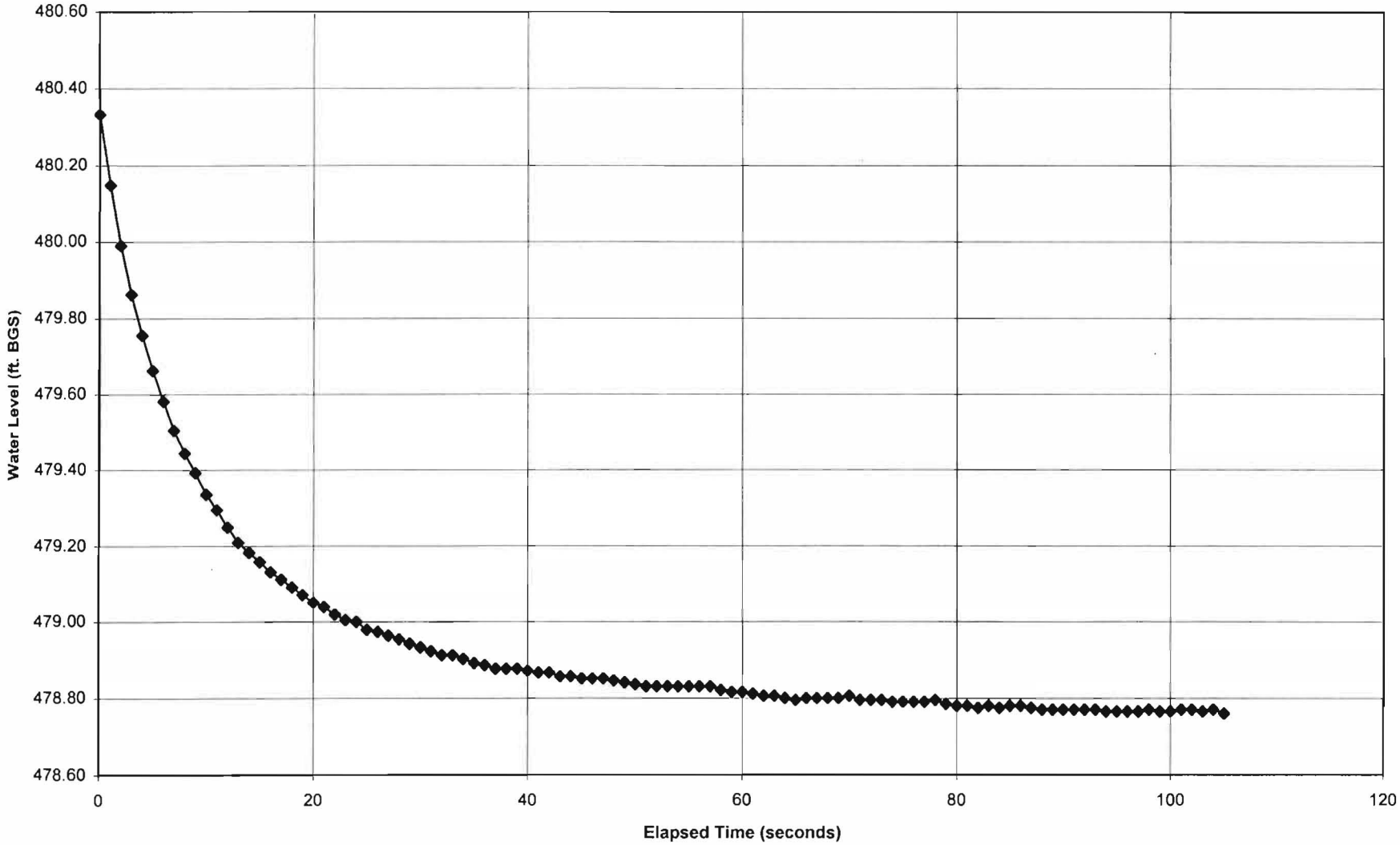


Figure 4.2.6-1 Example of Slug Test Time Versus Water Level Change Data (TAV-MW5)
September 22, 1998

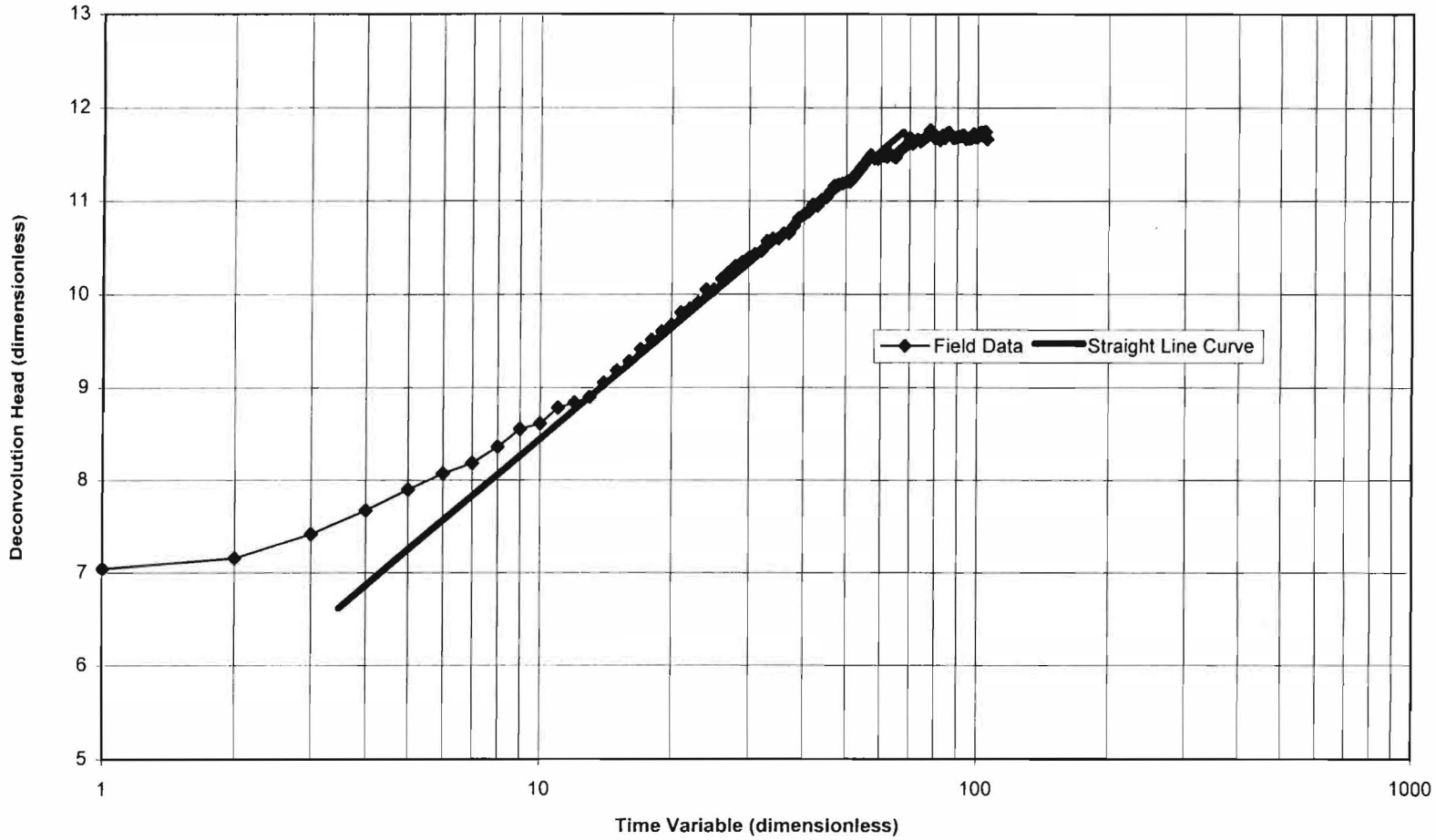


Figure 4.2.6-2 Deconvolution Plot (TAV-MW5)

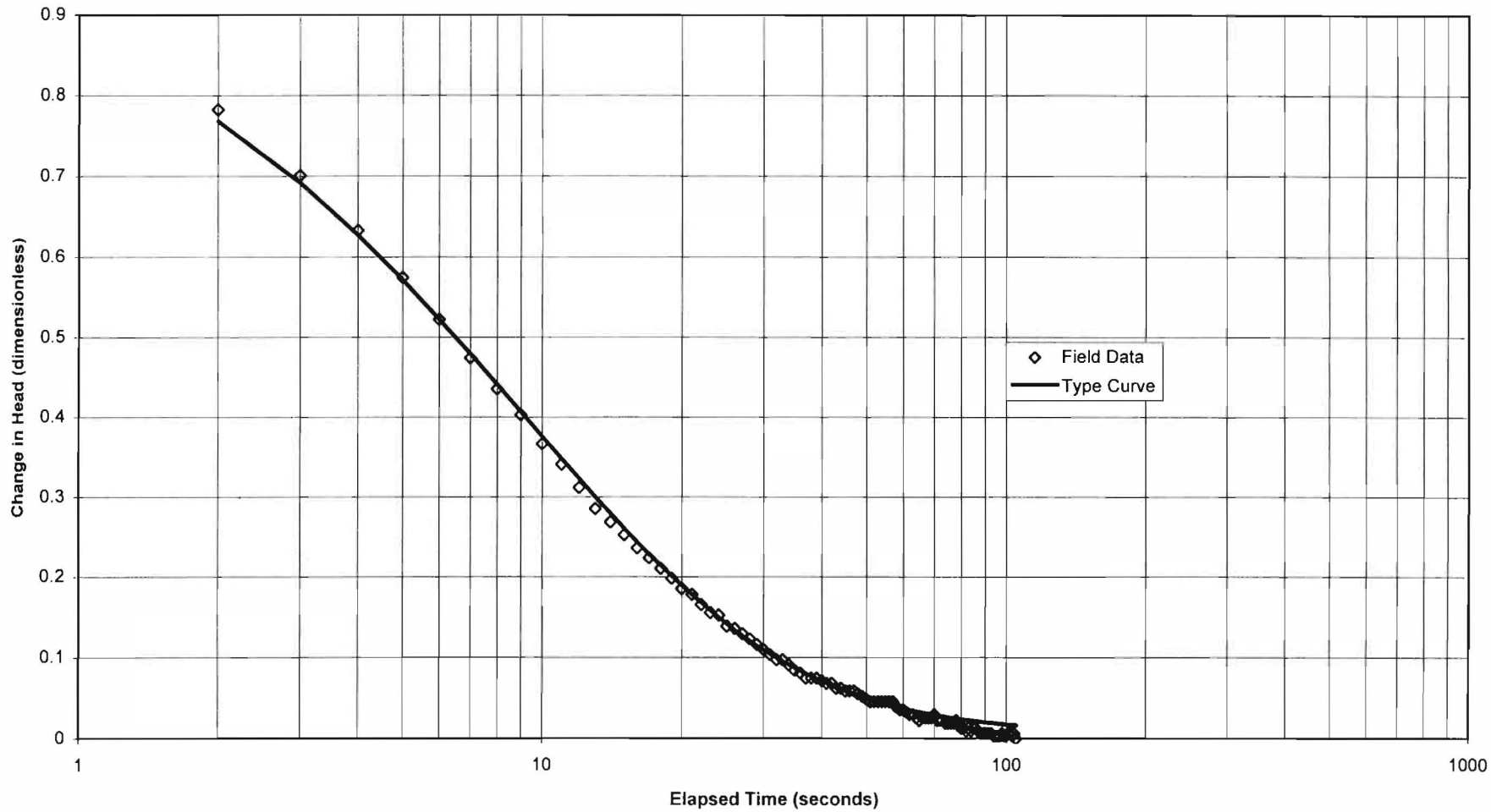


Figure 4.2.6-3 Cooper/Jacob Plot (TAV-MW5)

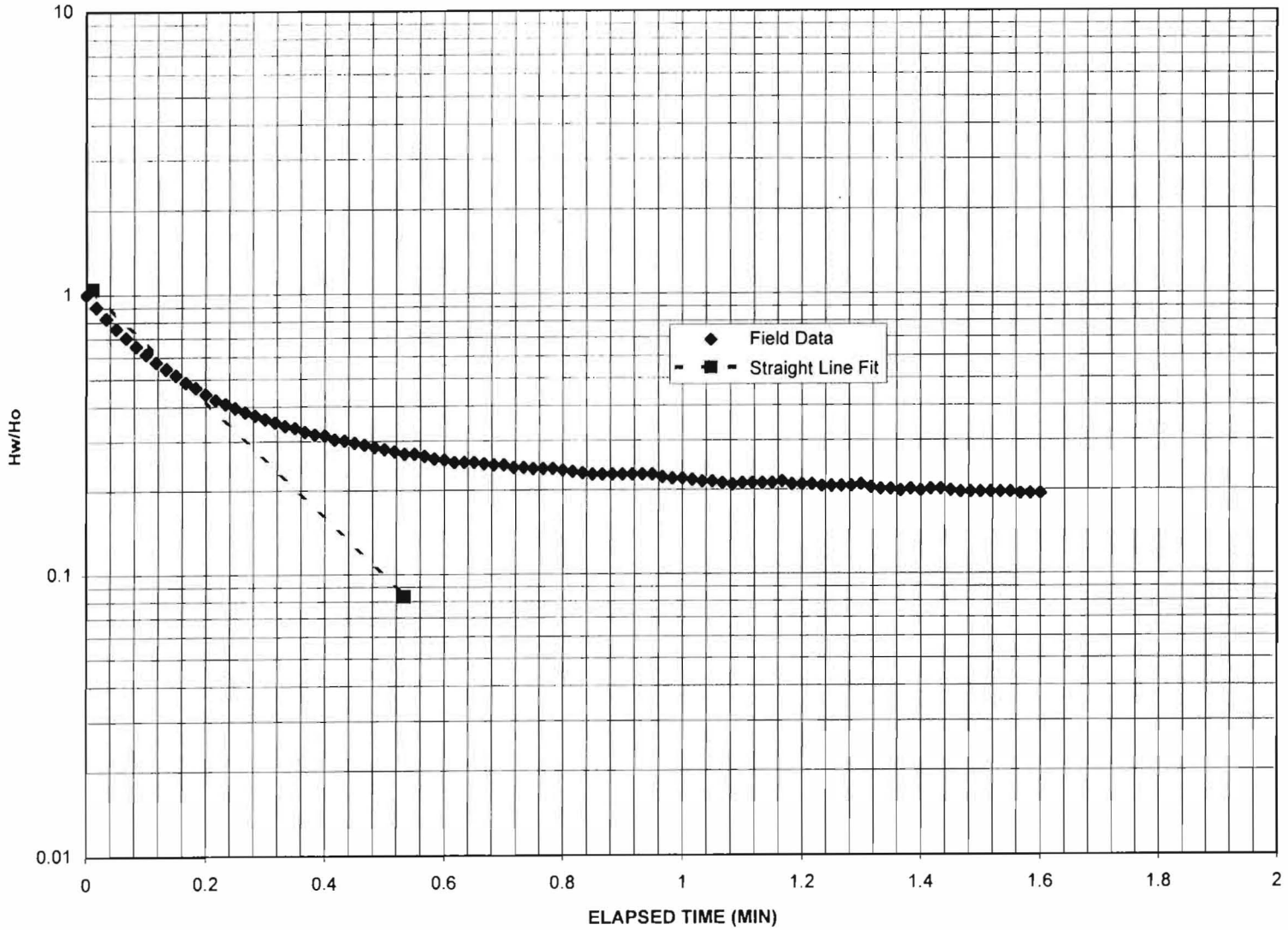


Figure 4.2.6-4 Bouwer and Rice Analysis (TAV-MW5)

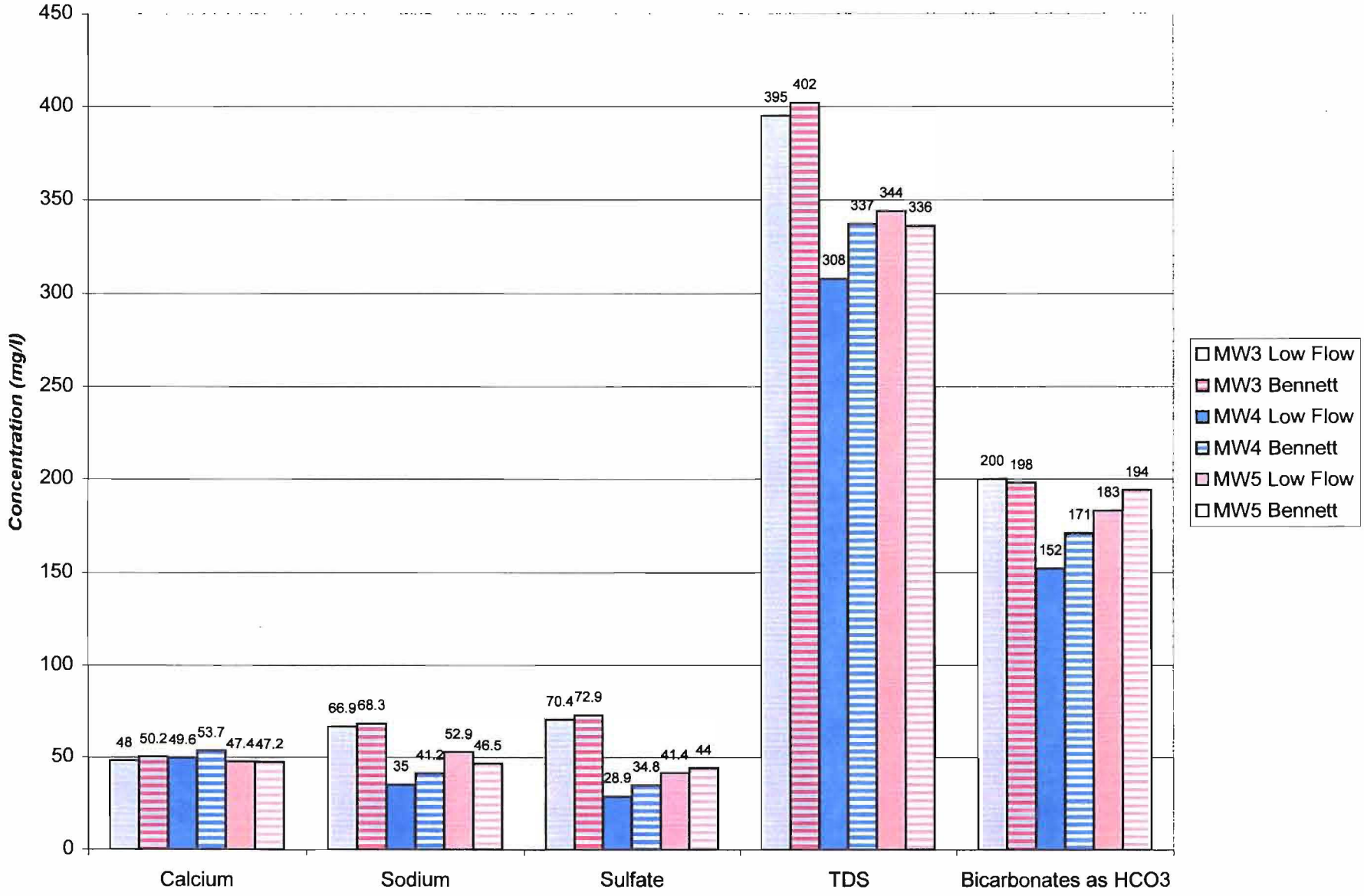


Figure 5.1-1 Comparison of calcium, sodium, sulfate, TDS, and bicarbonate in samples collected from TA-V wells using a low flow pump and a Bennett pump (August, 1998).

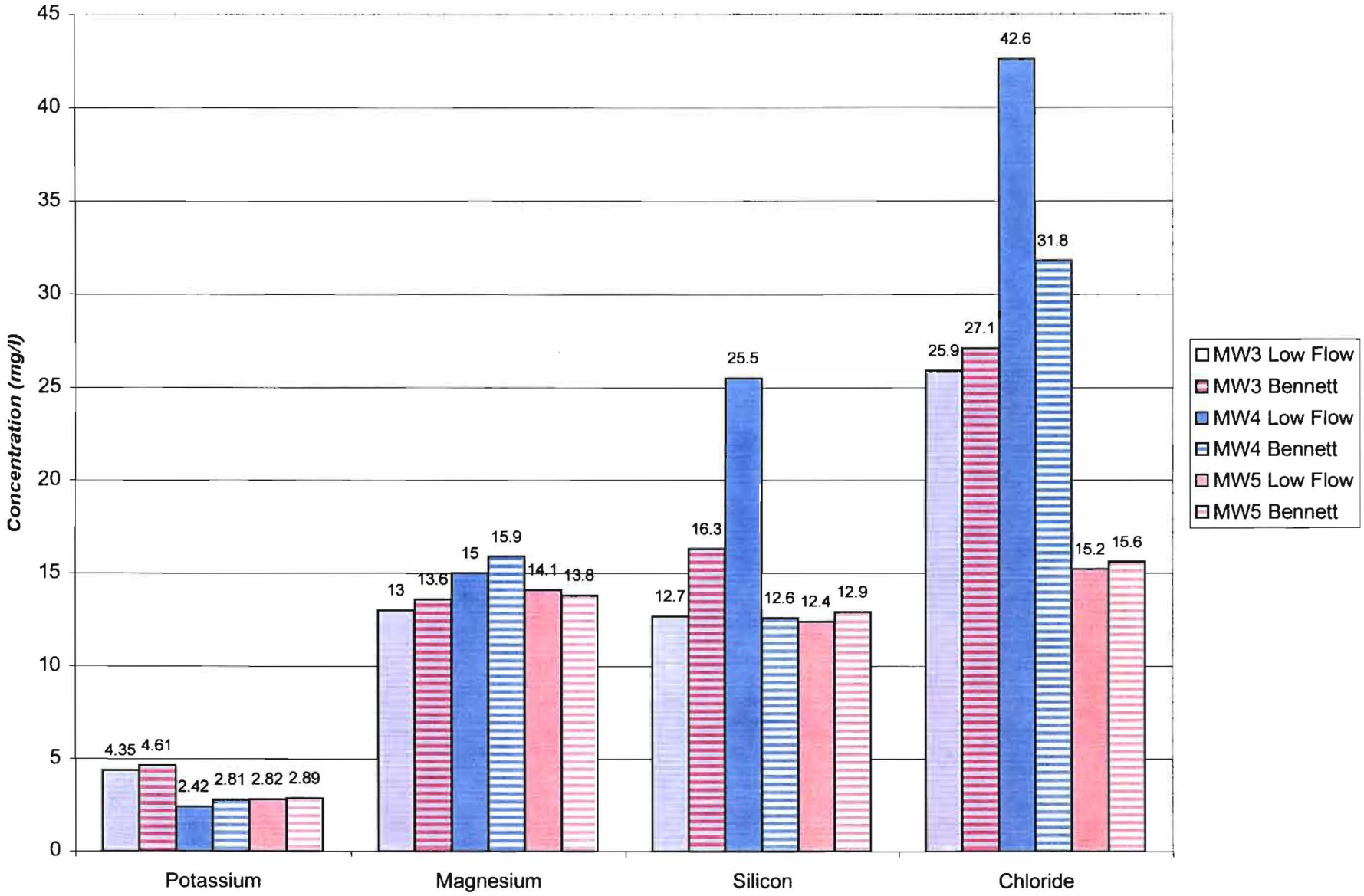


Figure 5.1-2. Comparison of potassium, magnesium, silicon, and chloride concentrations in samples collected from TA-V wells using a low flow pump and a Bennett pump (August, 1998).

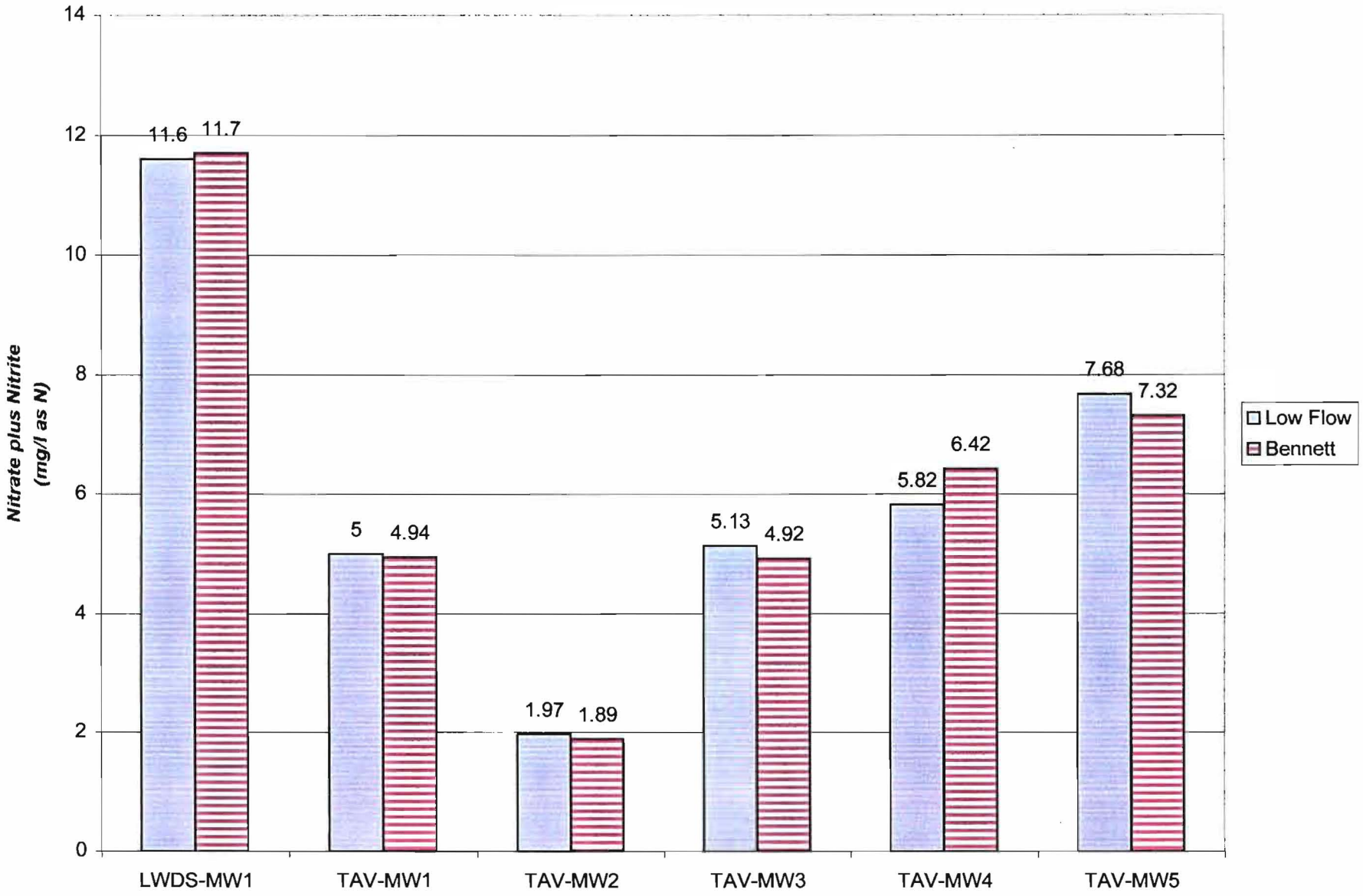


Figure 5.1-3. Comparison of nitrate plus nitrite concentrations in samples collected from TA-V wells using a low flow pump and a Bennett pump (August, 1998).

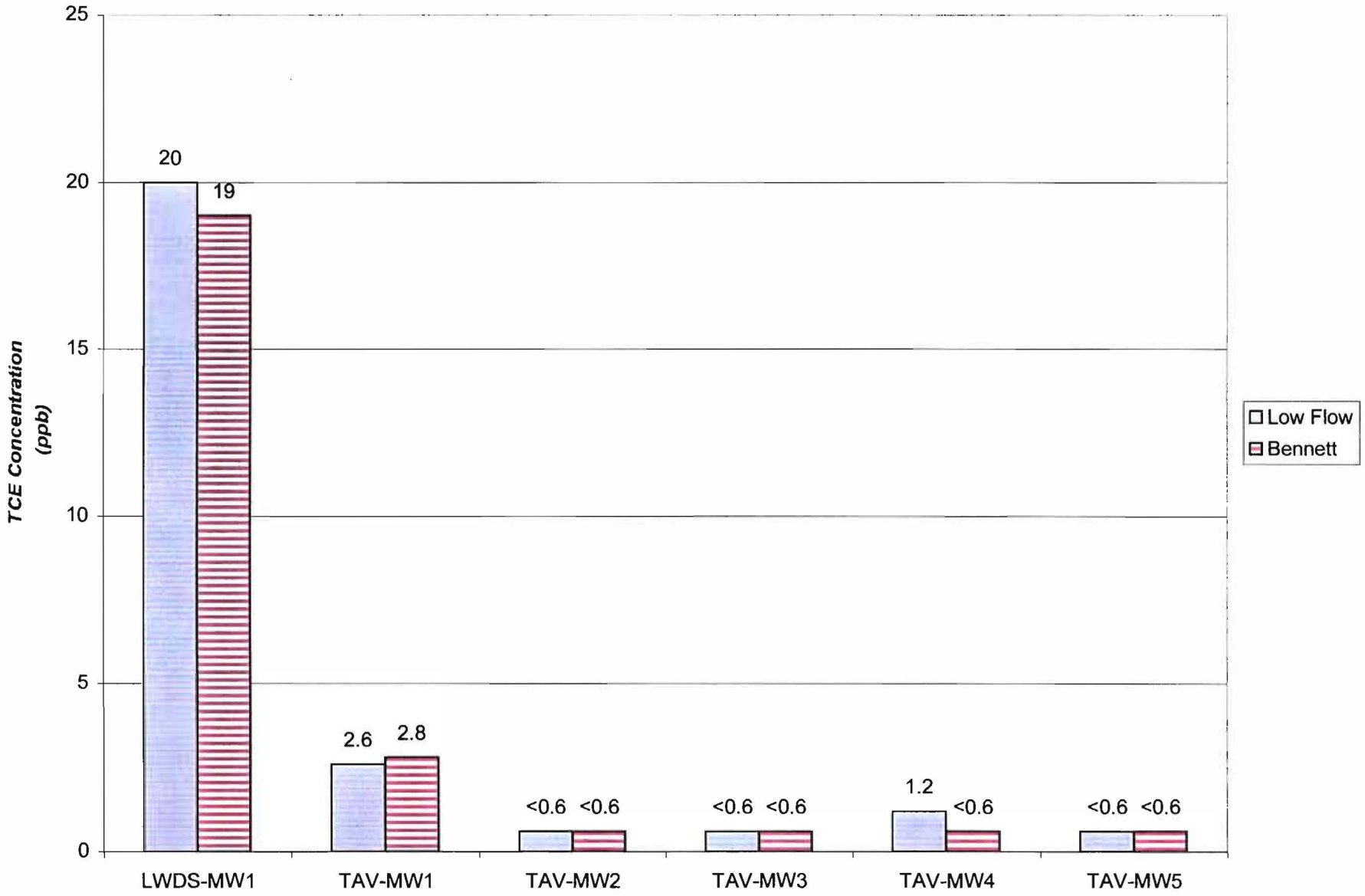


Figure 5.1-4. Comparison of TCE concentrations in samples collected from TA-V wells using a low flow pump and a Bennett pump (August, 1998).

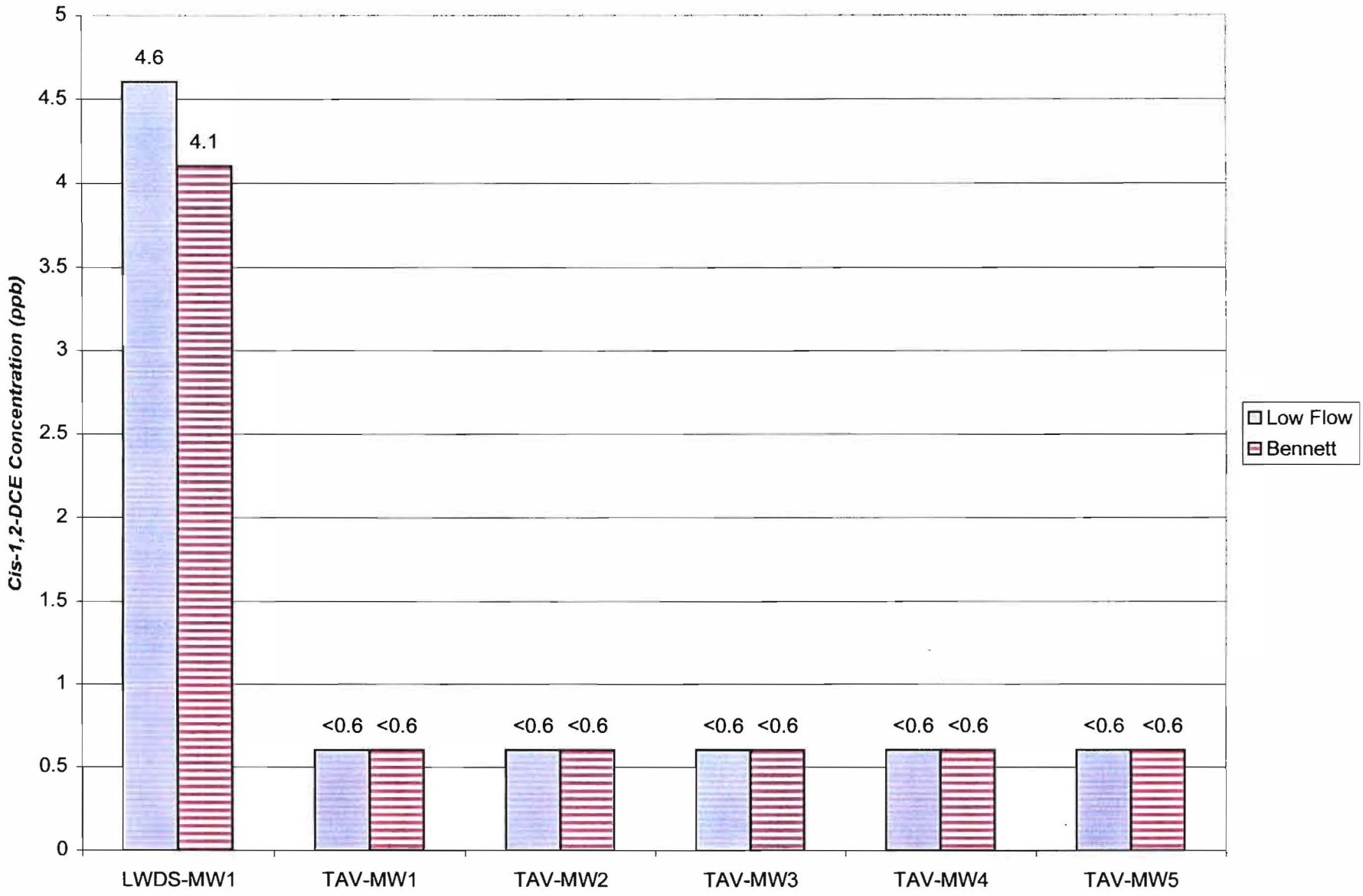


Figure 5.1-5. Comparison of cis-1,2-DCE concentrations in samples collected from TA-V wells using a low flow and a Bennett pump (August, 1998).

Figure 5.2.1-1 Piper Trilinear Diagram of TA-V Groundwater

November 1998

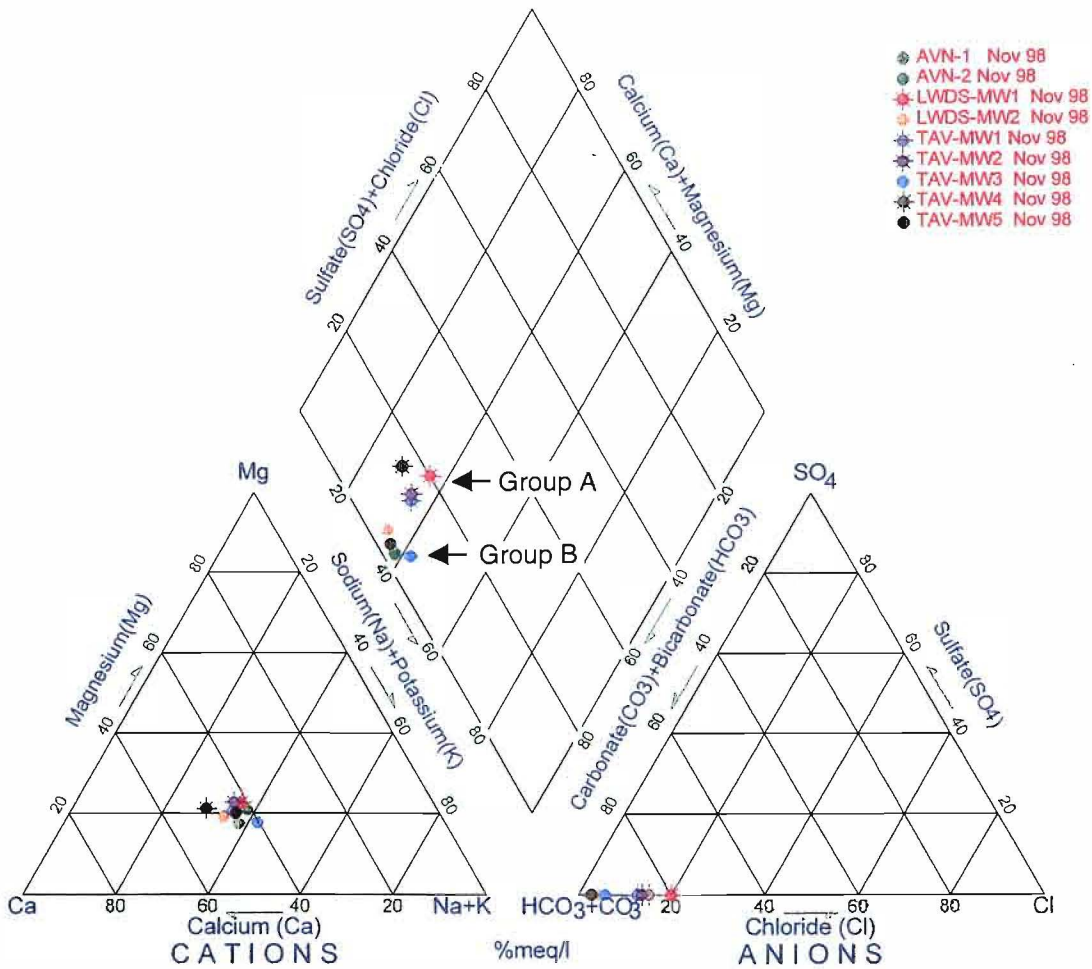


Figure 5.2.1-2 Water Quality Changes in Group A Wells

June 1995 through November 1998

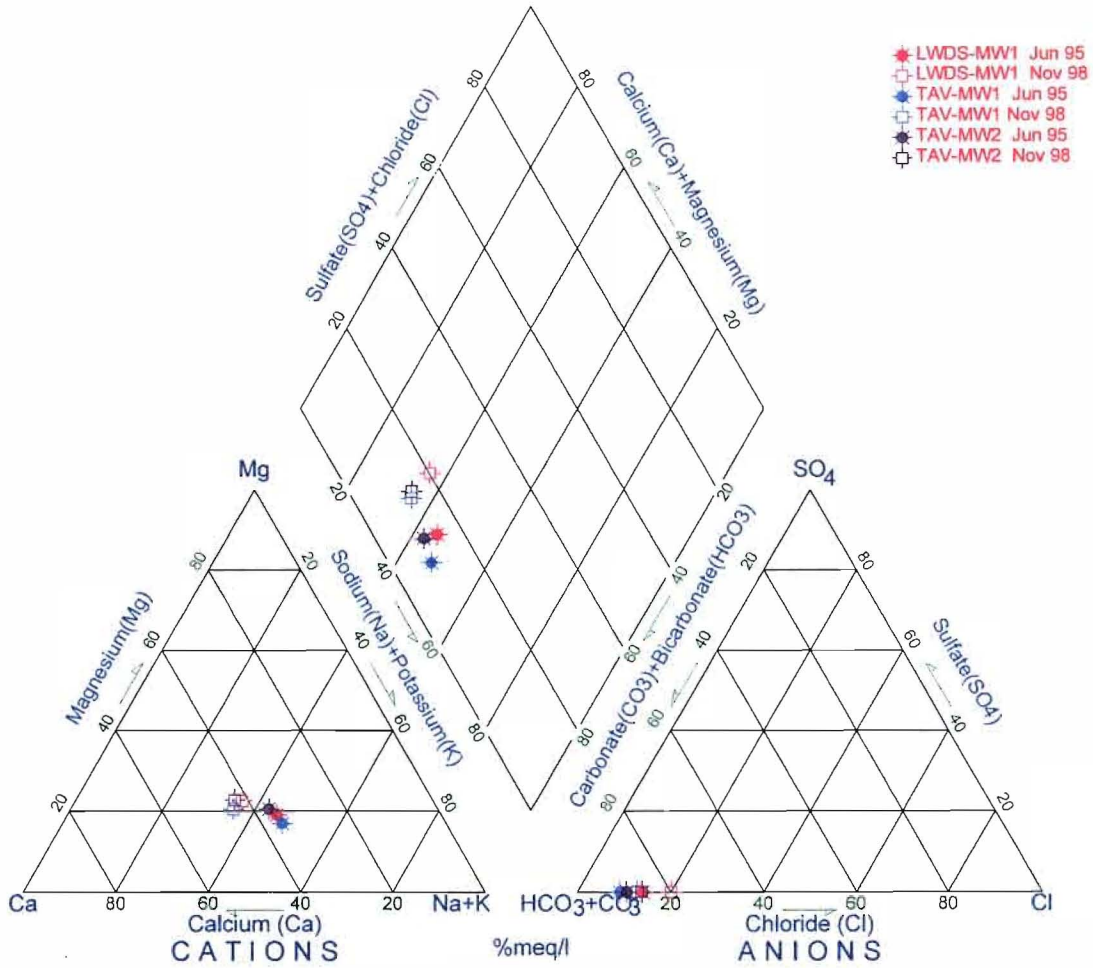


Figure 5.2.1-3 Trilinear Diagram of LWDS-MW1 Groundwater

November 1993 through November 1998

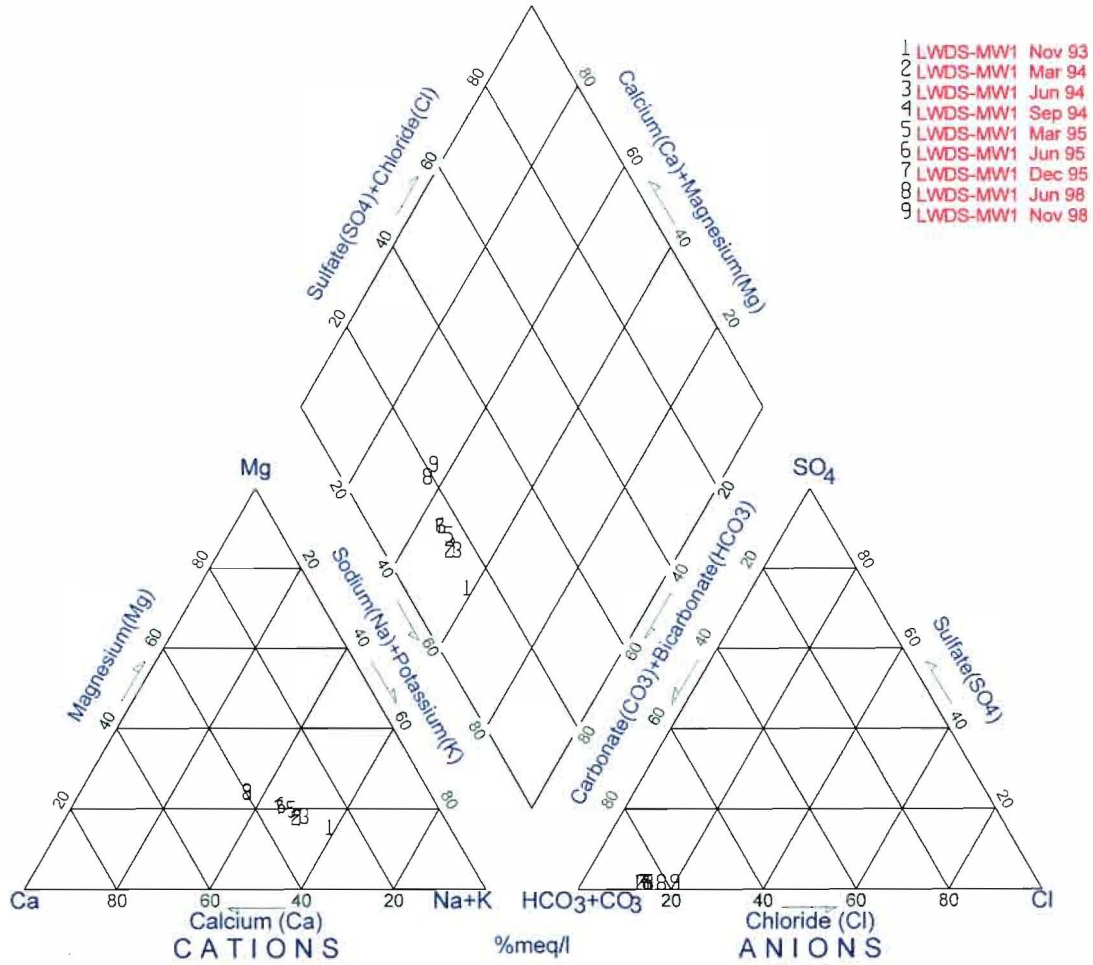


Figure 5.2.1-4
Major Cation Concentrations in LWDS-MW1

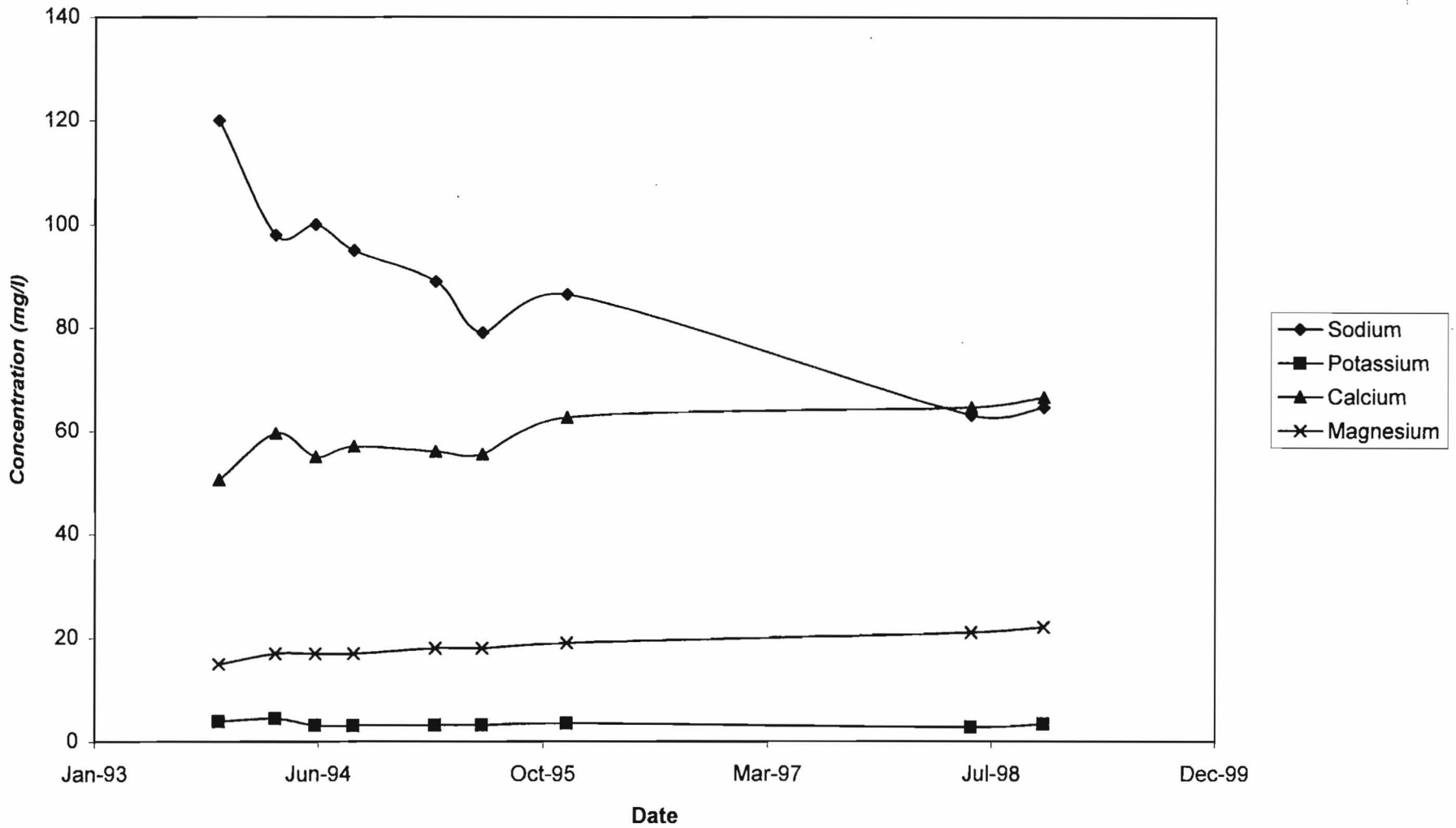


Figure 5.2.1-5
Major Anion Concentrations in LWDS-MW1

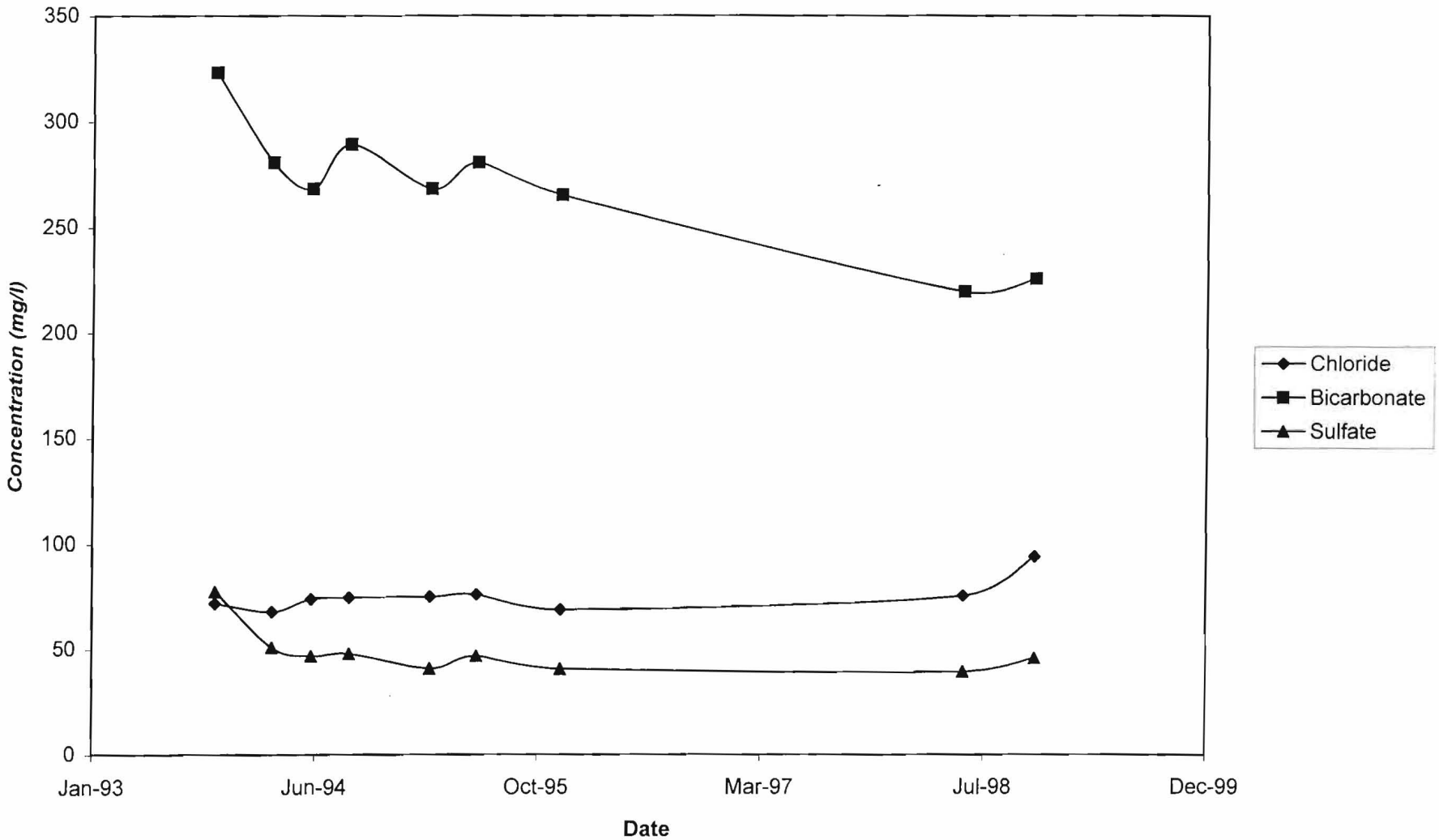


Figure 5.2.1-6 Stiff Diagrams of TA-V Groundwater
November 1998

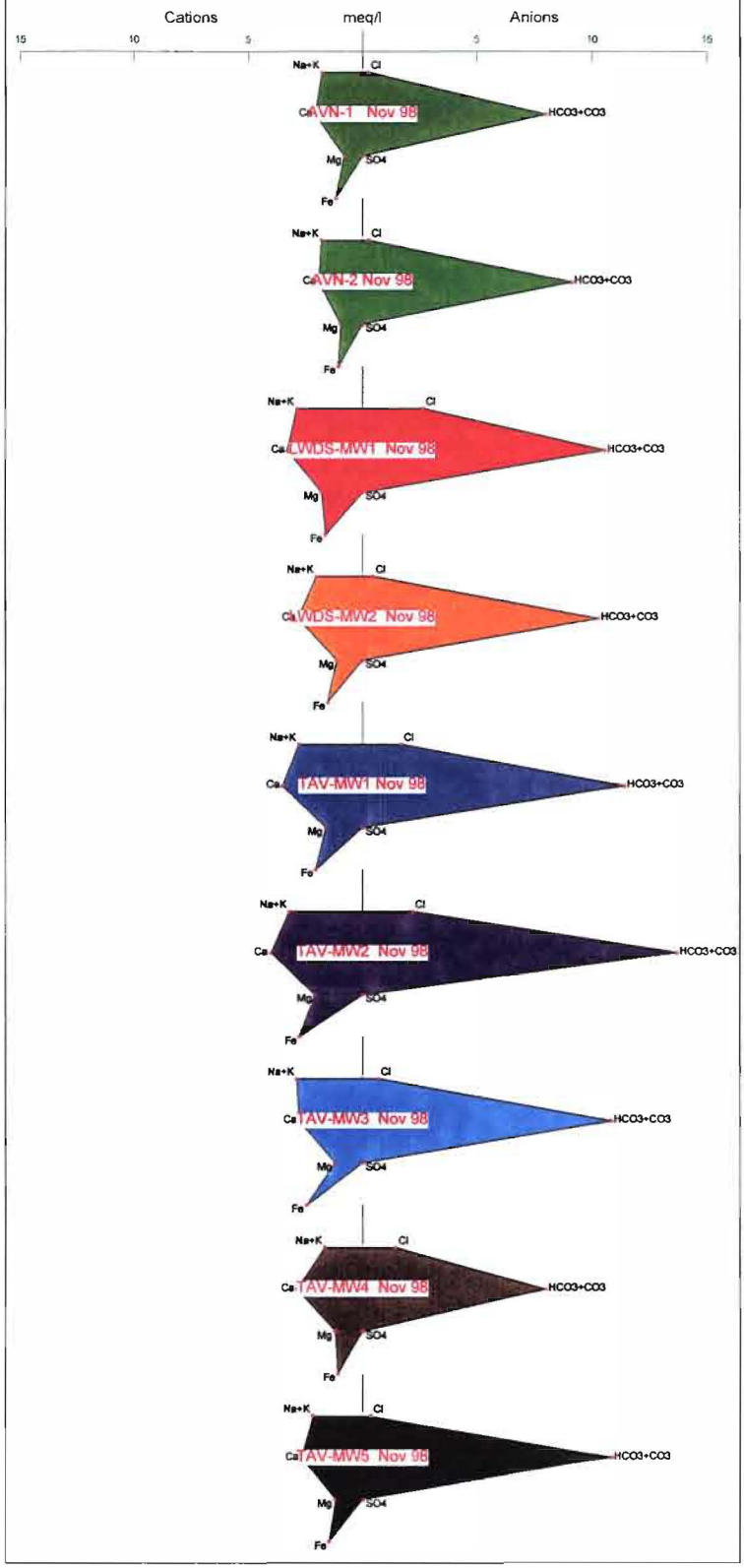


Figure 5.2.1-7 Stiff Diagrams of LWDS-MW1 Groundwater
November 1993 through November 1998

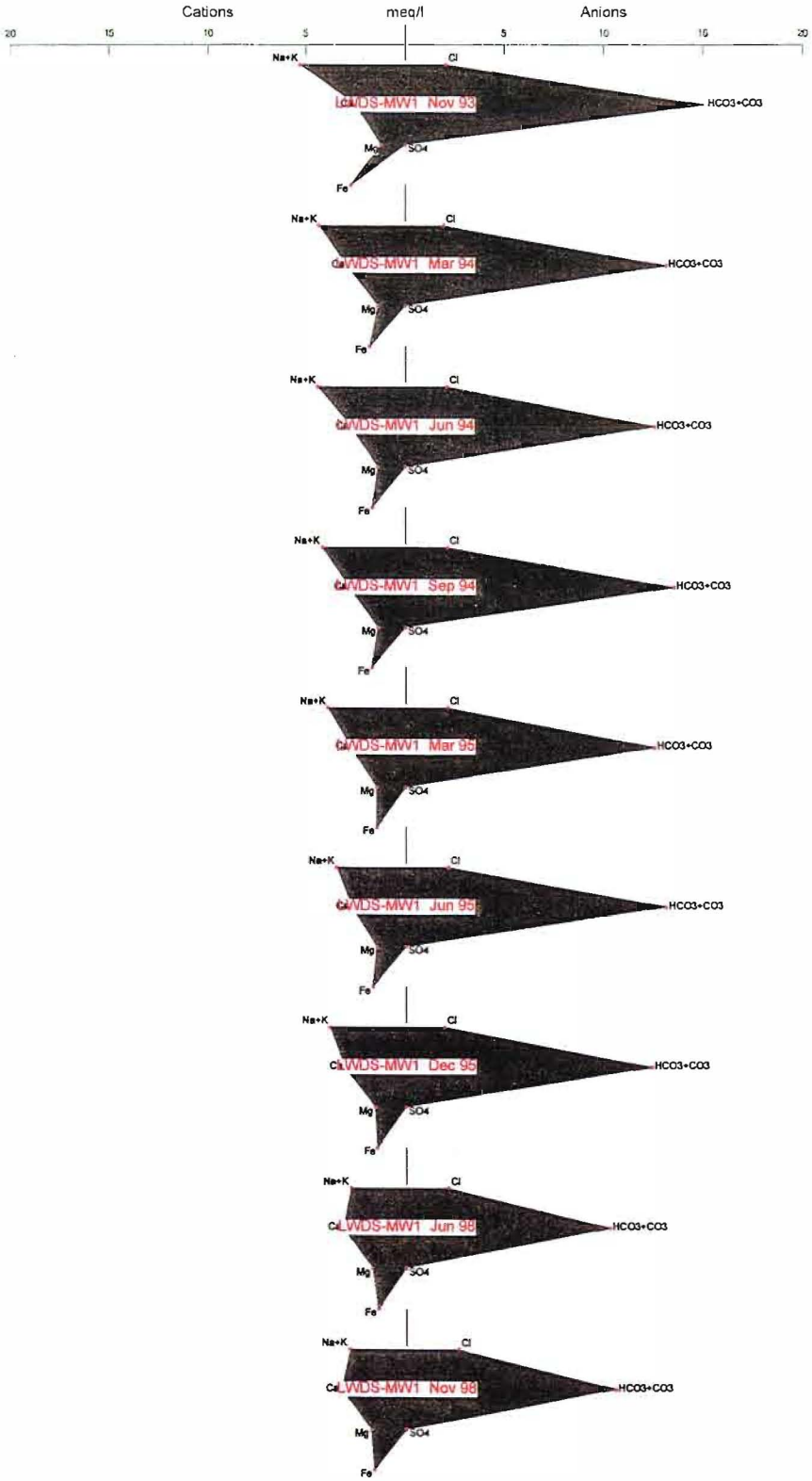


Figure 5.2.1-8 Stiff Diagrams of TAV-MW1 Groundwater

June 1995 through November 1998

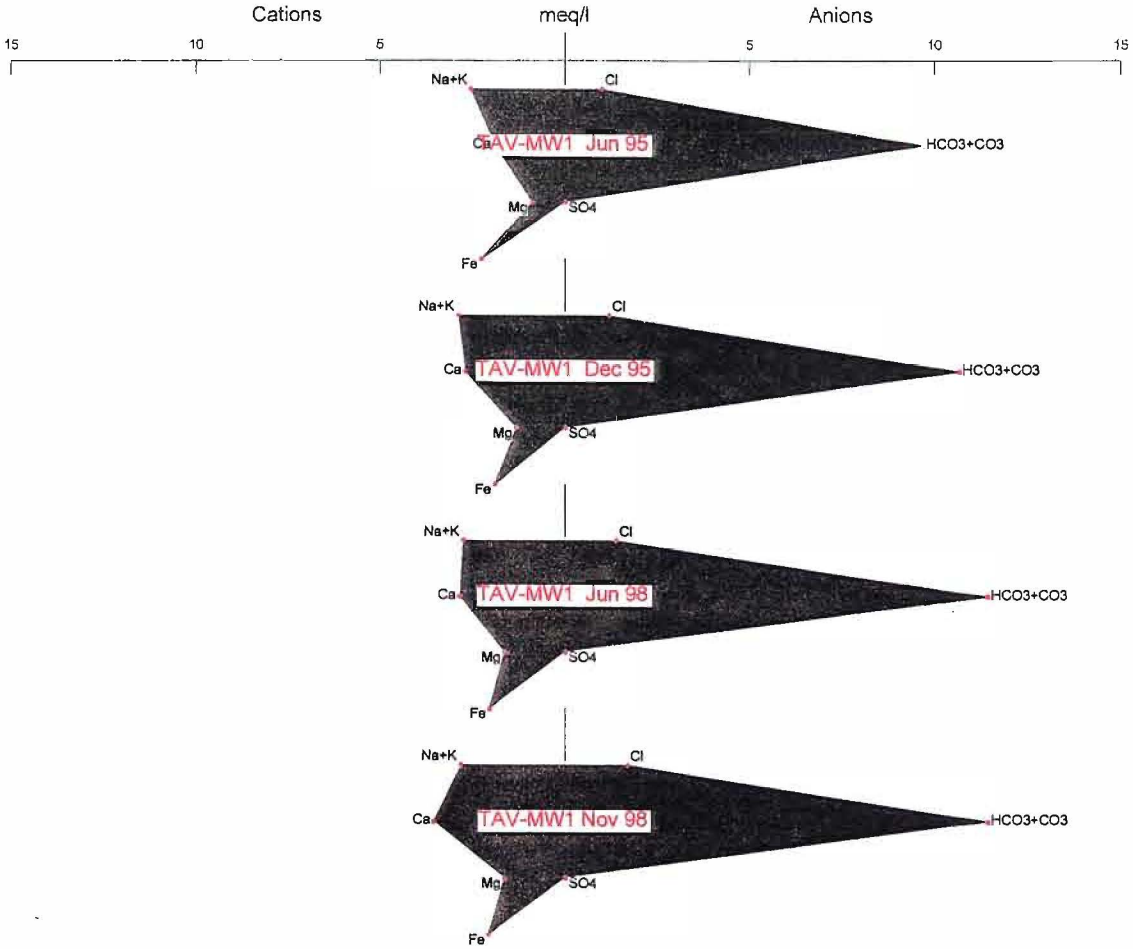


Figure 5.2.1-9 Stiff Diagrams of TAV-MW2 Groundwater

June 1995 through November 1998

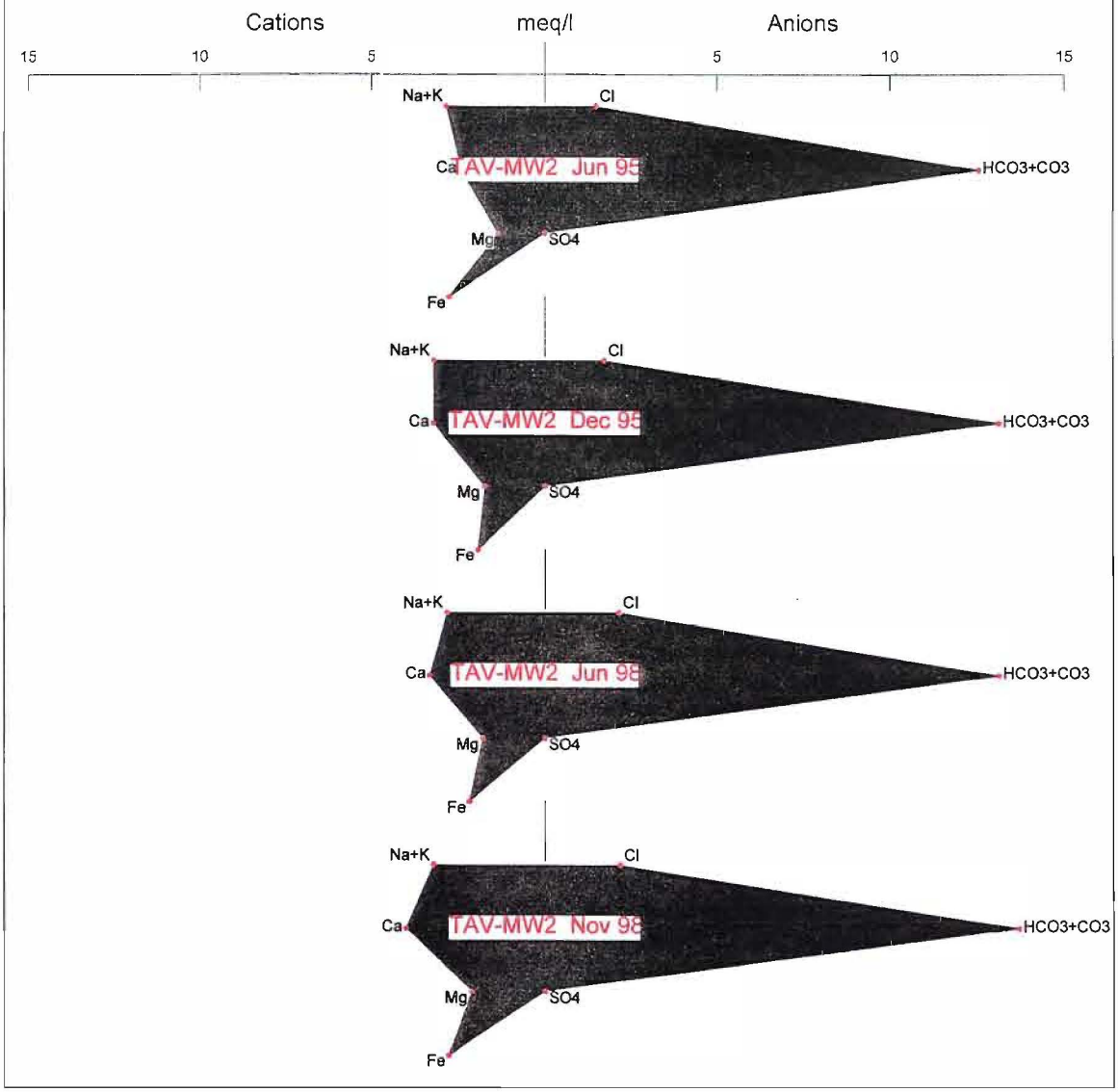
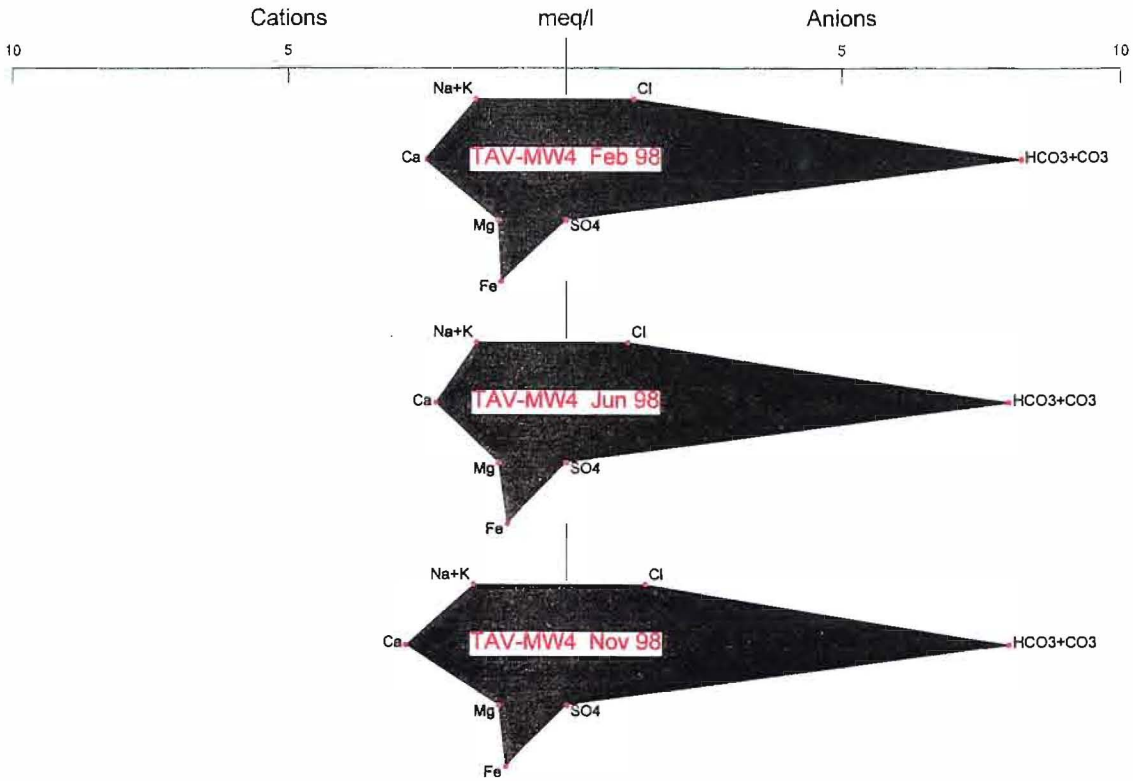
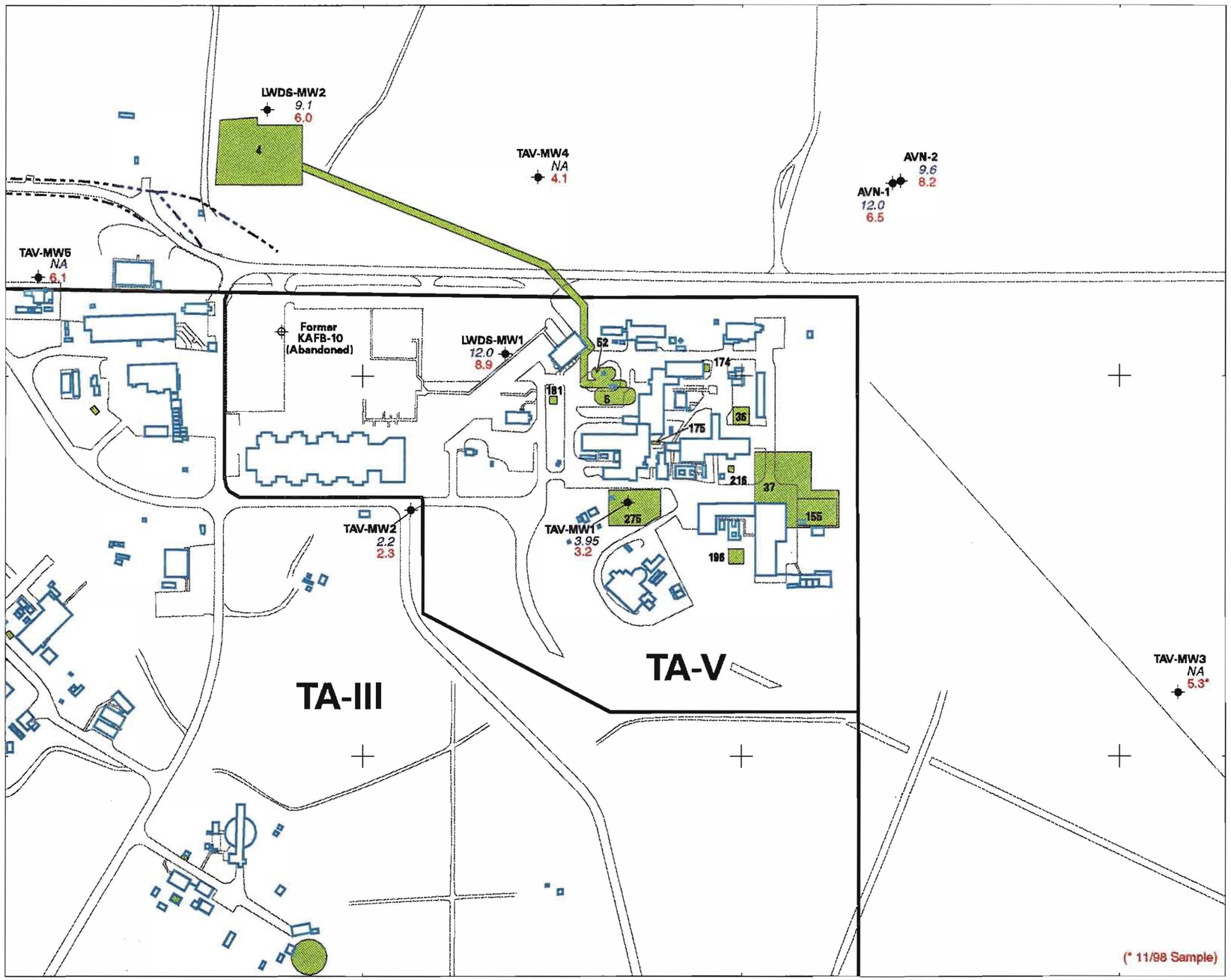


Figure 5.2.1-10 Stiff Diagrams of TAV-MW4 Groundwater
February 1998 through November 1998

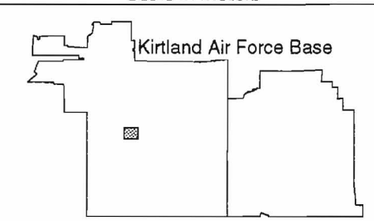




Legend

- **Monitoring well**
  - 9.6 March, 1996 Nitrate plus Nitrite concentration (mg/L as N)
  - 8.2 June, 1998 Nitrate plus Nitrite concentration (mg/L as N)
  - (NA = not analyzed)
- **Former KAFB water supply well (abandoned)**
- **Surface drainage**
- **Road**
- **SWMU**
- **SNL/NM technical area**
- **Building**

0 300 600
Scale in Feet
0 80 160
Scale in Meters



Sandia National Laboratories, New Mexico
Environmental Geographic Information System

Figure 5.3.1-1
Nitrate Plus Nitrite Concentrations in TA-V Groundwater, March, 1996 & June, 1998

Transverse Mercator Projection, New Mexico State Plane Coordinate System, Central Zone, 1927 North American Horizontal Datum, 1929 North American Vertical Datum

MAPID=990223

Unclassified

SNL GIS ORG. 6804

DHelfrich dh990223.aml 01/13/99

Figure 5.3.1-2
Nitrate Concentrations in LWDS-MW1 and LWDS-MW2

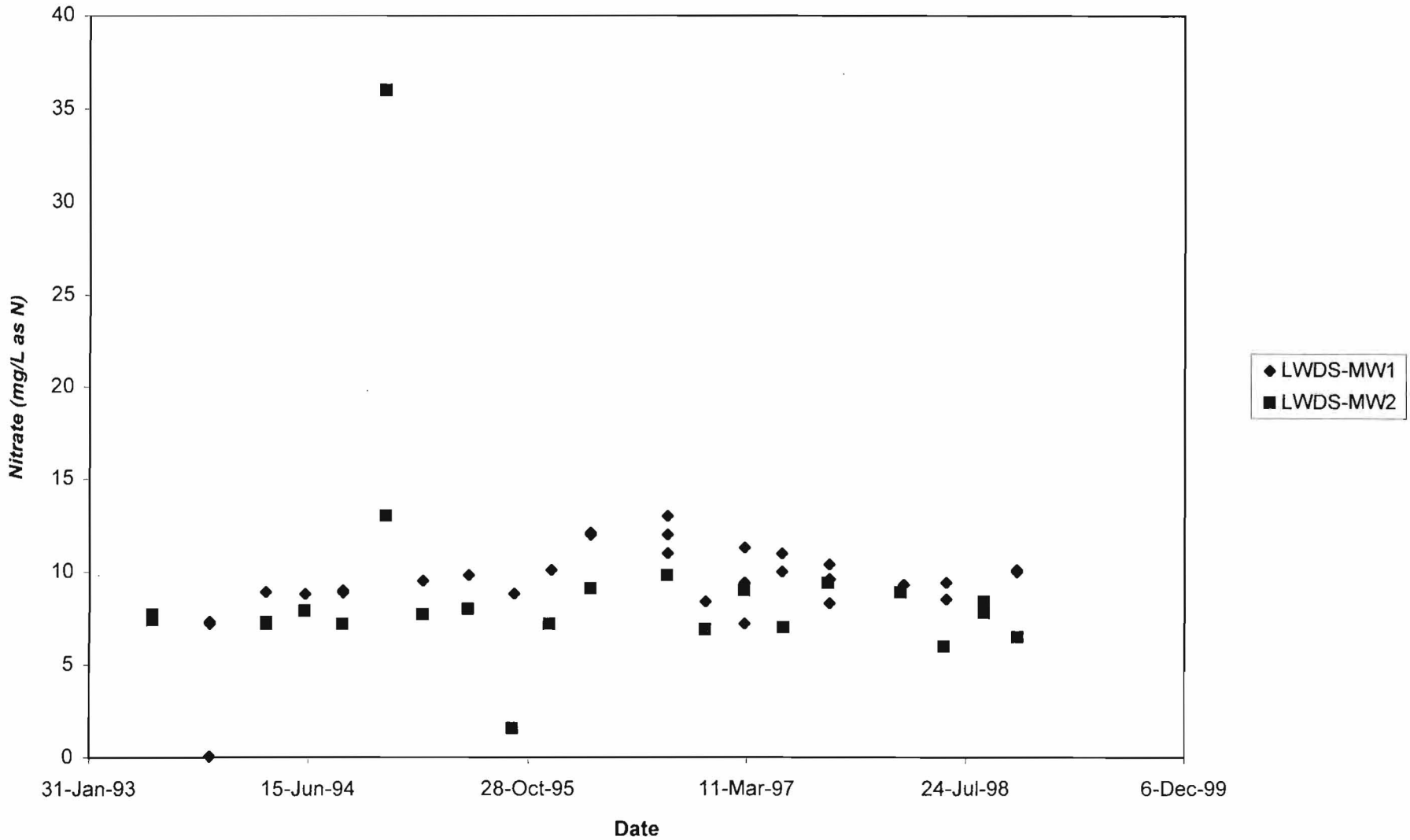
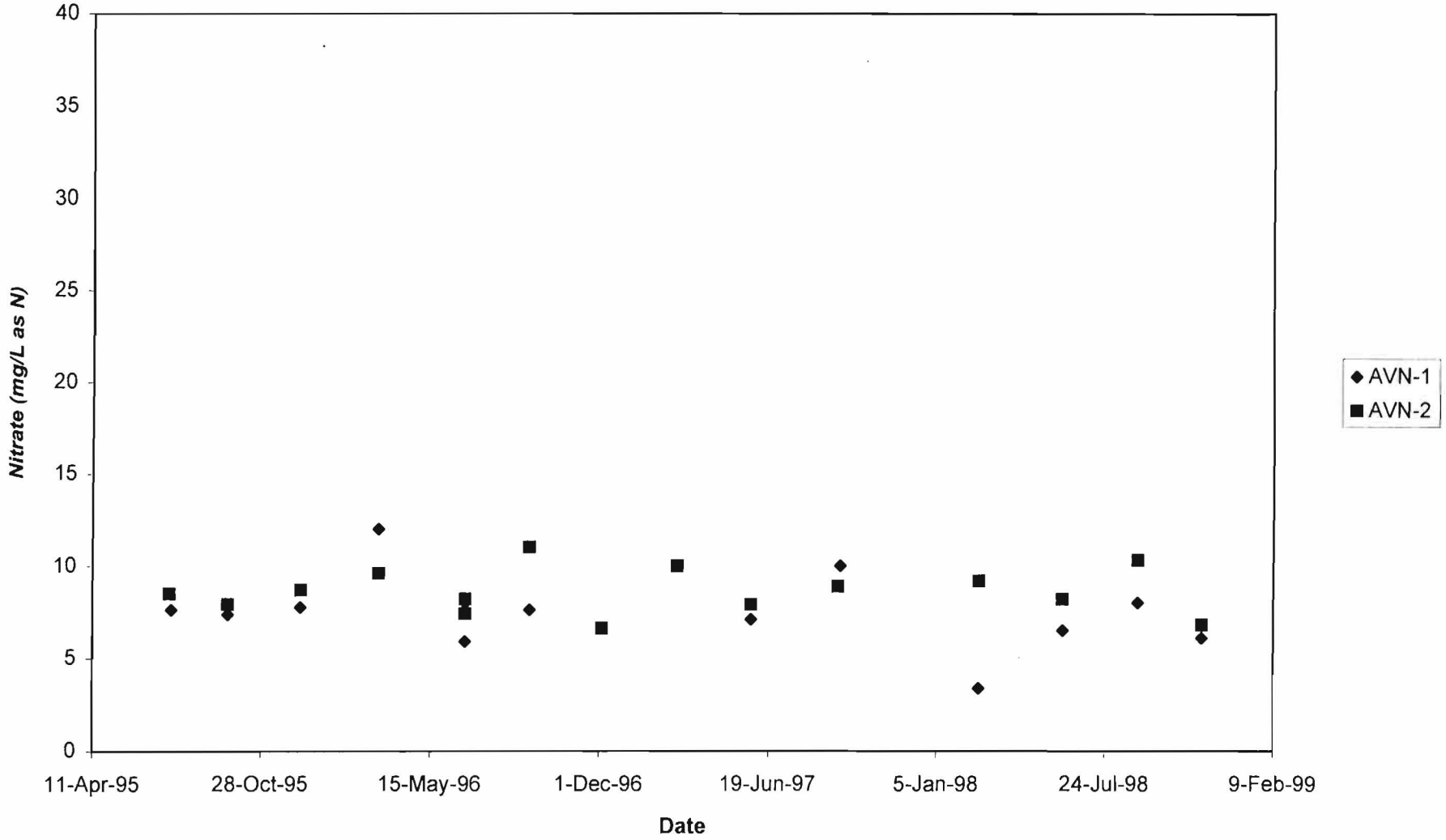
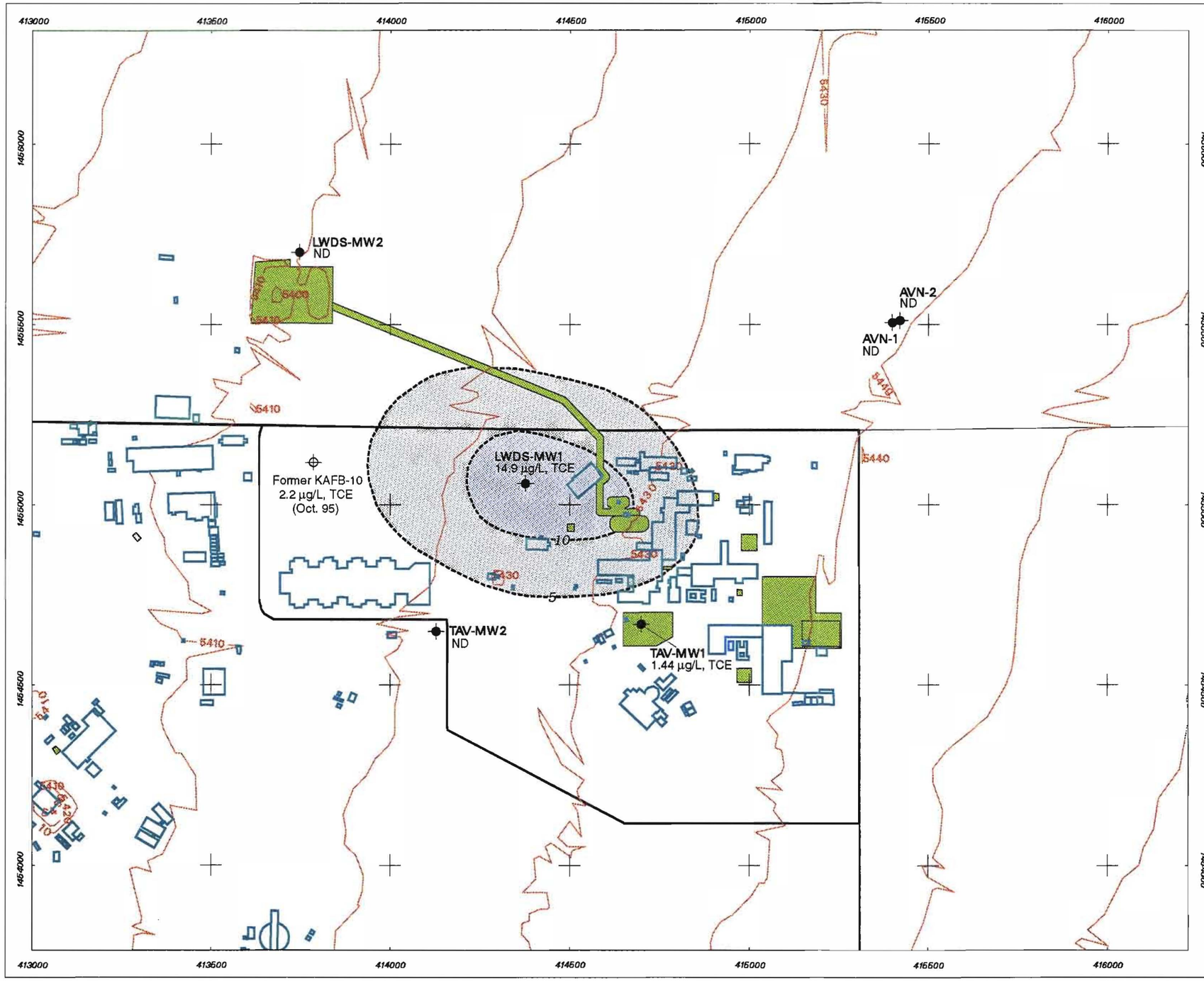


Figure 5.3.1-3
Nitrate Concentrations in AVN-1 and AVN-2

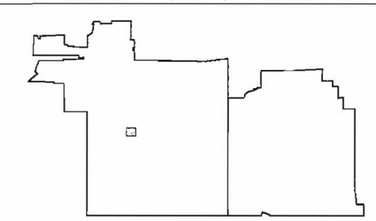




Legend

- Monitoring Well and TCE Concentration (µg/L) ND = Not Detected
- Former KAFB Water Supply Well (Abandoned)
- Technical Area
- 10 Ft Surface Contour
- Building
- SWMU
- TCE Concentration 5 µg/L Contour Interval
- TCE Concentration 10 µg/L Contour Interval

0 300 600
Scale in Feet
0 80 160
Scale in Meters



Sandia National Laboratories, New Mexico
Environmental Operations Geographic Information System

Figure 5.3.2-1
Approximate TCE Distribution in TA-V Groundwater, Dec., 1995

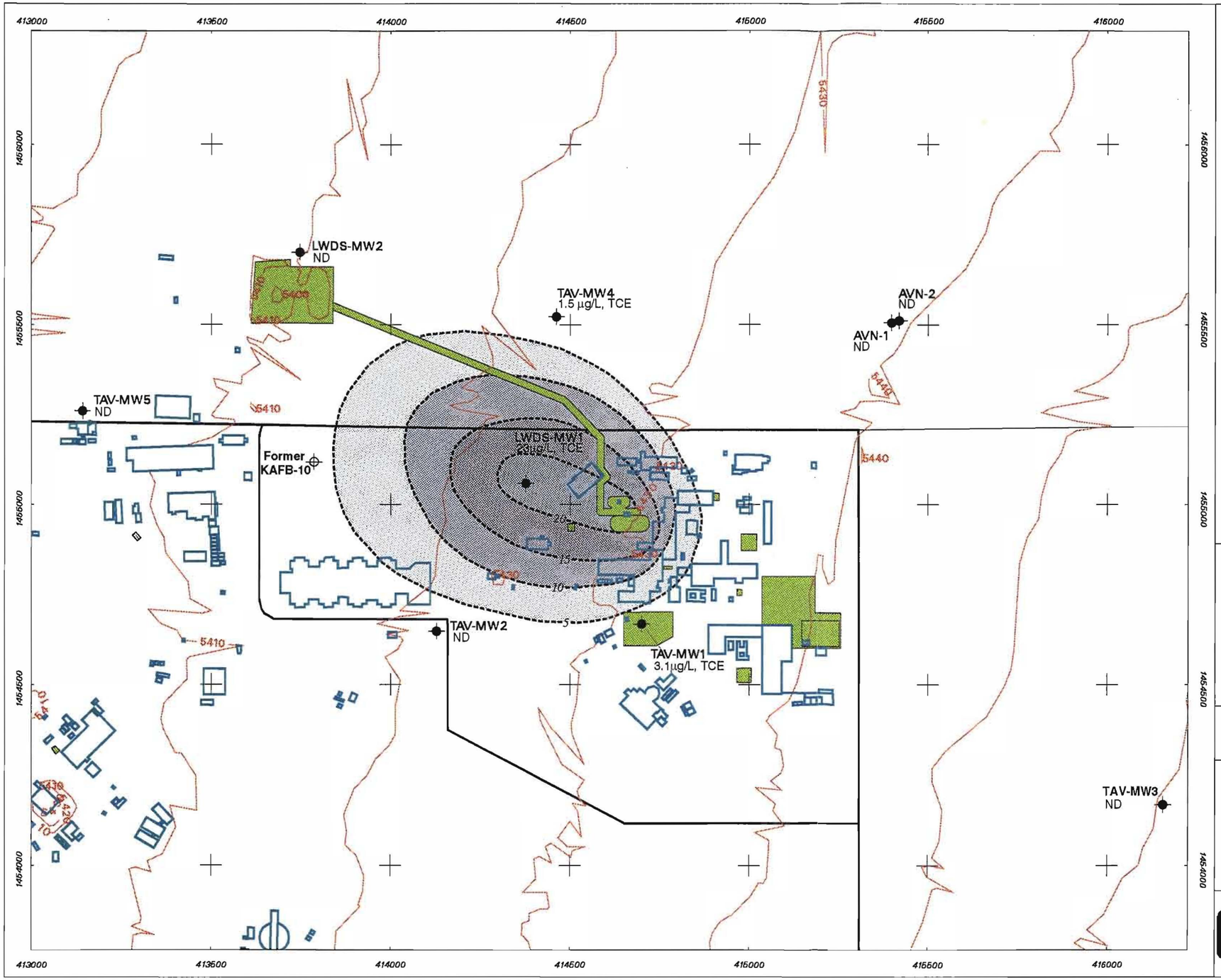
Transverse Mercator Projection, New Mexico State Plane Coordinate System, Central Zone, 1927 North American Horizontal Datum, 1929 North American Vertical Datum

MAPID=990283

Unclassified

SNL GIS ORG. 6804

DHelfrich dh990283.aml 02/10/99

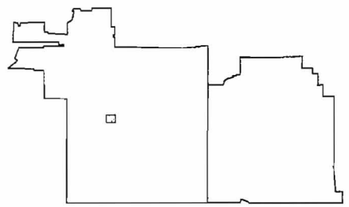


Legend

- Monitoring Well and TCE Concentration (ug/L) ND = Not Detected
- Former KAFB Water Supply Well (Abandoned)
- Technical Area
- 10 Ft Surface Contour
- Building
- SWMU
- TCE Concentration 5 µg/L Contour Interval
- TCE Concentration 10 µg/L Contour Interval
- TCE Concentration 15 µg/L Contour Interval
- TCE Concentration 20 µg/L Contour Interval

0 300 600
Scale in Feet

0 72 144
Scale in Meters



Sandia National Laboratories, New Mexico
Environmental Operations Geographic Information System

Figure 5.3.2-2
Approximate TCE Distribution in TA-V Groundwater, Nov., 1998

Transverse Mercator Projection, New Mexico State Plane Coordinate System, Central Zone, 1927 North American Horizontal Datum, 1929 North American Vertical Datum

		MAPID=990284
Unclassified		SNL GIS ORG. 6804
DHelfrich	dh990284.aml	02/10/99

Figure 5.3.2-3 Historical TCE Concentrations in LWDS-MW1

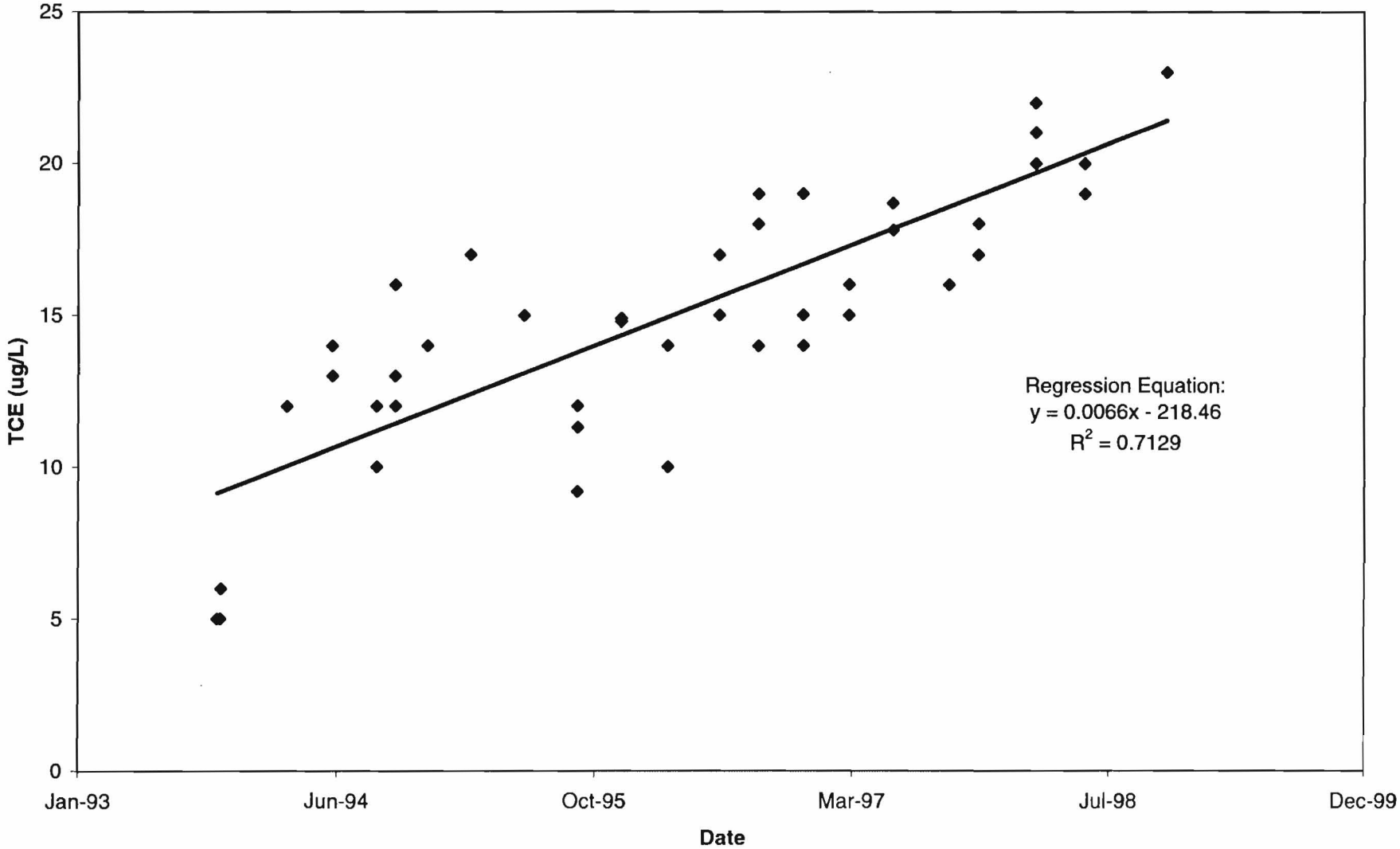


Figure 5.3.2-4 Historical TCE Concentrations in TAV-MW1

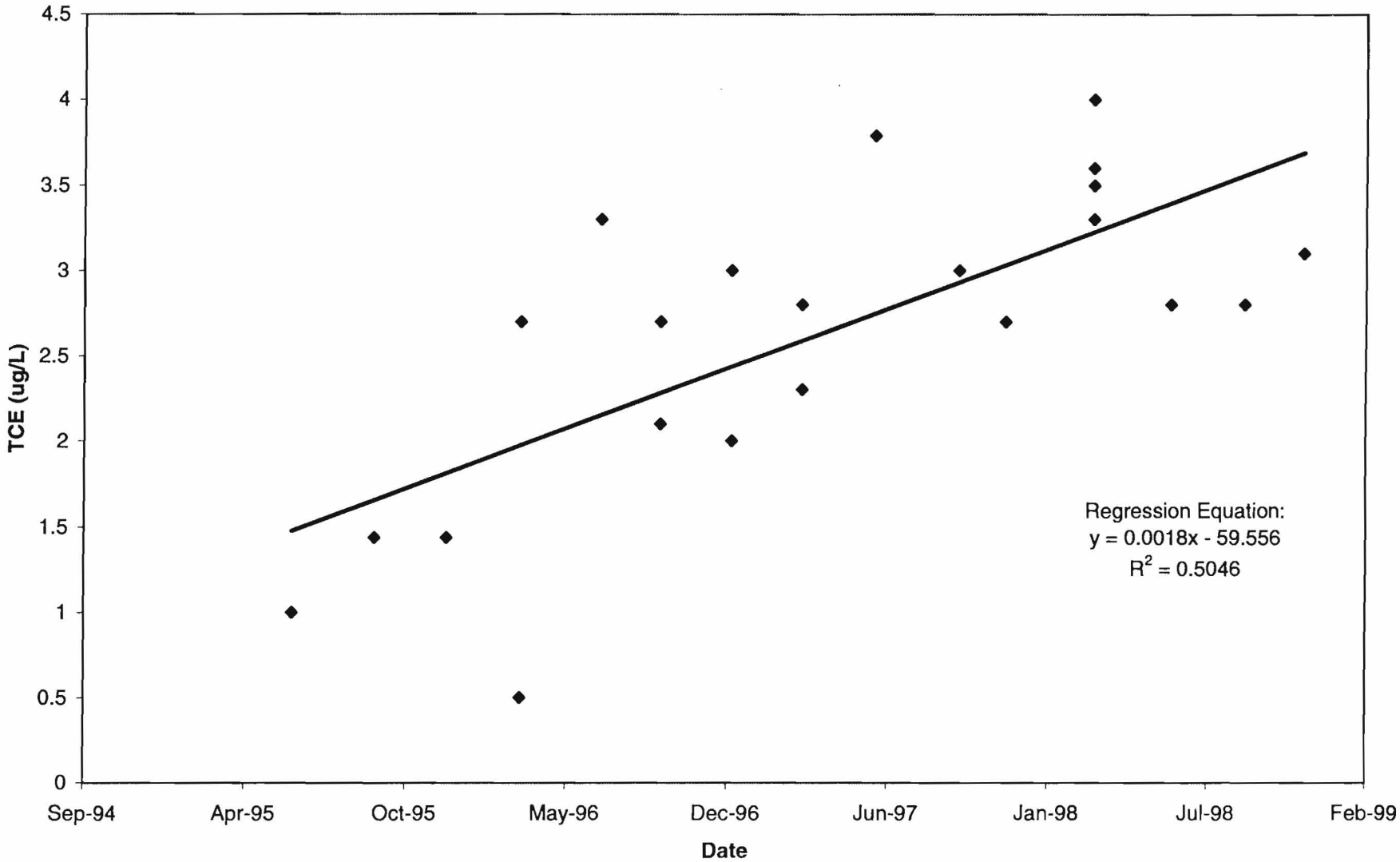


Figure 5.3.2-5 Historical TCE Concentrations in LWDS-MW1 and TAV-MW1 (Showing 30% Analytical Error Bars)

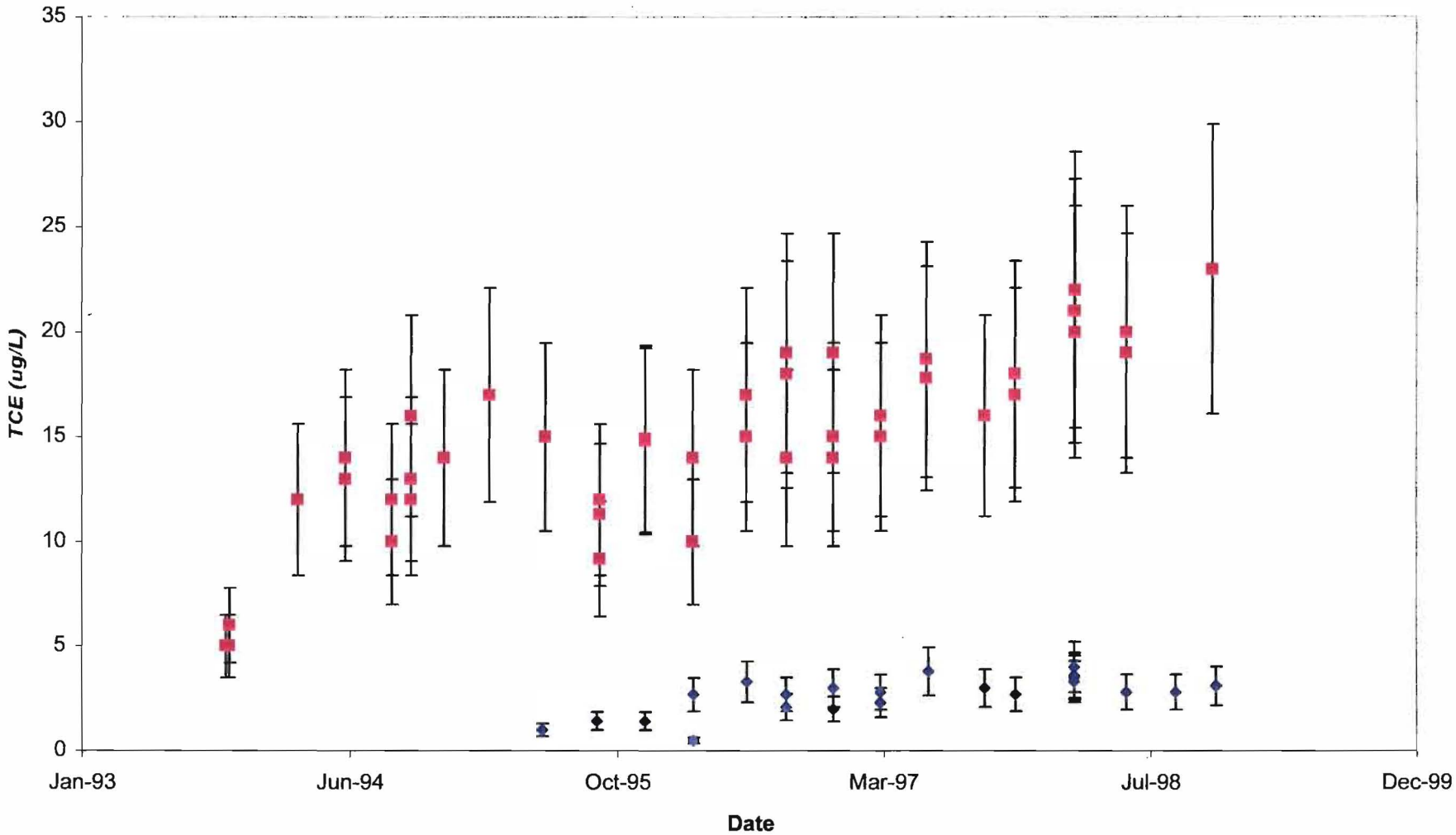


Figure 5.3.2-6 Historical Concentrations of Cis-1,2-DCE in LWDS-MW1

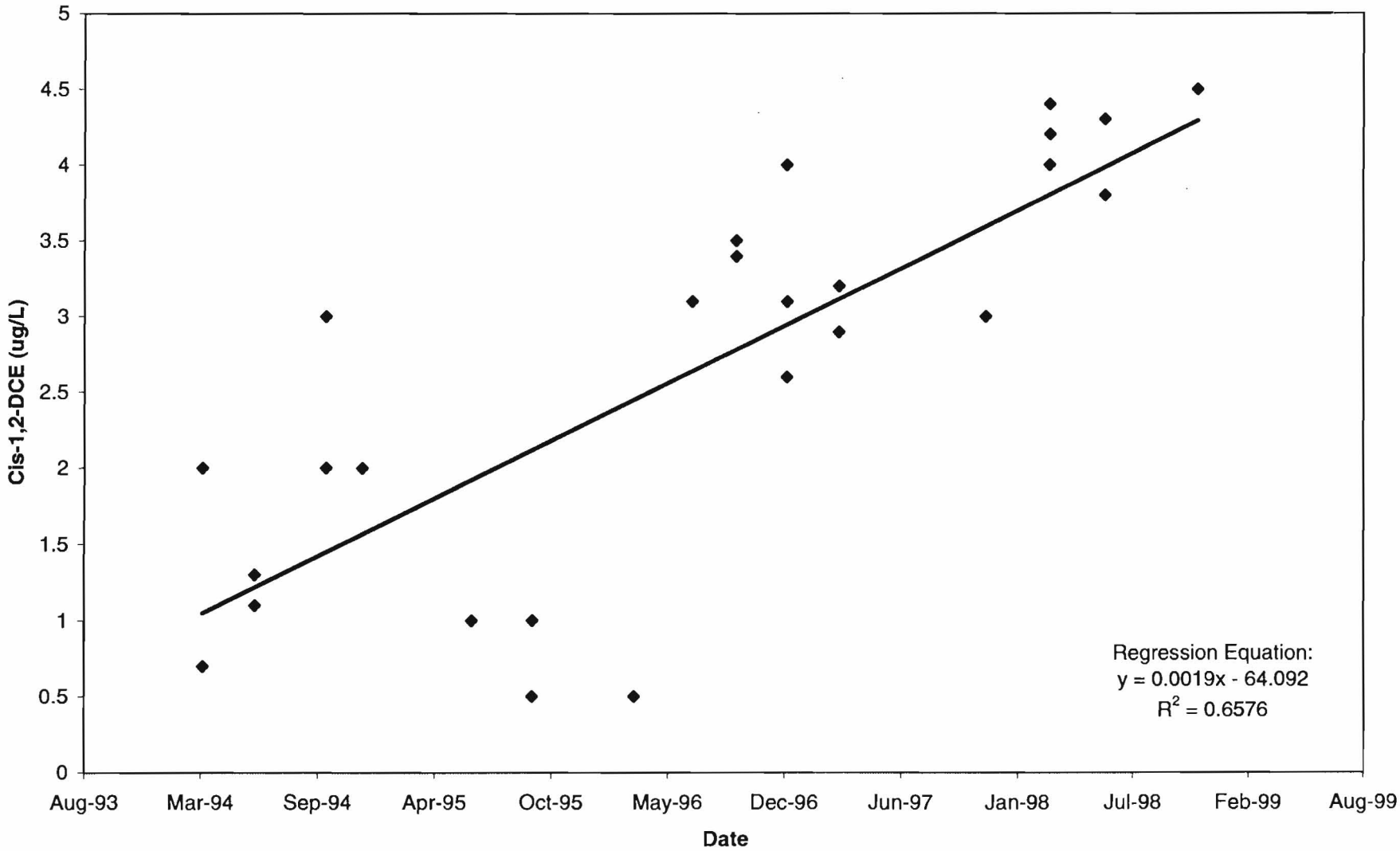


Figure 5.4-1
TCE Vapor Profile in the LWDS-MW1 Borehole

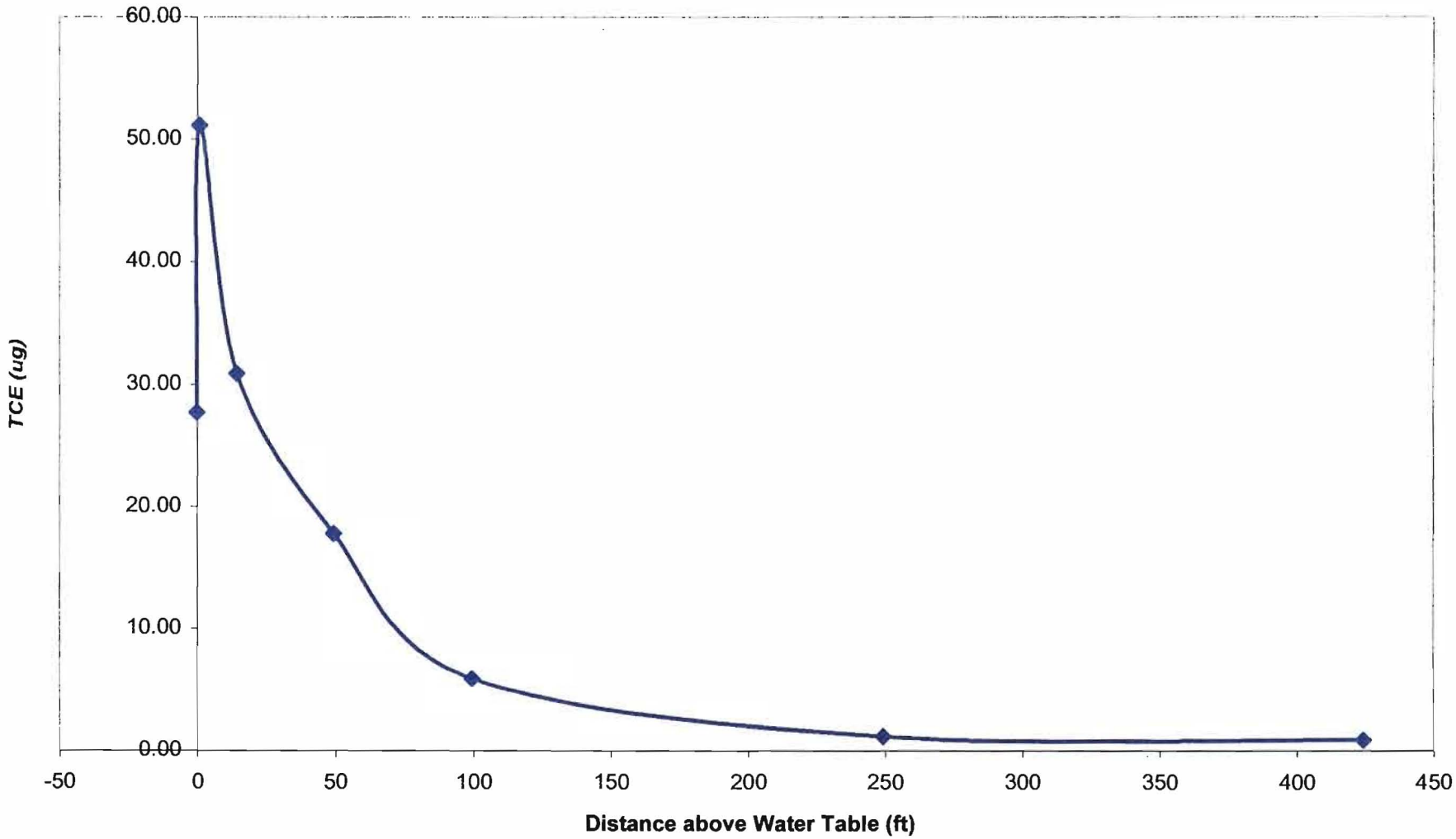


Figure 5.4-2
Cis-1,2-DCE Vapor Profile in the LWDS-MW1 Borehole

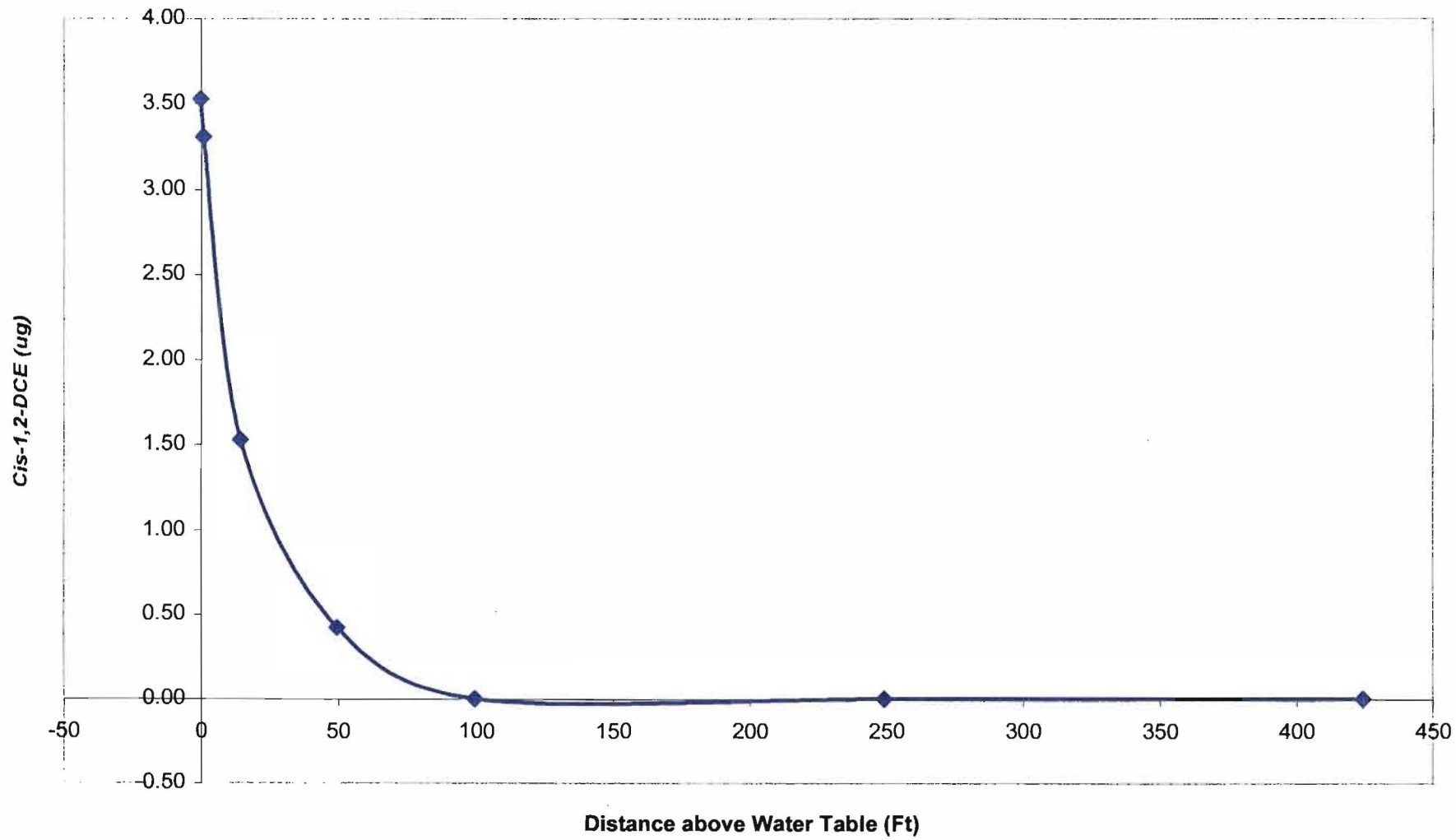


Figure 5.4-3
1,4-Dichlorobenzene Vapor Profile in the LWDS-MW1 Borehole

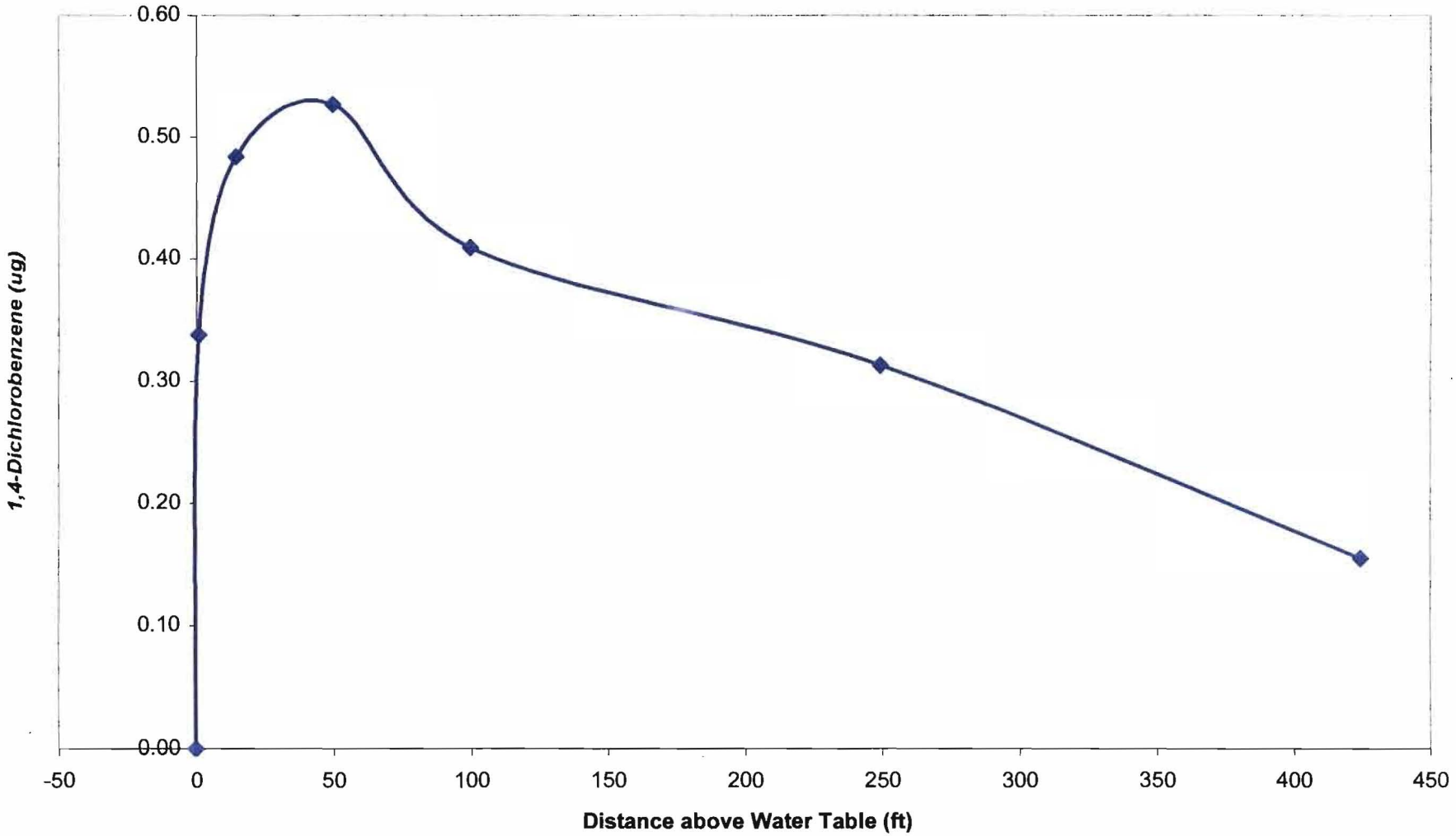


Figure 5.4-4
PCE Vapor Profile in the LWDS-MW1 Borehole

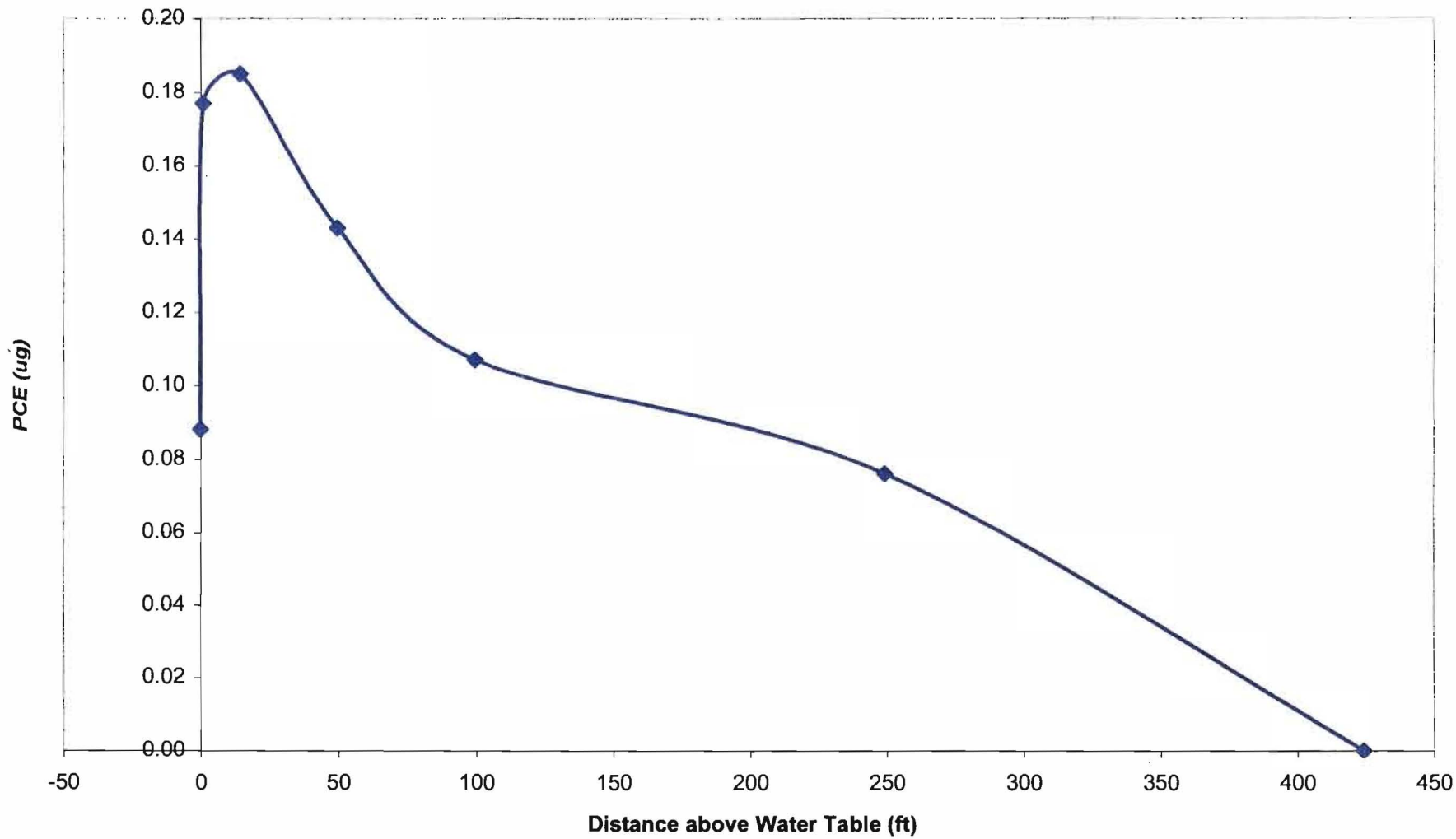


Figure 5.4-5
Chloroform Vapor Profile in the LWDS-MW1 Borehole

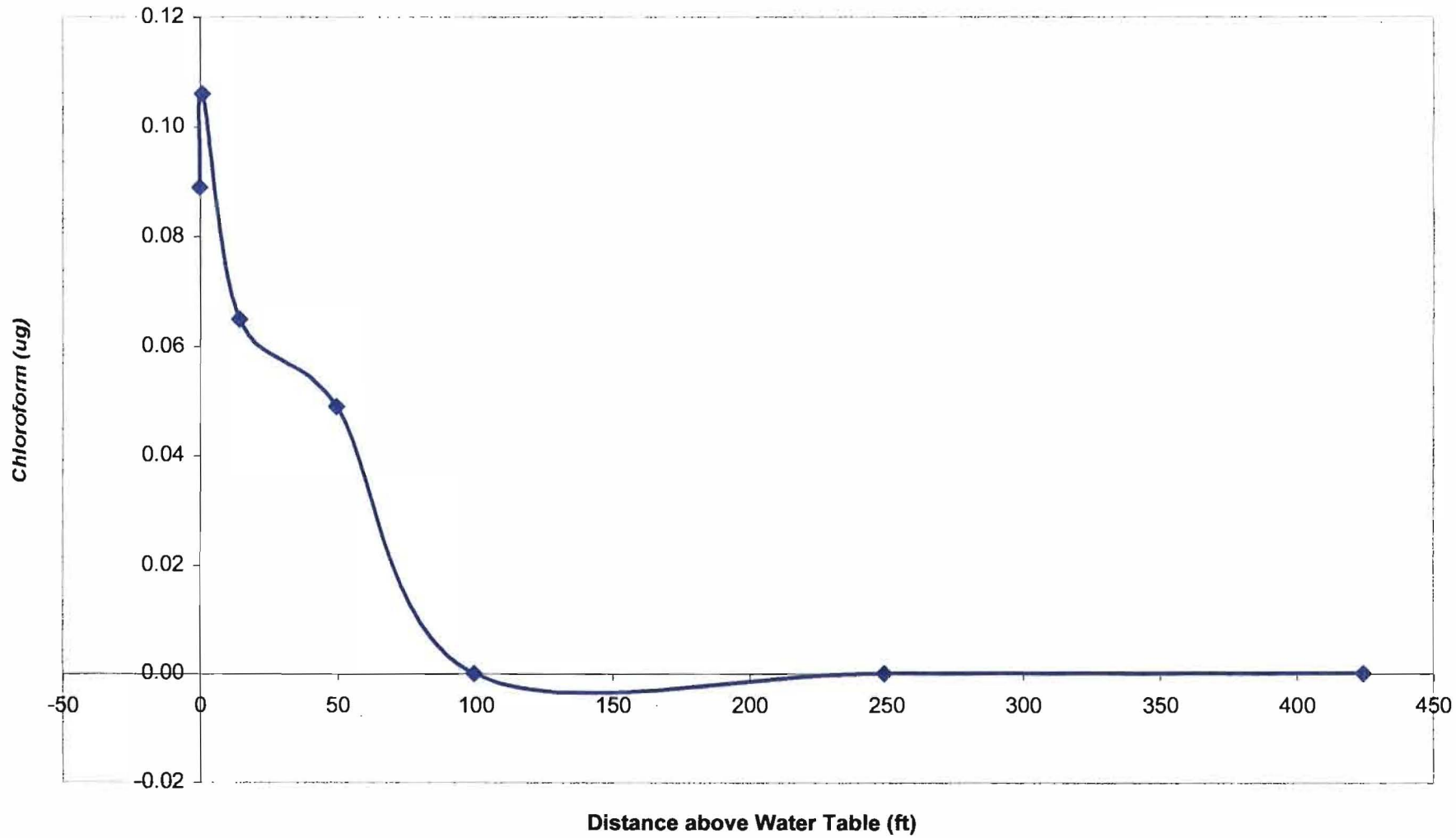
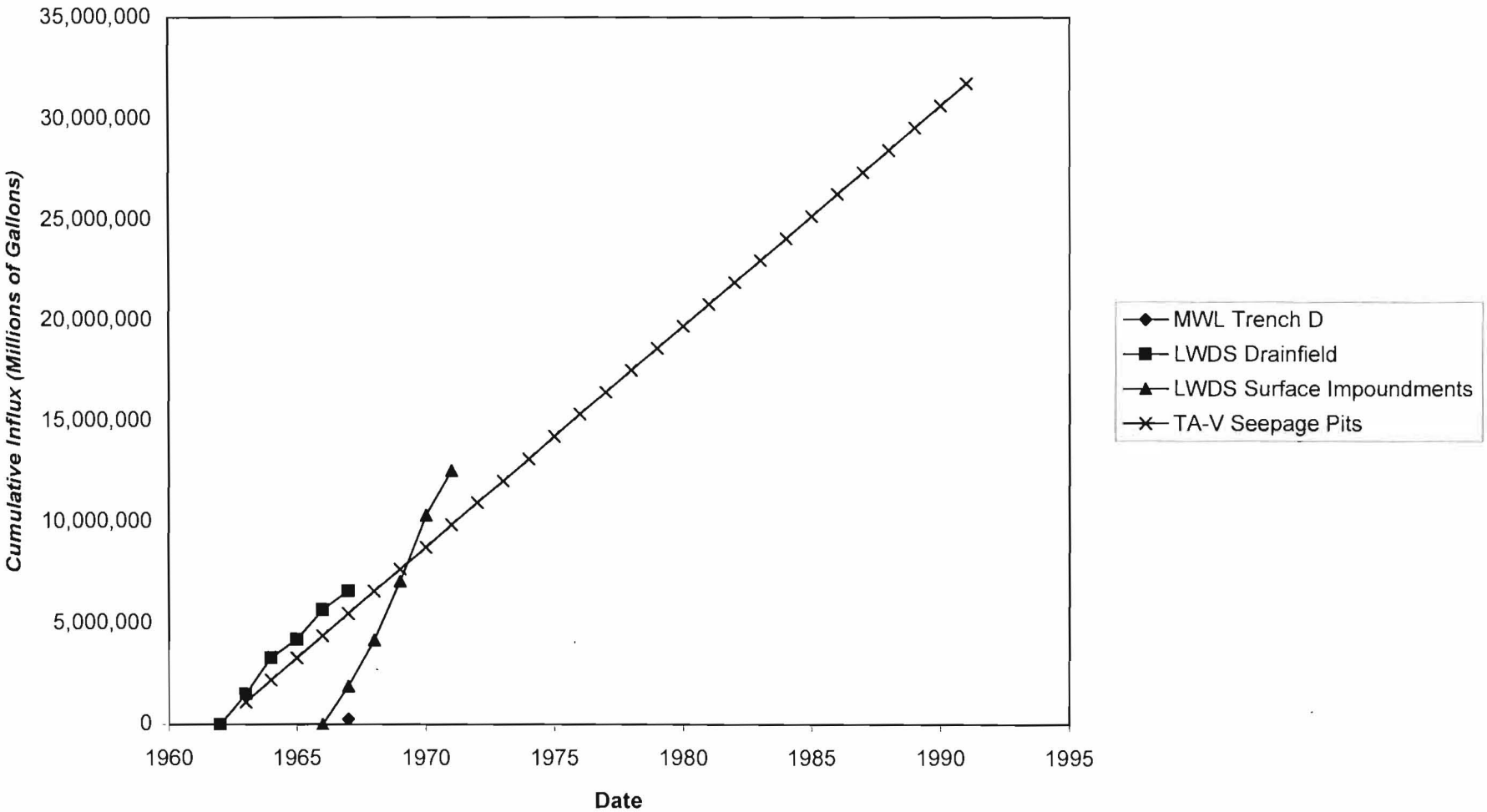


Figure 6.7.2-1

Cumulative Influx of Water Into the LWDS Drainfield and Surface Impoundments, the TA-V Seepage Pits, and Trench D of the MWL



TABLES

Table 2.3
Summary of TA-V Boreholes and Monitoring Wells

Borehole	Borehole Completion Date	Location	SWMU	Angle from Vertical	Linear Depth (ft)	Depth (bgs) (ft)	Lithologic Log Available?
TA-V Borehole Summary							
LWDS-BH1	Aug 92	LWDS surface impoundments	4	Vertical	98	98	Y
LWDS-BH2	Aug 92	LWDS surface impoundments	4	Vertical	100	100	Y
LWDS-BH3	Aug 92	LWDS surface impoundments	4	Vertical	85	85	Y
LWDS-BH4	Aug 92	LWDS surface impoundments	4	Vertical	100	100	Y
LWDS-BH5	Aug 92	LWDS surface impoundments	4	Vertical	100	100	Y
LWDS-BH6	Sep 92	LWDS holding tanks	52	30°	50	43	Y
LWDS-BH7	Sep 92	LWDS holding tanks	52	30°	43	37	Y
LWDS-BH8	Sep 92	LWDS holding tanks	52	30°	50	43	Y
LWDS-BH9	Mar 94	LWDS surface impoundments	4	Vertical	60	60	N
LWDS-BH10	Mar 94	LWDS surface impoundments	4	Vertical	30	30	N
LWDS-BH11	Mar 94	LWDS drainfield	5	Vertical	50	50	N
LWDS-BH12	Mar 94	LWDS drainfield	5	Vertical	55	55	N
LWDS-BH13	Mar 94	LWDS drainfield	5	Vertical	55	55	N
LWDS-BH14	Mar 94	LWDS drainfield	5	Vertical	60	60	N
LWDS-BH15	Mar 94	LWDS holding tanks	52	30°	50	43	N
LWDS-BH16	Mar 94	LWDS holding tanks	52	30°	50	43	N
LWDS-BH17	Dec 94	LWDS surface impoundments	4	Vertical	60	60	Y
LWDS-BH18	Dec 94	LWDS surface impoundments	4	Vertical	30	30	Y
TAV36 BH-01	Feb 95	Near SWMU 36	36	Vertical	340	340	Y
TAV36 BH-02	Feb 95	Near SWMU 275	36	Vertical	320	320	Y
HERMES-C	Oct 91	Near SWMU 36	36	Vertical	271	271	Y
HERMES-E1	Oct 91	Near SWMU 36	36	Vertical	128	128	Y
HERMES-SE	Jan 92	Near SWMU 36	36	Vertical	280	280	Y
HERMES-SW	Dec 91	Near SWMU 36	36	Vertical	281	281	Y
HERMES-NW	Jan 92	Near SWMU 36	36	Vertical	280	280	Y
HERMES-NE	Jan 92	Near SWMU 36	36	Vertical	280	280	Y

Refer to footnotes at end of table.

Table 2.3 (Concluded)
Summary of TA-V Boreholes and Monitoring Wells

Monitoring Well	Borehole Completion Date	Location	SWMU	Angle from Vertical	Linear Depth (ft)	Depth (bgs) (ft)	Lithologic Log Available?
TA-V Monitoring Well Summary							
LWDS-MW1	May 93	Near LWDS drainfield	5	Vertical	525	525	Y
LWDS-MW2	Oct 92	LWDS surface impoundments	4	Vertical	531	531	Y
TAV-MW1	Feb 95	TA-V Seepage Pits	275	Vertical	520	520	Y
TAV-MW2	Mar 95	West/south of TA-V	275	Vertical	522	522	Y
TAV-MW3	Apr 97	East of TA-V	NA	Vertical	568	568	Y
TAV-MW4	Apr 97	North of TA-V	NA	Vertical	528	528	Y
TAV-MW5	Apr 97	West of TA-V	NA	Vertical	517	517	Y
AVN-1	May 95	North of TA-V	NA	Vertical	650	650	Y
AVN-2	Jun 95	North of TA-V	NA	Vertical	530	530	Y

bgs = Below ground surface.
ft = Foot (feet).
NA = Not applicable.
° = Degree(s).

Table 4.1.1-1
List of Available Geologic Data from TA-V Monitor Wells

Well Name	Total Borehole Depth (ft)	Date Completed	Geophysical Logs				Lithologic Description		Drilling Method
			GR	N	D	R	Log	Text	
AVN-1	650	5/23/95	X	X	X	X	X	X	Mud rotary
AVN-2	530	6/5/95	No data, well located next to AVN-1						Mud rotary
LWDS-MW1	525	5/3/93	X	X			X	X	Sonic/air rotary
LWDS-MW2	531	10/30/92	X	X	X		X	X	Sonic/air rotary
TAV-MW1	520	2/28/95	X	X				X	Air/casing hammer
TAV-MW2	522	3/30/95	X	X				X	Air/casing hammer
TAV-MW3	568	4/11/97	X	X			X	X	Air/casing hammer
TAV-MW4	528	4/18/97	X	X	X		X	X	Air/casing hammer
TAV-MW5	517	4/26/97	X	X	X		X	X	Air/casing hammer

D = Density.
ft = Foot (feet).
GR = Gamma ray.
N = Neutron.
R = Resistivity.

Table 4.1.3-1
Three-Point Dip Calculation at the Mixed Waste Landfill

Well Name	State Plane Coordinates (ft)		Ground Surface Elevation (ft amsl)	Depth of Marker Unit (ft bgs)	Elevation of Marker Unit (ft amsl)
	Easting	Northing			
MWL-BW1	411,756	1,451,699	5385	244	5141
MWL-MW2	411,451	1,452,693	5377	235	5142
MWL-MW3	411,408	1,452,477	5381	235	5146
Calculated dip = 2.3° east-northeast					

amsl = Above mean sea level.
bgs = Below ground surface.
ft = Foot (feet).
° = Degree(s).

Table 4.1.3-2
Three-Point Dip Calculation #1 at the Chemical Waste Landfill

Well Name	State Plane Coordinates (ft)		Ground Surface Elevation (ft amsl)	Depth of Marker Unit (ft bgs)	Elevation of Marker Unit (ft amsl)
	Easting	Northing			
CWL-MW1	414,354	1,445,105	5422	432	5422
CWL-MW2	414,119	1,444,978	5417	423	5417
CWL-MW3	414,131	1,444,825	5417	430	5417
Calculated dip = 3.8° southeast					

amsl = Above mean sea level.
bgs = Below ground surface.
ft = Foot (feet).
° = Degree(s).

Table 4.1.3-3
Three-Point Dip Calculation #2 at the Chemical Waste Landfill

Well Name	State Plane Coordinates (ft)		Ground Surface Elevation (ft amsl)	Depth of Marker Unit (ft bgs)	Elevation of Marker Unit (ft amsl)
	Easting	Northing			
CWL-BW2	414,834	1,444,714	5434	586	4848
CWL-MW1	414,354	1,445,105	5422	535	4887
CWL-MW3	414,131	1,444,825	5417	529	4888
Calculated dip = 3.6° southeast					

amsl = Above mean sea level.
bgs = Below ground surface.
ft = Foot (feet).
° = Degree(s).

Table 4.2.3-1
Water Level Elevations for Selected Monitoring Wells, July 1998[a]

Well Name	Surveyed Measurement Point Elevation (ft amsl)	Date	Depth to Water (ft bmp)	Water Level Elevation (ft amsl)
LWDS-MW1	5421.20	2 Jun 98	489.30	4931.90
LWDS-MW2	5409.81	2 Jun 98	479.87	4929.94
TAV-MW1	5435.10	2 Jun 98	504.50	4930.60
TAV-MW2	5424.9	2 Jun 98	493.77	4931.13
TAV-MW3	5461.73	2 Jun 98	531.64	4930.09
TAV-MW4	5425.39	2 Jun 98	494.34	4931.05
TAV-MW5	5406.2	2 Jun 98	478.50	4927.70
AVN-1	5440.55	2 Jun 98	511.02	4929.53
AVN-2	5439.93	2 Jun 98	508.97	4930.96
CWL-BW3	5430.23	May 98	494.94	4935.29
CWL-BW4A	5431.36	May 98	495.68	4935.68
CWL-MW2BL	5419.39	May 98	488.91	4930.48
CWL-MW4	5420.33	May 98	488.92	4931.41
CWL-MW5L	5415.80	May 98	486.71	4929.09
CWL-MW5U	5416.01	May 98	482.98	4933.03
CWL-MW6L	5417.13	May 98	488.34	4928.79
CWL-MW6U	5416.78	May 98	483.88	4932.90
MWL-BW1	5384.51	2 Jun 98	467.27	4917.24
MWL-MW1	5381.54	2 Jun 98	463.78	4917.76
MWL-MW2	5377.26	2 Jun 98	460.45	4916.81
MWL-MW3	5381.32	2 Jun 98	465.32	4916.00
NWTA-3	5333.81	24 Jun 98	454.56	4879.25
MRN-1	5305.87	23 Jun 98	421.93	4883.94
MRN-2	5305.51	23 Jun 98	421.21	4884.30
PL-3	5331.97	Mar 98	455.74	4876.23

[a]Most wells measured in June 1998 except where noted in date column of the table.
amsl = Above mean sea level.
bmp = Below measurement point (generally top of well casing).
ft = Foot (feet).

Table 4.2.3-2
Water Level Elevations for Selected Monitoring Wells, June 1996[a]

Well Name	Surveyed Measurement Point Elevation (ft amsl)	Date	Depth to Water (ft bmp)	Water Level Elevation (ft amsl)
LWDS-MW1	5421.2	19 Jul 96	487.98	4933.22
LWDS-MW2	5409.81	19 Jul 96	478.83	4930.98
TAV-MW1	5435.1	19 Jul 96	503.11	4931.99
TAV-MW2	5424.9	19 Jul 96	492.33	4932.57
AVN-1	5440.55	19 Jul 96	509.76	4930.79
AVN-2	5439.93	19 Jul 96	507.59	4932.34
CWL-BW3	5430.23	6 Aug 96	493.66	4936.57
CWL-BW4A	5431.36	29 Aug 96	494.42	4936.94
CWL-MW4	5420.33	29 Aug 96	487.75	4932.58
CWL-MW5L	5415.80	29 Aug 96	485.60	4930.20
CWL-MW5U	5416.01	6 Aug 96	481.91	4934.10
CWL-MW6L	5417.13	29 Aug 96	487.10	4930.03
CWL-MW6U	5416.78	29 Aug 96	482.73	4934.05
MWL-MW1	5381.54	19 Jul 96	463.78	4918.86
MWL-MW2	5377.26	19 Jul 96	460.45	4918.82
SWTA-3	5320.57	6 Aug 96	426.80	4893.77
NWTA-3	5333.81	6 Aug 96	451.97	4881.84
MRN-1	5305.87	19 Jul 96	419.14	4886.73
MRN-2	5305.51	19 Jul 96	418.56	4886.95
PL-3	5331.97	19 Jul 96	453.01	4878.96

[a]Most wells measured in July 1996 except where noted in date column of the table.
amsl = Above mean sea level.
bmp = Below measurement point (generally top of well casing).
ft = Foot (feet).

Table 4.2.6.2-1
Summary of Hydraulic Conductivity Values

Well	Test Type	Hydraulic Conductivity (K)		Date of Test	References
		(ft/min)	(cm/sec)		
AVN-1	Avg slug withdrawal[a]	1.35E-03	6.85E-04	Sept. 98	Discussed in Section 4.2.6
AVN-1	Pump test	2.66E-02	1.35E-02	March 96	Attachment 5
AVN-2	Avg slug withdrawal	1.76E-03	8.93E-04	Sept. 98	Discussed in Section 4.2.6
TAV-MW1	Avg slug withdrawal/injection	9.36E-04	4.75E-04	May 95	Attachment 7
TAV-MW2	Avg slug withdrawal/injection	8.02E-05	4.07E-05	May 95	Attachment 7
TAV-MW2	Pump test	6.40E-05	3.25E-05	June 96	Attachment 6
TAV-MW3	Avg slug withdrawal	2.82E-03	1.43E-03	Sept. 98	Discussed in Section 4.2.6
TAV-MW4	Avg slug withdrawal	2.15E-02	1.09E-02	Sept. 98	Discussed in Section 4.2.6
TAV-MW5	Avg slug withdrawal	2.01E-02	1.02E-02	Sept. 98	Discussed in Section 4.2.6
LWDS-MW1	Avg slug withdrawal/injection	2.62E-05	1.33E-05	May 95	Attachment 7
LWDS-MW2	Avg slug withdrawal/injection	1.65E-03	8.36E-04	May 95	Attachment 7

[a]Slug tests were performed on each well several times. Each test was analyzed separately then averaged.
Avg = Average.
cm = Centimeter(s).
ft = Foot (feet).
K = Hydraulic conductivity.
min = Minute(s).
sec = Second(s).

Table 4.2.6.2-2
Slug Test Analysis and Parameters

Well	Test No.	Screened Interval (ft bgs)	Saturated Thickness For Calculations (ft)	Depth To Water (ft bgs)	Deconvolution[a,b,c] K (ft/min)	K (ft/min)	K (ft/min)
AVN1	Slug 1	570–590	20	511.00	1.94E-03	8.12E-04	1.30E-03
AVN1	Slug 2	570–590	20	511.00	Inadequate data set		
AVN2	Slug 1	495–515	20	509.27	8.20E-04	5.03E-04	3.07E-03
AVN2	Slug 2	495–515	20	509.27	7.77E-04	6.01E-04	4.80E-03
TAV-MW3	Slug 1	532–552	20	531.72	3.24E-03	3.64E-03	3.39E-03
TAV-MW3	Slug 2	532–552	20	531.72	1.96E-03	1.01E-03	3.70E-03
TAV-MW4	Slug 1	495–515	20	494.47	2.46E-02	2.60E-02	1.35E-02
TAV-MW4	Slug 2	495–515	20	494.47	2.16E-02	2.16E-02	2.17E-02
TAV-MW5	Slug 1	487–507	20	478.47	1.89E-02	2.50E-02	1.49E-02
TAV-MW5	Slug 2	487–507	20	478.47	1.91E-02	3.12E-02	1.14E-02

[a]Peres et al. 1989.
[b]Cooper and Jacob 1946.
[c]Bouwer and Rice 1976.
bgs = Below ground surface.
ft = Foot (feet).
K = Hydraulic conductivity.
min = Minute(s).

Table 4.2.7-1
Estimated Horizontal Groundwater Flow Velocities[a]

Scenario	K (ft/min)	i (dh/dx)	n_e	*v* (ft/min)	*v* (ft/year)
Regional flow velocity: High K, regional dh/dx, low/high n_e	2.66×10^{-2}	0.009	0.25 0.35	9.58×10^{-4} 6.84×10^{-4}	503 359
Regional flow velocity: Moderate K, regional dh/dx, moderate n_e	1.29×10^{-3}	0.009	0.30	3.87×10^{-5}	20
Localized flow velocity: (LWDS MW-1 to LWDS MW-2) high K, local dh/dx, low n_e	2.66×10^{-2}	0.003	0.25	2.0×10^{-5}	10.5
Localized flow velocity: (LWDS MW-1 to LWDS MW-2) moderate K, local dh/dx, low n_e	1.29×10^{-3}	0.003	0.25	1.55×10^{-5}	8.1
Localized flow velocity: (LWDS MW-1 to LWDS MW-2) low K, local dh/dx, low/high n_e	9.15×10^{-4}	0.003	0.25 0.35	1.1×10^{-5} 7.8×10^{-6}	5.8 4.1

[a]Groundwater flow velocities calculated using Darcy flow equation (Freeze and Cherry 1979).
dh/dx = Horizontal hydraulic gradient.
ft/min = Foot (feet) per minute.
ft/year = Foot (feet) per year.
K = Horizontal hydraulic conductivity.
n_e = Effective porosity, from Domenico and Schwartz, 1990.

Table 5.1-1
Summary of Samples Collected by SNL/NM
During the August 1998 DOE/EPA OB Study

Well	Parameters
LWDS-MW1	Nitrate plus nitrite, VOCs, metals
TAV-MW1	Nitrate plus nitrite, VOCs
TAV-MW2	Nitrate plus nitrite, VOCs
TAV-MW3	Nitrate plus nitrite, VOCs, general chemistry, gamma spec
TAV-MW4	Nitrate plus nitrite, VOCs, general chemistry, gamma spec
TAV-MW5	Nitrate plus nitrite, VOCs, general chemistry, gamma spec
Narrows Well (CYN-MW1)	Nitrate plus nitrite, VOCs, SVOCs, general chemistry, metals, gross alpha/beta, gamma spec
Tank Farm Well (TA-W-01)	Nitrate plus nitrite, VOCs, SVOCs, general chemistry, metals, gross alpha/beta
PGS-2	Nitrate plus nitrite, VOCs, general chemistry
WYO-1	Nitrate plus nitrite, VOCs, metals
MWL-MW1	Metals
CWL-MW4	VOCs, metals

DOE = U.S. Department of Energy.
EPA = U.S. Environmental Protection Agency.
OB = Oversight Bureau.
SNL/NM = Sandia National Laboratories/New Mexico.
SVOC = Semivolatile organic compound.
VOC = Volatile organic compound.

Table 5.2-1
Exceedances of EPA MCLs or the HRMB Approved Maximum Background Values for Metals and Inorganic Parameters

Analyte	EPA MCL (mg/L)	HRMB Approved Maximum Background (mg/L)	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Arsenic	0.05	0.014	TAV-MW1	09 JUN 95	F	2.3		0.01	6020	ENCOTEC
Arsenic	0.05	0.014	LWDS-MW1	03 MAY 93	F	0.064		0.025	7060	ENSECO
Barium	2	0.12	LWDS-MW1	03 MAY 93	F	6.8		0.05	6010	ENSECO
Barium	2	0.12	LWDS-MW2	21 OCT 92	F	0.13		0.01	6010	ENSECO
Beryllium	0.004	0.004	LWDS-MW1	03 MAY 93	F	0.055		0.01	6010	ENSECO
Cadmium	0.005	0.00047	LWDS-MW1	16 NOV 98	SA	0.0015		0.00023	EPA6020	ERCL
Cadmium	0.005	0.00047	AVN-2	29 MAY 97	SA	0.0013	B	0.00022	EPA6020	ERCL
Cadmium	0.005	0.00047	TAV-MW1	03 JUN 97	SA	0.00055	J	0.00022	EPA6020	ERCL
Cadmium	0.005	0.00047	LWDS-MW2	02 JUN 97	SA	0.00042	J	0.00022	EPA6020	ERCL
Cadmium	0.005	0.00047	AVN-2	14 DEC 95	F	0.00035	J	0.0001	6010A	GEL
Cadmium	0.005	0.00047	AVN-1	13 DEC 95	F	0.00021	J	0.0001	6010A	GEL
Chromium	0.1	0.043	LWDS-MW1	03 MAY 93	F	3.7		0.05	6010	ENSECO
Chromium	0.1	0.043	TAV-MW1	09 JUN 95	F	2	B	0.01	6020	ENCOTEC
Cobalt	0.05	0.0025	LWDS-MW1	03 MAY 93	F	0.4		0.05	6010	ENSECO
Copper	1	0.05	LWDS-MW1	03 MAY 93	F	0.64		0.1	6010	ENSECO
Lead	0.015	0.01	LWDS-MW1	03 MAY 93	F	0.51		0.05	7421	ENSECO
Lead	0.015	0.01	LWDS-MW2	21 OCT 92	F	0.01		0.005	7421	ENSECO
Mercury	0.002	0.002	TAV-MW1	06 DEC 96	DU	3.7		0.0045	EPA6020	ERCL
Mercury	0.002	0.002	TAV-MW2	05 DEC 96	SA	3.5		0.0045	EPA6020	ERCL
Mercury	0.002	0.002	TAV-MW1	06 DEC 96	SA	3.2		0.0045	EPA6020	ERCL
Mercury	0.002	0.002	AVN-2	04 DEC 96	SA	3		0.0045	EPA6020	ERCL
Mercury	0.002	0.002	LWDS-MW1	06 DEC 96	SA	3		0.0045	EPA6020	ERCL
Mercury	0.002	0.002	LWDS-MW2	05 DEC 96	SA	2.8		0.0045	EPA6020	ERCL
Nickel	0.1	0.028	LWDS-MW1	03 MAY 93	F	0.79		0.2	6010	ENSECO
Nitrate as N	10	4	AVN-1	14 NOV 97	SA	560		11	HACH_NO3	ERCL
Nitrate as N	10	4	AVN-2	14 NOV 97	SA	540		11	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW1	12 NOV 97	SA	130		2.8	HACH_NO3	ERCL
Nitrate as N	10	4	TAV-MW1	13 NOV 97	SA	130		2.8	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW-2	11 NOV 97	SA	100		2.8	HACH_NO3	ERCL
Nitrate as N	10	4	TAV-MW2	11 NOV 97	SA	100		2.8	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW1	12 NOV 97	DU	88		11	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW2	07 DEC 94	D	36		1	353.2	ENCOTEC
Nitrate as N	10	4	LWDS-MW2	07 DEC 94	F	13		1	353.2	ENCOTEC
Nitrate as N	10	4	LWDS-MW1	10 SEP 96	DU	13		0.068	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW1	18 MAR 96	F	12.1		1	353.2	QUANTERRA
Nitrate as N	10	4	AVN-1	15 MAR 96	SA	12		0.058	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW1	18 MAR 96	SA	12		0.058	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW1	10 SEP 96	SA	12		0.068	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW1	05 MAR 97	SPL	11.3		0.013	353.1	GEL
Nitrate as N	10	4	AVN-2	09 SEP 96	SA	11		0.068	HACH_NO3	ERCL

Table 5.2-1 (Continued)
Exceedances of EPA MCLs or the HRMB Approved Maximum Background Values for Metals and Inorganic Parameters

Analyte	EPA MCL (mg/L)	HRMB Approved Maximum Background (mg/L)	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Nitrate as N	10	4	LWDS-MW1	10 SEP 96	SPL	11		0.02	EPA-MCAWW-353.2	QARV
Nitrate as N	10	4	LWDS-MW1	30 MAY 97	DU	11		0.2815	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW1	16 SEP 97	F	10.4		0.05	353.1	QUANTERRA
Nitrate as N	10	4	AVN-2	01 SEP 98	SA	10.3		0.55	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW1	19 DEC 95	F	10.1	B	0.07	353.1	GEL
Nitrate as N	10	4	LWDS-MW1	19 DEC 95	D	10.1	B	0.07	353.1	GEL
Nitrate as N	10	4	LWDS-MW1	16 NOV 98	SA	10.1		0.55	HACH_NO3	ERCL
Nitrate as N	10	4	AVN-1	03 MAR 97	SA	10		0.09	HACH_NO3	ERCL
Nitrate as N	10	4	AVN-2	03 MAR 97	SA	10		0.09	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW1	30 MAY 97	SA	10		0.2815	HACH_NO3	ERCL
Nitrate as N	10	4	AVN-1	12 SEP 97	SA	10		0.12	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW1	16 NOV 98	DU	10		0.55	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW1	14 JUN 95	F	9.8		1	353.2	ENCOTEC
Nitrate as N	10	4	LWDS-MW2	09 SEP 96	SA	9.8		0.068	HACH_NO3	ERCL
Nitrate as N	10	4	AVN-2	15 MAR 96	SA	9.6		0.058	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW1	16 SEP 97	SA	9.6		0.12	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW-1	02 MAR 95	F	9.5		0.4	353.2	ENCOTEC
Nitrate as N	10	4	LWDS-MW1	05 MAR 97	SA	9.4		0.09	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW2	12 SEP 97	SA	9.4		0.12	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW-1	08 JUN 98	DU	9.4		0.28	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW1	04 MAR 98	SA	9.3		0.11	HACH_NO3	ERCL
Nitrate as N	10	4	AVN-2	24 FEB 98	SA	9.2		0.11	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW2	18 MAR 96	SA	9.1		0.058	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW1	01 SEP 94	D	9		2	353.2	ENCOTEC
Nitrate as N	10	4	LWDS-MW2	04 MAR 97	SA	9		0.09	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW1	10 MAR 94	F	8.9		0.05	353.2	ENCOTEC
Nitrate as N	10	4	LWDS-MW1	01 SEP 94	F	8.9		2	353.2	ENCOTEC
Nitrate as N	10	4	AVN-2	10 SEP 97	SA	8.9		0.12	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW2	25 FEB 98	SA	8.9		0.11	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW1	07 JUN 94	F	8.8		0.5	353.2	ENCOTEC
Nitrate as N	10	4	LWDS-MW1	25 SEP 95	F	8.8	B	0.07	353.1	GEL
Nitrate as N	10	4	AVN-2	14 DEC 95	F	8.7	B	0.07	353.1	GEL
Nitrate as N	10	4	AVN-2	11 JUL 95	F	8.5		1	353.2	ENCOTEC
Nitrate as N	10	4	LWDS-MW1	08 JUN 98	SA	8.5		0.28	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW1	06 DEC 96	SA	8.4		0.018	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW-2	02 SEP 98	SA	8.4		0.22	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW-1	16 SEP 97	DU	8.3		0.12	HACH_NO3	ERCL
Nitrate as N	10	4	AVN-2	25 JUN 96	SA	8.2		0.068	HACH_NO3	ERCL
Nitrate as N	10	4	AVN-2	03 JUN 98	SA	8.2		0.11	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW2	12 JUN 95	D	8		1	353.2	ENCOTEC

Refer to footnotes at end of table.

Table 5.2-1 (Continued)
Exceedances of EPA MCLs or the HRMB Approved Maximum Background Values for Metals and Inorganic Parameters

Analyte	EPA MCL (mg/L)	HRMB Approved Maximum Background (mg/L)	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Nitrate as N	10	4	AVN-1	25 JUN 96	SA	8		0.068	HACH_NO3	ERCL
Nitrate as N	10	4	AVN-1	01 SEP 98	SA	8		0.22	HACH_NO3	ERCL
Nitrate as N	10	4	AVN-2	18 SEP 95	F	7.92	B	0.056	353.1	GEL
Nitrate as N	10	4	LWDS-MW2	06 JUN 94	F	7.9		0.4	353.2	ENCOTEC
Nitrate as N	10	4	AVN-2	29 MAY 97	SA	7.9		0.09	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW-2	02 SEP 98	DU	7.8		0.22	HACH_NO3	ERCL
Nitrate as N	10	4	AVN-1	13 DEC 95	F	7.76	B	0.056	353.1	GEL
Nitrate as N	10	4	LWDS-MW2	24 JUN 93	D	7.7		0.4	353.2	ENCOTEC
Nitrate as N	10	4	LWDS-MW-2	01 MAR 95	D	7.7		0.4	353.2	ENCOTEC
Nitrate as N	10	4	AVN-1	13 JUL 95	F	7.6		0.2	353.2	ENCOTEC
Nitrate as N	10	4	AVN-1	09 SEP 96	SA	7.6		0.068	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW2	24 JUN 93	F	7.4		0.4	353.2	ENCOTEC
Nitrate as N	10	4	AVN-2	25 JUN 96	SA	7.4		0.068	HACH_NO3	ERCL
Nitrate as N	10	4	AVN-1	18 SEP 95	F	7.36	B	0.028	353.1	GEL
Nitrate as N	10	4	LWDS-MW1	03 NOV 93	F	7.3		0.05	353.2	ENCOTEC
Nitrate as N	10	4	LWDS-MW2	11 MAR 94	D	7.3		0.5	353.2	ENCOTEC
Nitrate as N	10	4	LWDS-MW1	03 NOV 93	F	7.2		0.05	353.2	ENCOTEC
Nitrate as N	10	4	LWDS-MW2	11 MAR 94	F	7.2		0.5	353.2	ENCOTEC
Nitrate as N	10	4	LWDS-MW2	31 AUG 94	F	7.2		2	353.2	ENCOTEC
Nitrate as N	10	4	LWDS-MW2	14 DEC 95	F	7.2	B	0.056	353.1	GEL
Nitrate as N	10	4	LWDS-MW1	05 MAR 97	DU	7.2		0.09	HACH_NO3	ERCL
Nitrate as N	10	4	AVN-1	29 MAY 97	SA	7.1		0.09	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW2	02 JUN 97	SA	7		0.09	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW2	05 DEC 96	SA	6.9		0.018	HACH_NO3	ERCL
Nitrate as N	10	4	AVN-2	16 NOV 98	SA	6.8		0.22	HACH_NO3	ERCL
Nitrate as N	10	4	AVN-2	04 DEC 96	SA	6.6		0.018	HACH_NO3	ERCL
Nitrate as N	10	4	AVN-1	03 JUN 98	SA	6.5		0.11	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW-2	17 NOV 98	SA	6.5		0.22	HACH_NO3	ERCL
Nitrate as N	10	4	TAV-MW2	20 SEP 95	F	6.2	B	0.07	353.1	GEL
Nitrate as N	10	4	AVN-1	16 NOV-08	SA	6.1		0.22	HACH_NO3	ERCL
Nitrate as N	10	4	LWDS-MW-2	03 JUN 98	SA	6		0.11	HACH_NO3	ERCL
Nitrate as N	10	4	AVN-1	25 JUN 96	SA	5.9		0.068	HACH_NO3	ERCL
Nitrate as N	10	4	TAV-MW1	19 MAR 96	SA	5.7		0.058	HACH_NO3	ERCL
Nitrate as N	10	4	TAV-MW5	27 FEB 98	SA	5.7		0.11	HACH_NO3	ERCL
Nitrate as N	10	4	TAV-MW1	11 SEP 96	SA	5.5		0.068	HACH_NO3	ERCL
Nitrate as N	10	4	TAV-MW1	03 MAR 98	SA	5.3		0.11	HACH_NO3	ERCL
Nitrate as N	10	4	TAV-MW3	19 NOV 98	SA	5.3		0.22	HACH_NO3	ERCL
Nitrate as N	10	4	TAV-MW3	26 FEB 98	SA	5.2		0.11	HACH_NO3	ERCL
Nitrate as N	10	4	TAV-MW1	03 JUN 97	SA	4.8		0.0563	HACH_NO3	ERCL
Nitrate as N	10	4	TAV-MW1	23 NOV 98	SA	4.8		0.22	HACH_NO3	ERCL

Refer to footnotes at end of table.

Table 5.2-1 (Concluded)
Exceedances of EPA MCLs or the HRMB Approved Maximum Background Values for Metals and Inorganic Parameters

Analyte	EPA MCL (mg/L)	HRMB Approved Maximum Background (mg/L)	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Nitrate as N	10	4	TAV-MW1	16 SEP 97	F	4.64		0.05	353.1	QUANTERRA
Nitrate as N	10	4	TAV-MW1	04 MAR 97	SA	4.6		0.09	HACH_NO3	ERCL
Nitrate as N	10	4	TAV-MW1	16 SEP 97	SA	4.4		0.06	HACH_NO3	ERCL
Nitrate as N	10	4	TAV-MW1	18 DEC 95	F	4.32	B	0.028	353.1	GEL
Nitrate as N	10	4	TAV-MW4	26 FEB 98	SA	4.1		0.11	HACH_NO3	ERCL
Selenium	0.05	0.005	TAV-MW1	09 JUN 95	F	5.2		0.005	6020	ENCOTEC
Selenium	0.05	0.005	LWDS-MW1	08 JUN 98	SA	0.011		0.0017	EPA6020	ERCL
Selenium	0.05	0.005	LWDS-MW1	16 NOV 98	SA	0.01		0.0017	EPA6020	ERCL
Selenium	0.05	0.005	LWDS-MW-1	08 JUN 98	DU	0.0099		0.0017	EPA6020	ERCL
Selenium	0.05	0.005	LWDS-MW1	16 NOV 98	DU	0.009		0.0017	EPA6020	ERCL
Selenium	0.05	0.005	TAV-MW2	20 NOV 98	SA	0.0069		0.0017	EPA6020	ERCL
Selenium	0.05	0.005	TAV-MW2	18 DEC 95	F	0.0069		0.00143	6010A	GEL
Selenium	0.05	0.005	LWDS-MW1	30 MAY 97	SA	0.0068		0.0017	EPA6020	ERCL
Selenium	0.05	0.005	TAV-MW1	23 NOV 98	SA	0.0066	J	0.0017	EPA6020	ERCL
Selenium	0.05	0.005	LWDS-MW1	08 DEC 94	F	0.006		0.005	6020	ENCOTEC
Selenium	0.05	0.005	LWDS-MW-1	02 MAR 95	F	0.006		0.005	6020	ENCOTEC
Selenium	0.05	0.005	LWDS-MW1	14 JUN 95	F	0.006		0.005	6020	ENCOTEC
Selenium	0.05	0.005	TAV-MW3	19 NOV 98	SA	0.006	J	0.0017	EPA6020	ERCL
Selenium	0.05	0.005	LWDS-MW-2	17 NOV 98	SA	0.0059	J	0.0017	EPA6020	ERCL
Selenium	0.05	0.005	LWDS-MW1	08 JUN 98	SPLIT	0.0058		0.0026	EPA 6010	QSTL
Selenium	0.05	0.005	TAV-MW4	26 FEB 98	SA	0.0055	J	0.0017	EPA6020	ERCL
Selenium	0.05	0.005	AVN-2	16 NOV 98	SA	0.005	J	0.0017	EPA6020	ERCL
Selenium	0.05	0.005	AVN-1	16 NOV-08	SA	0.0047	J	0.0017	EPA6020	ERCL
Selenium	0.05	0.005	TAV-MW1	03 JUN 97	SA	0.0046	J	0.0017	EPA6020	ERCL
Thallium	0.002	0.002	TAV-MW2	18 DEC 95	F	0.00281	J	0.00207	6010A	GEL
Vanadium	0.02	0.013	LWDS-MW1	03 MAY 93	F	1.2		0.05	6010	ENSECO
Zinc		0.26	LWDS-MW1	03 MAY 93	F	2.4		0.1	6010	ENSECO

B = Analyte detected in associated blank.
D = Duplicate.
DU = Duplicate.
ENCOTEC = Environmental Controls Technology Corporation.
ENSECO = Enseco, Inc.
EPA = U.S. Environmental Protection Agency.
ERCL = Environmental Restoration Chemistry Laboratory.
F = Field sample.
GEL = General Engineering Laboratories.
HRMB = Hazardous and Radioactive Materials Bureau.
J = Reported value less than the reporting limit.
MCL = Maximum concentration level.
MDL = Method detection limit.
mg/L = Milligram(s) per liter.
N = Nitrogen.
QARV = Quanterra, Inc., Arvada, Colorado.
QSTL = Quanterra, Inc., Saint Louis, Missouri.
QUANTERRA = Quanterra, Inc.
SA = Field sample.
SPL = Split sample.

Table 5.2-2
Organic Compounds Detected in TA-V Groundwater

Analyte	Well	Sample Date	Sample Type	Concentration (µg/L)	Qualifier	MDL (µg/L)	Analytical Method	Laboratory
Acetone	LWDS-MW2	21 OCT 92	F	22		10	8240	ENSECO
Acetone	TAV-MW3	22 APR 97	SA	18	J	5	EPA8260	ERCL
Acetone	LWDS-MW-2	01 MAR 95	F	16		10	8240	ENCOTEC
Acetone	LWDS-MW1	08 JUN 98	SPLIT	12	JB	9.7	EPA 8260	QSTL
Acetone	LWDS-MW-1	02 MAR 95	F	12		10	8240	ENCOTEC
Acetone	AVN-1	03 MAR 97	SA	10	J	5	EPA8260	ERCL
Acetone	LWDS-MW2	06 JUN 94	F	8	B	5	8260	ENCOTEC
Acetone	LWDS-MW1	07 JUN 94	F	7		5	8260	ENCOTEC
Acetone	LWDS-MW-2	01 MAR 95	D	6	J	10	8240	ENCOTEC
Acetone	LWDS-MW1	04 MAR 98	SA	4.3	JB	0.76	EPA 8260	GEL
Acetone	LWDS-MW2	24 JUN 93	F	4	J	10	8240	ENCOTEC
Acetone	LWDS-MW2	24 JUN 93	D	3	J	10	8240	ENCOTEC
Benzene	LWDS-MW1	03 NOV 93	F	6		5	8240	ENCOTEC
Benzene	TAV-MW2	05 MAR 97	SA	1.1	J	0.5	EPA8260	ERCL
Benzene	LWDS-MW1	06 DEC 96	SA	0.51	J	0.5	EPA8260	ERCL
Bromofluorobenzene, 4-	TAV-MW1	04 MAR 97	SPL	25.4			EPA-SW846-8260	GEL
Bromofluorobenzene, 4-	LWDS-MW2	04 MAR 97	SPL	25			EPA-SW846-8260	GEL
Bromoform	TAV-MW3	22 APR 97	SA	2.5		0.5	EPA8260	ERCL
Butanone, 2-	LWDS-MW1	01 SEP 94	F	6	B	5	8260	ENCOTEC
Butanone, 2-	LWDS-MW1	01 SEP 94	D	5	B	5	8260	ENCOTEC
Butanone, 2-	LWDS-MW2	31 AUG 94	F	4	BJ	5	8260	ENCOTEC
Butanone, 2-	LWDS-MW1	07 JUN 94	F	3	J	5	8260	ENCOTEC
Butanone, 2-	LWDS-MW2	24 JUN 93	F	2	J	10	8240	ENCOTEC
Carbon, total organic	LWDS-MW1	03 NOV 93	F	940		500	9060	ENCOTEC
Carbon, total organic	LWDS-MW1	03 NOV 93	F	930		500	9060	ENCOTEC
Chlorobenzene	TAV-MW2	05 MAR 97	SA	1.2	J	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW1	18 MAR 96	F	0.27	J	4	8010	QUANTERRA
Chloroethoxy)methane, bis(2-	LWDS-MW1	03 MAY 93	F	7.8	J	10	8270	ENSECO
Chloroform	LWDS-MW1	06 DEC 96	SA	0.81	J	0.5	EPA8260	ERCL
Chloroform	LWDS-MW1	10 SEP 96	SPL	0.36	J	0.11	EPA-SW846-8010	QARV
Chloroform	LWDS-MW1	18 MAR 96	F	0.27	J	1	8010	QUANTERRA
Chloroform	TAV-MW1	11 SEP 96	SPL	0.17	J	0.11	EPA-SW846-8010	QARV
Chloromethane	LWDS-MW1	08 JUN 98	SPLIT	5.9	JB	3.3	EPA 8260	QSTL
Chloromethane	AVN-1	16 NOV-08	SA	2.4		0.5	EPA8260	ERCL
Chloromethane	TAV-MW3	19 NOV 98	SA	2.2		0.5	EPA8260	ERCL
Chloromethane	LWDS-MW1	16 NOV 98	SA	1	J	0.5	EPA8260	ERCL
Dibromochloromethane	TAV-MW3	22 APR 97	SA	1.7		0.5	EPA8260	ERCL

Refer to footnotes at end of table.

Table 5.2-2 (Continued)
Organic Compounds Detected in TA-V Groundwater

Analyte	Well	Sample Date	Sample Type	Concentration (µg/L)	Qualifier	MDL (µg/L)	Analytical Method	Laboratory
Dibromochloromethane	LWDS-MW1	10 SEP 96	SPL	0.18	J	0.07	EPA-SW846-8010	QARV
Dibromofluoromethane	LWDS-MW2	04 MAR 97	SPL	24.2			EPA-SW846-8260	GEL
Dibromofluoromethane	TAV-MW1	04 MAR 97	SPL	24.1			EPA-SW846-8260	GEL
Dichloroethane, 1,1-	LWDS-MW1	10 SEP 96	SPL	0.18	J	0.13	EPA-SW846-8010	QARV
Dichloroethane, 1,1-	LWDS-MW1	18 MAR 96	F	0.17	J	1	8010	QUANTERRA
Dichloroethene, 1,1-	LWDS-MW1	14 JUN 95	F	3		1	8010	ENCOTEC
Dichloroethene, 1,1-	LWDS-MW2	12 JUN 95	F	3		1	8010	ENCOTEC
Dichloroethene, 1,1-	LWDS-MW2	12 JUN 95	D	3		1	8010	ENCOTEC
Dichloroethene, 1,1-	TAV-MW2	05 MAR 97	SA	0.89	J	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW1	18 NOV 98	SA	0.61	J	0.5	EPA8260	ERCL
Dichloroethene, 1,2-	LWDS-MW1	04 MAR 98	SA	4.8		0.13	EPA 8260	QSTL
Dichloroethene, 1,2-	LWDS-MW1	04 MAR 98	SA	4.5		0.13	EPA 8260	QSTL
Dichloroethene, 1,2-	LWDS-MW1	01 SEP 94	F	2		1	8260	ENCOTEC
Dichloroethene, 1,2-	LWDS-MW1	01 SEP 94	D	2		1	8260	ENCOTEC
Dichloroethene, 1,2-	LWDS-MW-1	02 MAR 95	F	2	J	5	8240	ENCOTEC
Dichloroethene, 1,2-	LWDS-MW1	03 NOV 93	F	1	J	5	8240	ENCOTEC
Dichloroethene, 1,2-	LWDS-MW1	03 NOV 93	F	1	J	5	8240	ENCOTEC
Dichloroethene, cis-1,2-	LWDS-MW1	17 NOV 98	SA	4.6		0.5	EPA8260	ERCL
Dichloroethene, cis-1,2-	LWDS-MW1	16 NOV 98	SA	4.5		0.5	EPA8260	ERCL
Dichloroethene, cis-1,2-	LWDS-MW1	16 NOV 98	DU	4.5		0.5	EPA8260	ERCL
Dichloroethene, cis-1,2-	LWDS-MW1	04 MAR 98	SA	4.4		0.5	EPA8260	ERCL
Dichloroethene, cis-1,2-	LWDS-MW1	08 JUN 98	SPLIT	4.3		0.51	EPA 8260	QSTL
Dichloroethene, cis-1,2-	LWDS-MW1	04 MAR 98	SA	4.2		0.5	EPA8260	ERCL
Dichloroethene, cis-1,2-	LWDS-MW1	04 MAR 98	SA	4		0.03	EPA 8260	GEL
Dichloroethene, cis-1,2-	LWDS-MW1	04 MAR 98	SA	4		0.03	EPA 8260	GEL
Dichloroethene, cis-1,2-	LWDS-MW1	20 NOV 98	SA	4		0.5	EPA8260	ERCL
Dichloroethene, cis-1,2-	LWDS-MW1	18 NOV 98	SA	3.9		0.5	EPA8260	ERCL
Dichloroethene, cis-1,2-	LWDS-MW1	08 JUN 98	SA	3.8		0.5	EPA8260	ERCL
Dichloroethene, cis-1,2-	LWDS-MW-1	08 JUN 98	DU	3.8		0.5	EPA8260	ERCL
Dichloroethene, cis-1,2-	LWDS-MW1	10 SEP 96	DU	3.5		0.5	EPA8260	ERCL
Dichloroethene, cis-1,2-	LWDS-MW1	10 SEP 96	SA	3.4		0.5	EPA8260	ERCL
Dichloroethene, cis-1,2-	LWDS-MW1	05 MAR 97	DU	3.2		0.5	EPA8260	ERCL
Dichloroethene, cis-1,2-	LWDS-MW1	06 DEC 96	SA	3.1		0.5	EPA8260	ERCL
Dichloroethene, cis-1,2-	LWDS-MW1	16 SEP 97	SA	3.1		0.5	EPA8260	ERCL
Dichloroethene, cis-1,2-	LWDS-MW1	12 NOV 97	DU	3		0.5	EPA8260	ERCL
Dichloroethene, cis-1,2-	LWDS-MW-1	16 SEP 97	SA	3		0.5	EPA8260	ERCL
Dichloroethene, cis-1,2-	LWDS-MW1	05 MAR 97	SA	2.9		0.5	EPA8260	ERCL

Refer to footnotes at end of table.

Table 5.2-2 (Continued)
Organic Compounds Detected in TA-V Groundwater

Analyte	Well	Sample Date	Sample Type	Concentration (µg/L)	Qualifier	MDL (µg/L)	Analytical Method	Laboratory
Dichloroethene, cis-1,2-	LWDS-MW1	06 DEC 96	DU	2.6		0.5	EPA8260	ERCL
Dichloroethene, cis-1,2-	LWDS-MW1	08 DEC 94	F	2		1	8010	ENCOTEC
Di-n-butyl phthalate	LWDS-MW1	03 MAY 93	F	6.2	J	10	8270	ENSECO
Di-n-butyl phthalate	LWDS-MW1	14 JUN 95	F	4	JB	10	8270	ENCOTEC
Di-n-butyl phthalate	LWDS-MW1	08 DEC 94	F	3	BJ	10	8270	ENCOTEC
Di-n-butyl phthalate	AVN-2	11 JUL 95	F	2	J	10	8270	ENCOTEC
Di-n-butyl phthalate	AVN-1	13 JUL 95	F	1	J	10	8270	ENCOTEC
Di-n-butyl phthalate	LWDS-MW2	31 AUG 94	F	1	J	10	8270	ENCOTEC
Di-n-butyl phthalate	LWDS-MW2	07 DEC 94	F	1	BJ	10	8270	ENCOTEC
Di-n-octyl phthalate	AVN-1	03 JUN 98	SA	4	J	0.43	EPA 8270	QSTL
Ethyl benzene	TAV-MW1	13 APR 95	F	0.43	J	0.5	8020	QUANTERRA
Ethylhexyl)phthalate, bis(2-	TAV-MW2	18 DEC 95	F	61.4		5	8270	GEL
Ethylhexyl)phthalate, bis(2-	LWDS-MW1	03 MAY 93	F	24		10	8270	ENSECO
Ethylhexyl)phthalate, bis(2-	AVN-1	13 DEC 95	F	9.5	J	5	8270	GEL
Ethylhexyl)phthalate, bis(2-	LWDS-MW1	12 MAR 94	F	8		10	8270	ENCOTEC
Ethylhexyl)phthalate, bis(2-	LWDS-MW2	24 JUN 93	F	7	J	10	8270	ENCOTEC
Ethylhexyl)phthalate, bis(2-	LWDS-MW2	24 JUN 93	D	7	J	10	8270	ENCOTEC
Ethylhexyl)phthalate, bis(2-	AVN-1	03 JUN 98	SA	5	JB	0.45	EPA 8270	QSTL
Ethylhexyl)phthalate, bis(2-	LWDS-MW1	03 MAY 93	F	4.8	J	10	8270	ENSECO
Ethylhexyl)phthalate, bis(2-	AVN-2	11 JUL 95	F	3	JB	10	8270	ENCOTEC
Ethylhexyl)phthalate, bis(2-	LWDS-MW1	08 DEC 94	F	3	J	10	8270	ENCOTEC
Ethylhexyl)phthalate, bis(2-	LWDS-MW1	14 JUN 95	F	3	J	10	8270	ENCOTEC
Ethylhexyl)phthalate, bis(2-	LWDS-MW-1	02 MAR 95	F	3	J	10	8270	ENCOTEC
Ethylhexyl)phthalate, bis(2-	TAV-MW1	09 JUN 95	F	3	J	10	8270	ENCOTEC
Ethylhexyl)phthalate, bis(2-	LWDS-MW2	31 AUG 94	F	2	J	10	8270	ENCOTEC
Hexanone, 2-	LWDS-MW-2	02 SEP 98	SA	20	J	10	EPA8260	ERCL
Hexanone, 2-	LWDS-MW1	07 JUN 94	F	1	J	2	8260	ENCOTEC
Methylene chloride	LWDS-MW1	27 OCT 93	F	4	BJ	5	8240	ENCOTEC
Methylene chloride	LWDS-MW1	02 NOV 93	F	4	BJ	5	8240	ENCOTEC
Methylene chloride	LWDS-MW1	03 NOV 93	F	4	BJ	5	8240	ENCOTEC
Methylene chloride	LWDS-MW1	03 NOV 93	F	4	BJ	5	8240	ENCOTEC
Methylene chloride	LWDS-MW2	24 JUN 93	F	4	BJ	5	8240	ENCOTEC
Methylene chloride	LWDS-MW1	10 MAR 94	F	2		5	8240	ENCOTEC
Methylene chloride	TAV-MW3	03 JUN 97	F	1.47	JB	1	8260	GEL
Methylene chloride	LWDS-MW1	25 SEP 95	D	1.37	JB	1	8260	GEL
Methylene chloride	LWDS-MW1	04 MAR 98	SA	1.2	B	0.07	EPA 8260	GEL
Methylene chloride	TAV-MW4	26 FEB 98	SA	1.2	J	0.5	EPA8260	ERCL

Refer to footnotes at end of table.

Table 5.2-2 (Continued)
Organic Compounds Detected in TA-V Groundwater

Analyte	Well	Sample Date	Sample Type	Concentration (µg/L)	Qualifier	MDL (µg/L)	Analytical Method	Laboratory
Methylene chloride	LWDS-MW2	04 MAR 97	SPL	1	B	1	EPA-SW846-8260	GEL
Methylene chloride	TAV-MW1	04 MAR 97	SPL	1	B	1	EPA-SW846-8260	GEL
Methylene chloride	LWDS-MW1	04 MAR 98	SA	0.72	JB	0.07	EPA 8260	GEL
Methylene chloride	TAV-MW4	29 OCT 98	SA	0.69	J	0.5	EPA8260	ERCL
Methylene chloride	TAV-MW4	29 OCT 98	SA	0.66	J	0.5	EPA8260	ERCL
Organic carbon, total	LWDS-MW1	19 DEC 95	D	3520		143	415.1	GEL
Organic carbon, total	LWDS-MW1	19 DEC 95	F	3220		143	415.1	GEL
Organic carbon, total	TAV-MW2	18 DEC 95	F	2990		143	415.1	GEL
Organic carbon, total	AVN-1	13 DEC 95	F	2230		143	415.1	GEL
Organic carbon, total	LWDS-MW2	14 DEC 95	F	1980		143	415.1	GEL
Organic carbon, total	TAV-MW1	18 DEC 95	F	1830		143	415.1	GEL
Organic carbon, total	AVN-2	14 DEC 95	F	1450		143	415.1	GEL
Pentanone, 4-methyl-, 2-	LWDS-MW-2	02 SEP 98	SA	5.5	J	5	EPA8260	ERCL
Pentanone, 4-methyl-, 2-	LWDS-MW1	07 JUN 94	F	3		2	8260	ENCOTEC
Phenols	LWDS-MW1	25 SEP 95	F	3.52	JB	1.95	420.2	GEL
Tetrachloroethene	LWDS-MW1	10 SEP 96	SPL	0.18	J	0.15	EPA-SW846-8010	QARV
Tetrachloroethene	TAV-MW1	11 SEP 96	SPL	0.17	J	0.15	EPA-SW846-8010	QARV
Toluene	AVN-2	11 JUL 95	F	7		1	8260	ENCOTEC
Toluene	LWDS-MW1	03 NOV 93	F	2	J	5	8240	ENCOTEC
Toluene	LWDS-MW1	03 NOV 93	F	2	J	5	8240	ENCOTEC
Toluene	LWDS-MW1	10 MAR 94	F	2		5	8240	ENCOTEC
Toluene	LWDS-MW1	17 NOV 98	SA	1.6	J	0.5	EPA8260	ERCL
Toluene	LWDS-MW1	20 NOV 98	SA	1.6	J	0.5	EPA8260	ERCL
Toluene	LWDS-MW1	18 NOV 98	SA	1.5	J	0.5	EPA8260	ERCL
Toluene	TAV-MW2	14 APR 95	F	1.2		0.5	8020	QUANTERRA
Toluene	TAV-MW1	13 APR 95	F	1.1		0.5	8020	QUANTERRA
Toluene	TAV-MW2	05 MAR 97	SA	1.1	J	0.5	EPA8260	ERCL
Toluene	TAV-MW3	19 NOV 98	SA	1.1	J	0.5	EPA8260	ERCL
Toluene	LWDS-MW1	02 NOV 93	F	1	J	5	8240	ENCOTEC
Toluene	LWDS-MW1	07 JUN 94	F	1		1	8260	ENCOTEC
Toluene	LWDS-MW1	16 NOV 98	DU	0.88	J	0.5	EPA8260	ERCL
Toluene	TAV-MW3	22 APR 97	SA	0.84	J	0.5	EPA8260	ERCL
Toluene	LWDS-MW-2	17 NOV 98	SA	0.83	J	0.5	EPA8260	ERCL
Toluene	TAV-MW1	23 NOV 98	SA	0.83	J	0.5	EPA8260	ERCL
Toluene	TAV-MW2	20 NOV 98	SA	0.68	J	0.5	EPA8260	ERCL
Toluene	AVN-1	25 JUN 96	SA	0.55	J	0.5	EPA8260	ERCL
Toluene	AVN-1	25 JUN 96	DU	0.51	J	0.5	EPA8260	ERCL

Refer to footnotes at end of table.

Table 5.2-2 (Continued)
Organic Compounds Detected in TA-V Groundwater

Analyte	Well	Sample Date	Sample Type	Concentration (µg/L)	Qualifier	MDL (µg/L)	Analytical Method	Laboratory
Toluene	LWDS-MW1	06 DEC 96	SA	0.5	J	0.5	EPA8260	ERCL
Toluene-d8	LWDS-MW2	04 MAR 97	SPL	27.8			EPA-SW846-8260	GEL
Toluene-d8	TAV-MW1	04 MAR 97	SPL	27.5			EPA-SW846-8260	GEL
Trichloroethane, 1,1,1-	LWDS-MW1	06 DEC 96	SA	0.54	J	0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	16 NOV 98	SA	23		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	16 NOV 98	DU	23		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	04 MAR 98	SA	22		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	17 NOV 98	SA	22		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	04 MAR 98	SA	21		0.03	EPA 8260	GEL
Trichloroethene	LWDS-MW1	04 MAR 98	SA	21		0.03	EPA 8260	GEL
Trichloroethene	LWDS-MW1	04 MAR 98	SA	20		0.4	EPA 8260	QSTL
Trichloroethene	LWDS-MW1	04 MAR 98	SA	20		0.4	EPA 8260	QSTL
Trichloroethene	LWDS-MW1	04 MAR 98	SA	20		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	08 JUN 98	SPLIT	20		2	EPA 8260	QSTL
Trichloroethene	LWDS-MW1	18 NOV 98	SA	20		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	10 SEP 96	DU	19		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	08 JUN 98	SA	19		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW-1	08 JUN 98	DU	19		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	30 MAY 97	F	18.7		1	8260	GEL
Trichloroethene	LWDS-MW1	10 SEP 96	SA	18		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	16 SEP 97	SA	18		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	12 NOV 97	DU	18		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW-1	16 SEP 97	SA	18		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	30 MAY 97	F	17.8		1	8260	GEL
Trichloroethene	LWDS-MW1	20 NOV 98	SA	17		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW-1	02 MAR 95	F	17		5	8240	ENCOTEC
Trichloroethene	LWDS-MW1	05 MAR 97	DU	16		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	14 JUN 95	F	15		1	8010	ENCOTEC
Trichloroethene	LWDS-MW1	26 JUN 96	SA	15		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	06 DEC 96	SA	15		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	05 MAR 97	SA	15		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	19 DEC 95	D	14.9		1	8260	GEL
Trichloroethene	LWDS-MW1	19 DEC 95	F	14.8		1	8260	GEL
Trichloroethene	LWDS-MW1	08 DEC 94	F	14		1	8010	ENCOTEC
Trichloroethene	LWDS-MW1	18 MAR 96	SA	14		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	10 SEP 96	SPL	14		0.14	EPA-SW846-8010	QARV
Trichloroethene	LWDS-MW1	06 DEC 96	DU	14		0.5	EPA8260	ERCL

Refer to footnotes at end of table.

Table 5.2-2 (Continued)
Organic Compounds Detected in TA-V Groundwater

Analyte	Well	Sample Date	Sample Type	Concentration (µg/L)	Qualifier	MDL (µg/L)	Analytical Method	Laboratory
Trichloroethene	LWDS-MW1	01 SEP 94	F	10		1	8260	ENCOTEC
Trichloroethene	LWDS-MW1	10 MAR 94	F	13		5	8240	ENCOTEC
Trichloroethene	LWDS-MW1	07 JUN 94	F	13		1	8260	ENCOTEC
Trichloroethene	LWDS-MW1	01 SEP 94	D	12		1	8260	ENCOTEC
Trichloroethene	LWDS-MW1	18 MAR 96	F	10		1	8010	QUANTERRA
Trichloroethene	LWDS-MW1	25 SEP 95	D	9.18		1	8260	GEL
Trichloroethene	LWDS-MW1	03 NOV 93	F	6		5	8240	ENCOTEC
Trichloroethene	TAV-MW1	03 JUN 97	F	3.79		1	8260	GEL
Trichloroethene	TAV-MW1	03 MAR 98	SA	3.6		0.5	EPA8260	ERCL
Trichloroethene	TAV-MW1	03 MAR 98	SA	3.3		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW2	31 AUG 94	F	3		1	8260	ENCOTEC
Trichloroethene	TAV-MW1	16 SEP 97	F	3		0.4	8260	QUANTERRA
Trichloroethene	TAV-MW1	16 SEP 97	SA	3		0.4	EPA 8260	QSTL
Trichloroethene	TAV-MW1	23 NOV 98	SA	3		0.5	EPA8260	ERCL
Trichloroethene	TAV-MW1	04 MAR 97	SPL	2.8		0.5	8260	GEL
Trichloroethene	TAV-MW1	04 MAR 97	SPL	2.8		0.5	EPA-SW846-8260	GEL
Trichloroethene	TAV-MW1	19 MAR 96	SA	2.7		0.5	EPA8260	ERCL
Trichloroethene	TAV-MW1	27 JUN 96	SA	2.7		0.5	EPA8260	ERCL
Trichloroethene	TAV-MW1	11 SEP 96	SA	2.7		0.5	EPA8260	ERCL
Trichloroethene	TAV-MW1	11 SEP 96	DU	2.7		0.5	EPA8260	ERCL
Trichloroethene	TAV-MW1	13 NOV 97	SA	2.7		0.5	EPA8260	ERCL
Trichloroethene	TAV-MW1	04 MAR 97	SA	2.3		0.5	EPA8260	ERCL
Trichloroethene	TAV-MW1	11 SEP 96	SPL	2.1		0.14	EPA-SW846-8010	QARV
Trichloroethene	TAV-MW1	16 SEP 97	SA	2.1		0.5	EPA8260	ERCL
Trichloroethene	TAV-MW1	06 DEC 96	SA	2		0.5	EPA8260	ERCL
Trichloroethene	TAV-MW1	06 DEC 96	SA	2		0.5	EPA8260	ERCL
Trichloroethene	TAV-MW4	29 OCT 98	SA	1.7	J	0.5	EPA8260	ERCL
Trichloroethene	TAV-MW4	29 OCT 98	SA	1.5	J	0.5	EPA8260	ERCL
Trichloroethene	TAV-MW1	19 SEP 95	F	1.44	J	1	8260	GEL
Trichloroethene	TAV-MW1	18 DEC 95	F	1.44	J	1	8260	GEL
Trichloroethene	TAV-MW4	26 FEB 98	SA	1.2	J	0.5	EPA8260	ERCL
Trichloroethene	TAV-MW2	05 MAR 97	SA	0.99	J	0.5	EPA8260	ERCL

Refer to footnotes at end of table.

Table 5.2-2 (Concluded)
Organic Compounds Detected in TA-V Groundwater

Analyte	Well	Sample Date	Sample Type	Concentration (µg/L)	Qualifier	MDL (µg/L)	Analytical Method	Laboratory
Trichloroethene	TAV-MW1	13 APR 95	F	0.39	J	0.5	8010	QUANTERRA
Xylene	TAV-MW1	13 APR 95	F	0.84		0.5	8020	QUANTERRA

B = Analyte detected in associated blank
D = Duplicate.
DU = Duplicate.
ENCOTEC = Environmental Controls Technology Corporation.
ENSECO = Enseco, Inc.
EPA = U.S. Environmental Protection Agency.
ERCL = Environmental Restoration Chemistry Laboratory.
F = Field sample.
GEL = General Engineering Laboratories.
J = Reported value less than the reporting limit.
MDL = Method detection limit.
QARV = Quanterra, Inc., Arvada, Colorado.
QSTL = Quanterra, Inc., Saint Louis, Missouri.
QUANTERRA = Quanterra, Inc.
SA = Field sample.
SPL = Split sample.
µg/L = Microgram(s) per liter.

Table 5.2-3
Organic Compounds Exceeding the EPA MCLs in TA-V Groundwater

Analyte	EPA MCL (µg/L)	Well	Sample Date	Sample Type	Concentration (µg/L)	Qualifier	MDL (µg/L)	Analytical Method[a]	Laboratory
Benzene	5	LWDS-MW1	03 NOV 93	F	6		5	8240	ENCOTEC
Trichloroethene	5	LWDS-MW1	03 NOV 93	F	6		5	8240	ENCOTEC
Trichloroethene	5	LWDS-MW1	10 MAR 94	F	13		5	8240	ENCOTEC
Trichloroethene	5	LWDS-MW1	07 JUN 94	F	13		1	8260	ENCOTEC
Trichloroethene	5	LWDS-MW1	01 SEP 94	D	12		1	8260	ENCOTEC
Trichloroethene	5	LWDS-MW1	01 SEP 94	F	10		1	8260	ENCOTEC
Trichloroethene	5	LWDS-MW1	08 DEC 94	F	14		1	8010	ENCOTEC
Trichloroethene	5	LWDS-MW1	02 MAR 95	F	17		5	8240	ENCOTEC
Trichloroethene	5	LWDS-MW1	14 JUN 95	F	15		1	8010	ENCOTEC
Trichloroethene	5	LWDS-MW1	25 SEP 95	D	9.18		1	8260	GEL
Trichloroethene	5	LWDS-MW1	19 DEC 95	D	14.9		1	8260	GEL
Trichloroethene	5	LWDS-MW1	19 DEC 95	F	14.8		1	8260	GEL
Trichloroethene	5	LWDS-MW1	18 MAR 96	SA	14		0.5	EPA8260	ERCL
Trichloroethene	5	LWDS-MW1	18 MAR 96	F	10		1	8010	QUANTERRA
Trichloroethene	5	LWDS-MW1	26 JUN 96	SA	15		0.5	EPA8260	ERCL
Trichloroethene	5	LWDS-MW1	10 SEP 96	DU	19		0.5	EPA8260	ERCL
Trichloroethene	5	LWDS-MW1	10 SEP 96	SA	18		0.5	EPA8260	ERCL
Trichloroethene	5	LWDS-MW1	10 SEP 96	SPLIT	14		0.14	EPA-SW846-8010	QARV
Trichloroethene	5	LWDS-MW1	06 DEC 96	SA	15		0.5	EPA8260	ERCL
Trichloroethene	5	LWDS-MW1	06 DEC 96	DU	14		0.5	EPA8260	ERCL
Trichloroethene	5	LWDS-MW1	05 MAR 97	DU	16		0.5	EPA8260	ERCL
Trichloroethene	5	LWDS-MW1	05 MAR 97	SA	15		0.5	EPA8260	ERCL
Trichloroethene	5	LWDS-MW1	30 MAY 97	F	18.7		1	8260	GEL
Trichloroethene	5	LWDS-MW1	30 MAY 97	F	17.8		1	8260	GEL
Trichloroethene	5	LWDS-MW1	16 SEP 97	SA	18		0.5	EPA8260	ERCL
Trichloroethene	5	LWDS-MW1	16 SEP 97	SA	18		0.5	EPA8260	ERCL
Trichloroethene	5	LWDS-MW1	12 NOV 97	DU	18		0.5	EPA8260	ERCL
Trichloroethene	5	LWDS-MW1	04 MAR 98	SA	22		0.5	EPA8260	ERCL
Trichloroethene	5	LWDS-MW1	04 MAR 98	SA	21		0.03	EPA 8260	GEL
Trichloroethene	5	LWDS-MW1	04 MAR 98	SA	21		0.03	EPA 8260	GEL
Trichloroethene	5	LWDS-MW1	04 MAR 98	SA	20		0.4	EPA 8260	QSTL
Trichloroethene	5	LWDS-MW1	04 MAR 98	SA	20		0.4	EPA 8260	QSTL
Trichloroethene	5	LWDS-MW1	04 MAR 98	SA	20		0.5	EPA8260	ERCL
Trichloroethene	5	LWDS-MW1	08 JUN 98	SPLIT	20		2	EPA 8260	QSTL
Trichloroethene	5	LWDS-MW1	08 JUN 98	SA	19		0.5	EPA8260	ERCL
Trichloroethene	5	LWDS-MW1	08 JUN 98	DU	19		0.5	EPA8260	ERCL

Refer to footnotes at end of table.

Table 5.2-3 (Concluded)
Organic Compounds Exceeding the EPA MCLs in TA-V Groundwater

Analyte	EPA MCL (µg/L)	Well	Sample Date	Sample Type	Concentration (µg/L)	Qualifier	MDL (µg/L)	Analytical Method[a]	Laboratory
Trichloroethene	5	LWDS-MW1	16 NOV 98	SA	23		0.5	EPA8260	ERCL
Trichloroethene	5	LWDS-MW1	16 NOV 98	DU	23		0.5	EPA8260	ERCL
Trichloroethene	5	LWDS-MW1	17 NOV 98	SA	22		0.5	EPA8260	ERCL
Trichloroethene	5	LWDS-MW1	18 NOV 98	SA	20		0.5	EPA8260	ERCL
Trichloroethene	5	LWDS-MW1	20 NOV 98	SA	17		0.5	EPA8260	ERCL

[a]EPA November 1986.
D = Duplicate.
DU = Duplicate.
ENCOTEC = Environmental Controls Technology Corporation.
EPA = U.S. Environmental Protection Agency.
ERCL = Environmental Restoration Chemistry Laboratory.
F = Field sample.
GEL = General Engineering Laboratories.
MCL = Maximum concentration level.
MDL = Method detection limit.
QARV = Quanterra, Inc., Arvada, Colorado.
QSTL = Quanterra, Inc., Saint Louis, Missouri.
QUANTERRA = Quanterra, Inc.
SA = Field sample.
µg/L = Microgram(s) per liter.

Table 5.2-4
Radionuclides Detected in TA-V Groundwater

Analyte	HRMB Approved Maximum Background (pCi/L)	EPA MCL (pCi/L)	Well	Sample Date	Sample Type	Concentration (pCi/L)	2 - Sigma Error	Qualifier	MDA (pCi/L)	Analytical Method	Laboratory
Alpha, gross	NA	15	LWDS-MW1	03 NOV 93	F	14	6.1		4.2	GA	TMA EBERLINE
Alpha, gross	NA	15	TAV-MW2	06 JUN 95	F	13.2	5		5	900.0	QUAN SL
Alpha, gross	NA	15	AVN-2	11 JUL 95	F	10.5	2.3		2.3	900.0	QUAN SL
Alpha, gross	NA	15	TAV-MW2	19 MAR 96	F	9.47	1.85		1.3	900.0	QUAN SL
Alpha, gross	NA	15	TAV-MW1	19 MAR 96	F	8.47	1.63		0.47	900.0	QUAN SL
Alpha, gross	NA	15	AVN-1	13 JUL 95	F	8.25	1.64		1.48	900.0	QUAN SL
Alpha, gross	NA	15	LWDS-MW2	12 JUN 95	F	7.41	1.48		1.3	900.0	QUAN SL
Alpha, gross	NA	15	LWDS-MW2	07 DEC 94	F	6.3	2.2		1.9	900.0	TMA EBERLINE
Alpha, gross	NA	15	LWDS-MW1	07 JUN 94	D	6.1	3		2.5	900.0	TMA EBERLINE
Alpha, gross	NA	15	LWDS-MW-2	01 MAR 95	D	5.9	2.5		1.7	900.0	TMA EBERLINE
Alpha, gross	NA	15	TAV-MW1	09 JUN 95	F	5.88	1.24		1.16	900.0	QUAN SL
Alpha, gross	NA	15	LWDS-MW1	01 SEP 94	F	5.82	1.78		2.02	900.0	QUANTERRA
Alpha, gross	NA	15	LWDS-MW2	31 AUG 94	D	5.65	1.13		0.97	900.0	QUANTERRA
Alpha, gross	NA	15	LWDS-MW1	01 SEP 94	F	5.57	1.63		1.79	900.0	QUANTERRA
Alpha, gross	NA	15	LWDS-MW1	08 DEC 94	F	5.4	2.7		3	900.0	TMA EBERLINE
Alpha, gross	NA	15	LWDS-MW2	18 MAR 96	F	5.32	1.33		1.19	900.0	QUAN SL
Alpha, gross	NA	15	AVN-2	15 MAR 96	F	5.25	1.21		0.98	900.0	QUAN SL
Alpha, gross	NA	15	LWDS-MW2	12 JUN 95	D	5.2	1.18		1.13	900.0	QUAN SL
Alpha, gross	NA	15	LWDS-MW1	07 JUN 94	F	5	2.8		2.6	900.0	TMA EBERLINE
Alpha, gross	NA	15	LWDS-MW2	07 DEC 94	D	5	2		1.9	900.0	TMA EBERLINE
Alpha, gross	NA	15	LWDS-MW1	18 MAR 96	D	4.95	1.48		1.49	900.0	QUAN SL
Alpha, gross	NA	15	LWDS-MW2	09 MAR 94	F	4.8	2.4		1.6	GA	TMA EBERLINE
Alpha, gross	NA	15	LWDS-MW-1	02 MAR 95	F	4.7	2.5		2.5	900.0	TMA EBERLINE
Alpha, gross	NA	15	LWDS-MW2	24 JUN 93	D	4.6	2.4		1.7	GA	TMA EBERLINE
Alpha, gross	NA	15	LWDS-MW2	09 MAR 94	D	4.6	2.5		2	GA	TMA EBERLINE
Alpha, gross	NA	15	LWDS-MW2	06 JUN 94	F	4.5	2.1		1.5	900.0	TMA EBERLINE
Alpha, gross	NA	15	AVN-1	15 MAR 96	F	4.31	1.13		1.03	900.0	QUAN SL
Alpha, gross	NA	15	LWDS-MW1	18 MAR 96	F	4.04	1.36		1.47	900.0	QUAN SL
Alpha, gross	NA	15	LWDS-MW1	14 JUN 95	F	3.94	2.24		2.9	900.0	QUAN SL
Alpha, gross	NA	15	LWDS-MW2	24 JUN 93	F	3.8	2.3		1.8	GA	TMA EBERLINE
Alpha, gross	NA	15	LWDS-MW-2	01 MAR 95	F	3.7	1.9		1.9	900.0	TMA EBERLINE
Alpha, gross	NA	15	LWDS-MW1	25 SEP 95	F	3.5	0.993		3	900.0	GEL
Alpha, gross	NA	15	LWDS-MW2	31 AUG 94	F	3.49	0.89		0.92	900.0	QUANTERRA
Alpha, gross	NA	15	LWDS-MW1	10 MAR 94	F	3.4	3.1		3.3	GA	TMA EBERLINE
Alpha, gross	NA	15	LWDS-MW2	31 AUG 94	F	1.05	0.27		0.26	900.0	QUANTERRA
Beta, gross	NA	15	LWDS-MW1	03 NOV 93	F	18	3.9		3	GB	TMA EBERLINE
Beta, gross	NA	15	TAV-MW2	06 JUN 95	F	6.98	1.91		2.76	900.0	QUAN SL
Beta, gross	NA	15	LWDS-MW-1	02 MAR 95	F	5.9	2.7		3.7	900.0	TMA EBERLINE
Beta, gross	NA	15	LWDS-MW1	07 JUN 94	F	4.9	1.6		2.2	900.0	TMA EBERLINE

Refer to footnotes at end of table.

Table 5.2-4 (Continued)
Radionuclides Detected in TA-V Groundwater

Analyte	HRMB Approved Maximum Background (pCi/L)	EPA MCL (pCi/L)	Well	Sample Date	Sample Type	Concentration (pCi/L)	2 - Sigma Error	Qualifier	MDA (pCi/L)	Analytical Method	Laboratory
Beta, gross	NA	NA	LWDS-MW1	01 SEP 94	F	4.8	1.12		1.68	900.0	QUANTERRA
Beta, gross	NA	NA	LWDS-MW1	07 JUN 94	D	4.8	1.5		2	900.0	TMA EBERLINE
Beta, gross	NA	NA	LWDS-MW1	01 SEP 94	F	4.15	1.11		1.76	900.0	QUANTERRA
Beta, gross	NA	NA	AVN-1	13 JUL 95	F	4.08	0.67		0.87	900.0	QUAN SL
Beta, gross	NA	NA	TAV-MW2	19 MAR 96	F	3.97	0.76		1.05	900.0	QUAN SL
Beta, gross	NA	NA	LWDS-MW1	18 MAR 96	F	3.75	0.72		0.94	900.0	QUAN SL
Beta, gross	NA	NA	LWDS-MW2	31 AUG 94	D	3.72	0.58		0.7	900.0	QUANTERRA
Beta, gross	NA	NA	AVN-2	15 MAR 96	F	3.6	0.71		0.98	900.0	QUAN SL
Beta, gross	NA	NA	AVN-1	15 MAR 96	F	3.54	0.7		0.96	900.0	QUAN SL
Beta, gross	NA	NA	LWDS-MW2	31 AUG 94	F	3.46	0.55		0.66	900.0	QUANTERRA
Beta, gross	NA	NA	TAV-MW1	19 MAR 96	F	3.35	0.69		0.49	900.0	QUAN SL
Beta, gross	NA	NA	LWDS-MW2	07 DEC 94	D	3.3	1.4		2.1	900.0	TMA EBERLINE
Beta, gross	NA	NA	LWDS-MW2	12 JUN 95	F	3.16	0.59		0.84	900.0	QUAN SL
Beta, gross	NA	NA	LWDS-MW2	18 MAR 96	F	3.16	0.7		1.02	900.0	QUAN SL
Beta, gross	NA	NA	LWDS-MW1	18 MAR 96	D	3.11	0.7		1	900.0	QUAN SL
Beta, gross	NA	NA	LWDS-MW2	09 MAR 94	D	3.1	1.5		1.9	GB	TMA EBERLINE
Beta, gross	NA	NA	LWDS-MW2	24 JUN 93	F	3.1	1.6		2.1	GB	TMA EBERLINE
Beta, gross	NA	NA	TAV-MW1	09 JUN 95	F	3.06	0.63		0.94	900.0	QUAN SL
Beta, gross	NA	NA	LWDS-MW2	06 JUN 94	F	3	1.5		2.2	900.0	TMA EBERLINE
Beta, gross	NA	NA	LWDS-MW2	24 JUN 93	D	2.9	1.7		2.3	GB	TMA EBERLINE
Beta, gross	NA	NA	LWDS-MW2	12 JUN 95	D	2.82	0.58		0.85	900.0	QUAN SL
Beta, gross	NA	NA	LWDS-MW1	08 DEC 94	F	2.8	1.6		2.5	900.0	TMA EBERLINE
Beta, gross	NA	NA	AVN-2	11 JUL 95	F	2.74	0.93		1.74	900.0	QUAN SL
Beta, gross	NA	NA	LWDS-MW-2	01 MAR 95	F	2.6	1.5		2.2	900.0	TMA EBERLINE
Beta, gross	NA	NA	LWDS-MW-2	01 MAR 95	D	2.5	1.5		2.3	900.0	TMA EBERLINE
Beta, gross	NA	NA	LWDS-MW2	09 MAR 94	F	2.3	1.3		2	GB	TMA EBERLINE
Beta, gross	NA	NA	LWDS-MW2	07 DEC 94	F	2.2	1.3		2.1	900.0	TMA EBERLINE
Bismuth-214	NA	NA	LWDS-MW2	07 DEC 94	F	542	0.055		100000000	Gamma	SNL 7715
Bismuth-214	NA	NA	LWDS-MW2	07 DEC 94	D	477	0.0513		100000000	Gamma	SNL 7715
Bismuth-214	NA	NA	LWDS-MW2	06 JUN 94	F	279	0.043		100000000	Gamma	SNL 7715
Bismuth-214	NA	NA	LWDS-MW1	07 JUN 94	F	142	0.0369		100000000	Gamma	SNL 7715
Lead-212	NA	NA	LWDS-MW2	07 DEC 94	D	28.8	0.0198		100000000	Gamma	SNL 7715
Lead-214	NA	NA	LWDS-MW2	07 DEC 94	F	478	0.0504		100000000	Gamma	SNL 7715
Lead-214	NA	NA	LWDS-MW2	07 DEC 94	D	439	0.0482		100000000	Gamma	SNL 7715
Lead-214	NA	NA	LWDS-MW2	06 JUN 94	F	324	0.0515		100000000	Gamma	SNL 7715
Lead-214	NA	NA	LWDS-MW2	02 SEP 94	F	160	0.0446		100000000	Gamma	SNL 7715
Lead-214	NA	NA	LWDS-MW1	07 JUN 94	D	127	0.0445		100000000	Gamma	SNL 7715
Nonvolatile Beta	NA	NA	LWDS-MW1	25 SEP 95	F	5.33	1.4		3	900.0	GEL
Potassium-40	NA	NA	AVN-1	13 JUL 95	F	118	162		100	901.1	QUAN SL

Refer to footnotes at end of table.

Table 5.2-4 (Concluded)
Radionuclides Detected in TA-V Groundwater

Analyte	HRMB Approved Maximum Background (pCi/L)	EPA MCL (pCi/L)	Well	Sample Date	Sample Type	Concentration (pCi/L)	2 - Sigma Error	Qualifier	MDA (pCi/L)	Analytical Method	Laboratory
Potassium-40	NA	NA	AVN-2	11 JUL 95	F	80.2	95.8		72	901.1	QUAN SL
Radium-224	NA	NA	LWDS-MW1	02 SEP 94	D	758	0.482		100000000	Gamma	SNL 7715
Strontium-85	NA	NA	LWDS-MW2	02 SEP 94	F	20.7	0.0125		100000000	Gamma	SNL 7715
Thorium-234	104	NA	LWDS-MW1	02 SEP 94	F	266	0.183		100000000	Gamma	SNL 7715
Thorium-234	104	NA	LWDS-MW1	14 JUN 95	F	113	100		98	901.1	QUAN SL
Tritium	NA	20000	LWDS-MW1	07 JUN 94	F	330	150	B	230	906.0	TMA EBERLINE
Tritium	NA	20000	LWDS-MW1	07 JUN 94	D	300	150	B	230	906.0	TMA EBERLINE
Tritium	NA	20000	LWDS-MW2	21 OCT 92	F	200	200		100000000	EPA H-03	ENSECO
Uranium	NA	NA	LWDS-MW1	03 NOV 93	F	6.1	0.47		0.5	Gamma	TMA EBERLINE
Uranium	NA	NA	LWDS-MW1	10 MAR 94	F	3.9	0.16		0.05	Gamma	TMA EBERLINE
Uranium	NA	NA	LWDS-MW2	09 MAR 94	F	2.9	0.13		0.05	Gamma	TMA EBERLINE
Uranium	NA	NA	LWDS-MW2	09 MAR 94	D	2.7	0.12		0.05	Gamma	TMA EBERLINE
Uranium-238	3	NA	LWDS-MW1	02 SEP 94	F	265	0.182		100000000	Gamma	SNL 7715
Uranium-238	3	NA	LWDS-MW1	14 JUN 95	F	113	100		98	901.1	QUAN SL

B = Analyte detected in associated blank.
D = Duplicate.
ENSECO = Enseco, Inc.
EPA = U.S. Environmental Protection Agency.
F = Field sample.
GA = Gross alpha.
Gamma = Gamma spectroscopy.
GB = Gross beta.
GEL = General Engineering Laboratories.
HRMB = Hazardous and Radioactive Materials Bureau.
MCL = Maximum concentration level.
MDA = Minimum detectable activities.
pCi/L = Picocuries per liter.
QUANTERRA = Quanterra, Inc.
TMA EBERLINE = TMA Eberline, Inc.
QUAN SL = Quanterra, Inc., Saint Louis, Missouri.
SNL 7715 = Sandia National Laboratories/New Mexico, Department 7715, Radiological Laboratory.

Table 5.3.2-1
Vertical Profiling Results for Volatile Organic Compounds in TAV-MW4

Depth Below Top of 20-ft Screen (ft)	Depth Below Water Table (ft)	Sampling Point Elevation (ft amsl)	TCE (µg//L)	Methylene Chloride (µg/L)	Cis-1,2-DCE (µg/L)
1.5[a]	1.5	4929.5	1.5 J	0.66 J	<0.5
10	12.9	4918.0	1.7 J	0.69 J	<0.5

[a]Sample point was 1.5 feet above the top of the screen.
Note: Water table elevation was at 4930.94 ft.
amsl = Above mean sea level.
DCE = Dichloroethylene.
ft = Foot (feet).
J = Reported value less than the reporting limit.
TCE = Trichloroethylene
µg/L = Microgram(s) per liter.

Table 5.3.2-2
Vertical Profiling Results for Volatile Organic Compounds in LWDS-MW1

Depth Below Top of 15-ft Screen (ft)	Depth Below Water Table (ft)	Sampling Point Elevation (ft amsl)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Toluene	Chloromethane
1.5	10.2	4921.2	17	4.0	1.6 B	ND
7.5	16.2	4915.2	23	4.5	ND	1.0 B
7.5 (Duplicate)	16.2	4915.2	23	4.5	0.88	ND
13.5	22.2	4909.2	22	4.6	1.1	ND

Note: Water table elevation was at 4931.43 ft.
B = Analyte detected in associated blank.
amsl = Above mean sea level.
Cis-1,2-DCE = Cis-1,2-dichloroethylene.
ft = Foot (feet).
ND = Not detected.
TCE = Trichloroethylene.
µg/L = Microgram(s) per liter.

APPENDIX A

WELL DATABASE SUMMARY SHEETS

WELL DATABASE SUMMARY SHEET

Project Name:	LIQ WASTE DISP SYS	**Geo Location:**	TA-V PARKING LOT
ER ADS #:	1307	**Well Completion Date:**	03-MAY-93
Well Name:	LWDS-MW1	**Completion Zone:**	SAND
Owner Name:	SNL/NM	**Formation of Completion:**	SANTA FE GROUP
Drilling Started:		**Well Comment:**	WATER LEVEL MEASURED ON JULY 14, 1993-FLUSH MOUNT SURFACE COMPLETION. NEED SOCKET WRENCH TO ACCESS
Drilling Contractor:			
Drilling Method:	SONIC/AIR ROTARY/CABLE TOOL		
Borehole Depth:	525		
Casing Depth:	520.33		

Survey Data

Survey Date:

Surveyed By:

State Plane Coordinates

(X) Easting: 414375.538

(Y) Northing: 1455058.589

Surveyed Elevations (FAMSL)

Protective Casing:

Top of Inner Well Casing: 5422.186

Concrete Pad:

Ground Surface: 5422.694

Calculated Depths and Elevations

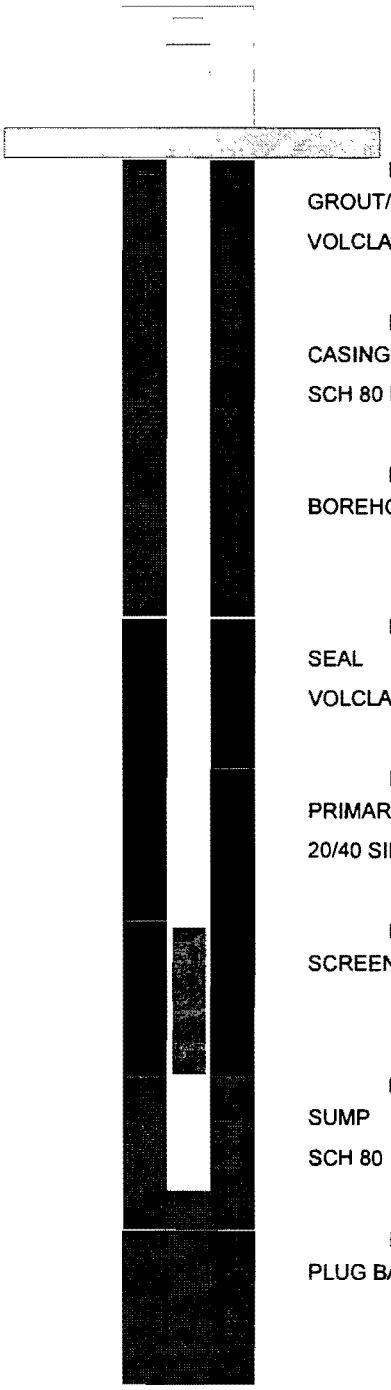
Initial Water Elevation: (FAMSL) 4914.386

Initial Depth To Water: (FBGS) 497.8

Last measured water level was 4933.1 **FASL**
measured on 10-SEP-96

Date Updated: 25-SEP-96

Date Printed: 16-DEC-98



Completion Data Measured Depths (FBGS)

Casing Stickup: -.25

Interval	Start	Stop
GROUT/BACKFILL	0'	485'
VOLCLAY		

Interval	Start	Stop			
CASING	0'	520.33'			
SCH 80 PVC			I.D.	3.862"	O.D. 4.5"

Interval	Start	Stop		
BOREHOLE	0'	525'	O.D.	11"

Interval	Start	Stop
SEAL	485'	495'
VOLCLAY PELLETS		

Interval	Start	Stop
PRIMARY PACK	495'	525'
20/40 SILICA SAND		

Interval	Start	Stop	
SCREEN	500'	515'	Slot Size .01"

Interval	Start	Stop
SUMP	515'	520.33'
SCH 80 PVC		

Interval	Start	Stop
PLUG BACK	520.33'	525'

WELL DATABASE SUMMARY SHEET

Project Name:	LIQ WASTE DISP SYS	**Geo Location:**	TA-V PARKING LOT
ER ADS #:	1307	**Well Completion Date:**	03-MAY-93
Well Name:	LWDS-MW1	**Completion Zone:**	SAND
Owner Name:	SNL/NM	**Formation of Completion:**	SANTA FE GROUP
Date Drilling Started:		**Well Comment:**	WATER LEVEL MEASURED ON JULY 14, 1993-FLUSH MOUNT SURFACE COMPLETION. NEED SOCKET WRENCH TO ACCESS
Drilling Contractor:			
Drilling Method:	SONIC/AIR ROTARY/CABLE TOOL		
Borehole Depth:	525		
Casing Depth:	520.33		

WELL DATABASE SUMMARY SHEET

Project Name:	LIQ WASTE DISP SYS	**Geo Location:**	LWDS Surface Impoundments
ER ADS #:	1307	**Well Completion Date:**	30-OCT-92
Well Name:	LWDS-MW2	**Completion Zone:**	SAND
Owner Name:	SNL	**Formation of Completion:**	SANTA FE GROUP
Drilling Started:	12-AUG-92	**Well Comment:**	WATER LEVEL MEASUREMENT FROM DRILLER'S LOG BOOK (22-OCT-92)
Drilling Contractor:			
Drilling Method:	SONIC/AIR ROTARY/DRIVE CASING		
Borehole Depth:	531		
Casing Depth:	531		

Survey Data

Survey Date:

Surveyed By:

State Plane Coordinates

(X) Easting:	413746.96
(Y) Northing:	1455700.191

Surveyed Elevations (FAMSL)

Protective Casing:	5410.95
Top of Inner Well Casing:	5409.811
Concrete Pad:	5408.87
Ground Surface:	5408.8

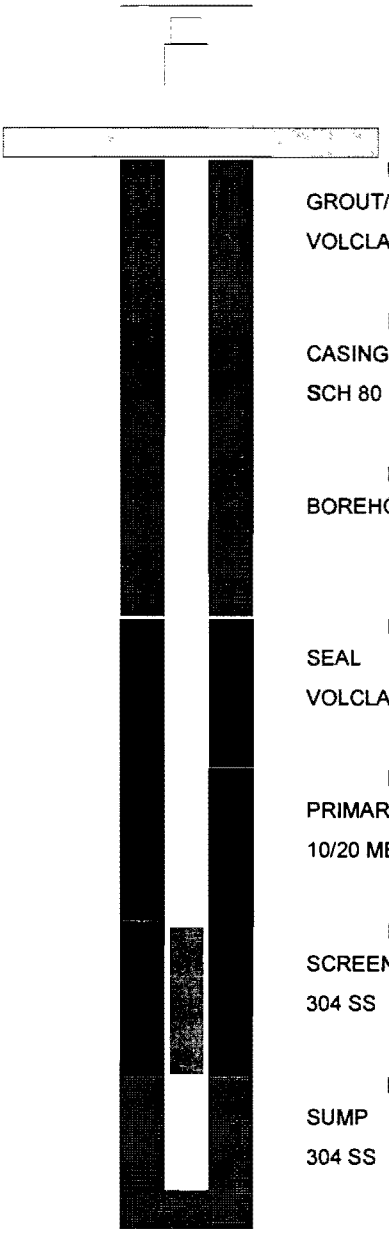
Calculated Depths and Elevations

Initial Water Elevation: (FAMSL)	4929.811
Initial Depth To Water: (FBGS)	480

Last measured water level was 4931 **FASL**
measured on 09-SEP-96

Date Updated:

Date Printed: 16-DEC-98



Completion Data Measured Depths (FBGS)

Casing Stickup: .94

Interval	Start	Stop
GROUT/BACKFILL	0'	474'
VOLCLAY		

Interval	Start	Stop		
CASING	0'	531'		
SCH 80 PVC	I.D. 3.862"		O.D.	4.5"

Interval	Start	Stop		
BOREHOLE	0'	531'		
			O.D.	11"

Interval	Start	Stop
SEAL	474'	480'
VOLCLAY PELLETS		

Interval	Start	Stop
PRIMARY PACK	480'	531'
10/20 MESH SILICA		

Interval	Start	Stop
SCREEN	506'	526'
304 SS		

Interval	Start	Stop
SUMP	526'	531'
304 SS		

WELL DATABASE SUMMARY SHEET

Project Name:	LIQ WASTE DISP SYS	**Geo Location:**	LWDS Surface Impoundments
ER ADS #:	1307	**Well Completion Date:**	30-OCT-92
Well Name:	LWDS-MW2	**Completion Zone:**	SAND
Owner Name:	SNL	**Formation of Completion:**	SANTA FE GROUP
Date Drilling Started:	12-AUG-92	**Well Comment:**	WATER LEVEL MEASUREMENT FROM DRILLER'S LOG BOOK (22-OCT-92)
Drilling Contractor:			
Drilling Method:	SONIC/AIR ROTARY/DRIVE CASING		
Borehole Depth:	531		
Casing Depth:	531		

WELL DATABASE SUMMARY SHEET

Project Name:	TA5 SEEPAGE PITS	**Geo Location:**	TA5 SEEPAGE PITS
ER ADS #:	1306	**Well Completion Date:**	28-FEB-95
Well Name:	TAV-MW1	**Completion Zone:**	SILTY SAND
er Name:	SNL/NM	**Formation of Completion:**	SANTA FE GROUP
Drilling Started:	31-JAN-95	**Well Comment:**	WELL DEVELOPED 4/10/95 - 4/14/95. INSIDE FENCE TA-V
Drilling Contractor:	STEWART BROTHERS		
Drilling Method:	AIR CASING HAMMER W/CENTER BI		
Borehole Depth:	520		
Casing Depth:	509.5		

Survey Data

Survey Date: 13-APR-95

Surveyed By: GREINER INC.

State Plane Coordinates

(X) Easting: 414699.928

(Y) Northing: 1454667.5

Surveyed Elevations (FAMSL)

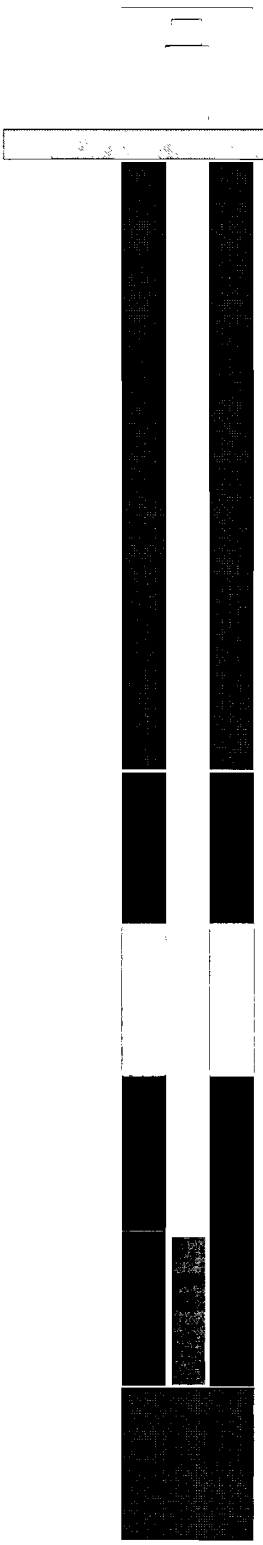
Protective Casing:	5436.204
Top of Inner Well Casing:	5435.136
crete Pad:	5432.535
Ground Surface:	5432.5

Calculated Depths and Elevations

Initial Water Elevation: (FAMSL)	4935.34	
Initial Depth To Water: (FBGS)	499.8	
Last measured water level was	4931.92	**FASL**
measured on	11-SEP-96	

Date Updated: 17-JUL-1995 13:46:46

Date Printed: 16-DEC-98



Completion Data Measured Depths (FBGS)

Casing Stickup: 3.7

Interval	Start	Stop		
BOREHOLE	0'	200'	O.D.	11.75"

Interval	Start	Stop
GROUT/BACKFILL	0'	463'
VOLCLAY GROUT		

Interval	Start	Stop				
CASING	0'	509.5'				
PVC SCH 80			I.D.	5"	O.D.	5.2"

Interval	Start	Stop		
BOREHOLE	200'	520'	O.D.	10.5"

Interval	Start	Stop
SEAL	463'	474'
BENTONITE POWDER		

Interval	Start	Stop
SECONDARY PACK	474'	483.5'
0.100		

Interval	Start	Stop
PRIMARY PACK	483.5'	512.5'
10/20		

Interval	Start	Stop		
SCREEN	489.5'	509.5'		
PVC 80			Slot Size	.02"

Interval	Start	Stop
PLUG BACK	509.5'	520'
10/20 SAND		

WELL DATABASE SUMMARY SHEET

Project Name:	TA5 SEEPAGE PITS	**Geo Location:**	TA5 SEEPAGE PITS
ER ADS #:	1306	**Well Completion Date:**	28-FEB-95
Well Name:	TAV-MW1	**Completion Zone:**	SILTY SAND
Owner Name:	SNL/NM	**Formation of Completion:**	SANTA FE GROUP
Date Drilling Started:	31-JAN-95	**Well Comment:**	WELL DEVELOPED 4/10/95 - 4/14/95. INSIDE FENCE TA-V
Drilling Contractor:	STEWART BROTHERS		
Drilling Method:	AIR CASING HAMMER W/CENTER BI		
Borehole Depth:	520		
Casing Depth:	509.5		

WELL DATABASE SUMMARY SHEET

Project Name:	TA5 SEEPAGE PITS	**Geo Location:**	WEST OF TA5 (OUTSIDE FENCE)
ER ADS #:	1306	**Well Completion Date:**	30-MAR-95
Well Name:	TAV-MW2	**Completion Zone:**	SILTY SAND
Owner Name:	SNL/NM	**Formation of Completion:**	SANTA FE GROUP
Drilling Started:	13-MAR-95	**Well Comment:**	WELL DEVELOPED 4/11/95 - 4/14/95 WITH BAILER
Drilling Contractor:	STEWART BROTHERS		
Drilling Method:	AIR CASING HAMMER W/CENTER BI		
Borehole Depth:	522		
Casing Depth:	513.5		

Survey Data

Survey Date: 13-APR-95

Surveyed By: GREINER INC.

State Plane Coordinates

(X) Easting: 414145.08

(Y) Northing: 1454634.7

Surveyed Elevations (FAMSL)

Protective Casing:	5425.769
Top of Inner Well Casing:	5424.857
rete Pad:	5422.144
Ground Surface:	5421.751

Calculated Depths and Elevations

Initial Water Elevation: (FAMSL) 4930.201

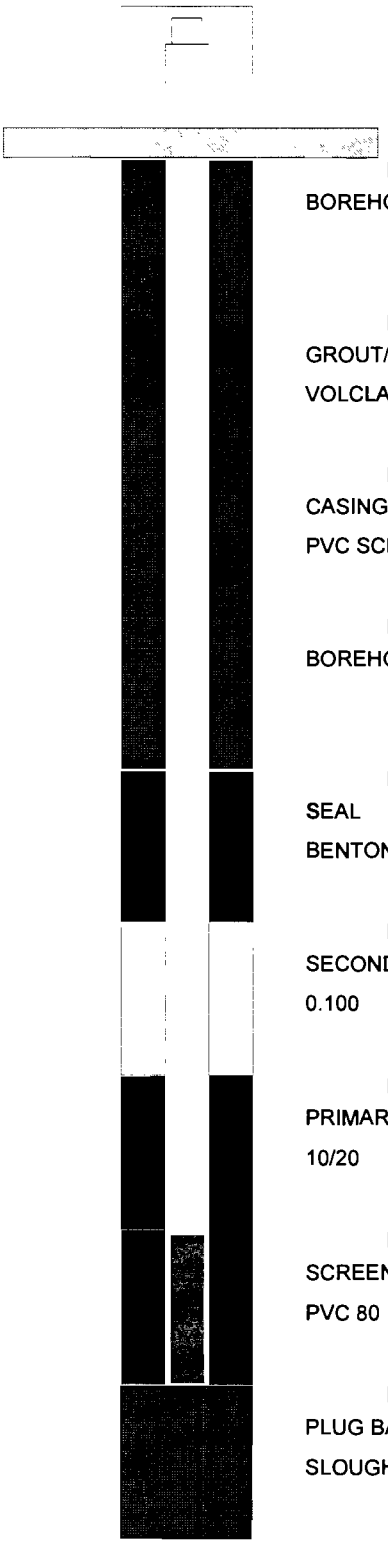
Initial Depth To Water: (FBGS) 494.66

Last measured water level was 4932.33 **FASL**

measured on 10-SEP-96

Date Updated: 29-JUL-97

Date Printed: 16-DEC-98



Completion Data Measured Depths (FBGS)

Casing Stickup: 3.11

Interval	Start	Stop		
BOREHOLE	0'	150'	O.D.	11.75"

Interval	Start	Stop
GROUT/BACKFILL	0'	474'
VOLCLAY GROUT		

Interval	Start	Stop				
CASING	0'	513.5'				
PVC SCH 80			I.D.	5"	O.D.	5.2"

Interval	Start	Stop		
BOREHOLE	150'	522'	O.D.	10.5"

Interval	Start	Stop
SEAL	474'	483'
BENTONITE POWDER		

Interval	Start	Stop
SECONDARY PACK	483'	491'
0.100		

Interval	Start	Stop
PRIMARY PACK	491'	518.3'
10/20		

Interval	Start	Stop		
SCREEN	497'	517'		
PVC 80			Slot Size	.02"

Interval	Start	Stop
PLUG BACK	513.5'	522'
SLOUGH		

WELL DATABASE SUMMARY SHEET

Project Name:	TA5 SEEPAGE PITS	**Geo Location:**	WEST OF TA5 (OUTSIDE FENCE)
ER ADS #:	1306	**Well Completion Date:**	30-MAR-95
Well Name:	TAV-MW2	**Completion Zone:**	SILTY SAND
Owner Name:	SNL/NM	**Formation of Completion:**	SANTA FE GROUP
Date Drilling Started:	13-MAR-95	**Well Comment:**	WELL DEVELOPED 4/11/95 - 4/14/95 WITH BAILER
Drilling Contractor:	STEWART BROTHERS		
Drilling Method:	AIR CASING HAMMER W/CENTER BI		
Borehole Depth:	522		
Casing Depth:	513.5		

WELL DATABASE SUMMARY SHEET

Project Name:	TAV GROUNDWATER	**Geo Location:**	~850' E. OF SE CORNER OF TAV
ER ADS #:	1306	**Well Completion Date:**	11-APR-97
Well Name:	TAV-MW3	**Completion Zone:**	SILTY TO GRAVELLY SAND
Owner Name:	SNL/NM	**Formation of Completion:**	SANTA FE GROUP
Drilling Started:	03-APR-97	**Well Comment:**	BENTONITE GROUT FLOWED APPARENTLY THROUGH THE WELL SCREEN AND FILLED ~100' OF THE BOTTOM OF THE WELL. GROUT WAS REMOVED WITH BAILER AND REPEATED SURGING AND BAILING
Drilling Contractor:	WATER DEVELOPMENT CORP.		
Drilling Method:	AIR ROTARY/CASING HAMMER		
Borehole Depth:	568		
Casing Depth:	557.7		

Survey Data

Survey Date: 23-MAY-97

Surveyed By: GREINER, INC.

State Plane Coordinates

(X) Easting: 416156.07

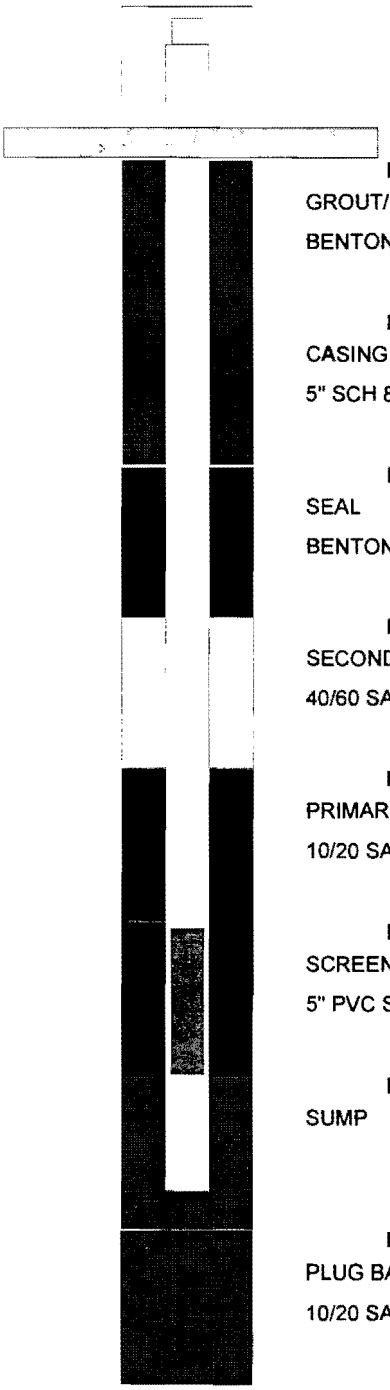
(Y) Northing: 1454168.25

Surveyed Elevations (FAMSL)

Protective Casing:	5462.31
Top of Inner Well Casing:	5461.73
Concrete Pad:	5459.35
Ground Surface:	5459.1

Calculated Depths and Elevations

Initial Water Elevation: (FAMSL)	4930.87	
Initial Depth To Water: (FBGS)	528.23	
Last measured water level was	4930.69	**FASL**
measured on	26-JUL-97	



Completion Data Measured Depths (FBGS)

Casing Stickup: 2.63

Interval	Start	Stop
GROUT/BACKFILL BENTONITE GROUT	0'	512.5'
CASING 5" SCH 80 PVC	0'	557.7'
SEAL BENTONITE PELLETS	512.5'	517.5'
SECONDARY PACK 40/60 SAND	517.5'	526'
PRIMARY PACK 10/20 SAND	526'	568'
SCREEN 5" PVC SCH 80	532'	552'
Slot Size		.02"
SUMP	552'	557.7'
PLUG BACK 10/20 SAND	557.7'	568'

Date Updated: 29-JUL-97

Date Printed: 16-DEC-98

WELL DATABASE SUMMARY SHEET

Project Name:	TAV GROUNDWATER	**Geo Location:**	~850' E. OF SE CORNER OF TAV
ER ADS #:	1306	**Well Completion Date:**	11-APR-97
Well Name:	TAV-MW3	**Completion Zone:**	SILTY TO GRAVELLY SAND
Owner Name:	SNL/NM	**Formation of Completion:**	SANTA FE GROUP
Date Drilling Started:	03-APR-97	**Well Comment:**	BENTONITE GROUT FLOWED APPARENTLY THROUGH THE WELL SCREEN AND FILLED ~100' OF THE BOTTOM OF THE WELL. GROUT WAS REMOVED WITH BAILER AND REPEATED SURGING AND BAILING
Drilling Contractor:	WATER DEVELOPMENT CORP.		
Drilling Method:	AIR ROTARY/CASING HAMMER		
Borehole Depth:	568		
Casing Depth:	557.7		

WELL DATABASE SUMMARY SHEET

Project Name:	TAV GROUNDWATER	**Geo Location:**	~350' NORTH OF TA-V ENTRANCE
ER ADS #:	1306	**Well Completion Date:**	18-APR-97
Well Name:	TAV-MW4	**Completion Zone:**	SILTY TO GRAVELLY SAND
Owner Name:	SNL/NM	**Formation of Completion:**	SANTA FE GROUP
Drilling Started:	14-APR-97	**Well Comment:**	NORMAL CONSTRUCTION AND COMPLETION;NO PROBLEMS ENCOUNTERED
Drilling Contractor:	WATER DEVELOPMENT CORP.		
Drilling Method:	AIR ROTARY/CASING HAMMER		
Borehole Depth:	528		
Casing Depth:	520.7		

Survey Data

Survey Date: 23-MAY-97

Surveyed By: GREINER, INC.

State Plane Coordinates

(X) Easting: 414461.42

(Y) Northing: 1455521.84

Surveyed Elevations (FAMSL)

Protective Casing:	5426.07
Top of Inner Well Casing:	5425.39
crete Pad:	5423.35
Ground Surface:	5423

Calculated Depths and Elevations

Initial Water Elevation: (FAMSL)	4931.95
Initial Depth To Water: (FBGS)	491.05

Last measured water level was 4931.77 **FASL**
measured on 16-JUL-97

Date Updated: 30-SEP-97

Date Printed: 16-DEC-98

Completion Data Measured Depths (FBGS)

Casing Stickup: 2.39

Interval	Start	Stop
GROUT/BACKFILL	0'	474'
BENTONITE GROUT		
CASING	0'	520.7'
5" SCH 80 PVC		
SEAL	474'	479'
BENTONITE CHIPS		
SECONDARY PACK	479'	485'
40/60 SAND		
PRIMARY PACK	485'	515'
10/20 SAND		
SCREEN	495'	515'
5" PVC SCH 80		
Slot Size		.02"
SUMP	515'	520.7'
PLUG BACK	520.7'	528'
10/20 SAND		

WELL DATABASE SUMMARY SHEET

Project Name:	TAV GROUNDWATER	**Geo Location:**	~350' NORTH OF TA-V ENTRANCE
ER ADS #:	1306	**Well Completion Date:**	18-APR-97
Well Name:	TAV-MW4	**Completion Zone:**	SILTY TO GRAVELLY SAND
Owner Name:	SNL/NM	**Formation of Completion:**	SANTA FE GROUP
Date Drilling Started:	14-APR-97	**Well Comment:**	NORMAL CONSTRUCTION AND COMPLETION;NO PROBLEMS ENCOUNTERED
Drilling Contractor:	WATER DEVELOPMENT CORP.		
Drilling Method:	AIR ROTARY/CASING HAMMER		
Borehole Depth:	528		
Casing Depth:	520.7		

WELL DATABASE SUMMARY SHEET

Project Name:	TA-V GROUND WATER	**Geo Location:**	JUST NORTH OF TA-III FENCE
ER ADS #:	1306	**Well Completion Date:**	26-APR-97
Well Name:	TAV-MW5	**Completion Zone:**	SILTY AND GRAVELLY SAND
Owner Name:	SNL/NM	**Formation of Completion:**	SANTA FE GROUP
Drilling Started:	21-APR-97	**Well Comment:**	NORMAL CONSTRUCTION AND COMPLETION;NO PROBLEMS ENCOUNTERED. HEAVING FINE SAND AT TOTAL DEPTH.
Drilling Contractor:	WATER DEVELOPMENT CORP.		
Drilling Method:	AIR ROTARY/CASING HAMMER		
Borehole Depth:	517		
Casing Depth:	512.7		

Survey Data

Survey Date: 23-MAY-97

Surveyed By: GREINER INC.

State Plane Coordinates

(X) Easting: 413141.76

(Y) Northing: 1455269.73

Surveyed Elevations (FAMSL)

Protective Casing:	5406.84
Top of Inner Well Casing:	5406.2
Concrete Pad:	5404.17
Ground Surface:	5403.9

Calculated Depths and Elevations

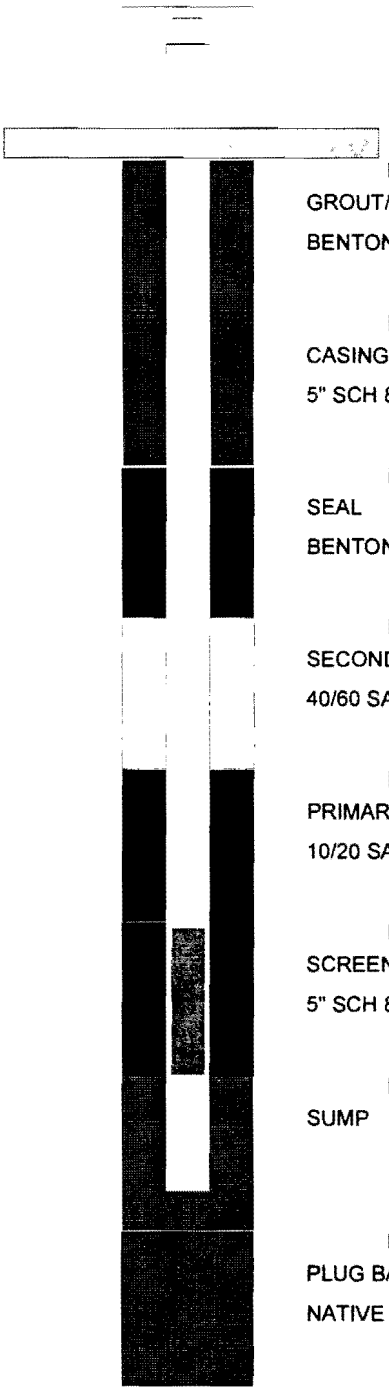
Initial Water Elevation: (FAMSL)	4928.19
Initial Depth To Water: (FBGS)	475.71

Last measured water level was 4927.96 **FASL**

measured on 26-JUL-97

Date Updated: 30-SEP-97

Date Printed: 16-DEC-98



Completion Data Measured Depths (FBGS)

Casing Stickup: 2.3

Interval	Start	Stop
GROUT/BACKFILL	0'	463'
BENTONITE GROUT		

Interval	Start	Stop
CASING	0'	512.7'
5" SCH 80 PVC		

Interval	Start	Stop
SEAL	463'	468'
BENTONITE CHIPS		

Interval	Start	Stop
SECONDARY PACK	468'	474'
40/60 SAND		

Interval	Start	Stop
PRIMARY PACK	474'	512.7'
10/20 SAND		

Interval	Start	Stop
SCREEN	487'	507'
5" SCH 80 PVC		

Slot Size .02"

Interval	Start	Stop
SUMP	507'	512.7'

Interval	Start	Stop
PLUG BACK	512.7'	517'
NATIVE SAND		

WELL DATABASE SUMMARY SHEET

Project Name:	TA-V GROUND WATER	**Geo Location:**	JUST NORTH OF TA-III FENCE
ER ADS #:	1306	**Well Completion Date:**	26-APR-97
Well Name:	TAV-MW5	**Completion Zone:**	SILTY AND GRAVELLY SAND
Owner Name:	SNL/NM	**Formation of Completion:**	SANTA FE GROUP
Date Drilling Started:	21-APR-97	**Well Comment:**	NORMAL CONSTRUCTION AND COMPLETION;NO PROBLEMS ENCOUNTERED. HEAVING FINE SAND AT TOTAL DEPTH.
Drilling Contractor:	WATER DEVELOPMENT CORP.		
Drilling Method:	AIR ROTARY/CASING HAMMER		
Borehole Depth:	517		
Casing Depth:	512.7		

WELL DATABASE SUMMARY SHEET

Project Name:	SWHC	**Geo Location:**	NE OF TA-V
ER ADS #:	1330	**Well Completion Date:**	23-MAY-95
Well Name:	AVN-1	**Completion Zone:**	SILTY AND GRAVELLY SAND
Owner Name:	SNL/NM	**Formation of Completion:**	SANTA FE GROUP
Drilling Started:	09-MAY-95	**Well Comment:**	DEEP COMPLETION IN ZONE OF HIGH POTENTIAL K TO BE USED AS PUMPING WELL IN CONJUNCTION WITH AVN-2. COMPLETED AT H2O TABLE
Drilling Contractor:	USGS		
Drilling Method:	MUD ROTARY		
Borehole Depth:	650		
Casing Depth:	600		

Survey Data

Survey Date:

Surveyed By:

State Plane Coordinates

(X) Easting:	415399.496
(Y) Northing:	1455504.605

Surveyed Elevations (FAMSL)

Protective Casing:	5441.49
Top of Inner Well Casing:	5440.55
Concrete Pad:	5437.83
Ground Surface:	5437.806

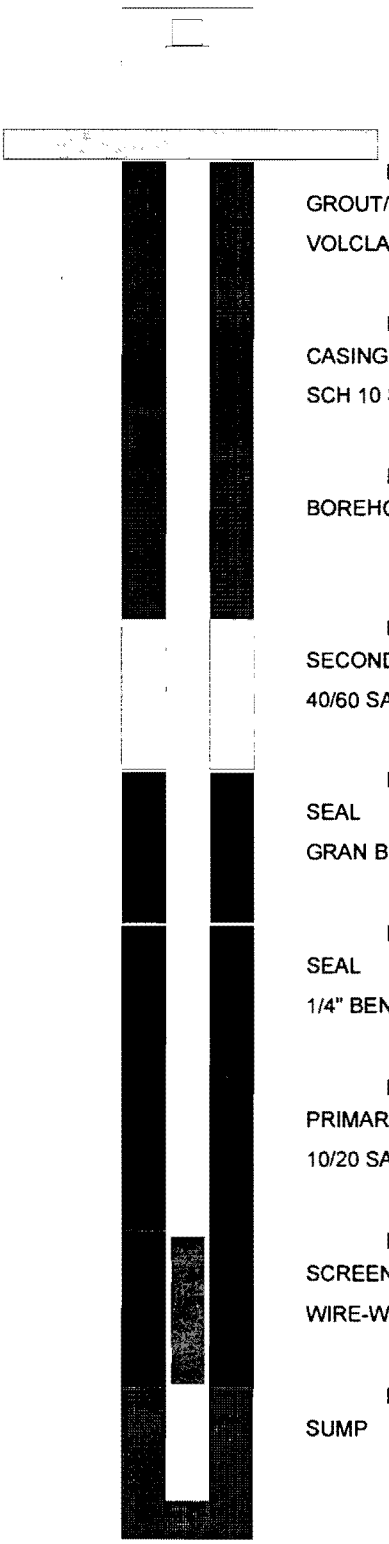
Calculated Depths and Elevations

Initial Water Elevation: (FAMSL)	4931.95
Initial Depth To Water: (FBGS)	508.6

Last measured water level was 4930.65 **FASL**
measured on 09-SEP-96

Date Updated: 31-OCT-1995 09:25:23

Date Printed: 16-DEC-98



Completion Data Measured Depths (FBGS)

Casing Stickup: 2.72

Interval	Start	Stop		
GROUT/BACKFILL	0'	488'		
VOLCLAY				

Interval	Start	Stop		
CASING	0'	600'		
SCH 10 SS, TYPE 304	I.D. 5"		O.D. 5.5"	

Interval	Start	Stop		
BOREHOLE	0'	650'		
			O.D. 10"	

Interval	Start	Stop
SECONDARY PACK	488'	500'
40/60 SAND/.100 SAND		

Interval	Start	Stop
SEAL	500'	523'
GRAN BEN&10/20 SAND		

Interval	Start	Stop
SEAL	523'	550'
1/4" BENT. PELLETS		

Interval	Start	Stop
PRIMARY PACK	550'	600'
10/20 SAND		

Interval	Start	Stop
SCREEN	570'	590'
WIRE-WOUND SS		
	Slot Size	.02"

Interval	Start	Stop
SUMP	590'	600'

WELL DATABASE SUMMARY SHEET

Project Name:	SWHC	**Geo Location:**	NE OF TA-V
ER ADS #:	1330	**Well Completion Date:**	23-MAY-95
Well Name:	AVN-1	**Completion Zone:**	SILTY AND GRAVELLY SAND
Owner Name:	SNL/NM	**Formation of Completion:**	SANTA FE GROUP
Date Drilling Started:	09-MAY-95	**Well Comment:**	DEEP COMPLETION IN ZONE OF HIGH POTENTIAL K TO BE USED AS PUMPING WELL IN CONJUNCTION WITH AVN-2, COMPLETED AT H2O TABLE
Drilling Contractor:	USGS		
Drilling Method:	MUD ROTARY		
Borehole Depth:	650		
Casing Depth:	600		

Interval	Start	Stop
PLUG BACK	600'	650'
MED NAT BENT CHIPS		

WELL DATABASE SUMMARY SHEET

Project Name:	SWHC	**Geo Location:**	NE OF TA-V
ER ADS #:	1330	**Well Completion Date:**	05-JUN-95
Well Name:	AVN-2	**Completion Zone:**	SILTY SAND,F-VFG
Owner Name:	SNL/NM	**Formation of Completion:**	SANTA FE GROUP
Drilling Started:	31-MAY-95	**Well Comment:**	WATER TABLE WELL UPGRADIENT/CROSS GRADIENT OF TA-V
Drilling Contractor:	USGS		
Drilling Method:	MUD ROTARY		
Borehole Depth:	530		
Casing Depth:	520		

Survey Data

Survey Date:

Surveyed By:

State Plane Coordinates

(X) Easting:	415420.02
(Y) Northing:	1455510.528

Surveyed Elevations (FAMSL)

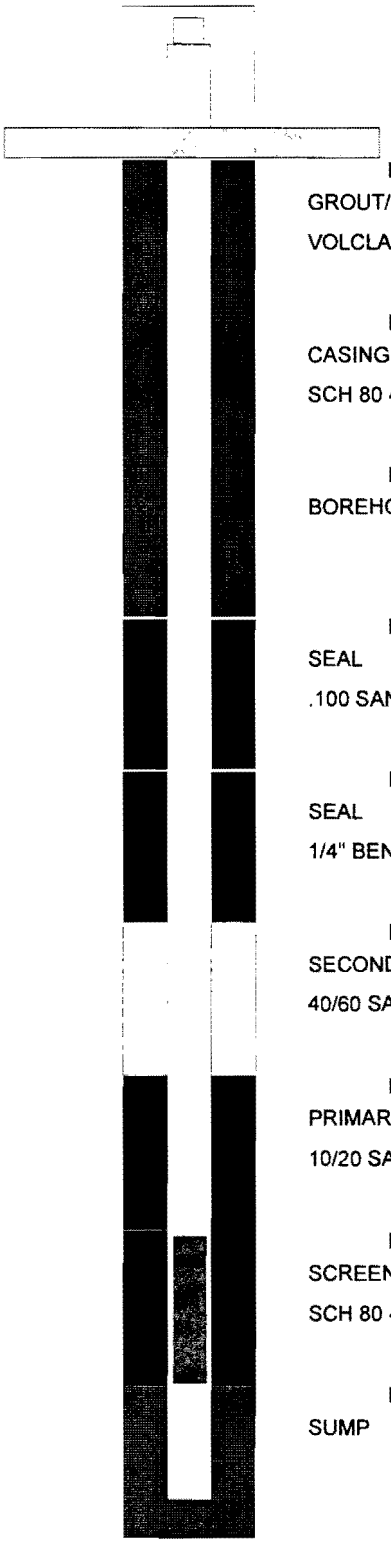
Protective Casing:	5440.68
Top of Inner Well Casing:	5439.93
rete Pad:	5438.29
Ground Surface:	5438.186

Calculated Depths and Elevations

Initial Water Elevation: (FAMSL)	4933.43	
Initial Depth To Water: (FBGS)	506.5	
Last measured water level was	4932.2	**FASL**
measured on	09-SEP-96	

Date Updated: 31-OCT-1995 09:27:33

Date Printed: 16-DEC-98



Completion Data Measured Depths (FBGS)

Casing Stickup: 1.64

Interval	Start	Stop
GROUT/BACKFILL	0'	431'
VOLCLAY		

Interval	Start	Stop
CASING	0'	520'
SCH 80 4" PVC	I.D. 3.8"	O.D. 4.5"

Interval	Start	Stop
BOREHOLE	0'	530'
		O.D. 8"

Interval	Start	Stop
SEAL	431'	440'
.100 SAND		

Interval	Start	Stop
SEAL	440'	467'
1/4" BENT PELLETS		

Interval	Start	Stop
SECONDARY PACK	467'	478'
40/60 SAND		

Interval	Start	Stop
PRIMARY PACK	478'	520'
10/20 SAND		

Interval	Start	Stop
SCREEN	495'	515'
SCH 80 4" PVC		
	Slot Size	.02"

Interval	Start	Stop
SUMP	515'	520'

WELL DATABASE SUMMARY SHEET

Project Name:	SWHC	**Geo Location:**	NE OF TA-V
ER ADS #:	1330	**Well Completion Date:**	05-JUN-95
Well Name:	AVN-2	**Completion Zone:**	SILTY SAND,F-VFG
Owner Name:	SNL/NM	**Formation of Completion:**	SANTA FE GROUP
Date Drilling Started:	31-MAY-95	**Well Comment:**	WATER TABLE WELL UPGRADIENT/CROSS GRADIENT OF TA-V
Drilling Contractor:	USGS		
Drilling Method:	MUD ROTARY		
Borehole Depth:	530		
Casing Depth:	520		

[redacted]

Interval	Start	Stop
PLUG BACK	520'	530'
10/20 SAND		

WELL DATABASE SUMMARY SHEET

Project Name:	KAFB WATER SUPPLY	**Geo Location:**	TA-III
ER ADS #:	NA	**Well Completion Date:**	27-MAY-59
Well Name:	KAFB-10	**Completion Zone:**	LIMESTONE
ner Name:	KAFB	**Formation of Completion:**	PALEOZOIC
te Drilling Started:	01-NOV-58	**Well Comment:**	TOP OF PALEOZOIC LIMESTONE BEDROCK AT 1025 FEET
Drilling Contractor:	HAROLD P DOTY		
Drilling Method:	ROTARY		
Borehole Depth:	1050		
Casing Depth:			

Survey Data

Survey Date:

Surveyed By:

[redacted]

(X) Easting: 413785.945

(Y) Northing: 1455117.393

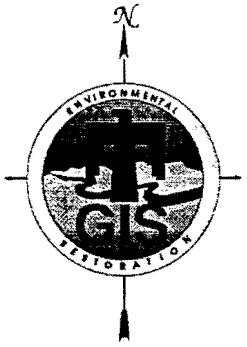
Surveyed Elevations (FAMSL)

Protective Casing:

Top of Inner Well Casing: 5415.98

ncrete Pad:

Ground Surface: 5415.98



Calculated Depths and Elevations

Initial Water Elevation: (FAMSL) 4921.98

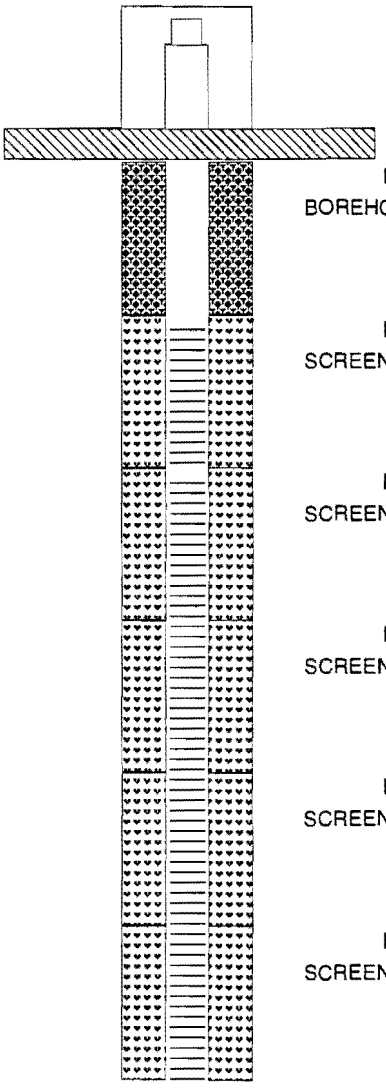
Initial Depth To Water: (FBGS) 494

Last measured water level was 4919.67 **FASL**

measured on 29-AUG-95

Date Updated:

Date Printed: 01-OCT-96



Completion Data Measured Depths (FBGS)

Casing Stickup:

Interval	Start	Stop
BOREHOLE	0'	1050'

O.D. 20"

Interval	Start	Stop
SCREEN	495'	505'
SCREEN	542'	577'
SCREEN	672'	682'
SCREEN	700'	710'
SCREEN	804'	814'

APPENDIX B

LWDS DRAINFIELD
ACTIVE SOIL VAPOR SURVEY ANALYTICAL RESULTS
JUNE 23, 1994

Sandia National Laboratories
Albuquerque, New Mexico 87185

Date: July 8, 1994

To: Lon Dawson, 7582, MS 1347

From: Mark Lyon, MW 7584/IT Corp., MS 1350

Subject: Liquid Waste Disposal Site Active Soil Gas Survey, June 23, 1994, Analysis Results

Summary tables of analysis results and laboratory quality control measures for the Liquid Waste Disposal Site (LWDS) active soil gas survey, June 23, 1994, are attached. Additionally, instrument printouts from the Viking™ gas chromatograph/mass spectrometer showing summary data analysis, tuning results, and standards calibrations are enclosed. Also included are the original sample collection and custody documents. Please review the data and contact me at the Building 6542 Laboratory with any questions.

LWDS soil gas samples in 500-milliliter glass bulbs were received at Building 6542 Laboratory on June 23. The samples were analyzed that same day following procedures outlined in the draft, "Determination of Volatile Organic Compounds (VOC) in Water, Soil, and Gas by Gas Chromatography/Mass Spectrometry Using the Viking™ 600 GC/MS Instrument Operating Procedure," (IT Corporation, 1993). The samples were analyzed concurrently with soil gas samples from the Mixed Waste Landfill (MWL). Requirements for the MWL soil gas project were applied to the LWDS project and are detailed in the "Sampling and Analysis Plan for the Soil-Gas Investigation Project at the Mixed Waste Landfill, June 1994," (IT Corporation, 1994).

Prior to analysis, three-point calibration curves for each compound of interest were constructed by gravimetrically preparing a primary standard and analyzing subsequent primary standard dilutions. Mass spectrometer tuning was checked against Environmental Protection Agency Method 8260 criteria prior to analysis each day. At a minimum, calibration check samples and laboratory blanks were analyzed each morning prior to analyzing any MWL soil gas samples.

Target compounds included acetone, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, benzene, trichloroethene, toluene, and tetrachloroethene. Because of limitations with the Viking™ instrument configuration, acetone and methylene chloride could not be analyzed and were dropped from the target compound list.

4-Bromofluorobenzene was also added to the primary standard as a surrogate spike. However this addition proved to be of little utility as a commercial mixture containing 4-bromofluorobenzene, toluene-d8, and 1,2-dichloroethane-d4 was obtained and served to provide the internal calibration standard (toluene-d8) and surrogate spiking compound (4-bromofluorobenzene). 1,2-dichloroethane-d4 appears on the samples chromatograms but was not utilized as an internal standard or surrogate.

The commercially prepared surrogate spike and internal standard mixture was added to each soil gas sample, calibration verification sample, and laboratory blank to monitor analytical accuracy and calculate the target compound concentrations. Applicable quality control results for the surrogate spikes, daily calibration verification samples, and laboratory blank samples are included in the tables of results.

Target analyte concentrations less than the least concentrated standard used to construct the calibration curves are noted with a "J"-flag. "J" indicates an estimated value less than the lower limit of quantitation (LLOQ). "J"-flagged values are shown down to one-tenth (1/10th) the LLOQ for each target compound, ranging from two (2) to five (5) parts per billion by volume (ppbv). Observations made during sample analysis and data processing indicate that the target compounds were identifiable at the 2 to 5 ppbv level but were nearly indistinguishable from the baseline, or "background noise." Target compound concentrations that the Viking™ data analysis software found and reported at less than 1/10th the LLOQ are reported as undetected, or "U", on the summary tables. Instrumental detection limits for each target compound were not statistically determined for this project.

The Viking™ GC/MS system experienced difficulties each day during sample analysis causing some impact on the resulting data. Carrier gas flow unexpectedly stopped during analysis of sample SGBH2-30′ resulting in an unrecoverable loss of data. Sample chromatograms did not show any tentatively identified compounds (TIC) of interest. All identified TICs are assumed to be artifacts of the analytical system.

ANALYSIS RESULTS

Liquid Waste Disposal Site Active Soil Gas Survey
Analysis Request Chain Of Custody Record 00494

Department 7584 Laboratory
Building 6542

Sample No.	Collection Date	Analysis Date	Units	Lower Limit of Quantitation	Upper Limit of Quantitation	1,1,1-trichloroethane	
SGBH1-15'	6/23/94	6/23/94	ppbv	23	226	U	
SGBH1-30'	6/23/94	6/23/94	ppbv	23	226	U	
SGBH2-15'	6/23/94	6/23/94	ppbv	23	226	U	
SGBH2-30'	6/23/94	6/23/94	ppbv	23	226	No data available	

Sample No.	Collection Date	Analysis Date	Units	Lower Limit of Quantitation	Upper Limit of Quantitation	Carbon tetrachloride	
SGBH1-15'	6/23/94	6/23/94	ppbv	21	208	U	
SGBH1-30'	6/23/94	6/23/94	ppbv	21	208	U	
SGBH2-15'	6/23/94	6/23/94	ppbv	21	208	U	
SGBH2-30'	6/23/94	6/23/94	ppbv	21	208	No data available	

Sample No.	Collection Date	Analysis Date	Units	Lower Limit of Quantitation	Upper Limit of Quantitation	Benzene	
SGBH1-15'	6/23/94	6/23/94	ppbv	43	428	7	J
SGBH1-30'	6/23/94	6/23/94	ppbv	43	428	10	J
SGBH2-15'	6/23/94	6/23/94	ppbv	43	428	15	J
SGBH2-30'	6/23/94	6/23/94	ppbv	43	428	No data available	

Sample No.	Collection Date	Analysis Date	Units	Lower Limit of Quantitation	Upper Limit of Quantitation	Trichloroethene	
SGBH1-15'	6/23/94	6/23/94	ppbv	23	230	U	
SGBH1-30'	6/23/94	6/23/94	ppbv	23	230	4	J
SGBH2-15'	6/23/94	6/23/94	ppbv	23	230	U	
SGBH2-30'	6/23/94	6/23/94	ppbv	23	230	No data available	

Sample No.	Collection Date	Analysis Date	Units	Lower Limit of Quantitation	Upper Limit of Quantitation	Toluene	
SGBH1-15'	6/23/94	6/23/94	ppbv	35	347	U	
SGBH1-30'	6/23/94	6/23/94	ppbv	35	347	U	
SGBH2-15'	6/23/94	6/23/94	ppbv	35	347	U	
SGBH2-30'	6/23/94	6/23/94	ppbv	35	347	No data available	

ANALYSIS RESULTS
(continued)

Liquid Waste Disposal Site Active Soil Gas Survey
Analysis Request Chain Of Custody Record 00494

Department 7584 Laboratory
Building 6542

Sample No.	Collection Date	Analysis Date	Units	Lower Limit of Quantitation	Upper Limit of Quantitation	Tetrachloroethene	
SGBH1-15'	6/23/94	6/23/94	ppbv	21	205	4	J
SGBH1-30'	6/23/94	6/23/94	ppbv	21	205	4	J
SGBH2-15'	6/23/94	6/23/94	ppbv	21	205	4	J
SGBH2-30'	6/23/94	6/23/94	ppbv	21	205	No data available	

ppbv = parts per billion by volume
U = compound was undetected
J = Estimated concentration less than the lower limit of quantitation (LLOQ).
"J" qualifiers are reported down to 1/10th the LLOQ.
E = Estimated concentration greater than the upper limit of quantitation (ULOQ).

SURROGATE SPIKE RECOVERY

Liquid Waste Disposal Site Active Soil Gas Survey
Analysis Request Chain Of Custody Records 00494

Department 7584 Laboratory
Building 6542

Sample No.	Collection Date	Analysis Date	Units	4-Bromofluorobenzene
SGBH1-15'	6/23/94	6/23/94	%	92
SGBH1-30'	6/23/94	6/23/94	%	78
SGBH2-15'	6/23/94	6/23/94	%	90
SGBH2-30'	6/23/94	6/23/94	%	No data available
CVS623-2	NA	6/23/94	%	89
CVS623-3	NA	6/23/94	%	96
BLK623-1	NA	6/23/94	%	120

CALIBRATION VERIFICATION SAMPLE RESULTS

Liquid Waste Disposal Site Active Soil Gas Survey
Analysis Request Chain Of Custody Records 00494

Department 7584 Laboratory
Building 6542

Sample No.	Analysis Date	Measurement	1,1,1-trichloro ethane	Carbon tetrachloride	Benzene	Trichloro ethene	Toluene	Tetrachloro ethene
Known		(ppbv)	45.3	41.6	85.6	46.0	69.4	41.0
CVS623-2	6/23/94	Found (ppbv)	7.5	13.5	69.0	34.8	55.8	32.4
		Recovery	17%	32%	81%	76%	80%	79%
CVS623-3	6/23/94	Found (ppbv)	30.1	29.2	71.6	37.8	57.9	30.9
		Recovery	66%	70%	84%	82%	83%	75%
Summary								
Accuracy		Mean (ppbv)	18.8	21.4	70.3	36.3	56.9	31.7
		Mean Recovery	42%	51%	82%	79%	82%	77%
		Bias	58%	49%	18%	21%	18%	23%
Precision		Relative Percent Difference	120%	74%	4%	8%	4%	5%

LABORATORY BLANK SAMPLE RESULTS

Liquid Waste Disposal Site Active Soil Gas Survey
Analysis Request Chain Of Custody Records 00494

Department 7584 Laboratory
Building 6542

Sample No.	Analysis Date	Units	1,1,1-trichloroethane		Carbon tetrachloride		Benzene		Trichloroethene		Toluene		Tetrachloroethene	
BLK623-1	6/23/94	ppbv	25		20	J	46		18	J	31	J	17	J
Lower Limit of Quantitation (LLOQ)		ppbv	23		21		43		23		35		21	

ppbv = parts per billion by volume
J = Estimated concentration less than lower limit of quantitation (LLOQ).
"J" qualifiers are reported down to 1/10th the LLOQ.

DATA SUMMARY PRINTOUTS

Viking SpectraTrak 620
Quantitation Report
airvol

Calibration Last Updated: Tue Jun 28 11:54:32 1994
Internal Standard Report: Summary

Disk File Name: C:\CHEMPC\DATA\SCONGCMS\AIRVOL.R\SGBH1-15.D
Date Acquired:
Cycle: SCONGCMS
Run Type: AIRVOL.R
Data File: SGBH1-15.D
Operator: mlyon
Sample Name: SGBH1-15' LWDS
Misc Info: 1 ul SS/IS

DA Method: C:\CHEMPC\METHODS\AIRVOL.M
Integrator: ChemStation

Quantitation Settings:

Reference Peak Window:	5 Percent
Non-Reference Peak Window:	5 Percent
Correlation Window:	0.03 Minutes
Default Multiplier:	1
Default Sample Amount:	0
Peak Type Decoding:	* -> Time Reference Peak
	m -> Manually re-integrated
	00X -> Compound references ISTD X

Pk #	Compound	Ret Time	Amount	Peak Type
1	1,1,1-trichloroethane	***** NOT FOUND *****		001
2	carbon tetrachloride	***** NOT FOUND *****		001
3	benzene	7.37	6.7 ppbv	001#
4	trichloroethene	***** NOT FOUND *****		001
5	toluene-d8	10.67	73.0 ppbv	*ISTD001
6	toluene	10.78	1.9 ppbv	001#
7	tetrachloroethene	11.70	3.8 ppbv	001#
8	4-bromoflourobenzene	14.94	76.8 ppbv	001

END OF REPORT
Qualifiers Not Satisfied

9

Viking SpectraTrak 620
Quantitation Report
airvol

Calibration Last Updated: Tue Jun 28 11:54:32 1994
Internal Standard Report: Summary

Disk File Name: C:\CHEMPC\DATA\SCONGCMS\AIRVOL.R\SGBH1-30.D
Date Acquired:
Cycle: SCONGCMS
Run Type: AIRVOL.R
Data File: SGBH1-30.D
Operator: mlyon
Sample Name: SGBH1-30' LWDS
Misc Info: 1 ul SS/IS

DA Method: C:\CHEMPC\METHODS\AIRVOL.M
Integrator: ChemStation

Quantitation Settings:
Reference Peak Window: 5 Percent
Non-Reference Peak Window: 5 Percent
Correlation Window: 0.03 Minutes
Default Multiplier: 1
Default Sample Amount: 0
Peak Type Decoding: * -> Time Reference Peak
m -> Manually re-integrated
00X -> Compound references ISTD X

Pk #	Compound	Ret Time	Amount	Peak Type
1	1,1,1-trichloroethane	***** NOT FOUND *****		001
2	carbon tetrachloride	***** NOT FOUND *****		001
3	benzene	7.33	9.9 ppbv	001#
4	trichloroethene	8.56	3.8 ppbv	001#
5	toluene-d8	10.64	73.0 ppbv	*ISTD001
6	toluene	10.75	2.3 ppbv	001#
7	tetrachloroethene	11.66	3.8 ppbv	001#
8	4-bromoflourobenzene	14.92	65.2 ppbv	001

END OF REPORT
Qualifiers Not Satisfied

10

Viking SpectraTrak 620
Quantitation Report
airvol

Calibration Last Updated: Tue Jun 28 11:54:32 1994
Internal Standard Report: Summary

Disk File Name: C:\CHEMPC\DATA\SCONGCMS\AIRVOL.R\SGBH2-15.D
Date Acquired:
Cycle: SCONGCMS
Run Type: AIRVOL.R
Data File: SGBH2-15.D
Operator: mlyon
Sample Name: SGBH2-15' LWDS
Misc Info: 1 ul SS/IS

DA Method: C:\CHEMPC\METHODS\AIRVOL.M
Integrator: ChemStation

Quantitation Settings:

Reference Peak Window:	5 Percent
Non-Reference Peak Window:	5 Percent
Correlation Window:	0.03 Minutes
Default Multiplier:	1
Default Sample Amount:	0
Peak Type Decoding:	* -> Time Reference Peak
	m -> Manually re-integrated
	00X -> Compound references ISTD X

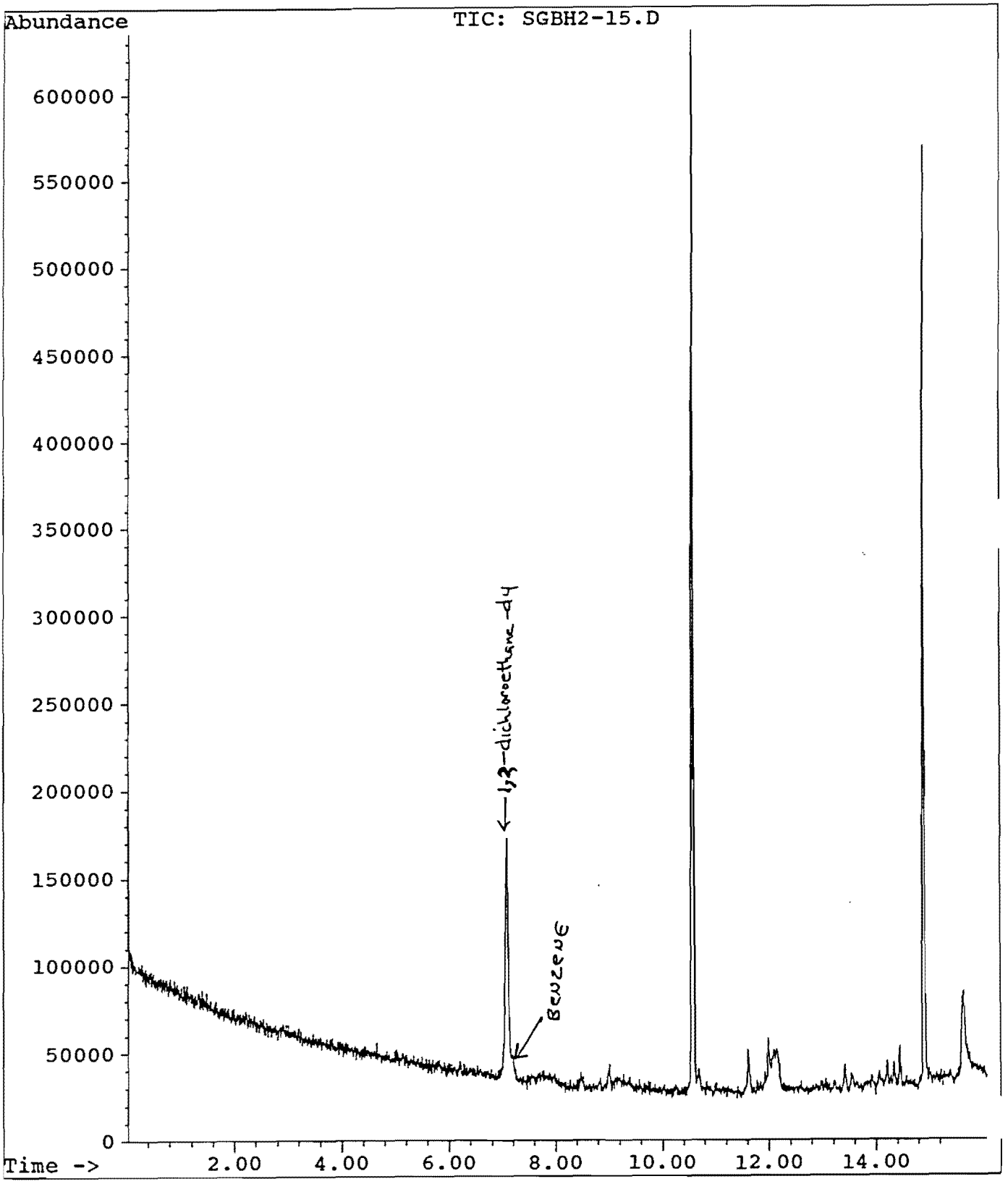
Pk #	Compound	Ret Time	Amount	Peak Type
1	1,1,1-trichloroethane	***** NOT FOUND *****		001
2	carbon tetrachloride	***** NOT FOUND *****		001
3	benzene 14.6 ppbv	~~***** NOT FOUND *****~~		001
4	trichloroethene	***** NOT FOUND *****		001
5	toluene-d8	10.58	73.0 ppbv	*ISTD001
6	toluene	10.69	2.0 ppbv	001#
7	tetrachloroethene	11.62	3.9 ppbv	001#
8	4-bromoflourobenzene	14.91	75.8 ppbv	001

END OF REPORT
Qualifiers Not Satisfied

Identified benzene by primary ion search, integrated, and manually calculated the concentration
MLL 7/7/94

11

Data File: C:\CHEMPC\DATA\SCONGCMS\AIRVOL.R\SGBH2-15.D
Date Acquired: 23 Jun 94 5:06 pm
Operator: mlyon
Sample Name: SGBH2-15' LWDS
Misc Info: 1 ul SS/IS



SGBH2-15' LWDS

Peak#	Ret Time	Type	Width	Area	Start Time	End Time
1	7.189	PV	0.069	311224	7.041	7.303

Benzene

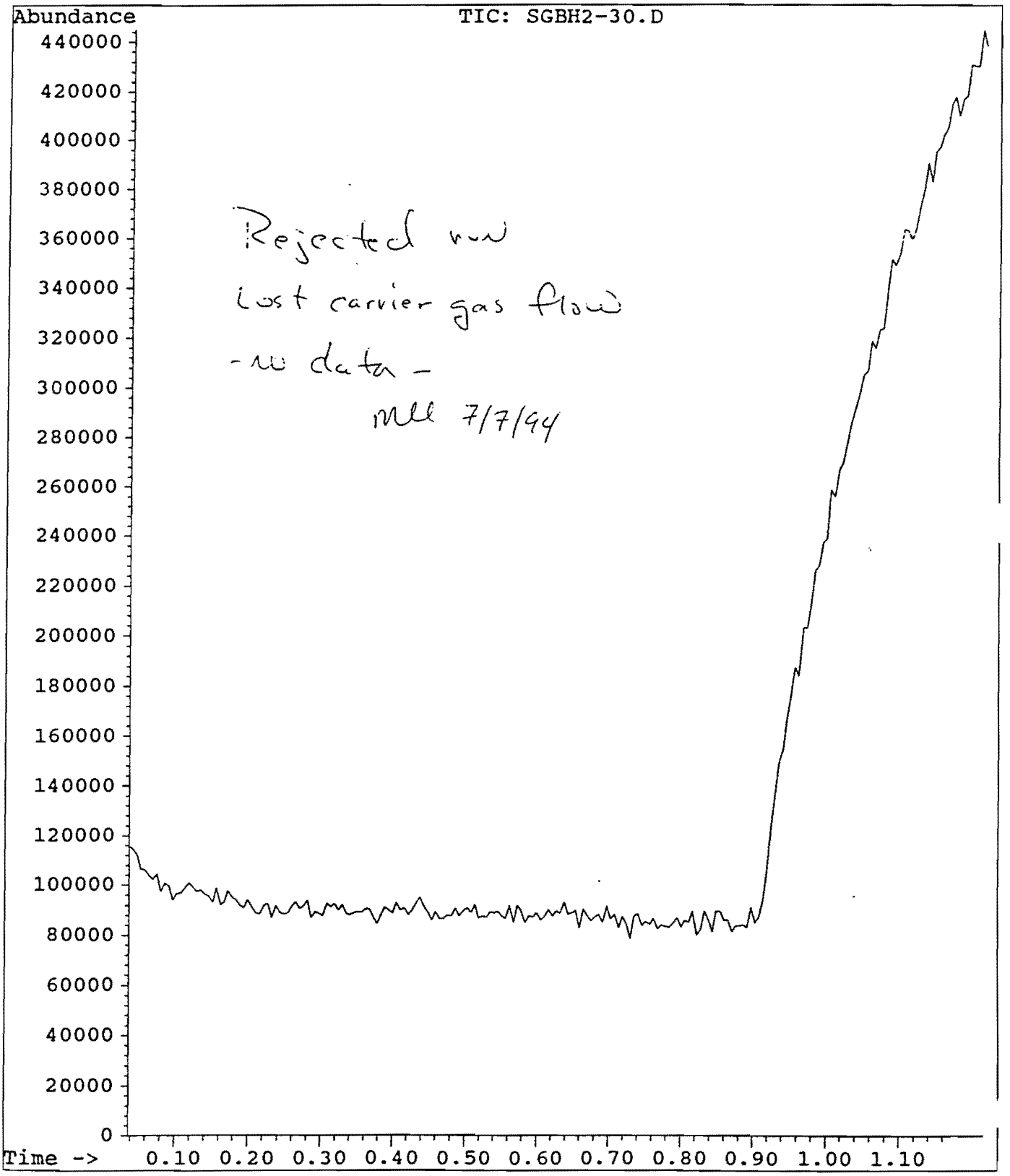
$$\frac{311224}{2749449} = 0.567\left(\frac{X}{73}\right) = 14.6 \text{ ppbv}$$

SGBH2-15' LWDS

Peak#	Ret Time	Type	Width	Area	Start Time	End Time
1	14.907	BB	0.034	2749449	14.838	14.991

toluene-d8 Interval Standard

Data File: C:\CHEMPC\DATA\SCONGCMS\AIRVOL.R\SGBH2-30.D
Date Acquired: 23 Jun 94 5:32 pm
Operator: mlyon
Sample Name: SGBH2-30' LWDS
Misc Info: 1 ul SS/IS



MASS SPECTROMETER TUNE VERIFICATION

Mon Jun 20 07:41:13 1994

EMVolts	1682	AmuGain	340
X-Ray	64.1	AmuOffs	78
Emission	ON	219Wid	0.017
MS Temp	164	TTI	OFF
Vacuum	54	DC Pol	NEG
Samples	16	Repeller	9.94
Averages	1	IonFocus	63.0
StepSize	0.10	EntLens	22.09
MassGain	95	EntOffs	11.04
MassOffs	17	Filament	1

PFTBA OPEN

Area Percent Report
Sorted By Signal

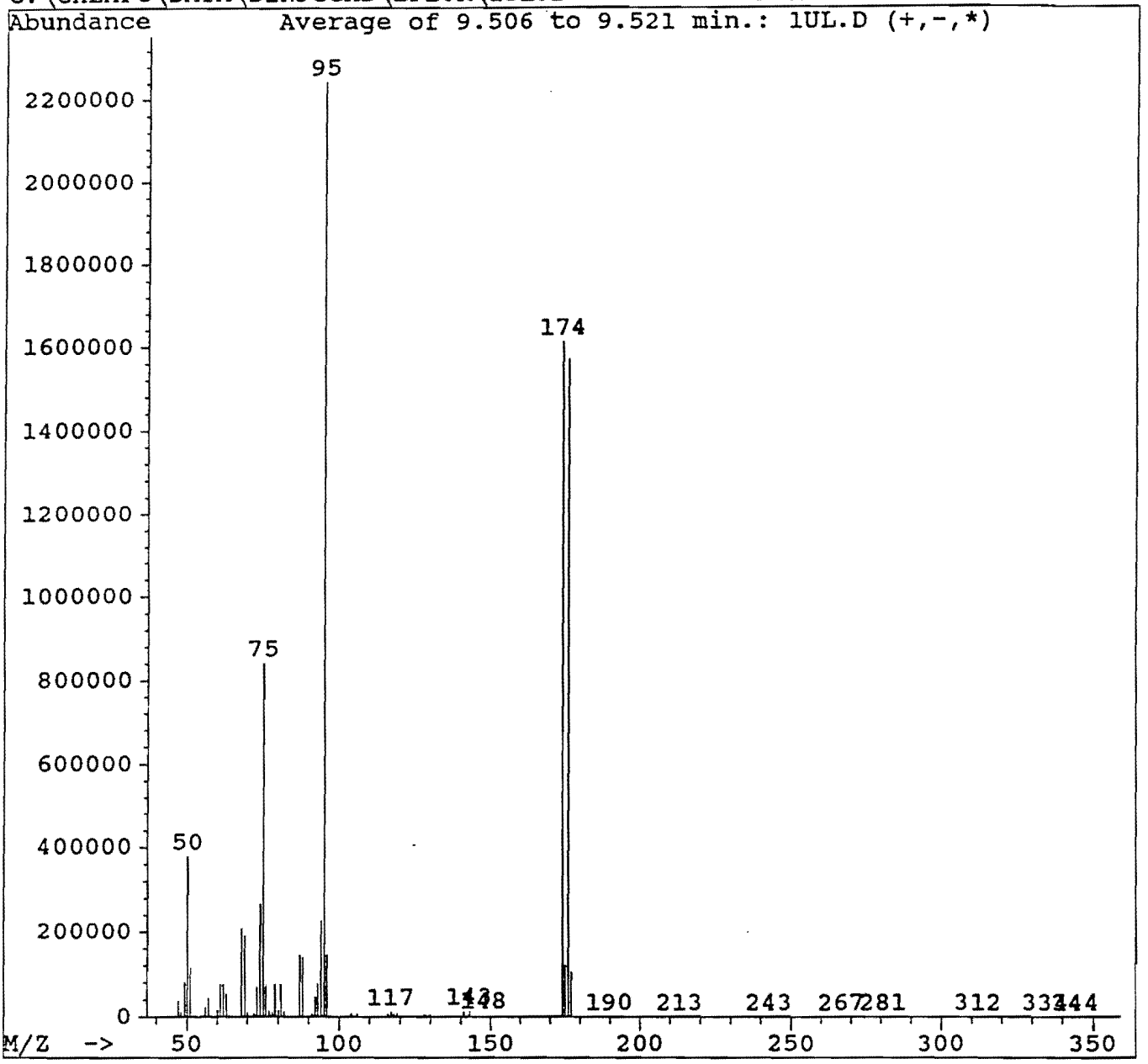
e: C:\CHEMPC\DATA\DINJGCMS\BFB.R\1UL.D
rator: ml
te Acquired: 20 Jun 94 9:01 am
thod File: acqmeth.m
ample Name: 20ngbfb
isc Info: Tune check 6/20/94
ial Number : 1

otal Ion Chromatogram

Retention Time	Area	Area %	Ratio %
9.513	22621072	100.000	100.000

BFB 624 Results

C:\CHEMPC\DATA\DINJGCMS\BFB.R\1UL.D Mon Jun 20 09:12:41 1994



Peak Apex is scan: 899
Average of 3 scans: 898,899,900 minus background scan 889

Target Mass	Comparison Mass	Lower Limit,%	Upper Limit,%	Relative Abundance,%	Result Pass/Fail
50	95	15	40	16.9	PASS
75	95	30	60	37.5	PASS
95	95	100	100	100.0	PASS
96	95	5	9	6.5	PASS
173	174	0	2	0.0	PASS
174	95	50	100	71.8	PASS
175	174	5	9	7.6	PASS
176	174	95	101	97.4	PASS
177	176	5	9	6.7	PASS

Thu Jun 23 07:24:23 1994

EMVolts	1682	AmuGain	340
X-Ray	64.1	AmuOffs	78
Emission	ON	219Wid	0.017
MS Temp	163	TTI	OFF
Vacuum	55	DC Pol	NEG
Samples	16	Repeller	9.94
Averages	1	IonFocus	63.0
StepSize	0.10	EntLens	22.09
MassGain	95	EntOffs	11.04
MassOffs	17	Filament	1

PFTBA OPEN

Area Percent Report
Sorted By Signal

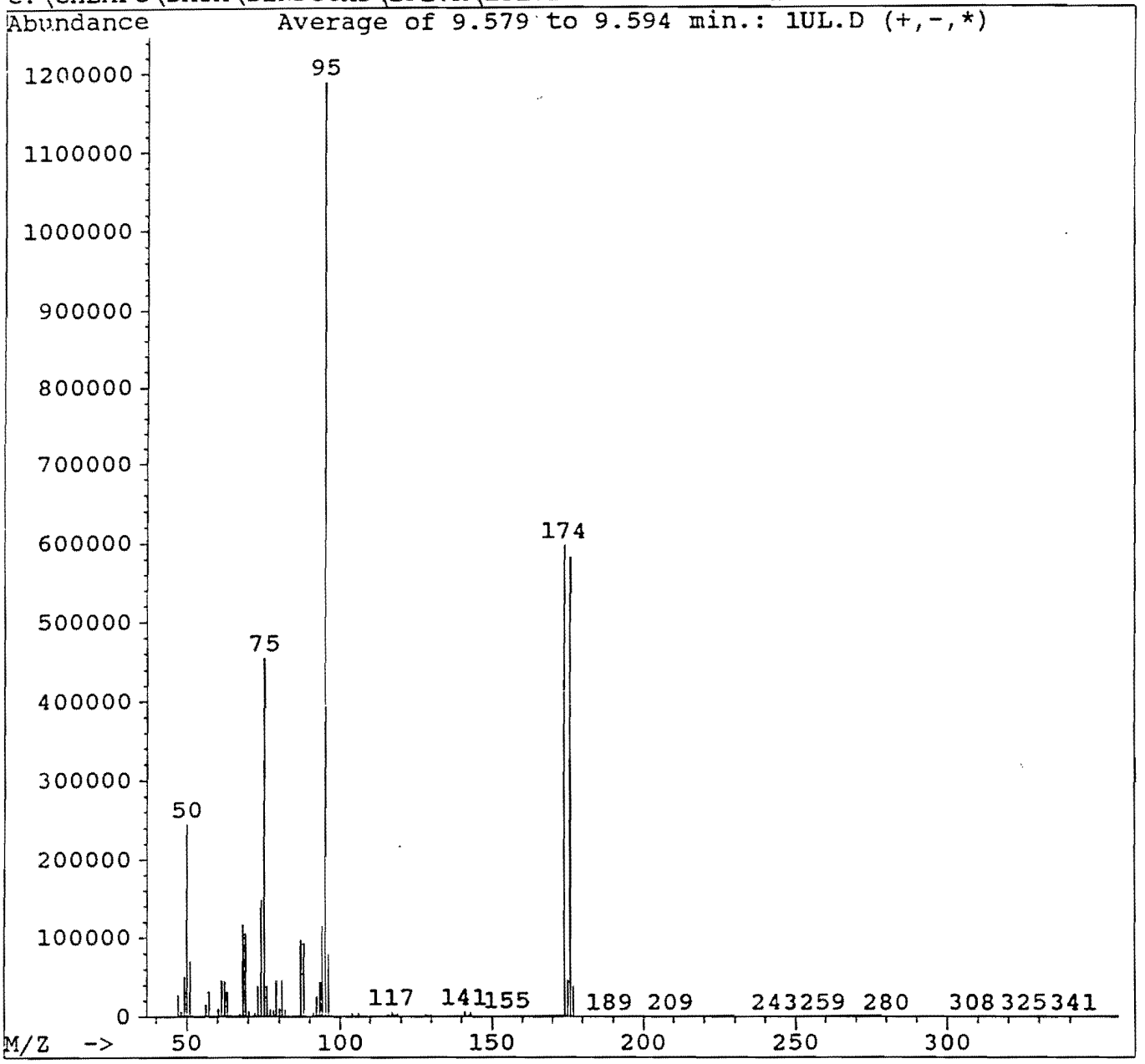
e: C:\CHEMPC\DATA\DINJGCMS\BFB.R\1UL.D
Operator: ml
Date Acquired: 23 Jun 94 8:12 am
Method File: acqmeth.m
Sample Name: 20ngbfb
Misc Info: Tune check 6/23/94
Vial Number : 1

Total Ion Chromatogram

Retention Time	Area	Area %	Ratio %
9.586	10703996	100.000	100.000

BFB 624 Results

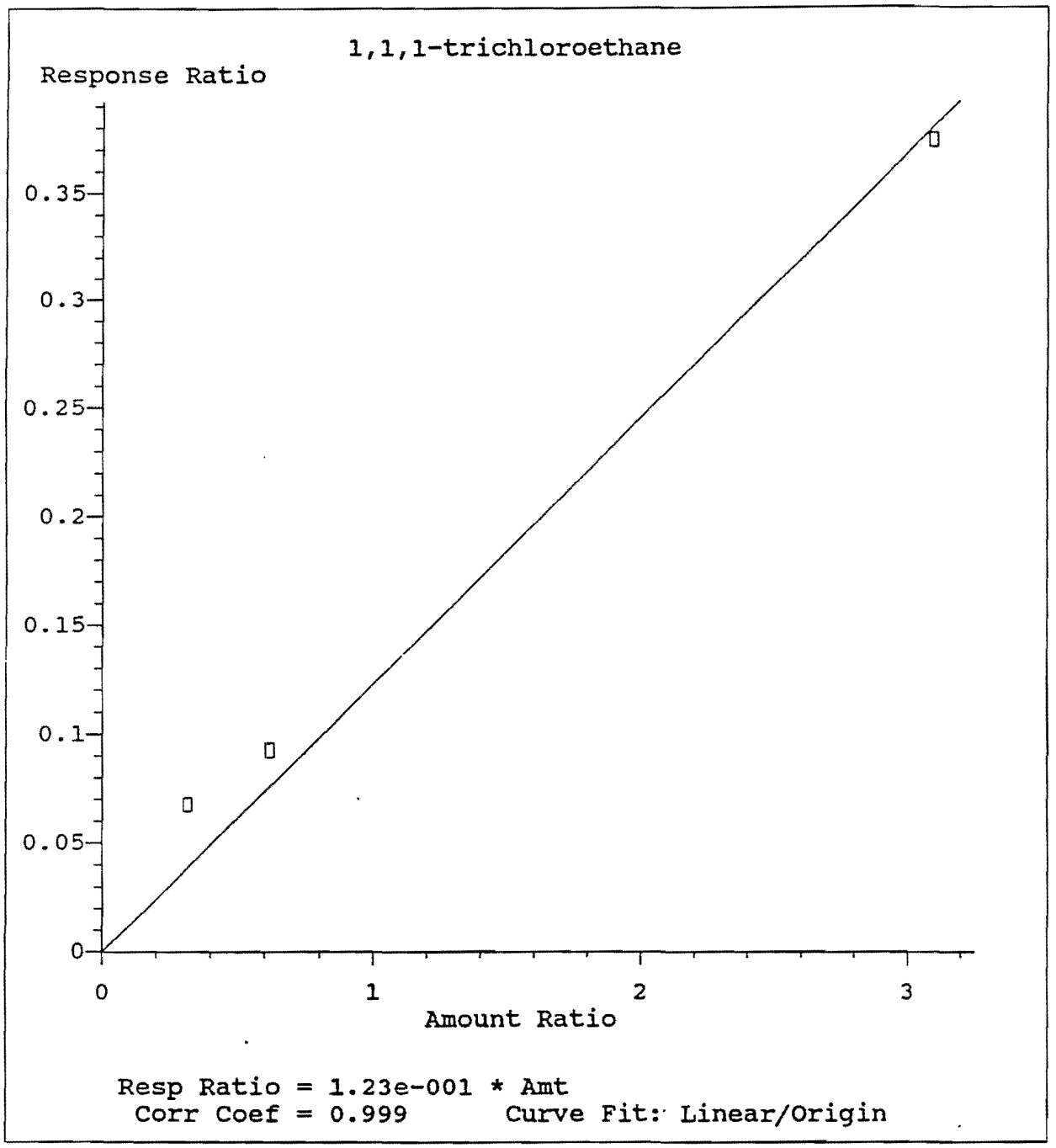
C:\CHEMPC\DATA\DINJGCMS\BFB.R\1UL.D Thu Jun 23 08:30:20 1994



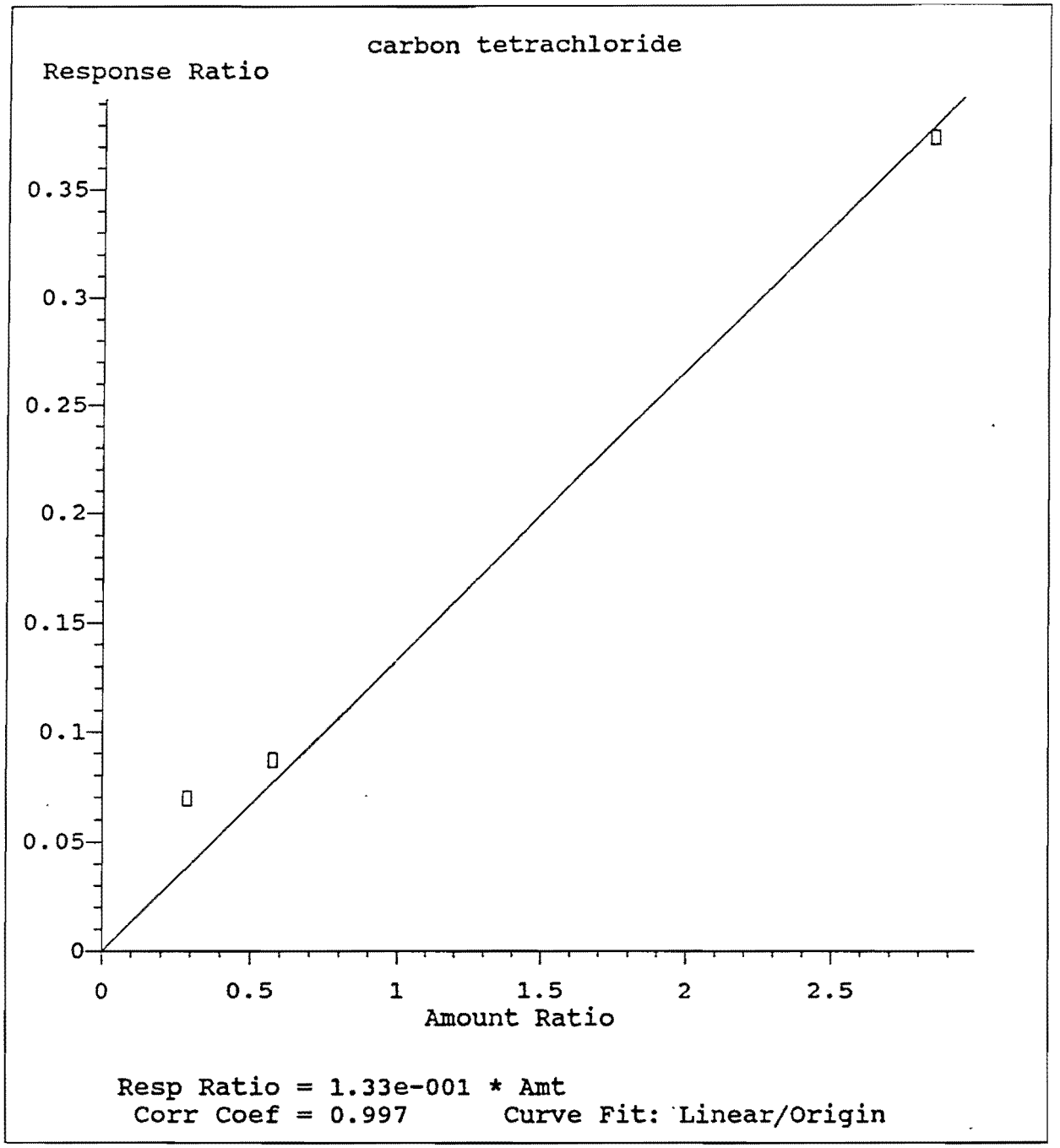
Peak Apex is scan: 911
Average of 3 scans: 910,911,912 minus background scan 900

Target Mass	Comparison Mass	Lower Limit,%	Upper Limit,%	Relative Abundance,%	Result Pass/Fail
50	95	15	40	20.6	PASS
75	95	30	60	38.3	PASS
95	95	100	100	100.0	PASS
96	95	5	9	6.6	PASS
173	174	0	2	0.3	PASS
174	95	50	100	50.2	PASS
175	174	5	9	7.8	PASS
176	174	95	101	97.4	PASS
177	176	5	9	6.6	PASS

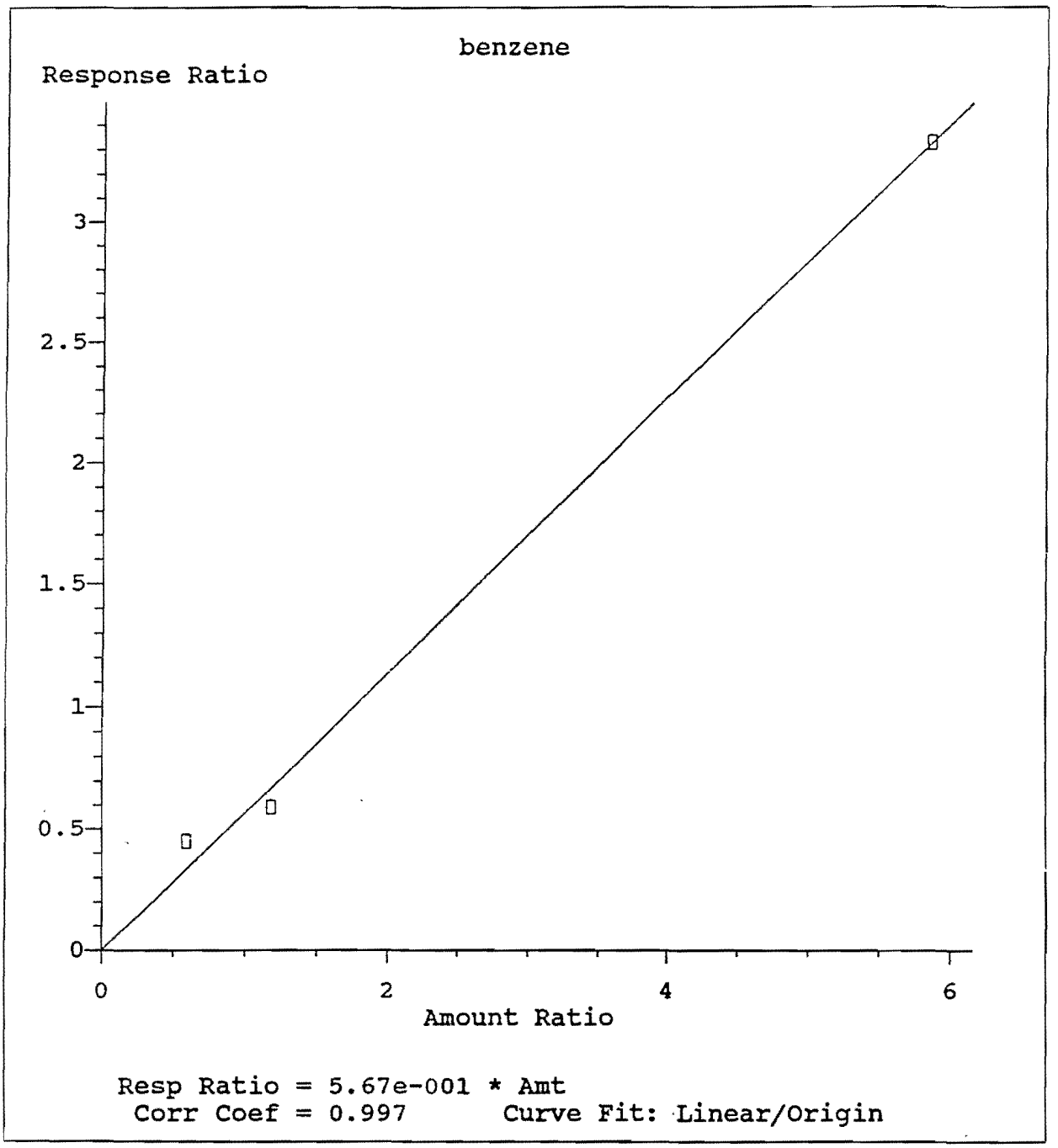
TARGET COMPOUND CALIBRATIONS



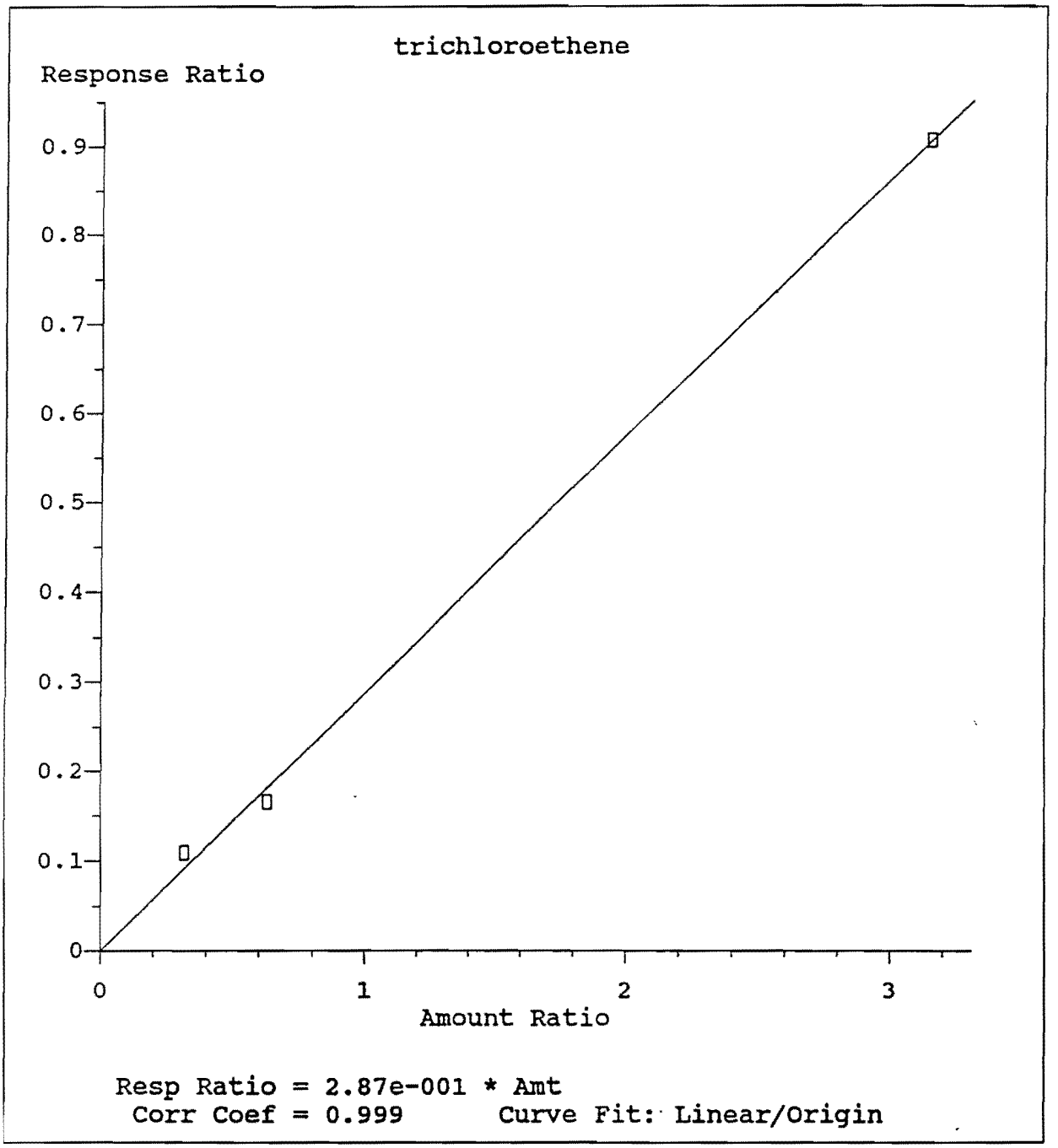
Method Name: C:\CHEMPC\METHODS\AIRVOL.M
Calibration Table Last Updated: Tue Jun 21 09:49:25 1994



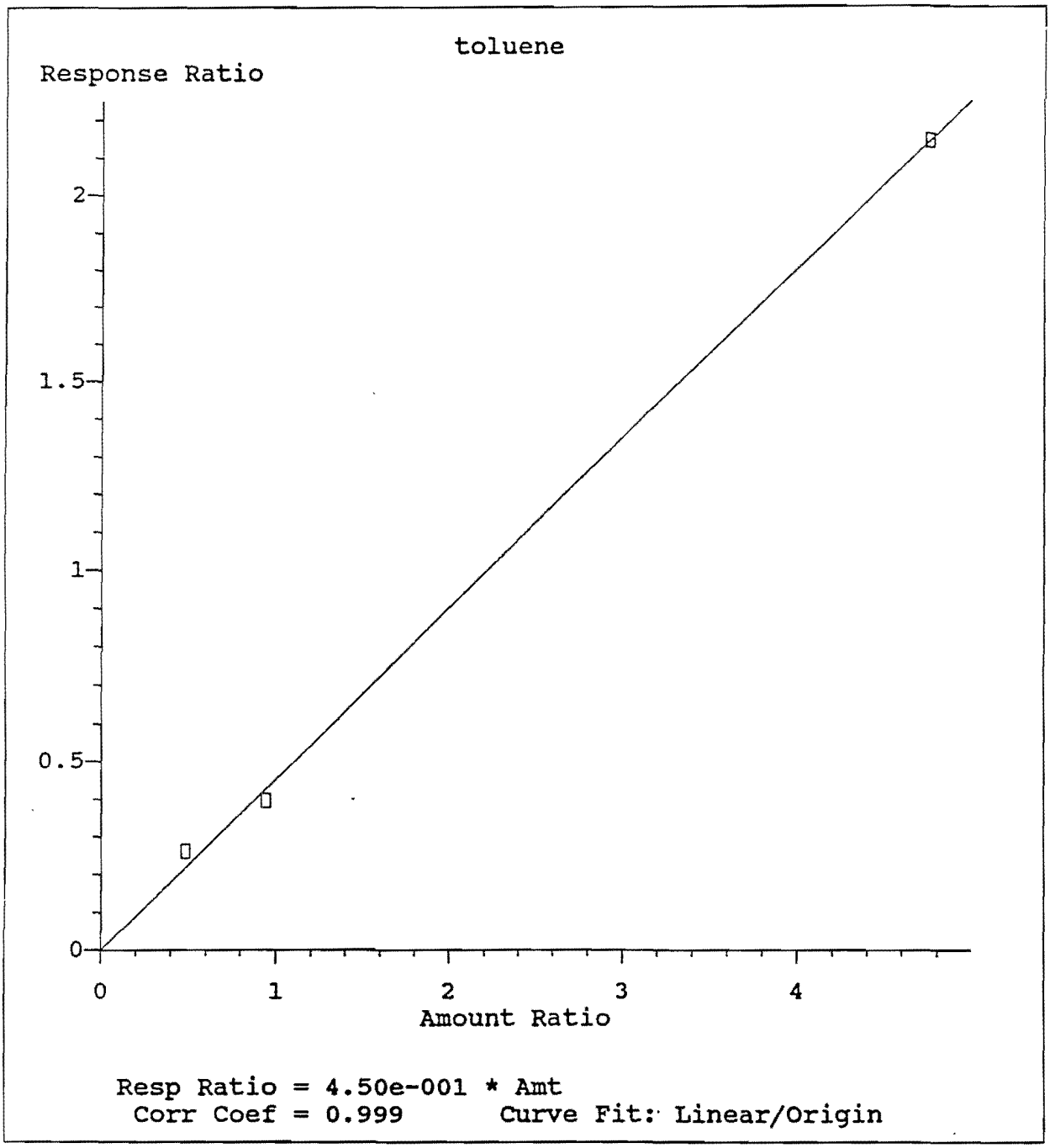
Method Name: C:\CHEMPC\METHODS\AIRVOL.M
Calibration Table Last Updated: Tue Jun 21 09:49:25 1994



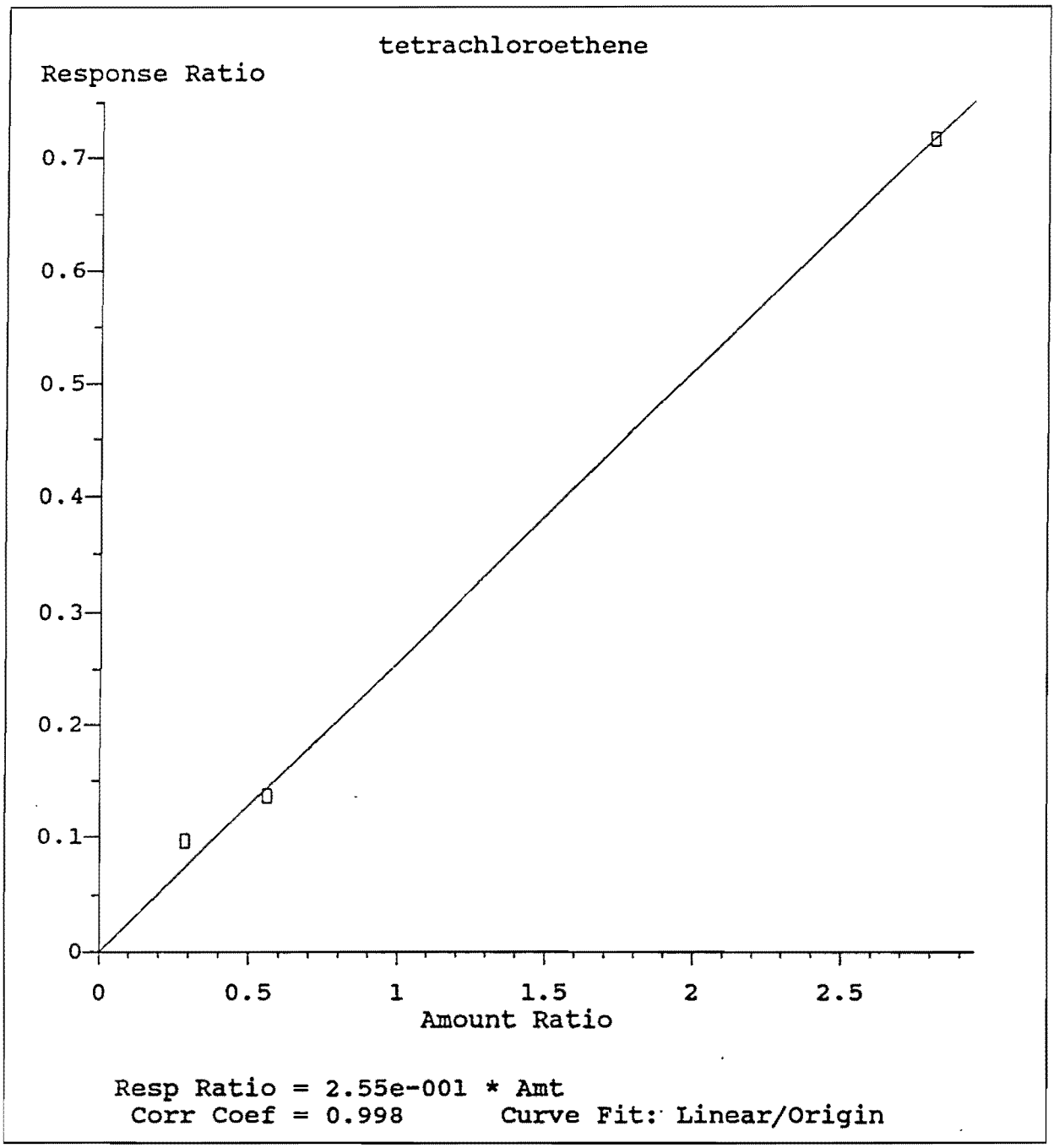
Method Name: C:\CHEMPC\METHODS\AIRVOL.M
Calibration Table Last Updated: Tue Jun 21 09:49:25 1994



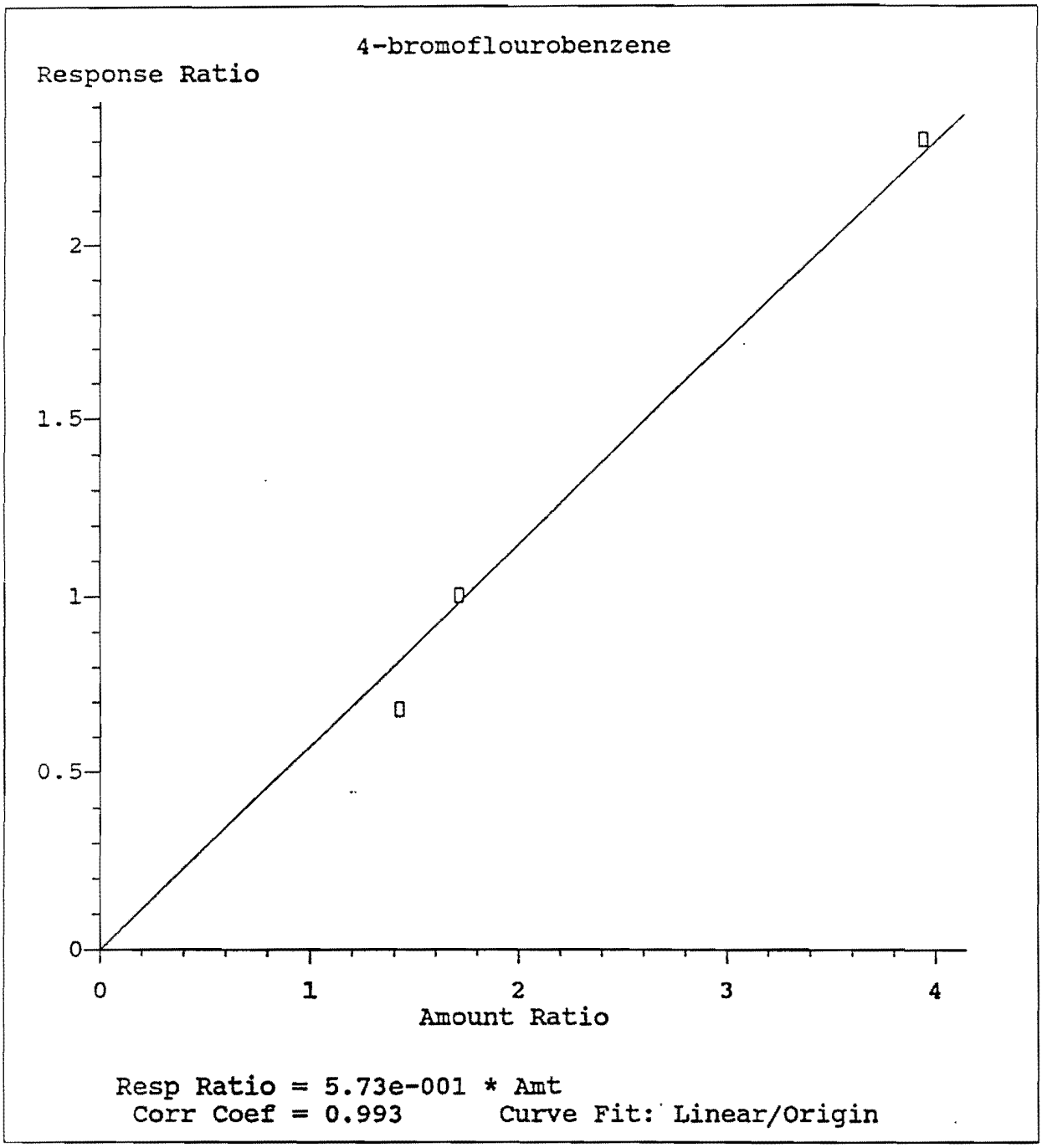
Method Name: C:\CHEMPC\METHODS\AIRVOL.M
Calibration Table Last Updated: Tue Jun 21 09:49:25 1994



Method Name: C:\CHEMPC\METHODS\AIRVOL.M
Calibration Table Last Updated: Tue Jun 21 09:49:25 1994



Method Name: C:\CHEMPC\METHODS\AIRVOL.M
Calibration Table Last Updated: Tue Jun 21 09:49:25 1994



Method Name: C:\CHEMPC\METHODS\AIRVOL.M
Calibration Table Last Updated: Tue Jun 28 11:18:10 1994

SAMPLE COLLECTION AND CUSTODY DOCUMENTATION

Sandia National Laboratories

SF 2001-COC (12-93)

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

AR/COC- 0 [illegible]4

PAGE 1 OF 1

Department No.: 7582
Project/Task Manager: Lon Dawson
Project Name: CWDS Drilling
Sample Team Members: T. Woodard
SCL or Logbook Ref. No.: SCL-00809

Date Samples Shipped: 6/23/94
Carrier/Waybill No.: NA
Lab Destination: SNL/NM 6542
Lab Contact: Mark Lyon
SMO Contact/Phone:
Send Report to SMO: Lon Dawson
SMO Reference No.: 301455.140.02

Bill to: Sandia National Laboratories
Supplier Services Department
P.O. Box 5800 MS 0154
Albuquerque, NM 87185-0154
Contract No.: NA
Case No.: 3624.345
SMO Authorization: D. M[illegible]

Sample Number - Fraction	Sample Matrix	Date/Time Collected	Container Type	Sample Volume	Preservative	Required Analytical Testing	Lab Sample Number	Condition on Receipt
SGBH-1, 15'	GAS	6/23/94/1007	Glass bulb	500mL	—	GC/MS		
SGBH-1, 30'	↓	/1018	↓	↓	↓	↓		
SGBH-2, 15'	↓	/1103	↓	↓	↓	↓		
SGBH-2, 30'	↓	/1120	↓	↓	↓	↓		

Possible Hazard Identification
☒ Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Radiological

*Reference attached radiological screening for specific contact readings.

Turnaround Time
☒ Normal ☐ Rush _____ Required Report Date _____

Sample Disposal
☐ Return to Client ☒ Disposal by Lab Archive Until _____

Special Instructions/QC Requirements

1. Relinquished by [illegible]	Org. IT	Date 6/23/94	Time 1211	4. Relinquished by	Org.	Date	Time
1. Received by Mark Lyon	Org. IT	Date 6/23/94	Time 1211	4. Received by	Org.	Date	Time
2. Relinquished by	Org.	Date	Time	5. Relinquished by	Org.	Date	Time
2. Received by	Org.	Date	Time	5. Received by	Org.	Date	Time
3. Relinquished by	Org.	Date	Time	6. Relinquished by	Org.	Date	Time
3. Received by	Org.	Date	Time	6. Received by	Org.	Date	Time

WHITE - To Accompany Samples, Laboratory Copy
BLUE - To Accompany Samples, Return to SMO
YELLOW - SMO Suspense Copy
PINK - Field Copy

Sandia National Laboratories

SF 2001-SCL (12-93)

ENVIRONMENTAL PROGRAMS SAMPLE COLLECTION LOG

SCL- 00800

AR/COC No.: AR/COC 00494

PAGE 1 OF

GENERAL INFORMATION			SAMPLING INFORMATION			
DATE: 6/23/94	WEATHER: Sunny, calm, 70's		ON-SITE CONTACT: Lon Dawson	ORG.: 7582	PHONE: 848-0458	
SAMPLING PROCEDURE REFERENCE: FOP 94-21 Shallow Soil Gas Sampling			AREA: TA5	LOCATION: ~~3624.315~~ LWDS Drainfield		
PURPOSE OF SAMPLING: Geoprobe soil-gas characterization of LWDS Drainfield						

SAMPLE DESCRIPTION

MATRIX: ☒ GAS ☐ LIQUID ☐ SLUDGE ☐ SOLID ☐ WATER ☐ OIL ☐ SOIL ☐ HAZ WASTE ☐ OTHER

COLLECTED FROM: ☐ DRUM ☐ TANK ☐ SURFACE WATER ☒ SOIL ☐ WASTE WATER ☐ GROUND WATER ☐ OTHER

ANALYSES

Sample Number - Fraction	Time	LOCATION	COMMENTS	Sample Type Grab/Comp.	QC Sample (Y/N)	GC/MS
SGBH-1, 15'	1007	SGBH-1		G	N	X
SGBH-1, 30'	1018	↓		G	N	X
SGBH-2, 15'	1103	SGBH-2		G	N	X
SGBH-2, 30'	1120	↓		G	N	X

PROJECT	PROJECT NAME	CASE NUMBER	PROJECT CONTACT	ORG.	PHONE
	LWDS Drilling	3624.315	LON DAWSON	7582	848-0458

*ADDITIONAL INFORMATION: (Log Book Ref. #)

SAMPLE TEAM MEMBERS	NAME	SIGNATURE	INIT	COMPANY/ORGANIZATION
	1. T. Woodward	[signature]	TW	IT Corporation
	2.			
	3.			

SAMPLE TRACKING			
SAMPLE DISTRIBUTION: SNL/NM 6582	TRANSPORTED BY: hand delivered	SPECIAL HANDLING:	
DATE SHIPPED (MM-DD-YY): 6/23/94	DATA ENTERED (MM-DD-YY)	BY:	

*NOTE: Any additional sampling information must be recorded in an SNL-Issued Log Book or SCL Continuation Form with a Reference No. entered in this space.

WHITE - To Sample Management Office PINK- Originator

☐ TO BE COMPL BY SMO

INTERNATIONAL TECHNOLOGY CORPORATION

August 4, 1994

Project No. 301455.140.02

Mr. Lon Dawson
Sandia National Laboratories
Environmental Restoration Department 7582
P.O. Box 5800, MS 1347
Albuquerque, New Mexico 87185-1347

Analytical Results From SUMMA Canister, LWDS Drainfield

Dear Mr. Dawson:

Enclosed for your files are the original analytical report, sample collection log, and chain-of - custody documentation for a SUMMA canister collected from the LWDS drainfield during the recent active soil-gas sampling effort. Please contact me at (505) 262-8934 if you have any questions or concerns.

Respectfully submitted,

IT CORPORATION

Thomas W. Woodard
Task Manager

TWW
Enclosure

cc: Central Files

Regional Office
5301 Central Avenue, N.E., Suite 700 • Albuquerque, New Mexico 87108-1513
505-262-8800 • FAX: 505-262-8855

IT Corporation is a wholly owned subsidiary of International Technology Corporation

Volatile Organics

ENVIRONMENTAL CONTROL TECHNOLOGY CORPORATION
3985 Research Park Drive * Ann Arbor, MI 48108
313 / 761-1389

ORGANIC ANALYSIS DATA SUMMARY SHEET

Project Name: Sandia
Project Number: 76100
Method: TO-14 (modified high level)
Report Date: July 14, 1994

Sample I.D.: SNL/NMO19022-1
Sample Date: 06/23/94
Date Received: 06/24/94
Date Analyzed: 07/06/94
ENCOTEC I.D.: 200037705
QC Set I.D.: VOEG0601A

U = Analyte not detected.
B = Analyte present in method blank.

VOLATILE ORGANICS	CAS NUMBER	CONC. (ppmv)	DETECTION LIMIT (ppmv)
Benzene	71-43-2	U	0.10
Benzyl chloride	100-44-7	U	0.10
Bromomethane	74-83-9	U	0.10
Carbon tetrachloride	56-23-5	U	0.10
Chlorobenzene	108-90-7	U	0.10
Chloroethane	75-00-3	U	0.10
Chloroform	67-66-3	U	0.10
Chloromethane	74-87-3	U	0.10
3-Chloropropene	107-05-1	U	0.10
1,2-Dibromoethane	106-93-4	U	0.10
1,2-Dichlorobenzene	95-50-1	U	0.10
1,3-Dichlorobenzene	541-73-1	U	0.10
1,4-Dichlorobenzene	106-46-7	U	0.10
Dichlorodifluoromethane	75-71-8	U	0.10
1,1-Dichloroethane	75-34-3	U	0.10
1,2-Dichloroethane	107-06-2	U	0.10
1,1-Dichloroethene	75-35-4	U	0.10
cis-1,2-Dichloroethene	156-60-5	U	0.10
1,2-Dichloropropane	78-87-5	U	0.10
1,2-Dichloro-1,1,2,2-tetra-fluoroethane	76-14-2	U	0.10
cis-1,3-Dichloropropene	10061-01-5	U	0.10
trans-1,3-Dichloropropene	10061-02-6	U	0.10
Ethylbenzene	100-41-4	U	0.10
4-Ethyltoluene	622-96-8	U	0.10

ENVIRONMENTAL CONTROL TECHNOLOGY CORPORATION
3985 Research Park Drive * Ann Arbor, MI 48108
313 / 761-1389

ORGANIC ANALYSIS DATA SUMMARY SHEET

Project Name: Sandia
Project Number: 76100
Method: TO-14 (modified high level)
Report Date: July 14, 1994

Sample I.D.: SNL/NM019022-1
Sample Date: 06/23/94
Date Received: 06/24/94
Date Analyzed: 07/06/94
ENCOTEC I.D.: 200037705
QC Set I.D.: VOEG0601A

U = Analyte not detected.
B = Analyte present in method blank.

VOLATILE ORGANICS	CAS NUMBER	CONC. (ppmv)	DETECTION LIMIT (ppmv)
Hexachlorobutadiene	87-68-3	U	0.10
Methylene chloride	75-09-2	U	0.10
Styrene	100-42-5	U	0.10
1,1,2,2-Tetrachloroethane	79-34-5	U	0.10
Tetrachloroethene	127-18-4	U	0.10
Toluene	108-88-3	U	0.10
1,2,4-Trichlorobenzene	120-82-1	U	0.10
1,1,1-Trichloroethane	71-55-6	U	0.10
1,1,2-Trichloroethane	79-00-5	U	0.10
Trichloroethene	79-01-6	U	0.10
Trichlorofluoromethane	75-69-4	U	0.10
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	U	0.10
1,2,4-Trimethylbenzene	95-63-6	U	0.10
1,3,5-Trimethylbenzene	108-67-8	U	0.10
Vinyl chloride	75-01-4	U	0.10
o-Xylene	95-47-6	U	0.10
m-Xylene	108-38-3	U	0.10
p-Xylene	106-42-3	U	0.10

ENVIRONMENTAL CONTROL TECHNOLOGY CORPORATION
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313 / 761-1389

ORGANIC ANALYSIS DATA SUMMARY SHEET

Project Name: Sandia
Project Number: 76100
Method: TO-14 (modified high level)
Report Date: July 14, 1994

Sample I.D.: Method Blank
Sample Date: NA
Date Received: NA
Date Analyzed: 07/06/94
ENCOTEC I.D.: MB070694-1E
QC Set I.D.: VOEG0601A

U = Analyte not detected.
B = Analyte present in method blank.

VOLATILE ORGANICS	CAS NUMBER	CONC. (ppmv)	DETECTION LIMIT (ppmv)
Benzene	71-43-2	U	0.10
Benzyl chloride	100-44-7	U	0.10
Bromomethane	74-83-9	U	0.10
Carbon tetrachloride	56-23-5	U	0.10
Chlorobenzene	108-90-7	U	0.10
Chloroethane	75-00-3	U	0.10
Chloroform	67-66-3	U	0.10
Chloromethane	74-87-3	U	0.10
3-Chloropropene	107-05-1	U	0.10
1,2-Dibromoethane	106-93-4	U	0.10
1,2-Dichlorobenzene	95-50-1	U	0.10
1,3-Dichlorobenzene	541-73-1	U	0.10
1,4-Dichlorobenzene	106-46-7	U	0.10
Dichlorodifluoromethane	75-71-8	U	0.10
1,1-Dichloroethane	75-34-3	U	0.10
1,2-Dichloroethane	107-06-2	U	0.10
1,1-Dichloroethene	75-35-4	U	0.10
cis-1,2-Dichloroethene	156-60-5	U	0.10
1,2-Dichloropropane	78-87-5	U	0.10
1,2-Dichloro-1,1,2,2-tetrafluoroethane	76-14-2	U	0.10
cis-1,3-Dichloropropene	10061-01-5	U	0.10
trans-1,3-Dichloropropene	10061-02-6	U	0.10
Ethylbenzene	100-41-4	U	0.10
4-Ethyltoluene	622-96-8	U	0.10

ENVIRONMENTAL CONTROL TECHNOLOGY CORPORATION
3985 Research Park Drive * Ann Arbor, MI 48108
313 / 761-1389

ORGANIC ANALYSIS DATA SUMMARY SHEET

Project Name: Sandia
Project Number: 76100
Method: TO-14 (modified high level)
Report Date: July 14, 1994

Sample I.D.: Method Blank
Sample Date: NA
Date Received: NA
Date Analyzed: 07/06/94
ENCOTEC I.D.: MB070694-1E
QC Set I.D.: VOEG0601A

U = Analyte not detected.
B = Analyte present in method blank.

VOLATILE ORGANICS	CAS NUMBER	CONC. (ppmv)	DETECTION LIMIT (ppmv)
Hexachlorobutadiene	87-68-3	U	0.10
Methylene chloride	75-09-2	U	0.10
Styrene	100-42-5	U	0.10
1,1,2,2-Tetrachloroethane	79-34-5	U	0.10
Tetrachloroethene	127-18-4	U	0.10
Toluene	108-88-3	U	0.10
1,2,4-Trichlorobenzene	120-82-1	U	0.10
1,1,1-Trichloroethane	71-55-6	U	0.10
1,1,2-Trichloroethane	79-00-5	U	0.10
Trichloroethene	79-01-6	U	0.10
Trichlorofluoromethane	75-69-4	U	0.10
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	U	0.10
1,2,4-Trimethylbenzene	95-63-6	U	0.10
1,3,5-Trimethylbenzene	108-67-8	U	0.10
Vinyl chloride	75-01-4	U	0.10
o-Xylene	95-47-6	U	0.10
m-Xylene	108-38-3	U	0.10
p-Xylene	106-42-3	U	0.10

ENVIRONMENTAL CONTROL TECHNOLOGY CORPORATION
3985 Research Park Drive * Ann Arbor, MI 48108
313 / 761-1389

AIR MATRIX SURROGATE RECOVERY
VOLATILE ORGANICS

Project Name: Sandia
Project Number: 76100
Method: TO-14
Report Date: July 14, 1994
QC Set I.D.: VOEG0601A

ENCOTEC Sample No.	% Recovery D8-Toluene (94-107)**	% Recovery BFB (93-110)**	% Recovery D4-1,2-Dichloroethane (85-107)**
200037705	100	103	105
MB070694-1E	104	97	93

All samples fortified with 10 ppbv of each surrogate analyte.

* Value outside of established quality control windows.
** Percent recovery quality control windows.
MI = Matrix interferences caused distortion to recovery value.

RECOVERY: 0 out of 6 outside QC Windows.

Note:

Form LTO14A32.NDS Rev. 12/26/91

TO-14 INITIAL CALIBRATION SHEET

Lab Name: ENCOTEC

Analyst: JLF

Instrument I.D.: 005

Calibration Levels (ug on column):

Calibration Date: 07/06/94

LAB FILE I.D. RRF1 = NA RRF2 = 10VE0706

RRF3 = 25VE0706 RRF4 = 50VE0706 RRF5 = NA

COMPOUND	RRF1	RRF2	RRF3	RRF4	RRF5	RRF	% RSD	min. RRF	max. % RSD
Dichlorodifluoromethane		6.755	6.398	6.936		6.696	4.1%	0.050	30
1,2-Dichloro-1,1,2,2-tetrafluoroethane		4.039	3.638	4.444		4.040	10.0%	0.050	30
Chloromethane		2.283	2.238	2.006		2.176	6.8%	0.050	30
Vinyl chloride		1.756	1.385	1.368		1.503	14.6%	0.050	30
Bromomethane		2.460	2.302	2.494		2.419	4.2%	0.050	30
Chloroethane		0.958	0.884	0.868		0.903	5.3%	0.050	30
Trichlorofluoromethane		9.819	8.885	10.053		9.586	6.4%	0.050	30
1,1-Dichloroethene		2.264	2.160	2.559		2.328	8.9%	0.050	30
1,1,2-Trichloro-1,2,2-trifluoroethane		5.094	4.971	6.382		5.482	14.3%	0.050	30
3-Chloropropene		0.614	0.614	0.583		0.604	3.0%	0.050	30
Methylene chloride		1.632	1.528	1.644		1.601	4.0%	0.050	30
1,1-Dichloroethane		5.840	5.449	5.188		5.492	6.0%	0.050	30
cis-1,2-Dichloroethene		2.021	1.939	2.271		2.077	8.3%	0.050	30
Chloroform		7.954	7.404	8.080		7.813	4.6%	0.050	30
1,1,1-Trichloroethane		7.491	7.312	8.082		7.628	5.3%	0.050	30
Carbon tetrachloride		7.268	6.914	8.177		7.453	8.7%	0.050	30
Benzene		1.196	1.070	1.062		1.109	6.8%	0.050	30
1,2-Dichloroethane		4.008	3.887	4.103		3.999	2.7%	0.050	30
Trichloroethene		0.666	0.636	0.748		0.683	8.5%	0.050	30
1,2-Dichloropropane		0.784	0.661	0.637		0.694	11.4%	0.050	30
cis-1,3-Dichloropropene		0.876	0.859	0.921		0.885	3.6%	0.050	30
Toluene		0.843	0.777	0.851		0.824	4.9%	0.050	30
trans-1,3-Dichloropropene		0.504	0.547	0.684		0.578	16.3%	0.050	30
1,1,2-Trichloroethane		0.695	0.648	0.757		0.700	7.8%	0.050	30
Tetrachloroethene		0.738	0.696	0.879		0.771	12.4%	0.050	30
1,2-Dibromoethane		3.319	3.167	3.674		3.387	7.7%	0.050	30
Chlorobenzene		1.387	1.346	1.395		1.376	1.9%	0.050	30
Ethylbenzene		0.561	0.541	0.596		0.566	4.9%	0.050	30
m,p-Xylene		1.499	1.447	1.603		1.516	5.2%	0.050	30
o-Xylene		0.816	0.755	0.879		0.817	7.6%	0.050	30
Styrene		3.916	3.927	4.516		4.120	8.3%	0.050	30
1,1,2,2-Tetrachloroethane		2.571	2.528	2.671		2.590	2.8%	0.050	30
4-Ethyltoluene		2.063	2.227	2.396		2.229	7.5%	0.050	30
1,3,5-Trimethylbenzene		2.114	2.031	2.289		2.145	6.1%	0.050	30
1,2,4-Trimethylbenzene		1.993	2.000	2.198		2.064	5.6%	0.050	30
1,3-Dichlorobenzene		1.208	1.266	1.486		1.320	11.1%	0.050	30
1,4-Dichlorobenzene		1.413	1.419	1.571		1.468	6.1%	0.050	30
Benzyl chloride		0.151	0.185	0.235		0.190	22.2%	0.050	30
1,2-Dichlorobenzene		1.315	1.314	1.494		1.374	7.5%	0.050	30
1,2,4-Trichlorobenzene		0.335	0.418	0.504		0.419	20.2%	0.050	30
Hexachlorobutadiene		0.662	0.732	0.813		0.736	10.3%	0.050	30

Minimum RF for all compounds is 0.050
Maximum % RSD for all compounds is 30.0 %

APPENDIX C

TA-V SEEPAGE PITS
ACTIVE SOIL VAPOR SURVEY ANALYTICAL RESULTS
JULY 15, 1994

Sandia National Laboratories
Albuquerque, New Mexico 87185

Date: July 20, 1994

To: Lon Dawson, 7582, MS 1347

From: Mark Lyon, MLL 7584/IT Corp., MS 1350

Subject: Liquid Waste Disposal Site Active Soil Gas Survey, July 15, 1994, Analysis Results

Summary tables of analysis results, tentatively identified compounds (TIC), and laboratory quality control measures for the Liquid Waste Disposal Site (LWDS) active soil gas survey, July 15, 1994, are attached. Additionally, instrument printouts from the Department 7584, Building 6542, Viking™ gas chromatograph/mass spectrometer showing summary data analysis, chromatograms, tuning results, and standards calibrations are enclosed. Also included are blue carbonless copies of the original Analysis Request Chain of Custody Records. Please review the data and contact me at the Building 6542 Laboratory with any questions.

Eight soil gas samples in 500-milliliter glass bulbs were received at Building 6542 Laboratory on July 15. The samples were analyzed that same day following procedures outlined in the draft, "Determination of Volatile Organic Compounds (VOC) in Water, Soil, and Gas by Gas Chromatography/Mass Spectrometry Using the Viking™ 600 GC/MS Instrument Operating Procedure," (IT Corporation, 1993).

Prior to analysis, three-point calibration curves for each compound of interest were constructed by gravimetrically preparing a primary standard and analyzing subsequent primary standard dilutions. Mass spectrometer tuning was checked against Environmental Protection Agency Method 8260 criteria prior to analysis each day. Calibration check samples and laboratory blanks were analyzed in conjunction with this project.

Target compounds included 1,1,1-trichloroethane, carbon tetrachloride, benzene, trichloroethene, toluene, and tetrachloroethene. 4-Bromofluorobenzene was also added to the primary standard as a surrogate spike. However this addition proved to be of little utility as a commercial mixture containing 4-bromofluorobenzene, toluene-d8, and

1,2-dichloroethane-d4 was obtained and served to provide the internal calibration standard (toluene-d8) and surrogate spiking compound (4-bromofluorobenzene). 1,2-Dichloroethane-d4 appears on the samples chromatograms but was not utilized as an internal standard or surrogate.

The commercially prepared surrogate spike and internal standard mixture was added to each soil gas sample, calibration verification sample, and laboratory blank to monitor analytical accuracy and calculate the target compound concentrations. Applicable quality control results for the surrogate spikes, daily calibration verification samples, and laboratory blank samples are included in the tables of results.

Target analyte concentrations less than the least concentrated standard used to construct the calibration curves are noted with a "J"-flag. "J" indicates an estimated value less than the lower limit of quantitation (LLOQ). "J"-flagged values are shown down to one-tenth (1/10th) the LLOQ for each target compound, ranging from two (2) to five (5) parts per billion by volume (ppbv). Observations made during sample analysis and data processing indicate that the target compounds were identifiable at the 2 to 5 ppbv level but were nearly indistinguishable from the baseline, or "background noise." Target compound concentrations that the Viking™ data analysis software found and reported at less than 1/10th the LLOQ are reported as undetected, or "U", on the summary tables. Instrumental detection limits for each target compound were not statistically determined for this project.

The Viking™ National Bureau of Standards organic compound library was used to try and identify chromatographic peaks appearing on each sample chromatogram that were not target compounds or quality control components. These tentatively identified compounds are listed in the attached table. The TICs reported met two criteria. First, the spectral match quality with a compound in the library exceeded 80%. Second, the compound was not a siloxane or hydrocarbon characteristic of GC column degradation that are common artifacts of the analysis system.

Carrier gas flow unexpectedly stopped during desorption of sample TA5SP-3-30. A salvage method was performed in order to continue the analysis. Target analyte data analysis for this sample was performed manually.

ANALYSIS RESULTS

Liquid Waste Disposal Site Active Soil Gas Survey
Analysis Request Chain Of Custody Records 00051, 00052, and 00053

Department 7584 Laboratory
Building 6542

Samples Collected July 15, 1994

Samples Analyzed July 15, 1994

			Sample Identification							
Compound	**Units**	**Lower Limit of Quantitation**	**TA5SP-1-15**	**TA5SP-1-30**	**TA5SP-2-15**	**TA5SP-2-30**	**TA5SP-2-44**	**TA5SP-3-15**	**TA5SP-3-30**	**TA5SP-3-45**
1,1,1-trichloroethane	ppbv	23	U	U	U	U	U	U	U	U
carbon tetrachloride	ppbv	21	U	U	U	U	U	U	U	U
benzene	ppbv	43	13 JB	15 JB	9 JB	19 JB	15 JB	14 JB	18 JB	12 JB
trichloroethene	ppbv	23	U	3 J	U	4 J	17 J	U	5 J	25
toluene	ppbv	35	11 J	22 J	13 J	19 J	15 J	9 J	18 J	12 J
tetrachloroethene	ppbv	21	U	U	U	U	U	U	U	5 J
Surrogate spike 4-bromofluorobenzene	% R	- - -	87	90	85	87	77	84	87	78

ppbv = Parts per billion by volume.
U = Compound was undetected.
J = Estimated concentration less than the lower limit of quantitation (LLOQ).
"J" values are reported down to 1/10 the LLOQ.
B = Compound was also detected in the laboratory blank.
% R = Percent recovery.

QUALITY CONTROL SAMPLE RESULTS

Liquid Waste Disposal Site Active Soil Gas Survey
Analysis Request Chain Of Custody Records 00051, 00052, and 00053

Department 7584 Laboratory
Building 6542

Compound	Known	Control Sample CVS715-2		Duplicate Control Sample CVS715-3		Relative Percent Difference
	ppbv	ppbv	%R	ppbv	%R	RPD
1,1,1-trichloroethane	45.3	59	130	8	18	152
carbon tetrachloride	41.6	52	124	25	59	71
benzene	85.6	103	120	92	108	11
trichloroethene	46.0	49	106	43	94	12
toluene	69.4	72	104	65	94	10
tetrachloroethene	41.0	31	75	27	66	13
Surrogate spike 4-bromofluorobenzene	125	123	98	109	87	12

ppbv = Part per billion by volume

% R = Percent recovery

LABORATORY BLANK SAMPLE RESULTS

Liquid Waste Disposal Site Active Soil Gas Survey
Analysis Request Chain Of Custody Records 00051, 00052, and 00053

Department 7584 Laboratory
Building 6542

Compound	Units	Lower Limit of Quantitation	BLK715-2
1,1,1-trichloroethane	ppbv	23	U
carbon tetrachloride	ppbv	21	U
benzene	ppbv	43	9 J
trichloroethene	ppbv	23	U
toluene	ppbv	35	U
tetrachloroethene	ppbv	21	U
Surrogate spike 4-bromofluorobenzene	% R	- - -	89

ppbv = Parts per billion by volume.
U = Compound was undetected.
J = Estimated concentration less than the lower limit of quantitation (LLOQ).
"J" values are reported down to 1/10 the LLOQ.
% R = Percent recovery.

ENVIRONMENTAL
CONTROL
TECHNOLOGY
CORPORATION

July 20, 1994

RECEIVED
JUL 25 1994
SNL/SMO

Sandia National Labs
Katherine M. Becker, 7576, MS 1305
P.O. Box 5800
Albuquerque, NM 87185-1305

Dear Katherine,

Enclosed please find the documentation for samples received July 19, 1994. Please feel free to contact me if you have any questions about this project.

Sincerely,

ENCOTEC INC.

Scott DeVore
Sample Login Supervisor

SHD

Enclosure

#76100

Project Sheet

NCOTEC, INC.
2985 Research Park Drive
Ann Arbor, MI 48108-2296

SUBMISSION NUMBER	CUSTOMER	SITE/JOB	PROJECT NUMBER	PROJECT MANAGER	PROJECT COORDINATOR	FSTRN/I
IC0006320	SANDIA LABORATORIES	LWUS DRILLING	7610[illegible]	ROGER ROUSSEL	DUANE MCDOWELL	

CASE/SAS NUMBER	SAMPLE DELIVERY GROUP	LOG-IN DATE	SUB DUE-DATE	RUSH JOB	QC LEVEL I	QC LEVEL 2	FSTRN/O
3624.312/00050	SNL-LW-070	07/19/94	08/01/94	NO	LEVEL 3M	LEVEL 3M	

PROJECT MANAGER COMMENTS:

PROJECT SHEET APPROVAL: [signature]

APPROVAL DATE: 19 July 94

Sample ID	Sample Date	Client Sample ID	Material Name	Profiles
200038893	07/15/94	SNL/NM019023-1	AIR	TO14
200038894	07/15/94	SNL/NM019024-1	AIR	TO14
200038895	07/15/94	SNL/NM019025-1	AIR	TO14

SAMPLE ID	PROFILE	SPECIAL ANALYTE LIST	SPECIAL INSTRUCTIONS
200038893	TO14		LOW LEVEL + TIC
200038895	TO14		LOW LEVEL + TIC

SAMPLE ID	PROFILE	SPECIAL ANALYTE LIST	SPECIAL INSTRUCTIONS
200038894	TO14		LOW LEVEL + TIC

PRE-LOGIN CHECKLIST

Login Technician: DC

Project name: Sandia

Receipt date/time: 7/19/94 0845

Project #: 76100

Submission #: 6520

Courier: Fedex

Airbill number: 332 4413 005

SHIPPING CONTAINER(S)

YES NO N/A • Were shipping container seals intact on arrival?

YES NO N/A • Were shipping containers packed with ice or icepacks?

YES NO N/A • If containers were packed with icepacks, are the icepacks still frozen?

• If a temperature blank was included in the cooler, what is its temperature? N/A

YES NO • Were containers and sample bottles subjected to radiologic scan on arrival?

CHAIN OF CUSTODY SHEET (COC)

YES NO • Is COC present? **If COC is not present, do not proceed before contacting Project Manager or Coordinator.**

Project Manager/Coordinator was contacted _____ (date/time)

YES NO • Is COC signed and dated?

YES NO N/A Is COC an ENCOTEC form?

YES NO • Were all requests for analysis listed on the COC sheet (and/or other included documents) matched with sample bottles found in the shipping container(s)?

YES NO N/A • Is all preservation information on the COC in agreement with the preservation specified on the sample bottles?

SAMPLE BOTTLES

YES NO • Are all sample bottles intact and undamaged?

YES NO Were ENCOTEC (pre-preserved) sample bottles used?

YES NO • Are the sample bottles labeled?

YES NO Were ENCOTEC labels used?

YES NO N/A Were those samples preserved in the field marked SP (site-preserved)?

YES NO • Is each sample bottle the correct type for the analyses specified on it?

YES NO N/A • Are those sample bottles scheduled for POC, POX, VOA, or TOX without air bubbles?

YES NO • Does each bottle contain sufficient sample for the analyses specified on its label/COC form?

YES NO N/A Is the preservation specified on each bottle label proper for the analyses specified?

If a question marked with * has not been answered "YES" please describe the deviation here.

If necessary, continue the description on the reverse of this sheet.

DEVIATION(S): _____

OTHER OBSERVATION(S): _____

PROJECT MANAGER/COORDINATOR RESOLUTION(S): _____

Other Resolutions (if called for) _____

Enter Laboratory Support Group and Project Management authorizing signatures on the reverse of this sheet.

viation (con't): _____

her Observations (con't): _____

M. Resolutions (con't): _____

)ther Resolutions (con't): _____

Other _____ Date _____
Signature of Group Leader involved in "Other resolution" or his/her Designee

LSG _____ Date 7/19/94
Signature of Laboratory Support Group Leader or his/her Designee

Project Mngr/Coord. _____ Date 19 July 94
Signature of Project Manager or his/her Designee

Sandia National Laboratories

SNL/NM 019023 SNL/NM 019024 SNL/NM 019025

ENVIRONMENTAL PROGRAMS SAMPLE COLLECTION LOG

SCL- 00810

AR/COC No.: AR/COC- 00050

PAGE 1 OF 1

SF 2001-SCL (12-93)

GENERAL INFORMATION

DATE: 7/15/94 | WEATHER: Sunny, calm, 70's-90's

SAMPLING PROCEDURE REFERENCE: SOP for Soil-Gas Sampling

PURPOSE OF SAMPLING: Subsurface active soil-gas sampling

SAMPLING INFORMATION

ON-SITE CONTACT: Lon Dawson | ORG: 7582 | PHONE: 846-0458

AREA: TA5 | LOCATION: Seepage Pits

SAMPLE DESCRIPTION

MATRIX: [X] GAS [ ] LIQUID [ ] SLUDGE [ ] SOLID [ ] WATER [ ] OIL [ ] SOIL [ ] HAZ WASTE [ ] OTHER

COLLECTED FROM: [ ] DRUM [ ] TANK [ ] SURFACE WATER [X] SOIL [ ] WASTE WATER [ ] GROUND WATER [ ] OTHER

ANALYSES

Sample Number - Fraction	Time	LOCATION	COMMENTS	Sample Type Grab/Comp.	QC Sample (Y/N)	TO14 (in Liters)						
SNL/NM 019023-1	0956	TA5SP-1-30	SUMMA #9441BB (#SNL/NM 023)	G	N	X						
SNL/NM 019024-1	1208	TA5SP-2-30	SUMMA #9438BB (SNL/NM 5R #2)	G	N	X						
SNL/NM 019025-1	1322	TA5SP-3-30	SUMMA #9444BB (SNL/NM ER #7)	G	N	X						

PROJECT

PROJECT NAME: LWDS Drilling | CASE NUMBER: 3624.312 | PROJECT CONTACT: Lon Dawson | ORG: 7582 | PHONE: 846-0458

*ADDITIONAL INFORMATION: (Log Book Ref. #) Project # 30455.140.02

SAMPLE TEAM MEMBERS

NAME	SIGNATURE	INIT	COMPANY/ORGANIZATION
1. T. Woodard	[signature]	TW	IT Corporation
2. D. Flores	[signature]	DF	IT Corporation
3.			

SAMPLE TRACKING

SAMPLE DISTRIBUTION: ENCOTEC | TRANSPORTED BY: A 44296 | SPECIAL HANDLING:

DATE SHIPPED (MM-DD-YY): 7/18/94 | DATA ENTERED (MM-DD-YY): | BY: [signature] 7/29/94

*NOTE: Any additional sampling information must be recorded in an SNL-Issued Log Book or SCL Continuation Form with a Reference No. entered in this space.

WHITE - To Sample Management Office PINK- Originator

[ ] TO BE COMPLETED BY SMO

Sandia National Laboratories

SF 2001-COC (12-93)

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

AR/COC- 07050

PAGE 1 OF 1

Department No.:	7582	Date Samples Shipped:	7/18/94	Bill to:	Sandia National Laboratories
Project/Task Manager:	Lou Dawson	Carrier/Waybill No.:	A 44296		Supplier Services Department
Project Name:	Lucas Dallas	Lab Destination:	ENCOTEC		P.O. Box 5800 MS 0154
Sample Team Members	T. Valentine	Lab Contact:	Roger Roussal		Albuquerque, NM 87185-0154
	D. Flores	SMO Contact/Phone:	Dave Salmi	Contract No.:	67-9736A
		Send Report to SMO:	Debra Compton	Case No.:	3624.312
SCL or Logbook Ref. No.:	34455.7110-02 SCL00810	SMO Reference No.:	34455.7110.02	SMO Authorization:	[signature]

Sample Number - Fraction	Sample Matrix	Date/Time Collected	Container Type	Sample Volume	Preservative	Required Analytical Testing	Lab Sample Number	Condition on Receipt
✓ SNL/NM 019023-1	GAS	7/15/94 0936	Summa*	6L	none	*TO-14 low level + TIC	38893	OK
✓ SNL/NM 019024-1	↓	1200	↓	↓	↓	**TO-14 low level + TIC	38894	↓
✓ SNL/NM 019025-1	↓	1322	↓	↓	↓	**TO-14 low level + TIC	38895	↓

Possible Hazard Identification
☒ Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Radiological

*Reference attached radiological screening for specific contact readings.

Turnaround Time
☒ Normal ☐ Rush _____ Required Report Date per contract

Special Instructions/QC Requirements
* Clean and prep. ~~canister~~ canister and return to SNL/NM
** Suspected 10-20 ppb

Sample Disposal
☐ Return to Client ☒ Disposal by Lab Archive Until _____

1. Relinquished by	[signature]	Org. 7716CP	Date 7-18-94	Time 1303	4. Relinquished by	Org.	Date	Time
1. Received by	[signature]	Org. SMO-7576	Date 7-18-94	Time 1303	4. Received by	Org.	Date	Time
2. Relinquished by	[signature]	Org. SMO-7576	Date 7-18-94	Time 1400	5. Relinquished by	Org.	Date	Time
2. Received by	[signature]	Org. ENCOTEC	Date 7-19-94	Time 0845	5. Received by	Org.	Date	Time
3. Relinquished by		Org.	Date	Time	6. Relinquished by	Org.	Date	Time
3. Received by		Org.	Date	Time	6. Received by	Org.	Date	Time

WHITE - To Accompany Samples, Laboratory Copy BLUE- To Accompany Samples, Return to SMO YELLOW- SMO Suspense Copy PINK- Field Copy

SHIPPER

SF 0861-AE(1-83)

Sandia National Laboratories

1 [X] New Mexico [ ] California [ ] Other

SHIP TO: *Typed or neatly printed*

2 Environmental Controls Technology Corp.
Encotec
3985 Research Park Drive
Ann Arbor, MI 48108
Attn: Mr. Roger Roussel
Contract No. 67-9736 A

AR/COC # 00452/00050

Gate Exit Time & Date 3

Highest Material Security Classification 4 Unc

Page 1 of

Date Shipment Returned 5 [X] No Return

Document No. A 44296

Schedule Case 6 Shipment Requestor No. 7 CS1283

Due at Destination 8 7/18/94 Date

[ ] Air (Premium transportation authorized)
[X] Rail (Most economical transportation)

Originator of Form 9 D. L. McLaughlin | Org. 7576 | Phone 4-0941 | Date Prepared 10 7/18/94

FROM: 11 Site TA1 | Bldg. 870B | Room 1 | Org. 7576 | Requestor's E No. 12 03319 | Requestor's Name (Write "Same" if also originator) same | Org. | Phone | Case No. 13 6987.200

Material Billing 14: [ ] Charge [X] No Charge

Freight Billing 15: [X] Prepaid [ ] Collect (If collect, carrier & acct no. (if known))

Reason for Shipment 16 Lab Analysis of Environmental Samples

Authority for Shipment 17 n/a

Item No. 18	Sec. Class. 19	Quantity 20	Unit 21	Haz. Mat'L 22	Property Tag No. And/Or MID No. 23	Description 24	Unit Value 25	Total 26
1	U	1	ea	No	N/A	Environmental Water Samples	N/A	N/A
2	U	1	EA	NA	N/A	SUMMA CANISTERS (SOIL) ONS samples	N/A	N/A

IMPORTANT: SANDIA TRAFFIC ANALYST, PLE[illegible] X COPY OF COMPLETED SHIPPER AND WAYBILL TO SMO FACILITY, FAX # [illegible] IMMEDIATELY UPON [illegible]

332 4412 896

332 4413 085

Grand Total 27 $

DOE Transportation Safeguards Div. Courier Required? 28 [ ] YES [X] NO

40#, 234, 7/18/94 2:20

Safety Class 29 [illegible] | Property Class 30 [illegible]

Date Shipped or Hand Carried 31 FEDERAL EX JUL 1[illegible] | Method 32 | Bill No. 33 | No. of Boxes 34 2 | Weight 35 [illegible] lbs | Total Cubic Feet/Dimensions 36 [illegible]

Authorizing Signature 37 Jim D. Fish, 7576

Signature of manager above typed or printed name and Org.

I certify that the material being offered for shipment is nonhazardous unless noted as hazardous in block 22 and required information is being provided.

Special Approval 38 — Name — Org.

Special Approval — Name — Org.

39 Bearer's Signature

40 Receipt Acknowledged — Recipient's Signature/Company — Date

Contract or PEL/MEL Rep. 41 [ ] External Loan — Name — Org.

The listed material and accompanying information has been assembled and the hazardous material designations and all preparations for shipment are certified correct. 42 — 43

Ply 1: Corporate File - Retained by the Traffic

ENVIRONMENTAL
CONTROL
TECHNOLOGY
CORPORATION

3985 RESEARCH PARK DRIVE
ANN ARBOR, MICHIGAN 48108
313 761-1389

August 11, 1994

RECEIVED
AUG 12 1994
SNL/SMO

Sandia National Labs SMO
Debra Constant, MS 1305
BDM Building
2301 Buena Vista SE
Albuquerque, NM 87106

Dear Ms. Constant:

Enclosed is the data package for SDG# SNL-LW-070, a LWDS groundwater monitoring project. This SDG consists of ENCOTEC Batch# 6520 which is Sandia RFA# 050. Please review at your earliest convenience and call if you have any questions.

Sincerely,

ENCOTEC, Inc.

Roger Roussel
Laboratory Manager

RR/qos

Enclosure

#76100

DATA REVIEWED
By: MB Garcia Date: 8-25-94
Checked:
Approved:

CT-40-LTHS

ENVIRONMENTAL PROGRAMS DEPARTMENT

SANDIA NATIONAL LABORATORIES

SAMPLE DATA REVIEW CHECKLIST

DATE 8-25-94
CASE NO 3624.312
PROJECT NAME LWDS TA-5
LABORATORY ENCOTEC
CHECKED BY MS Garcia
APPROVAL/DATE

SAMPLE IDENTIFICATION	SAMPLE COLLECTION LOG											COCs AND RFAs							LAB REPORT										DATA QUALITY							
	SAMPLE ID	SAMPLING PURPOSE	SAMPLE LOCATION	COLLECTION DATE AND TIME	SAMPLE MATRIX	COLLECTION TECHNIQUE	SAMPLE CONTAINERS	SAMPLE PRESERVATION	FIELD OBS. AND MEAS	SAMPLER	ANALYSES	COC RECORD COMPLETE	RFA RECORD COMPLETE	SAMPLE ID	LAB SAMPLE ID	ANALYSES REQUESTED	DATA REVIEWED	DATE SAMPLE RECEIVED	DATE SAMPLE PREPARED	DATE SAMPLE ANALYZED	HOLDING TIME MET	SAMPLE ID	LAB SAMPLE ID	ANALYST	METHOD REF. NUMBER	REPORTING LIMIT	ANALYSES REQUESTED	CONSISTENCY OF UNITS	① ACCURACY DATA REPORTED AND MET	PRECISION DATA REPORTED AND MET	MATRIX SPIKE DATA REPORTED AND MET	BLANK DATA REPORTED AND MET	SURROGATE DATA REPORTED AND MET	COMPARABILITY OF UNITS	REASONABLENESS OF DATA	VALIDATION RANKING
3424m 019023-1	Y	Y	Y	Y	Y	Y	NA	NA	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA	NA	Y	NA	NA	NA	A
024-1	Y	Y	Y	Y	Y	Y	NA	NA	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA	NA	Y	NA	NA	NA	A
025-1	Y	Y	Y	Y	Y	Y	NA	NA	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA	NA	Y	NA	NA	NA	A
QUALITY CONTROL SAMPLES																																				

ADDITIONAL COMMENTS: ① Initial calibration sheets shows the instrument to be within lab calibration than prior to analysis.

VALIDATION RANKING: U - UNUSABLE DATA A - ACCEPTABLE C - CONDITIONALLY ACCEPTABLE

SANDIA LABORATORY NARRATIVE TEMPLATE

Project Name:	Sandia
Project Number:	76100
Sample Delivery Group:	SNL-LW-070
Batch Number(s):	6520
Narrative Date:	August 10, 1994

Sample Receipt

The samples were received at ENCOTEC without incident. Standard chain-of-custody procedures were followed. Samples were collected in prepreserved sample containers, where appropriate, supplied by ENCOTEC. Following log-in, the samples were stored at 4°C, where required, per EPA protocol until sample preparation or analysis.

Sample Analysis - Organics

Sample analysis was performed without incident, within holding times, with chain of custody maintained, and according to the referenced methods. Initial and continuing calibration criteria, as found in the ENCOTEC SOP(s) for the referenced method(s), were adhered to for all samples included in this sample delivery group. Quality control results are summarized as follows:

- Analysis of surrogates was performed on all samples; please see the appropriate form(s) for results.

- The method blank(s) did not contain any target analytes at or above the reported detection limits.

Summary

No significant problems were encountered during the analysis of the sample(s) by the referenced method(s). All pertinent QC documentation has been provided.

I certify that the data presented as part of this report meets the minimum quality assurance standard specified in the referenced analytical method(s). I have examined and am familiar with the information contained in this report and that, based upon my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true accurate, complete and meets the minimum standards specified in 40 CFR 136 and/or SW846. Any exceptions, outliers and/or problems encountered during the analysis of sample contained within this report have been narrated and an assessment of the quality of the data is presented. I am aware that there are significant penalties for submitting with knowledge, false information, including the possibility of fines and/or imprisonment.

Jane Hancock

Jane Hancock
QA/QC Chemist

8/10/94
Date

ENCOTEC
Analyst Cross-Reference List

SDG#: SNL-LW-070

Test	**Analyst**
TO14	A. Stefan

ENVIRONMENTAL CONTROL TECHNOLOGY CORPORATION
3985 Research Park Drive * Ann Arbor, MI 48108
313 / 761-1389

ORGANIC ANALYSIS DATA SUMMARY SHEET

Project Name: Sandia
Project Number: 76100
Method: TO-14
Report Date: July 27, 1994

Sample I.D.: SNL/NM019023-1
Sample Date: 07/15/94
Date Received: 07/19/94
Date Analyzed: 07/21/94
ENCOTEC I.D.: 200038893
QC Set I.D.: TOEG2101A

U = Analyte not detected.
B = Analyte present in method blank.

VOLATILE ORGANICS	CAS NUMBER	CONC. (ppmv)	DETECTION LIMIT (ppmv)
Benzene	71-43-2	U	0.10
Benzyl chloride	100-44-7	U	0.10
Bromomethane	74-83-9	U	0.10
Carbon tetrachloride	56-23-5	U	0.10
Chlorobenzene	108-90-7	U	0.10
Chloroethane	75-00-3	U	0.10
Chloroform	67-66-3	U	0.10
Chloromethane	74-87-3	U	0.10
3-Chloropropene	107-05-1	U	0.10
1,2-Dibromoethane	106-93-4	U	0.10
1,2-Dichlorobenzene	95-50-1	U	0.10
1,3-Dichlorobenzene	541-73-1	U	0.10
1,4-Dichlorobenzene	106-46-7	U	0.10
Dichlorodifluoromethane	75-71-8	U	0.10
1,1-Dichloroethane	75-34-3	U	0.10
1,2-Dichloroethane	107-06-2	U	0.10
1,1-Dichloroethene	75-35-4	U	0.10
cis-1,2-Dichloroethene	156-60-5	U	0.10
1,2-Dichloropropane	78-87-5	U	0.10
1,2-Dichloro-1,1,2,2-tetra-fluoroethane	76-14-2	U	0.10
cis-1,3-Dichloropropene	10061-01-5	U	0.10
trans-1,3-Dichloropropene	10061-02-6	U	0.10
Ethylbenzene	100-41-4.	U	0.10
4-Ethyltoluene	622-96-8	U	0.10

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ORGANIC ANALYSIS DATA SUMMARY SHEET

Project Name: Sandia
Project Number: 76100
Method: TO-14
Report Date: July 27, 1994

Sample I.D.: SNL/NM019023-1
Sample Date: 07/15/94
Date Received: 07/19/94
Date Analyzed: 07/21/94
ENCOTEC I.D.: 200038893
QC Set I.D.: TOEG2101A

U = Analyte not detected.
B = Analyte present in method blank.

VOLATILE ORGANICS	CAS NUMBER	CONC. (ppmv)	DETECTION LIMIT (ppmv)
Hexachlorobutadiene	87-68-3	U	0.10
Methylene chloride	75-09-2	U	0.10
Styrene	100-42-5	U	0.10
1,1,2,2-Tetrachloroethane	79-34-5	U	0.10
Tetrachloroethene	127-18-4	U	0.10
Toluene	108-88-3	U	0.10
1,2,4-Trichlorobenzene	120-82-1	U	0.10
1,1,1-Trichloroethane	71-55-6	U	0.10
1,1,2-Trichloroethane	79-00-5	U	0.10
Trichloroethene	79-01-6	U	0.10
Trichlorofluoromethane	75-69-4	U	0.10
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	U	0.10
1,2,4-Trimethylbenzene	95-63-6	U	0.10
1,3,5-Trimethylbenzene	108-67-8	U	0.10
Vinyl chloride	75-01-4	U	0.10
o-Xylene	95-47-6	U	0.10
m-Xylene	108-38-3	U	0.10
p-Xylene	106-42-3	U	0.10

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ORGANIC ANALYSIS DATA SUMMARY SHEET
TENTATIVELY IDENTIFIED VOLATILE COMPOUNDS

Project Name: Sandia
Project Number: 76100
Method: 624___ 8240___ 8260___ TO-14_X_
Report Date: July 27, 1994

Sample I.D.: SNL/NM019023-1
Sample Date: 07/15/94
Date Received: 07/19/94
Date Analyzed: 07/21/94
ENCOTEC I.D.: 200038893
QC Set I.D.: TOEG2101A

B = Analyte present in method blank.

TENTATIVELY IDENTIFIED VOLATILE ORGANICS	CAS NUMBER	RETENTION TIME	ESTIMATED CONC. (mg/L)
1. No Volatile Compounds Detected	--	--	--
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Note:

Form TICVWN1G

Rev. 04/17/92

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313 / 761-1389

ORGANIC ANALYSIS DATA SUMMARY SHEET

Project Name: Sandia
Project Number: 76100
Method: TO-14
Report Date: July 27, 1994

Sample I.D.: SNL/NM019024-1
Sample Date: 07/15/94
Date Received: 07/19/94
Date Analyzed: 07/21/94
ENCOTEC I.D.: 200038894
QC Set I.D.: TOEG2101A

U = Analyte not detected.
B = Analyte present in method blank.

VOLATILE ORGANICS	CAS NUMBER	CONC. (ppmv)	DETECTION LIMIT (ppmv)
Benzene	71-43-2	U	0.10
Benzyl chloride	100-44-7	U	0.10
Bromomethane	74-83-9	U	0.10
Carbon tetrachloride	56-23-5	U	0.10
Chlorobenzene	108-90-7	U	0.10
Chloroethane	75-00-3	U	0.10
Chloroform	67-66-3	U	0.10
Chloromethane	74-87-3	U	0.10
3-Chloropropene	107-05-1	U	0.10
1,2-Dibromoethane	106-93-4	U	0.10
1,2-Dichlorobenzene	95-50-1	U	0.10
1,3-Dichlorobenzene	541-73-1	U	0.10
1,4-Dichlorobenzene	106-46-7	U	0.10
Dichlorodifluoromethane	75-71-8	U	0.10
1,1-Dichloroethane	75-34-3	U	0.10
1,2-Dichloroethane	107-06-2	U	0.10
1,1-Dichloroethene	75-35-4	U	0.10
cis-1,2-Dichloroethene	156-60-5	U	0.10
1,2-Dichloropropane	78-87-5	U	0.10
1,2-Dichloro-1,1,2,2-tetrafluoroethane	76-14-2	U	0.10
cis-1,3-Dichloropropene	10061-01-5	U	0.10
trans-1,3-Dichloropropene	10061-02-6	U	0.10
Ethylbenzene	100-41-4	U	0.10
4-Ethyltoluene	622-96-8	U	0.10

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ORGANIC ANALYSIS DATA SUMMARY SHEET

Project Name: Sandia
Project Number: 76100
Method: TO-14
Report Date: July 27, 1994

Sample I.D.: SNL/NM019024-1
Sample Date: 07/15/94
Date Received: 07/19/94
Date Analyzed: 07/21/94
ENCOTEC I.D.: 200038894
QC Set I.D.: TOEG2101A

U = Analyte not detected.
B = Analyte present in method blank.

VOLATILE ORGANICS	CAS NUMBER	CONC. (ppmv)	DETECTION LIMIT (ppmv)
Hexachlorobutadiene	87-68-3	U	0.10
Methylene chloride	75-09-2	U	0.10
Styrene	100-42-5	U	0.10
1,1,2,2-Tetrachloroethane	79-34-5	U	0.10
Tetrachloroethene	127-18-4	U	0.10
Toluene	108-88-3	U	0.10
1,2,4-Trichlorobenzene	120-82-1	U	0.10
1,1,1-Trichloroethane	71-55-6	U	0.10
1,1,2-Trichloroethane	79-00-5	U	0.10
Trichloroethene	79-01-6	U	0.10
Trichlorofluoromethane	75-69-4	U	0.10
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	U	0.10
1,2,4-Trimethylbenzene	95-63-6	U	0.10
1,3,5-Trimethylbenzene	108-67-8	U	0.10
Vinyl chloride	75-01-4	U	0.10
o-Xylene	95-47-6	U	0.10
m-Xylene	108-38-3	U	0.10
p-Xylene	106-42-3	U	0.10

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313 / 761-1389

ORGANIC ANALYSIS DATA SUMMARY SHEET
TENTATIVELY IDENTIFIED VOLATILE COMPOUNDS

Project Name: Sandia
Project Number: 76100
Method: 624___ 8240___ 8260___ TO-14_X_
Report Date: July 27, 1994

Sample I.D.: SNL/NM019024-1
Sample Date: 07/15/94
Date Received: 07/19/94
Date Analyzed: 07/21/94
ENCOTEC I.D.: 200038894
QC Set I.D.: TOEG2101A

B = Analyte present in method blank.

TENTATIVELY IDENTIFIED VOLATILE ORGANICS	CAS NUMBER	RETENTION TIME	ESTIMATED CONC. (mg/L)
1. No Volatile Compounds Detected	--	--	--
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Note:

Form TICVWN1G

Rev. 04/17/92

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ORGANIC ANALYSIS DATA SUMMARY SHEET

Project Name: Sandia
Project Number: 76100
Method: TO-14
Report Date: July 27, 1994

Sample I.D.: SNL/NM019025-1
Sample Date: 07/15/94
Date Received: 07/19/94
Date Analyzed: 07/21/94
ENCOTEC I.D.: 200038895
QC Set I.D.: TOEG2101A

U = Analyte not detected.
B = Analyte present in method blank.

VOLATILE ORGANICS	CAS NUMBER	CONC. (ppmv)	DETECTION LIMIT (ppmv)
Benzene	71-43-2	U	0.10
Benzyl chloride	100-44-7	U	0.10
Bromomethane	74-83-9	U	0.10
Carbon tetrachloride	56-23-5	U	0.10
Chlorobenzene	108-90-7	U	0.10
Chloroethane	75-00-3	U	0.10
Chloroform	67-66-3	U	0.10
Chloromethane	74-87-3	U	0.10
3-Chloropropene	107-05-1	U	0.10
1,2-Dibromoethane	106-93-4	U	0.10
1,2-Dichlorobenzene	95-50-1	U	0.10
1,3-Dichlorobenzene	541-73-1	U	0.10
1,4-Dichlorobenzene	106-46-7	U	0.10
Dichlorodifluoromethane	75-71-8	U	0.10
1,1-Dichloroethane	75-34-3	U	0.10
1,2-Dichloroethane	107-06-2	U	0.10
1,1-Dichloroethene	75-35-4	U	0.10
cis-1,2-Dichloroethene	156-60-5	U	0.10
1,2-Dichloropropane	78-87-5	U	0.10
1,2-Dichloro-1,1,2,2-tetra-fluoroethane	76-14-2	U	0.10
cis-1,3-Dichloropropene	10061-01-5	U	0.10
trans-1,3-Dichloropropene	10061-02-6	U	0.10
Ethylbenzene	100-41-4.	U	0.10
4-Ethyltoluene	622-96-8	U	0.10

ENVIRONMENTAL CONTROL TECHNOLOGY CORPORATION
3985 Research Park Drive * Ann Arbor, MI 48108
313 / 761-1389

ORGANIC ANALYSIS DATA SUMMARY SHEET

Project Name: Sandia
Project Number: 76100
Method: TO-14
Report Date: July 27, 1994

Sample I.D.: SNL/NM019025-1
Sample Date: 07/15/94
Date Received: 07/19/94
Date Analyzed: 07/21/94
ENCOTEC I.D.: 200038895
QC Set I.D.: TOEG2101A

U = Analyte not detected.
B = Analyte present in method blank.

VOLATILE ORGANICS	CAS NUMBER	CONC. (ppmv)	DETECTION LIMIT (ppmv)
Hexachlorobutadiene	87-68-3	U	0.10
Methylene chloride	75-09-2	U	0.10
Styrene	100-42-5	U	0.10
1,1,2,2-Tetrachloroethane	79-34-5	U	0.10
Tetrachloroethene	127-18-4	U	0.10
Toluene	108-88-3	U	0.10
1,2,4-Trichlorobenzene	120-82-1	U	0.10
1,1,1-Trichloroethane	71-55-6	U	0.10
1,1,2-Trichloroethane	79-00-5	U	0.10
Trichloroethene	79-01-6	U	0.10
Trichlorofluoromethane	75-69-4	U	0.10
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.10	0.10
1,2,4-Trimethylbenzene	95-63-6	U	0.10
1,3,5-Trimethylbenzene	108-67-8	U	0.10
Vinyl chloride	75-01-4	U	0.10
o-Xylene	95-47-6	U	0.10
m-Xylene	108-38-3	U	0.10
p-Xylene	106-42-3	U	0.10

ENVIRONMENTAL CONTROL TECHNOLOGY CORPORATION
3985 Research Park Drive * Ann Arbor, MI 48108
313 / 761-1389

ORGANIC ANALYSIS DATA SUMMARY SHEET
TENTATIVELY IDENTIFIED VOLATILE COMPOUNDS

Project Name: Sandia
Project Number: 76100
Method: 624___ 8240___ 8260___ TO-14_X_
Report Date: July 27, 1994

Sample I.D.: SNL/NM019025-1
Sample Date: 07/15/94
Date Received: 07/19/94
Date Analyzed: 07/21/94
ENCOTEC I.D.: 200038895
QC Set I.D.: TOEG2101A

B = Analyte present in method blank.

TENTATIVELY IDENTIFIED VOLATILE ORGANICS	CAS NUMBER	RETENTION TIME	ESTIMATED CONC. (mg/L)
1. No Volatile Compounds Detected	--	--	--
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Note:

Form TICVWN1G

Rev. 04/17/92

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3985 Research Park Drive * Ann Arbor, MI 48108
313 / 761-1389

ORGANIC ANALYSIS DATA SUMMARY SHEET

Project Name: Sandia
Project Number: 76100
Method: TO-14
Report Date: July 27, 1994

Sample I.D.: Method Blank
Sample Date: NA
Date Received: NA
Date Analyzed: 07/21/94
ENCOTEC I.D.: MB072194-1E
QC Set I.D.: TOEG2101A

U = Analyte not detected.
B = Analyte present in method blank.

VOLATILE ORGANICS	CAS NUMBER	CONC. (ppmv)	DETECTION LIMIT (ppmv)
Benzene	71-43-2	U	0.10
Benzyl chloride	100-44-7	U	0.10
Bromomethane	74-83-9	U	0.10
Carbon tetrachloride	56-23-5	U	0.10
Chlorobenzene	108-90-7	U	0.10
Chloroethane	75-00-3	U	0.10
Chloroform	67-66-3	U	0.10
Chloromethane	74-87-3	U	0.10
3-Chloropropene	107-05-1	U	0.10
1,2-Dibromoethane	106-93-4	U	0.10
1,2-Dichlorobenzene	95-50-1	U	0.10
1,3-Dichlorobenzene	541-73-1	U	0.10
1,4-Dichlorobenzene	106-46-7	U	0.10
Dichlorodifluoromethane	75-71-8	U	0.10
1,1-Dichloroethane	75-34-3	U	0.10
1,2-Dichloroethane	107-06-2	U	0.10
1,1-Dichloroethene	75-35-4	U	0.10
cis-1,2-Dichloroethene	156-60-5	U	0.10
1,2-Dichloropropane	78-87-5	U	0.10
1,2-Dichloro-1,1,2,2-tetrafluoroethane	76-14-2	U	0.10
cis-1,3-Dichloropropene	10061-01-5	U	0.10
trans-1,3-Dichloropropene	10061-02-6	U	0.10
Ethylbenzene	100-41-4	U	0.10
4-Ethyltoluene	622-96-8	U	0.10

ENVIRONMENTAL CONTROL TECHNOLOGY CORPORATION
3985 Research Park Drive * Ann Arbor, MI 48108
313 / 761-1389

ORGANIC ANALYSIS DATA SUMMARY SHEET

Project Name: Sandia
Project Number: 76100
Method: TO-14
Report Date: July 27, 1994

Sample I.D.: Method Blank
Sample Date: NA
Date Received: NA
Date Analyzed: 07/21/94
ENCOTEC I.D.: MB072194-1E
QC Set I.D.: TOEG2101A

U = Analyte not detected.
B = Analyte present in method blank.

VOLATILE ORGANICS	CAS NUMBER	CONC. (ppmv)	DETECTION LIMIT (ppmv)
Hexachlorobutadiene	87-68-3	U	0.10
Methylene chloride	75-09-2	U	0.10
Styrene	100-42-5	U	0.10
1,1,2,2-Tetrachloroethane	79-34-5	U	0.10
Tetrachloroethene	127-18-4	U	0.10
Toluene	108-88-3	U	0.10
1,2,4-Trichlorobenzene	120-82-1	U	0.10
1,1,1-Trichloroethane	71-55-6	U	0.10
1,1,2-Trichloroethane	79-00-5	U	0.10
Trichloroethene	79-01-6	U	0.10
Trichlorofluoromethane	75-69-4	U	0.10
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	U	0.10
1,2,4-Trimethylbenzene	95-63-6	U	0.10
1,3,5-Trimethylbenzene	108-67-8	U	0.10
Vinyl chloride	75-01-4	U	0.10
o-Xylene	95-47-6	U	0.10
m-Xylene	108-38-3	U	0.10
p-Xylene	106-42-3	U	0.10

ENVIRONMENTAL CONTROL TECHNOLOGY CORPORATION
3985 Research Park Drive * Ann Arbor, MI 48108
313 / 761-1389

ORGANIC ANALYSIS DATA SUMMARY SHEET
TENTATIVELY IDENTIFIED VOLATILE COMPOUNDS

Project Name: Sandia
Project Number: 76100
Method: 624___ 8240___ 8260___ TO-14_X_
Report Date: July 27, 1994

Sample I.D.: Method Blank
Sample Date: NA
Date Received: NA
Date Analyzed: 07/21/94
ENCOTEC I.D.: MB072194-1E
QC Set I.D.: TOEG2101A

B = Analyte present in method blank.

TENTATIVELY IDENTIFIED VOLATILE ORGANICS	CAS NUMBER	RETENTION TIME	ESTIMATED CONC. (mg/L)
1. No Volatile Compounds Detected	--	--	--
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Note:

Form TICVWN1G

Rev. 04/17/92

ENVIRONMENTAL CONTROL TECHNOLOGY CORPORATION
3985 Research Park Drive * Ann Arbor, MI 48108
313 / 761-1389

AIR MATRIX SURROGATE RECOVERY
VOLATILE ORGANICS

Project Name: Sandia
Project Number: 76100
Method: TO-14
Report Date: July 27, 1994
QC Set I.D.: TOEG2101A

ENCOTEC Sample No.	% Recovery D8-Toluene (94-107)**	% Recovery BFB (93-110)**	% Recovery D4-1,2-Dichloroethane (85-107)**
200038893	104	98	86
200038894	105	101	88
200038895	105	99	103
MB072194-1E	103	93	90

All samples fortified with 10 ppbv of each surrogate analyte.

* Value outside of established quality control windows.
** Percent recovery quality control windows.
MI = Matrix interferences caused distortion to recovery value.

RECOVERY: __0__ out of __12__ outside QC Windows.

Note:

Form LTO14A32.NDS Rev. 12/26/91

TO-14 INITIAL CALIBRATION SHEET

Lab Name: ENCOTEC

Analyst: AS

Instrument I.D.: 005

Calibration Levels (ug on column):

Calibration Date: 07/21/94

LAB FILE I.D.			RRF1 = 10			RRF2 = 25			
RRF3 = 50			RRF4 =			RRF5 =			
COMPOUND	RRF1	RRF2	RRF3	RRF4	RRF5	RRF	% RSD	min. RRF	max. % RSD
Dichlorodifluoromethane	7.262	7.444	6.565			7.090	6.5%	0.050	30
1,2-Dichloro-1,1,2,2-tetrafluoroethane	4.965	5.906	5.795			5.555	9.3%	0.050	30
Chloromethane	2.137	2.933	2.339			2.470	16.8%	0.050	30
Vinyl chloride	1.566	1.703	1.209			1.493	17.1%	0.050	30
Bromomethane	3.179	3.004	2.796			2.993	6.4%	0.050	30
Chloroethane	1.042	1.037	0.775			0.951	16.1%	0.050	30
Trichlorofluoromethane	5.332	6.276	6.266			5.958	9.1%	0.050	30
1,1-Dichloroethene	2.042	2.247	1.944			2.078	7.4%	0.050	30
1,1,2-Trichloro-1,2,2-trifluoroethane	4.218	4.822	5.104			4.715	9.6%	0.050	30
3-Chloropropene	0.272	0.330	0.339			0.314	11.6%	0.050	30
Methylene chloride	1.782	1.914	1.520			1.739	11.5%	0.050	30
1,1-Dichloroethane	4.577	4.699	3.677			4.318	12.9%	0.050	30
cis-1,2-Dichloroethene	1.751	2.118	1.713			1.861	12.0%	0.050	30
Chloroform	4.461	5.514	4.810			4.928	10.9%	0.050	30
1,1,1-Trichloroethane	5.971	6.038	5.312			5.774	6.9%	0.050	30
Carbon tetrachloride	5.804	6.271	6.504			6.193	5.8%	0.050	30
Benzene	0.997	1.120	1.015			1.044	6.4%	0.050	30
1,2-Dichloroethane	2.185	2.865	2.424			2.491	13.8%	0.050	30
Trichloroethene	0.601	0.768	0.835			0.735	16.4%	0.050	30
1,2-Dichloropropane	0.589	0.663	0.558			0.603	8.9%	0.050	30
cis-1,3-Dichloropropene	0.613	0.830	0.744			0.729	15.0%	0.050	30
Toluene	0.797	0.935	0.887			0.873	8.0%	0.050	30
trans-1,3-Dichloropropene	0.355	0.467	0.495			0.439	16.9%	0.050	30
1,1,2-Trichloroethane	0.572	0.708	0.729			0.670	12.7%	0.050	30
Tetrachloroethene	0.651	0.833	0.958			0.814	19.0%	0.050	30
1,2-Dibromoethane	2.613	3.574	3.422			3.203	16.1%	0.050	30
Chlorobenzene	1.303	1.615	1.316			1.411	12.5%	0.050	30
Ethylbenzene	0.585	0.708	0.625			0.639	9.8%	0.050	30
m,p-Xylene	1.450	1.758	1.628			1.612	9.6%	0.050	30
o-Xylene	0.138	0.197	0.177			0.171	17.6%	0.050	30
Styrene	3.520	4.553	4.337			4.137	13.2%	0.050	30
1,1,2,2-Tetrachloroethane	2.077	2.486	2.222			2.262	9.2%	0.050	30
4-Ethyltoluene	1.729	2.361	2.203			2.098	15.7%	0.050	30
1,3,5-Trimethylbenzene	2.112	2.120	1.902			2.045	6.0%	0.050	30
1,2,4-Trimethylbenzene	1.701	2.210	1.990			1.967	13.0%	0.050	30
1,3-Dichlorobenzene	0.957	1.331	1.286			1.191	17.1%	0.050	30
1,4-Dichlorobenzene	1.179	1.532	1.472			1.394	13.5%	0.050	30
Benzyl chloride	0.128	0.222	0.212			0.187	27.6%	0.050	30
1,2-Dichlorobenzene	1.169	1.399	1.339			1.302	9.2%	0.050	30
1,2,4-Trichlorobenzene	0.243	0.421	0.345			0.336	26.6%	0.050	30
Hexachlorobutadiene	0.672	0.742	0.625			0.680	8.7%	0.050	30

Minimum RF for all compounds is 0.050
Maximum % RSD for all compounds is 30.0 %

APPENDIX D

PASSIVE SOIL VAPOR SURVEY ANALYTICAL RESULTS
PHASE I—AUGUST 1994
PHASE II—OCTOBER/NOVEMBER 1994

NERI
Northeast Research Institute LLC

605 Parfet Street • Suite 100
Lakewood, Colorado 80215
303-238-0090 • 800-845-5137
Fax 303-238-2522

Serptember 21, 1994

Mr. Lon Dawson
Sandia National Laboratories
MS - 1347
1515 Ubank SE.
Albuquerque, New Mexico 87123

Phone: (505) 293-2804
Fax: (505) 848-0417

Dear Mr. Dawson:

Enclosed please find the preliminary report on the findings of the **PETREX** Soil Gas Survey performed at Technical Area V, Sandia National Laboratories, Albuquerque, New Mexico.

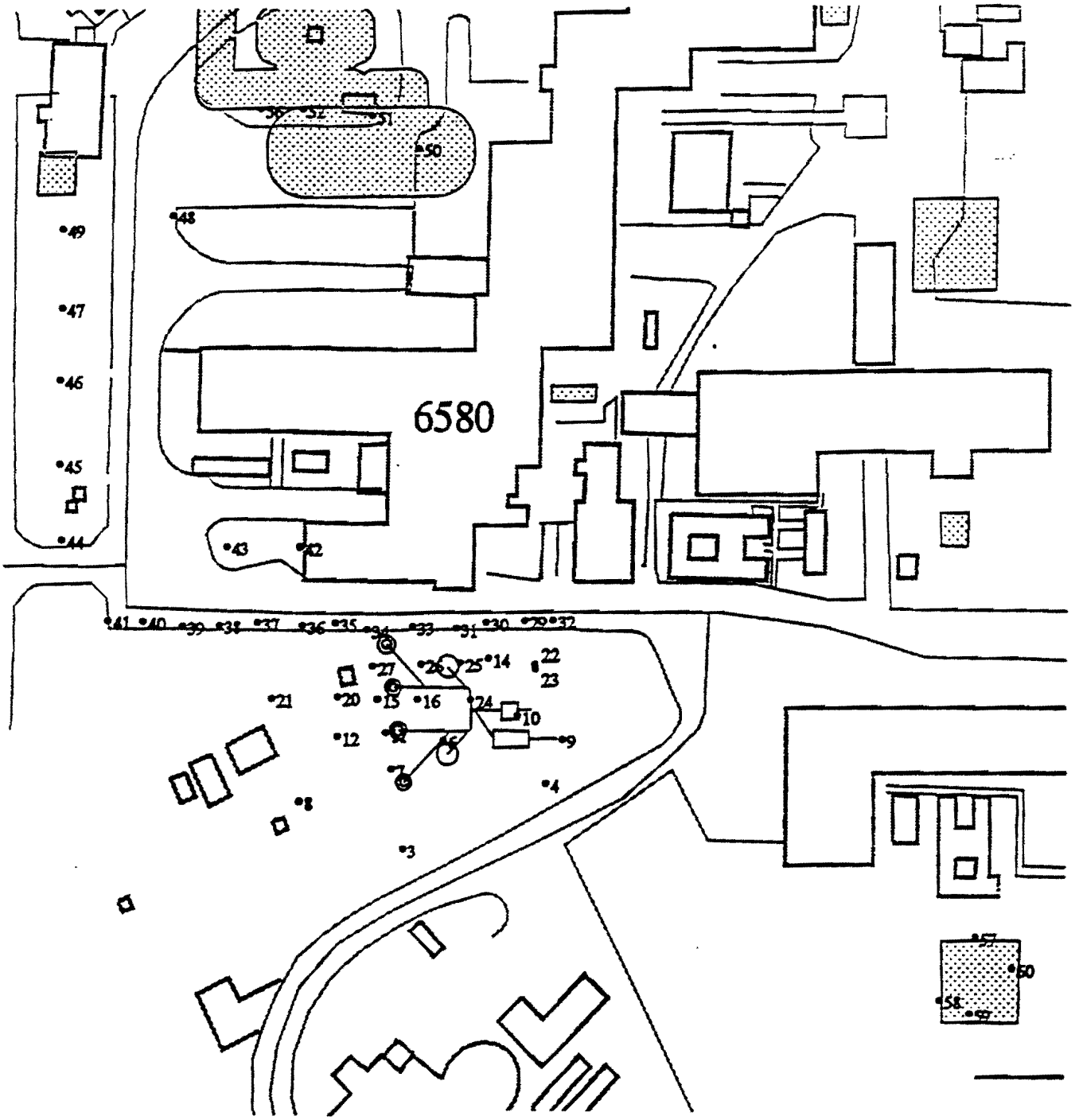
If you have any questions concerning the enclosed, please do not hesitate to call. We will await your comments prior to issuing our final report.

Respectfully Submitted,
NORTHEAST RESEARCH INSTITUTE

Julia Olney Gullett
Senior Geologist
Project Manager

encl

D20966JG/9.21.94



SWMU 275: Phase I Passive Soil Gas Survey

28 0 28 56 Feet

N

Lwds NERI GPS Locations
Seepage Pits
Building
Roads
ER Sites

Table 1
PETREX Relative Soil Gas Response Values
(in ion counts)
SNL Site TA-V

Sample	TCE	PCE	BTEX
3	ND	2,812	2,008
4	235	5,932	1,018
6	ND	ND	3,141
7	ND	1,052	104,500
8	ND	ND	946
9	ND	851	469
10	ND	2,004	ND
11	ND	1,607	615
12	692	ND	2,933
14	ND	ND	566
15	ND	482	726
16	ND	816	3,990
20	ND	ND	459
21	ND	ND	16,737
22	ND	521	570
23	ND	ND	5,226
24	1,038	ND	8,159
25	ND	ND	1,727
26	ND	ND	14,531
27	ND	ND	1,213
29	ND	ND	16,112
30	3,791	973	49,436
31	ND	ND	633
32	2,357	3,845	18,398
33	ND	ND	2,101
34	1,710	1,433	36,190
35	ND	ND	12,972
36	790	ND	38,096
37	ND	ND	2,373
38	ND	ND	1,588
39	ND	ND	2,777
40	ND	ND	1,697
41	ND	ND	1,697
42	ND	ND	779
43	ND	ND	757
44	ND	ND	497
45	ND	ND	6,933

Table 1
PETREX Relative Soil Gas Response Values
(in ion counts)
SNL Site TA-V (Concluded)

Sample	TCE	PCE	BTEX
46	ND	ND	2,024
47	ND	ND	1,800
48	ND	ND	ND
49	ND	ND	1,017
50	ND	ND	2,336
51	ND	212	2,065
52	ND	ND	4,032
56	ND	ND	2,227
57	ND	ND	2,439
58	ND	ND	5,457
59	709	ND	2,696
60	ND	ND	761
* 61	ND	ND	ND
* 62	ND	ND	ND
D 1007	ND	1,412	169,011
D 1027	ND	ND	5,331
D 1035	ND	ND	13,412
D 1042	ND	ND	560
D 1052	ND	ND	5,661

TCE - Trichloroethene
Indicator Mass Peak(s) 130

PCE - Tetrachloroethene
Indicator Mass Peak(s) 164

BTEX - Benzene, Toluene, Ethylbenzene/Xylene(s)
Indicator Mass Peak(s) 78, 92, 106

D - Duplicate Sample
Sample numbers in thousands duplicate of sample numbers in hundreds

* QA/QC Travel Blank Sample - No Compounds Detected above the PETREX Normal reporting Limits

NORTHEAST RESEARCH INSTITUTE, INC. (NERI)
SAMPLE SUBMITTAL CLIENT FORM

Please return this form with samples to:

NERI
605 Parfet Street
Suite 100
Lakewood, Colorado 80215

*** Call with any questions: (303) 238-0090 ***

NERI PROJECT NUMBER: 2096

NERI PROJECT MANAGER: PAH

DATE SAMPLES SENT TO CLIENT: 7/27/94

Please provide the following information:

DATE SAMPLES SENT TO NERI: 31 Aug 94

TOTAL NUMBER OF TUBES ENCLOSED: 49 + 2 TRAVEL BLANKS

GREATEST SAMPLE NUMBER: 60

MISSING SAMPLE NUMBERS: 1, 2, 5, 13, 17, 18, 19, 28, 53, 54, 55

NOTES:
16, 17, 18 Previously submitted time series
53, 54, 55 Previously submitted time series

PETREX ENVIRONMENTAL SURVEY
Chain of Custody Document

Job Number 2096 (Please refer to this job number with all correspondence and shipments)

FIELD DATA:
Facility TA-V Soil Gas (Passive) Survey

Location 13000 Bear Dancer Trail N.E.
Albuquerque, NM 87112

Field Manager Lon Dawson / PAH Phone 505-293-2804

PYMS LAB DATA:

Instrument

Operator

Phone

Sample Nos.

GC/MS LAB DATA:

SAMPLE DATA:

Number of Samples 49 Duplicates; 6 Triplicates; 6 Time Test; 1 Travel Blank Set; 3 Extra Samplers
Date Shipped to Field 7/26/94
Date Received in Field 7/28/94
Condition as Recd. in Field Sat
Received By Lon Dawson
Date Shipped from Field 31 Aug 94
Date Received from Field
Conditions as Recd. in Lab Good

Number Received 51
Received By RSL

SAMPLE TRANSFER DATA:

Relinquished By:	Relinquished To:	Date:	Time:	Reason:
1. Douglas W. Rucker		8/31/94	3:30	
2. RSL		9-2-94	300	lab
3.				
4.				
5.				
6.				

NER
theast Research Institute LLC

605 Parfet Street • Suite 100
Lakewood, Colorado 80215
303-238-0090 • 800-845-5137
Fax 303-238-2522

December 1, 1994

Mr. Lon Dawson
Sandia National Laboratories
MS - 1347
1515 Ubank SE.
Albuquerque, New Mexico 87123

Phone: (505) 293-2804
Fax: (505) 848-0417

Dear Mr. Dawson:

Enclosed please find a table of results on the findings of the PETREX Soil Gas Survey performed at your site of investigation, Sandia National Laboratories, Albuquerque, New Mexico.

The VOC's trichloroethene (TCE), tetrachloroethene (PCE) and several petroleum hydrocarbon compounds were detected in soil gas. The occurrences of benzene, toluene, ethylbenzene/xylenes (BTEX) and total petroleum hydrocarbons (TPH) were reported. In addition limited occurrences of trichlorotriflouromethane (Freon 113) and naphthalene were also detected. The relative response of these detections are provided on Tables 1 and 2, enclosed. In order to report the compounds detected, mass spectral peaks indicative of the compounds were selected and their corresponding ion counts were summed and reported.

Table 3 lists the reported compounds and peaks which were summed to represent the compound occurrences reported on Tables 1 and 2.

TABLE 3
REPORTED COMPOUNDS AND THEIR INDICATOR MASS PEAKS

Compound	Indicator peaks
PCE	164
TCE	130
BTEX	78, 92, 106
TPH	56, 70, 78, 84, 92, 98, 106, 120, 126, 140, 154

Mass Spectra of the compounds identified are provided as Figures 1-7, also enclosed.

The response values are reported in ion counts. Ion counts are the unit of measure assigned by the mass spectrometer to the relative intensities associated with each of the reported compounds. These intensity levels or response levels do not represent an actual concentration of the reported compounds; however are best utilized as a semiquantitative measure where a change in ion count values in orders of magnitude is considered significant for interpreting potential source areas and migration/dispersion pathways versus background areas.

The occurrences of PCE and TCE appear to be limited to a few locations. High relative response levels of PCE were detected at sample locations 14, 25, 38, and 51; while high levels of TCE were detected at sample locations 14 and 50.

The number of samples exhibiting elevated response for BTEX and TPH may be indicating significant occurrences in the subsurface. It may be beneficial to map the distribution of these compounds so that an interpretation can be made with respect to the spatial relationship of their occurrences.

Please keep in mind that levels below 100,000 ion counts for a given compound such as PCE and TCE, under normal site conditions generally do not represent detectable levels by standard quantitative methods for soils and/or groundwater. Normal site conditions are considered to be sites in which the depth to groundwater is less than 100 feet below the surface, groundwater flow rates are undisturbed, and normal precipitation occurs during sampler exposure. Corresponding levels for a class of compounds such as BTEX and TPH, in which several masses are summed and reported, are equivalent to 200,000 ion counts. Areas of subsurface contamination are generally illustrated by a number of spatially contiguous samples exhibiting elevated response, rather than isolated occurrences.

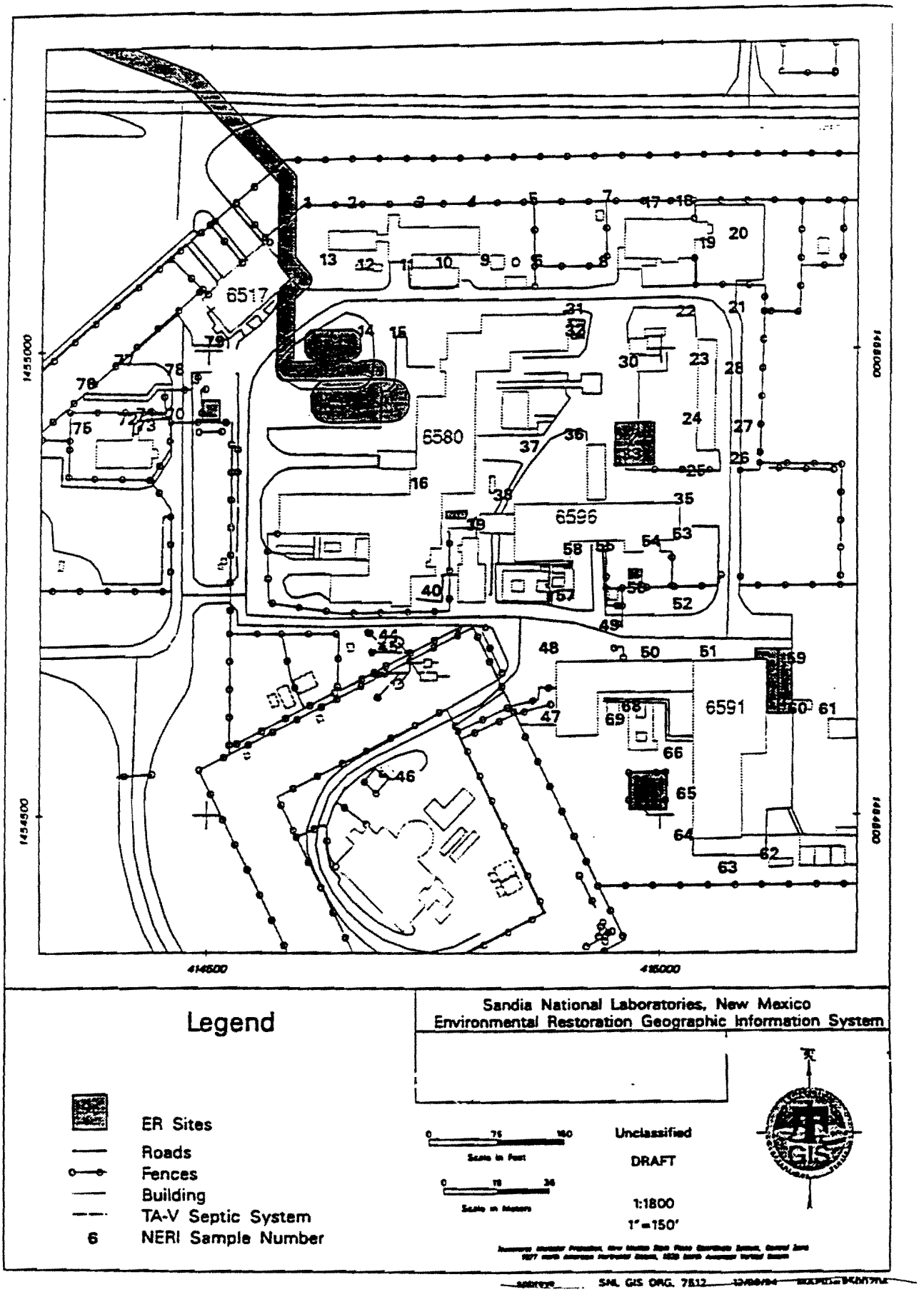
Please let me know if you would like the distribution of these compounds mapped, and send a sample location map at your earliest convenience. I will begin preparing the draft report of our findings once we have decided to proceed with mapping the compounds or not. If you have any questions concerning the enclosed, please do not hesitate to call.

Respectfully,
NORTHEAST RESEARCH INSTITUTE LLC,

Julia Olney Gullett

Julia Olney Gullett
Senior Geologist

L20968JG/11.30.94



SWMU 275: Phase II Passive Soil Gas Survey Results.
Sample Location Map

Table 1
PETREX Relative Soil Gas Response Values

Sample	PCE	TCE	BTEX	TPH
1	ND	ND	43,143	68,751
2	ND	ND	19,017	32,364
3	ND	ND	17,290	59,247
4	ND	ND	39,926	48,207
5	ND	ND	23,244	29,236
6	ND	ND	47,444	133,169
7	ND	ND	29,436	54,012
8	ND	ND	84,518	160,695
9	ND	ND	91,077	169,056
10	ND	ND	55,802	85,327
11	ND	ND	2,802	4,755
12	ND	ND	39,993	101,419
13	ND	ND	178,115	292,006
14	2,487,530	110,241	40,523	479,510
15	ND	ND	T	T
16	ND	ND	T	T
17	10,307	ND	34,156	51,588
18	ND	ND	69,596	117,326
19	ND	ND	54,050	102,305
20	29,836 H	ND	805,201	2,472,071
21	ND	ND	70,079	152,693
22	ND	ND	268,200	556,583
23	ND	ND	167,396	489,893
24	ND	ND	251,024	675,741
25	132,768	4,582	70,840	176,757
26	ND	ND	151,452	247,959
27	ND	ND	372,552	848,201
28	ND	ND	111,217	198,689
29	ND	ND	162,922	375,121
30	ND	ND	250,488	4,574,192
31	ND	ND	410,264	916,752
32	ND	ND	41,956	76,561
33	ND	ND	328,546	749,684
34	10,937	ND	120,251	219,046
35	ND	ND	485,487	1,081,825
36	ND	ND	99,314	208,980
37	8,335	ND	67,296	261,292
38	107,086	9,773	922,493	5,040,596

Table 1

PETREX Relative Soil Gas Response Values

Continued

Sample	PCE	TCE	BTEX	TPH
39	7,632	ND	15,250	36,321
40	ND	ND	131,198	284,609
41	ND	ND	156,867	298,615
42	ND	ND	54,350	98,868
46	9,997	ND	389,838	756,888
47	ND	ND	131,267	348,427
48	3,016	ND	153,075	328,412
49	2,298	ND	45,133	91,776
50	ND	400,989	45,801	133,620
51	315,984	26,046 H	544,205	3,224,333
52	ND	ND	121,297	271,601
53	8,459	ND	64,413	103,464
54	24,706	ND	196,489	358,424
55	6,400	ND	27,502	47,335
56	ND	ND	25,735	79,669
57	ND	ND	667,841	1,085,222
58	2,847	ND	106,313	200,697
59	5,494	ND	138,495	260,433
60	9,212	ND	125,200	278,005
61	ND	ND	601,068	775,477
62	ND	ND	192,021	342,169
63	ND	ND	232,758	658,415
64	ND	ND	57,948	148,395
65	4,828	ND	34,262	46,394
66	ND	ND	119,601	439,634
67	ND	ND	74,730	152,538
68	ND	ND	114,160	244,698
69	ND	ND	27,653	67,180
70	ND	ND	2,849,939	19,959,176
71	ND	ND	6,747	19,895
75	ND	ND	11,300	292,769
76	ND	ND	25,092	45,396
77	4,223	ND	20,354	77,730
78	ND	ND	23,861	45,474
79	ND	ND	11,983	17,151
* 900	ND	ND	ND	2,586
* 901	ND	ND	ND	ND
D - 2026	ND	ND	66,443	120,404

Table 1

PETREX Relative Soil Gas Response Values

Concluded

Sample	PCE	TCE	BTEX	TPH
D - 2031	ND	ND	581,647	1,160,333
D - 2038	104,256	8,754	655,410	4,052,082
D - 2050	ND	381,306	31,941	95,950
D - 2059	6,089	ND	156,467	296,492
D - 2063	ND	ND	300,065	766,496

PCE - Tetrachloroethene
Indicator Mass Peak(s) 164

TCE - Trichloroethene
Indicator Mass Peak(s) 130

BTEX - Benzene, Toluene, Ethylbenzene/Xylene(s)
Indicator Mass Peak(s) 78, 92, 106

TPH - Total Petroleum Hydrocarbons
Indicator Mass Peak(s) 78, 92, 106, 56, 70,
84, 98, 112, 126, 140, 154

ND - Not Detected

T - Compound identification not possible due to terpene interference.

* QA/QC Travel Blank Sample

D - Duplicate Sample
Sample numbers in thousands are duplicates of sample numbers in hundreds.

H - Hydrocarbon Interference
Compound identification not possible due to interference associated with detection of high levels of hydrocarbons.

Table 2
Additional Compounds Detected in Soil Gas

Compound	Sample Location	Relative Response (in ion counts)
Freon 113	49	12,119
Naphthalene	31	3,315,410
	49	71,884
	63	198,178

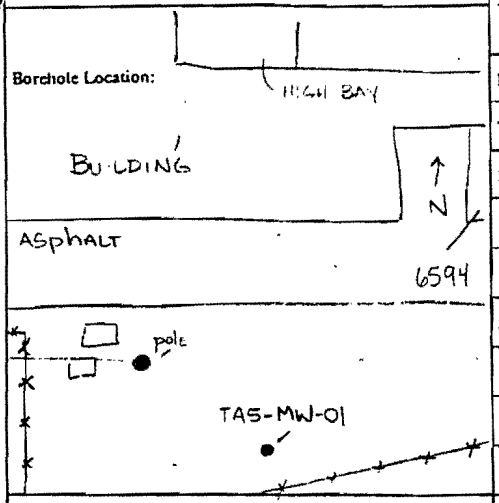
Freon 113 - Triclorotrifluoromethane
Indicator Mass Peak(s) 151

Naphthalene -
Indicator Mass Peak(s) 128

APPENDIX E

LITHOLOGIC LOGS FOR TA-V WELLS AND BOREHOLES

SNL/NM ER Project	3617.300	PROJECT: TA5 TCE Plume	Borehole/Well No.: TA5-MW-01
			ADS No.:
Borehole Location:	HIGH BAY	Logged By: M. WADE	Instruments: PID
		Task Leader: Lon Dawson	Drill Rig: CP-650
		Drilling Contractor: Stewart Bros.	Ground Elev (ft.MSL)
		Driller/Helper: R. Stewart; Roy;	
		Drilling Method: 0-200': 10.5" ID DRIVE CASING w/ 10" ø OPEN-CENTER button bit; 0-520: 9" ø ID DRIVE CASING w/ 8 5/8" ø OPEN-CENTER button bit	
		Sample Method: 2" ø ID split-spoon sampler; 11.5" ø steel drive casing, 8 5/8" ø hollow tubing	
		Hammer Weight/Drop: 140 lb/30 in.	Borehole Diameter: 8 5/8" ø
		Start Time: 8:35	Date: 1/31/95
		Finish Time: 14:51	Date: 2/28/95



Notes: Soil Samples/Soil Vapor Samples every 10 ft (0-100) & every 20 ft (120-520)
SP = Split spoon

Water Depth (BGL)	NO WATER	499.8	499.2	498.9	498.6	499.4
Boring/Casing Depth	390	520	520	520	509.5	509.5
Time	7:28	10:21	15:44	8:21	7:37	15:17
Date	2/8/95	2/10/95	2/10/95	2/13/95	2/24/95	2/27/95

Total Depth: 520	Casing Depth:
Screened Interval:	Screen Size: 0.010
Sand Pack Interval:	Sand Size: 40/20
Well Development Method: Bail - 150 gallons	
Time: 4.5 hrs Date: 2/23/95	Flow Rate: NA
Geophysical Logs, Type: Natural Gamma; Neutron	
By: USGS	Date: 2/13/95

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circulation/Moisture/Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy/Contacts	LITHOLOGIC DESCRIPTION
		- Drill w/ 10" ø Center bit w/ 11 3/4" OD (10.5" ID) DRIVE CASING: 0-200 ft								(10.5" ID)			Silty SAND (SM); lt brown to reddish brn; moist to dry; MED. DENSE to DENSE; 10-20% Silt, <5% Clay, VFG to locally CG MICACEOUS SAND, MOD. to HIGH EST. K
		- Drill w/ 8 5/8" ø center bit w/ 10.5" OD (9.1" ID) DRIVE CASING: 0-520 ft (DRIVE CASING to 503')									1		
											2		
											3		
											4		
											5	SP BANK DEC	
										VOLCANIC SAND	6		
											7		
											8		
											9		
											10		

Project/ADS No.:

Borehole/Well No.: TA5-MW-01

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes:
10.0-SVS-001			36	12	6	fair							
			50+	10.0+	Gamma Spec								
	Drill 2 ft and drill sample again										11		
											12		
											13		
											14		
											15		15-20'- minor Subrounded pbls of Ls, qtz fdsp to 1/2"d; ~5-10%;
											16		
											17		
											18		18-20 - GRAVEL LENSE - driller; cuttings
											19		
											20		Silty SAND (SM) yellow-brn to brn; damp to moist, DENSE to MED. DENSE; 15-25% Silt; ~5% clay; <5% SR ls pbls to 3/4"d; MICA; MOD. Est. IK;
20.0-SVS-002 SP-20.0			17	24	24	Good			VOLCLAY GROUT	5" ϕ BLANK PVC			
			25	20.0-Gamma Spec							21		
			32	20.5-TAL/STOCS									
			35	21.0-8240, 21.5-Tritium							22		
											23		
											24		
											25		
											26		
											27		
											28		28'- Gravelly SAND (SM); Brown; damp; V. DENSE; 15-25% ANG ls pbls to 2"d+; VFG to CG SAND; ~10% FINES; MOD. to high Est. IK;
											29		
											30		

Project/ADS No.:

Borehole/Well No.: TA5-MW-01

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
30.0 - SVS-003			5	24	18	Fair							CG ls pbls to 2.5"ø
SP-30.0			8	30.00 - Gamma Spec 30.30 - TAL; 8270									
			26	31.00 - 8240 31.25 - Tritium							31		
			47								32		
											33		
											34		
											35		SR pbls to 3'ø, ls, w/ MG-CG SAND; HIGH EST. IK;
											36		
											37		
											38		
											39		
40.0 - SVS-004									Volclay Grout	5" ø Blank PVC	40		GRAVEL @ 40 - NO RECOVERY - DRILL AHEAD;
SP-41.0			8	24	18	Fair					41		Silty SAND (SM); lt. brn; dry; V. DENSE;
			24	41.0 - Gamma Spec 41.5 - TAL; SVOCs							42		15-20% Silt, 5% Clay; ~10% SR, SA pbls to 1"ø - ls; VFG to CG SAND; MICA;
			37	42.0 - 8240 42.5 - Tritium							43		MOD. EST. IK;
			50+								44		
											45		
											46		
											47		~47' - SANDY GRAVEL (GP); brn to grey-brn; dry to moist; V. DENSE; 20-35% VFG to CG SAND; ~10% FINES; SA, SR ls pbls to 2"ø +; hard to SAMPLE; MOD. to HIGH EST. IK;
											48		
											49		
											50		

TD = 50 ft; 16:41; 1/31/95

Project/ADS No.: 3617.300 | Borehole/Well No.: TA5-MW-01

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
50.0- SV	-001		50+	6	2	poor							Is clasts to 3"ø+; no sample recovery
-p-	50.00		50+	6	0	poor					51		only gravel recovered, drill ahead to
											52		
											53		
											54		
											55	?	~55'- Silty Sand (SM); lt. brn; dry to moist; dense to v. dense; 15-20% Silt; <5% Clay; 10-15% SR, SA Is pbls to 1.5"ø, highest. lk; mica
											56		
											57		
											58		
											59		
											60		
60.0- SVS-006			200	6	0	—			Grout	PVC			No recovery; only large Is pbls preventing reciprocal/sampling; drill to 60.5- Grab samples from cyclone 60.5-62 (no VOCs or SVOCs)
Sp-60.0			150	6	0	—					61		
Grab from cyclone			60.5- Tritium 61.0- TAL METALS 61.5- GAMMA SPEC.						Volclay	1" ø Blank	62		Sandy Gravel (GP); lt. brn; dry to moist; 25-35% VFG to VCG Sand w/ mica; ~10% fines; SR, SA pbls to 2"ø+; all Is frags.; highest. lk;
											63		
											64		
											65		
											66		
											67		
											68		
											69		
											70		

Project/ADS No.:

Borehole/Well No.: TA5-MW-01

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
70.0 -SVS-007			100+	3	3	poor → ALL	Is						15-25% VFG to VCG SAND; ANG, SUBA
SP-70.0			100+	0	0	–	pbls						Is pbls; VERY HIGH EST. IK;
				70.0 – TAL Metals (sp)							71		
PID	-SVS	READ		70.5 – Gamma Spec									
500	ppb	before	full	71.0 – Tritium							72		
						FROM CYCLONE							
											73		
											74		
											75		
											76		
											77		Less GRAVEL @ ~77-79' – cuttings;
											78		
									GROUT	PVC	79		
80.0 -SVS-008			50+	24	24	fair to good					80		Silty SAND (SM); lt. brn; moist; v. DENSE;
SP-80.0			50+	80.00 – Gamma Spec					VOCLAY	5" ϕ Blank	81		25-30% Silt; ~5% Clay; ~20% SA, SR
			50+	80.5 – TAL; SVOCS									Is pbls to 2" ϕ; MOD. EST. IK;
			50+	81.0 – 8240									
			50+	81.50 – Tritium							82		
											83		
											84		
											85		
											86		
											87		
											88		Ls pbls to 3" ϕ – cuttings; 88'-90'.
											89		
											90		

Project/ADS No.:

Borehole/Well No.: TA5-MW-01

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
90.0 SVS-009			50+	24	24	fair							LARGE 1s cobble, broken, est. 3"ϕ+ @ 90 ft;
SP-90.0			50+	90.0-GAMMA Spec; 90.5-TAL Metals				Grab from cyclone					
SVS=300 ppb			50+	91.0-Tritium; 91.5-8270							91		SANDY GRAVEL (GP); brn to grey-brn; moist; v. DENSE; 25-40% VFG to CG SAND w/ MICA; ~10% FINES; SR, SA 1s pbls to 2"ϕ+; MOD. to high est. ik;
			50+	91.75-8240							92		
											93		
											94		
											95		
											96		~96'- little to NO gravel in cuttings
											97		
											98		
											99		
100.0 SVS-010			50+	24	24	Good			Vegla; Grout	5"ϕ Blank PVC	100		Silty SAND (SM); lt to yellow-brn; moist; v. DENSE; 15-25% SILT; ~10% Clay; VFG to MG SAND, locally CG; minor SR 1s pbls to 1/2"ϕ; low est. ik
SP-100.0			50+	100.00-8260; 100.25-8240							101		
			50+	100.50-Tritium; 101.00-SVOCs; metals									
			50+	101.500-Gamma Spec							102		TD=100.1+ 2/1/95; 16:51
											103		
											104		
											105		
											106		
											107		~107 to 120: increased clay content;
											108		
											109		
											110		

Project/ADS No.:

Borehole/Well No.: TA5-MW-01

Notes:

Lab Sample II	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Cite/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
											111		
											112		
											113		111-120 ft; ~5% SA is pbls est. to 1.5" ø,
											114		
											115		
											116		~116-117- increased clay content;
											117		
											118		
											119		
120.0-	SVS-11		50+	12	9	FAIR			VOLCLAY Grout	5' BLANK PVC	120		Clayey SAND (SC); brn; moist; 20-25% Clay; 15-20% Silt; VFG to MG SAND; micaceous; v. low est IK; <2% SR SA is pbls;
	SP-120.0		50+										
				120.5-82.40 120.0-Tritium							121		
											122		
											123		
											124		
											125		
											126		
											127		
											128		
											129		
											130		

Project/ADS No.:

Borehole/Well No.: TA5-MW-01

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
											121		
											122		
											123		
											124		
											125		
											126		
											127	?	~127 - Silty SAND (SM); lt to yellow-brn, moist; 10-20% Silt; ~5% Clay; ~5% SR, ANG ls pbls to 1"ϕ estimated; MICACEOUS; VFG to MG SAND; low. to mod? est. IK;
											128		
											129		
									VOLCLAY GROUT	5"ϕ BLANK PVC	130		
											131		
											132		
											133		
											134		
											135		
											136		~136-137 - Silty/Sandy Gravel or Gravelly Silt - cuttings
											137		
											138		
											139		
											140		

Project/ADS No.:

Borehole/Well No.: TA5-MW-01

Notes:

Depth in Feet	Lab Sample #	Lab Analysis Requested	Sampler Type/Depth	Blows/6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/Other	Well Annulus/Seal	Well Casing/Screen	Stratigraphy Contacts	Notes
140.0	SVS-012			50+	12	6	fair						GRAVELLY SAND (SM); brn to lt. brn;
	SP-140.0			50+	140.0 - Tritium 140.25 - 8240								moist; v. DENSE; 20-30% SR, SA
141													pbls, ls, fdspr, to 3/4"ϕ avg.; VFG to
@ 140 ft = .2 ppm from exhaust;													locally CG SAND; MICACEOUS; 15-20%
142													Fines (Silt & Clay); low est. IK;
0 to .2 in breathing zone from exhaust;													
143													
.7 to .9 ppm in dn rod - 0.0 to 0.2 when away 6 in. from rod.													
144													
SVS-012 = .7 ppm													
145													
146													
147													
148													
149													
150										VOLCLAY Grout	5" ϕ BLANK PVC		
151													
152													
153													
154													
155													~155-156 — minor GRAVEL w/ SAND;
156													cuttings
157													
158													
159													
160													

Project/ADS No.:

Borehole/Well No.: TAS-MW-01

Notes:

Lab Sample II	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
160.0 - SVS-013			50+	18	15	fair-good						~155	Silty SAND (SM); brn; moist, v. DENSE,
SD-	160.0		50+	160.00 - Metals 160.50 - Tritium									15-25% Silt; ~5-10% Clay. 10-20%
			50+	~~160.75 - 8240~~							161		SR, SA ls pbls to 1.5" ϕ; VFG to CG
				161.00 - 8260 - onsite				lab					SAND, generally mg-micaceous; low
											162		to MOD.? est. IK;
Tube may have been sensed during SVS sampling - NO VOCs detected											163		
											164		
											165		
											166		
											167		
											168		
											169		
											170		~BELOW 170': ~2% Clay; 15-20% Silt;
													VFG to CG SAND w/ ls, fdspr grains;
									Hole w/ Grout	5' ϕ BLNK PVC	171		MOD. est. IK; ~5-10% SR, ANG ls pbls to
													1"-4" ϕ;
											172		
											173		
											174		
											175		
											176		
											177		
											178		
											179		
180.00 - SVS-014											180		

Project/ADS No.:

Borehole/Well No.: TAS-MW-01

Notes:

Lab Sample #	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQI	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
180.0 SVS-014 (600 ppb)			50+	18	15	Good	Fair						5-10% Clay; 15-25% Silt; VFG to MG
SP-180.00			50+	180.25-8260									SAND; v. low to low est. IK; 25% is v.
			50+	180.50-Tritium							181		FG SAND; MICACEOUS;
				181.00-8240									
				181.25-8270							182		
													TD=180.0 @ 14:08, 2-2-95
											183		
											184		
											185		
											186		
											187		
											188		
											189		
									VOLCLAY/GROUT	5' φ BLANK PVC	190		
											191		
											192		
											193		(Still in silty SAND-NO GRAVEL LENSES)
													~193-200'- VFG to FG SAND; MICACEOUS;
											194		15-25% Silt; ~5% Clay; <1% SR, SA
													1s pbls to 1/2" φ; low est. IK;
											195		
											196		
											197		
											198		
											199		
											200		

Project/ADS No.:	Borehole/Well No.: TA5-MW-01
Notes:	

TD=200 ft 2/2/91

Lab Sample I	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQI	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
200.00-SV5-015			50+	12	9	fair-good							<5% clay;
SD-200.00			50+	200.25-8240									
				200.50-Tritium							201		
800 ppb on SV5-015													
											202		
				11.5" ϕ DRIVE CASING TO 200 FT, Install 9" ϕ ~~DRIVE CASING INSIDE~~ + switch to 8 5/8" bit							203		
											204	?	~204 - Gravelly Sand (SM); dk brn to brn. Dry; dense to v. dense (est.); 20-25% SR + SA 1s pbls, feldspar to 1" ϕ; 15-20% Silt; ~5% Clay; mod. to high est. IK
											205		
											206		
											207		
											208		
											209		
											210		
									Grout	5" PVC Blank	211		
											212		
									Volclay		213		
											214		
											215		~215 - little to no gravels;
											216		
											217		
											218		
											219		
											220		

Project/ADS No.:	Borehole/Well No.: TA5-MW-01
Notes:	

Lab Sample II	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
220.0 – SVS-016			50+	18	15	good							~215- Silty SAND (SM), yellow-brn, dry to moist; V. DENSE; 10-15% Silt; ~2% Clay; VFG to MG SAND w/ MICA; <1% SR, SR ls pbls to 1/4" ϕ; MOD. EST. 1K;
SP-220.0			50+	220.5-221.0	Tritium - 8340						221		
			50+	221.25-	8260	- onsite							
SVS-800		PPb	VCCS								222		
											223		
											224		
											225		
											226		
											227		
											228		
											229		
									VOLCLAY Grout	5" ϕ BLANK PIC	230		~230 to 240- VFG to VCG SAND; ~5% SR, SA ls pbls, qtz & feldspar minor; 2-5% Clay; 10-20% Silt, low to MOD. EST. 1K;
											231		
											232		
											233		
											234		
											235		
											236		
											237		
											238		increase in Silt & Clay ~ 237-238' cuttings
											239		
											240		

Project/ADS No.:

Borehole/Well No.: TA5-MW-01

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
240.0 SVS-	017		50	18	15	Good-	Fair						-237.5- 15-25% Silt; 5-10% Clay;
				240.25- Titium									
SP-	240.0		50	240.75- 8240							241		VFG to locally MG SAND; Micaceous
			50t	241.00- TAL METALS									low to mod ? est. 1k; little to no pbls;
SVS-	500 ppb										242		
											243		
											244		244-260- Smooth Drilling in SAND —
													NO NEED to DRIVE CASING;
											245		change to 10-15% Silt; <5% Clay;
													<1% SR Is pbls to 1/8" ϕ; poorly graded,
											246		MOD. to HIGH est. 1K;
											247		
											248		
									Grout	5" ϕ Blank PVC	249		
											250		
									Volclay		251		
											252		
											253		
											254		Cuttings still dry-no sign of water;
											255		
											256		
											257		
											258		
											259		
											260		

Project/ADS No.:

Borehole/Well No.: TA5-MW-01

Notes:

TD=260, 15 03 [illegible]

Lab Sample #	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
260.0 SVS-018			50	18	12								260-260'- Moist w/ SR ls, dark mafic
SP-260.0			50	260.0 - Tritium 260.50 - 8240							261		rock frags. to 3"ϕ in cuttings;
				260.75 - 8260 - onsite									
SVS = 500 ppb											262		
											263		
											264		
											265		
											266		
											267		
											268		
											269		
									Volclay Grout	5" ϕ Blank PVC	270		Minor ls, mafic rocks to 2.5"ϕ ~ 270'; still a moist silty SAND;
											271		
											272		
											273		
											274		
											275		
											276		
											277		
											278		
											279		~below 279 - VFG to FG SAND w/ 10-20% Silt; Dry; very powdery
											280		

Project/ADS No.:

Borehole/Well No.: TA5-MW-01

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
280.0 - SVS - 01			50+	12	0	—							NO SAMPLE RECOVERY AFTER SEVERAL TRIES in 45 mins.; V. DENSE; Drill AHEAD to 300 ft,
- SVS - 01d													
SP-280.0			50+								281		
SVX-01-280.0													
											282		- COLLECT two active SVS
											283		- COLLECT 1 Petrex tube (in BOREHOLE OVERNIGHT - 15 hrs)
											284		
											285		
											286		
											287		
											288		288-300: VFG to locally MG & CG SAND; MICACEOUS;
											289		
									30% CLAY GROUT	5" ϕ BLANK PVC	290		
											291		
											292	?	292 - SANDY Silt (ML); brn; dry; v. stiff; 30-40% VFG to MG SAND; ~15% Clay; <1% SR pbls; low EST. IK; pbls to 1" ϕ;
											293		
											294		
											295		
											296		
											297		
											298		
											299		
											300		

2/6/95 - TD = 16:3.

Project/ADS No.:

Borehole/Well No.: TA5-MW01

Notes:

Lab Sample II	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
300.0-SV1-020			50	18	9	Good							RATE SR 1s pbls (<1%) to 1.5"ϕ,
SP-300.0			50										
SP-300.+5			50+	12	6	Good					301		
				300.0-Tritium 300.50-8240									
				301.00-8260-onsite 301.25-SVOCS							302		
											303		
											304		
											305	?	Silty SAND (SM); lt brn; dry to moist; V. DENSE?; 25-35% SiH; 5-10% Clay; ~5% SA, SR 1s pbls to 1"ϕ; low est. lk
											306		
											307		
											308		
									Grout	PVC	309		
											310		
									VOCLAY	5"ϕ BLANK	311		
											312		
											313		
											314		313-320 - RATE 1s pbls to 2"ϕ;
											315		
											316		
											317		
											318		
											319		
											320		

Project/ADS No.:

Borehole/Well No.: TA5-MW 01

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts
320.0+ SVS-021			50	18	15	Good						
				320.25-TAL METALS								
SP 320.0			50	320.75-8240							321	
SVS initially			50+	321.00-Tritium								
went to 2H ppm											322	
then leveled to			400	ppb								
											323	~323-Sandy Silt (ML); brn; Dry; stiff; 30-40% VFG Sand; ~10% Clay; V. Low Est. IK
											324	320-SVS tubing stuck-remove and replace w/ 500 ft of new tubing
											325	
											326	
											327	
											328	
											329	
									VOC clay grout	5" ϕ Blank PVC	330	
											331	~331-Gravelly Sand (SM); brn to dk brn; moist; V. Dense; 20-30% SR SA ls, qtz fdspr pbls to 1" ϕ; 15-25% Silt <1% Clay; VFG to CG Sand; low Est. IK;
											332	
											333	
											334	
											335	
											336	
											337	
											338	Minor Gravel; more silt in cuttings;
											339	
											340	

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes:
340.0 - SVS-022			50	18	18	Good							Silty SAND (SM) lt. brn [illegible] V. DENSE
SP-340		.0	50	340.00 - 340.50		GRAIN SIZE		WAL	ONSITE		341		30-35% Silt; ~5-10% Clay; Rare SR SA ls
			50+	341.00 - 341.25		8240 8240 - onsite							pbls to ½" ϕ (<1%). VFG to MG SAND -
Zoots 1K ppb on SVS				P.D							342		local; CG, low est 1K; ~338
340.0 - volumetric				moisture		content:		20%			343		
											344		
											345		
											346		
											347		
											348		~346 to about 353: 2-5% SR, SA ls,
											349		feldspar, mafic pbls to 1.5" ϕ; CG
									VOLCLAY Grout	5" ϕ Blank pvc	350		SAND also present;
											351		
											352		
											353		
											354		
											355		
											356		
											357		
											358		
											359		
											360		

Project/ADS No.:

Borehole/Well No.: TA5-MW-01

2-7-95, 13:06 TD = 340'

Project/ADS No.:

Borehole/Well No.: TA5-MW-01

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
360.0 - SVE-023			50	15	12	Good							20-30% Silt; ~10% Clay. VFG to
				360.00 - Tritium									locally MG SAND; still moist - no
SP-360.00			50+	360.50 - 8240							361		WATER THOUGH;
				360.75 - Grain Size Analysis - onsite									@ 360 - locally a SANDY Silt (ML); brn;
											362		Dry to moist; stiff; 40-50% VFG
													SAND to MG; ~10% Clay; V. LOW EST IK;
											363		variable from 338 to ~370 ft but
													MAINLY Silty SAND;
											364		
											365		
											366		
											367		
											368		
											369		368 to about 375: ~2-4% Clay
									NOLAN / Grout	5" d BLANK PVC	370		15-25% Silt; local CG SAND;
											371		
											372		
											373		
											374		
											375		
											376		
											377		
											378		
											379		
											380		

TD = 370 ft
2-7-95 @
15:18

Project/ADS No.:

Borehole/Well No.: TAS-MW 01

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
380.00 SVS-024			50	18	15	Good							Silty SAND (SM) – moist to saturated
SP-380.00			50	380.25-380.75	9.25	Tri-axial					381		tan, soft – brown back down; no
			50										moisture; drill [illegible]
				381.00-382.00 – Grain Size Analysis onsite							382		current;
													5:15; 2-7-95 – checked for WL – no
* 380.0 – VOL. moisture content: 35%											383		reading from meter
													@ 380' – 25-30% Silt; 20-25% Clay; VFG to
											384		MG Sand, v. low est IK;
											385		Saturated @ 380 but not producing
													water
											386		
											387		
											388		
											389		
													TD = 390 @ 16:35 2-7-95
									VOL CLAY Grout	5' ø Blank PVC	390		CK WL on 2/6/95; 7:25 am after 14 hrs –
													no water; blow through drill rods @
											391		380' – no water
											392	?	GRAVELLY SAND (SM); brn; moist; v.
													DENSE; 20-25% SR, SA, pbls to 1.25";
											393		15-20% Fines; VFG to CG Sand, mod lst.
													IK;
											394		
											395		
											396		
											397		FINER-GRAINED MATERIALS
											398		
											399		TD=400; no water; samples [illegible] to
													drill
											400		

Project/ADS No.:	Borehole/Well No.: 1A5-MW01
Notes:	

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
400.0- SVS-	025		50	18	15	Good							Hammer stuck @ 400 ft - drill rods, wire
				400.0		-Tritium							line broken;
SP-	400.00		50	400.50- TAL METALS/SVOCS							401		~397 - Sandy Silt (ML); lt brn; dry to
			50+	400.75-9240									moist; v. stiff to stiff; VFG to FG/MG
				401.0-8260									
				401.25-SVOC analysis - onsite							402		Sand; 10-15% Clay; v. low est. IK; 2%
													SR. SA is pbls to 1/2" ϕ
401.25 - VOL. WATER CONTENT: 21%											403		
											404		
											405		
											406		
													~406 - Silty Sand (SM); brn; moist;
											407		Dense; 20-25% Silt; ~5% Clay; VFG to
													CG Sand; SA is mafic, qtz, fspar pbls
											408		to 3/4" ϕ; low to mod.? est. IK;
											409		
											410		
													Clayey Silt (ML); lt. brn; moist; v.
											411		stiff to stiff; 10-20% Clay; 5-15% VFG
													to FG Sand; Rare SA is pbls to 1.25" ϕ
											412		(<1%); v. low est. IK
											413		
											414		
											415		~415 - 14:05; 2-8-95 - Drill bit "plugged"
													as soon as we got into clay;
											416		
											417		
											418		Minor clay in cuttings ~418;
											419		
											420		

Well Annulus/Seal: VOLCLAY Grout

Well Casing/Screen: 5" ϕ Blank PVC

Project/ADS No.:

Borehole/Well No.: TA5-MW-01

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Clic/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
420.0-SVS-026			50	18	9	Good							Silty SAND (SM); lt brn; dry; v dense
				420.00-Tritium									
SP-420.00			50	420.50-8240							421		20-35% Silt; ~5% Clay; VFG-FG SAND
													micaceous; low est IK to v low; <1% SR
											422		ls pbls to 1/2" ϕ;
											423		
											424		
											425		
											426		~425-437: Rare SR, SA ls, mafic
													pbls to 1.5" ϕ;
											427		
											428		
											429		
													~429 - SANDY SILT (ML); lt brn to yel-brn; v. stiff to stiff; 40-45% VFG to MG
											430		SAND; ~5% CLAY; V. LOW EST. IK;
											431		
											432		
											433		
											434		
											435		
											436		MORE SAND;
											437		
											438		
											439		
											440		

Well Annulus/Seal: 7 Bag Clay Grout

Well Casing/Screen: 5" ϕ Blank PVC

Project/ADS No.:

Borehole/Well No.: TA5-MW-01

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
440.0 - SV5-027			50	18	9								Silty SAND (SM); lt brn; dry to moist;
SP-440.0			50	440.0 - Tritium 440.5 - 8240							441		V. DENSE; 25-35% Silt; 5-15% Clay; <2%
													SR, SA 1s pbls to 3/4"ϕ; VFG to FG SAND-
											442		locally MG; V. Low to Low est. IK;
											443		
											444		
											445		
											446		
											447		
											448		
											449	?	SANDY Silt (ML); lt. brn; moist; stiff;
											450		25-35% VFG to FG SAND; 15-20% Clay;
											451		V. LOW EST. IK; slight plasticity; <1% SR
											452		1s pbls to 3/4"ϕ (FINE GRAVELS)
											453		
											454		
											455		
											456		
											457		less clay, silt?; ~457'
											458		
											459		
											460		

Well Annulus/Seal: VOLCLAY GROUT

Well Casing/Screen: 5" ϕ BLANK PVC

Project/ADS No.:

Borehole/Well No.: TA5-MW-01

Notes:

Lab Sample #	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	
460.0 – SVS-028			50	18	12	Good							Silty SAND (SM), brn; DRY to MOIST, DENSE
SP-460.00		↓	50+	460.0 - Tritium 460.50-8:40 460.75-Mois cont; GS analysis							461		to V. DENSE; 25-30% Silt, ~10% Cln,
													~2% SR pbls, to 3/4" ϕ, V. Low to Low
											462		EST. IK;
											463		
											464		
											465		
											466		
											467		
											468		
											469		
											470		~470-480 - 15-20% Clay; 30% Silt;
											471		<2% SA pbls, is. qtz, to 1/2" ϕ; low to
											472		MODERATE plasticity;
											473		
											474		
											475		
											476		
											477		CLAYEY/Silty.
											478		
											479		
											480		

Well Annulus/Seal: VOLCLAY; BENTONITE; 0.100 SAND

Well Casing/Screen: 5" ϕ BLANK PVC

Project/ADS No.:

Borehole/Well No.: TA5-MW-01

Notes:

Lab Sample I	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQI	Soil Vapor Concentration	Circ/Moisture/ Other	Depth in Feet	Stratigraphy Contacts	Notes
480.0-SVS-029			50	21	21	Good					SANDY Silt (ML); lt. brn, moist, stiff
SP-480.0			50	480.0 - Tritium 480.50 - TAL METALS/SVOCS					481		30-35% VFG to FG SAND; 10-20% Clay
			50+	481.00 - 8240 481.25 - 8260-onsite							V LOW EST. IK;
			50	481.50 - Moisture content/ GS analysis-onsite					482		
									483		
									484		
									485		~485-490 - v. stiff
									486		
									487		
									488		
									489		
									490		Saturated ZONE from 491 to 491.5
490.0-SVS-030			50	18	18	Good					~30% Silt; 15-20% Clay; VFG to FG
SP-490.0			50	490.0 - Tritium 490.5 - 418.1-TPH					491		SAND;
			50+	490.75 - 8260 491.0 - 8240 491.25 - GS anal/Soil moisture content					492		
									493		
									494		
									495		
									496		Bailed 150 gals; recovered
									497		2-21-95; 7:37; TD=509.5 (EST.) WL=498.6
											2-10-95; 7:39; WL=498.6 - mud mostly; probably
									498		SEALED OFF FROM CASING; TD=500 ft
											GRAVELS / SANDY
									499		
									500		

Well Annulus/Seal: 0.100 SAND; 10/20 SAND

Well Casing/Screen: 5" ϕ BLANK PVC; 0.020 SLOTTED SCREEN

TPH 418.1

2-9-95; 14:39; TD= 490 ft

Project/ADS No.:

Borehole/Well No.: TA5-MW-01

Notes:

Lab Sample I	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQ	Soil Vapor Concentration	Circ/Moisture Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
500.0 SVS-	030		50	18	18	Good							500 ft - SATURATED;
				500.00 - Tritium									
SP-	500.0		50	500.50 - 8260							501		~498 - Silty SAND (SM); brn; wet, v. DENSE; 20-25% Silt; ~10% Clay; 15-20% SA, SR, pbls of ls, RED schist, mafics, qtz to 1½"ø. VFG to VCG SAND, MICACEOUS; low to MOD.? EST. IK;
SVS-	PID		50+	500.75 - 8240									
= 800	ppb			501.25 - GRAIN SIZE MOISTURE									
											502		
											503		
											504		
									10/20 SAND	0.020 SLOTTED	505		500-510: VAriable silt/clay; SR pbls, SA, to 2" up to 20%;
											506		
											507		
											508		
											509		
											510	?	SANDY GRAVEL (GP); lt brn to brn; wet; V. DENSE; 20-35% VFG to CG SAND; 5-10% Clay; 10-15% Silt; MICACEOUS SAND; SA, SR pbls to 3"ø + in cuttings of ls, qtz, RED schist, MAFICS, FELDSPAR; MOD.? EST. IK; ~ MAKING 1-3 gpm BASED ON Drill cuttings;
											511		
											512		
											513		
											514		
											515		
									SLOUGH		516		
											517		
											518		
											519		
											520		2-10-95; 10:01; TD=520

2-9-95 - 17:21; TD = 500 ft

Lab Sample I	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQI	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts
											521	
											522	
											523	
											524	
											525	
											526	
											527	
											528	
											529	
											530	
											1	
											2	
											3	
											4	
											5	
											6	
											7	
											8	
											9	
											0	

Project/ADS No.:

Borehole/Well No.: TA5-MW-01

Notes:

2-10-95; 10:00 TD = 520;

10:21; 2-10-95; WL = 499.8

10:31, 2-10-95 - WL = 503.7 - 4.5 = 499.2

10:56 - 2-10-95 - Collect GW samples for 8010/8020 # 2270 (WL = 499.1') TD = 520 ft

7:37; 2/24/95; Bailed GW samples for 8010/8020

15:41; 2-10-95; WL = 499.2; TD = 500 ft

1 PVC = 19.82 (25) = 495.5 = 515.3 = 515.9

1 19.82 0.020 sl.

- MATERIALS USED —

18 BAGS 10/20 SAND

4 BAGS 0.100 SAND

3 BAGS Bentonite Pellets (50 Lbs bags)

4/3 BAGS VOLCLAY

25 19.82-ft Long blank PVC

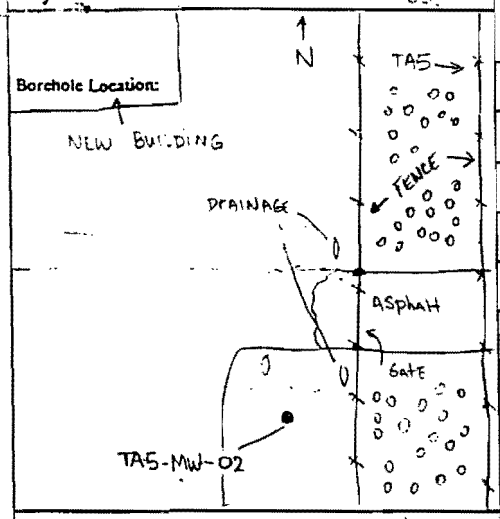
1 19.82-ft long 0.02 Slotted PVC

1 0.47-ft long SCREW-type END CAP (base)

SNL/NM ER Project

PROJECT: TA-5 TCE PLUME

TAV-MW2



Borehole Location: NEW BUILDING

ADS No.:	
Logged By: M. WADE	Instruments: PID;
Task Leader: Lon Dawson	Drill Rig: CP-650
Drilling Contractor: Stewart Bros.	Ground Elev (ft.MSL)
Driller/Helper: Ron, RANDALL; SHANE; JOHN; JASON	
Drilling Method: Air Casing Hammer with Tricone Center Bit;	10" Bit w/ 11.75" Casing 0-150'; 8.5" bit w/ 9" casing 0-
Sample Method: 2"ϕ ID split-spoon sampler	
Hammer Weight/Drop: 140 lbs/30 in.	Borehole Diameter: 11.75-in.: 0-150; 9-in.: 150-522
Start Time: 14:15	Date: 3-13-95
Finish Time: 8:15	Date: 3-30-95

Notes: SVS = Soil Vapor Survey Sample
SP = Split-Spoon Sample
ls = limestone

Water Depth (BGL)	499.30	491.55	487.65	490.50	
Boring/Casing Depth	522	522	517.5	517.5*	
Time	11:12	7:38	14:07	14:03	
Date	3-20-95	3-21-95	3-30-95	4-24-95	

* Appears tagged @ ~513 or so

Total Depth: 522	Casing Depth: ~518
Screened Interval: ~517.5-497.5	Screen Size: 0.020 slot
Sand Pack Interval: 483-491: 0.100; 491-518.5: 10/20	Sand Size: 10/20-screen; 0.100 – Above screen
Well Development Method:	
Time: Date:	Flow Rate:
Geophysical Logs, Type: Natural Gamma; Neutron	
By: USGS	Date: 3-20-95

Lab Sample ID | Lab Analysis Requested | Sampler Type/Depth | Blows/6 Inch | Inches Driven | Inches Recovered | Sample Condition/RQD | Soil Vapor Concentration | Circulation/Moisture/Other | Well Annulus/Seal | Well Casing/Screen | Depth in Feet | Stratigraphy/Contacts

Well Annulus/Seal: VOCLAY Grout
Well Casing/Screen: 5" Blank PVC

Depth in Feet: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

LITHOLOGIC DESCRIPTION

Silty SAND (SM); brn; moist; Loose to MED. DENSE; 10-20% Silt; < 3% Clay; ~10% SA, SR ls, qtz pbls to 3/4"ϕ; Mod Est. Ik; Fill MATERIAL; VFG to CG SAND;

~8.0 - SANDY GRAVEL (GP); brn; moist, DENSE to V. DENSE; ~15% Fines; SA ANG pbls, mainly ls, to 2"ϕ+; FG to VCG SAND; MOD. to high Est. Ik;

Project/ADS No.:

Borehole/Well No.: TA5-MW-02

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Clre/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
											11		
											12		
											13		
											14		Silty Sand (SM); lt brn; dry to moist; MED.
											15		DENSE; 15-20% Silt; ~5% clay; VFG to
											16		MG Sand w/ mica, ls, qtz; <5% SA, ANG
													ls pbls to 1"ϕ; low to mod.? est. lk;
											17		
											18		
											19		
SVS-20.0			50	12	6	Good	Fair		VOLCLAY Grout	5"ϕ BLANK PVC	20		Sandy Gravel (GP); lt. brn to brn, dry to
SP-20.0			50	6	3	Good	Fair				21		moist; v. dense; 15-30% FG to MG Sand,
SP-20.5 1.1 ppm-PID				20.00 - 8240 20.25 - 8270 20.50 - 8240 (onsite)							22		locally CG; micaceous; ~10% Fines. Ang to SA ls pbls to 2"ϕ±; mod. to high est. lk;
											23		
											24		
											25		
											26		
											27		
											28		
											29		
											30		

Project/ADS No.:

Borehole/Well No.: TA5-MW-02

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
											31		Silty SAND (SM); brn; moist; DENSE to v.
											32		DENSE; 15-20% Silt; <3% Clay; VFG
													to MG SAND w/ MICA; low Est. IK;
											33		~ 5% 'SA Is pbls to 3/4" ϕ;
											34		
											35		E-35-25-35% Silt.
											36		
											37		
											38		
											39		
SP-40.0		↓	39	12	9	Good			VOLCLAY Grout	5" ϕ BLANK PVC	40		~ [illegible] - GRAVELLY SAND (SM); brn; moist;
			50	40.25 - [illegible]		-e 5:40					41		/ DENSE; 20-35% ANG, SA ~~Brote~~, mafic
													[illegible] to 1.5" ϕ; VF to CG [illegible] SAND;
											42		~ [illegible]% Silt + CLAY; HIGHEST. IK;
											43		
											44		
											45		
											46		
											47		46.53 ft - v. ANG. Is pbls to 2" ϕ+;
											48		
											49		
											50		

Project/ADS No.:

Borehole/Well No.: TA5-MW-02

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
											51		
											52		
											53		~VERY GRAVELLY ~53'
											54		
											55		
											56		
											57		
											58		
											59		
SVS-60.0									VOLCLAY GROUT	5"Ø BLANK PVC	60		SANDY GRAVEL (GP); lt brn; DRY; V.
SP-60.0											61		DENSE; 15-25% FG to V CG SAND; ~5-
1.8ppm-PID			50+	12	6	Fair/Poor							10% FINES; ANG, SA 1's pbls to 1.5"Ø;
			50+	6	3	Fair/Poor					62		HIGHEST. IK;
			50+	6	0	--							REFUSAL - poor SAMPLE RECOVERY - gravelly
				60.0 - onsite 8240							63		
				60.25 - 8240									
				60.50 - 8270							64		
											65		
											66		
											67		
											68		
											69		
											70		

Project/ADS No.:

Borehole/Well No.: TA5-MW-02

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
													~68'- Silty SAND (SM); yellow-brn to brn;
											71		moist; DENSE; 25-40% Silt; <1% Clay;
													VFG to MG SAND; ~1% SR, ANG ls pbls to
											72		3½"ϕ; V. low Est 1K
											73		
											74		
											75		~76-79'- ~5-10% ANG ls pbls to ½"ϕ;
											76		25-35% Silt;
											77		
											78		
											79		
											80		
SD-80.00			50	6	6	7M1/GOOD							SANDY GRAVEL (GP); lt brn; Dry; V. DENSE;
				80.00-80.6		<32					81		25-35% VFG to VCG SAND w/ MICA; ~15%
													Fines; VFG to CG MICACEOUS SAND; ANG.
											82		ls granitic, MAFIC, qtz pbls to 1"ϕ;
													HIGH Est. 1K;
											83		
											84		
											85		Silty SAND (SM); yellow-brn to brn;
													moist, DENSE; 15-25% Silt; 5-10% Clay;
											86		~5-10% ANG, SA ls pbls to 1.5"ϕ; low
													est. 1K;
											87		
											88		
											89		
											90		

Well Annulus/Seal: ↓ CLAY Grout

Well Casing/Screen: ↓ 5"ϕ BLANK PVC

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Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
											91		
											92		
											93		
											94		
											95		GRAVELLY ~95 ft;
											96		
											97		
											98		
									Volclay Grout	5"ϕ BLANK PVC	99		
SVS-100.0			30	12	3	5000					100		TD=100 ft 11:47:3 GRAVELLY SAND (SM); lt brn; DRY; V.
SP-100.0			50+	100.00 - [illegible]		[illegible]	9240				101		DENSE; 25-40% ANG, SA 1/8-1/4,
30 ppm-PID			50	6	6	Fair							granite pbls to 1.5"ϕ; VFG to CG SAND;
SP-100.25				100.25 - 52		Po					102		5-10% Silt; ~5% CLAY; MOD. to HIGH
SP-100.50				100.50 - 82		Po							EST. IK;
											103		102-108: 10-30% SR, ANG 1/8 pbls to
											104		1.5"ϕ; V. FG SAND;
											105		
											106		
											107		
											108		
											109		
											110		

Project/ADS No.:

Borehole/Well No.: TA5-MW-02

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
											111		
											112		
											113		
											114		
											115		
											116		
											117		
											118		
									GROUT		119		
									VOLCLAY	5"ϕ BLANK PVC	120		
SP-	120.0		50	6	6	poor/fair							~115- Silty SAND (SM); yel brn to brn;
				120.25-on site			3240				121		1:2 ÷; DENSE; 10-15% Silt; <2% Clay;
													<3% SA to pbls to 3/4"ϕ; MOD. to HIGH
											122		est. IK; VFG to MG SAND
											123		
											124		
											125		
											126		
											127		
											128		
											129		
											130		

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Borehole/Well No.: TA5-MW-02

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
											131		
											132		GRAVELLY SAND interbed from about 132 to about 136
											133		
											134		
											135		
											136		
											137		
											138		
									VOLCLAY Grout	5" BLANK PVC	139		
SVS-	140.0		50	12	12	Good	/Fair				140		15-25% Silt, <5%, Clay, 5-10% SA,
SP-	140.0		50+	140.25-8270 140.50-8210 140.75-or size 5200							141		ANG 15 pbls to 1"d; MOD. est. K
											142		
											143		
											144		
											145		
											146		
											147		
											148		
											149		
											150		

TD=150 3-3
3-14-95

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Borehole/Well No.: TA5-MW-02

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
											151		
											152		150'-160': ~1% SA, ANG qtz, ls pcs to 1/2" ϕ;
											153		
											154		
											155		
											156		
											157		
											158		
											159		
SP-	160.0	↓	50	6	6	Good			Void/Lay Grout	5" ϕ Blank PVC	160		5-10% SA, SR, ANG ls, MAFIC, qtz. pbls to 3/4" ϕ; 10-20% Silt; <2% Clay; MOD. to HIGH? EST. IK
				160.25-on site			8240				161		
											162		
											163	?	~163- GRAVELLY SAND (SM) to SAND (SM); lt. brn; DRY; DENSE; 5-10% Silt, ~5% Clay; ~10 to 20% ANG, SR ls pbls to 1" ϕ - generally 1/4" to 1/2" ϕ; VFG to VCG SAND w/ MG MICA; MOD. to HIGH EST. IK
											164		
											165		
											166		
											167		
											168		
											169		
											170		

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Borehole/Well No.: TA5-MW-02

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Clot/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
											171		
											172		
											173		
											174		
											175		
											176		
											177		
											178		
											179		
											180		
SVS-180.0			41	12	12	Good			VOLCLAY Grout	5" ϕ BLANK PVC			Silty SAND (SM); brn; moist; DENSE to
SP-180.0			50	180.25 - 82%							181		V. DENSE; 20-35% Silt; ~5% CLAY; <2%
				180.50 - 82%									SA, ANG lS, grnt pbls to 1/4"ϕ; VFG to
				180.75 - crs 82%							182		MG SAND - locally CG; low EST. K;
											183		
											184		
											185		
											186		
											187		
											188		
											189		
											190		

Project/ADS No.:

Borehole/Well No.: TA5-MW-02

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
											191		
											192		191-197: ~5% ANG 1s pbls to 3/4"ø;
											193		
											194		
											195		
											196		
											197		
											198		
									VOLCLAY Grout	PVC	199		
										BLANK	200		
CP-	200.00	↓	39	9	9	60s:				5'ø			15-30% Silt; 5-10% CLAY; <1% SA, SR 1s
			50+	200.25		-onsite 5240					201		pbls to 1/4"ø; v. low to low EST. IK;
											202		
											203		
											204		
											205		
											206		
											207		
											208		
											209		
											210		

Project/ADS No.:

Borehole/Well No.: TA5-MW-02

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
											211		
											212		
											213		
											214		~Gravels @ ~214'
											215		
											216		
											217		
											218		
									VOLCLAY GROUT	5" ϕ BLANK PVC	219		
ENS-220.0		↓	50	12	6	~~Sand~~					220		GRAVELLY SAND (SM) dry v. DENSE
SP-220.00			50	6	0	—					221		20-25% ANG. SA Is ~~[illegible]~~ to 1.5"ϕ; FG
SP-220.50 SP-221.00			50	6	0	—							to VCG SAND ~10% FINES; HIGH EST.
				refusal - no grab sample							222		IK.
				220.00-8270 220.25-8240									
											223		
											224		
											225		
											226		
											227	?	SANDY SILT (ML); DK ~~[illegible]~~ moist, stiff to v. stiff; 30-40% VFG - FG SAND, 5-10%
											228		CLAY; slight plastic; v. low est. IK;
											229		
											230		

Project/ADS No.:

Borehole/Well No.: TF5-MW-02

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
											231		
											232		
											233		
											234		
											235		~GRAVELS / SAND @ about 235 ft
											236		
											237		
											238		
											239		
SP-2410.0		↓	50	12	9	Good			Grout	PVC	240		GRAVELLY SAND (SM); yel. brn to brn;
			50	2410.2	5-on site		3240		VOL CLAY	5" ϕ BLANK	241		dry to moist & V. DENSE; 50-60% SR, ANG
													LS, MAFIC, occ pbls to 1.25" in FG to MG
											242		SAND, locally CG; ~5-10% FINES; HIGH
													est. IK;
											243		
											244		
											245		SILTY SAND (SM); yellow brn to brn moist
													DENSE to V. DENSE; 15-25% SILT; ~5%
											246		CLAY; VFG to FG MICACEOUS SAND locally
													MG; low est IK to V. low;
											247		
											248		
											249		
											250		

Project/ADS No.:

Borehole/Well No.: TAS-MW-02

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
											251		251-257: Up to 5% SR ANG ls pbls to 1"ϕ, typically .1"ϕ;
											252		
											253		
											254		
											255		
											256		Grout: 5-256
											257		
											258		
									Grout	PVC	259		
SVS-260.00			50	12	9	air					260		SANDY GRAVEL (GM); 11 bm; DRY; V. DENSE;
SP-260.00			50+	260.[illegible]	25 - [illegible]	[illegible]			VOLCLAY	5"ϕ BLANK	261		25-35% FG to VCG SAND; ~10% FINES; SR ANG ls pbls to 2"ϕ; HIGH est ik;
											262		
											263		
											264		
											265		
											266		
											267		
											268		
											269		
											270		

Project/ADS No.:

Borehole/Well No.: TA5-MW-02

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
											271	?	271- Silty SAND (SM); yellow-orn to brn; Moist; DENSE, 20-30% Silt; 10-15% clay; <1% SR Is. pbls to 3/8 in. low est. PK; MICACEOUS
											272		
											273		
											274		
											275		
											276		
											277		
											278		
											279		
SD-2	280.0		50	6	6	Good			VOLCLAY GROUT	5" ϕ BLANK PVC	280		1-3% SR. ANG. Is pbls to 3/8 in
				280.25 - refusal 3/4 in							281		
											282		
											283		
											284		
											285		
											286		
											287		
											288		
											289		
											290		

Project/ADS No.:

Borehole/Well No.: TA5-MW-02

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
											291		
											292		
											293		
											294		
											295		
											296		
											297		
											298		
											299		
									Volclay Grout	5" ϕ Blank PVC	300		
SVS-	300.00	↓	50	12	6	Good							15-25% Silt; ~5% Clay; < 3% SR, ANG
SP-	300.00	↓	50	6	3	Good					301		1s pbls to 3/4" ϕ; MOD. est. 1K
SP-	300.50			300.40-8170									
				300.15-8240									
				300.50-onsite			8240				302		
											303		
											304		
											305		
											306		
											307		
											308		
											309		
											310		

Project/ADS No.:

Borehole/Well No.: TAS-BH-02

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
											311		
											312		
											313		~ 3" GRAVELLY SANDY
											314	?	
											315	?	
											316		
											317	?	
											318		
									VOLCLAY Grout	5"φ BLANK PVC	319		
SP-	320.00		50	6	6	Good/Fair					320		GRAVELLY SAND (SM); lt. brn; dry; V. DENSE; 20-30% SA, ANG, SR ls, no fic. qtz, granite pbls to 1"φ; FG to V. CG SAND; ~10-15% Fines; MOD. to high est. IK;
				320.00-orsite		8240					321		
											322		
											323		
											324	?	Silty SAND (SM); brn to dk brn; moist; DENSE; 15-25% Silt; 5-10% Clay; <3% SA, SR ls, qtz pbls to 3/4"φ, VFS to MG SAND; MOD. Est. IK;
											325		
											326		
											327		
											328		
											329		
											330		

Project/ADS No.:

Borehole/Well No.: TA5-MW-02

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes:
											331		
											332		
											333		GRAVELLY SAND ~ 333;
											334		
											335		
											336		
											337		
											338		
											339		
SVS- 340.00			50	12	3	Fair			VOLCLAY Grout	5" ϕ BLANK PVC	340		GRAVELLY SAND (SM.); brn; DRY to
SP- 340.00			50	12	9	Fair					341		MOIST; V. DENSE; 10 - 20% ANG, SA
	340.25												Is pbls to 1.25"ϕ. VCG to FG SAND;
				340.00 - onsite			82-40				342		qtz, feldspar, MAFIC grains; ~10% FINES;
				340.50 - 82 40									HIGH EST. lk; MICACEOUS;
				340.75 - 82 70									
											343		
											344		
											345		
											346		
											347		
											348		
											349		
											350		

Project/ADS No.:

Borehole/Well No.: TAS-MW-02

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Clrc/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
												?	~351- Silty SAND (SM); YELLOW-brn to brn; Moist; DENSE; 10-15% Silt; <2% CLAY; VFG to MG MICACEOUS SAND; ~1% SA 1s pbls to 1/4" ϕ; MOD. EST 1K
											351		
											352		
											353		
											354		
											355		
											356		
											357		
											358		
											359		
											360		TD = 360 ft; 16:51, 3-16-95
SP-360.00			50	6	6	Good			Vacuum Grout	5" ϕ Blank PVC			10-20% Silt; no 1s pbls;
				360.00-ansifc 8240							361		
											362		
											363		
											364		
											365		~VERY HARD DRILLING @ 365 ft;
											366		
											367		
											368		
											369		
											370		

Project/ADS No.:

Borehole/Well No.: TA5-MW-02

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
											371		
											372		~372 - ~5% SR, ANG ls, qtzite pbls to 1"ø;
											373		
											374	?	374 - GRAVELLY SAND (SM); lt. brn; DRY; V. DENSE; 15-25% SR, ANG ls, qtz, qtzite, MAFIC pbls to 1"ø; VFG to CG SAND w/ MICA; ~10% FINES; HIGH EST. IK;
											375		
											376		
											377		
											378		
											379		
SVS-380.0			50	12	12	GOOD			VOLCLAY Grout	5" ø BLANK PVC	380		Silty SAND (SM); YELLOW-brn; MOIST; V. DENSE to DENSE; VFG to MG MICACEOUS SAND; 5-15% Silt; ~5% Clay; MOD. EST. IK; <1% ANG, SA ls, qtzite, schist pbls to 3/4"ø;
SP-380.0			50+	380.00-0		site	8240				381		
PID=1ppm				380.25-8240 380.50-8270							382		
											383		
											384		
											385		
											386		
											387		387-394 - increase in SA ls pbls to ~5%. some ls pbls to 1.25"ø;
											388		
											389		
											390		

Project/ADS No.:

Borehole/Well No.: TA5-MW-02

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
											391		
											392		
											393		
											394		Silty ~394;
											395		
											396		
											397		
											398		
									VOLCLAY Grout	5" ϕ BLANK PVC	399		
SP-	400.00	↓	50	6	6	Good					400		SANDY Silt (ML); YELLOW-brn to brn; moist; HARD; slight plasticity; 20-30% VFG to FG SAND, locally MG; 15-25% Clay; MICACEOUS, v. low EST. IK; <1% SR gravel, 1s pbls to 3/4" ϕ;
				400.0-onsite @240							401		
											402		
											403		~below 403' - MOD. plasticity;
											404		
											405		
											406		
											407		
											408		
											409		
											410		

Project/ADS No.:

Borehole/Well No.: TAS-MW-02

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
											411		
											412		
											413		
											414		
											415		SANDY-415;
											416		
											417		
											418		
									VOLCLAY GROUT	5"φ BLANK PVC	419		
SVS-420.00			50	12	12	GOOD					420		Silty SAND (SM); yel-brn; moist; dense;
SP-420.00			50								421		15-20% Silt; <5% Clay; ~1% ANG SA
				420.25-onsite 8240 420.50-8240 420.75-8270									1s pbls to 3/4"φ; mod. est. lk; FG to
											422		MG SAND;
											423		
											424		
											425		
											426		
											427		
											428		
											429		
											430		

Project/ADS No.:

Borehole/Well No.: TAS-MW-02

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
											431		
											432		
											433		
											434		
											435		
											436		
											437		
											438		
									VOLCLAY Grout	5" ϕ BLANK PVC	439		
SP-44000			50	6	6	Good					440		~20-25% Silt; 5-10% CLAY; low est.
				440.25-onsite 8240									IK;
											441		
											442		
											443		
											444		
											445		
											446		
											447		
											448		
											449		
											450		

Project/ADS No.:

Borehole/Well No.: TA5-MW-02

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
											451		
											452		
											453		GRAVELLY ~453
											454		
											455		
											456		
											457		
									VOLCLAY GROUT	BLANK PVC	458		
											459		
SVS-	460.00		50	12	12	Good	fair			5" ϕ	460		GRAVELLY SAND (SM); brn; moist; v.
SP-	460.00		50.1	460.25-8240							461		DENSE; SA, SR ls, qtzite pbls to
				460.50-8270									1.5" ϕ; FG to V. CG SAND; ~10-15%
				460.75-onsite 8240							462		Fines; MOD. EST. IK
											463		
											464		
											465		
											466		
											467		
											468		
											469		
											470		

Project/ADS No.:

Borehole/Well No.: TA5-MW-02

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
											471		
									VOLCLAY GROUT		472	?	~472 - Silty SAND (SM); brn; moist, v. DENSE to DENSE; 15-20% SIT, 5-10% CLAY; ~5-10% SA, ANG ts pbls to 1.5"ϕ; low to MOD.? EST. 1K;
											473		
											474		
											475		
											476		~476 - Silty w/ CLAY;
											477		
											478		
									Bentonite (Enviroplug No. 16)	5"ϕ BLANK PVC	479		
											480		
SP-480.0		↓	50	12	12	6000							SANDY SIT (ML); DK brn; moist; HARD; DRIES to brn, lt brn; 30-40% VFG to FG SAND w/ MICA; 10-15% CLAY; MODERATE to slight plasticity; v. low EST. 1K;
			50+	480.50-onsite 8240							481		
											482		
											483		Soil cuttings below 480 ft consistently moist;
											484		
											485		
											486		
									0.100 FINE SAND		487	▼	Static WL = 487.65, TD in well = ~517.5; 14:07; 3-30-95
											488		
											489		
											490		

Project/ADS No.:

Borehole/Well No.: TA5-MW-02

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/Other	Well Annulus/Seal	Well Casing/Screen	Depth In Feet	Stratigraphy Contacts	Notes
									0-100 SAND				
											491	▼	Static WL = 491.55; 7:38; 3-21-95; TD = 522';
										5" ϕ BLANK PVC	492		
											493		Silty SAND @ 493/494;
											494		
											495		
											496		
											497		
											498		WL = 499.0; 11:55; 3-20-94; TD = 524'. COLLECT
											499	▽	GW SAMPLES from open borehole for 8010/8020
									SAND				1st water - split-spoon wet; TD = 500 ft; 8:45; 3-20-95; TD = 500 ft; 3-17-95; 15:35
SVS-500.10			50	24	24	Good					500	▽	Silty SAND (SM); yel-brn; wet; v. DENSE
SP-500.00			50	500.50 - sieve (onsite) and analysis					10/20		501		to DENSE; 20-25% Silt; ~5% Clay; VFG
			50+	501.00 - 8240									to CG SAND; MOD. EST 1K; ~10% SA, ANG,
			50+	501.25 - onsite 8240							502		SR ~3, qtzite pbls to 1.5" ϕ;
			50+	501.50 - 8270						0.020 Slotted PVC Screen - 5" ϕ			
											503		NOTE: 24-in long split-spoon DRIVEN
											504		to 502 ft; BOREHOLE SAT OPEN from 3-17-95
											505		(15:35) until 8am on 3-20-95 - NO WATER
													PRODUCED; therefore, although saturated
											506		@ 500-502, capillary forces apply.
													Top of water-bearing zone (which is
											507		semi-confined) is more likely @ about
													503 to 506.
											508		* Neutron Log (3-20-95; 12:15) shows
													moisture @ & below 499 - doesn't say
													much about a water-producing ZONE.
											509		
													Top of screened-interval should NOT
											510		be above ~497/498

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts
											511	
											512	
											513	
											514	
											515	
											516	
							6" END CAP				517	
											518	
											519	
											520	
											521	
											522	
											523	
											524	
											525	
											526	
											527	
											528	
											529	
											530	

Annulus/Seal: 10/20 SAND; SLOUGH

Casing/Screen: 0.020 Slotted PVC Screen

Project/ADS No.:

Borehole/Well No.: TA5-MW-02

Notes:

508-522: SR, ANG lS, MAFIC, qtzite, granite pbls up to 2" ϕ in cuttings;

— MATERIALS USED —

2 5" ϕ, 6"-LONG PVC END CAPS - Screw-type

1 5" ϕ 19.8-ft long 0.020 Slotted PVC Screen

26 5" ϕ, 19.8-ft long blank PVC

15 BAGS 10/20 SAND; 3 BAGS 0.100 SAND (100 lbs EACH)

6 BAGS BENTONITE - 100 lbs EACH

74 BAGS Volclay Grout (1 PALAT = 70 BAGS)

TD = 522, 3-20-95; 9:18; NO WATER IN cuttings - SEALED OFF FROM CASING; standby AND ck WL / recovery; collect EB SAMPLES + MEASURE recovery.

5-20-95: WL Recovery MEASUREMENTS

10:00 - 507.75' (FROM GL) (1-3 gpm EST.)

10:05 - 506.75

10:06 - 506.20

10:30 - 503.20

11:12 - 499.30

11:43 - 499.00

WELL NAME TAV-MW3 GR. ELEVATION 5459.1 TOP OF INNER CSG. 5461.73

DATE COMPLETED 4-11-97 TOTAL DEPTH 568' BGS CSG DEPTH 558' BGS

LOCATION 840 ft EAST OF TA-V NORTHING: 1454168.25 EASTING: 416156.07

DRILLING METHOD ARCH BOREHOLE DIAMETER 10" SAMPLE TYPE AIR ROTARY CYCLONE CUTTINGS

PROJECT TA-V GROUNDWATER LOGGED BY MIKE SANDERS

DEPTH FEET	SAMPLE	WELL CONSTRUCTION	LITHOLOGY	LITHOLOGIC DESCRIPTION AND REMARKS
0–10		5-INCH SCH 80 PVC CASING		GM, silty sandy gravel, >50% gravel frags <1"dia., LS, ign, & meta rock, silt to vfine sand, lt yel brn (10YR6/3)
10–20				SM, silty sand, yel brown(10YR 5/4), <5% gravel frags, clean, well sorted.
20–30				GM, silty sandy gravel, as above 0-10'
30–40				SM, gravelly silt, pink (5YR 7/3), 80% silt to vf sand, 20% gravel <.75", LS &PC rocks. Silt to v fine sand well sortd.
40–50				
50–60				GM, silty sandy gravel, as 0-10' above, gravel frags <1", angular-subrounded, silt to vfine sand, light brownish gray (10YR 5/3)
60–70				
70–80				
80–90				SM silty vfine sand, brn (7.5YR 5/4), well sorted, sl moist, <20% angular-subround gravel frags composed of LS, PreCambrian materials 87-90/108-110.
90–100				
100–110				
110–120				GM, coarse to v coarse sand & vfine to med gravel, sand is subang-round, gravel is angular-subround, mainly qtzite and other PreCambrian materials, minor LS, abundant gravel 114-123/130-135, v fine sand 136-138.
120–130				
130–140				
140–150				
150–160				SM, silty, v fine sand, lt brown(7.5YR 6/5), well sorted, slightly moist, 40% clay or coarse sand & gravel thruout interval
160–170				SP, gravelly sand, p sorted, <20% gravel, LS & PreCambrian
170–180				SM, silty sand, lt brown(7.5YR 6/3), well sorted, sl moist, <20% fine-v fine gravel 188-191'.
180–190				
190–200				GP, 60% gravel <1" dia., Ls and PreCambrian rock frags, > 40% coarse to v coarse sand, 10% fine to med sand.
200–210				GM, gravel-sand-silt mixture. Mainly silty sand, brown, (10YR 5/3), 208-215', 225-248', well sorted, gravel and coarse sand <20% @215-225', and 248-254'. Mainly Limestone, quartzite, PreCambrian, with FEW PUMICE PEBBLES, INDICATING ANCESTRAL RIO GRANDE FACIES.
210–220				
220–230				
230–240				
240–250				
250–260				SM, silty sand, brown, (10YR 5/3), well sorted, slightly moist, <20% gravel @ 270-272.
260–270				

WELL NAME TAV-MW3 GR. ELEVATION 5459.10 TOP OF INNER CSG ELEVATION: 5461.73

DATE COMPLETED 4-11-97 TOTAL DEPTH 568' BGS CSG DEPTH 558' BGS

LOCATION 840 ft east of TA-V N: 1454168.25 E:416156.07

DRILLING METHOD ARCH BOREHOLE DIAMETER 10" SAMPLE TYPE AIR ROTARY CYCLONE CUTTINGS

PROJECT TA-V GROUNDWATER LOGGED BY MIKE SANDERS

DEPTH FEET	SAMPLE	WELL CONSTRUCTION	LITHOLOGY	LITHOLOGIC DESCRIPTION AND REMARKS
280–290		5-INCH SCH 80 PVC CASING		GM, gravel-sand-silt mixture, 60% gravel <0.75" dia., quartzite, igneous, and metamorphic material, OCCASIONAL PUMICE PEBBLES. 30% coarse-v fine sand, 10% silt.
290–320				SM, silty sand, pink (7.5YR 7/3), slightly moist, minor clay and gravel.
320–330				GM, gravel-sand-silt mixture, 50% gravel, variable rock types, 30% sand, vfine to vcoarse grained, vfine fraction is pink (7.5YR 7/3).
330–370				SM silty sand, lt brown, (7.5YR 6/4), slightly moist, well sorted, minor gravel (<10%) @ 340'-343', 355'-356', 373'-374' (dusty).
370–400				GM, gravel-sand-silt mixture, 60% gravel, (limestone, quartzite, other), occasional pumice, 30% vfine to vcoarse sand, 10% silt, lt brown, (7.5YR 6/4), very dusty returns 378-385', mainly lt brown silty sand 388-389, slightly damp, minor clay.
400–430				SM, silty clayey vfine sand, lt brown(7.5YR 6/4), well sorted, slightly damp, minor fine gravel @ 413-415'.
430–440				GM, gravel-sand-silt mixture, 40% gravel, 20% fine to coarse sand, 40% vfine sand to silt, pinkish gray (7.5YR 6/2), v dusty returns.
440–450				SC, clayey, silty vfine sand, brown(7.5YR 5/4), well sorted, slightly damp minor v coarse sand to vfine gravel 439-440'.
450–460				GM, silty sandy gravel, 50% vfine to coarse gravel, < 0.5", occasional pumice, 30% fine to coarse sand, w/vfine sand and silt.
460–470				SM, silty sand, lt brown(7.5YR 6/3), silty, damp, well sorted.
470				GM, silty sandy gravel like 453'-463', very dusty returns.
470–490				SC, clayey silty very fine sand, like 435'-453', slightly damp.
490–510				GM, sandy silty gravel, 50% fine to medium pebble gravel, with occasional pumice pebbles. 30% coarse to v fine sand, 20% v fine sand to silt, pinkish gray(7.5YR 7/2), dusty returns.
510				SM, silty sand, fairly damp, like 463'-470'.
510–530	K			GM, silty sandy gravel like 491-513, except gravel is rd-subang, well sorted.
530–540				SC, clayey v fine sand, lt brn(7.5YR 6/4), fairly clayey, fairly damp, in saturated zone, may be a semi-confining layer.
540				GM, silty sandy gravel like 491-513, in saturated zone, sl damp returns.
540–560				GW, well graded gravel, little or no fines, fairly clean, homogeneous. TOTAL DEPTH 568'. NO RETURNS 560-568'

WELL NAME TAV-MW4 GR. ELEVATION 5423.00 TOP OF INNER CSG ELEVATION 5425.39

DATE COMPLETED 4-18-97 TOTAL DEPTH 528' BGS CSG DEPTH 521' BGS

LOCATION 400' north of TA-V N: 1455521.839 E: 414461.43

DRILLING METHOD ARCH BOREHOLE DIAMETER 10" SAMPLE TYPE AIR ROTARY CYCLONE CUTTINGS

PROJECT TA-V GROUNDWATER LOGGED BY MIKE SANDERS

DEPTH FEET	SAMPLE	WELL CONSTRUCTION	LITHOLOGY	LITHOLOGIC DESCRIPTION AND REMARKS
0		5-INCH SCH 80 PVC CASING		SM, silty vfine sand, light yellow-brown (10YR 6/4), well sorted, w/40% med to coarse and, eolian material.
10				GM, gravel-sand-silt mixture. 50% fine-v coarse gravel<1.3" diameter, 30% coarse-v fine sand, 20% silt, lt yel brn.
20				SM, silty v fine sand, lt yel brn, (10YR 6/4), well sorted, 10% coarse-fine sand increasing downward, dusty.
30				GP, gravel and sand, frags <1.5" dia., limestone and PreCambrian rocks, <20% fines, v dusty out of cyclone.
40				SM, like 16'-28', very little gravel.
50				GM, gravel-sand-silt mixture, like 7'-16', coarsening downward to 1.5"-diam. gravel at bottom of interval, v. dusty out of cyclone.
60				
70				
80				SM, silty very fine sand, light brown (7.5YR 6/4), 50% coarse sand, fine gravel, 90-94', 94-110, clean sand, fast drilling interval.
90				
100				
110				
120				GM, gravel-sand-silt mixture like 7-16', gravel frags <1.5" dia., NO PUMICE, v dusty out of cyclone, 120-121' is silty v fine sand, like 74'-110'.
130				
140				SM, silty v fine sand, light brown (7.5YR 6/4), well sorted, somewhat dusty out of cyclone.
150				SP, gravelly sand w/minor (<10%) silt, 30% medium to v fine gravel, occasional caliche frags, limestone, granite, 60% v coarse to fine sand, poorly sorted, dusty out of cyclone.
160				SM, silty, v fine sand like 140'-150', well sorted, sl damp.
170				GM, gravel-sand-silt mixture, 60% med-fine gravel, broken frags of lstone and PCambrian rocks, NO PUMICE, 30% v coarse to fine sand, poorly sorted unit, dusty out of cyclone.
180				SM, silty v fine sand, strong brn(7.5YR 7/8), w sorted, sl damp.
190				GM, gravel-sand-silt mixture, 50% gravel, 30% sand, 20% silt. Poorly graded and sorted, occasional caliche (cemented gravel) frags.
200				SM, silty, v fine sand, brown-yellow (10YR 6/6), well sorted, slightly damp, fast drilling.
210				
220				SP, gravelly silty sand, 20% fine to v fine gravel, 30% coarse-v fine sand, 50% v fine sand-silt, brownish yellow (10YR 6/6).
230				
240				SM,silty v fine sand w/occasional thin, clay-rich zones, brownish yellow (10YR 6/6), well sorted, generally clean sand, occasional thin zones w/30% fine gravel and coarse sand @: 267-270, 297, 308-310, 340, 352-353, 396, 465-467, 470, 482, returns very sparse 497'-515', increasing clay content 467'-510'.
250				
260				
270				

WELL NAME TAV-MW4 GR. ELEVATION 5423.0 TOP OF INNER CSG. ELEVATION 5425.39

DATE 4-18-97 TOTAL DEPTH 528' BGS CSG DEPTH 521' BGS

LOCATION 400' north of TA-V N: 1455521.839 E: 414461.43

DRILLING METHOD ARCH BOREHOLE DIAMETER 10" SAMPLE TYPE AIR ROTARY CYCLONE CUTTINGS

PROJECT TA-V GROUNDWATER LOGGED BY MIKE SANDERS

DEPTH FEET	SAMPLE	WELL CONSTRUCTION	LITHOLOGY	LITHOLOGIC DESCRIPTION AND REMARKS
270				SM, silty, v fine sand w/occasional thin, clay-rich zones, brownish yellow (10YR 6/6), well sorted, generally clean sand, occasional thin zones w/30% fine gravel and coarse sand @: 267-270, 297, 308-310, 340, 352-353, 396, 465-467, 470, 482. returns very sparse 497-515, increasing clay content 467'-510'.
280				
290				
300				
310				
320				
330				
340				
350				
360				
370				
380				
390				
400				
410				
420				
430				
440				
450				
460				
470				
480				
490	▼			
500				
510				
520				
530			TD	TOTAL DEPTH 528 FT BGS. NO RETURNS EXCEPT FOR SPLIT SPOON SAMPLE 528'-529.5' SM/SC, SILTY CLAYEY SAND, WELL SORTED.
540				

5-INCH SCH 80 PVC CASING

WELL NAME TAV-MW5 GR. ELEVATION 5403.9 TOP OF INNER CSG ELEVATION 5406.20

DATE COMPLETED 4/26/97 TOTAL DEPTH 517' BGS CSG DEPTH 512' BGS

LOCATION 150' NW OF BLDG 6584 N: 1455521.84 E: 413141.76

DRILLING METHOD: ARCH BOREHOLE DIAMETER: 10" SAMPLE TYPE AIR ROTARY CYCLONE CUTTINGS

PROJECT TA-V GROUNDWATER LOGGED BY MIKE SANDERS

DEPTH FEET	SAMPLE	WELL CONSTRUCTION	LITHOLOGY	LITHOLOGIC DESCRIPTION AND REMARKS
0		5-INCH SCH 80 PVC CASING		SM, silty v fine sand, reddish yellow(7.5YR 6/6), well sorted, minor coarse sand (<10%) intermittently thru interval.
10				
20				GM, silt-sand-gravel mixture, 20% fine-v fine pebble gravel, 40% v coarse to v fine sand, strong brown(7.5YR 5/6), 40% silt, generally coarsening downward.
30				SM, silty sand, like 0-23'.
40				GM, silt-sand-gravel mixture, 40% gravel 0.75" dia., v fine gravel, 30% v coarse to v fine sand, 30% silt, lt brown (7.5YR 6/4).
50				SM, silty v fine sand, like 0-23'.
60				GM, silt-sand-gravel mixture, GP gravel 58-59', poorly graded, limestone, quartzite, <10% fines, distinctive thin layer.
70				SM, silty sand, strong brown(7.5YR 5/8), well graded clean sand, sl moist, minor clay(<10%).
80				GM, silt-sand-gravel mixture, 10% med-v fine gravel, 50% coarse -v fine sand, 40% silt, brown(7.5YR 5/4), poorly graded, fining downward.
90				SM, silt and sand mixture, strong brown(7.5YR 5/6), 70% v coarse-v fine sand(mainly fine-v fine sand), 30% silt.
100				
110				
120				
130				
140				
150				GM, silt-sand-gravel mixture, 30% coarse sand and gravel, , decr to <5% bottom of interval, 70% fine-v fine sand and silt.
160				SM, silty and clayey v fine sand, w/minor amts (<20%) fine gravel and coarse sand 175'[-179' and 184'-190', lt brown (7.5YR 6/4), damp.
170				
180				
190				GM, silt-sand-gravel mixture, 30% gravel 1" diam., 60% v coarse to v fine sand, 10% silt, reddish brown(7.5YR 6/6).
200				
210				SM, silty sand, light brown(7.5YR 6/4), well graded, clean silty sand, sl moist, sl clayey (not balling up).
220				SM, silty sand, 80% v coarse-v fine sand, 20% silt, red-yellow (7.5YR 7/6), <5% fine gravel.
230				
240				SM, silty clayey sand, like 195'-221', <5% fine gravel 240'-245'. 50% coarse sand and fine gravel 273'-275'
250				
260				
270				

WELL NAME TAV-MW5 GR. ELEVATION 5403.9 TOP OF INNER CSG ELEVATION 5406.20

DATE COMPLETED 4/26/97 TOTAL DEPTH 517 FT BGS CSG DEPTH 512 FT BGS

LOCATION 150 FT NW OF BLDG 6584 N: 1455521.84 E:413141.76

DRILLING METHOD ARCH BOREHOLE DIAMETER 10" SAMPLE TYPE AIR ROTARY CYCLONE CUTTINGS

PROJECT TA-V GROUNDWATER LOGGED BY MIKE SANDERS

DEPTH FEET	SAMPLE	WELL CONSTRUCTION	LITHOLOGY	LITHOLOGIC DESCRIPTION AND REMARKS
270, 280, 290, 300		5-INCH SCH 80 PVC CASING		SM, silty, clayey sand, like 195'-221', 5% fine gravel 240'-245', 50% coarse sand and fine gravel 240'-245'.
310, 320				GM, gravel-sand-silt mixture, 50% gravel to 1" dia., no pumice, 30% v coarse- v fine sand, 20% silt, red-yellow(7.5YR 7/6).
330, 340				SM, silty clayey sand like 195'-221'.
350, 360, 370, 380, 390, 400, 410, 420				SC, clayey and silty very fine sand, somewhat damp, reddish-yellow, (7.5YR 6/6), essentiolly no coarse material, caking up inside hoses and cyclone.
430, 440				SM, silt-sand-gravel mixture, 20% fine to v fine pebble gravel, 60% v coarse to v fine sand, no pumice observed, 20% silt, pink.(7.5YR 7/3), very dusty returns.
450, 460, 470				SC, clayey and silty v fine sand, like 340'-427'. Returns becoming gradually sparser from 440' down - caking up in pipe and hoses due to moisture and clay content.
480, 490				GM, gravel-sand-silt mixture, unable to estimate % due to sparse unreliable returns. Gravel is <1" dia. out of cyclone but may be uphole sloughing. Bottom of interval picked from gamma log.
500, 510				SC, silty clayey sand, well graded, (clean sand in core), pink(5YR 7/4), no returns below 495', but split spoon sample @ 507' and drilling characteristics indicate fine material.
520, 530, 540				SW, well graded sand, coarse to v fine, little or no fines, heaving sand moved up into drive casing overnight to approx. 494 ft from total depth of 517 ft. Boiled sand down to 512 ft. Water production uphole likely from this sand.

TOTAL DEPTH 517 FT BGS.

BOREHOLE: 36-BH-01		
LOCATION: SITE 36	TOTAL DEPTH: 340'	
PROJECT: TA3/5-HERMES	CASING DEPTH: NA	GROUND ELEVATION: NA
DRILLING METHOD: ARCH	HOLE DIAMETERS: 9"	TOP OF CASING: NA
DRILLING CONTRACTOR: STEWART BROS		REMARKS: BACKFILLED
DATE DRILLED: 2-28-95	LOGGED BY: MIKE WADE	
DATE COMPLETED: 3-6-95	REVIEWED BY:	

	WELL CONSTRUCTION	LITHOLOGY	LITHOLOGIC DESCRIPTION AND REMARKS
10			Fill silty sand, yellow-brown, moist, medium dense to dense about 5% subangular to angular pebbles to 2",limestone quartz, vf to m grain sand, locally c grained, 10-20% silt, about 5% clay, oil odor, FILL MATERIAL
20 30			SM 10-15% Subr-subang limestone pebbles to 3", 15-25% silt, generally med grain sand, fuel oil odor gravelly @ 24-29'
40 50			SM gravelly sand to sand(SP), brown, moist, v dense, subang limestone pebbles to 2", quartz, v fine to c grain sand, <10% fines, oil odor, mod. est K, also quartzite, granite, mafic pebbles, volcanics
60			GM sandy gravel, yel-brown, moist, dense to v dense, 20-35% subrd-subang pebbles to 2", mainly LS w/ grnstone, schist, quartzite, feldspar, vf to cg sand, <10% silt, <5% clay, mod to high est K, oil odor
			SM silty sand, brown, moist, dense, strong odor of oil 10-20% silt, <3% clay, vf to mg sand, <2% subrounded to subangular limestone pebbles to 1", mod est K
70			GM gravelly sand, yel-brn, moist, v dense, 20-25% LS, qtz, schist pebbles to 3", vfg to locally cg sand, micaceous, high est K, <10% fines, strong odor of oil in gravel zones, minor gravel 75-76'
80			SM silty sand, brn, moist, v dense, oil odor, 10-20% silt <1% clay, vfg to mg sand, about 5% LS pebbles to 1.5" high est. K
90			GP sandy gravel, yel-brn, moist, strong odor of oil, v dense, 25-35% vf to cg sand, <10% fines, pebbles to 3" high est K
100 110			SM silty sand, yellow-brown, moist, v dense, strong oil odor, 10% silt, <1% clay, vf to mg sand, 3% pebbles to 2", high est K, gravel zone at 116'

BOREHOLE: 36-BH-01		PAGE 2 of 3
LOCATION: SITE 36	TOTAL DEPTH: 340'	
PROJECT: TA3/5-HERMES	CASING DEPTH: NA	GROUND ELEVATION: NA
DRILLING METHOD: ARCH	HOLE DIAMETERS: 9"	TOP OF CASING: NA
DRILLING CONTRACTOR: STEWART BROS		REMARKS: BACKFILLED
DATE DRILLED: 2-28-95	LOGGED BY: MIKE WADE	
DATE COMPLETED: 3-6-95	REVIEWED BY:	

	WELL CONSTRUCTION	LITHOLOGY	LITHOLOGIC DESCRIPTION AND REMARKS
120 130			GP yel-brn to brn, moist, v dense, strong oil odor, 25-40% vfg to cg sand, micaceous, <10% silt & clay, high est K
140 150 160			SM silty sand, yel-brn, moist, v dense, oil odor, 15-25% silt, 5% clay, 5% subang LS pebbles to 1",mod est K, v fine to med grain sand. Strong odor during drilling at 149'
			SM sandy silt, 20-30% silt, 1% clay, v fine to c grain sand, 10% limestone pebbles to 1.5", strong oil odor
170			SM gravelly sand, yel-brn to brn, v dense, strong oil odor, 15-30% LS and qtz pebbles to 2", vf to mg sand high est. K
180 190			SM silty sand, brn, moist, v dense, 10-20% silt, 1% clay, 10% LS, qtz, schist pebbles to 2", mica, mod est K
200 210			SM gravelly sand, brn, moist, dense to v dense, strong oil odor, 15-25% pebbles to 1.5", vf to cg sand w/ mica, 10-15% silt & clay, low to mod est K, gravel zone 213'-218' to 3" diameter
220 230			GP sandy gravel, brn, moist, strong oil odor, v dense, 25-35% v fine to v coarse grain sand, 10-15% fines limestone pebbles to 2", mod estimated K

BOREHOLE.: 36-BH-01		
LOCATION: SITE 36	TOTAL DEPTH: 340'	
PROJECT: TA3/5-HERMES	CASING DEPTH: NA	GROUND ELEVATION: NA
DRILLING METHOD: ARCH	HOLE DIAMETERS: 9"	TOP OF CASING: NA
DRILLING CONTRACTOR: STEWART BROS		REMARKS: BACKFILLED
DATE DRILLED: 2-28-95	LOGGED BY: MIKE WADE	
DATE COMPLETED: 3-6-95	REVIEWED BY:	

	WELL CONSTRUCTION	LITHOLOGY	LITHOLOGIC DESCRIPTION AND REMARKS
230			
240			SM silty sand, yellow brown to brown, moist, v dense, 15-30% silt, 5% clay, 5-10% LS pebbles to 2", v fine to medium grained sand, moderate estimated K
250			
260			GP sandy gravel, brn to yel-brn, moist, v dense, oil odor 25-35% v fine to c grain mica sand, <10% fines, pebbles to 2 1/2 ", mod to high estimated K REFUSAL @ 270, large gravel, NO SAMPLE @ 270
270			
280			SM silty sand, brn, dry to moist, v dense, 15-25% silt, 5% clay, v fine to fine grain sand, locally med gr, micaceous, 5% pebbles, LS to 2", low to mod est K
290			GP sandy gravel, brn, dry to moist, v dense, 25-40% vf to med/c grain sand, 10% fines, limestone pebbles to 3", hard sampling, refusal, high estimated K.
300			GP silty gravel, lt brown, dry, v dense, 20-25% silt, 10-25% v fine to c grain sand, 5-10% clay, LS pebs to 2", low estimated K, minor gravel @ 308
310			SM silty sand, yel-brn, dry to locally moist, v dense, no strong odor, 10-20% silt, 5-10% clay, <5% LS pebs to 1.5", fine to v fine grain sand, low-mod est K slight oil odor during drilling 320-330'
320			SC clayey silt, 15% clay, 15-25% silt, v fine to m grain sand, 5% LS pebs to 2", v low to low est K v low est. K at 320'
330			SM silty sand, very fine to fine grained sand, locally medium grained, low estimated K. TOTAL DEPTH 340' on 3/3/95
340			

BOREHOLE.: 36-BH-02		
LOCATION: SITE 36	TOTAL DEPTH: 320	
PROJECT: TA3/5-HERMES	CASING DEPTH: NA	GROUND ELEVATION: NA
DRILLING METHOD: ARCH	HOLE DIAMETERS: 9"	TOP OF CASING: NA
DRILLING CONTRACTOR: STEWART BROS		REMARKS: BACKFILLED
DATE DRILLED: 3-7-95	LOGGED BY: MIKE WADE	
DATE COMPLETED: 3-10-95	REVIEWED BY:	

	WELL CONSTRUCTION	LITHOLOGY	LITHOLOGIC DESCRIPTION AND REMARKS
10			SM brown, dry to moist, medium dense, 15-25% silt, 5% clay, very fine to medium grained sand, <5% subangular subround limestone pebbles to 1.5" dia, low to moderate estimated K. Gravelly from 8 - 10 ft.
20			SM light brown, dry to locally moist, very dense to moderately dense, 15-25% subround, subangular limestone pebbles to 2" diameter, very fine grained to coarse grained, sand w/ mica, 10-15% fines, mod est K
30			ML dk brown, moist, very stiff, 15-25% clay, 10-15% sand, <1% subangular limestone pebbles to 1/2"dia, low est K, slight plasticity, very fine to fine micaceous sand, gravelly at 27'.
40			GP brown, dry to moist, very dense, 30-40% fine to very coarse grained sand, w/limestone, quartz, schist, mica, <10% fines, subangular limestone, quartz, and schist pebbles to 3"dia, high est K.
50			SP yellow brown, moist to dry, very dense, 5-15% silt, <5% clay, <5% subangular limestone and quartz pebbles to 1" dia, very fine to very coarse grained sand, very high est K. Less sand at 47 ft.
60			SM light brown to brown, dry to locally moist, very dense 20-30% silt, 10-15% clay, <10% subang/subround LS pebbles to 2" dia, very fine to v coarse mic sand, w/ limestone, qtz, schist grains, low est K. Gravel at 58
70			SM brown, dry, very dense, 15-30% subang, subround pebbles to 2" dia, mainly limestone w/ lesser quartz, mafics, green schist, v fine to coarse grained sand, 10-15% fines, low to mod est K.
			SM very coarse grained sand, 20-25% subangular, subround, limestone pebbles, quartz to 1 1/2" dia, 10-20% fines, low est K. Less gravel at 76 ft.
80			SM yel-brn, moist, v. dense, 10-20% silt, 5-10% clay, 5-10% subangular to angular limestone pebbles to 1 1/2" dia, v. fine grained to locally coarse grained sand, low to moderate est. K
90			SC 20-30% silt, about 5-15% clay, <5% angular limestone pebbles to 1/2" diameter, very fine to medium grained sand, low estimated K. Minor gravels at 112 - 118 ft.
100			

BOREHOLE: 36-BH-02		PAGE 2 of 3
LOCATION: SITE 36	TOTAL DEPTH: 320	
PROJECT: TA3/5-HERMES	CASING DEPTH: NA	GROUND ELEVATION: NA
DRILLING METHOD: ARCH	HOLE DIAMETERS: 9"	TOP OF CASING: NA
DRILLING CONTRACTOR: STEWART BROS		REMARKS: BACKFILLED
DATE DRILLED: 3-7-95	LOGGED BY: MIKE WADE	
DATE COMPLETED: 3-10-95	REVIEWED BY:	

	WELL CONSTRUCTION	LITHOLOGY	LITHOLOGIC DESCRIPTION AND REMARKS
110			
120			
130			
140			
150			
160			SM gravelly sand, brown, moist to dry, very dense, subangular-angular limestone pebbles to 1 3/4" dia. very fine to very coarse grained sands, 15-20% silt, about 5% clay, moderate estimated K.
170			
180			SM silty sand, light brown, moist to dry, very dense, 20-30% silt, about 10% clay, <2% angular limestone pebbles to 3/4" diameter, low estimated K.
190			
200			GP sandy gravel, brown to light brown, moist, very dense, 30-40% very fine to coarse grained sand w/mica, 10-15% fines, subangular to angular limestone pebbles to 2 1/2" diameter, moderate estimated K.
210			SM light brown, dry to moist, very dense to dense, 15-20% silt, about 5% clay, very fine to medium grained sand, locally coarse grained, low estimated K.

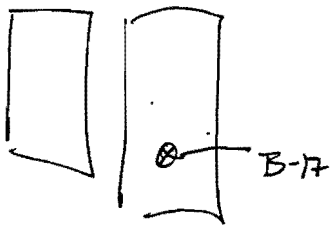
BOREHOLE: 36-BH-02		PAGE 3 of 3
LOCATION: SITE 36	TOTAL DEPTH: 320	
PROJECT: TA3/5-HERMES	CASING DEPTH: NA	GROUND ELEVATION: NA
DRILLING METHOD: ARCH	HOLE DIAMETERS: 9"	TOP OF CASING: NA
DRILLING CONTRACTOR: STEWART BROS		REMARKS: BACKFILLED
DATE DRILLED: 3-7-95	LOGGED BY: MIKE WADE	
DATE COMPLETED: 3-10-95	REVIEWED BY:	

	WELL CONSTRUCTION	LITHOLOGY	LITHOLOGIC DESCRIPTION AND REMARKS
220, 230, 240			GP light brown, dry to locally moist, 25-40% fine grained to very coarse grained sand, 10-15% fines, subangular t angular limestone, quartz, mafic pebbles to 1" dia., hard contact between GP and SM.
250, 260			SM yellow brown, moist, very dense, 10-15% silt, about 5% clay, fine to medium grained micaceous sand, <1% sub-angular limestone pebbles to 1/2" dia., moderate to high estimated K.
270			SM 15-25% silt, 5-10% clay, about 5% subangular to angular limestone pebbles to 1/2" diameter, low estimated K.
280			SM about 3-5% subrounded limestone, granodiorite, pebbles to 1 1/4" diameter, fine to very fine grained sand, locally medium grained, about 5-10% clay.
290			SM gravelly sand, brown, moist, very dense, 20-30% subround, subangular limestone, granite, quartz, mafic pebbles to 1 1/2" diameter, very fine to locally coarse grained sand, moderate estimated K.
300, 310			GP sandy gravel, light brown, dry to moist, very dense, 35-40% fine to very coarse grained sand, micaceous, subround-subangular, limestone, quartz, and mafics, granodiorite grains to 1" diameter, 10-15% fines,
320			SM silty sand, light brown, dry to moist, very dense, 10-15% silt, 5-10% clay, v fine to fine gr sand, locally med grain, about 1% subrnd LS, granite pebs to 1/2"dia, mod est. K, TOTAL DEPTH 320 ft on 3/9/94

SNUNALER Project

PROJECT: LWDS RFI	Borehole/Well No.: B-17
	ADS No.: 0307
Logged By: D.W. Reaker	Instruments: OVM 503
Task Leader: L.A. Dawson	Drill Rig: Failing F-10
Drilling Contractor: Stewart Bros.	Ground Elev (ft,MSL):
Driller/Helper: Stanley	
Drilling Method: HSA	
Sample Method: Split Spoon	
Hammer Weight/Drop: 140/30"	Borehole Diameter: 6
Start Time: 12:00	Date: 14 30
Finish Time:	Date:

Borehole Location:



Notes:

Water Depth						
Boring/Casing Depth						
Time						
Date						

Total Depth:	Casing Depth:
Screened Interval:	Screen Size:
Sand Pack Interval:	Sand Size:
Well Development Method:	
Time: Date:	Flow Rate:
Geophysical Logs, Type:	
By:	Date:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circulation/Moisture/Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy/Contacts	LITHOLOGIC DESCRIPTION
		0	5	6	6	f	nd						Grayish brown SILTY SAND (SM)
			8	6	6	f							med. dense, sl. moist, v. fine-fine
			12	6	—						1	SM	grained, trace coarse sand, trace
		2	17	6	—								clay
											2		
											3		
											4		
											5		
		5	7	6	6	f	nd						
			8	6									Silty SAND continued
			10	6							6	SM	
		7	12	6									
		7	5	6	6	f					7		
		25											
											8		
											9		
											10		

INFORMATION ONLY

INFORMATION C

Project/ADS No.: 1307 | Borehole/Well No.: B-17

Notes:

Lab Sample/#	Lab Analysis Requested	Sampler Type/Depth	Blows/6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQI	Soil Vapor Concentration	Circ/Moisture/Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
		10	5	6	6	g	ND					SP	Brown SAND (SP) dense, sl. moist
			12	6	6						1		v.fine - fine grained
			20	6	6	g						SW	Grayish Brown SAND (SW) dense,
		12	32	6	4	f					2		moist, fine - v. coarse grained, subrounded
												SP	
											3		
											4		grayish brown SAND (SP) v. dense
													moist v.fine - fine grained
		15	32	6	6	g	ND				5		
			60	6	6						6		
			50	6	6								
		17	32	3	0	d					7		Gravelly zone
											8		
											9	GW	
		20	20	6	6	f	ND				20		Grayish brown SANDY GRAVEL
			30	6	6	f					1		(GW) v. dense, sl. moist gravel
			30	6	6	f							to 2.5" Ø
		22	35	6	2	p					2		Brown SILTY SAND (SM)
												SM	moist, dense, v.fine - fine grained
											3		
											4		
		25	10	6	6	g	ND				25		
			21	6	6	g					6		Silty Sand Continued
			24	6	6	g						SM	- caliche nodules / stringers
		27	39	6	4	f					7		throughout
											8		
											9		
											30		

Project/ADS No.: 1307

Borehole/Well No.: B-17

Lab Sample/ID	Lab Analysis Requested	Sampler Type/Depth	Blows/6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes:
		30	50	6	0								
		31	50	6	0						1		CAVEING? v. hard
											2		
											3		
											4		
											5		
		35	22	6	0								
		36	54	3	0						6	GP	NO SAMPLE
											7		Sandy GRAVEL (CUTTINGS)
											8		v. dense, gravel to small cobbles 2"Ø - 5"
											9		
		40	14	6	6	g	nd				40	SP	Reddish Brown SAND (SP) dense,
			19	6	6	g					1	GP	moist med. grained, trace silt
			32	6	6	g							SANDY GRAVEL (GP)
			50	3	2	f					2		v. dense, sl. moist med-coarse sand, fine gravel subrounded, gravel
											3		predominantly Limestone
											4		
											45		
											6		
												??	
		47	45	6	6	f	nd				7	SW	Grayish brown gravelly SAND
		48	70	6	6						8		v. dense, moist med-coarse grained subrounded-subangular gravel to 1.5" Ø
											9		
											50		

Project/ABS No.: 1302

Borehole/Well No.: B-17

Lab Sample	Lab Analysis Requested	Sampler Type/Depth	Blows/6 Inch	Inches Driven	Inches Recovered	Sample Condition/Re	Soil Vapor Concentratio	Circ/Moisture Other	Well Annulus/Sea	Well Casing/Scree	Depth in Fee	Stratigraphy Contacts	Notes:
													· SAND cont'd
											51	SP	
											2		
											3		
											4		
											5		
		55	7	6	6							SM	Yellowish brown SILTY SAND
			15	6	6						6		(SM) med. dense, moist, v. fine -
			31	6	6								fine grained - 15-20% silt
		57	33	6	6						7		trace med. angular sand
											8		
											9		
											60		
	59	60	17										SILTY SAND cont'd
			24								1		
			20										
		61	20								2		
		62	30										
			50								3		Boring Terminated @ 62.5'
		62.5	50										
											4		
											5		
											6		
											7		
											8		
											9		
											0		

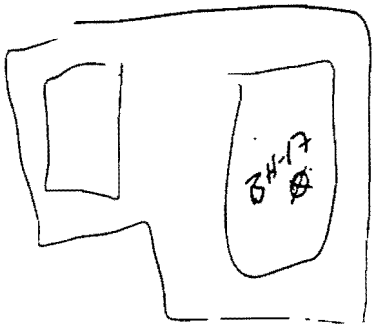
SNL - ER Project

PROJECT:

Borehole/Well No.: B-17

ADS No.: 1307

Borehole Location:



Logged By: D.W. REAISER	Instruments: PID
Task Leader: DAWSON	Drill Rig: Fa. 1:_ F-10
Drilling Contractor: Stewart	Ground Elev (ft.MSL) 0
Driller/Helper: Stanley Johnson	
Drilling Method: HSA	
Sample Method: Split	
Hammer Weight/Drop: 140 / 30	Borehole Diameter: 5"
Start Time:	Date: 11/30/94
Finish Time:	Date:

Notes:

Water Depth						
Boring/Casing Depth						
Time						
Date						

Total Depth:	Casing Depth:
Screened Interval:	Screen Size:
Sand Pack Interval:	Sand Size:
Well Development Method:	
Time: Date:	Flow Rate:
Geophysical Logs, Type:	
By:	Date:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circulation/Moisture/Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy/Contacts	LITHOLOGIC DESCRIPTION
		Modified	5	6	6	f	NA					SM	Grayish brown Silty Sand (SM)
			8	6	6	f							med. dense, sl. moist, fine-fine
			12	6	–		NA				1		grained trace coarse sand, trace
			17	6	–						2		clay
											3		
											4		
											5		
			7	6	6	f							
			8	6	6	f	N				6	SM	
			10	6	6	f							
			12	6	0						7		
			5	6	6								
											8		
											9		
											10		

Project/ADS No.: 1308 | Borehole/Well No.: B-17

Notes:

Lab Sample	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQI	Soil Vapor Concentration	Cite/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
			5	6	6								Brown Sand (SP) Dense, sl. moist. v.fine - fine grained
			12	6	6						1	SW	
			20	6	6								
			32	10	4						2		Gray-Brown Sand (SW) Dense, moist fine - v. coarse grained subrounded qtz, feldsp. granitic clasts
											3	SP	
											4		
											15		
			32										
			40								6		
			50									CR	Drill wind
			32								7		
													Gravelly Zone
													Sandy Gravel (GW)
											9		
												GW	
			20	6	6	f					20		Sandy Gravel. (GW) v. dense, sl. moist gravel to 2.5" Ø
			30	4	6	f					1		
			30	4	6	f							Brown silty Sand (SM) 10YR 5/3 moist dense, v. fine - fine grained
			35	6	2	P					2	SM	
											3		
											4		
											25		
			10	6	6	g							Silty Sand Cont'd - calicite nodules / stringers throughout
			21	6	6	g					6		
			26	6	6	g							
			34	6	4	f					7		
											8		
											9		
											0		

copy

Project/ADS No.: | Borehole/Well No.: B-17 | P3

Notes:

Lab Sample	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQI	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
			50	6	0							SM	
			50	3	0						31		— caliche layer? v. hard drilling
											2		drill ahead to 35'
											3		
											4		
											35		
			27	6									no sample
			54	3							6		
											7		Sandy Gravel GP Very
											8		dense, gravel to
													small cobbles (5" x 2")
											9		- unable to sample
											40		
											1		
											2		
			14	6	6								Reddish brown Sand (SP) moist
			14	6	6						3	SP/GP	dense, med grained trace silt
			32	6	6								Sand and Gravel (SP/GP)
			50	3	2						4		v. dense, sl moist med-coarse
													sand fine gravel subrounded
											45		gravel predominantly L.S.
											6		
											7		
			45	6	6	f							Grayish brown gravelly Sand
			70	6	6	f					8	SW	SW very dense moist med-coarse grained. gravel 1.5" Ø
													subrounded to subangular
			40	6							9		
			70	4							0		

NO 3" liners

- 70 6"-long stainless steel or brass liners
- 2" 10 split-spoon
- bring 4 18"-long samplers
- bring CAPS.

Depth In Feet	Lab Sample	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture Other	Well Annulus/Seal	Well Casing/Screen	Stratigraphy Contacts	Notes
0													
9													
8													
7													
6													
5													
4													
3													
2				50									
1				30									
0				20	4								
9				20	0								
8				24	4								
7				17	0								
6													
5													
4													
3													
2				33	6								
1				34	6	6							
0				15	6	6							
9				7	6	6							
8													
7													
6													
5													
4													
3													
2													
1													
0													
9													
8													
7													
6													
5													
4													
3													
2													
1													
0													

Stratigraphy Contacts: 5.7; 4.5m; 6.0m

Notes: Yellowish brown Silty Sand (SM); medium dense, moist, [illegible] fine grained ~ 15% 200 silt; trace med. angular sand

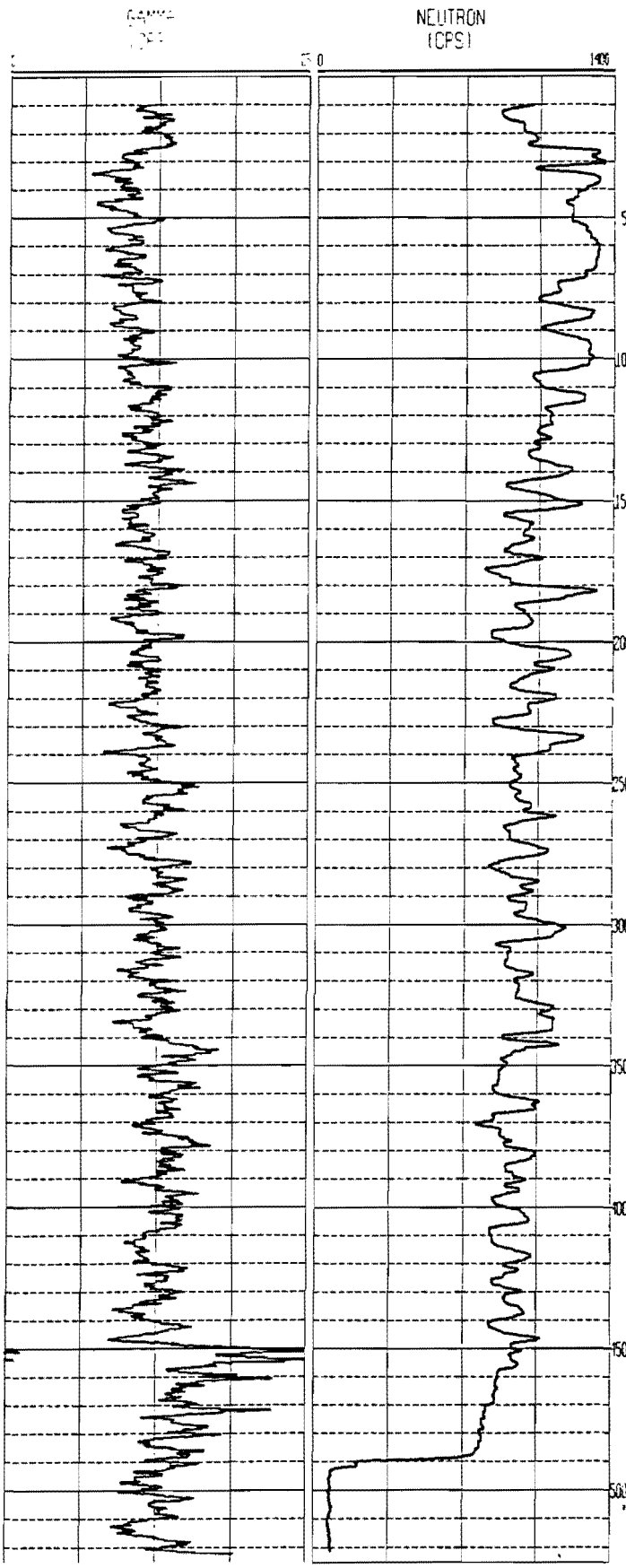
Silty Sand continue

Project/AUS No.:

Borehole/Well No.: B-17

LWDS-MW1

Geophysical Logs Unknown



LITHOLOGY

LITHOLOGIC DESCRIPTIONS

SAND (PEBBLY) moderate to yellowish brown, fine to coarse grained moderately to poorly sorted, pebbles 20%, limestone, qtzite, granite

SAND (PEBBLY, SILTY) pale to moderate yellowish brown, fine to coarse grained, pebbles 10%, limestone, quartzite, granite

SAND (SILTY) PEBBLES, COBBLES yellowish brown very fine- to fine-grained, well sorted, pebbles 15%, granite, limestone, quartzite

SILT (SANDY, PEBBLY) yellowish brown, very fine- to very coarse-grained, pebbles 20%, limestone, quartzite, granite, greenstone

SAND (SILTY), PEBBLES, COBBLES orange pink, very fine- to fine-grained pebbles 10% cobbles 10%, subangular quartzite, limestone

SAND (PEBBLY, SILTY) light brown, very fine- to mostly medium-grained pebbles 1%, quartzite, minor limestone

SAND (SILTY) PEBBLES, COBBLES light brown very fine- to medium-grained, pebbles and cobbles 20%, subangular, limestone, quartzite, minor greenstone

SAND (SILTY), CALICHE light brown, very fine- to fine-grained, caliche as matrix and rare stringers, few pebbles of greenstone

SILT (SANDY, PEBBLY) light brown very fine- to fine-grained pebbles 15-20%, limestone, qtzite, granite, caliche in lower 10 ft

SILT (SANDY) light brown very fine to fine-grained interbed of pebbles and cobbles of limestone

PEBBLES, COBBLES yellowish brown, subangular to subrounded quartzite pebbles and cobbles in silt matrix

SAND (SILTY, CLAYEY) yellowish brown to brown very fine to fine-grained, moderately- to well-sorted with pebbly interbeds

SAND (SILTY, PEBBLY) light brown very-fine to medium-grained, 25% pebbles, quartzite, granite greenstone, interbedded silty sand

SAND (SILTY) yellowish brown very-fine to fine-grained moderate- to well-sorted, interbeds of pebbly silty sand

SAND (SILTY, PEBBLY) light brown, very fine- to very coarse-grained, pebbles to 60% in upper 5 ft., rest 25%, limestone, granite

SAND (SILTY) medium brown to yellowish orange very fine- to fine-grained, well- to very well-sorted pebbly (limestone, quartzite) interbeds

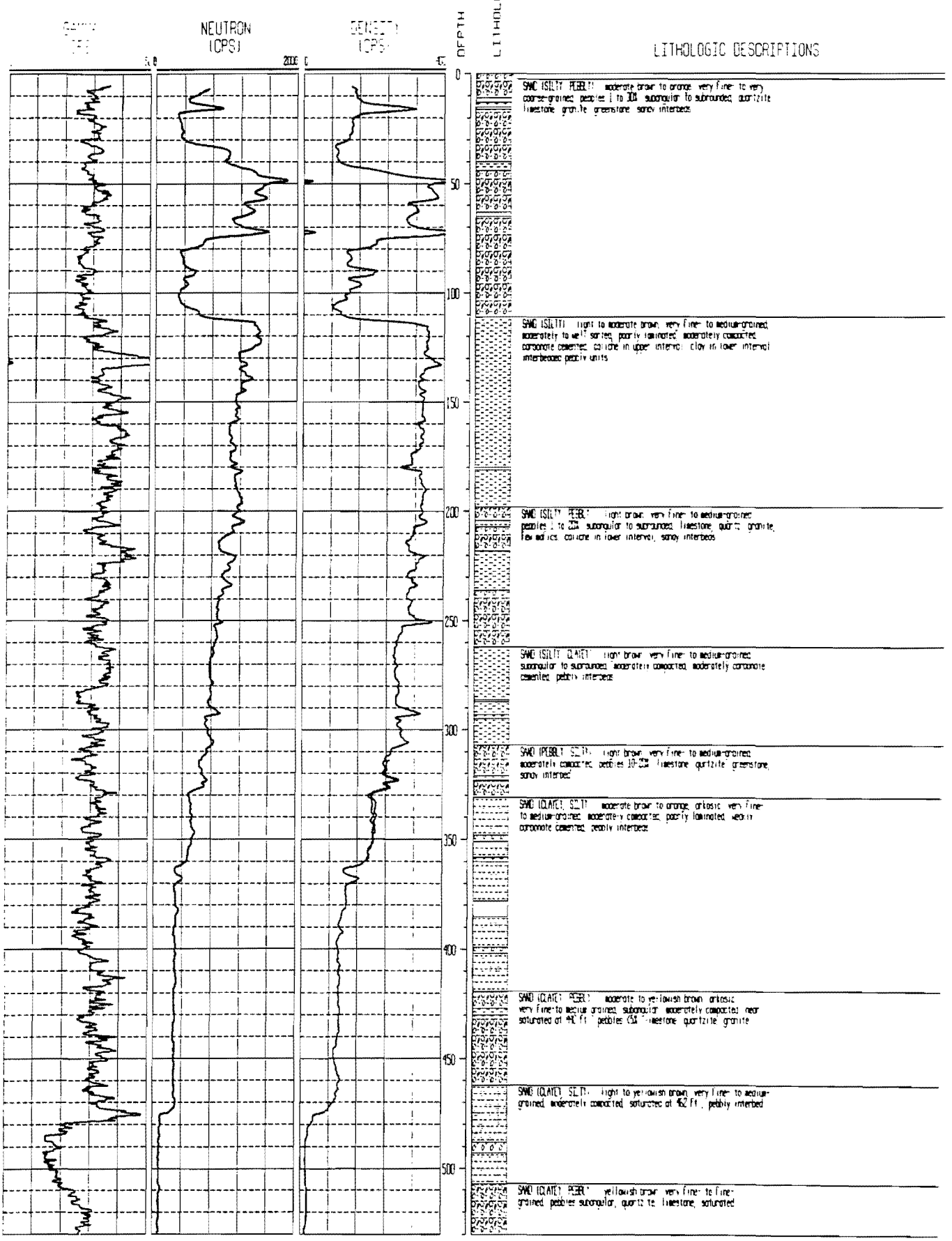
SAND (SILTY PEBBLY) light brown very fine- to coarse-grained, pebbles 20% limestone, quartzite, minor greenstone

SAND (SILTY) light brown and dark yellowish orange, very fine- to coarse-grained, clayey locally, pebbly (limestone, quartzite) interbeds

SAND (SILTY, PEBBLY) light brown, very fine- to medium-grained

LWDS-MW2

Geophysical Logs USGS

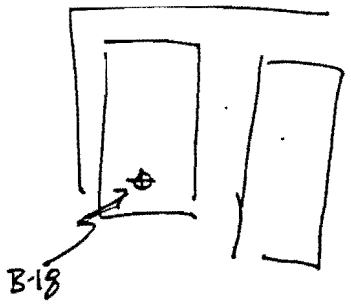


1/3

ER/1307 04/

LWDS-RFI-18 Lithologic Logs

SNL TIM ER Project	PROJECT: LWDS RFI	Borehole/Well No.: 'B-18'	
		ADS No.:	
Borehole Location:	Logged By: D.W. REABER	Instruments: OVM 503	
	Task Leader: L.A. DANSON	Drill Rig: FAILING F-10	
	Drilling Contractor: STEWART BROS	Ground Elev (ft.MSL)	
	Driller/Helper: STANLEY		
	Drilling Method: HSA		
	Sample Method: SPLIT SPOON		
	Hammer Weight/Drop: 140 / 30	Borehole Diameter:	
	Start Time: 11:30	Date: 12/1/94	
	Finish Time: 4:00	Date: 12/1/94	



Notes:

Water Depth							
Boring/Casing Depth							
Time							
Date							

Total Depth:	Casing Depth:
Screened Interval:	Screen Size:
Sand Pack Interval:	Sand Size:
Well Development Method:	
Time: Date:	Flow Rate:
Geophysical Logs, Type:	
By:	Date:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circulation/Moisture/Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy/Contacts	LITHOLOGIC DESCRIPTION
		0	7	6	6	y	Nd						Grayish brown SILTY SAND
			14	6	6						1	SM	med. dense, dry - sl. moist
			22	6	6								v. fine - fine grained trace cobbles
		2	30	6	6						2		
											3	GP	GRAVEL ZONE @ ~ 3'
											4		
		5	5	6	6	y	Nd				5		Grayish brown GRAVELLY SAND
			5	6	6						6	SP	(SP/GP) med. dense, moist. med-coarse grained ~ 20% gravel to 0.5"
			5	6	6								Yellowish brown SAND (SP)
		7	6	6	6						7		med. dense, moist, fine - med. grained
											8		
											9		
											10		

INFORMATION ONLY

Project/ADS No.: 4WDS

Borehole/Well No.: B-18

Notes:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	
		10	15	6	6	g	Nd						Yellowish brown SAND cont'd
			22	6	4	f							
			20	6	6						11	SP	Yellowish brown - grayish brown
		12	30	6	6								SAND (SP/SW) fine-coarse grained
		12	30	6	0						2		subangular to subrounded
		13	40	6	0								
											3		
											4		
		15	7	6	6	g	Nd				15	SP	Grayish brown SAND cont'd
			15	6	6								
			16	6	6						6		
		17	15	6	6								
											7		
											8		
											9		
		20	7	6	6	g	Nd				20	SP	Yellowish Brown SAND (SP)
			11	6									med dense, moist v.fine-fine grained
			13	6							1		
		22	25	6									
											2		
											3		
											4		
		25	10	6	6	g	Nd				25	SP	SAND continued
			10										
			15								6		
		27	28										
											7		
											8		
											9		
											30		

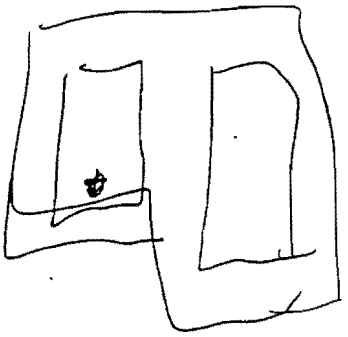
3/3

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth In Feet	Stratigraphy Contacts	Notes:
		30	38	6	6	G	nd						Grayish brown SAND (SW)
			40	6	6						1	SW	dense to v. dense, moist
			50	6	6								fine- v. coarse grained subrounded
		32	54	6	6						32		gravel to 0.5" Ø
													BORING TERMINATED @ 32'
											3		
											4		
											5		
											6		
											7		
											8		
											9		
											0		
											1		
											2		
											3		
											4		
											5		
											6		
											7		
											8		
											9		
											0		

Project/ADS No.:

Borehole/Well No.: B-18

SNL/NM ER Project	PROJECT:	Borehole/Well No.: B-18
		ADS No.: 1307
Borehole Location:	Logged By: D.W. BEABER	Instruments: PID
	Task Leader: Lon DANSON	Drill Rig: Failing F-10
	Drilling Contractor: Stewart	Ground Elev (ft,MSL)
	Driller/Helper: Stanley, Lawrence, Chief	
	Drilling Method: HSA	
	Sample Method: Split Spoon	
	Hammer Weight/Drop: 140/30	Borehole Diameter: 6"
	Start Time: 12/1 11:30	Date: 12/1
	Finish Time:	Date: 12/1



Notes: Sunny,

Water Depth						
Boring/Casing Depth						
Time						
Date						

Total Depth:	Casing Depth:
Screened Interval:	Screen Size:
Sand Pack Interval:	Sand Size:
Well Development Method:	
Time: Date:	Flow Rate:
Geophysical Logs, Type:	
By:	Date:

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circulation/Moisture/Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy/Contacts	LITHOLOGIC DESCRIPTION
			7	6	7								~~Gray~~ Grayish brown Silty Sand (SM)
			14	6							1		wet dense, dry - sl. moist v. fine -
			22	6								SM	fine grained w/ cobbles
			30	6							2		
											3	GP	gravel zone @ ~ 3'
											4		
											5	GP	Grayish Brown ~~Sand~~ Gravelly Sand (GP) KP
			5	6									med. dense, moist med-coarse grained.
			5	6							6		~ 20% gravel to .5" Ø
			5	6								SP	Yellowish brown Sand (SP)
			11	6							7		med. dense, moist. fine - med
													grained
											8		
											9		
											10		

Project/ADS No.:

Borehole/Well No.: B-18

Notes:

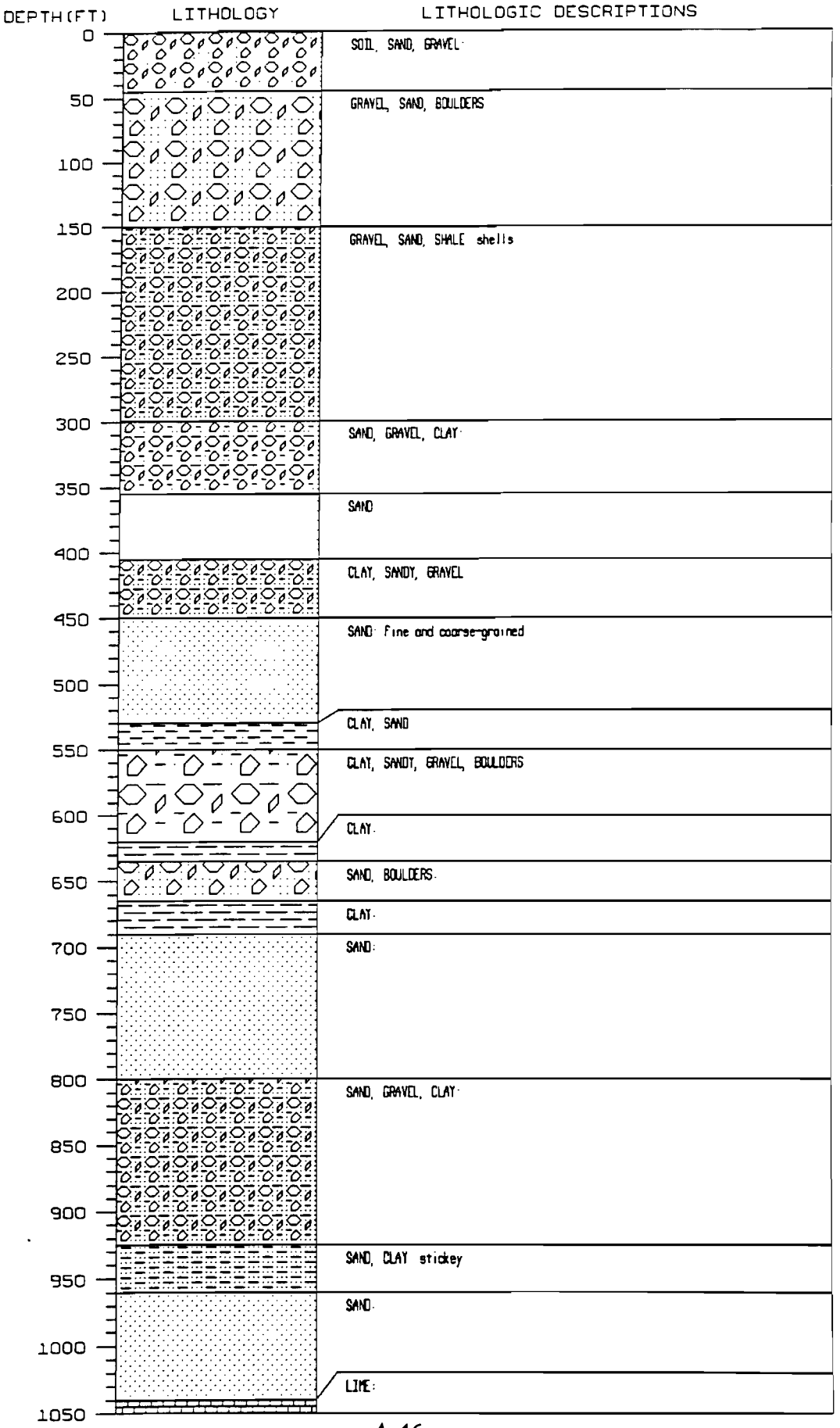
Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes
			15	6	6	g						SP	Yellowish brown sand (cont'd)
			22	6	4	f							cobble — dense, moist
			20	6	6	g					1		yellowish brown - grayish brown
			30	6	6	g							sand (SP/SW) fine - coarse
			30	6							2		grained sub angular - subrounded
			40	6									
											3		
											4		
											5		
			7	6	8	g							grayish brown Sand (SP) med.
			15	6	6						6		dense moist v.fine - fine grained
			16	6	6								trace silt, trace coarse angular
			15	6	6	g					7		sand
											8		
											9		
											10		
			7	6	g								yellowish brown Sand (SP)
			11	6							1		med. dense moist. v.fine - fine
			13	6									grained
			25	6							2		
											3		
											4		
											5		
			10	6	g							SP	yellowish brown Sand continued
			10	6							6		
			15	6									
			28	6							7		
											8		
											9		
											30		

Lab Sample ID	Lab Analysis Requested	Sampler Type/Depth	Blows/ 6 Inch	Inches Driven	Inches Recovered	Sample Condition/RQD	Soil Vapor Concentration	Circ/Moisture/ Other	Well Annulus/Seal	Well Casing/Screen	Depth in Feet	Stratigraphy Contacts	Notes:
			38	6	6	G							Grayish brown Sand (SW)
			40	6	6						1	SW	Dense to v. dense - mostly
			50	6	6								fine - v. coarse grained subrounded
			54	6	6						2		to subangular trace gravel to
													1/2" ϕ
											3		
													Boring terminated @ 32'
											4		
											5		
											6		
											7		
											8		
											9		
											0		
											1		
											2		
											3		
											4		
											5		
											6		
											7		
											8		
											9		
											0		

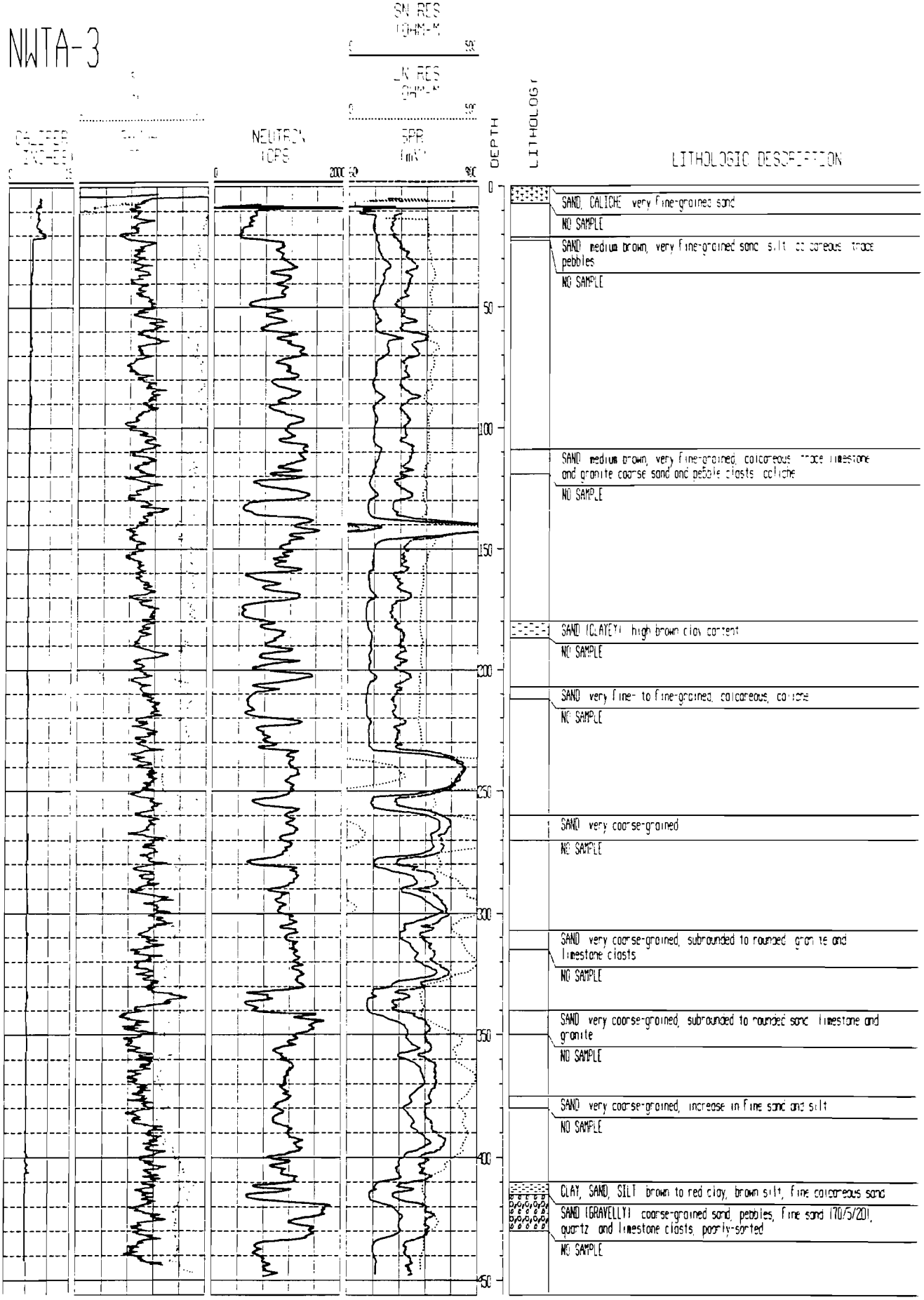
Project/ADS No.: 1307

Borehole/Well No.: B-18

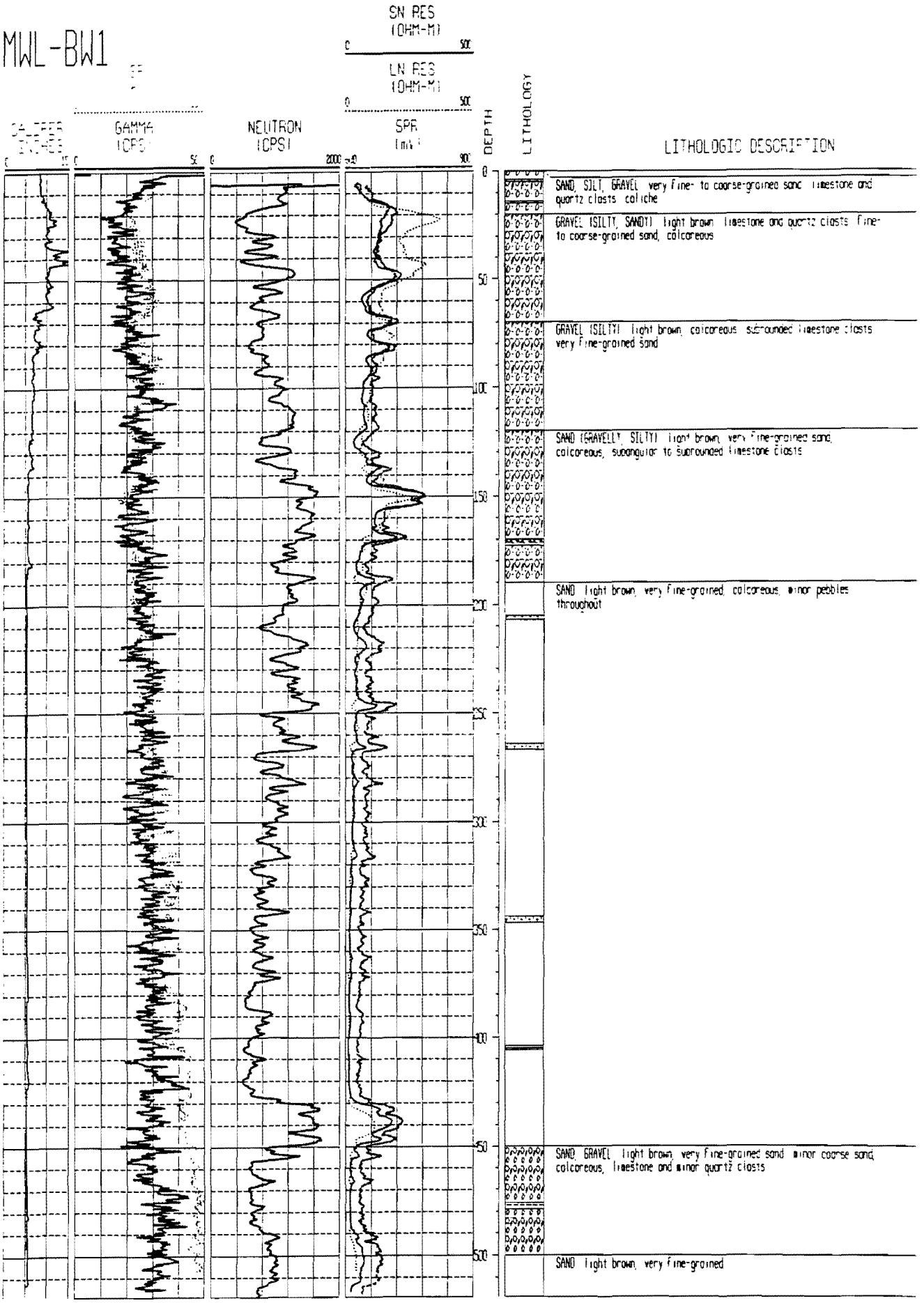
KAFB-10


DEPTH(FT)
LITHOLOGY
LITHOLOGIC DESCRIPTIONS
0
50
100
150
200
250
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000
1050
SOIL, SAND, GRAVEL
GRAVEL, SAND, BOULDERS
GRAVEL, SAND, SHALE shells
SAND, GRAVEL, CLAY
SAND
CLAY, SANDY, GRAVEL
SAND Fine and coarse-grained
CLAY, SAND
CLAY, SANDY, GRAVEL, BOULDERS
CLAY
SAND, BOULDERS
CLAY
SAND
SAND, GRAVEL, CLAY
SAND, CLAY stickey
SAND
LIME

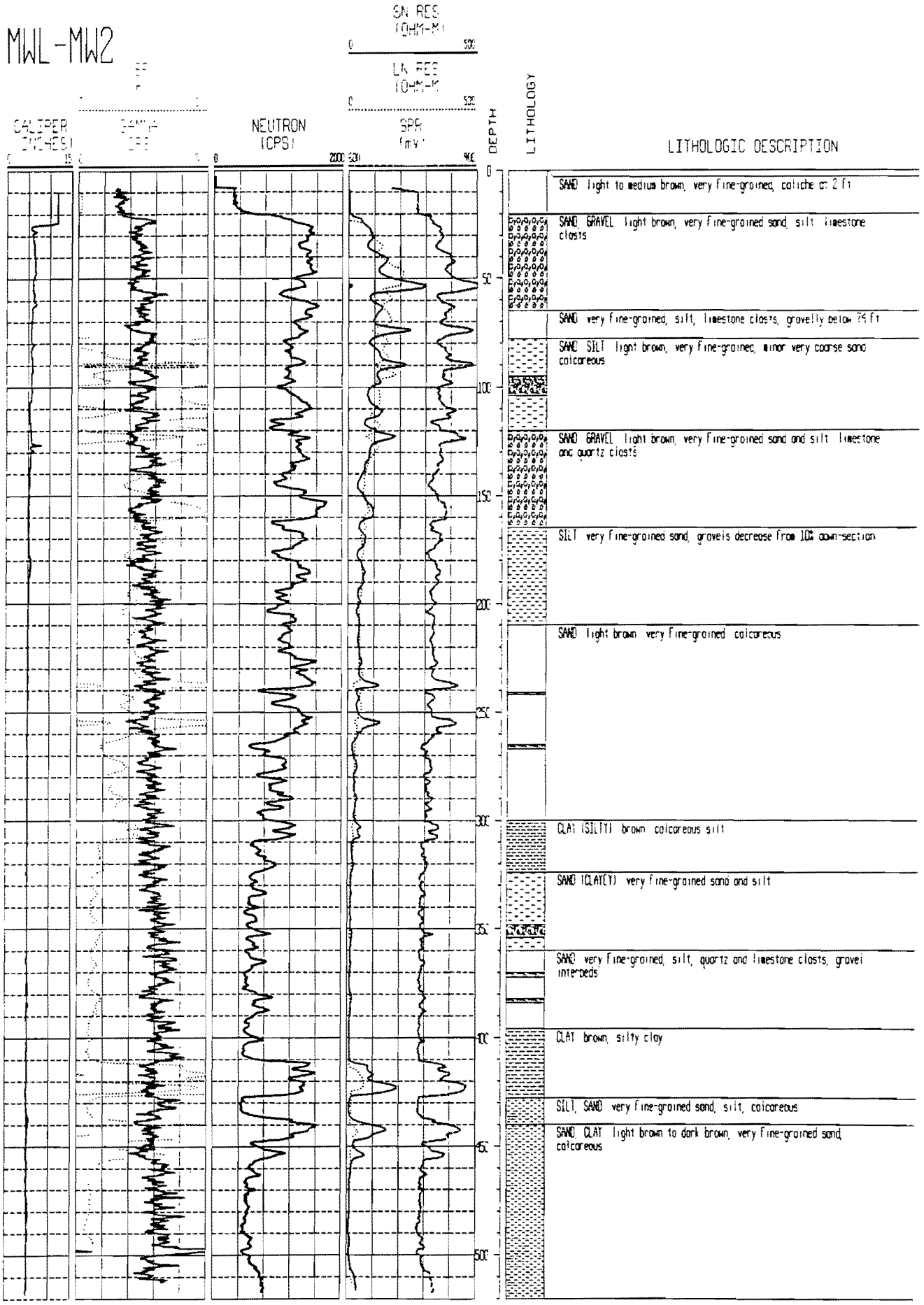
NWTA-3


SN RES
LN RES
CALIPER
NEUTRON
SPR
DEPTH
LITHOLOGY
LITHOLOGIC DESCRIPTION
SAND, CALICHE very fine-grained sand
NO SAMPLE
SAND medium brown, very fine-grained sand silt calcareous trace pebbles
NO SAMPLE
SAND medium brown, very fine-grained, calcareous trace limestone and granite coarse sand and pebble clasts caliche
NO SAMPLE
SAND (CLAYEY) high brown clay content
NO SAMPLE
SAND very fine- to fine-grained, calcareous, caliche
NO SAMPLE
SAND very coarse-grained
NO SAMPLE
SAND very coarse-grained, subrounded to rounded granite and limestone clasts
NO SAMPLE
SAND very coarse-grained, subrounded to rounded sand limestone and granite
NO SAMPLE
SAND very coarse-grained, increase in fine sand and silt
NO SAMPLE
CLAY, SAND, SILT brown to red clay, brown silt, fine calcareous sand
SAND (GRAVELLY) coarse-grained sand, pebbles, fine sand (70/5/20), quartz and limestone clasts, poorly-sorted
NO SAMPLE

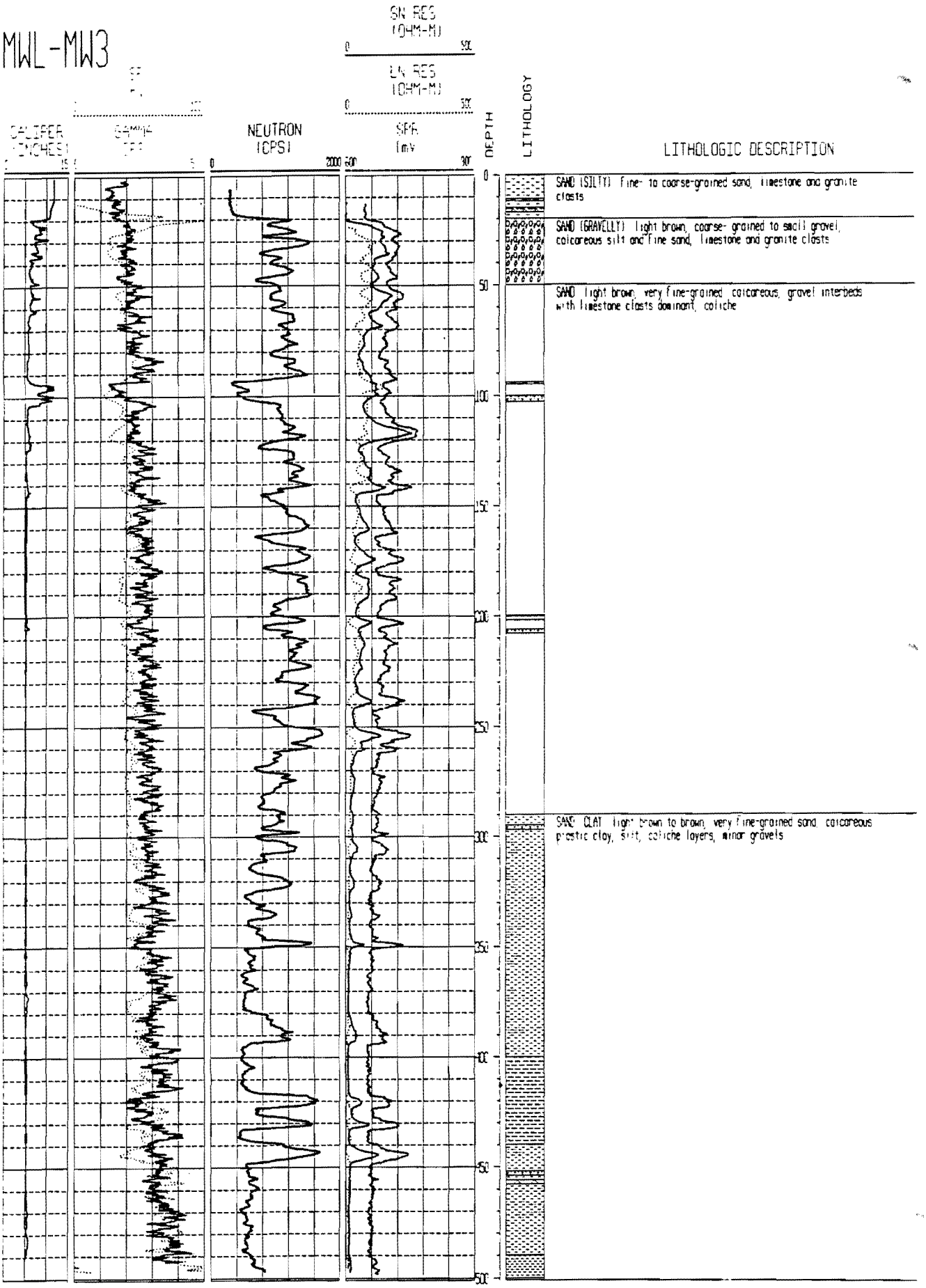
MWL-BW1


SN RES (OHM-M)
LN RES (OHM-M)
GAMMA (CPS)
NEUTRON (CPS)
SPR (mV)
DEPTH
LITHOLOGY
LITHOLOGIC DESCRIPTION
SAND, SILT, GRAVEL very fine- to coarse-grained sand limestone and quartz clasts coliche
GRAVEL (SILTY, SANDY) light brown limestone and quartz clasts fine- to coarse-grained sand, calcareous
GRAVEL (SILTY) light brown, calcareous subrounded limestone clasts very fine-grained sand
SAND (GRAVELLY, SILTY) light brown, very fine-grained sand, calcareous, subangular to subrounded limestone clasts
SAND light brown, very fine-grained, calcareous, minor pebbles throughout
SAND, GRAVEL light brown, very fine-grained sand minor coarse sand, calcareous, limestone and minor quartz clasts
SAND light brown, very fine-grained

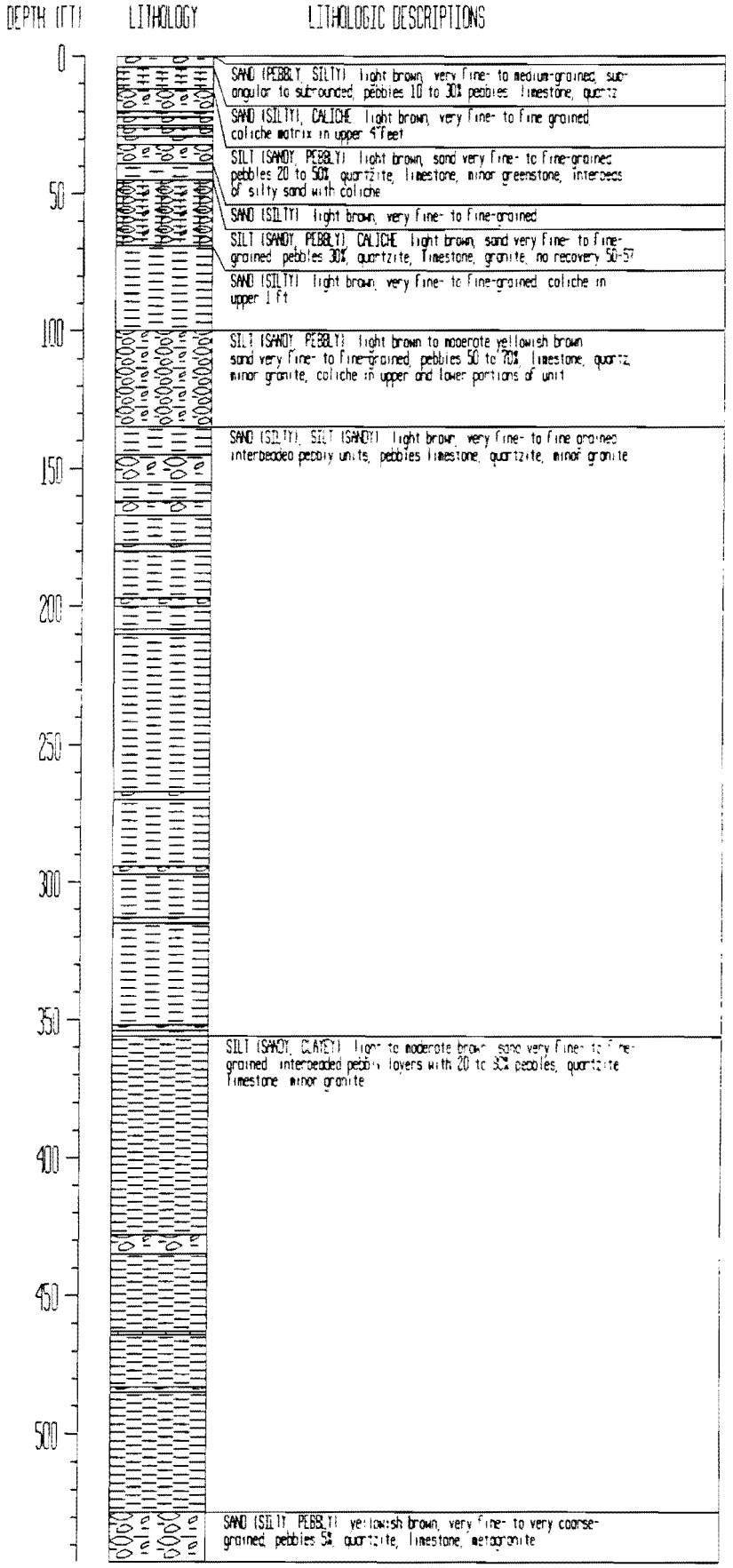
MWL-MW2


SN RES (OHM-M)
LN RES (OHM-M)
CALIPER (INCHES)
NEUTRON (CPS)
SPR (mV)
DEPTH
LITHOLOGY
LITHOLOGIC DESCRIPTION
SAND light to medium brown, very fine-grained, caliche at 2 ft
SAND GRAVEL light brown, very fine-grained sand, silt limestone clasts
SAND very fine-grained, silt, limestone clasts, gravelly below 79 ft
SAND SILT light brown, very fine-grained, minor very coarse sand calcareous
SAND GRAVEL light brown, very fine-grained sand and silt limestone and quartz clasts
SILT very fine-grained sand, gravels decrease from 10% down-section
SAND light brown very fine-grained calcareous
CLAY (SILTY) brown calcareous silt
SAND (CLAYEY) very fine-grained sand and silt
SAND very fine-grained, silt, quartz and limestone clasts, gravel interbeds
CLAY brown, silty clay
SILT, SAND very fine-grained sand, silt, calcareous
SAND, CLAY light brown to dark brown, very fine-grained sand, calcareous

MWL-MW3


SN RES (OHM-M)
LN RES (OHM-M)
CALIPER (INCHES)
GAMMA
NEUTRON (CPS)
SP (mV)
DEPTH
LITHOLOGY
LITHOLOGIC DESCRIPTION
SAND (SILTY) fine- to coarse-grained sand, limestone and granite clasts
SAND (GRAVELLY) light brown, coarse- grained to small gravel, calcareous silt and fine sand, limestone and granite clasts
SAND light brown, very fine-grained, calcareous, gravel interbeds with limestone clasts dominant, caliche
SAND CLAY light brown to brown, very fine-grained sand, calcareous plastic clay, silt, caliche layers, minor gravels

MWL-MW4


DEPTH (FT)
LITHOLOGY
LITHOLOGIC DESCRIPTIONS
0
50
100
150
200
250
300
350
400
450
500
SAND (PEBBLY, SILTY) light brown, very fine- to medium-grained, sub-angular to subrounded, pebbles 10 to 30% pebbles limestone, quartz
SAND (SILTY), CALICHE light brown, very fine- to fine grained coliche matrix in upper 4 feet
SILT (SANDY, PEBBLY) light brown, sand very fine- to fine-grained pebbles 20 to 50%, quartzite, limestone, minor greenstone, interbeds of silty sand with coliche
SAND (SILTY) light brown, very fine- to fine-grained
SILT (SANDY, PEBBLY), CALICHE light brown, sand very fine- to fine-grained pebbles 30%, quartzite, limestone, granite, no recovery 50-57
SAND (SILTY) light brown, very fine- to fine-grained coliche in upper 1 ft
SILT (SANDY, PEBBLY) light brown to moderate yellowish brown sand very fine- to fine-grained, pebbles 50 to 70%, limestone, quartz, minor granite, coliche in upper and lower portions of unit
SAND (SILTY), SILT (SANDY) light brown, very fine- to fine grained interbedded pebbly units, pebbles limestone, quartzite, minor granite
SILT (SANDY, CLAYEY) light to moderate brown, sand very fine- to fine-grained interbedded pebbly layers with 20 to 30% pebbles, quartzite limestone minor granite
SAND (SILTY, PEBBLY) yellowish brown, very fine- to very coarse-grained, pebbles 5%, quartzite, limestone, metagranite

APPENDIX F

WATER LEVEL ELEVATIONS FOR TA-V
1992 THROUGH 1998

Appendix F
TA-V Water Level Elevations
1992 through 1998

Monitor Well	Date	Depth to Water feet below measurement	Groundwater Elevation feet above mean sea level
Measuring Point Elevation: 5422.19			
LWDS-MW1	11-Mar-93	487.29	4934.9
LWDS-MW1	1-Nov-93	487.08	4935.11
LWDS-MW1	10-Mar-94	487.39	4934.8
LWDS-MW1	7-Jun-94	487.09	4935.1
LWDS-MW1	1-Sep-94	487.69	4934.5
LWDS-MW1	1-Dec-94	487.89	4934.3
LWDS-MW1	8-Dec-94	488.09	4934.1
LWDS-MW1	2-Mar-95	487.99	4934.2
LWDS-MW1	1-Jun-95	488.39	4933.8
LWDS-MW1	14-Jun-95	488.60	4933.59
LWDS-MW1	25-Sep-95	488.67	4933.52
LWDS-MW1	1-Nov-95	488.90	4933.29
LWDS-MW1	17-Nov-95	489.11	4933.08
LWDS-MW1	19-Dec-95	488.85	4933.34
LWDS-MW1	31-Jan-96	489.10	4933.09
LWDS-MW1	21-Feb-96	489.15	4933.04
LWDS-MW1	18-Mar-96	489.24	4932.95
New Measuring Point Elevation: 5421.20	30-Apr-96	487.91	4933.29
LWDS-MW1	9-May-96	488.04	4933.16
LWDS-MW1	28-Jun-96	488.18	4933.02
LWDS-MW1	19-Jul-96	487.98	4933.22
LWDS-MW1	29-Aug-96	488.00	4933.2
LWDS-MW1	10-Sep-96	488.10	4933.1
LWDS-MW1	31-Oct-96	489.98	4931.22
LWDS-MW1	26-Nov-96	488.29	4932.91
LWDS-MW1	6-Dec-96	488.29	4932.91
LWDS-MW1	3-Jan-97	488.70	4932.5
LWDS-MW1	26-Feb-97	488.29	4932.91
LWDS-MW1	29-Mar-97	488.30	4932.9
LWDS-MW1	29-Apr-97	488.41	4932.79
LWDS-MW1	30-May-97	488.78	4932.42
LWDS-MW1	23-Jun-97	488.57	4932.63
LWDS-MW1	29-Aug-97	488.61	4932.59
LWDS-MW1	26-Sep-97	487.86	4933.34
LWDS-MW1	31-Oct-97	488.62	4932.58
LWDS-MW1	26-Nov-97	488.74	4932.46
LWDS-MW1	8-Jan-98	488.67	4932.53
LWDS-MW1	2-Feb-98	488.80	4932.4
LWDS-MW1	2-Mar-98	488.83	4932.37

Appendix F (Continued)
TA-V Water Level Elevations
1992 through 1998

Monitor Well	Date	Depth to Water feet below measurement	Groundwater Elevation feet above mean sea level
LWDS-MW1	10-Apr-98	489.39	4931.81
LWDS-MW1	7-May-98	489.13	4932.07
LWDS-MW1	2-Jun-98	489.30	4931.9
LWDS-MW1	2-Jul-98	489.50	4931.7
LWDS-MW1	4-Aug-98	489.76	4931.44
LWDS-MW1	1-Sep-98	488.62	4932.58
LWDS-MW1	2-Oct-98	489.65	4931.55
LWDS-MW1	2-Nov-98	489.49	4931.71
LWDS-MW1	1-Dec-98	489.75	4931.45
Measuring Point Elevation: 5409.81			
LWDS-MW2	22-Oct-92	480.00	4929.81
LWDS-MW2	24-Jun-93	477.53	4932.28
LWDS-MW2	1-Mar-95	477.11	4932.7
LWDS-MW2	9-Mar-94	477.20	4932.61
LWDS-MW2	1-Jun-95	477.21	4932.6
LWDS-MW2	6-Jun-94	477.30	4932.51
LWDS-MW2	1-Aug-94	477.41	4932.4
LWDS-MW2	31-Aug-94	477.50	4932.31
LWDS-MW2	1-Dec-94	477.71	4932.1
LWDS-MW2	7-Dec-94	477.75	4932.06
LWDS-MW2	3-Mar-95	487.80	4922.01
LWDS-MW2	1-Jun-95	478.31	4931.5
LWDS-MW2	12-Jun-95	478.40	4931.41
LWDS-MW2	21-Sep-95	480.25	4929.56
LWDS-MW2	1-Nov-95	478.53	4931.28
LWDS-MW2	17-Nov-95	478.62	4931.19
LWDS-MW2	15-Dec-95	478.55	4931.26
LWDS-MW2	31-Jan-96	480.55	4929.26
LWDS-MW2	21-Feb-96	478.65	4931.16
LWDS-MW2	18-Mar-96	478.91	4930.9
LWDS-MW2	30-Apr-96	478.59	4931.22
LWDS-MW2	9-May-96	478.56	4931.25
LWDS-MW2	28-Jun-96	478.09	4931.72
LWDS-MW2	19-Jul-96	478.83	4930.98
LWDS-MW2	29-Aug-96	478.83	4930.98
LWDS-MW2	9-Sep-96	478.81	4931
LWDS-MW2	31-Oct-96	478.75	4931.06
LWDS-MW2	26-Nov-96	not measured	not measured
LWDS-MW2	5-Dec-96	488.29	4921.52
LWDS-MW2	3-Jan-97	479.36	4930.45

Appendix F (Continued)
TA-V Water Level Elevations
1992 through 1998

Monitor Well	Date	Depth to Water feet below measurement	Groundwater Elevation feet above mean sea level
LWDS-MW2	26-Feb-97	478.70	4931.11
LWDS-MW2	29-Mar-97	479.01	4930.8
LWDS-MW2	30-Apr-97	479.11	4930.7
LWDS-MW2	2-Jun-97	479.15	4930.66
LWDS-MW2	23-Jun-97	479.27	4930.54
LWDS-MW2	29-Aug-97	479.37	4930.44
LWDS-MW2	26-Sep-97	471.41	4938.4
LWDS-MW2	31-Oct-97	479.26	4930.55
LWDS-MW2	26-Nov-97	479.34	4930.47
LWDS-MW2	8-Jan-98	479.31	4930.5
LWDS-MW2	2-Feb-98	479.41	4930.4
LWDS-MW2	2-Mar-98	479.71	4930.1
LWDS-MW2	10-Apr-98	479.77	4930.04
LWDS-MW2	7-May-98	479.73	4930.08
LWDS-MW2	2-Jun-98	479.87	4929.94
LWDS-MW2	2-Jul-98	480.21	4929.6
LWDS-MW2	4-Aug-98	480.37	4929.44
LWDS-MW2	1-Sep-98	480.01	4929.8
LWDS-MW2	2-Oct-98	479.98	4929.83
LWDS-MW2	2-Nov-98	479.90	4929.91
LWDS-MW2	1-Dec-98	480.23	4929.58
Measuring Point Elevation: 5435.1			
TAV-MW1	13-Apr-95	502.00	4933.1
TAV-MW1	1-Jun-95	502.04	4933.06
TAV-MW1	9-Jun-95	502.84	4932.26
TAV-MW1	19-Sep-95	502.52	4932.58
TAV-MW1	17-Nov-95	502.84	4932.26
TAV-MW1	18-Dec-95	502.50	4932.6
TAV-MW1	31-Jan-96	504.60	4930.5
TAV-MW1	21-Feb-96	502.93	4932.17
TAV-MW1	19-Mar-96	503.02	4932.08
TAV-MW1	30-Apr-96	not measured	not measured
TAV-MW1	9-May-96	502.92	4932.18
TAV-MW1	28-Jun-96	503.36	4931.74
TAV-MW1	19-Jul-96	503.11	4931.99
TAV-MW1	29-Aug-96	503.10	4932
TAV-MW1	11-Sep-96	503.18	4931.92
TAV-MW1	31-Oct-96	503.19	4931.91
TAV-MW1	26-Nov-96	503.25	4931.85
TAV-MW1	6-Dec-96	503.47	4931.63

Appendix F (Continued)
TA-V Water Level Elevations
1992 through 1998

Monitor Well	Date	Depth to Water feet below measurement	Groundwater Elevation feet above mean sea level
TAV-MW1	3-Jan-97	503.97	4931.13
TAV-MW1	26-Feb-97	503.29	4931.81
TAV-MW1	29-Mar-97	503.65	4931.45
TAV-MW1	30-Apr-97	503.77	4931.33
TAV-MW1	3-Jun-97	503.90	4931.2
TAV-MW1	23-Jun-97	503.80	4931.3
TAV-MW1	29-Aug-97	503.86	4931.24
TAV-MW1	26-Sep-97	503.61	4931.49
TAV-MW1	31-Oct-97	503.92	4931.18
TAV-MW1	26-Nov-97	503.96	4931.14
TAV-MW1	8-Jan-98	503.92	4931.18
TAV-MW1	2-Feb-98	504.08	4931.02
TAV-MW1	2-Mar-98	504.16	4930.94
TAV-MW1	10-Apr-98	504.40	4930.7
TAV-MW1	7-May-98	504.49	4930.61
TAV-MW1	2-Jun-98	504.50	4930.6
TAV-MW1	2-Jul-98	504.64	4930.46
TAV-MW1	4-Aug-98	504.85	4930.25
TAV-MW1	1-Sep-98	504.72	4930.38
TAV-MW1	2-Oct-98	504.62	4930.48
TAV-MW1	2-Nov-98	504.48	4930.62
TAV-MW1	1-Dec-98	505.11	4929.99
Measuring Point Elevation: 5424.90			
TAV-MW2	14-Apr-95	491.50	4933.4
TAV-MW2	1-Jun-95	491.46	4933.44
TAV-MW2	6-Jun-95	491.50	4933.4
TAV-MW2	20-Sep-95	491.87	4933.03
TAV-MW2	17-Nov-95	492.30	4932.6
TAV-MW2	18-Dec-95	492.00	4932.9
TAV-MW2	2-Jan-96	492.09	4932.81
TAV-MW2	31-Jan-96	493.95	4930.95
TAV-MW2	21-Feb-96	492.39	4932.51
TAV-MW2	19-Mar-96	492.84	4932.06
TAV-MW2	30-Apr-96	492.37	4932.53
TAV-MW2	9-May-96	492.35	4932.55
TAV-MW2	28-Jun-96	492.67	4932.23
TAV-MW2	19-Jul-96	492.33	4932.57
TAV-MW2	29-Aug-96	492.50	4932.4
TAV-MW2	10-Sep-96	492.57	4932.33
TAV-MW2	31-Oct-96	492.82	4932.08

Appendix F (Continued)
TA-V Water Level Elevations
1992 through 1998

Monitor Well	Date	Depth to Water feet below measurement	Groundwater Elevation feet above mean sea level
TAV-MW2	26-Nov-96	not measured	not measured
TAV-MW2	5-Dec-96	492.89	4932.01
TAV-MW2	30-Jan-97	493.22	4931.68
TAV-MW2	26-Feb-97	492.55	4932.35
TAV-MW2	29-Mar-97	492.88	4932.02
TAV-MW2	30-Apr-97	492.94	4931.96
TAV-MW2	4-Jun-97	493.11	4931.79
TAV-MW2	23-Jun-97	493.10	4931.8
TAV-MW2	29-Aug-97	493.11	4931.79
TAV-MW2	26-Sep-97	492.40	4932.5
TAV-MW2	31-Oct-97	493.15	4931.75
TAV-MW2	26-Nov-97	493.21	4931.69
TAV-MW2	8-Jan-98	493.19	4931.71
TAV-MW2	2-Feb-98	493.32	4931.58
TAV-MW2	2-Mar-98	493.39	4931.51
TAV-MW2	10-Apr-98	493.69	4931.21
TAV-MW2	7-May-98	493.61	4931.29
TAV-MW2	2-Jun-98	493.77	4931.13
TAV-MW2	2-Jul-98	493.92	4930.98
TAV-MW2	4-Aug-98	494.09	4930.81
TAV-MW2	1-Sep-98	494.20	4930.7
TAV-MW2	2-Oct-98	493.88	4931.02
TAV-MW2	2-Nov-98	493.75	4931.15
TAV-MW2	1-Dec-98	494.21	4930.69
Measuring Point Elevation: 5461.73			
TAV-MW3	30-Apr-97	532.16	4929.57
TAV-MW3	5-May-97	530.90	4930.83
TAV-MW3	3-Jun-97	530.80	4930.93
TAV-MW3	23-Jun-97	530.70	4931.03
TAV-MW3	29-Aug-97	530.88	4930.85
TAV-MW3	26-Sep-97	528.78	4932.95
TAV-MW3	31-Oct-97	530.76	4930.97
TAV-MW3	26-Nov-97	530.78	4930.95
TAV-MW3	8-Jan-98	530.79	4930.94
TAV-MW3	2-Feb-98	530.90	4930.83
TAV-MW3	2-Mar-98	530.89	4930.84
TAV-MW3	10-Apr-98	531.50	4930.23
TAV-MW3	7-May-98	531.38	4930.35
TAV-MW3	2-Jun-98	531.64	4930.09
TAV-MW3	2-Jul-98	531.74	4929.99

Appendix F (Continued)
TA-V Water Level Elevations
1992 through 1998

Monitor Well	Date	Depth to Water feet below measurement	Groundwater Elevation feet above mean sea level
TAV-MW3	4-Aug-98	NA	
TAV-MW3	1-Sep-98	531.80	4929.93
TAV-MW3	2-Oct-98	531.63	4930.10
TAV-MW3	2-Nov-98	531.45	4930.28
TAV-MW3	1-Dec-98	531.81	4929.92
Measuring Point Elevation: 5425.39			
TAV-MW4	30-Apr-97	483.17	4942.22
TAV-MW4	10-Jun-97	493.69	4931.70
TAV-MW4	23-Jun-97	493.44	4931.95
TAV-MW4	29-Aug-97	493.53	4931.86
TAV-MW4	26-Sep-97	490.75	4934.64
TAV-MW4	31-Oct-97	493.49	4931.90
TAV-MW4	26-Nov-97	493.55	4931.84
TAV-MW4	8-Jan-98	493.52	4931.87
TAV-MW4	2-Feb-98	493.65	4931.74
TAV-MW4	2-Mar-98	493.72	4931.67
TAV-MW4	10-Apr-98	492.22	4933.17
TAV-MW4	7-May-98	494.16	4931.23
TAV-MW4	2-Jun-98	494.34	4931.05
TAV-MW4	2-Jul-98	494.54	4930.85
TAV-MW4	4-Aug-98	494.67	4930.72
TAV-MW4	1-Sep-98	494.40	4930.99
TAV-MW4	2-Oct-98	494.52	4930.87
TAV-MW4	2-Nov-98	494.13	4931.26
TAV-MW4	1-Dec-98	494.85	4930.54
Measuring Point Elevation: 5406.20			
TAV-MW5	01-May-97	482.93	4923.27
TAV-MW5	10-Jun-97	478.32	4927.88
TAV-MW5	23-Jun-97	478.01	4928.19
TAV-MW5	29-Aug-97	478.49	4927.71
TAV-MW5	26-Sep-97	481.56	4924.64
TAV-MW5	31-Oct-97	477.86	4928.34
TAV-MW5	26-Nov-97	477.91	4928.29
TAV-MW5	8-Jan-98	477.86	4928.34
TAV-MW5	2-Feb-98	477.92	4928.28
TAV-MW5	2-Mar-98	478.01	4928.19
TAV-MW5	10-Apr-98	478.40	4927.80
TAV-MW5	7-May-98	478.38	4927.82
TAV-MW5	2-Jun-98	478.50	4927.70
TAV-MW5	2-Jul-98	478.67	4927.53

Appendix F (Continued)
TA-V Water Level Elevations
1992 through 1998

Monitor Well	Date	Depth to Water feet below measurement	Groundwater Elevation feet above mean sea level
TAV-MW5	4-Aug-98	478.83	4927.37
TAV-MW5	1-Sep-98	478.69	4927.51
TAV-MW5	2-Oct-98	478.41	4927.79
TAV-MW5	2-Nov-98	478.34	4927.86
TAV-MW5	1-Dec-98	478.80	4927.40
Measuring Point Elevation: 5440.55			
AVN-1	1-Jun-95	509.15	4931.4
AVN-1	13-Jul-95	509.60	4930.95
AVN-1	1-Aug-95	509.44	4931.11
AVN-1	1-Sep-95	509.56	4930.99
AVN-1	19-Sep-95	509.20	4931.35
AVN-1	1-Oct-95	509.17	4931.38
AVN-1	17-Nov-95	509.48	4931.07
AVN-1	1-Dec-95	509.17	4931.38
AVN-1	13-Dec-95	509.20	4931.35
AVN-1	2-Jan-96	509.48	4931.07
AVN-1	31-Jan-96	511.50	4929.05
AVN-1	21-Feb-96	509.77	4930.78
AVN-1	15-Mar-96	509.66	4930.89
AVN-1	30-Apr-96	509.72	4930.83
AVN-1	9-May-96	509.71	4930.84
AVN-1	28-Jun-96	510.02	4930.53
AVN-1	19-Jul-96	509.76	4930.79
AVN-1	29-Aug-96	509.86	4930.69
AVN-1	9-Sep-96	509.90	4930.65
AVN-1	31-Oct-96	509.90	4930.65
AVN-1	26-Nov-96	509.96	4930.59
AVN-1	5-Dec-96	not measured	not measured
AVN-1	30-Jan-97	510.44	4930.11
AVN-1	26-Feb-97	510.00	4930.55
AVN-1	29-Mar-97	510.18	4930.37
AVN-1	29-Apr-97	510.35	4930.2
AVN-1	29-May-97	510.45	4930.1
AVN-1	23-Jun-97	510.43	4930.12
AVN-1	29-Aug-97	510.49	4930.06
AVN-1	26-Sep-97	510.36	4930.19
AVN-1	31-Oct-97	510.44	4930.11
AVN-1	26-Nov-97	510.48	4930.07
AVN-1	8-Jan-98	510.47	4930.08
AVN-1	2-Feb-98	510.59	4929.96

Appendix F (Continued)
TA-V Water Level Elevations
1992 through 1998

Monitor Well	Date	Depth to Water feet below measurement	Groundwater Elevation feet above mean sea level
AVN-1	2-Mar-98	510.89	4929.66
AVN-1	10-Apr-98	510.98	4929.57
AVN-1	7-May-98	510.86	4929.69
AVN-1	2-Jun-98	511.02	4929.53
AVN-1	2-Jul-98	511.19	4929.36
AVN-1	4-Aug-98	511.26	4929.29
AVN-1	1-Sep-98	511.17	4929.38
AVN-1	2-Oct-98	511.26	4929.29
AVN-1	2-Nov-98	511.20	4929.35
AVN-1	1-Dec-98	511.91	4928.64
Measuring Point Elevation: 5439.93			
AVN-2	11-Jul-95	507.00	4932.93
AVN-2	1-Jul-95	506.85	4933.08
AVN-2	18-Sep-95	506.87	4933.06
AVN-2	18-Sep-95	508.85	4931.08
AVN-2	17-Nov-95	507.43	4932.5
AVN-2	1-Dec-95	507.03	4932.9
AVN-2	2-Jan-96	507.35	4932.58
AVN-2	31-Jan-96	509.35	4930.58
AVN-2	20-Feb-96	507.15	4932.78
AVN-2	15-Mar-96	507.35	4932.58
AVN-2	30-Apr-96	507.53	4932.4
AVN-2	9-May-96	507.52	4932.41
AVN-2	28-Jun-96	507.68	4932.25
AVN-2	19-Jul-96	507.59	4932.34
AVN-2	29-Aug-96	507.68	4932.25
AVN-2	9-Sep-96	507.73	4932.2
AVN-2	31-Oct-96	508.12	4931.81
AVN-2	26-Nov-96	507.88	4932.05
AVN-2	5-Dec-96	508.17	4931.76
AVN-2	30-Jan-97	508.43	4931.5
AVN-2	26-Feb-97	507.77	4932.16
AVN-2	29-Mar-97	508.08	4931.85
AVN-2	30-Apr-97	508.24	4931.69
AVN-2	29-May-97	508.16	4931.77
AVN-2	23-Jun-97	508.31	4931.62
AVN-2	29-Aug-97	508.33	4931.6
AVN-2	26-Sep-97	508.26	4931.67
AVN-2	31-Oct-97	508.38	4931.55
AVN-2	26-Nov-97	508.38	4931.55

Appendix F (Continued)
TA-V Water Level Elevations
1992 through 1998

Monitor Well	Date	Depth to Water feet below measurement	Groundwater Elevation feet above mean sea level
AVN-2	8-Jan-98	508.36	4931.57
AVN-2	2-Feb-98	508.51	4931.42
AVN-2	2-Mar-98	508.80	4931.13
AVN-2	10-Apr-98	508.88	4931.05
AVN-2	7-May-98	508.77	4931.16
AVN-2	2-Jun-98	508.97	4930.96
AVN-2	2-Jul-98	509.14	4930.79
AVN-2	4-Aug-98	509.22	4930.71
AVN-2	1-Sep-98	509.11	4930.82
AVN-2	2-Oct-98	509.06	4930.87
AVN-2	2-Nov-98	508.95	4930.98
AVN-2	1-Dec-98	509.37	4930.56
Measuring Point Elevation: 5415.98			
KAFB-10*	1-Apr-93	494.83	4921.15
KAFB-10*	1-Sep-93	494.67	4921.31
KAFB-10*	22-Dec-93	495.20	4920.78
KAFB-10*	1-Jan-94	494.67	4921.31
KAFB-10*	1-Mar-94	495.44	4920.54
KAFB-10*	1-Jun-94	495.43	4920.55
KAFB-10*	30-Sep-94	495.70	4920.28
KAFB-10*	18-Oct-95	498.20	4917.78
KAFB-10*	19-Dec-95	498.15	4917.83

* - Abandoned April 1996

APPENDIX G
HYDROGRAPHS OF TA-V WELLS
1993 THROUGH 1998

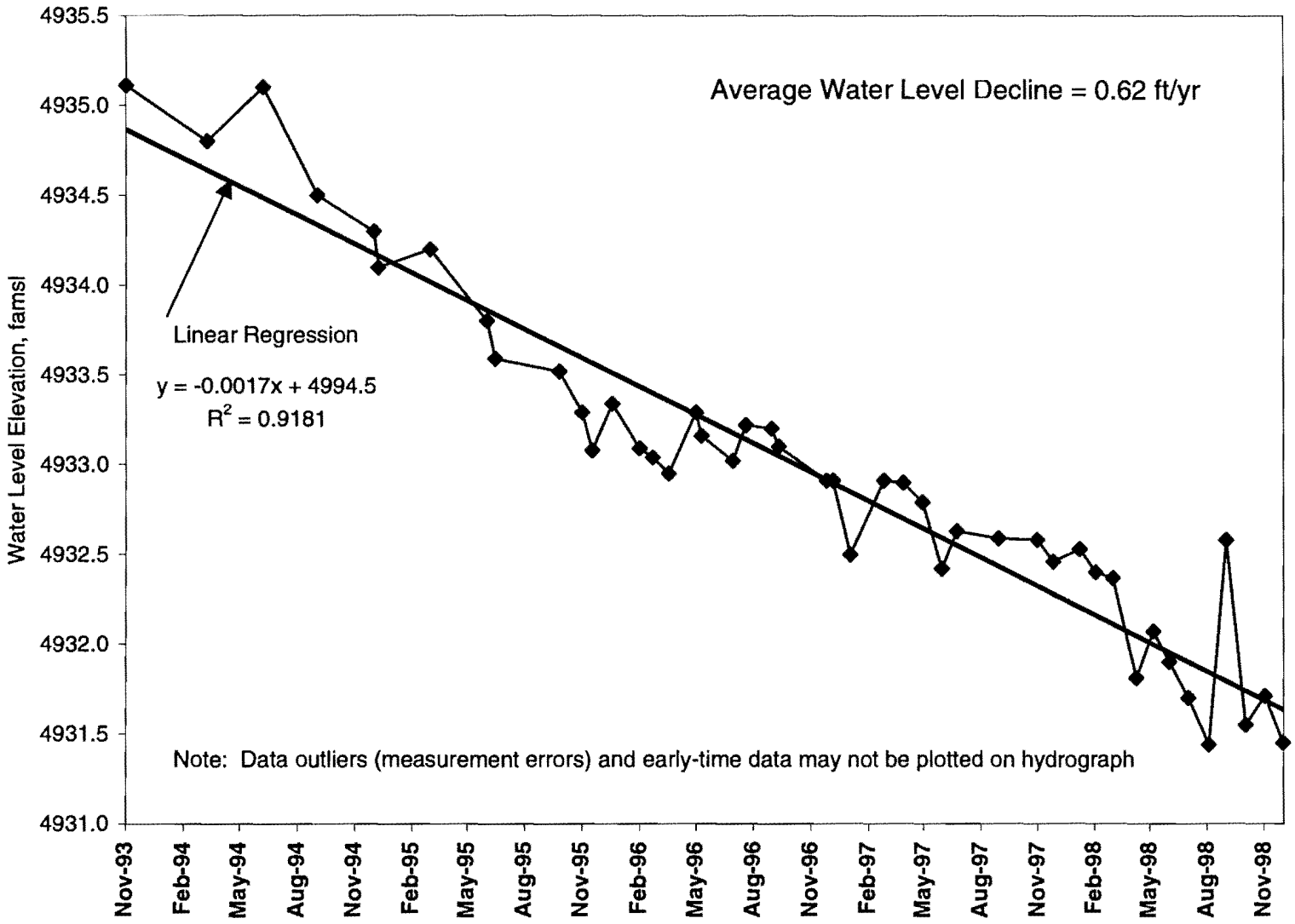


Figure G-1. Hydrograph for LWDS-MW1, 1993 - 1998

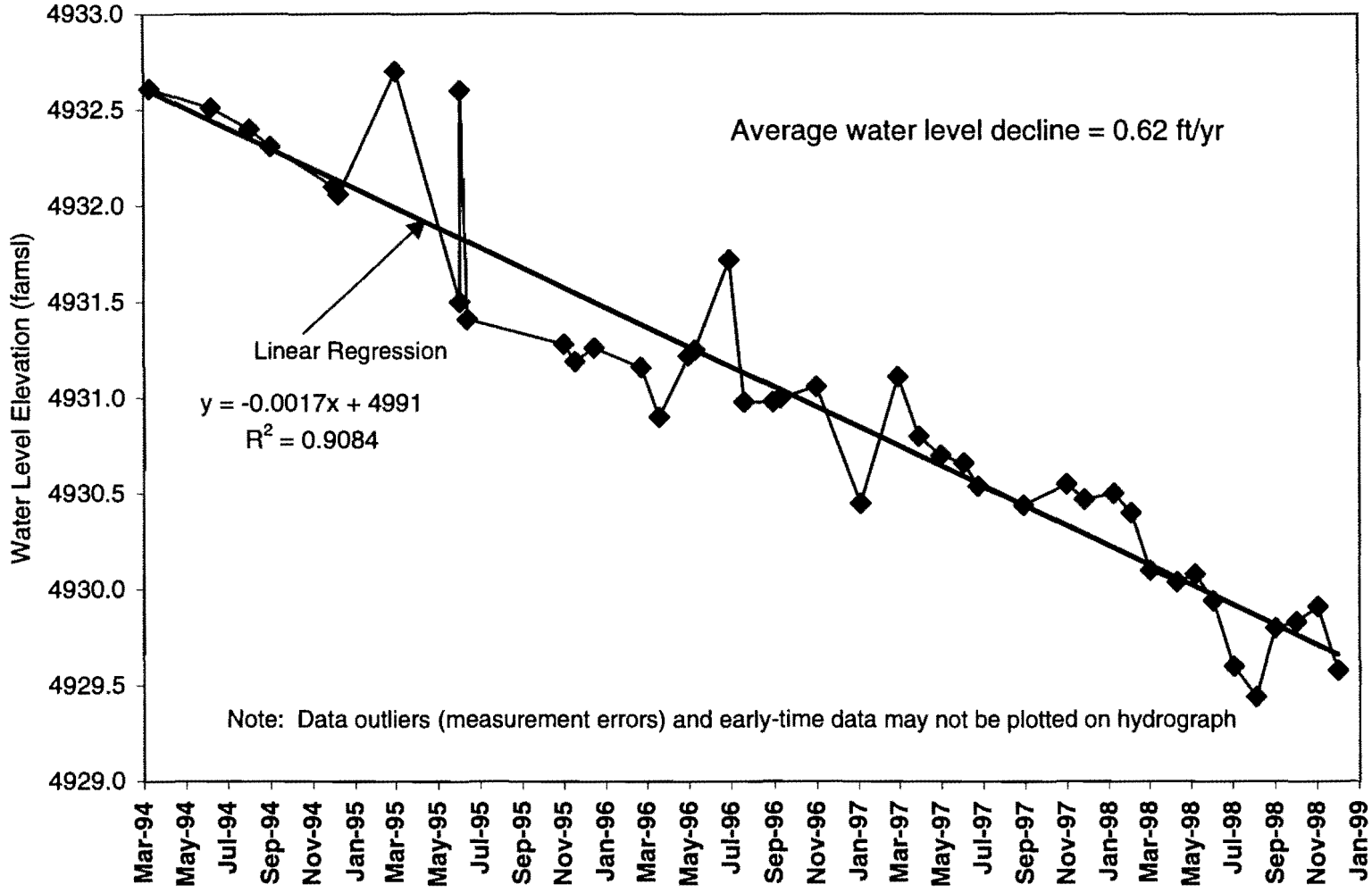


Figure G-2. Hydrograph for LWDS-MW2, 1994 - 1998

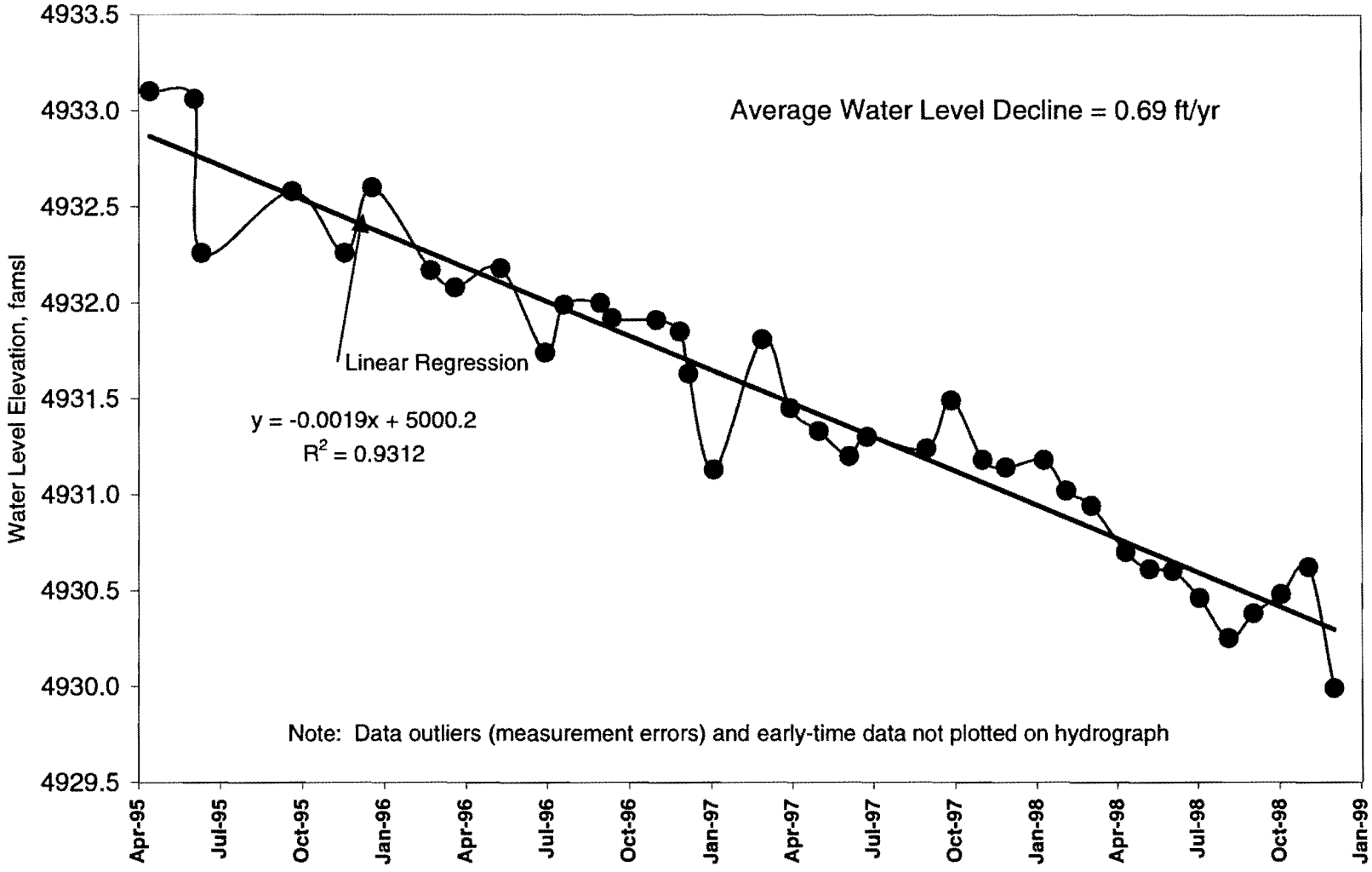


Figure G-3. Hydrograph for TAV-MW1, 1995 - 1998

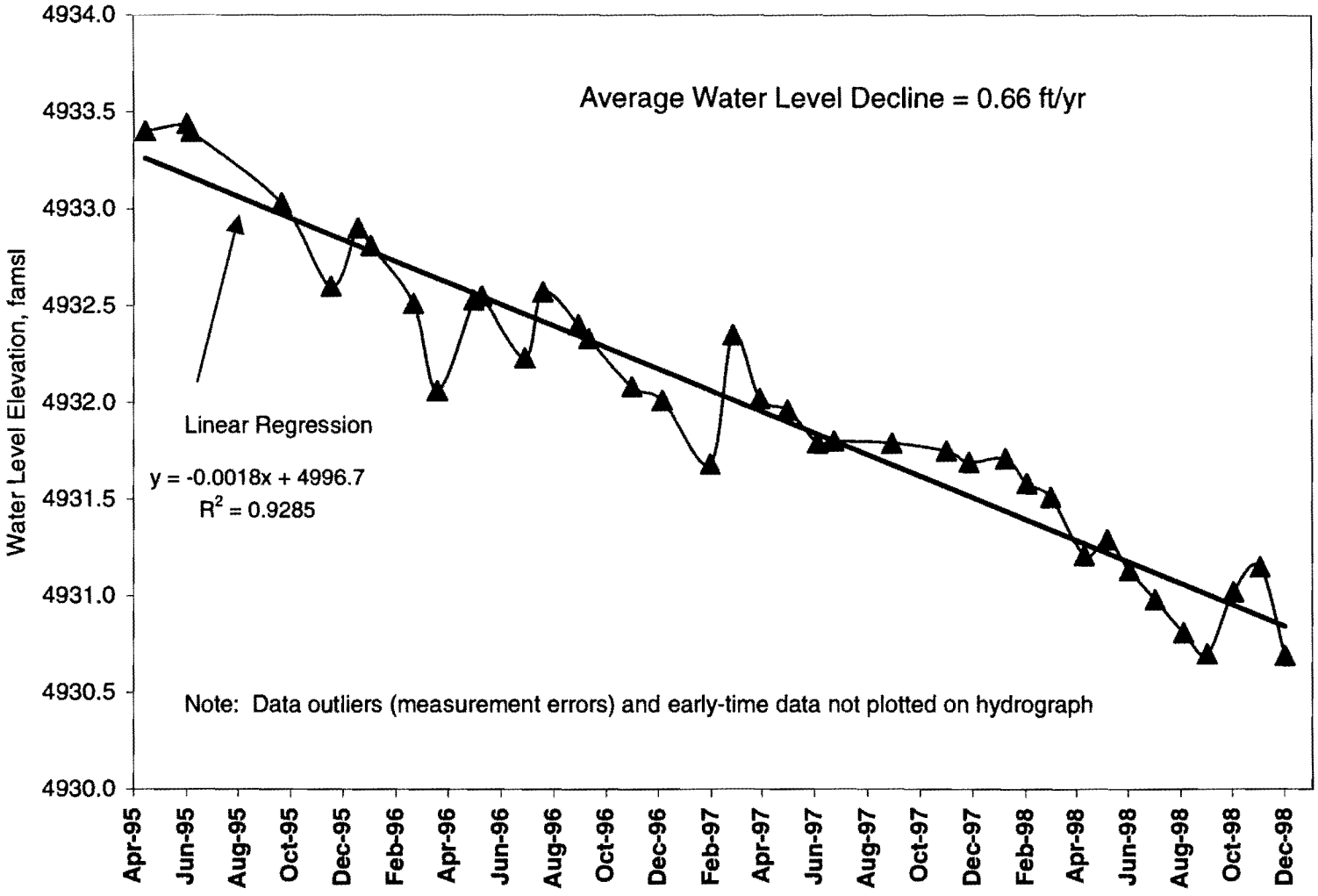


Figure G-4. Hydrograph for TAV-MW2, 1995-1998

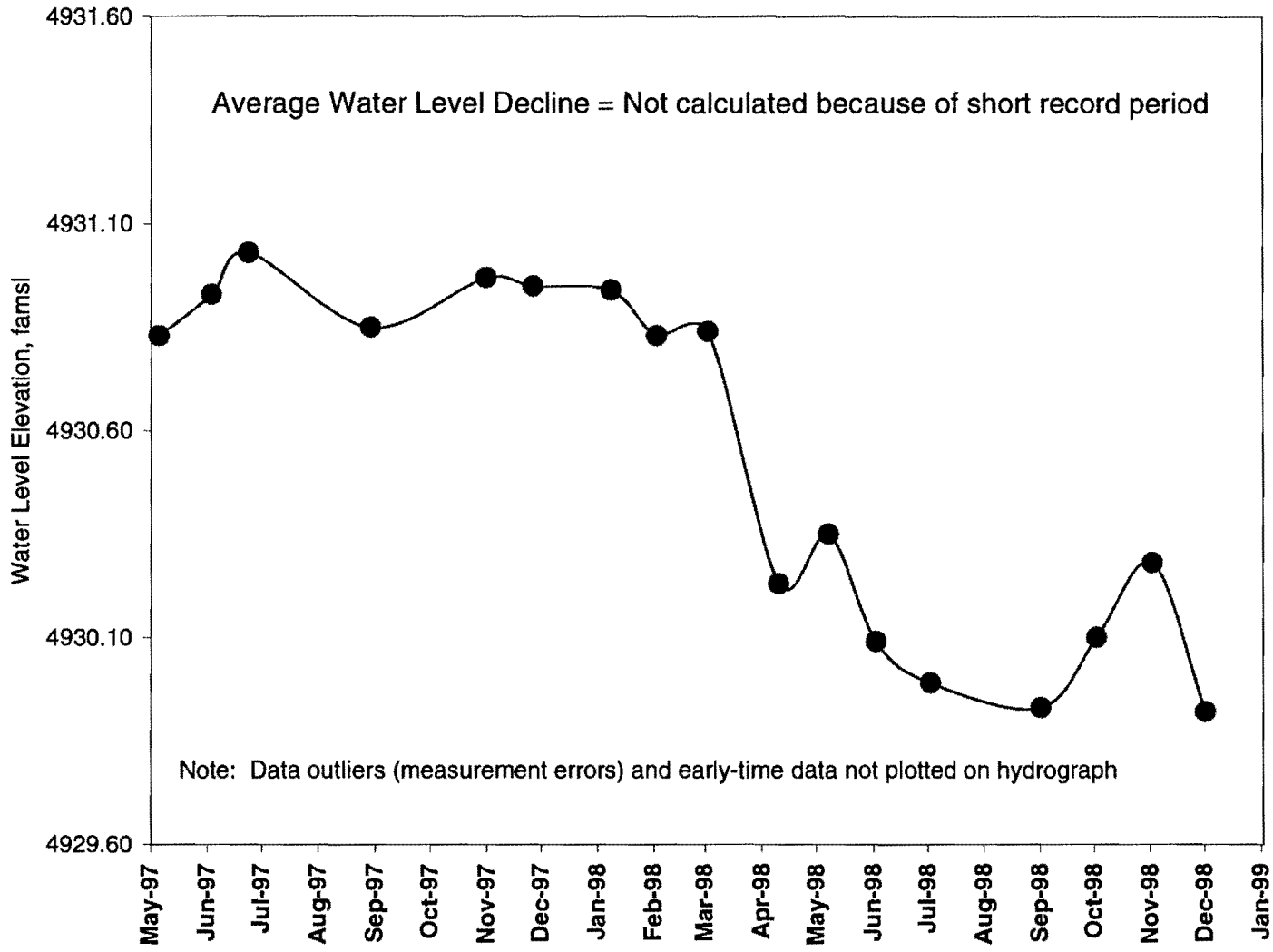


Figure G-5. Hydrograph for TAV-MW3, 1997-1998

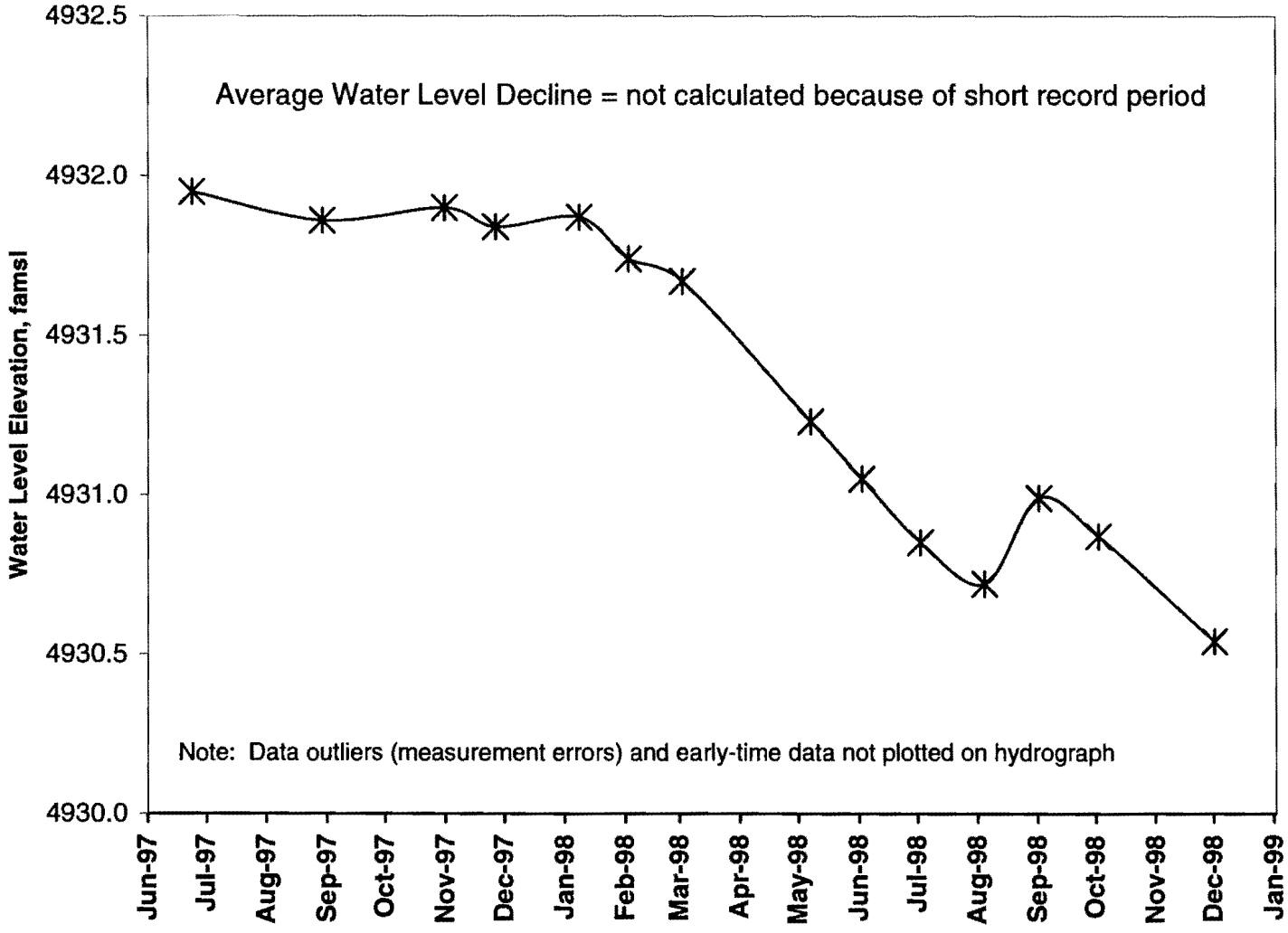


Figure G-6. Hydrograph for TAV-MW4, 1997-1998

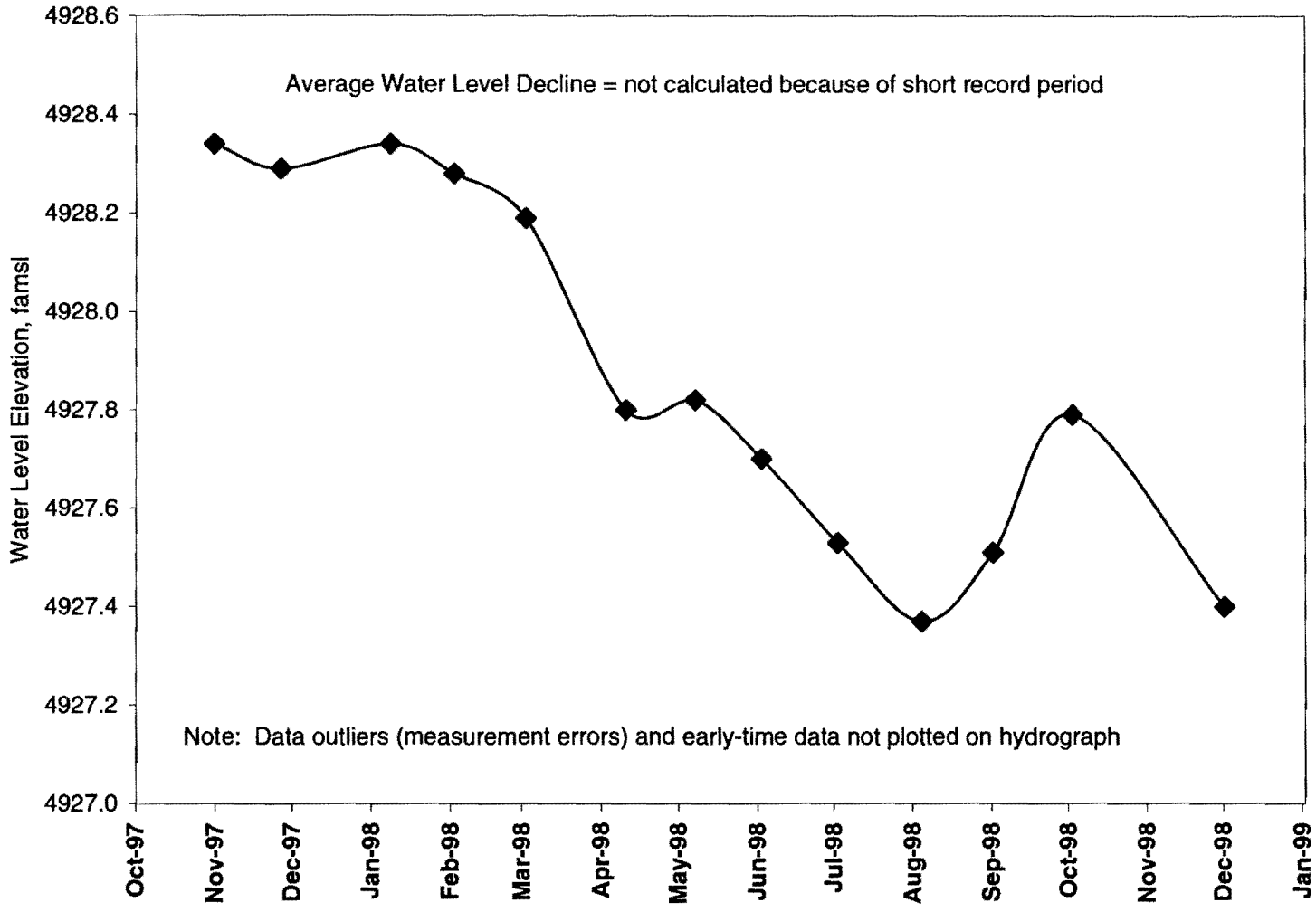


Figure G-7. Hydrograph for TAV-MW5, 1997 - 1998

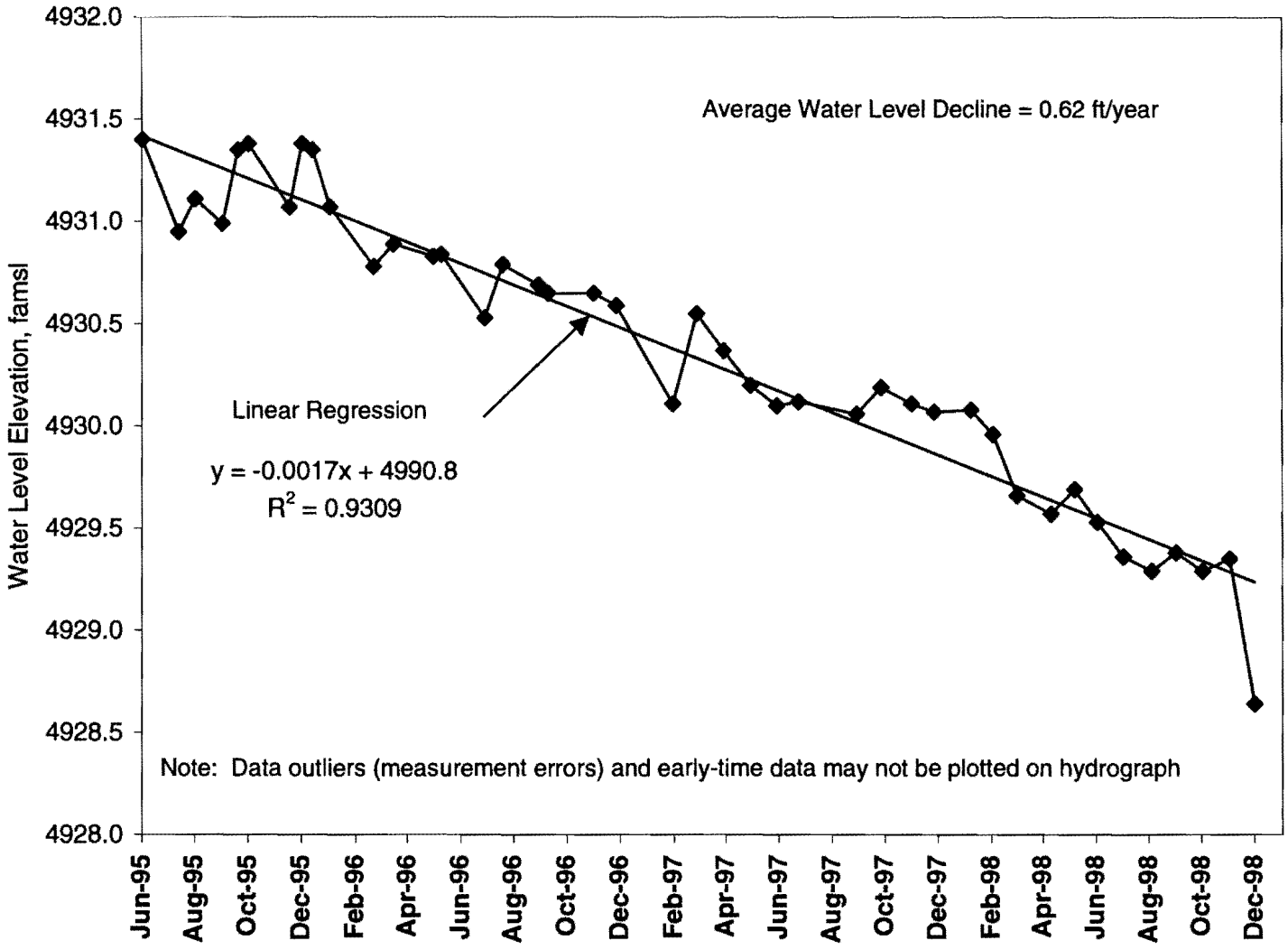


Figure G-8. Hydrograph for AVN-1, 1995 - 1998

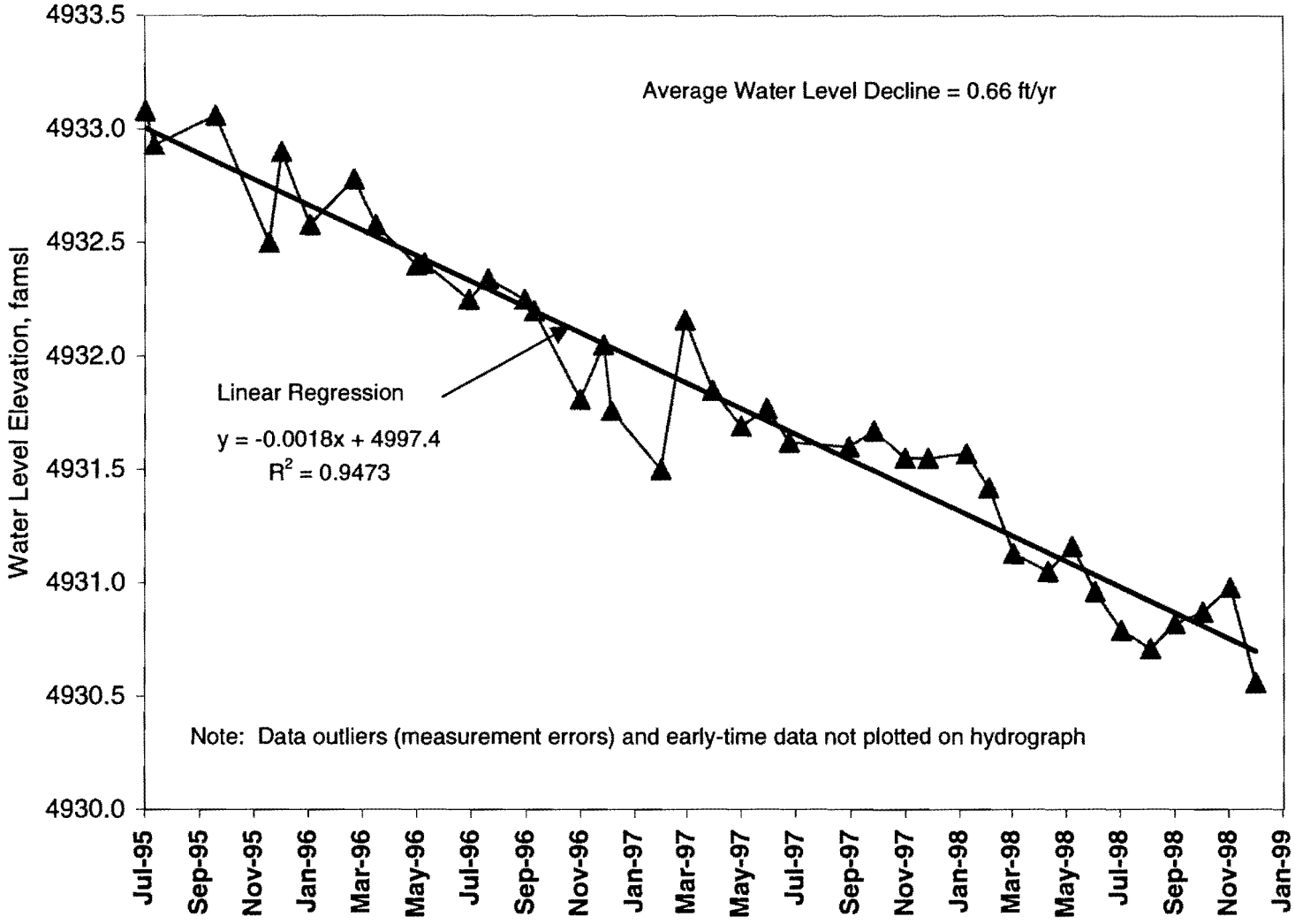


Figure G-9. Hydrograph for AVN-2, 1995 - 1998

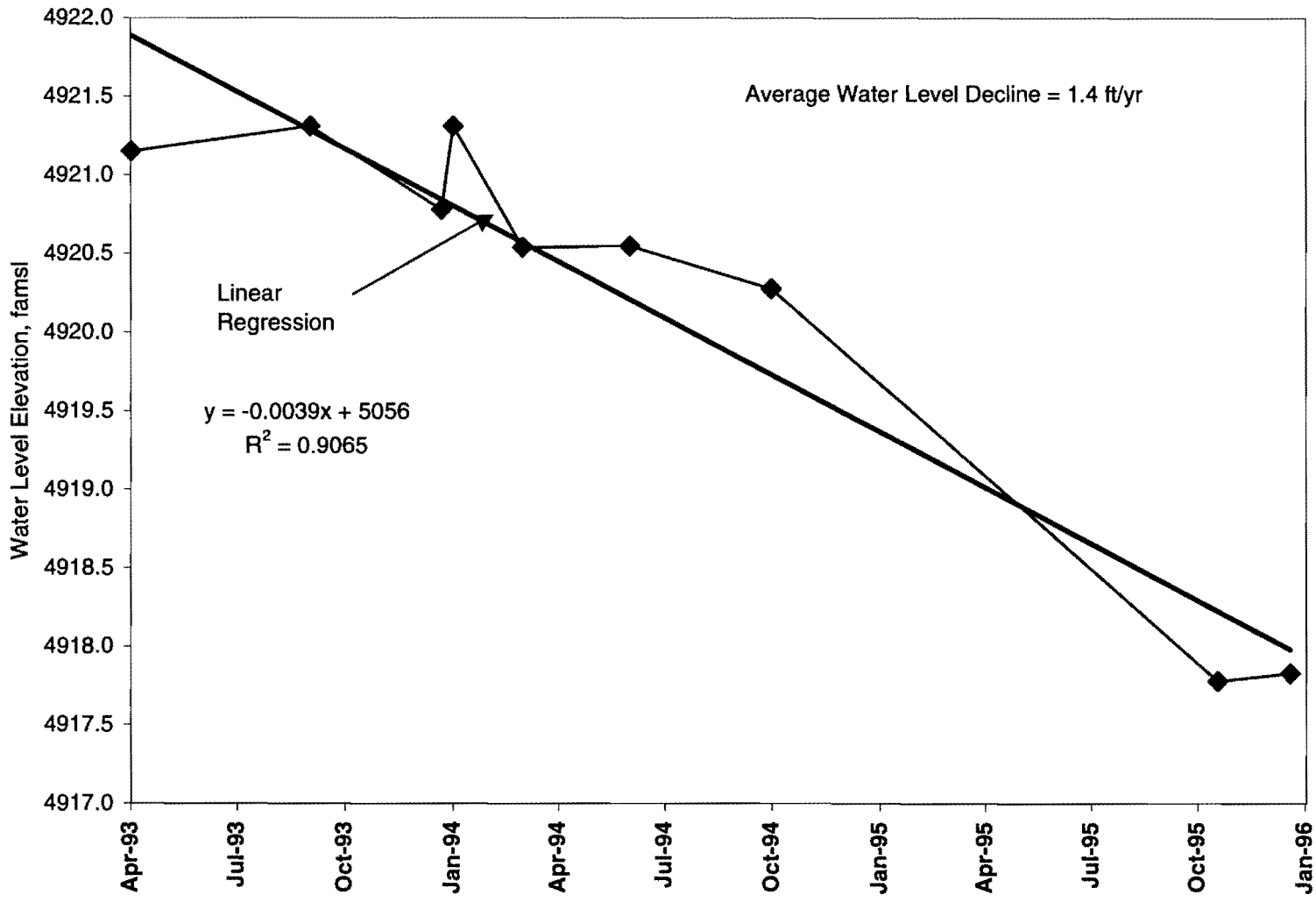


Figure G-10. Hydrograph for KAFB-10, 1993 - 1995

APPENDIX H

TA-V GROUNDWATER DATA TABLES

ACRONYMS AND ABBREVIATIONS FOR APPENDICES H1 THROUGH H4

<	analytical result qualified as not detected during data validation
B	analyte detected in associated blank
COC	chain of custody
D	duplicate
DU	duplicate
ENCOTEC	Environmental Controls Technology Corporation
ENSCO	Enseco, Inc.
ERCL	Environmental Restoration Chemistry Laboratory
F	field sample
GAMMA	gamma spectroscopy
GEL	General Engineering Laboratory
J	reported value less than the reporting limit
mg/L	milligram(s) per liter
NA	not applicable
ND	not detected above the reporting limit
pCi/L	picocurie(s) per liter
QARV	Quanterra, Inc., Arvada, Colorado
QSTL	Quanterra, Inc., Saint Louis, Missouri
QUAN SL	Quanterra, Inc., Saint Louis, Missouri
QUANTERA	Quanterra, Inc.
SA	field sample
SNL 7715	Sandia National Laboratories/New Mexico, Department 7715, Radiological Laboratory
SPL	split sample
TMA Eberline	TMA Eberline, Inc.
U	analytical result qualified as not detected during data validation

APPENDIX H1

TA-V GROUNDWATER DATA TABLES
FIELD MEASUREMENTS, ALKALINITY, AND TOTAL DISSOLVED SOLIDS
1993 THROUGH 1998

Appendix H1
TA-V Groundwater Field Measurements, Alkalinity, and Total Dissolved Solids, 1993 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration	Units	Qualifier	MDL	Analytical Method	Laboratory
Alkalinity as CACO3	AVN-1	25-JUN-96	SA	140	mg/L		5	HACH_ALK	ERCL
Alkalinity as CACO3	AVN-1	29-MAY-97	SA	143.2	mg/L			HACH_ALK	ERCL
Alkalinity as CACO3	AVN-1	03-JUN-98	SA	150	mg/L	J	100	HACH_ALK	ERCL
Alkalinity as CACO3	AVN-1	16-NOV-08	SA	140	mg/L		5	HACH_ALK	ERCL
Alkalinity as CACO3	AVN-2	25-JUN-96	SA	150	mg/L		5	HACH_ALK	ERCL
Alkalinity as CACO3	AVN-2	29-MAY-97	SA	144.8	mg/L			HACH_ALK	ERCL
Alkalinity as CACO3	AVN-2	03-JUN-98	SA	160	mg/L	J	100	HACH_ALK	ERCL
Alkalinity as CACO3	AVN-2	16-NOV-98	SA	160	mg/L		5	HACH_ALK	ERCL
Alkalinity as CACO3	LWDS-MW1	08-JUN-98	SA	180	mg/L	J	100	HACH_ALK	ERCL
Alkalinity as CACO3	LWDS-MW1	16-NOV-98	SA	180	mg/L		5	HACH_ALK	ERCL
Alkalinity as CACO3	LWDS-MW1	16-NOV-98	DU	190	mg/L		5	HACH_ALK	ERCL
Alkalinity as CACO3	LWDS-MW-1	08-JUN-98	DU	180	mg/L	J	100	HACH_ALK	ERCL
Alkalinity as CACO3	LWDS-MW2	02-JUN-97	SA	172.8	mg/L			HACH_ALK	ERCL
Alkalinity as CACO3	LWDS-MW-2	03-JUN-98	SA	180	mg/L	J	100	HACH_ALK	ERCL
Alkalinity as CACO3	LWDS-MW-2	17-NOV-98	SA	180	mg/L		5	HACH_ALK	ERCL
Alkalinity as CACO3	TAV-MW1	03-JUN-97	SA	216.4	mg/L			HACH_ALK	ERCL
Alkalinity as CACO3	TAV-MW1	23-NOV-98	SA	200	mg/L		5	HACH_ALK	ERCL
Alkalinity as CACO3	TAV-MW2	04-JUN-97	SA	223.8	mg/L			HACH_ALK	ERCL
Alkalinity as CACO3	TAV-MW2	20-NOV-98	SA	240	mg/L		5	HACH_ALK	ERCL
Alkalinity as CACO3	TAV-MW3	26-FEB-98	SA	192	mg/L	J	100	HACH_ALK	ERCL
Alkalinity as CACO3	TAV-MW3	19-NOV-98	SA	190	mg/L		5	HACH_ALK	ERCL
Alkalinity as CACO3	TAV-MW4	26-FEB-98	SA	144	mg/L	J	100	HACH_ALK	ERCL
Alkalinity as CACO3	TAV-MW5	27-FEB-98	SA	173	mg/L	J	100	HACH_ALK	ERCL
Alkalinity, bicarb as CACO3 at ph	LWDS-MW1	02-NOV-93	F	<10	mg/L	U	10	2320B	ENCOTEC
Alkalinity, bicarb as CACO3 at ph	LWDS-MW1	03-NOV-93	F	260	mg/L		10	2320B	ENCOTEC
Alkalinity, bicarb as CACO3 at ph	LWDS-MW1	03-NOV-93	F	270	mg/L		10	2320B	ENCOTEC
Alkalinity, bicarb as CACO3 at ph	LWDS-MW2	24-JUN-93	F	170	mg/L		10	2320B	ENCOTEC
Alkalinity, bicarb as CACO3 at ph	LWDS-MW2	24-JUN-93	D	170	mg/L		10	2320B	ENCOTEC
Alkalinity, total	AVN-1	13-JUL-95	F	160	mg/L		10	2320B	ENCOTEC
Alkalinity, total	AVN-2	11-JUL-95	F	170	mg/L		10	2320B	ENCOTEC
Alkalinity, total	LWDS-MW1	10-MAR-94	F	230	mg/L		10	2320B	ENCOTEC
Alkalinity, total	LWDS-MW1	07-JUN-94	F	220	mg/L		10	2320B	ENCOTEC
Alkalinity, total	LWDS-MW1	01-SEP-94	F	240	mg/L		10	2320B	ENCOTEC
Alkalinity, total	LWDS-MW1	01-SEP-94	D	230	mg/L		10	2320B	ENCOTEC
Alkalinity, total	LWDS-MW1	01-SEP-94	F	240	mg/L		10	2320B	ENCOTEC
Alkalinity, total	LWDS-MW1	14-JUN-95	F	230	mg/L		10	2320B	ENCOTEC
Alkalinity, total	LWDS-MW1	08-JUN-98	SPLIT	188	mg/L		5	EPA 310.1	QSTL
Alkalinity, total	LWDS-MW-1	02-MAR-95	F	220	mg/L		10	2320B	ENCOTEC
Alkalinity, total	LWDS-MW2	11-MAR-94	F	170	mg/L		10	2320B	ENCOTEC
Alkalinity, total	LWDS-MW2	11-MAR-94	D	170	mg/L		10	2320B	ENCOTEC
Alkalinity, total	LWDS-MW2	06-JUN-94	F	160	mg/L		10	2320B	ENCOTEC
Alkalinity, total	LWDS-MW2	31-AUG-94	F	170	mg/L		10	2320B	ENCOTEC
Alkalinity, total	LWDS-MW2	07-DEC-94	F	180	mg/L		10	2320B	ENCOTEC
Alkalinity, total	LWDS-MW2	07-DEC-94	D	180	mg/L		10	2320B	ENCOTEC
Alkalinity, total	LWDS-MW2	12-JUN-95	D	180	mg/L		10	2320B	ENCOTEC
Alkalinity, total	LWDS-MW-2	01-MAR-95	D	180	mg/L		10	2320B	ENCOTEC
Alkalinity, total	TAV-MW1	09-JUN-95	F	170	mg/L		10	2320B	ENCOTEC
Alkalinity, total	TAV-MW2	06-JUN-95	F	220	mg/L		10	2320B	ENCOTEC
Alkalinity, total as CACO3 at ph 4	AVN-1	13-DEC-95	F	148	mg/L		1	310.1/310.2	GEL
Alkalinity, total as CACO3 at ph 4	AVN-2	14-DEC-95	F	157	mg/L		1	310.1/310.2	GEL
Alkalinity, total as CACO3 at ph 4	LWDS-MW1	19-DEC-95	F	217	mg/L		1	310.1/310.2	GEL
Alkalinity, total as CACO3 at ph 4	LWDS-MW1	19-DEC-95	D	218	mg/L		1	310.1/310.2	GEL
Alkalinity, total as CACO3 at ph 4	LWDS-MW2	14-DEC-95	F	172	mg/L		1	310.1/310.2	GEL
Alkalinity, total as CACO3 at ph 4	TAV-MW1	18-DEC-95	F	187	mg/L		1	310.1/310.2	GEL
Alkalinity, total as CACO3 at ph 4	TAV-MW2	18-DEC-95	F	230	mg/L		1	310.1/310.2	GEL
Alkalinity, total as CACO3 at ph 4	TAV-MW2	04-JUN-97	SPL	290	mg/L		1	310.1	GEL
Conductance, specific	LWDS-MW1	07-JUN-94	F	670	umhos/cm		1	9050	ENCOTEC
Conductance, specific	LWDS-MW1	01-SEP-94	F	610	umhos/cm		1	9050	ENCOTEC
Conductance, specific	LWDS-MW1	01-SEP-94	D	620	umhos/cm		1	9050	ENCOTEC
Conductance, specific	LWDS-MW1	01-SEP-94	F	600	umhos/cm		1	9050	ENCOTEC
Conductance, specific	LWDS-MW2	06-JUN-94	F	420	umhos/cm		1	9050	ENCOTEC
Conductance, specific	LWDS-MW2	31-AUG-94	F	370	umhos/cm		1	9050	ENCOTEC
pH	LWDS-MW1	07-JUN-94	F	7.4	SU		0.5	9040	ENCOTEC
pH	LWDS-MW1	01-SEP-94	F	7.3	SU		0.5	9040	ENCOTEC
pH	LWDS-MW1	01-SEP-94	D	7.4	SU		0.5	9040	ENCOTEC
pH	LWDS-MW1	01-SEP-94	F	7.4	SU		0.5	9040	ENCOTEC
pH	LWDS-MW2	06-JUN-94	F	7.5	SU		0.5	9040	ENCOTEC
pH	LWDS-MW2	31-AUG-94	F	7.6	SU		0.5	9040	ENCOTEC
pH	LWDS-MW2	07-DEC-94	F	7.8	SU		0.5	9040	ENCOTEC
pH	LWDS-MW2	07-DEC-94	D	7.7	SU		0.5	9040	ENCOTEC
Solids, total dissolved	AVN-1	13-JUL-95	F	250	mg/L		10	160.1	ENCOTEC
Solids, total dissolved	AVN-2	11-JUL-95	F	290	mg/L		10	160.1	ENCOTEC
Solids, total dissolved	LWDS-MW1	02-NOV-93	F	34	mg/L		10	160.1	ENCOTEC
Solids, total dissolved	LWDS-MW1	03-NOV-93	F	480	mg/L		10	160.1	ENCOTEC

Appendix H1 (Continued)
TA-V Groundwater Field Measurements, Alkalinity, and Total Dissolved Solids, 1993 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration	Units	Qualifier	MDL	Analytical Method	Laboratory
Solids, total dissolved	LWDS-MW1	03-NOV-93	F	520	mg/L		10	160.1	ENCOTEC
Solids, total dissolved	LWDS-MW1	07-JUN-94	F	480	mg/L		10	160.1	ENCOTEC
Solids, total dissolved	LWDS-MW1	01-SEP-94	F	490	mg/L		10	160.1	ENCOTEC
Solids, total dissolved	LWDS-MW1	01-SEP-94	F	480	mg/L		10	160.1	ENCOTEC
Solids, total dissolved	LWDS-MW1	01-SEP-94	D	470	mg/L		10	160.1	ENCOTEC
Solids, total dissolved	LWDS-MW1	14-JUN-95	F	460	mg/L		10	160.1	ENCOTEC
Solids, total dissolved	LWDS-MW2	24-JUN-93	F	160	mg/L		10	160.1	ENCOTEC
Solids, total dissolved	LWDS-MW2	24-JUN-93	D	130	mg/L		10	160.1	ENCOTEC
Solids, total dissolved	LWDS-MW2	06-JUN-94	F	320	mg/L		10	160.1	ENCOTEC
Solids, total dissolved	LWDS-MW2	31-AUG-94	F	320	mg/L		10	160.1	ENCOTEC
Solids, total dissolved	LWDS-MW2	12-JUN-95	D	320	mg/L		10	160.1	ENCOTEC
Solids, total dissolved	TAV-MW1	09-JUN-95	F	340	mg/L		10	160.1	ENCOTEC
Solids, total dissolved	TAV-MW2	06-JUN-95	F	400	mg/L		10	160.1	ENCOTEC

APPENDIX H2

TA-V GROUNDWATER DATA TABLES
INORGANIC COMPOUNDS
1992 THROUGH 1998

Appendix H2
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Aluminum	AVN-1	13-JUL-95	F	<0.2	U	0.2	6010	ENCOTEC
Aluminum	AVN-1	13-DEC-95	F	.0287	J	0.0119	6010A	GEL
Aluminum	AVN-1	29-MAY-97	SA	0.47	JB	0.15	EPA6020	ERCL
Aluminum	AVN-2	11-JUL-95	F	<0.2	U	0.2	6010	ENCOTEC
Aluminum	AVN-2	14-DEC-95	F	.0771		0.0119	6010A	GEL
Aluminum	AVN-2	04-DEC-96	SA	0.84		0.044	EPA6020	ERCL
Aluminum	AVN-2	29-MAY-97	SA	0.63	B	0.15	EPA6020	ERCL
Aluminum	LWDS-MW1	03-MAY-93	F	676		0.5	6010	ENSECO
Aluminum	LWDS-MW1	02-NOV-93	F	<0.2	U	0.2	6010	ENCOTEC
Aluminum	LWDS-MW1	03-NOV-93	F	<0.2	U	0.2	6010	ENCOTEC
Aluminum	LWDS-MW1	03-NOV-93	F	<0.2	U	0.2	6010	ENCOTEC
Aluminum	LWDS-MW1	10-MAR-94	F	1.1		0.2	6010	ENCOTEC
Aluminum	LWDS-MW1	07-JUN-94	F	<0.2	U	0.2	6010	ENCOTEC
Aluminum	LWDS-MW1	01-SEP-94	F	<0.2	U	0.2	6010	ENCOTEC
Aluminum	LWDS-MW1	01-SEP-94	D	<0.2	U	0.2	6010	ENCOTEC
Aluminum	LWDS-MW1	01-SEP-94	F	<0.2	U	0.2	6010	ENCOTEC
Aluminum	LWDS-MW1	08-DEC-94	F	<0.2	U	0.2	6010	ENCOTEC
Aluminum	LWDS-MW1	14-JUN-95	F	<0.2	U	0.2	6010	ENCOTEC
Aluminum	LWDS-MW1	19-DEC-95	F	.0837		0.0119	6010A	GEL
Aluminum	LWDS-MW1	19-DEC-95	D	.0741		0.0119	6010A	GEL
Aluminum	LWDS-MW1	06-DEC-96	SA	<0.044	U	0.044	EPA6020	ERCL
Aluminum	LWDS-MW1	30-MAY-97	SA	0.26	JB	0.15	EPA6020	ERCL
Aluminum	LWDS-MW-1	02-MAR-95	F	<0.2	U	0.2	6010	ENCOTEC
Aluminum	LWDS-MW2	21-OCT-92	F	7.5		0.1	6010	ENSECO
Aluminum	LWDS-MW2	24-JUN-93	F	<0.2	U	0.2	6010	ENCOTEC
Aluminum	LWDS-MW2	24-JUN-93	D	<0.2	U	0.2	6010	ENCOTEC
Aluminum	LWDS-MW2	09-MAR-94	F	.57		0.2	6010	ENCOTEC
Aluminum	LWDS-MW2	09-MAR-94	D	.32		0.2	6010	ENCOTEC
Aluminum	LWDS-MW2	06-JUN-94	F	<0.2	U	0.2	6010	ENCOTEC
Aluminum	LWDS-MW2	31-AUG-94	F	<0.2	U	0.2	6010	ENCOTEC
Aluminum	LWDS-MW2	07-DEC-94	D	<0.2	U	0.2	6010	ENCOTEC
Aluminum	LWDS-MW2	07-DEC-94	F	<0.2	U	0.2	6010	ENCOTEC
Aluminum	LWDS-MW2	12-JUN-95	D	<0.2	U	0.2	6010	ENCOTEC
Aluminum	LWDS-MW2	14-DEC-95	F	.0382	J	0.0119	6010A	GEL
Aluminum	LWDS-MW2	05-DEC-96	SA	<0.044	U	0.044	EPA6020	ERCL
Aluminum	LWDS-MW-2	01-MAR-95	D	<0.2	U	0.2	6010	ENCOTEC
Aluminum	TAV-MW1	09-JUN-95	F	.34		0.2	6010	ENCOTEC
Aluminum	TAV-MW1	18-DEC-95	F	.376		0.0119	6010A	GEL
Aluminum	TAV-MW1	06-DEC-96	SA	<0.044	U	0.044	EPA6020	ERCL
Aluminum	TAV-MW1	06-DEC-96	DU	<0.044	U	0.044	EPA6020	ERCL
Aluminum	TAV-MW2	06-JUN-95	F	.26		0.2	6010	ENCOTEC
Aluminum	TAV-MW2	18-DEC-95	F	.118		0.0119	6010A	GEL
Aluminum	TAV-MW2	05-DEC-96	SA	<0.044	U	0.044	EPA6020	ERCL
Aluminum	TAV-MW3	26-FEB-98	SA	0.64		0.15	EPA6020	ERCL
Aluminum	TAV-MW4	26-FEB-98	SA	<0.15	U	0.15	EPA6020	ERCL
Aluminum	TAV-MW5	27-FEB-98	SA	<0.15	U	0.15	EPA6020	ERCL
Antimony	AVN-1	13-JUL-95	F	<0.06	U	0.06	6010	ENCOTEC
Antimony	AVN-1	13-DEC-95	F	.00223	JB	0.00096	6010A	GEL
Antimony	AVN-1	29-MAY-97	SA	<0.0017	U	0.0017	EPA6020	ERCL
Antimony	AVN-2	11-JUL-95	F	<0.06	U	0.06	6010	ENCOTEC
Antimony	AVN-2	14-DEC-95	F	.00138	JB	0.00096	6010A	GEL
Antimony	AVN-2	04-DEC-96	SA	<0.0011	U	0.0011	EPA6020	ERCL
Antimony	AVN-2	29-MAY-97	SA	<0.0017	U	0.0017	EPA6020	ERCL

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Antimony	LWDS-MW1	03-MAY-93	F	<0.3	U	0.3	6010	ENSECO
Antimony	LWDS-MW1	02-NOV-93	F	<0.06	U	0.06	6010	ENCOTEC
Antimony	LWDS-MW1	03-NOV-93	F	<0.06	U	0.06	6010	ENCOTEC
Antimony	LWDS-MW1	03-NOV-93	F	<0.06	U	0.06	6010	ENCOTEC
Antimony	LWDS-MW1	10-MAR-94	F	<0.06	U	0.06	6010	ENCOTEC
Antimony	LWDS-MW1	07-JUN-94	F	<0.2	U	0.2	6010	ENCOTEC
Antimony	LWDS-MW1	01-SEP-94	F	<0.06	U	0.06	6010	ENCOTEC
Antimony	LWDS-MW1	01-SEP-94	D	<0.06	U	0.06	6010	ENCOTEC
Antimony	LWDS-MW1	01-SEP-94	F	<0.06	U	0.06	6010	ENCOTEC
Antimony	LWDS-MW1	08-DEC-94	F	<0.06	U	0.06	6010	ENCOTEC
Antimony	LWDS-MW1	14-JUN-95	F	<0.06	U	0.06	6010	ENCOTEC
Antimony	LWDS-MW1	19-DEC-95	F	.00134	JB	0.00096	6010A	GEL
Antimony	LWDS-MW1	19-DEC-95	D	.0011	JB	0.00096	6010A	GEL
Antimony	LWDS-MW1	06-DEC-96	SA	<0.0011	U	0.0011	EPA6020	ERCL
Antimony	LWDS-MW1	30-MAY-97	SA	<0.0017	U	0.0017	EPA6020	ERCL
Antimony	LWDS-MW-1	02-MAR-95	F	<0.06	U	0.06	6010	ENCOTEC
Antimony	LWDS-MW2	21-OCT-92	F	<0.06	U	0.06	6010	ENSECO
Antimony	LWDS-MW2	24-JUN-93	F	<0.06	U	0.06	6010	ENCOTEC
Antimony	LWDS-MW2	24-JUN-93	D	<0.06	U	0.06	6010	ENCOTEC
Antimony	LWDS-MW2	09-MAR-94	F	<0.06	U	0.06	6010	ENCOTEC
Antimony	LWDS-MW2	09-MAR-94	D	<0.06	U	0.06	6010	ENCOTEC
Antimony	LWDS-MW2	06-JUN-94	F	<0.2	U	0.2	6010	ENCOTEC
Antimony	LWDS-MW2	31-AUG-94	F	<0.06	U	0.06	6010	ENCOTEC
Antimony	LWDS-MW2	07-DEC-94	F	<0.06	U	0.06	6010	ENCOTEC
Antimony	LWDS-MW2	07-DEC-94	D	<0.06	U	0.06	6010	ENCOTEC
Antimony	LWDS-MW2	12-JUN-95	D	<0.06	U	0.06	6010	ENCOTEC
Antimony	LWDS-MW2	14-DEC-95	F	<0.00096	UB	0.00096	6010A	GEL
Antimony	LWDS-MW2	05-DEC-96	SA	<0.0011	U	0.0011	EPA6020	ERCL
Antimony	LWDS-MW-2	01-MAR-95	D	<0.06	U	0.06	6010	ENCOTEC
Antimony	TAV-MW1	09-JUN-95	F	<0.06	U	0.06	6010	ENCOTEC
Antimony	TAV-MW1	18-DEC-95	F	<0.00096	UB	0.00096	6010A	GEL
Antimony	TAV-MW1	06-DEC-96	SA	<0.0011	U	0.0011	EPA6020	ERCL
Antimony	TAV-MW1	06-DEC-96	DU	<0.0011	U	0.0011	EPA6020	ERCL
Antimony	TAV-MW2	06-JUN-95	F	<0.06	U	0.06	6010	ENCOTEC
Antimony	TAV-MW2	18-DEC-95	F	.00193	JB	0.00096	6010A	GEL
Antimony	TAV-MW2	05-DEC-96	SA	<0.0011	U	0.0011	EPA6020	ERCL
Antimony	TAV-MW3	26-FEB-98	SA	<0.0017	U	0.0017	EPA6020	ERCL
Antimony	TAV-MW4	26-FEB-98	SA	<0.0017	U	0.0017	EPA6020	ERCL
Antimony	TAV-MW5	27-FEB-98	SA	<0.0017	U	0.0017	EPA6020	ERCL
Arsenic	AVN-1	13-JUL-95	F	<0.01	U	0.01	6020	ENCOTEC
Arsenic	AVN-1	13-DEC-95	F	.00313	J	0.00186	6010A	GEL
Arsenic	AVN-1	29-MAY-97	SA	<0.0034	U	0.0034	EPA6020	ERCL
Arsenic	AVN-1	03-JUN-98	SA	<0.0034	U	0.0034	EPA6020	ERCL
Arsenic	AVN-1	16-NOV-08	SA	<0.0034	U	0.0034	EPA6020	ERCL
Arsenic	AVN-2	11-JUL-95	F	<0.01	U	0.01	6020	ENCOTEC
Arsenic	AVN-2	14-DEC-95	F	.00477	J	0.00186	6010A	GEL
Arsenic	AVN-2	04-DEC-96	SA	<0.00038	U	0.00038	EPA6020	ERCL
Arsenic	AVN-2	29-MAY-97	SA	<0.0034	U	0.0034	EPA6020	ERCL
Arsenic	AVN-2	03-JUN-98	SA	<0.0034	U	0.0034	EPA6020	ERCL
Arsenic	AVN-2	16-NOV-98	SA	<0.0034	U	0.0034	EPA6020	ERCL
Arsenic	LWDS-MW1	03-MAY-93	F	.064		0.025	7060	ENSECO
Arsenic	LWDS-MW1	02-NOV-93	F	<0.002	U	0.002	7061	ENCOTEC
Arsenic	LWDS-MW1	03-NOV-93	F	.006		0.002	7061	ENCOTEC

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Arsenic	LWDS-MW1	03-NOV-93	F	.007		0.002	7061	ENCOTEC
Arsenic	LWDS-MW1	10-MAR-94	F	.006		0.002	7061	ENCOTEC
Arsenic	LWDS-MW1	07-JUN-94	F	.007		0.002	7061	ENCOTEC
Arsenic	LWDS-MW1	01-SEP-94	F	<0.01	U	0.01	7060	ENCOTEC
Arsenic	LWDS-MW1	01-SEP-94	D	<0.025	U	0.025	7060	ENCOTEC
Arsenic	LWDS-MW1	01-SEP-94	F	<0.025	U	0.025	7060	ENCOTEC
Arsenic	LWDS-MW1	08-DEC-94	F	<0.01	U	0.01	6020	ENCOTEC
Arsenic	LWDS-MW1	14-JUN-95	F	<0.01	U	0.01	6020	ENCOTEC
Arsenic	LWDS-MW1	19-DEC-95	F	.00417	J	0.00186	6010A	GEL
Arsenic	LWDS-MW1	19-DEC-95	D	.00539	J	0.00186	6010A	GEL
Arsenic	LWDS-MW1	06-DEC-96	SA	<0.00038	U	0.00038	EPA6020	ERCL
Arsenic	LWDS-MW1	30-MAY-97	SA	<0.0034	U	0.0034	EPA6020	ERCL
Arsenic	LWDS-MW1	08-JUN-98	SPLIT	<0.002	U	0.002	EPA 6010	QSTL
Arsenic	LWDS-MW1	08-JUN-98	SA	0.0043	J	0.0034	EPA6020	ERCL
Arsenic	LWDS-MW1	16-NOV-98	SA	0.0063	J	0.0034	EPA6020	ERCL
Arsenic	LWDS-MW1	16-NOV-98	DU	<0.0034	U	0.0034	EPA6020	ERCL
Arsenic	LWDS-MW-1	02-MAR-95	F	<0.01	U	0.01	6020	ENCOTEC
Arsenic	LWDS-MW-1	08-JUN-98	DU	<0.0034	U	0.0034	EPA6020	ERCL
Arsenic	LWDS-MW2	21-OCT-92	F	<0.005	U	0.005	7060	ENSECO
Arsenic	LWDS-MW2	24-JUN-93	F	<0.002	U	0.002	7061	ENCOTEC
Arsenic	LWDS-MW2	24-JUN-93	D	<0.002	U	0.002	7061	ENCOTEC
Arsenic	LWDS-MW2	09-MAR-94	F	<0.002	U	0.002	7061	ENCOTEC
Arsenic	LWDS-MW2	09-MAR-94	D	<0.002	U	0.002	7061	ENCOTEC
Arsenic	LWDS-MW2	06-JUN-94	F	<0.002	U	0.002	7061	ENCOTEC
Arsenic	LWDS-MW2	31-AUG-94	F	<0.025	U	0.025	7060	ENCOTEC
Arsenic	LWDS-MW2	07-DEC-94	F	<0.01	U	0.01	6020	ENCOTEC
Arsenic	LWDS-MW2	07-DEC-94	D	<0.01	U	0.01	6020	ENCOTEC
Arsenic	LWDS-MW2	12-JUN-95	D	<0.01	U	0.01	6020	ENCOTEC
Arsenic	LWDS-MW2	14-DEC-95	F	<0.00186	U	0.00186	6010A	GEL
Arsenic	LWDS-MW2	05-DEC-96	SA	<0.00038	U	0.00038	EPA6020	ERCL
Arsenic	LWDS-MW2	02-JUN-97	SA	<0.0034	U	0.0034	EPA6020	ERCL
Arsenic	LWDS-MW-2	01-MAR-95	D	<0.01	U	0.01	6020	ENCOTEC
Arsenic	LWDS-MW-2	03-JUN-98	SA	<0.0034	U	0.0034	EPA6020	ERCL
Arsenic	LWDS-MW-2	17-NOV-98	SA	<0.0034	U	0.0034	EPA6020	ERCL
Arsenic	TAV-MW1	09-JUN-95	F	2.3		0.01	6020	ENCOTEC
Arsenic	TAV-MW1	18-DEC-95	F	<0.00186	U	0.00186	6010A	GEL
Arsenic	TAV-MW1	06-DEC-96	SA	<0.00038	U	0.00038	EPA6020	ERCL
Arsenic	TAV-MW1	06-DEC-96	DU	<0.00038	U	0.00038	EPA6020	ERCL
Arsenic	TAV-MW1	03-JUN-97	SA	<0.0034	U	0.0034	EPA6020	ERCL
Arsenic	TAV-MW1	23-NOV-98	SA	<0.0034	U	0.0034	EPA6020	ERCL
Arsenic	TAV-MW2	06-JUN-95	F	<0.01	U	0.01	6020	ENCOTEC
Arsenic	TAV-MW2	18-DEC-95	F	<0.00186	U	0.00186	6010A	GEL
Arsenic	TAV-MW2	05-DEC-96	SA	<0.00038	U	0.00038	EPA6020	ERCL
Arsenic	TAV-MW2	04-JUN-97	SPL	<0.00276	U	0.00276	6010A	GEL
Arsenic	TAV-MW2	04-JUN-97	SA	<0.0034	U	0.0034	EPA6020	ERCL
Arsenic	TAV-MW2	20-NOV-98	SA	<0.0034	U	0.0034	EPA6020	ERCL
Arsenic	TAV-MW3	26-FEB-98	SA	<0.0034	U	0.0034	EPA6020	ERCL
Arsenic	TAV-MW3	14-MAY-98	SA	<0.0034	U	0.0034	EPA6020	ERCL
Arsenic	TAV-MW3	19-NOV-98	SA	<0.0034	U	0.0034	EPA6020	ERCL
Arsenic	TAV-MW4	26-FEB-98	SA	<0.0034	U	0.0034	EPA6020	ERCL
Arsenic	TAV-MW5	27-FEB-98	SA	<0.0034	U	0.0034	EPA6020	ERCL
Barium	AVN-1	13-JUL-95	F	<0.02	U	0.02	6010	ENCOTEC
Barium	AVN-1	13-DEC-95	F	.0762		0.00007	6010A	GEL

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Barium	AVN-1	29-MAY-97	SA	0.087		0.0039	EPA6020	ERCL
Barium	AVN-1	03-JUN-98	SA	0.082		0.004	EPA6020	ERCL
Barium	AVN-1	16-NOV-08	SA	0.082		0.004	EPA6020	ERCL
Barium	AVN-2	11-JUL-95	F	<0.02	U	0.02	6010	ENCOTEC
Barium	AVN-2	14-DEC-95	F	.0934		0.00007	6010A	GEL
Barium	AVN-2	04-DEC-96	SA	0.1		0.0032	EPA6020	ERCL
Barium	AVN-2	29-MAY-97	SA	0.088		0.0039	EPA6020	ERCL
Barium	AVN-2	03-JUN-98	SA	0.088		0.004	EPA6020	ERCL
Barium	AVN-2	16-NOV-98	SA	0.098		0.004	EPA6020	ERCL
Barium	LWDS-MW1	03-MAY-93	F	6.8		0.05	6010	ENSECO
Barium	LWDS-MW1	02-NOV-93	F	<0.02	U	0.02	6010	ENCOTEC
Barium	LWDS-MW1	03-NOV-93	F	.09		0.02	6010	ENCOTEC
Barium	LWDS-MW1	03-NOV-93	F	.1		0.02	6010	ENCOTEC
Barium	LWDS-MW1	10-MAR-94	F	.09		0.02	6010	ENCOTEC
Barium	LWDS-MW1	07-JUN-94	F	.08		0.02	6010	ENCOTEC
Barium	LWDS-MW1	01-SEP-94	F	<0.2	U	0.2	6010	ENCOTEC
Barium	LWDS-MW1	01-SEP-94	D	<0.2	U	0.2	6010	ENCOTEC
Barium	LWDS-MW1	01-SEP-94	F	<0.2	U	0.2	6010	ENCOTEC
Barium	LWDS-MW1	08-DEC-94	F	<0.2	U	0.2	6010	ENCOTEC
Barium	LWDS-MW1	14-JUN-95	F	<0.2	U	0.2	6010	ENCOTEC
Barium	LWDS-MW1	19-DEC-95	F	.0882		0.00007	6010A	GEL
Barium	LWDS-MW1	19-DEC-95	D	.0877		0.00007	6010A	GEL
Barium	LWDS-MW1	06-DEC-96	SA	0.094		0.0032	EPA6020	ERCL
Barium	LWDS-MW1	30-MAY-97	SA	0.1		0.0039	EPA6020	ERCL
Barium	LWDS-MW1	08-JUN-98	SPLIT	.086	J	0.0005	EPA 6010	QSTL
Barium	LWDS-MW1	08-JUN-98	SA	0.089		0.004	EPA6020	ERCL
Barium	LWDS-MW1	16-NOV-98	DU	0.097		0.004	EPA6020	ERCL
Barium	LWDS-MW1	16-NOV-98	SA	0.094		0.004	EPA6020	ERCL
Barium	LWDS-MW-1	02-MAR-95	F	<0.2	U	0.2	6010	ENCOTEC
Barium	LWDS-MW-1	08-JUN-98	DU	0.091		0.004	EPA6020	ERCL
Barium	LWDS-MW2	21-OCT-92	F	.13		0.01	6010	ENSECO
Barium	LWDS-MW2	24-JUN-93	F	.07		0.02	6010	ENCOTEC
Barium	LWDS-MW2	24-JUN-93	D	.07		0.02	6010	ENCOTEC
Barium	LWDS-MW2	09-MAR-94	F	.07		0.02	6010	ENCOTEC
Barium	LWDS-MW2	09-MAR-94	D	.07		0.02	6010	ENCOTEC
Barium	LWDS-MW2	06-JUN-94	F	.07		0.02	6010	ENCOTEC
Barium	LWDS-MW2	31-AUG-94	F	<0.2	U	0.2	6010	ENCOTEC
Barium	LWDS-MW2	07-DEC-94	D	<0.2	U	0.2	6010	ENCOTEC
Barium	LWDS-MW2	07-DEC-94	F	<0.2	U	0.2	6010	ENCOTEC
Barium	LWDS-MW2	12-JUN-95	D	<0.2	U	0.2	6010	ENCOTEC
Barium	LWDS-MW2	14-DEC-95	F	.0718		0.00007	6010A	GEL
Barium	LWDS-MW2	05-DEC-96	SA	0.086		0.0032	EPA6020	ERCL
Barium	LWDS-MW2	02-JUN-97	SA	0.086		0.0039	EPA6020	ERCL
Barium	LWDS-MW-2	01-MAR-95	D	<0.2	U	0.2	6010	ENCOTEC
Barium	LWDS-MW-2	03-JUN-98	SA	0.078		0.004	EPA6020	ERCL
Barium	LWDS-MW-2	17-NOV-98	SA	0.086		0.004	EPA6020	ERCL
Barium	TAV-MW1	09-JUN-95	F	<0.2	U	0.2	6010	ENCOTEC
Barium	TAV-MW1	18-DEC-95	F	.0849		0.00007	6010A	GEL
Barium	TAV-MW1	06-DEC-96	DU	0.085		0.0032	EPA6020	ERCL
Barium	TAV-MW1	06-DEC-96	SA	0.06		0.0032	EPA6020	ERCL
Barium	TAV-MW1	03-JUN-97	SA	0.084		0.0039	EPA6020	ERCL
Barium	TAV-MW1	23-NOV-98	SA	0.085		0.004	EPA6020	ERCL
Barium	TAV-MW2	06-JUN-95	F	<0.2	U	0.2	6010	ENCOTEC

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Barium	TAV-MW2	18-DEC-95	F	.0781		0.00007	6010A	GEL
Barium	TAV-MW2	05-DEC-96	SA	0.007		0.0032	EPA6020	ERCL
Barium	TAV-MW2	04-JUN-97	SPL	.0714		0.00025	6010A	GEL
Barium	TAV-MW2	04-JUN-97	SA	0.07		0.0039	EPA6020	ERCL
Barium	TAV-MW2	20-NOV-98	SA	0.07		0.004	EPA6020	ERCL
Barium	TAV-MW3	26-FEB-98	SA	0.036		0.004	EPA6020	ERCL
Barium	TAV-MW3	14-MAY-98	SA	0.047		0.004	EPA6020	ERCL
Barium	TAV-MW3	19-NOV-98	SA	0.048		0.004	EPA6020	ERCL
Barium	TAV-MW4	26-FEB-98	SA	0.11		0.004	EPA6020	ERCL
Barium	TAV-MW5	27-FEB-98	SA	0.066		0.004	EPA6020	ERCL
Beryllium	AVN-1	13-JUL-95	F	<0.005	U	0.005	6010	ENCOTEC
Beryllium	AVN-1	13-DEC-95	F	.00005	JB	0.00001	6010A	GEL
Beryllium	AVN-1	29-MAY-97	SA	<0.00011	U	0.00011	EPA6020	ERCL
Beryllium	AVN-1	03-JUN-98	SA	<0.00011	U	0.00011	EPA6020	ERCL
Beryllium	AVN-1	16-NOV-08	SA	<0.00011	U	0.00011	EPA6020	ERCL
Beryllium	AVN-2	11-JUL-95	F	<0.005	U	0.005	6010	ENCOTEC
Beryllium	AVN-2	14-DEC-95	F	.00005	JB	0.00001	6010A	GEL
Beryllium	AVN-2	04-DEC-96	SA	<0.0002	U	0.0002	EPA6020	ERCL
Beryllium	AVN-2	29-MAY-97	SA	<0.00011	U	0.00011	EPA6020	ERCL
Beryllium	AVN-2	03-JUN-98	SA	<0.00011	U	0.00011	EPA6020	ERCL
Beryllium	AVN-2	16-NOV-98	SA	<0.00011	U	0.00011	EPA6020	ERCL
Beryllium	LWDS-MW1	03-MAY-93	F	.055		0.01	6010	ENSECO
Beryllium	LWDS-MW1	02-NOV-93	F	<0.005	U	0.005	6010	ENCOTEC
Beryllium	LWDS-MW1	03-NOV-93	F	<0.005	U	0.005	6010	ENCOTEC
Beryllium	LWDS-MW1	03-NOV-93	F	<0.005	U	0.005	6010	ENCOTEC
Beryllium	LWDS-MW1	10-MAR-94	F	<0.005	U	0.005	6010	ENCOTEC
Beryllium	LWDS-MW1	07-JUN-94	F	<0.005	U	0.005	6010	ENCOTEC
Beryllium	LWDS-MW1	01-SEP-94	F	<0.005	U	0.005	6010	ENCOTEC
Beryllium	LWDS-MW1	01-SEP-94	F	<0.005	U	0.005	6010	ENCOTEC
Beryllium	LWDS-MW1	01-SEP-94	D	<0.005	U	0.005	6010	ENCOTEC
Beryllium	LWDS-MW1	08-DEC-94	F	<0.005	U	0.005	6010	ENCOTEC
Beryllium	LWDS-MW1	14-JUN-95	F	<0.005	U	0.005	6010	ENCOTEC
Beryllium	LWDS-MW1	19-DEC-95	F	.00004	JB	0.00001	6010A	GEL
Beryllium	LWDS-MW1	19-DEC-95	D	.00005	JB	0.00001	6010A	GEL
Beryllium	LWDS-MW1	06-DEC-96	SA	<0.0002	U	0.0002	EPA6020	ERCL
Beryllium	LWDS-MW1	30-MAY-97	SA	<0.00011	U	0.00011	EPA6020	ERCL
Beryllium	LWDS-MW1	08-JUN-98	SPLIT	.00042	J	0.0004	EPA 6010	QSTL
Beryllium	LWDS-MW1	08-JUN-98	SA	<0.00011	U	0.00011	EPA6020	ERCL
Beryllium	LWDS-MW1	16-NOV-98	SA	<0.00011	U	0.00011	EPA6020	ERCL
Beryllium	LWDS-MW1	16-NOV-98	DU	<0.00011	U	0.00011	EPA6020	ERCL
Beryllium	LWDS-MW-1	02-MAR-95	F	<0.005	U	0.005	6010	ENCOTEC
Beryllium	LWDS-MW-1	08-JUN-98	DU	<0.00011	U	0.00011	EPA6020	ERCL
Beryllium	LWDS-MW2	21-OCT-92	F	<0.002	U	0.002	6010	ENSECO
Beryllium	LWDS-MW2	24-JUN-93	F	<0.005	U	0.005	6010	ENCOTEC
Beryllium	LWDS-MW2	24-JUN-93	D	<0.005	U	0.005	6010	ENCOTEC
Beryllium	LWDS-MW2	09-MAR-94	F	<0.005	U	0.005	6010	ENCOTEC
Beryllium	LWDS-MW2	09-MAR-94	D	<0.005	U	0.005	6010	ENCOTEC
Beryllium	LWDS-MW2	06-JUN-94	F	<0.005	U	0.005	6010	ENCOTEC
Beryllium	LWDS-MW2	31-AUG-94	F	<0.005	U	0.005	6010	ENCOTEC
Beryllium	LWDS-MW2	07-DEC-94	F	<0.005	U	0.005	6010	ENCOTEC
Beryllium	LWDS-MW2	07-DEC-94	D	<0.005	U	0.005	6010	ENCOTEC
Beryllium	LWDS-MW2	12-JUN-95	D	<0.005	U	0.005	6010	ENCOTEC
Beryllium	LWDS-MW2	14-DEC-95	F	.00006	JB	0.00001	6010A	GEL

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Beryllium	LWDS-MW2	05-DEC-96	SA	<0.0002	U	0.0002	EPA6020	ERCL
Beryllium	LWDS-MW2	02-JUN-97	SA	<0.00011	U	0.00011	EPA6020	ERCL
Beryllium	LWDS-MW-2	01-MAR-95	D	<0.005	U	0.005	6010	ENCOTEC
Beryllium	LWDS-MW-2	03-JUN-98	SA	<0.00011	U	0.00011	EPA6020	ERCL
Beryllium	LWDS-MW-2	17-NOV-98	SA	<0.00011	U	0.00011	EPA6020	ERCL
Beryllium	TAV-MW1	09-JUN-95	F	<0.005	U	0.005	6010	ENCOTEC
Beryllium	TAV-MW1	18-DEC-95	F	.0001	JB	0.00001	6010A	GEL
Beryllium	TAV-MW1	06-DEC-96	SA	<0.0002	U	0.0002	EPA6020	ERCL
Beryllium	TAV-MW1	06-DEC-96	DU	<0.0002	U	0.0002	EPA6020	ERCL
Beryllium	TAV-MW1	03-JUN-97	SA	<0.00011	U	0.00011	EPA6020	ERCL
Beryllium	TAV-MW1	23-NOV-98	SA	<0.00011	U	0.00011	EPA6020	ERCL
Beryllium	TAV-MW2	06-JUN-95	F	<0.005	U	0.005	6010	ENCOTEC
Beryllium	TAV-MW2	18-DEC-95	F	.00005	JB	0.00001	6010A	GEL
Beryllium	TAV-MW2	05-DEC-96	SA	<0.0002	U	0.0002	EPA6020	ERCL
Beryllium	TAV-MW2	04-JUN-97	SPL	<0.00014	U	0.00014	6010A	GEL
Beryllium	TAV-MW2	04-JUN-97	SA	<0.00011	U	0.00011	EPA6020	ERCL
Beryllium	TAV-MW2	20-NOV-98	SA	<0.00011	U	0.00011	EPA6020	ERCL
Beryllium	TAV-MW3	26-FEB-98	SA	<0.00011	U	0.00011	EPA6020	ERCL
Beryllium	TAV-MW3	14-MAY-98	SA	0.00014	J	0.00011	EPA6020	ERCL
Beryllium	TAV-MW3	19-NOV-98	SA	<0.00011	U	0.00011	EPA6020	ERCL
Beryllium	TAV-MW4	26-FEB-98	SA	<0.00011	U	0.00011	EPA6020	ERCL
Beryllium	TAV-MW5	27-FEB-98	SA	<0.00011	U	0.00011	EPA6020	ERCL
Bromide	AVN-1	29-MAY-97	SA	<0.4	U	0.4	Anions_CE	ERCL
Bromide	AVN-1	03-JUN-98	SA	<0.4	U	0.4	Anions_CE	ERCL
Bromide	AVN-1	16-NOV-08	SA	<0.4	U	0.4	Anions_CE	ERCL
Bromide	AVN-2	04-DEC-96	SA	<0.4	U	0.4	Anions_IC	ERCL
Bromide	AVN-2	29-MAY-97	SA	<0.4	U	0.4	Anions_CE	ERCL
Bromide	AVN-2	03-JUN-98	SA	<0.4	U	0.4	Anions_CE	ERCL
Bromide	AVN-2	16-NOV-98	SA	<0.4	U	0.4	Anions_CE	ERCL
Bromide	LWDS-MW1	10-MAR-94	F	.62		0.1	300.0	ENCOTEC
Bromide	LWDS-MW1	07-JUN-94	F	.64		0.05	300.0	ENCOTEC
Bromide	LWDS-MW1	01-SEP-94	F	.66		0.05	300.0	ENCOTEC
Bromide	LWDS-MW1	01-SEP-94	F	.71		0.05	300.0	ENCOTEC
Bromide	LWDS-MW1	01-SEP-94	D	.63		0.05	300.0	ENCOTEC
Bromide	LWDS-MW1	06-DEC-96	SA	<0.4	U	0.4	Anions_IC	ERCL
Bromide	LWDS-MW1	30-MAY-97	SA	<0.4	U	0.4	Anions_CE	ERCL
Bromide	LWDS-MW1	08-JUN-98	SA	<0.4	U	0.4	Anions_CE	ERCL
Bromide	LWDS-MW1	08-JUN-98	SPLIT	.8		0.25	EPA 300.0	QSTL
Bromide	LWDS-MW1	16-NOV-98	SA	<0.4	U	0.4	Anions_CE	ERCL
Bromide	LWDS-MW1	16-NOV-98	DU	<0.4	U	0.4	Anions_CE	ERCL
Bromide	LWDS-MW-1	08-JUN-98	DU	<0.4	U	0.4	Anions_CE	ERCL
Bromide	LWDS-MW2	11-MAR-94	F	.14		0.05	300.0	ENCOTEC
Bromide	LWDS-MW2	11-MAR-94	D	.15		0.05	300.0	ENCOTEC
Bromide	LWDS-MW2	06-JUN-94	F	.16		0.05	300.0	ENCOTEC
Bromide	LWDS-MW2	31-AUG-94	F	.38		0.1	300.0	ENCOTEC
Bromide	LWDS-MW2	05-DEC-96	SA	<0.4	U	0.4	Anions_IC	ERCL
Bromide	LWDS-MW2	02-JUN-97	SA	<0.4	U	0.4	Anions_CE	ERCL
Bromide	LWDS-MW-2	03-JUN-98	SA	<0.4	U	0.4	Anions_CE	ERCL
Bromide	LWDS-MW-2	17-NOV-98	SA	<0.4	U	0.4	Anions_CE	ERCL
Bromide	TAV-MW1	06-DEC-96	SA	<0.4	U	0.4	Anions_IC	ERCL
Bromide	TAV-MW1	06-DEC-96	DU	<0.4	U	0.4	Anions_IC	ERCL
Bromide	TAV-MW1	03-JUN-97	SA	<0.4	U	0.4	Anions_CE	ERCL
Bromide	TAV-MW1	23-NOV-98	SA	<0.4	U	0.4	Anions_CE	ERCL

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Bromide	TAV-MW2	05-DEC-96	SA	<0.4	U	0.4	Anions_IC	ERCL
Bromide	TAV-MW2	04-JUN-97	SA	<0.4	U	0.4	Anions_CE	ERCL
Bromide	TAV-MW2	20-NOV-98	SA	<0.4	U	0.4	Anions_CE	ERCL
Bromide	TAV-MW3	26-FEB-98	SA	<0.4	U	0.4	Anions_CE	ERCL
Bromide	TAV-MW3	19-NOV-98	SA	<0.4	U	0.4	Anions_CE	ERCL
Bromide	TAV-MW4	26-FEB-98	SA	<0.4	U	0.4	Anions_CE	ERCL
Bromide	TAV-MW5	27-FEB-98	SA	<0.4	U	0.4	Anions_CE	ERCL
Cadmium	AVN-1	13-JUL-95	F	<0.005	U	0.005	6010	ENCOTEC
Cadmium	AVN-1	13-DEC-95	F	.00021	J	0.0001	6010A	GEL
Cadmium	AVN-1	29-MAY-97	SA	<0.00022	U	0.00022	EPA6020	ERCL
Cadmium	AVN-1	03-JUN-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Cadmium	AVN-1	16-NOV-08	SA	<0.00023	U	0.00023	EPA6020	ERCL
Cadmium	AVN-2	11-JUL-95	F	<0.005	U	0.005	6010	ENCOTEC
Cadmium	AVN-2	14-DEC-95	F	.00035	J	0.0001	6010A	GEL
Cadmium	AVN-2	04-DEC-96	SA	<0.00054	U	0.00054	EPA6020	ERCL
Cadmium	AVN-2	29-MAY-97	SA	0.0013	B	0.00022	EPA6020	ERCL
Cadmium	AVN-2	03-JUN-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Cadmium	AVN-2	16-NOV-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Cadmium	LWDS-MW1	03-MAY-93	F	<0.025	U	0.025	6010	ENSECO
Cadmium	LWDS-MW1	02-NOV-93	F	<0.005	U	0.005	6010	ENCOTEC
Cadmium	LWDS-MW1	03-NOV-93	F	<0.005	U	0.005	6010	ENCOTEC
Cadmium	LWDS-MW1	03-NOV-93	F	<0.005	U	0.005	6010	ENCOTEC
Cadmium	LWDS-MW1	10-MAR-94	F	<0.005	U	0.005	6010	ENCOTEC
Cadmium	LWDS-MW1	07-JUN-94	F	<0.005	U	0.005	6010	ENCOTEC
Cadmium	LWDS-MW1	01-SEP-94	F	<0.005	U	0.005	6010	ENCOTEC
Cadmium	LWDS-MW1	01-SEP-94	D	<0.005	U	0.005	6010	ENCOTEC
Cadmium	LWDS-MW1	01-SEP-94	F	<0.005	U	0.005	6010	ENCOTEC
Cadmium	LWDS-MW1	08-DEC-94	F	<0.005	U	0.005	6010	ENCOTEC
Cadmium	LWDS-MW1	14-JUN-95	F	<0.005	U	0.005	6010	ENCOTEC
Cadmium	LWDS-MW1	19-DEC-95	F	<0.0001	U	0.0001	6010A	GEL
Cadmium	LWDS-MW1	19-DEC-95	D	<0.0001	U	0.0001	6010A	GEL
Cadmium	LWDS-MW1	06-DEC-96	SA	<0.00054	U	0.00054	EPA6020	ERCL
Cadmium	LWDS-MW1	30-MAY-97	SA	<0.00022	U	0.00022	EPA6020	ERCL
Cadmium	LWDS-MW1	08-JUN-98	SPLIT	<0.0005	U	0.0005	EPA 6010	QSTL
Cadmium	LWDS-MW1	08-JUN-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Cadmium	LWDS-MW1	16-NOV-98	SA	0.0015		0.00023	EPA6020	ERCL
Cadmium	LWDS-MW1	16-NOV-98	DU	<0.00023	U	0.00023	EPA6020	ERCL
Cadmium	LWDS-MW-1	02-MAR-95	F	<0.005	U	0.005	6010	ENCOTEC
Cadmium	LWDS-MW-1	08-JUN-98	DU	<0.00023	U	0.00023	EPA6020	ERCL
Cadmium	LWDS-MW2	21-OCT-92	F	<0.005	U	0.005	6010	ENSECO
Cadmium	LWDS-MW2	24-JUN-93	F	<0.005	U	0.005	6010	ENCOTEC
Cadmium	LWDS-MW2	24-JUN-93	D	<0.005	U	0.005	6010	ENCOTEC
Cadmium	LWDS-MW2	09-MAR-94	F	<0.005	U	0.005	6010	ENCOTEC
Cadmium	LWDS-MW2	09-MAR-94	D	<0.005	U	0.005	6010	ENCOTEC
Cadmium	LWDS-MW2	06-JUN-94	F	<0.005	U	0.005	6010	ENCOTEC
Cadmium	LWDS-MW2	31-AUG-94	F	<0.005	U	0.005	6010	ENCOTEC
Cadmium	LWDS-MW2	07-DEC-94	F	<0.005	U	0.005	6010	ENCOTEC
Cadmium	LWDS-MW2	07-DEC-94	D	<0.005	U	0.005	6010	ENCOTEC
Cadmium	LWDS-MW2	12-JUN-95	D	<0.005	U	0.005	6010	ENCOTEC
Cadmium	LWDS-MW2	14-DEC-95	F	<0.0001	U	0.0001	6010A	GEL
Cadmium	LWDS-MW2	05-DEC-96	SA	<0.00054	U	0.00054	EPA6020	ERCL
Cadmium	LWDS-MW2	02-JUN-97	SA	0.00042	J	0.00022	EPA6020	ERCL
Cadmium	LWDS-MW-2	01-MAR-95	D	<0.005	U	0.005	6010	ENCOTEC

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Cadmium	LWDS-MW-2	03-JUN-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Cadmium	LWDS-MW-2	17-NOV-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Cadmium	TAV-MW1	09-JUN-95	F	<0.005	U	0.005	6010	ENCOTEC
Cadmium	TAV-MW1	18-DEC-95	F	<0.0001	U	0.0001	6010A	GEL
Cadmium	TAV-MW1	06-DEC-96	SA	<0.00054	U	0.00054	EPA6020	ERCL
Cadmium	TAV-MW1	06-DEC-96	DU	<0.00054	U	0.00054	EPA6020	ERCL
Cadmium	TAV-MW1	03-JUN-97	SA	0.00055	J	0.00022	EPA6020	ERCL
Cadmium	TAV-MW1	23-NOV-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Cadmium	TAV-MW2	06-JUN-95	F	<0.005	U	0.005	6010	ENCOTEC
Cadmium	TAV-MW2	18-DEC-95	F	<0.0001	U	0.0001	6010A	GEL
Cadmium	TAV-MW2	05-DEC-96	SA	<0.00054	U	0.00054	EPA6020	ERCL
Cadmium	TAV-MW2	04-JUN-97	SPL	<0.00021	U	0.00021	6010A	GEL
Cadmium	TAV-MW2	04-JUN-97	SA	<0.00022	U	0.00022	EPA6020	ERCL
Cadmium	TAV-MW2	20-NOV-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Cadmium	TAV-MW3	26-FEB-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Cadmium	TAV-MW3	14-MAY-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Cadmium	TAV-MW3	19-NOV-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Cadmium	TAV-MW4	26-FEB-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Cadmium	TAV-MW5	27-FEB-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Calcium	AVN-1	13-JUL-95	F	39		5	6010	ENCOTEC
Calcium	AVN-1	13-JUL-95	F	39		5	6010	ENCOTEC
Calcium	AVN-1	13-DEC-95	F	43.1		0.02	6010A	GEL
Calcium	AVN-1	13-DEC-95	F	44.4		0.02	6010A	GEL
Calcium	AVN-1	29-MAY-97	SA	40		0.21	EPA6020	ERCL
Calcium	AVN-1	03-JUN-98	SA	42		0.21	EPA6020	ERCL
Calcium	AVN-1	16-NOV-08	SA	42		0.21	EPA6020	ERCL
Calcium	AVN-2	11-JUL-95	F	39		5	6010	ENCOTEC
Calcium	AVN-2	11-JUL-95	F	41		5	6010	ENCOTEC
Calcium	AVN-2	14-DEC-95	F	44.1		0.02	6010A	GEL
Calcium	AVN-2	14-DEC-95	F	45.9		0.02	6010A	GEL
Calcium	AVN-2	04-DEC-96	SA	44		0.146	EPA6020	ERCL
Calcium	AVN-2	29-MAY-97	SA	40		0.21	EPA6020	ERCL
Calcium	AVN-2	03-JUN-98	SA	40		0.21	EPA6020	ERCL
Calcium	AVN-2	16-NOV-98	SA	39		0.21	EPA6020	ERCL
Calcium	LWDS-MW1	03-MAY-93	F	1960		1	6010	ENSECO
Calcium	LWDS-MW1	02-NOV-93	F	<0.2	U	0.2	6010	ENCOTEC
Calcium	LWDS-MW1	03-NOV-93	F	50		0.2	6010	ENCOTEC
Calcium	LWDS-MW1	03-NOV-93	F	51		0.2	6010	ENCOTEC
Calcium	LWDS-MW1	10-MAR-94	F	63		0.2	6010	ENCOTEC
Calcium	LWDS-MW1	10-MAR-94	F	56		0.2	6010	ENCOTEC
Calcium	LWDS-MW1	07-JUN-94	F	55		0.2	6010	ENCOTEC
Calcium	LWDS-MW1	07-JUN-94	F	55		0.2	6010	ENCOTEC
Calcium	LWDS-MW1	01-SEP-94	F	56		5	6010	ENCOTEC
Calcium	LWDS-MW1	01-SEP-94	D	57		0.2	6010	ENCOTEC
Calcium	LWDS-MW1	01-SEP-94	D	59		5	6010	ENCOTEC
Calcium	LWDS-MW1	01-SEP-94	F	58		0.2	6010	ENCOTEC
Calcium	LWDS-MW1	01-SEP-94	F	57		5	6010	ENCOTEC
Calcium	LWDS-MW1	01-SEP-94	F	56		0.2	6010	ENCOTEC
Calcium	LWDS-MW1	08-DEC-94	F	57		5	6010	ENCOTEC
Calcium	LWDS-MW1	08-DEC-94	F	58		0.2	6010	ENCOTEC
Calcium	LWDS-MW1	14-JUN-95	F	55		5	6010	ENCOTEC
Calcium	LWDS-MW1	14-JUN-95	F	56		5	6010	ENCOTEC
Calcium	LWDS-MW1	19-DEC-95	F	62.4		0.02	6010A	GEL

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Calcium	LWDS-MW1	19-DEC-95	F	62.5		0.02	6010A	GEL
Calcium	LWDS-MW1	19-DEC-95	D	62.3		0.02	6010A	GEL
Calcium	LWDS-MW1	19-DEC-95	D	63.1		0.02	6010A	GEL
Calcium	LWDS-MW1	06-DEC-96	SA	67		0.146	EPA6020	ERCL
Calcium	LWDS-MW1	30-MAY-97	SA	63	E	0.21	EPA6020	ERCL
Calcium	LWDS-MW1	08-JUN-98	SPLIT	62.4		0.02	EPA 6010	QSTL
Calcium	LWDS-MW1	08-JUN-98	SA	65	E	0.21	EPA6020	ERCL
Calcium	LWDS-MW1	16-NOV-98	DU	68		0.21	EPA6020	ERCL
Calcium	LWDS-MW1	16-NOV-98	SA	65		0.21	EPA6020	ERCL
Calcium	LWDS-MW-1	02-MAR-95	F	56		5	6010	ENCOTEC
Calcium	LWDS-MW-1	02-MAR-95	F	56		0.2	6010	ENCOTEC
Calcium	LWDS-MW-1	08-JUN-98	DU	64	E	0.21	EPA6020	ERCL
Calcium	LWDS-MW2	21-OCT-92	F	53.2		0.2	6010	ENSECO
Calcium	LWDS-MW2	24-JUN-93	F	47		0.2	6010	ENCOTEC
Calcium	LWDS-MW2	24-JUN-93	D	47		0.2	6010	ENCOTEC
Calcium	LWDS-MW2	09-MAR-94	F	46		0.2	6010	ENCOTEC
Calcium	LWDS-MW2	09-MAR-94	F	48		0.2	6010	ENCOTEC
Calcium	LWDS-MW2	09-MAR-94	D	49		0.2	6010	ENCOTEC
Calcium	LWDS-MW2	09-MAR-94	D	49		0.2	6010	ENCOTEC
Calcium	LWDS-MW2	06-JUN-94	F	47		0.2	6010	ENCOTEC
Calcium	LWDS-MW2	06-JUN-94	F	47		0.2	6010	ENCOTEC
Calcium	LWDS-MW2	31-AUG-94	F	50		5	6010	ENCOTEC
Calcium	LWDS-MW2	31-AUG-94	F	49		0.2	6010	ENCOTEC
Calcium	LWDS-MW2	07-DEC-94	F	47		5	6010	ENCOTEC
Calcium	LWDS-MW2	07-DEC-94	D	47		5	6010	ENCOTEC
Calcium	LWDS-MW2	07-DEC-94	D	46		0.2	6010	ENCOTEC
Calcium	LWDS-MW2	07-DEC-94	F	47		0.2	6010	ENCOTEC
Calcium	LWDS-MW2	12-JUN-95	D	42		5	6010	ENCOTEC
Calcium	LWDS-MW2	12-JUN-95	D	43		5	6010	ENCOTEC
Calcium	LWDS-MW2	14-DEC-95	F	46.9		0.02	6010A	GEL
Calcium	LWDS-MW2	14-DEC-95	F	47.4		0.02	6010A	GEL
Calcium	LWDS-MW2	05-DEC-96	SA	49		0.146	EPA6020	ERCL
Calcium	LWDS-MW-2	01-MAR-95	D	45		5	6010	ENCOTEC
Calcium	LWDS-MW-2	01-MAR-95	D	44		0.2	6010	ENCOTEC
Calcium	LWDS-MW-2	03-JUN-98	SA	46		0.21	EPA6020	ERCL
Calcium	LWDS-MW-2	17-NOV-98	SA	57		0.21	EPA6020	ERCL
Calcium	TAV-MW1	09-JUN-95	F	38		5	6010	ENCOTEC
Calcium	TAV-MW1	09-JUN-95	F	38		5	6010	ENCOTEC
Calcium	TAV-MW1	18-DEC-95	F	53.1		0.02	6010A	GEL
Calcium	TAV-MW1	18-DEC-95	F	54.4	B	0.02	6010A	GEL
Calcium	TAV-MW1	06-DEC-96	DU	59		0.146	EPA6020	ERCL
Calcium	TAV-MW1	06-DEC-96	SA	53		0.146	EPA6020	ERCL
Calcium	TAV-MW1	23-NOV-98	SA	71		0.21	EPA6020	ERCL
Calcium	TAV-MW2	06-JUN-95	F	49		5	6010	ENCOTEC
Calcium	TAV-MW2	06-JUN-95	F	48		5	6010	ENCOTEC
Calcium	TAV-MW2	18-DEC-95	F	64		0.02	6010A	GEL
Calcium	TAV-MW2	18-DEC-95	F	65.3		0.02	6010A	GEL
Calcium	TAV-MW2	05-DEC-96	SA	73		0.146	EPA6020	ERCL
Calcium	TAV-MW2	04-JUN-97	SPL	67.3		0.01	6010A	GEL
Calcium	TAV-MW2	20-NOV-98	SA	81		0.21	EPA6020	ERCL
Calcium	TAV-MW3	26-FEB-98	SA	49		0.21	EPA6020	ERCL
Calcium	TAV-MW3	14-MAY-98	SA	46		0.21	EPA6020	ERCL
Calcium	TAV-MW3	19-NOV-98	SA	56		0.21	EPA6020	ERCL

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Calcium	TAV-MW4	26-FEB-98	SA	51		0.21	EPA6020	ERCL
Calcium	TAV-MW5	27-FEB-98	SA	48		0.21	EPA6020	ERCL
Chloride	AVN-1	13-JUL-95	F	8.9		2	325.2	ENCOTEC
Chloride	AVN-1	13-DEC-95	F	9.03		0.32	300.0	GEL
Chloride	AVN-1	29-MAY-97	SA	9.8		0.7	Anions_CE	ERCL
Chloride	AVN-1	03-JUN-98	SA	9.6		0.7	Anions_CE	ERCL
Chloride	AVN-1	16-NOV-08	SA	8.4		0.7	Anions_CE	ERCL
Chloride	AVN-2	11-JUL-95	F	10		2	325.2	ENCOTEC
Chloride	AVN-2	14-DEC-95	F	9.56		0.128	300.0	GEL
Chloride	AVN-2	04-DEC-96	SA	10	J	3.5	Anions_IC	ERCL
Chloride	AVN-2	29-MAY-97	SA	12		0.7	Anions_CE	ERCL
Chloride	AVN-2	03-JUN-98	SA	10		0.7	Anions_CE	ERCL
Chloride	AVN-2	16-NOV-98	SA	9		0.7	Anions_CE	ERCL
Chloride	LWDS-MW1	02-NOV-93	F	<2	U	2	325.2	ENCOTEC
Chloride	LWDS-MW1	03-NOV-93	F	72		2	325.2	ENCOTEC
Chloride	LWDS-MW1	03-NOV-93	F	72		2	325.2	ENCOTEC
Chloride	LWDS-MW1	10-MAR-94	F	68		5	300.0	ENCOTEC
Chloride	LWDS-MW1	07-JUN-94	F	74		2	325.2	ENCOTEC
Chloride	LWDS-MW1	01-SEP-94	F	74		5	300.0	ENCOTEC
Chloride	LWDS-MW1	01-SEP-94	D	74		5	300.0	ENCOTEC
Chloride	LWDS-MW1	01-SEP-94	F	76		5	300.0	ENCOTEC
Chloride	LWDS-MW1	14-JUN-95	F	76		2	325.2	ENCOTEC
Chloride	LWDS-MW1	19-DEC-95	F	68.3		0.64	300.0	GEL
Chloride	LWDS-MW1	19-DEC-95	D	69.3		0.64	300.0	GEL
Chloride	LWDS-MW1	06-DEC-96	SA	82		14	Anions_IC	ERCL
Chloride	LWDS-MW1	30-MAY-97	SA	82		3.5	Anions_CE	ERCL
Chloride	LWDS-MW1	08-JUN-98	SA	76		0.7	Anions_CE	ERCL
Chloride	LWDS-MW1	08-JUN-98	SPLIT	81.4		0.2	EPA 300.0	QSTL
Chloride	LWDS-MW1	16-NOV-98	SA	94		0.7	Anions_CE	ERCL
Chloride	LWDS-MW1	16-NOV-98	DU	94		0.7	Anions_CE	ERCL
Chloride	LWDS-MW-1	02-MAR-95	F	75		2	325.2	ENCOTEC
Chloride	LWDS-MW-1	08-JUN-98	DU	75		0.7	Anions_CE	ERCL
Chloride	LWDS-MW2	24-JUN-93	F	12		2	325.2	ENCOTEC
Chloride	LWDS-MW2	24-JUN-93	D	12		2	325.2	ENCOTEC
Chloride	LWDS-MW2	11-MAR-94	F	14		2	325.2	ENCOTEC
Chloride	LWDS-MW2	11-MAR-94	D	13		2	325.2	ENCOTEC
Chloride	LWDS-MW2	06-JUN-94	F	14		2	325.2	ENCOTEC
Chloride	LWDS-MW2	31-AUG-94	F	3.8		1	300.0	ENCOTEC
Chloride	LWDS-MW2	07-DEC-94	F	14		2	325.2	ENCOTEC
Chloride	LWDS-MW2	07-DEC-94	D	14		2	325.2	ENCOTEC
Chloride	LWDS-MW2	12-JUN-95	D	20		2	325.2	ENCOTEC
Chloride	LWDS-MW2	14-DEC-95	F	15		0.32	300.0	GEL
Chloride	LWDS-MW2	05-DEC-96	SA	17		3.5	Anions_IC	ERCL
Chloride	LWDS-MW2	02-JUN-97	SA	18		0.7	Anions_CE	ERCL
Chloride	LWDS-MW-2	01-MAR-95	D	10		2	325.2	ENCOTEC
Chloride	LWDS-MW-2	03-JUN-98	SA	16		0.7	Anions_CE	ERCL
Chloride	LWDS-MW-2	17-NOV-98	SA	16		0.7	Anions_CE	ERCL
Chloride	TAV-MW1	09-JUN-95	F	35		2	325.2	ENCOTEC
Chloride	TAV-MW1	18-DEC-95	F	42.3		0.64	300.0	GEL
Chloride	TAV-MW1	06-DEC-96	SA	49		7	Anions_IC	ERCL
Chloride	TAV-MW1	06-DEC-96	DU	48		7	Anions_IC	ERCL
Chloride	TAV-MW1	03-JUN-97	SA	51		1.4	Anions_CE	ERCL
Chloride	TAV-MW1	23-NOV-98	SA	60		0.7	Anions_CE	ERCL

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Chloride	TAV-MW2	06-JUN-95	F	53		2	325.2	ENCOTEC
Chloride	TAV-MW2	18-DEC-95	F	61.7		0.64	300.0	GEL
Chloride	TAV-MW2	05-DEC-96	SA	74		7	Anions_IC	ERCL
Chloride	TAV-MW2	04-JUN-97	SPL	72		1.28	300	GEL
Chloride	TAV-MW2	04-JUN-97	SA	78		3.5	Anions_CE	ERCL
Chloride	TAV-MW2	20-NOV-98	SA	78		0.7	Anions_CE	ERCL
Chloride	TAV-MW3	26-FEB-98	SA	29		0.7	Anions_CE	ERCL
Chloride	TAV-MW3	19-NOV-98	SA	24		0.7	Anions_CE	ERCL
Chloride	TAV-MW4	26-FEB-98	SA	44		0.7	Anions_CE	ERCL
Chloride	TAV-MW5	27-FEB-98	SA	17		0.7	Anions_CE	ERCL
Chromium	AVN-1	13-JUL-95	F	<0.01	U	0.01	6020	ENCOTEC
Chromium	AVN-1	13-DEC-95	F	.00267	J	0.0006	6010A	GEL
Chromium	AVN-1	29-MAY-97	SA	<0.0084	U	0.0084	EPA6020	ERCL
Chromium	AVN-1	03-JUN-98	SA	<0.0085	U	0.0085	EPA6020	ERCL
Chromium	AVN-1	16-NOV-08	SA	<0.0085	U	0.0085	EPA6020	ERCL
Chromium	AVN-2	11-JUL-95	F	<0.01	U	0.01	6020	ENCOTEC
Chromium	AVN-2	14-DEC-95	F	.00409	J	0.0006	6010A	GEL
Chromium	AVN-2	04-DEC-96	SA	<0.00037	U	0.00037	EPA6020	ERCL
Chromium	AVN-2	29-MAY-97	SA	<0.0084	U	0.0084	EPA6020	ERCL
Chromium	AVN-2	03-JUN-98	SA	<0.0085	U	0.0085	EPA6020	ERCL
Chromium	AVN-2	16-NOV-98	SA	<0.0085	U	0.0085	EPA6020	ERCL
Chromium	LWDS-MW1	03-MAY-93	F	3.7		0.05	6010	ENSECO
Chromium	LWDS-MW1	02-NOV-93	F	<0.01	U	0.01	6010	ENCOTEC
Chromium	LWDS-MW1	03-NOV-93	F	<0.01	U	0.01	6010	ENCOTEC
Chromium	LWDS-MW1	03-NOV-93	F	.01		0.01	6010	ENCOTEC
Chromium	LWDS-MW1	10-MAR-94	F	.02		0.01	6010	ENCOTEC
Chromium	LWDS-MW1	07-JUN-94	F	<0.02	U	0.02	6010	ENCOTEC
Chromium	LWDS-MW1	01-SEP-94	F	<0.02	U	0.02	6010	ENCOTEC
Chromium	LWDS-MW1	01-SEP-94	F	<0.02	U	0.02	6010	ENCOTEC
Chromium	LWDS-MW1	01-SEP-94	D	<0.02	U	0.02	6010	ENCOTEC
Chromium	LWDS-MW1	08-DEC-94	F	<0.01	U	0.01	6020	ENCOTEC
Chromium	LWDS-MW1	14-JUN-95	F	<0.01	U	0.01	6020	ENCOTEC
Chromium	LWDS-MW1	19-DEC-95	F	.00163	J	0.0006	6010A	GEL
Chromium	LWDS-MW1	19-DEC-95	D	.00179	J	0.0006	6010A	GEL
Chromium	LWDS-MW1	06-DEC-96	SA	<0.00037	U	0.00037	EPA6020	ERCL
Chromium	LWDS-MW1	30-MAY-97	SA	<0.0084	U	0.0084	EPA6020	ERCL
Chromium	LWDS-MW1	08-JUN-98	SPLIT	.014		0.0008	EPA 6010	QSTL
Chromium	LWDS-MW1	08-JUN-98	SA	<0.0085	U	0.0085	EPA6020	ERCL
Chromium	LWDS-MW1	16-NOV-98	SA	<0.0085	U	0.0085	EPA6020	ERCL
Chromium	LWDS-MW1	16-NOV-98	DU	<0.0085	U	0.0085	EPA6020	ERCL
Chromium	LWDS-MW-1	02-MAR-95	F	<0.01	U	0.01	6020	ENCOTEC
Chromium	LWDS-MW-1	08-JUN-98	DU	<0.0085	U	0.0085	EPA6020	ERCL
Chromium	LWDS-MW2	21-OCT-92	F	.014		0.01	6010	ENSECO
Chromium	LWDS-MW2	24-JUN-93	F	<0.01	U	0.01	6010	ENCOTEC
Chromium	LWDS-MW2	24-JUN-93	D	<0.01	U	0.01	6010	ENCOTEC
Chromium	LWDS-MW2	09-MAR-94	F	<0.01	U	0.01	6010	ENCOTEC
Chromium	LWDS-MW2	09-MAR-94	D	.02		0.01	6010	ENCOTEC
Chromium	LWDS-MW2	06-JUN-94	F	<0.02	U	0.02	6010	ENCOTEC
Chromium	LWDS-MW2	31-AUG-94	F	<0.02	U	0.02	6010	ENCOTEC
Chromium	LWDS-MW2	07-DEC-94	F	<0.01	U	0.01	6020	ENCOTEC
Chromium	LWDS-MW2	07-DEC-94	D	<0.01	U	0.01	6020	ENCOTEC
Chromium	LWDS-MW2	12-JUN-95	D	<0.01	U	0.01	6020	ENCOTEC
Chromium	LWDS-MW2	14-DEC-95	F	.0041	J	0.0006	6010A	GEL

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Chromium	LWDS-MW2	05-DEC-96	SA	<0.00037	U	0.00037	EPA6020	ERCL
Chromium	LWDS-MW2	02-JUN-97	SA	<0.0084	U	0.0084	EPA6020	ERCL
Chromium	LWDS-MW-2	01-MAR-95	D	<0.01	U	0.01	6020	ENCOTEC
Chromium	LWDS-MW-2	03-JUN-98	SA	<0.0085	U	0.0085	EPA6020	ERCL
Chromium	LWDS-MW-2	17-NOV-98	SA	<0.0085	U	0.0085	EPA6020	ERCL
Chromium	TAV-MW1	09-JUN-95	F	2	B	0.01	6020	ENCOTEC
Chromium	TAV-MW1	18-DEC-95	F	.00253	J	0.0006	6010A	GEL
Chromium	TAV-MW1	06-DEC-96	SA	<0.00037	U	0.00037	EPA6020	ERCL
Chromium	TAV-MW1	06-DEC-96	DU	<0.00037	U	0.00037	EPA6020	ERCL
Chromium	TAV-MW1	03-JUN-97	SA	<0.0084	U	0.0084	EPA6020	ERCL
Chromium	TAV-MW1	23-NOV-98	SA	<0.0085	U	0.0085	EPA6020	ERCL
Chromium	TAV-MW2	06-JUN-95	F	<0.01	U	0.01	6020	ENCOTEC
Chromium	TAV-MW2	18-DEC-95	F	.00192	J	0.0006	6010A	GEL
Chromium	TAV-MW2	05-DEC-96	SA	<0.00037	U	0.00037	EPA6020	ERCL
Chromium	TAV-MW2	04-JUN-97	SPL	.00157	J	0.00062	6010A	GEL
Chromium	TAV-MW2	04-JUN-97	SA	<0.0084	U	0.0084	EPA6020	ERCL
Chromium	TAV-MW2	20-NOV-98	SA	<0.0085	U	0.0085	EPA6020	ERCL
Chromium	TAV-MW3	26-FEB-98	SA	<<0.0085	U	0.0085	EPA6020	ERCL
Chromium	TAV-MW3	14-MAY-98	SA	<0.0085	U	0.0085	EPA6020	ERCL
Chromium	TAV-MW3	19-NOV-98	SA	<0.0085	U	0.0085	EPA6020	ERCL
Chromium	TAV-MW4	26-FEB-98	SA	0.032	J	0.0085	EPA6020	ERCL
Chromium	TAV-MW5	27-FEB-98	SA	<<0.0085	U	0.0085	EPA6020	ERCL
Chromium (\	LWDS-MW1	03-MAY-93	F	<0.01	U	0.01	7196	ENSECO
Cobalt	AVN-1	13-JUL-95	F	<0.05	U	0.05	6010	ENCOTEC
Cobalt	AVN-1	13-DEC-95	F	<0.00018	U	0.00018	6010A	GEL
Cobalt	AVN-1	29-MAY-97	SA	<0.00022	U	0.00022	EPA6020	ERCL
Cobalt	AVN-2	11-JUL-95	F	<0.05	U	0.05	6010	ENCOTEC
Cobalt	AVN-2	14-DEC-95	F	.00084	J	0.00018	6010A	GEL
Cobalt	AVN-2	04-DEC-96	SA	<0.00077	U	0.00077	EPA6020	ERCL
Cobalt	AVN-2	29-MAY-97	SA	<0.00022	U	0.00022	EPA6020	ERCL
Cobalt	LWDS-MW1	03-MAY-93	F	.4		0.05	6010	ENSECO
Cobalt	LWDS-MW1	02-NOV-93	F	<0.02	U	0.02	6010	ENCOTEC
Cobalt	LWDS-MW1	03-NOV-93	F	<0.02	U	0.02	6010	ENCOTEC
Cobalt	LWDS-MW1	03-NOV-93	F	<0.02	U	0.02	6010	ENCOTEC
Cobalt	LWDS-MW1	10-MAR-94	F	<0.02	U	0.02	6010	ENCOTEC
Cobalt	LWDS-MW1	07-JUN-94	F	<0.02	U	0.02	6010	ENCOTEC
Cobalt	LWDS-MW1	01-SEP-94	F	<0.05	U	0.05	6010	ENCOTEC
Cobalt	LWDS-MW1	01-SEP-94	D	<0.05	U	0.05	6010	ENCOTEC
Cobalt	LWDS-MW1	01-SEP-94	F	<0.05	U	0.05	6010	ENCOTEC
Cobalt	LWDS-MW1	08-DEC-94	F	<0.05	U	0.05	6010	ENCOTEC
Cobalt	LWDS-MW1	14-JUN-95	F	<0.05	U	0.05	6010	ENCOTEC
Cobalt	LWDS-MW1	19-DEC-95	F	<0.00018	U	0.00018	6010A	GEL
Cobalt	LWDS-MW1	19-DEC-95	D	<0.00018	U	0.00018	6010A	GEL
Cobalt	LWDS-MW1	06-DEC-96	SA	<0.00077	U	0.00077	EPA6020	ERCL
Cobalt	LWDS-MW1	30-MAY-97	SA	<0.00022	U	0.00022	EPA6020	ERCL
Cobalt	LWDS-MW-1	02-MAR-95	F	<0.05	U	0.05	6010	ENCOTEC
Cobalt	LWDS-MW2	21-OCT-92	F	<0.01	U	0.01	6010	ENSECO
Cobalt	LWDS-MW2	24-JUN-93	F	<0.02	U	0.02	6010	ENCOTEC
Cobalt	LWDS-MW2	24-JUN-93	D	<0.02	U	0.02	6010	ENCOTEC
Cobalt	LWDS-MW2	09-MAR-94	F	<0.02	U	0.02	6010	ENCOTEC
Cobalt	LWDS-MW2	09-MAR-94	D	<0.02	U	0.02	6010	ENCOTEC
Cobalt	LWDS-MW2	06-JUN-94	F	<0.02	U	0.02	6010	ENCOTEC
Cobalt	LWDS-MW2	31-AUG-94	F	<0.05	U	0.05	6010	ENCOTEC

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Cobalt	LWDS-MW2	07-DEC-94	F	<0.05	U	0.05	6010	ENCOTEC
Cobalt	LWDS-MW2	07-DEC-94	D	<0.05	U	0.05	6010	ENCOTEC
Cobalt	LWDS-MW2	12-JUN-95	D	<0.05	U	0.05	6010	ENCOTEC
Cobalt	LWDS-MW2	14-DEC-95	F	<0.00018	U	0.00018	6010A	GEL
Cobalt	LWDS-MW2	05-DEC-96	SA	<0.00077	U	0.00077	EPA6020	ERCL
Cobalt	LWDS-MW-2	01-MAR-95	D	<0.05	U	0.05	6010	ENCOTEC
Cobalt	TAV-MW1	09-JUN-95	F	<0.05	U	0.05	6010	ENCOTEC
Cobalt	TAV-MW1	18-DEC-95	F	.00023	J	0.00018	6010A	GEL
Cobalt	TAV-MW1	06-DEC-96	SA	<0.00077	U	0.00077	EPA6020	ERCL
Cobalt	TAV-MW1	06-DEC-96	DU	<0.00077	U	0.00077	EPA6020	ERCL
Cobalt	TAV-MW2	06-JUN-95	F	<0.05	U	0.05	6010	ENCOTEC
Cobalt	TAV-MW2	18-DEC-95	F	.001	J	0.00018	6010A	GEL
Cobalt	TAV-MW2	05-DEC-96	SA	<0.00077	U	0.00077	EPA6020	ERCL
Cobalt	TAV-MW3	26-FEB-98	SA	0.00025	J	0.00023	EPA6020	ERCL
Cobalt	TAV-MW4	26-FEB-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Cobalt	TAV-MW5	27-FEB-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Copper	AVN-1	13-JUL-95	F	<0.02	U	0.02	6010	ENCOTEC
Copper	AVN-1	13-DEC-95	F	<0.00054	U	0.00054	6010A	GEL
Copper	AVN-1	29-MAY-97	SA	0.0057	J	0.0056	EPA6020	ERCL
Copper	AVN-2	11-JUL-95	F	<0.02	U	0.02	6010	ENCOTEC
Copper	AVN-2	14-DEC-95	F	<0.00054	U	0.00054	6010A	GEL
Copper	AVN-2	04-DEC-96	SA	<0.0041	U	0.0041	EPA6020	ERCL
Copper	AVN-2	29-MAY-97	SA	0.0061	J	0.0056	EPA6020	ERCL
Copper	LWDS-MW1	03-MAY-93	F	.64		0.1	6010	ENSECO
Copper	LWDS-MW1	02-NOV-93	F	<0.02	U	0.02	6010	ENCOTEC
Copper	LWDS-MW1	03-NOV-93	F	<0.02	U	0.02	6010	ENCOTEC
Copper	LWDS-MW1	03-NOV-93	F	<0.02	U	0.02	6010	ENCOTEC
Copper	LWDS-MW1	10-MAR-94	F	<0.02	U	0.02	6010	ENCOTEC
Copper	LWDS-MW1	07-JUN-94	F	<0.02	U	0.02	6010	ENCOTEC
Copper	LWDS-MW1	01-SEP-94	F	<0.025	U	0.025	6010	ENCOTEC
Copper	LWDS-MW1	01-SEP-94	D	<0.025	U	0.025	6010	ENCOTEC
Copper	LWDS-MW1	01-SEP-94	F	<0.025	U	0.025	6010	ENCOTEC
Copper	LWDS-MW1	08-DEC-94	F	<0.02	U	0.02	6010	ENCOTEC
Copper	LWDS-MW1	14-JUN-95	F	<0.02	U	0.02	6010	ENCOTEC
Copper	LWDS-MW1	19-DEC-95	F	<0.00054	U	0.00054	6010A	GEL
Copper	LWDS-MW1	19-DEC-95	D	<0.00054	U	0.00054	6010A	GEL
Copper	LWDS-MW1	06-DEC-96	SA	<0.0041	U	0.0041	EPA6020	ERCL
Copper	LWDS-MW1	30-MAY-97	SA	0.0086	J	0.0056	EPA6020	ERCL
Copper	LWDS-MW-1	02-MAR-95	F	<0.02	U	0.02	6010	ENCOTEC
Copper	LWDS-MW2	21-OCT-92	F	<0.02	U	0.02	6010	ENSECO
Copper	LWDS-MW2	24-JUN-93	F	<0.02	U	0.02	6010	ENCOTEC
Copper	LWDS-MW2	24-JUN-93	D	<0.02	U	0.02	6010	ENCOTEC
Copper	LWDS-MW2	09-MAR-94	F	<0.02	U	0.02	6010	ENCOTEC
Copper	LWDS-MW2	09-MAR-94	D	<0.02	U	0.02	6010	ENCOTEC
Copper	LWDS-MW2	06-JUN-94	F	<0.02	U	0.02	6010	ENCOTEC
Copper	LWDS-MW2	31-AUG-94	F	<0.025	U	0.025	6010	ENCOTEC
Copper	LWDS-MW2	07-DEC-94	D	<0.02	U	0.02	6010	ENCOTEC
Copper	LWDS-MW2	07-DEC-94	F	<0.02	U	0.02	6010	ENCOTEC
Copper	LWDS-MW2	12-JUN-95	D	<0.02	U	0.02	6010	ENCOTEC
Copper	LWDS-MW2	14-DEC-95	F	<0.00054	U	0.00054	6010A	GEL
Copper	LWDS-MW2	05-DEC-96	SA	0.015	J	0.0041	EPA6020	ERCL
Copper	LWDS-MW-2	01-MAR-95	D	<0.02	U	0.02	6010	ENCOTEC
Copper	TAV-MW1	09-JUN-95	F	<0.02	U	0.02	6010	ENCOTEC

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Copper	TAV-MW1	18-DEC-95	F	<0.00054	U	0.00054	6010A	GEL
Copper	TAV-MW1	06-DEC-96	SA	<0.0041	U	0.0041	EPA6020	ERCL
Copper	TAV-MW1	06-DEC-96	DU	<0.0041	U	0.0041	EPA6020	ERCL
Copper	TAV-MW2	06-JUN-95	F	<0.02	U	0.02	6010	ENCOTEC
Copper	TAV-MW2	18-DEC-95	F	.00309	J	0.00054	6010A	GEL
Copper	TAV-MW2	05-DEC-96	SA	<0.0041	U	0.0041	EPA6020	ERCL
Copper	TAV-MW3	26-FEB-98	SA	0.0084	J	0.0057	EPA6020	ERCL
Copper	TAV-MW4	26-FEB-98	SA	<0.0057	U	0.0057	EPA6020	ERCL
Copper	TAV-MW5	27-FEB-98	SA	<0.0057	U	0.0057	EPA6020	ERCL
Cyanide	LWDS-MW1	25-SEP-95	F	<0.00147	U	0.00147	335.3	GEL
Fluoride	AVN-1	13-JUL-95	F	1.2		0.1	340.2	ENCOTEC
Fluoride	AVN-1	13-DEC-95	F	1.27		0.1	300.0	GEL
Fluoride	AVN-1	29-MAY-97	SA	1.2	J	0.4	Anions_CE	ERCL
Fluoride	AVN-1	03-JUN-98	SA	1.2	J	0.5	Anions_CE	ERCL
Fluoride	AVN-1	16-NOV-08	SA	1.2	J	0.5	Anions_CE	ERCL
Fluoride	AVN-2	11-JUL-95	F	1.2		0.1	340.2	ENCOTEC
Fluoride	AVN-2	14-DEC-95	F	1.37		0.04	300.0	GEL
Fluoride	AVN-2	04-DEC-96	SA	1.1	J	0.4	Anions_IC	ERCL
Fluoride	AVN-2	29-MAY-97	SA	1.2	J	0.4	Anions_CE	ERCL
Fluoride	AVN-2	03-JUN-98	SA	.9	J	0.5	Anions_CE	ERCL
Fluoride	AVN-2	16-NOV-98	SA	1.1	J	0.5	Anions_CE	ERCL
Fluoride	LWDS-MW1	02-NOV-93	F	<0.1	U	0.1	340.2	ENCOTEC
Fluoride	LWDS-MW1	03-NOV-93	F	1.1		0.1	340.2	ENCOTEC
Fluoride	LWDS-MW1	03-NOV-93	F	1.1		0.1	340.2	ENCOTEC
Fluoride	LWDS-MW1	10-MAR-94	F	.95		0.1	340.2	ENCOTEC
Fluoride	LWDS-MW1	07-JUN-94	F	.9		0.1	340.2	ENCOTEC
Fluoride	LWDS-MW1	01-SEP-94	F	.8		0.5	300.0	ENCOTEC
Fluoride	LWDS-MW1	01-SEP-94	D	.7		0.5	300.0	ENCOTEC
Fluoride	LWDS-MW1	01-SEP-94	F	.8		0.5	300.0	ENCOTEC
Fluoride	LWDS-MW1	14-JUN-95	F	.71		0.1	340.2	ENCOTEC
Fluoride	LWDS-MW1	19-DEC-95	F	.911		0.02	300.0	GEL
Fluoride	LWDS-MW1	19-DEC-95	D	.916		0.02	300.0	GEL
Fluoride	LWDS-MW1	06-DEC-96	SA	.7	J	0.4	Anions_IC	ERCL
Fluoride	LWDS-MW1	30-MAY-97	SA	.7	J	0.4	Anions_CE	ERCL
Fluoride	LWDS-MW1	08-JUN-98	SA	.8	J	0.5	Anions_CE	ERCL
Fluoride	LWDS-MW1	08-JUN-98	SPLIT	.61		0.1	EPA 300.0	QSTL
Fluoride	LWDS-MW1	16-NOV-98	SA	0.5	J	0.5	Anions_CE	ERCL
Fluoride	LWDS-MW1	16-NOV-98	DU	0.6	J	0.5	Anions_CE	ERCL
Fluoride	LWDS-MW-1	02-MAR-95	F	.8		0.1	340.2	ENCOTEC
Fluoride	LWDS-MW-1	08-JUN-98	DU	.8	J	0.5	Anions_CE	ERCL
Fluoride	LWDS-MW2	11-MAR-94	F	1.4		0.1	340.2	ENCOTEC
Fluoride	LWDS-MW2	11-MAR-94	D	1.4		0.1	340.2	ENCOTEC
Fluoride	LWDS-MW2	06-JUN-94	F	1.4		0.1	340.2	ENCOTEC
Fluoride	LWDS-MW2	31-AUG-94	F	.4		0.1	300.0	ENCOTEC
Fluoride	LWDS-MW2	07-DEC-94	F	1.4		0.2	340.2	ENCOTEC
Fluoride	LWDS-MW2	07-DEC-94	D	1.4		0.1	340.2	ENCOTEC
Fluoride	LWDS-MW2	12-JUN-95	D	1.4		0.1	340.2	ENCOTEC
Fluoride	LWDS-MW2	14-DEC-95	F	1.39		0.1	300.0	GEL
Fluoride	LWDS-MW2	05-DEC-96	SA	1	J	0.4	Anions_IC	ERCL
Fluoride	LWDS-MW2	02-JUN-97	SA	1.2	J	0.4	Anions_CE	ERCL
Fluoride	LWDS-MW-2	01-MAR-95	D	1.4		0.1	340.2	ENCOTEC
Fluoride	LWDS-MW-2	03-JUN-98	SA	1.1	J	0.5	Anions_CE	ERCL
Fluoride	LWDS-MW-2	17-NOV-98	SA	1.1	J	0.5	Anions_CE	ERCL

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Fluoride	TAV-MW1	09-JUN-95	F	1.5		0.1	340.2	ENCOTEC
Fluoride	TAV-MW1	18-DEC-95	F	1.13		0.02	300.0	GEL
Fluoride	TAV-MW1	06-DEC-96	SA	1.1	J	0.4	Anions_IC	ERCL
Fluoride	TAV-MW1	06-DEC-96	DU	1.1	J	0.4	Anions_IC	ERCL
Fluoride	TAV-MW1	03-JUN-97	SA	1	J	0.4	Anions_CE	ERCL
Fluoride	TAV-MW1	23-NOV-98	SA	1.2	J	0.5	Anions_CE	ERCL
Fluoride	TAV-MW2	06-JUN-95	F	1.1		0.1	340.2	ENCOTEC
Fluoride	TAV-MW2	18-DEC-95	F	1.1		0.02	300.0	GEL
Fluoride	TAV-MW2	05-DEC-96	SA	1.2	J	0.4	Anions_IC	ERCL
Fluoride	TAV-MW2	04-JUN-97	SPL	1.13		0.02	300	GEL
Fluoride	TAV-MW2	04-JUN-97	SA	.9	J	0.4	Anions_CE	ERCL
Fluoride	TAV-MW2	20-NOV-98	SA	0.9	J	0.5	Anions_CE	ERCL
Fluoride	TAV-MW3	26-FEB-98	SA	1.2	J	0.5	Anions_CE	ERCL
Fluoride	TAV-MW3	19-NOV-98	SA	1.6	J	0.5	Anions_CE	ERCL
Fluoride	TAV-MW4	26-FEB-98	SA	1.1	J	0.5	Anions_CE	ERCL
Fluoride	TAV-MW5	27-FEB-98	SA	1.2	J	0.5	Anions_CE	ERCL
Iron	AVN-1	13-JUL-95	F	<0.1	U	0.1	6010	ENCOTEC
Iron	AVN-1	13-JUL-95	F	<0.1	U	0.1	6010	ENCOTEC
Iron	AVN-1	13-DEC-95	F	.0275	J	0.0101	6010A	GEL
Iron	AVN-1	13-DEC-95	F	<0.0101	U	0.0101	6010A	GEL
Iron	AVN-1	29-MAY-97	SA	0.17	J	0.11	EPA6020	ERCL
Iron	AVN-1	16-NOV-08	SA	0.36	J	0.11	EPA6020	ERCL
Iron	AVN-2	11-JUL-95	F	<0.1	U	0.1	6010	ENCOTEC
Iron	AVN-2	11-JUL-95	F	<0.1	U	0.1	6010	ENCOTEC
Iron	AVN-2	14-DEC-95	F	.0693		0.0101	6010A	GEL
Iron	AVN-2	14-DEC-95	F	.0241	J	0.0101	6010A	GEL
Iron	AVN-2	04-DEC-96	SA	0.44		0.031	EPA6020	ERCL
Iron	AVN-2	29-MAY-97	SA	0.3	J	0.11	EPA6020	ERCL
Iron	AVN-2	16-NOV-98	SA	0.5		0.11	EPA6020	ERCL
Iron	LWDS-MW1	03-MAY-93	F	1100		0.5	6010	ENSECO
Iron	LWDS-MW1	02-NOV-93	F	<0.02	U	0.02	6010	ENCOTEC
Iron	LWDS-MW1	03-NOV-93	F	.14		0.02	6010	ENCOTEC
Iron	LWDS-MW1	03-NOV-93	F	.14		0.02	6010	ENCOTEC
Iron	LWDS-MW1	10-MAR-94	F	7.4		0.02	6010	ENCOTEC
Iron	LWDS-MW1	10-MAR-94	F	2.5		0.02	6010	ENCOTEC
Iron	LWDS-MW1	07-JUN-94	F	.24		0.02	6010	ENCOTEC
Iron	LWDS-MW1	07-JUN-94	F	.06		0.02	6010	ENCOTEC
Iron	LWDS-MW1	01-SEP-94	F	<0.1	U	0.1	6010	ENCOTEC
Iron	LWDS-MW1	01-SEP-94	F	<0.1	U	0.1	6010	ENCOTEC
Iron	LWDS-MW1	01-SEP-94	D	.05		0.02	6010	ENCOTEC
Iron	LWDS-MW1	01-SEP-94	D	<0.1	U	0.1	6010	ENCOTEC
Iron	LWDS-MW1	01-SEP-94	F	<0.02	U	0.02	6010	ENCOTEC
Iron	LWDS-MW1	01-SEP-94	F	.03		0.02	6010	ENCOTEC
Iron	LWDS-MW1	08-DEC-94	F	<0.1	U	0.1	6010	ENCOTEC
Iron	LWDS-MW1	08-DEC-94	F	.1		0.02	6010	ENCOTEC
Iron	LWDS-MW1	14-JUN-95	F	<0.1	U	0.1	6010	ENCOTEC
Iron	LWDS-MW1	14-JUN-95	F	<0.1	U	0.1	6010	ENCOTEC
Iron	LWDS-MW1	19-DEC-95	F	.0985		0.0101	6010A	GEL
Iron	LWDS-MW1	19-DEC-95	F	.0255	J	0.0101	6010A	GEL
Iron	LWDS-MW1	19-DEC-95	D	.092		0.0101	6010A	GEL
Iron	LWDS-MW1	19-DEC-95	D	.0304	J	0.0101	6010A	GEL
Iron	LWDS-MW1	06-DEC-96	SA	0.088		0.031	EPA6020	ERCL
Iron	LWDS-MW1	16-NOV-98	DU	0.6		0.11	EPA6020	ERCL

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Iron	LWDS-MW1	16-NOV-98	SA	0.52		0.11	EPA6020	ERCL
Iron	LWDS-MW-1	02-MAR-95	F	<0.1	U	0.1	6010	ENCOTEC
Iron	LWDS-MW-1	02-MAR-95	F	<0.02	U	0.02	6010	ENCOTEC
Iron	LWDS-MW2	21-OCT-92	F	8		0.1	6010	ENSECO
Iron	LWDS-MW2	24-JUN-93	F	.24		0.02	6010	ENCOTEC
Iron	LWDS-MW2	24-JUN-93	D	.22		0.02	6010	ENCOTEC
Iron	LWDS-MW2	09-MAR-94	F	.43		0.02	6010	ENCOTEC
Iron	LWDS-MW2	09-MAR-94	D	.54		0.02	6010	ENCOTEC
Iron	LWDS-MW2	09-MAR-94	D	.43		0.02	6010	ENCOTEC
Iron	LWDS-MW2	09-MAR-94	F	.69		0.02	6010	ENCOTEC
Iron	LWDS-MW2	06-JUN-94	F	.05		0.02	6010	ENCOTEC
Iron	LWDS-MW2	06-JUN-94	F	.05		0.02	6010	ENCOTEC
Iron	LWDS-MW2	31-AUG-94	F	<0.1	U	0.1	6010	ENCOTEC
Iron	LWDS-MW2	31-AUG-94	F	<0.02	U	0.02	6010	ENCOTEC
Iron	LWDS-MW2	07-DEC-94	F	<0.1	U	0.1	6010	ENCOTEC
Iron	LWDS-MW2	07-DEC-94	F	<0.02	U	0.02	6010	ENCOTEC
Iron	LWDS-MW2	07-DEC-94	D	<0.1	U	0.1	6010	ENCOTEC
Iron	LWDS-MW2	07-DEC-94	D	.03		0.02	6010	ENCOTEC
Iron	LWDS-MW2	12-JUN-95	D	<0.1	U	0.1	6010	ENCOTEC
Iron	LWDS-MW2	12-JUN-95	D	<0.1	U	0.1	6010	ENCOTEC
Iron	LWDS-MW2	14-DEC-95	F	.0504		0.0101	6010A	GEL
Iron	LWDS-MW2	14-DEC-95	F	.0147	J	0.0101	6010A	GEL
Iron	LWDS-MW2	05-DEC-96	SA	0.1	J	0.031	EPA6020	ERCL
Iron	LWDS-MW-2	01-MAR-95	D	<0.1	U	0.1	6010	ENCOTEC
Iron	LWDS-MW-2	01-MAR-95	D	<0.02	U	0.02	6010	ENCOTEC
Iron	LWDS-MW-2	17-NOV-98	SA	0.47		0.11	EPA6020	ERCL
Iron	TAV-MW1	09-JUN-95	F	.23		0.1	6010	ENCOTEC
Iron	TAV-MW1	09-JUN-95	F	<0.1	U	0.1	6010	ENCOTEC
Iron	TAV-MW1	18-DEC-95	F	.394		0.0101	6010A	GEL
Iron	TAV-MW1	18-DEC-95	F	.479		0.0101	6010A	GEL
Iron	TAV-MW1	06-DEC-96	SA	<0.031	U	0.031	EPA6020	ERCL
Iron	TAV-MW1	06-DEC-96	DU	<0.031	U	0.031	EPA6020	ERCL
Iron	TAV-MW1	23-NOV-98	SA	0.58		0.11	EPA6020	ERCL
Iron	TAV-MW2	06-JUN-95	F	.26		0.1	6010	ENCOTEC
Iron	TAV-MW2	06-JUN-95	F	<0.1	U	0.1	6010	ENCOTEC
Iron	TAV-MW2	18-DEC-95	F	.135		0.0101	6010A	GEL
Iron	TAV-MW2	18-DEC-95	F	.0797		0.0101	6010A	GEL
Iron	TAV-MW2	05-DEC-96	SA	0.13		0.031	EPA6020	ERCL
Iron	TAV-MW2	04-JUN-97	SPL	.0136	J	0.00381	6010A	GEL
Iron	TAV-MW2	20-NOV-98	SA	0.64		0.11	EPA6020	ERCL
Iron	TAV-MW3	26-FEB-98	SA	0.29	J	0.11	EPA6020	ERCL
Iron	TAV-MW3	19-NOV-98	SA	0.46		0.11	EPA6020	ERCL
Iron	TAV-MW4	26-FEB-98	SA	<0.11	U	0.11	EPA6020	ERCL
Iron	TAV-MW5	27-FEB-98	SA	<0.11	U	0.11	EPA6020	ERCL
Lead	AVN-1	13-JUL-95	F	<0.003	U	0.003	6020	ENCOTEC
Lead	AVN-1	13-DEC-95	F	.0013	J	0.00113	6010A	GEL
Lead	AVN-1	03-JUN-98	SA	<0.0017	U	0.0017	EPA6020	ERCL
Lead	AVN-1	16-NOV-08	SA	<0.0017	U	0.0017	EPA6020	ERCL
Lead	AVN-2	11-JUL-95	F	<0.003	U	0.003	6020	ENCOTEC
Lead	AVN-2	14-DEC-95	F	<0.00113	U	0.00113	6010A	GEL
Lead	AVN-2	04-DEC-96	SA	<0.00083	U	0.00083	EPA6020	ERCL
Lead	AVN-2	03-JUN-98	SA	<0.0017	U	0.0017	EPA6020	ERCL
Lead	AVN-2	16-NOV-98	SA	<0.0017	U	0.0017	EPA6020	ERCL

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Lead	LWDS-MW1	03-MAY-93	F	.51		0.05	7421	ENSECO
Lead	LWDS-MW1	02-NOV-93	F	<0.003	U	0.003	7421	ENCOTEC
Lead	LWDS-MW1	03-NOV-93	F	<0.003	U	0.003	7421	ENCOTEC
Lead	LWDS-MW1	03-NOV-93	F	<0.003	U	0.003	7421	ENCOTEC
Lead	LWDS-MW1	10-MAR-94	F	.003		0.001	7421	ENCOTEC
Lead	LWDS-MW1	07-JUN-94	F	<0.003	U	0.003	7421	ENCOTEC
Lead	LWDS-MW1	01-SEP-94	F	<0.003	U	0.003	7421	ENCOTEC
Lead	LWDS-MW1	01-SEP-94	D	<0.003	U	0.003	7421	ENCOTEC
Lead	LWDS-MW1	01-SEP-94	F	<0.003	U	0.003	7421	ENCOTEC
Lead	LWDS-MW1	08-DEC-94	F	<0.003	U	0.003	6020	ENCOTEC
Lead	LWDS-MW1	14-JUN-95	F	<0.003	U	0.003	6020	ENCOTEC
Lead	LWDS-MW1	19-DEC-95	F	.0029	J	0.00113	6010A	GEL
Lead	LWDS-MW1	19-DEC-95	D	<0.00113	U	0.00113	6010A	GEL
Lead	LWDS-MW1	06-DEC-96	SA	<0.00083	U	0.00083	EPA6020	ERCL
Lead	LWDS-MW1	30-MAY-97	SA	<0.0017	U	0.0017	EPA6020	ERCL
Lead	LWDS-MW1	08-JUN-98	SPLIT	.0049		0.0016	EPA 6010	QSTL
Lead	LWDS-MW1	08-JUN-98	SA	<0.0017	U	0.0017	EPA6020	ERCL
Lead	LWDS-MW1	16-NOV-98	SA	<0.0017	U	0.0017	EPA6020	ERCL
Lead	LWDS-MW1	16-NOV-98	DU	<0.0017	U	0.0017	EPA6020	ERCL
Lead	LWDS-MW-1	02-MAR-95	F	<0.003	U	0.003	6020	ENCOTEC
Lead	LWDS-MW-1	08-JUN-98	DU	<0.0017	U	0.0017	EPA6020	ERCL
Lead	LWDS-MW2	21-OCT-92	F	.01		0.005	7421	ENSECO
Lead	LWDS-MW2	24-JUN-93	F	<0.003	U	0.003	7421	ENCOTEC
Lead	LWDS-MW2	24-JUN-93	D	<0.003	U	0.003	7421	ENCOTEC
Lead	LWDS-MW2	09-MAR-94	F	<0.001	U	0.001	7421	ENCOTEC
Lead	LWDS-MW2	09-MAR-94	D	<0.001	U	0.001	7421	ENCOTEC
Lead	LWDS-MW2	06-JUN-94	F	<0.003	U	0.003	7421	ENCOTEC
Lead	LWDS-MW2	31-AUG-94	F	<0.003	U	0.003	7421	ENCOTEC
Lead	LWDS-MW2	07-DEC-94	F	<0.003	U	0.003	6020	ENCOTEC
Lead	LWDS-MW2	07-DEC-94	D	<0.003	U	0.003	6020	ENCOTEC
Lead	LWDS-MW2	12-JUN-95	D	<0.003	U	0.003	6020	ENCOTEC
Lead	LWDS-MW2	14-DEC-95	F	.00183	J	0.00113	6010A	GEL
Lead	LWDS-MW2	05-DEC-96	SA	<0.00083	U	0.00083	EPA6020	ERCL
Lead	LWDS-MW2	02-JUN-97	SA	<0.0017	U	0.0017	EPA6020	ERCL
Lead	LWDS-MW-2	01-MAR-95	D	<0.003	U	0.003	6020	ENCOTEC
Lead	LWDS-MW-2	03-JUN-98	SA	<0.0017	U	0.0017	EPA6020	ERCL
Lead	LWDS-MW-2	17-NOV-98	SA	<0.0017	U	0.0017	EPA6020	ERCL
Lead	TAV-MW1	09-JUN-95	F	<0.003	U	0.003	6020	ENCOTEC
Lead	TAV-MW1	18-DEC-95	F	.00213	J	0.00113	6010A	GEL
Lead	TAV-MW1	06-DEC-96	SA	<0.00083	U	0.00083	EPA6020	ERCL
Lead	TAV-MW1	06-DEC-96	DU	<0.00083	U	0.00083	EPA6020	ERCL
Lead	TAV-MW1	03-JUN-97	SA	<0.0017	U	0.0017	EPA6020	ERCL
Lead	TAV-MW1	23-NOV-98	SA	<0.0017	U	0.0017	EPA6020	ERCL
Lead	TAV-MW2	06-JUN-95	F	<0.003	U	0.003	6020	ENCOTEC
Lead	TAV-MW2	18-DEC-95	F	.00316	B	0.00113	6010A	GEL
Lead	TAV-MW2	05-DEC-96	SA	<0.00083	U	0.00083	EPA6020	ERCL
Lead	TAV-MW2	04-JUN-97	SPL	<0.00136	U	0.00136	6010A	GEL
Lead	TAV-MW2	04-JUN-97	SA	<0.0017	U	0.0017	EPA6020	ERCL
Lead	TAV-MW2	20-NOV-98	SA	<0.0017	U	0.0017	EPA6020	ERCL
Lead	TAV-MW3	26-FEB-98	SA	<0.0017	U	0.0017	EPA6020	ERCL
Lead	TAV-MW3	14-MAY-98	SA	<0.0017	U	0.0017	EPA6020	ERCL
Lead	TAV-MW3	19-NOV-98	SA	<0.0017	U	0.0017	EPA6020	ERCL
Lead	TAV-MW4	26-FEB-98	SA	<0.0017	U	0.0017	EPA6020	ERCL

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Lead	TAV-MW5	27-FEB-98	SA	<0.0017	U	0.0017	EPA6020	ERCL
Magnesium	AVN-1	13-JUL-95	F	9.6		5	6010	ENCOTEC
Magnesium	AVN-1	13-JUL-95	F	9.7		5	6010	ENCOTEC
Magnesium	AVN-1	13-DEC-95	F	9.48		0.00235	6010A	GEL
Magnesium	AVN-1	13-DEC-95	F	9.77		0.00235	6010A	GEL
Magnesium	AVN-1	29-MAY-97	SA	9.2		0.079	EPA6020	ERCL
Magnesium	AVN-1	03-JUN-98	SA	9.5		0.08	EPA6020	ERCL
Magnesium	AVN-1	16-NOV-08	SA	10		0.08	EPA6020	ERCL
Magnesium	AVN-2	11-JUL-95	F	11		5	6010	ENCOTEC
Magnesium	AVN-2	11-JUL-95	F	12		5	6010	ENCOTEC
Magnesium	AVN-2	14-DEC-95	F	12.1		0.00235	6010A	GEL
Magnesium	AVN-2	14-DEC-95	F	12.7		0.00235	6010A	GEL
Magnesium	AVN-2	04-DEC-96	SA	14		0.0065	EPA6020	ERCL
Magnesium	AVN-2	29-MAY-97	SA	11		0.079	EPA6020	ERCL
Magnesium	AVN-2	03-JUN-98	SA	12		0.08	EPA6020	ERCL
Magnesium	AVN-2	16-NOV-98	SA	12		0.08	EPA6020	ERCL
Magnesium	LWDS-MW1	03-MAY-93	F	352		1	6010	ENSECO
Magnesium	LWDS-MW1	02-NOV-93	F	<0.2	U	0.2	6010	ENCOTEC
Magnesium	LWDS-MW1	03-NOV-93	F	15		0.2	6010	ENCOTEC
Magnesium	LWDS-MW1	03-NOV-93	F	15		0.2	6010	ENCOTEC
Magnesium	LWDS-MW1	10-MAR-94	F	18		0.2	6010	ENCOTEC
Magnesium	LWDS-MW1	10-MAR-94	F	16		0.2	6010	ENCOTEC
Magnesium	LWDS-MW1	07-JUN-94	F	17		0.2	6010	ENCOTEC
Magnesium	LWDS-MW1	07-JUN-94	F	17		0.2	6010	ENCOTEC
Magnesium	LWDS-MW1	01-SEP-94	F	17		5	6010	ENCOTEC
Magnesium	LWDS-MW1	01-SEP-94	F	17		0.2	6010	ENCOTEC
Magnesium	LWDS-MW1	01-SEP-94	F	17		5	6010	ENCOTEC
Magnesium	LWDS-MW1	01-SEP-94	D	17		0.2	6010	ENCOTEC
Magnesium	LWDS-MW1	01-SEP-94	D	17		5	6010	ENCOTEC
Magnesium	LWDS-MW1	01-SEP-94	F	17		0.2	6010	ENCOTEC
Magnesium	LWDS-MW1	08-DEC-94	F	18		5	6010	ENCOTEC
Magnesium	LWDS-MW1	08-DEC-94	F	17		0.2	6010	ENCOTEC
Magnesium	LWDS-MW1	14-JUN-95	F	18		5	6010	ENCOTEC
Magnesium	LWDS-MW1	14-JUN-95	F	18		5	6010	ENCOTEC
Magnesium	LWDS-MW1	19-DEC-95	F	19		0.00235	6010A	GEL
Magnesium	LWDS-MW1	19-DEC-95	F	19		0.00235	6010A	GEL
Magnesium	LWDS-MW1	19-DEC-95	D	19		0.00235	6010A	GEL
Magnesium	LWDS-MW1	19-DEC-95	D	19.2		0.00235	6010A	GEL
Magnesium	LWDS-MW1	06-DEC-96	SA	24		0.0065	EPA6020	ERCL
Magnesium	LWDS-MW1	30-MAY-97	SA	20		0.079	EPA6020	ERCL
Magnesium	LWDS-MW1	08-JUN-98	SPLIT	19.7		0.038	EPA 6010	QSTL
Magnesium	LWDS-MW1	08-JUN-98	SA	21		0.08	EPA6020	ERCL
Magnesium	LWDS-MW1	16-NOV-98	SA	23		0.08	EPA6020	ERCL
Magnesium	LWDS-MW1	16-NOV-98	DU	21		0.08	EPA6020	ERCL
Magnesium	LWDS-MW-1	02-MAR-95	F	18		5	6010	ENCOTEC
Magnesium	LWDS-MW-1	02-MAR-95	F	18		0.2	6010	ENCOTEC
Magnesium	LWDS-MW-1	08-JUN-98	DU	21		0.08	EPA6020	ERCL
Magnesium	LWDS-MW2	21-OCT-92	F	13.9		0.2	6010	ENSECO
Magnesium	LWDS-MW2	24-JUN-93	F	13		0.2	6010	ENCOTEC
Magnesium	LWDS-MW2	24-JUN-93	D	13		0.2	6010	ENCOTEC
Magnesium	LWDS-MW2	09-MAR-94	F	14		0.2	6010	ENCOTEC
Magnesium	LWDS-MW2	09-MAR-94	F	13		0.2	6010	ENCOTEC
Magnesium	LWDS-MW2	09-MAR-94	D	14		0.2	6010	ENCOTEC

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Magnesium	LWDS-MW2	09-MAR-94	D	14		0.2	6010	ENCOTEC
Magnesium	LWDS-MW2	06-JUN-94	F	14		0.2	6010	ENCOTEC
Magnesium	LWDS-MW2	06-JUN-94	F	14		0.2	6010	ENCOTEC
Magnesium	LWDS-MW2	31-AUG-94	F	14		5	6010	ENCOTEC
Magnesium	LWDS-MW2	31-AUG-94	F	14		0.2	6010	ENCOTEC
Magnesium	LWDS-MW2	07-DEC-94	D	14		0.2	6010	ENCOTEC
Magnesium	LWDS-MW2	07-DEC-94	F	14		5	6010	ENCOTEC
Magnesium	LWDS-MW2	07-DEC-94	F	14		0.2	6010	ENCOTEC
Magnesium	LWDS-MW2	07-DEC-94	D	14		5	6010	ENCOTEC
Magnesium	LWDS-MW2	12-JUN-95	D	13		5	6010	ENCOTEC
Magnesium	LWDS-MW2	12-JUN-95	D	14		5	6010	ENCOTEC
Magnesium	LWDS-MW2	14-DEC-95	F	13.3		0.00235	6010A	GEL
Magnesium	LWDS-MW2	14-DEC-95	F	13.5		0.00235	6010A	GEL
Magnesium	LWDS-MW2	05-DEC-96	SA	17		0.0065	EPA6020	ERCL
Magnesium	LWDS-MW-2	01-MAR-95	D	14		5	6010	ENCOTEC
Magnesium	LWDS-MW-2	01-MAR-95	D	14		0.2	6010	ENCOTEC
Magnesium	LWDS-MW-2	03-JUN-98	SA	14		0.08	EPA6020	ERCL
Magnesium	LWDS-MW-2	17-NOV-98	SA	14		0.08	EPA6020	ERCL
Magnesium	TAV-MW1	09-JUN-95	F	11		5	6010	ENCOTEC
Magnesium	TAV-MW1	09-JUN-95	F	11		5	6010	ENCOTEC
Magnesium	TAV-MW1	18-DEC-95	F	16		0.00235	6010A	GEL
Magnesium	TAV-MW1	18-DEC-95	F	16.3		0.00235	6010A	GEL
Magnesium	TAV-MW1	06-DEC-96	DU	22		0.0065	EPA6020	ERCL
Magnesium	TAV-MW1	06-DEC-96	SA	18		0.0065	EPA6020	ERCL
Magnesium	TAV-MW1	23-NOV-98	SA	20		0.08	EPA6020	ERCL
Magnesium	TAV-MW2	06-JUN-95	F	17		5	6010	ENCOTEC
Magnesium	TAV-MW2	06-JUN-95	F	16		5	6010	ENCOTEC
Magnesium	TAV-MW2	18-DEC-95	F	21.9		0.00235	6010A	GEL
Magnesium	TAV-MW2	18-DEC-95	F	20.8		0.00235	6010A	GEL
Magnesium	TAV-MW2	05-DEC-96	SA	28		0.0065	EPA6020	ERCL
Magnesium	TAV-MW2	04-JUN-97	SPL	21.6		0.0035	6010A	GEL
Magnesium	TAV-MW2	20-NOV-98	SA	26		0.08	EPA6020	ERCL
Magnesium	TAV-MW3	26-FEB-98	SA	13		0.08	EPA6020	ERCL
Magnesium	TAV-MW3	14-MAY-98	SA	12		0.08	EPA6020	ERCL
Magnesium	TAV-MW3	19-NOV-98	SA	15		0.08	EPA6020	ERCL
Magnesium	TAV-MW4	26-FEB-98	SA	15		0.08	EPA6020	ERCL
Magnesium	TAV-MW5	27-FEB-98	SA	14		0.08	EPA6020	ERCL
Manganese	AVN-1	13-JUL-95	F	<0.015	U	0.015	6010	ENCOTEC
Manganese	AVN-1	13-DEC-95	F	.00106	J	0.0001	6010A	GEL
Manganese	AVN-1	29-MAY-97	SA	<0.0028	U	0.0028	EPA6020	ERCL
Manganese	AVN-2	11-JUL-95	F	.016		0.015	6010	ENCOTEC
Manganese	AVN-2	14-DEC-95	F	.00457	J	0.0001	6010A	GEL
Manganese	AVN-2	04-DEC-96	SA	0.034		0.00062	EPA6020	ERCL
Manganese	AVN-2	29-MAY-97	SA	0.0064	J	0.0028	EPA6020	ERCL
Manganese	LWDS-MW1	03-MAY-93	F	22.6		0.05	6010	ENSECO
Manganese	LWDS-MW1	02-NOV-93	F	<0.005	U	0.005	6010	ENCOTEC
Manganese	LWDS-MW1	03-NOV-93	F	.1		0.005	6010	ENCOTEC
Manganese	LWDS-MW1	03-NOV-93	F	.098		0.005	6010	ENCOTEC
Manganese	LWDS-MW1	10-MAR-94	F	.075		0.005	6010	ENCOTEC
Manganese	LWDS-MW1	07-JUN-94	F	.022		0.005	6010	ENCOTEC
Manganese	LWDS-MW1	01-SEP-94	F	<0.015	U	0.015	6010	ENCOTEC
Manganese	LWDS-MW1	01-SEP-94	D	<0.015	U	0.015	6010	ENCOTEC
Manganese	LWDS-MW1	01-SEP-94	F	<0.015	U	0.015	6010	ENCOTEC

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Manganese	LWDS-MW1	08-DEC-94	F	<0.015	U	0.015	6010	ENCOTEC
Manganese	LWDS-MW1	14-JUN-95	F	<0.015	U	0.015	6010	ENCOTEC
Manganese	LWDS-MW1	19-DEC-95	F	.0122		0.0001	6010A	GEL
Manganese	LWDS-MW1	19-DEC-95	D	.0109		0.0001	6010A	GEL
Manganese	LWDS-MW1	06-DEC-96	SA	0.012		0.00062	EPA6020	ERCL
Manganese	LWDS-MW1	30-MAY-97	SA	<0.0028	U	0.0028	EPA6020	ERCL
Manganese	LWDS-MW-1	02-MAR-95	F	<0.015	U	0.015	6010	ENCOTEC
Manganese	LWDS-MW2	21-OCT-92	F	.31		0.01	6010	ENSECO
Manganese	LWDS-MW2	24-JUN-93	F	<0.005	U	0.005	6010	ENCOTEC
Manganese	LWDS-MW2	24-JUN-93	D	<0.005	U	0.005	6010	ENCOTEC
Manganese	LWDS-MW2	09-MAR-94	F	.011		0.005	6010	ENCOTEC
Manganese	LWDS-MW2	09-MAR-94	D	.01		0.005	6010	ENCOTEC
Manganese	LWDS-MW2	06-JUN-94	F	<0.005	U	0.005	6010	ENCOTEC
Manganese	LWDS-MW2	31-AUG-94	F	<0.015	U	0.015	6010	ENCOTEC
Manganese	LWDS-MW2	07-DEC-94	F	<0.015	U	0.015	6010	ENCOTEC
Manganese	LWDS-MW2	07-DEC-94	D	<0.015	U	0.015	6010	ENCOTEC
Manganese	LWDS-MW2	12-JUN-95	D	<0.015	U	0.015	6010	ENCOTEC
Manganese	LWDS-MW2	14-DEC-95	F	.00092	J	0.0001	6010A	GEL
Manganese	LWDS-MW2	05-DEC-96	SA	0.0013	J	0.00062	EPA6020	ERCL
Manganese	LWDS-MW-2	01-MAR-95	D	<0.015	U	0.015	6010	ENCOTEC
Manganese	TAV-MW1	09-JUN-95	F	.049		0.015	6010	ENCOTEC
Manganese	TAV-MW1	18-DEC-95	F	.0318		0.0001	6010A	GEL
Manganese	TAV-MW1	06-DEC-96	SA	0.0075		0.00062	EPA6020	ERCL
Manganese	TAV-MW1	06-DEC-96	DU	0.006		0.00062	EPA6020	ERCL
Manganese	TAV-MW2	06-JUN-95	F	.018		0.015	6010	ENCOTEC
Manganese	TAV-MW2	18-DEC-95	F	.0111		0.0001	6010A	GEL
Manganese	TAV-MW2	05-DEC-96	SA	<0.00062	U	0.00062	EPA6020	ERCL
Manganese	TAV-MW3	26-FEB-98	SA	0.025		0.0028	EPA6020	ERCL
Manganese	TAV-MW4	26-FEB-98	SA	<0.0028	U	0.0028	EPA6020	ERCL
Manganese	TAV-MW5	27-FEB-98	SA	<0.0028	U	0.0028	EPA6020	ERCL
Mercury	AVN-1	13-JUL-95	F	<0.0002	U	0.0002	7470	ENCOTEC
Mercury	AVN-1	13-DEC-95	F	<0.00001	UB	0.00001	7470	GEL
Mercury	AVN-1	29-MAY-97	SA	<0.00022	U	0.00022	EPA6020	ERCL
Mercury	AVN-1	03-JUN-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Mercury	AVN-1	16-NOV-08	SA	<0.00023	U	0.00023	EPA6020	ERCL
Mercury	AVN-2	11-JUL-95	F	<0.0002	U	0.0002	7470	ENCOTEC
Mercury	AVN-2	14-DEC-95	F	<0.00001	UB	0.00001	7470	GEL
Mercury	AVN-2	04-DEC-96	SA	3		0.0045	EPA6020	ERCL
Mercury	AVN-2	04-DEC-96	SA	<0.000078	U	0.000078	EPA6020	ERCL
Mercury	AVN-2	29-MAY-97	SA	<0.00022	U	0.00022	EPA6020	ERCL
Mercury	AVN-2	03-JUN-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Mercury	AVN-2	16-NOV-98	SA	0.00031	J	0.00023	EPA6020	ERCL
Mercury	LWDS-MW1	03-MAY-93	F	<0.0002	U	0.0002	7470	ENSECO
Mercury	LWDS-MW1	02-NOV-93	F	<0.0002	U	0.0002	7470	ENCOTEC
Mercury	LWDS-MW1	03-NOV-93	F	<0.0002	U	0.0002	7470	ENCOTEC
Mercury	LWDS-MW1	03-NOV-93	F	<0.0002	U	0.0002	7470	ENCOTEC
Mercury	LWDS-MW1	10-MAR-94	F	<0.0002	U	0.0002	7470	ENCOTEC
Mercury	LWDS-MW1	07-JUN-94	F	<0.0002	U	0.0002	7470	ENCOTEC
Mercury	LWDS-MW1	01-SEP-94	F	<0.0002	U	0.0002	7470	ENCOTEC
Mercury	LWDS-MW1	01-SEP-94	D	<0.0002	U	0.0002	7470	ENCOTEC
Mercury	LWDS-MW1	01-SEP-94	F	<0.0002	U	0.0002	7470	ENCOTEC
Mercury	LWDS-MW1	08-DEC-94	F	<0.0002	U	0.0002	7470	ENCOTEC
Mercury	LWDS-MW1	14-JUN-95	F	<0.0002	U	0.0002	7470	ENCOTEC

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Mercury	LWDS-MW1	19-DEC-95	F	.0003	B	0.00001	7470	GEL
Mercury	LWDS-MW1	19-DEC-95	D	.00041	B	0.00001	7470	GEL
Mercury	LWDS-MW1	06-DEC-96	SA	3		0.0045	EPA6020	ERCL
Mercury	LWDS-MW1	06-DEC-96	SA	<0.000078	U	0.000078	EPA6020	ERCL
Mercury	LWDS-MW1	30-MAY-97	SA	<0.00022	U	0.00022	EPA6020	ERCL
Mercury	LWDS-MW1	08-JUN-98	SPLIT	<0.1	U	0.1	EPA 7470	QSTL
Mercury	LWDS-MW1	08-JUN-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Mercury	LWDS-MW1	16-NOV-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Mercury	LWDS-MW1	16-NOV-98	DU	<0.00023	U	0.00023	EPA6020	ERCL
Mercury	LWDS-MW-1	02-MAR-95	F	<0.0002	U	0.0002	7470	ENCOTEC
Mercury	LWDS-MW-1	08-JUN-98	DU	<0.00023	U	0.00023	EPA6020	ERCL
Mercury	LWDS-MW2	21-OCT-92	F	<0.0002	U	0.0002	7470	ENSECO
Mercury	LWDS-MW2	24-JUN-93	F	<0.0002	U	0.0002	7470	ENCOTEC
Mercury	LWDS-MW2	24-JUN-93	D	<0.0002	U	0.0002	7470	ENCOTEC
Mercury	LWDS-MW2	09-MAR-94	F	<0.0002	U	0.0002	7470	ENCOTEC
Mercury	LWDS-MW2	09-MAR-94	D	<0.0002	U	0.0002	7470	ENCOTEC
Mercury	LWDS-MW2	06-JUN-94	F	<0.0002	U	0.0002	7470	ENCOTEC
Mercury	LWDS-MW2	31-AUG-94	F	<0.0002	U	0.0002	7470	ENCOTEC
Mercury	LWDS-MW2	07-DEC-94	F	<0.0002	U	0.0002	7470	ENCOTEC
Mercury	LWDS-MW2	07-DEC-94	D	<0.0002	U	0.0002	7470	ENCOTEC
Mercury	LWDS-MW2	12-JUN-95	D	<0.0002	U	0.0002	7470	ENCOTEC
Mercury	LWDS-MW2	14-DEC-95	F	.00002	JB	0.00001	7470	GEL
Mercury	LWDS-MW2	05-DEC-96	SA	2.8		0.0045	EPA6020	ERCL
Mercury	LWDS-MW2	05-DEC-96	SA	<0.000078	U	0.000078	EPA6020	ERCL
Mercury	LWDS-MW2	02-JUN-97	SA	<0.00022	U	0.00022	EPA6020	ERCL
Mercury	LWDS-MW-2	01-MAR-95	D	<0.0002	U	0.0002	7470	ENCOTEC
Mercury	LWDS-MW-2	03-JUN-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Mercury	LWDS-MW-2	17-NOV-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Mercury	TAV-MW1	09-JUN-95	F	<0.0002	U	0.0002	7470	ENCOTEC
Mercury	TAV-MW1	18-DEC-95	F	.00018	JB	0.00001	7470	GEL
Mercury	TAV-MW1	06-DEC-96	DU	3.7		0.0045	EPA6020	ERCL
Mercury	TAV-MW1	06-DEC-96	SA	3.2		0.0045	EPA6020	ERCL
Mercury	TAV-MW1	06-DEC-96	SA	<0.000078	U	0.000078	EPA6020	ERCL
Mercury	TAV-MW1	06-DEC-96	DU	<0.000078	U	0.000078	EPA6020	ERCL
Mercury	TAV-MW1	03-JUN-97	SA	<0.00022	U	0.00022	EPA6020	ERCL
Mercury	TAV-MW1	23-NOV-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Mercury	TAV-MW2	06-JUN-95	F	<0.0002	U	0.0002	7470	ENCOTEC
Mercury	TAV-MW2	18-DEC-95	F	<0.00001	U	0.00001	7470	GEL
Mercury	TAV-MW2	05-DEC-96	SA	3.5		0.0045	EPA6020	ERCL
Mercury	TAV-MW2	05-DEC-96	SA	<0.000078	U	0.000078	EPA6020	ERCL
Mercury	TAV-MW2	04-JUN-97	SPL	.00105		0.0001	7470	GEL
Mercury	TAV-MW2	04-JUN-97	SA	<0.00022	U	0.00022	EPA6020	ERCL
Mercury	TAV-MW2	20-NOV-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Mercury	TAV-MW3	26-FEB-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Mercury	TAV-MW3	14-MAY-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Mercury	TAV-MW3	19-NOV-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Mercury	TAV-MW4	26-FEB-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Mercury	TAV-MW5	27-FEB-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Nickel	AVN-1	13-JUL-95	F	<0.04	U	0.04	6010	ENCOTEC
Nickel	AVN-1	13-DEC-95	F	<0.00081	U	0.00081	6010A	GEL
Nickel	AVN-1	29-MAY-97	SA	<0.0011	U	0.0011	EPA6020	ERCL
Nickel	AVN-2	11-JUL-95	F	<0.04	U	0.04	6010	ENCOTEC
Nickel	AVN-2	14-DEC-95	F	.0012	J	0.00081	6010A	GEL

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Nickel	AVN-2	04-DEC-96	SA	<0.0019	U	0.0019	EPA6020	ERCL
Nickel	AVN-2	29-MAY-97	SA	<0.0011	U	0.0011	EPA6020	ERCL
Nickel	LWDS-MW1	03-MAY-93	F	.79		0.2	6010	ENSECO
Nickel	LWDS-MW1	02-NOV-93	F	<0.02	U	0.02	6010	ENCOTEC
Nickel	LWDS-MW1	03-NOV-93	F	<0.02	U	0.02	6010	ENCOTEC
Nickel	LWDS-MW1	03-NOV-93	F	<0.02	U	0.02	6010	ENCOTEC
Nickel	LWDS-MW1	10-MAR-94	F	<0.02	U	0.02	6010	ENCOTEC
Nickel	LWDS-MW1	07-JUN-94	F	<0.02	U	0.02	6010	ENCOTEC
Nickel	LWDS-MW1	01-SEP-94	F	<0.04	U	0.04	6010	ENCOTEC
Nickel	LWDS-MW1	01-SEP-94	F	<0.04	U	0.04	6010	ENCOTEC
Nickel	LWDS-MW1	01-SEP-94	D	<0.04	U	0.04	6010	ENCOTEC
Nickel	LWDS-MW1	08-DEC-94	F	<0.04	U	0.04	6010	ENCOTEC
Nickel	LWDS-MW1	14-JUN-95	F	<0.04	U	0.04	6010	ENCOTEC
Nickel	LWDS-MW1	19-DEC-95	F	.00296	J	0.00081	6010A	GEL
Nickel	LWDS-MW1	19-DEC-95	D	<0.00081	U	0.00081	6010A	GEL
Nickel	LWDS-MW1	06-DEC-96	SA	<0.0019	U	0.0019	EPA6020	ERCL
Nickel	LWDS-MW1	30-MAY-97	SA	0.0015	J	0.0011	EPA6020	ERCL
Nickel	LWDS-MW-1	02-MAR-95	F	<0.04	U	0.04	6010	ENCOTEC
Nickel	LWDS-MW2	21-OCT-92	F	<0.04	U	0.04	6010	ENSECO
Nickel	LWDS-MW2	24-JUN-93	F	<0.02	U	0.02	6010	ENCOTEC
Nickel	LWDS-MW2	24-JUN-93	D	<0.02	U	0.02	6010	ENCOTEC
Nickel	LWDS-MW2	09-MAR-94	F	<0.02	U	0.02	6010	ENCOTEC
Nickel	LWDS-MW2	09-MAR-94	D	<0.02	U	0.02	6010	ENCOTEC
Nickel	LWDS-MW2	06-JUN-94	F	<0.02	U	0.02	6010	ENCOTEC
Nickel	LWDS-MW2	31-AUG-94	F	<0.04	U	0.04	6010	ENCOTEC
Nickel	LWDS-MW2	07-DEC-94	F	<0.04	U	0.04	6010	ENCOTEC
Nickel	LWDS-MW2	07-DEC-94	D	<0.04	U	0.04	6010	ENCOTEC
Nickel	LWDS-MW2	12-JUN-95	D	<0.04	U	0.04	6010	ENCOTEC
Nickel	LWDS-MW2	14-DEC-95	F	<0.00081	U	0.00081	6010A	GEL
Nickel	LWDS-MW2	05-DEC-96	SA	<0.0019	U	0.0019	EPA6020	ERCL
Nickel	LWDS-MW-2	01-MAR-95	D	<0.04	U	0.04	6010	ENCOTEC
Nickel	TAV-MW1	09-JUN-95	F	<0.04	U	0.04	6010	ENCOTEC
Nickel	TAV-MW1	18-DEC-95	F	<0.00081	U	0.00081	6010A	GEL
Nickel	TAV-MW1	06-DEC-96	SA	<0.0019	U	0.0019	EPA6020	ERCL
Nickel	TAV-MW1	06-DEC-96	DU	<0.0019	U	0.0019	EPA6020	ERCL
Nickel	TAV-MW2	06-JUN-95	F	<0.04	U	0.04	6010	ENCOTEC
Nickel	TAV-MW2	18-DEC-95	F	<0.00081	U	0.00081	6010A	GEL
Nickel	TAV-MW2	05-DEC-96	SA	<0.0019	U	0.0019	EPA6020	ERCL
Nickel	TAV-MW3	26-FEB-98	SA	<0.0011	U	0.0011	EPA6020	ERCL
Nickel	TAV-MW4	26-FEB-98	SA	<0.0011	U	0.0011	EPA6020	ERCL
Nickel	TAV-MW5	27-FEB-98	SA	<0.0011	U	0.0011	EPA6020	ERCL
Nitrate as N	AVN-1	13-JUL-95	F	7.6		0.2	353.2	ENCOTEC
Nitrate as N	AVN-1	18-SEP-95	F	7.36	B	0.028	353.1	GEL
Nitrate as N	AVN-1	13-DEC-95	F	7.76	B	0.056	353.1	GEL
Nitrate as N	AVN-1	15-MAR-96	SA	12		0.058	HACH_NO3	ERCL
Nitrate as N	AVN-1	25-JUN-96	SA	5.9		0.068	HACH_NO3	ERCL
Nitrate as N	AVN-1	25-JUN-96	SA	8		0.068	HACH_NO3	ERCL
Nitrate as N	AVN-1	09-SEP-96	SA	7.6		0.068	HACH_NO3	ERCL
Nitrate as N	AVN-1	03-MAR-97	SA	10		0.09	HACH_NO3	ERCL
Nitrate as N	AVN-1	29-MAY-97	SA	7.1		0.09	HACH_NO3	ERCL
Nitrate as N	AVN-1	12-SEP-97	SA	10		0.12	HACH_NO3	ERCL
Nitrate as N	AVN-1	14-NOV-97	SA	560		11	HACH_NO3	ERCL
Nitrate as N	AVN-1	24-FEB-98	SA	3.4		0.11	HACH_NO3	ERCL

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Nitrate as N	AVN-1	03-JUN-98	SA	6.5		0.11	HACH_NO3	ERCL
Nitrate as N	AVN-1	01-SEP-98	SA	8		0.22	HACH_NO3	ERCL
Nitrate as N	AVN-1	16-NOV-08	SA	6.1		0.22	HACH_NO3	ERCL
Nitrate as N	AVN-2	11-JUL-95	F	8.5		1	353.2	ENCOTEC
Nitrate as N	AVN-2	18-SEP-95	F	7.92	B	0.056	353.1	GEL
Nitrate as N	AVN-2	14-DEC-95	F	8.7	B	0.07	353.1	GEL
Nitrate as N	AVN-2	15-MAR-96	SA	9.6		0.058	HACH_NO3	ERCL
Nitrate as N	AVN-2	25-JUN-96	SA	7.4		0.068	HACH_NO3	ERCL
Nitrate as N	AVN-2	25-JUN-96	SA	8.2		0.068	HACH_NO3	ERCL
Nitrate as N	AVN-2	09-SEP-96	SA	11		0.068	HACH_NO3	ERCL
Nitrate as N	AVN-2	04-DEC-96	SA	6.6		0.018	HACH_NO3	ERCL
Nitrate as N	AVN-2	03-MAR-97	SA	10		0.09	HACH_NO3	ERCL
Nitrate as N	AVN-2	29-MAY-97	SA	7.9		0.09	HACH_NO3	ERCL
Nitrate as N	AVN-2	10-SEP-97	SA	8.9		0.12	HACH_NO3	ERCL
Nitrate as N	AVN-2	14-NOV-97	SA	540		11	HACH_NO3	ERCL
Nitrate as N	AVN-2	24-FEB-98	SA	9.2		0.11	HACH_NO3	ERCL
Nitrate as N	AVN-2	03-JUN-98	SA	8.2		0.11	HACH_NO3	ERCL
Nitrate as N	AVN-2	01-SEP-98	SA	10.3		0.55	HACH_NO3	ERCL
Nitrate as N	AVN-2	16-NOV-98	SA	6.8		0.22	HACH_NO3	ERCL
Nitrate as N	LWDS-MW1	02-NOV-93	F	<0.05	U	0.05	353.2	ENCOTEC
Nitrate as N	LWDS-MW1	03-NOV-93	F	7.3		0.05	353.2	ENCOTEC
Nitrate as N	LWDS-MW1	03-NOV-93	F	7.2		0.05	353.2	ENCOTEC
Nitrate as N	LWDS-MW1	10-MAR-94	F	8.9		0.05	353.2	ENCOTEC
Nitrate as N	LWDS-MW1	07-JUN-94	F	8.8		0.5	353.2	ENCOTEC
Nitrate as N	LWDS-MW1	01-SEP-94	F	8.9		2	353.2	ENCOTEC
Nitrate as N	LWDS-MW1	01-SEP-94	D	9		2	353.2	ENCOTEC
Nitrate as N	LWDS-MW1	14-JUN-95	F	9.8		1	353.2	ENCOTEC
Nitrate as N	LWDS-MW1	25-SEP-95	F	8.8	B	0.07	353.1	GEL
Nitrate as N	LWDS-MW1	19-DEC-95	F	10.1	B	0.07	353.1	GEL
Nitrate as N	LWDS-MW1	19-DEC-95	D	10.1	B	0.07	353.1	GEL
Nitrate as N	LWDS-MW1	18-MAR-96	F	12.1		1	353.2	QUANTERRA
Nitrate as N	LWDS-MW1	18-MAR-96	SA	12		0.058	HACH_NO3	ERCL
Nitrate as N	LWDS-MW1	10-SEP-96	SPL	11		0.02	EPA-MCAW	QARV
Nitrate as N	LWDS-MW1	10-SEP-96	SA	12		0.068	HACH_NO3	ERCL
Nitrate as N	LWDS-MW1	10-SEP-96	DU	13		0.068	HACH_NO3	ERCL
Nitrate as N	LWDS-MW1	06-DEC-96	SA	8.4		0.018	HACH_NO3	ERCL
Nitrate as N	LWDS-MW1	05-MAR-97	SPL	11.3		0.013	353.1	GEL
Nitrate as N	LWDS-MW1	05-MAR-97	SA	9.4		0.09	HACH_NO3	ERCL
Nitrate as N	LWDS-MW1	05-MAR-97	DU	7.2		0.09	HACH_NO3	ERCL
Nitrate as N	LWDS-MW1	30-MAY-97	SA	10		0.2815	HACH_NO3	ERCL
Nitrate as N	LWDS-MW1	30-MAY-97	DU	11		0.2815	HACH_NO3	ERCL
Nitrate as N	LWDS-MW1	16-SEP-97	SA	9.6		0.12	HACH_NO3	ERCL
Nitrate as N	LWDS-MW1	16-SEP-97	F	10.4		0.05	353.1	Quanterra
Nitrate as N	LWDS-MW1	12-NOV-97	SA	130		2.8	HACH_NO3	ERCL
Nitrate as N	LWDS-MW1	12-NOV-97	DU	88		11	HACH_NO3	ERCL
Nitrate as N	LWDS-MW1	04-MAR-98	SA	9.3		0.11	HACH_NO3	ERCL
Nitrate as N	LWDS-MW1	08-JUN-98	SA	8.5		0.28	HACH_NO3	ERCL
Nitrate as N	LWDS-MW1	16-NOV-98	SA	10.1		0.55	HACH_NO3	ERCL
Nitrate as N	LWDS-MW1	16-NOV-98	DU	10		0.55	HACH_NO3	ERCL
Nitrate as N	LWDS-MW-1	02-MAR-95	F	9.5		0.4	353.2	ENCOTEC
Nitrate as N	LWDS-MW-1	16-SEP-97	DU	8.3		0.12	HACH_NO3	ERCL
Nitrate as N	LWDS-MW-1	08-JUN-98	DU	9.4		0.28	HACH_NO3	ERCL
Nitrate as N	LWDS-MW2	24-JUN-93	F	7.4		0.4	353.2	ENCOTEC

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Nitrate as N	LWDS-MW2	24-JUN-93	D	7.7		0.4	353.2	ENCOTEC
Nitrate as N	LWDS-MW2	11-MAR-94	F	7.2		0.5	353.2	ENCOTEC
Nitrate as N	LWDS-MW2	11-MAR-94	D	7.3		0.5	353.2	ENCOTEC
Nitrate as N	LWDS-MW2	06-JUN-94	F	7.9		0.4	353.2	ENCOTEC
Nitrate as N	LWDS-MW2	31-AUG-94	F	7.2		2	353.2	ENCOTEC
Nitrate as N	LWDS-MW2	07-DEC-94	F	13		1	353.2	ENCOTEC
Nitrate as N	LWDS-MW2	07-DEC-94	D	36		1	353.2	ENCOTEC
Nitrate as N	LWDS-MW2	12-JUN-95	D	8		1	353.2	ENCOTEC
Nitrate as N	LWDS-MW2	21-SEP-95	F	1.57	B	0.007	353.1	GEL
Nitrate as N	LWDS-MW2	14-DEC-95	F	7.2	B	0.056	353.1	GEL
Nitrate as N	LWDS-MW2	18-MAR-96	SA	9.1		0.058	HACH_NO3	ERCL
Nitrate as N	LWDS-MW2	09-SEP-96	SA	9.8		0.068	HACH_NO3	ERCL
Nitrate as N	LWDS-MW2	05-DEC-96	SA	6.9		0.018	HACH_NO3	ERCL
Nitrate as N	LWDS-MW2	04-MAR-97	SA	9		0.09	HACH_NO3	ERCL
Nitrate as N	LWDS-MW2	02-JUN-97	SA	7		0.09	HACH_NO3	ERCL
Nitrate as N	LWDS-MW2	12-SEP-97	SA	9.4		0.12	HACH_NO3	ERCL
Nitrate as N	LWDS-MW2	25-FEB-98	SA	8.9		0.11	HACH_NO3	ERCL
Nitrate as N	LWDS-MW-2	01-MAR-95	D	7.7		0.4	353.2	ENCOTEC
Nitrate as N	LWDS-MW-2	11-NOV-97	SA	100		2.8	HACH_NO3	ERCL
Nitrate as N	LWDS-MW-2	03-JUN-98	SA	6		0.11	HACH_NO3	ERCL
Nitrate as N	LWDS-MW-2	02-SEP-98	SA	8.4		0.22	HACH_NO3	ERCL
Nitrate as N	LWDS-MW-2	02-SEP-98	DU	7.8		0.22	HACH_NO3	ERCL
Nitrate as N	LWDS-MW-2	17-NOV-98	SA	6.5		0.22	HACH_NO3	ERCL
Nitrate as N	TAV-MW1	09-JUN-95	F	2.7		0.05	353.2	ENCOTEC
Nitrate as N	TAV-MW1	19-SEP-95	F	2.86	B	0.014	353.1	GEL
Nitrate as N	TAV-MW1	18-DEC-95	F	4.32	B	0.028	353.1	GEL
Nitrate as N	TAV-MW1	19-MAR-96	SA	5.7		0.058	HACH_NO3	ERCL
Nitrate as N	TAV-MW1	11-SEP-96	SA	5.5		0.068	HACH_NO3	ERCL
Nitrate as N	TAV-MW1	06-DEC-96	SA	2.5		0.018	HACH_NO3	ERCL
Nitrate as N	TAV-MW1	06-DEC-96	DU	2.4		0.018	HACH_NO3	ERCL
Nitrate as N	TAV-MW1	04-MAR-97	SA	4.6		0.09	HACH_NO3	ERCL
Nitrate as N	TAV-MW1	03-JUN-97	SA	4.8		0.0563	HACH_NO3	ERCL
Nitrate as N	TAV-MW1	16-SEP-97	SA	4.4		0.06	HACH_NO3	ERCL
Nitrate as N	TAV-MW1	16-SEP-97	F	4.64		0.05	353.1	Quanterra
Nitrate as N	TAV-MW1	13-NOV-97	SA	130		2.8	HACH_NO3	ERCL
Nitrate as N	TAV-MW1	03-MAR-98	SA	5.3		0.11	HACH_NO3	ERCL
Nitrate as N	TAV-MW1	23-NOV-98	SA	4.8		0.22	HACH_NO3	ERCL
Nitrate as N	TAV-MW2	06-JUN-95	F	1.5		0.05	353.2	ENCOTEC
Nitrate as N	TAV-MW2	20-SEP-95	F	6.2	B	0.07	353.1	GEL
Nitrate as N	TAV-MW2	18-DEC-95	F	2.06	B	0.014	353.1	GEL
Nitrate as N	TAV-MW2	19-MAR-96	SA	2.2		0.058	HACH_NO3	ERCL
Nitrate as N	TAV-MW2	10-SEP-96	SA	1.9		0.068	HACH_NO3	ERCL
Nitrate as N	TAV-MW2	05-DEC-96	SA	2.4		0.018	HACH_NO3	ERCL
Nitrate as N	TAV-MW2	05-MAR-97	SA	2.8		0.09	HACH_NO3	ERCL
Nitrate as N	TAV-MW2	04-JUN-97	SPL	1.95		0.013	353.1	GEL
Nitrate as N	TAV-MW2	04-JUN-97	SA	1.3		0.09	HACH_NO3	ERCL
Nitrate as N	TAV-MW2	16-SEP-97	SA	1.5		0.06	HACH_NO3	ERCL
Nitrate as N	TAV-MW2	11-NOV-97	SA	100		2.8	HACH_NO3	ERCL
Nitrate as N	TAV-MW2	24-FEB-98	SA	1.5		0.056	HACH_NO3	ERCL
Nitrate as N	TAV-MW2	20-NOV-98	SA	2.2		0.11	HACH_NO3	ERCL
Nitrate as N	TAV-MW3	26-FEB-98	SA	5.2		0.11	HACH_NO3	ERCL
Nitrate as N	TAV-MW3	19-NOV-98	SA	5.3		0.22	HACH_NO3	ERCL
Nitrate as N	TAV-MW4	26-FEB-98	SA	4.1		0.11	HACH_NO3	ERCL

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Nitrate as N	TAV-MW5	27-FEB-98	SA	5.7		0.11	HACH_NO3	ERCL
Nitrite	AVN-1	25-JUN-96	SA	<0.059	U	0.059	HACH_NO2	ERCL
Nitrite	AVN-1	25-JUN-96	SA	<0.059	U	0.059	HACH_NO2	ERCL
Nitrite	AVN-1	09-SEP-96	SA	<0.014	U	0.014	HACH_NO2	ERCL
Nitrite	AVN-2	25-JUN-96	SA	<0.059	U	0.059	HACH_NO2	ERCL
Nitrite	AVN-2	25-JUN-96	SA	<0.059	U	0.059	HACH_NO2	ERCL
Nitrite	AVN-2	09-SEP-96	SA	<0.014	U	0.014	HACH_NO2	ERCL
Nitrite	AVN-2	04-DEC-96	SA	<0.014	U	0.014	HACH_NO2	ERCL
Nitrite	LWDS-MW1	10-SEP-96	SA	<0.014	U	0.014	HACH_NO2	ERCL
Nitrite	LWDS-MW1	10-SEP-96	DU	<0.014	U	0.014	HACH_NO2	ERCL
Nitrite	LWDS-MW1	06-DEC-96	SA	<0.014	U	0.014	HACH_NO2	ERCL
Nitrite	LWDS-MW2	24-JUN-93	F	<0.05	U	0.05	353.2	ENCOTEC
Nitrite	LWDS-MW2	24-JUN-93	D	<0.05	U	0.05	353.2	ENCOTEC
Nitrite	LWDS-MW2	09-SEP-96	SA	<0.014	U	0.014	HACH_NO2	ERCL
Nitrite	LWDS-MW2	05-DEC-96	SA	<0.014	U	0.014	HACH_NO2	ERCL
Nitrite	TAV-MW1	11-SEP-96	SA	<0.014	U	0.014	HACH_NO2	ERCL
Nitrite	TAV-MW1	06-DEC-96	SA	<0.014	U	0.014	HACH_NO2	ERCL
Nitrite	TAV-MW1	06-DEC-96	DU	<0.014	U	0.014	HACH_NO2	ERCL
Nitrite	TAV-MW2	10-SEP-96	SA	<0.014	U	0.014	HACH_NO2	ERCL
Nitrite	TAV-MW2	05-DEC-96	SA	<0.014	U	0.014	HACH_NO2	ERCL
Nitrite as N	AVN-1	25-JUN-96	SA	<0.018	U	0.018	HACH_NO2	ERCL
Nitrite as N	AVN-1	25-JUN-96	SA	<0.018	U	0.018	HACH_NO2	ERCL
Nitrite as N	AVN-2	25-JUN-96	SA	<0.018	U	0.018	HACH_NO2	ERCL
Nitrite as N	AVN-2	25-JUN-96	SA	<0.018	U	0.018	HACH_NO2	ERCL
Nitrite as N	AVN-2	09-SEP-96	SA	<0.0043	U	0.0043	HACH_NO2	ERCL
Nitrite as N	AVN-2	04-DEC-96	SA	<0.0043	U	0.0043	HACH_NO2	ERCL
Nitrite as N	LWDS-MW1	10-SEP-96	SA	<0.0043	U	0.0043	HACH_NO2	ERCL
Nitrite as N	LWDS-MW1	10-SEP-96	DU	<0.0043	U	0.0043	HACH_NO2	ERCL
Nitrite as N	LWDS-MW1	06-DEC-96	SA	<0.0043	U	0.0043	HACH_NO2	ERCL
Nitrite as N	LWDS-MW2	09-SEP-96	SA	<0.0043	U	0.0043	HACH_NO2	ERCL
Nitrite as N	LWDS-MW2	05-DEC-96	SA	<0.0043	U	0.0043	HACH_NO2	ERCL
Nitrite as N	TAV-MW1	11-SEP-96	SA	<0.0043	U	0.0043	HACH_NO2	ERCL
Nitrite as N	TAV-MW1	06-DEC-96	SA	<0.0043	U	0.0043	HACH_NO2	ERCL
Nitrite as N	TAV-MW1	06-DEC-96	DU	<0.0043	U	0.0043	HACH_NO2	ERCL
Nitrite as N	TAV-MW2	10-SEP-96	SA	<0.0043	U	0.0043	HACH_NO2	ERCL
Nitrite as N	TAV-MW2	05-DEC-96	SA	<0.0043	U	0.0043	HACH_NO2	ERCL
Phosphorus,	LWDS-MW1	02-NOV-93	F	<0.05	U	0.05	365.3	ENCOTEC
Phosphorus,	LWDS-MW1	03-NOV-93	F	2.6		0.05	365.3	ENCOTEC
Phosphorus,	LWDS-MW1	03-NOV-93	F	3.3		0.05	365.3	ENCOTEC
Phosphorus,	LWDS-MW1	10-MAR-94	F	2		0.05	365.3	ENCOTEC
Phosphorus,	LWDS-MW2	24-JUN-93	F	<0.05	U	0.05	365.3	ENCOTEC
Phosphorus,	LWDS-MW2	24-JUN-93	D	<0.05	U	0.05	365.3	ENCOTEC
Phosphorus,	LWDS-MW2	11-MAR-94	F	<0.05	U	0.05	365.3	ENCOTEC
Phosphorus,	LWDS-MW2	11-MAR-94	D	<0.05	U	0.05	365.3	ENCOTEC
Potassium	AVN-1	13-JUL-95	F	<5	U	5	6010	ENCOTEC
Potassium	AVN-1	13-JUL-95	F	3.1		5	6010	ENCOTEC
Potassium	AVN-1	13-DEC-95	F	3.19		0.00643	6010A	GEL
Potassium	AVN-1	13-DEC-95	F	3.29		0.00643	6010A	GEL
Potassium	AVN-1	29-MAY-97	SA	3.1		0.16	EPA6020	ERCL
Potassium	AVN-1	03-JUN-98	SA	3.3		0.16	EPA6020	ERCL
Potassium	AVN-1	16-NOV-08	SA	3.8	B	0.16	EPA6020	ERCL
Potassium	AVN-2	11-JUL-95	F	<5	U	5	6010	ENCOTEC
Potassium	AVN-2	11-JUL-95	F	2.6		5	6010	ENCOTEC

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Potassium	AVN-2	14-DEC-95	F	2.65		0.00643	6010A	GEL
Potassium	AVN-2	14-DEC-95	F	2.74		0.00643	6010A	GEL
Potassium	AVN-2	29-MAY-97	SA	2.7		0.16	EPA6020	ERCL
Potassium	AVN-2	03-JUN-98	SA	2.7		0.16	EPA6020	ERCL
Potassium	AVN-2	16-NOV-98	SA	3.1	B	0.16	EPA6020	ERCL
Potassium	LWDS-MW1	03-MAY-93	F	114		25	6010	ENSECO
Potassium	LWDS-MW1	02-NOV-93	F	<0.2	U	0.2	6010	ENCOTEC
Potassium	LWDS-MW1	03-NOV-93	F	3.9		0.2	6010	ENCOTEC
Potassium	LWDS-MW1	03-NOV-93	F	3.9		0.2	6010	ENCOTEC
Potassium	LWDS-MW1	10-MAR-94	F	5.7		0.2	6010	ENCOTEC
Potassium	LWDS-MW1	10-MAR-94	F	3.2		0.2	6010	ENCOTEC
Potassium	LWDS-MW1	07-JUN-94	F	3.2		0.2	6010	ENCOTEC
Potassium	LWDS-MW1	07-JUN-94	F	3.3		0.2	6010	ENCOTEC
Potassium	LWDS-MW1	01-SEP-94	F	<5	U	5	6010	ENCOTEC
Potassium	LWDS-MW1	01-SEP-94	D	3		0.2	6010	ENCOTEC
Potassium	LWDS-MW1	01-SEP-94	D	<5	U	5	6010	ENCOTEC
Potassium	LWDS-MW1	01-SEP-94	F	<5	U	5	6010	ENCOTEC
Potassium	LWDS-MW1	01-SEP-94	F	3		0.2	6010	ENCOTEC
Potassium	LWDS-MW1	01-SEP-94	F	3.2		0.2	6010	ENCOTEC
Potassium	LWDS-MW1	08-DEC-94	F	<5	U	5	6010	ENCOTEC
Potassium	LWDS-MW1	08-DEC-94	F	3.1		0.2	6010	ENCOTEC
Potassium	LWDS-MW1	14-JUN-95	F	<5	U	5	6010	ENCOTEC
Potassium	LWDS-MW1	14-JUN-95	F	<5	U	5	6010	ENCOTEC
Potassium	LWDS-MW1	19-DEC-95	F	3.65		0.00643	6010A	GEL
Potassium	LWDS-MW1	19-DEC-95	F	3.45		0.00643	6010A	GEL
Potassium	LWDS-MW1	19-DEC-95	D	3.43		0.00643	6010A	GEL
Potassium	LWDS-MW1	19-DEC-95	D	3.66		0.00643	6010A	GEL
Potassium	LWDS-MW1	30-MAY-97	SA	2.9		0.16	EPA6020	ERCL
Potassium	LWDS-MW1	08-JUN-98	SPLIT	2.9	J	1.8	EPA 6010	QSTL
Potassium	LWDS-MW1	08-JUN-98	SA	2.8		0.16	EPA6020	ERCL
Potassium	LWDS-MW1	16-NOV-98	SA	3.6	B	0.16	EPA6020	ERCL
Potassium	LWDS-MW1	16-NOV-98	DU	3.2	B	0.16	EPA6020	ERCL
Potassium	LWDS-MW-1	02-MAR-95	F	<5	U	5	6010	ENCOTEC
Potassium	LWDS-MW-1	02-MAR-95	F	3.2		0.2	6010	ENCOTEC
Potassium	LWDS-MW-1	08-JUN-98	DU	2.8		0.16	EPA6020	ERCL
Potassium	LWDS-MW2	21-OCT-92	F	6.3		5	6010	ENSECO
Potassium	LWDS-MW2	24-JUN-93	F	2.6		0.2	6010	ENCOTEC
Potassium	LWDS-MW2	24-JUN-93	D	2.6		0.2	6010	ENCOTEC
Potassium	LWDS-MW2	09-MAR-94	F	2.6		0.2	6010	ENCOTEC
Potassium	LWDS-MW2	09-MAR-94	F	2.6		0.2	6010	ENCOTEC
Potassium	LWDS-MW2	09-MAR-94	D	2.7		0.2	6010	ENCOTEC
Potassium	LWDS-MW2	09-MAR-94	D	2.6		0.2	6010	ENCOTEC
Potassium	LWDS-MW2	06-JUN-94	F	2.7		0.2	6010	ENCOTEC
Potassium	LWDS-MW2	06-JUN-94	F	2.7		0.2	6010	ENCOTEC
Potassium	LWDS-MW2	31-AUG-94	F	<5	U	5	6010	ENCOTEC
Potassium	LWDS-MW2	31-AUG-94	F	2.6		0.2	6010	ENCOTEC
Potassium	LWDS-MW2	07-DEC-94	F	<5	U	5	6010	ENCOTEC
Potassium	LWDS-MW2	07-DEC-94	D	<5	U	5	6010	ENCOTEC
Potassium	LWDS-MW2	07-DEC-94	F	2.6		0.2	6010	ENCOTEC
Potassium	LWDS-MW2	07-DEC-94	D	2.6		0.2	6010	ENCOTEC
Potassium	LWDS-MW2	12-JUN-95	D	<5	U	5	6010	ENCOTEC
Potassium	LWDS-MW2	12-JUN-95	D	<5	U	5	6010	ENCOTEC
Potassium	LWDS-MW2	14-DEC-95	F	2.67		0.00643	6010A	GEL

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Potassium	LWDS-MW2	14-DEC-95	F	2.69		0.00643	6010A	GEL
Potassium	LWDS-MW-2	01-MAR-95	D	<5	U	5	6010	ENCOTEC
Potassium	LWDS-MW-2	01-MAR-95	D	2.7		0.2	6010	ENCOTEC
Potassium	LWDS-MW-2	03-JUN-98	SA	2.7		0.16	EPA6020	ERCL
Potassium	LWDS-MW-2	17-NOV-98	SA	3.1	B	0.16	EPA6020	ERCL
Potassium	TAV-MW1	09-JUN-95	F	<5	U	5	6010	ENCOTEC
Potassium	TAV-MW1	09-JUN-95	F	<5	U	5	6010	ENCOTEC
Potassium	TAV-MW1	18-DEC-95	F	3.96		0.00643	6010A	GEL
Potassium	TAV-MW1	18-DEC-95	F	4.04	B	0.00643	6010A	GEL
Potassium	TAV-MW1	23-NOV-98	SA	4.5	B	0.16	EPA6020	ERCL
Potassium	TAV-MW2	06-JUN-95	F	<5	U	5	6010	ENCOTEC
Potassium	TAV-MW2	06-JUN-95	F	<5	U	5	6010	ENCOTEC
Potassium	TAV-MW2	18-DEC-95	F	3.99		0.00643	6010A	GEL
Potassium	TAV-MW2	18-DEC-95	F	3.88		0.00643	6010A	GEL
Potassium	TAV-MW2	04-JUN-97	SPL	3.52		0.0174	6010A	GEL
Potassium	TAV-MW2	20-NOV-98	SA	4.2	B	0.16	EPA6020	ERCL
Potassium	TAV-MW3	26-FEB-98	SA	4.3		0.16	EPA6020	ERCL
Potassium	TAV-MW3	14-MAY-98	SA	4.2		0.16	EPA6020	ERCL
Potassium	TAV-MW3	19-NOV-98	SA	4.9	B	0.16	EPA6020	ERCL
Potassium	TAV-MW4	26-FEB-98	SA	2.4		0.16	EPA6020	ERCL
Potassium	TAV-MW5	27-FEB-98	SA	2.6		0.16	EPA6020	ERCL
Selenium	AVN-1	13-JUL-95	F	<0.005	U	0.005	6020	ENCOTEC
Selenium	AVN-1	13-DEC-95	F	<0.00143	U	0.00143	6010A	GEL
Selenium	AVN-1	29-MAY-97	SA	0.0027	J	0.0017	EPA6020	ERCL
Selenium	AVN-1	03-JUN-98	SA	<0.0017	U	0.0017	EPA6020	ERCL
Selenium	AVN-1	16-NOV-08	SA	0.0047	J	0.0017	EPA6020	ERCL
Selenium	AVN-2	11-JUL-95	F	<0.005	U	0.005	6020	ENCOTEC
Selenium	AVN-2	14-DEC-95	F	<0.00143	U	0.00143	6010A	GEL
Selenium	AVN-2	04-DEC-96	SA	<0.00028	U	0.00028	EPA6020	ERCL
Selenium	AVN-2	29-MAY-97	SA	0.0028	J	0.0017	EPA6020	ERCL
Selenium	AVN-2	03-JUN-98	SA	0.0023	J	0.0017	EPA6020	ERCL
Selenium	AVN-2	16-NOV-98	SA	0.005	J	0.0017	EPA6020	ERCL
Selenium	LWDS-MW1	03-MAY-93	F	<0.02	U	0.02	7740	ENSECO
Selenium	LWDS-MW1	02-NOV-93	F	<0.002	U	0.002	7741	ENCOTEC
Selenium	LWDS-MW1	03-NOV-93	F	.003		0.002	7741	ENCOTEC
Selenium	LWDS-MW1	03-NOV-93	F	.004		0.002	7741	ENCOTEC
Selenium	LWDS-MW1	10-MAR-94	F	.004		0.002	7741	ENCOTEC
Selenium	LWDS-MW1	07-JUN-94	F	.004		0.002	7741	ENCOTEC
Selenium	LWDS-MW1	01-SEP-94	F	<0.005	U	0.005	7740	ENCOTEC
Selenium	LWDS-MW1	01-SEP-94	D	<0.005	U	0.005	7740	ENCOTEC
Selenium	LWDS-MW1	01-SEP-94	F	<0.005	U	0.005	7740	ENCOTEC
Selenium	LWDS-MW1	08-DEC-94	F	.006		0.005	6020	ENCOTEC
Selenium	LWDS-MW1	14-JUN-95	F	.006		0.005	6020	ENCOTEC
Selenium	LWDS-MW1	19-DEC-95	F	<0.00143	U	0.00143	6010A	GEL
Selenium	LWDS-MW1	19-DEC-95	D	.00205	J	0.00143	6010A	GEL
Selenium	LWDS-MW1	06-DEC-96	SA	<0.00028	U	0.00028	EPA6020	ERCL
Selenium	LWDS-MW1	30-MAY-97	SA	0.0068		0.0017	EPA6020	ERCL
Selenium	LWDS-MW1	08-JUN-98	SPLIT	.0058		0.0026	EPA 6010	QSTL
Selenium	LWDS-MW1	08-JUN-98	SA	0.011		0.0017	EPA6020	ERCL
Selenium	LWDS-MW1	16-NOV-98	SA	0.01		0.0017	EPA6020	ERCL
Selenium	LWDS-MW1	16-NOV-98	DU	0.009		0.0017	EPA6020	ERCL
Selenium	LWDS-MW-1	02-MAR-95	F	.006		0.005	6020	ENCOTEC
Selenium	LWDS-MW-1	08-JUN-98	DU	0.0099		0.0017	EPA6020	ERCL

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Selenium	LWDS-MW2	21-OCT-92	F	<0.005	U	0.005	7740	ENSECO
Selenium	LWDS-MW2	24-JUN-93	F	.002		0.002	7741	ENCOTEC
Selenium	LWDS-MW2	24-JUN-93	D	.002		0.002	7741	ENCOTEC
Selenium	LWDS-MW2	09-MAR-94	F	.002		0.002	7741	ENCOTEC
Selenium	LWDS-MW2	09-MAR-94	D	.002		0.002	7741	ENCOTEC
Selenium	LWDS-MW2	06-JUN-94	F	.002		0.002	7741	ENCOTEC
Selenium	LWDS-MW2	31-AUG-94	F	<0.005	U	0.005	7740	ENCOTEC
Selenium	LWDS-MW2	07-DEC-94	F	<0.005	U	0.005	6020	ENCOTEC
Selenium	LWDS-MW2	07-DEC-94	D	<0.005	U	0.005	6020	ENCOTEC
Selenium	LWDS-MW2	12-JUN-95	D	<0.005	U	0.005	6020	ENCOTEC
Selenium	LWDS-MW2	14-DEC-95	F	<0.00143	U	0.00143	6010A	GEL
Selenium	LWDS-MW2	05-DEC-96	SA	<0.00028	U	0.00028	EPA6020	ERCL
Selenium	LWDS-MW2	02-JUN-97	SA	0.0039	J	0.0017	EPA6020	ERCL
Selenium	LWDS-MW-2	01-MAR-95	D	<0.005	U	0.005	6020	ENCOTEC
Selenium	LWDS-MW-2	03-JUN-98	SA	0.0032	J	0.0017	EPA6020	ERCL
Selenium	LWDS-MW-2	17-NOV-98	SA	0.0059	J	0.0017	EPA6020	ERCL
Selenium	TAV-MW1	09-JUN-95	F	5.2		0.005	6020	ENCOTEC
Selenium	TAV-MW1	18-DEC-95	F	<0.00143	U	0.00143	6010A	GEL
Selenium	TAV-MW1	06-DEC-96	SA	<0.00028	U	0.00028	EPA6020	ERCL
Selenium	TAV-MW1	06-DEC-96	DU	<0.00028	U	0.00028	EPA6020	ERCL
Selenium	TAV-MW1	03-JUN-97	SA	0.0046	J	0.0017	EPA6020	ERCL
Selenium	TAV-MW1	23-NOV-98	SA	0.0066	J	0.0017	EPA6020	ERCL
Selenium	TAV-MW2	06-JUN-95	F	<0.005	U	0.005	6020	ENCOTEC
Selenium	TAV-MW2	18-DEC-95	F	.0069		0.00143	6010A	GEL
Selenium	TAV-MW2	05-DEC-96	SA	<0.00028	U	0.00028	EPA6020	ERCL
Selenium	TAV-MW2	04-JUN-97	SPL	.00439	J	0.00228	6010A	GEL
Selenium	TAV-MW2	04-JUN-97	SA	0.0045	J	0.0017	EPA6020	ERCL
Selenium	TAV-MW2	20-NOV-98	SA	0.0069		0.0017	EPA6020	ERCL
Selenium	TAV-MW3	26-FEB-98	SA	0.0035	J	0.0017	EPA6020	ERCL
Selenium	TAV-MW3	14-MAY-98	SA	0.004	J	0.0017	EPA6020	ERCL
Selenium	TAV-MW3	19-NOV-98	SA	0.006	J	0.0017	EPA6020	ERCL
Selenium	TAV-MW4	26-FEB-98	SA	0.0055	J	0.0017	EPA6020	ERCL
Selenium	TAV-MW5	27-FEB-98	SA	0.003	J	0.0017	EPA6020	ERCL
Silver	AVN-1	13-JUL-95	F	<0.01	U	0.01	6010	ENCOTEC
Silver	AVN-1	13-DEC-95	F	<0.00249	U	0.00249	6010A	GEL
Silver	AVN-1	29-MAY-97	SA	<0.00022	U	0.00022	EPA6020	ERCL
Silver	AVN-1	03-JUN-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Silver	AVN-1	16-NOV-08	SA	<0.00023	U	0.00023	EPA6020	ERCL
Silver	AVN-2	11-JUL-95	F	<0.01	U	0.01	6010	ENCOTEC
Silver	AVN-2	14-DEC-95	F	<0.00249	U	0.00249	6010A	GEL
Silver	AVN-2	04-DEC-96	SA	<0.000095	U	0.000095	EPA6020	ERCL
Silver	AVN-2	29-MAY-97	SA	<0.00022	U	0.00022	EPA6020	ERCL
Silver	AVN-2	03-JUN-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Silver	AVN-2	16-NOV-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Silver	LWDS-MW1	03-MAY-93	F	<0.05	U	0.05	6010	ENSECO
Silver	LWDS-MW1	02-NOV-93	F	<0.01	U	0.01	6010	ENCOTEC
Silver	LWDS-MW1	03-NOV-93	F	<0.01	U	0.01	6010	ENCOTEC
Silver	LWDS-MW1	03-NOV-93	F	<0.01	U	0.01	6010	ENCOTEC
Silver	LWDS-MW1	10-MAR-94	F	<0.01	U	0.01	6010	ENCOTEC
Silver	LWDS-MW1	07-JUN-94	F	<0.01	U	0.01	6010	ENCOTEC
Silver	LWDS-MW1	01-SEP-94	F	<0.01	U	0.01	6010	ENCOTEC
Silver	LWDS-MW1	01-SEP-94	D	<0.01	U	0.01	6010	ENCOTEC
Silver	LWDS-MW1	01-SEP-94	F	<0.01	U	0.01	6010	ENCOTEC

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Silver	LWDS-MW1	08-DEC-94	F	<0.01	U	0.01	6010	ENCOTEC
Silver	LWDS-MW1	14-JUN-95	F	<0.01	U	0.01	6010	ENCOTEC
Silver	LWDS-MW1	19-DEC-95	F	<0.00249	U	0.00249	6010A	GEL
Silver	LWDS-MW1	19-DEC-95	D	<0.00249	U	0.00249	6010A	GEL
Silver	LWDS-MW1	06-DEC-96	SA	<0.000095	U	0.000095	EPA6020	ERCL
Silver	LWDS-MW1	30-MAY-97	SA	<0.00022	U	0.00022	EPA6020	ERCL
Silver	LWDS-MW1	08-JUN-98	SPLIT	<0.0009	U	0.0009	EPA 6010	QSTL
Silver	LWDS-MW1	08-JUN-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Silver	LWDS-MW1	16-NOV-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Silver	LWDS-MW1	16-NOV-98	DU	<0.00023	U	0.00023	EPA6020	ERCL
Silver	LWDS-MW-1	02-MAR-95	F	<0.01	U	0.01	6010	ENCOTEC
Silver	LWDS-MW-1	08-JUN-98	DU	<0.00023	U	0.00023	EPA6020	ERCL
Silver	LWDS-MW2	21-OCT-92	F	<0.01	U	0.01	6010	ENSECO
Silver	LWDS-MW2	24-JUN-93	F	<0.01	U	0.01	6010	ENCOTEC
Silver	LWDS-MW2	24-JUN-93	D	<0.01	U	0.01	6010	ENCOTEC
Silver	LWDS-MW2	09-MAR-94	F	<0.01	U	0.01	6010	ENCOTEC
Silver	LWDS-MW2	09-MAR-94	D	<0.01	U	0.01	6010	ENCOTEC
Silver	LWDS-MW2	06-JUN-94	F	<0.01	U	0.01	6010	ENCOTEC
Silver	LWDS-MW2	31-AUG-94	F	<0.01	U	0.01	6010	ENCOTEC
Silver	LWDS-MW2	07-DEC-94	F	<0.01	U	0.01	6010	ENCOTEC
Silver	LWDS-MW2	07-DEC-94	D	<0.01	U	0.01	6010	ENCOTEC
Silver	LWDS-MW2	12-JUN-95	D	<0.01	U	0.01	6010	ENCOTEC
Silver	LWDS-MW2	14-DEC-95	F	<0.00249	U	0.00249	6010A	GEL
Silver	LWDS-MW2	05-DEC-96	SA	<0.000095	U	0.000095	EPA6020	ERCL
Silver	LWDS-MW2	02-JUN-97	SA	<0.00022	U	0.00022	EPA6020	ERCL
Silver	LWDS-MW-2	01-MAR-95	D	<0.01	U	0.01	6010	ENCOTEC
Silver	LWDS-MW-2	03-JUN-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Silver	LWDS-MW-2	17-NOV-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Silver	TAV-MW1	09-JUN-95	F	<0.01	U	0.01	6010	ENCOTEC
Silver	TAV-MW1	18-DEC-95	F	<0.00249	U	0.00249	6010A	GEL
Silver	TAV-MW1	06-DEC-96	SA	<0.000095	U	0.000095	EPA6020	ERCL
Silver	TAV-MW1	06-DEC-96	DU	<0.000095	U	0.000095	EPA6020	ERCL
Silver	TAV-MW1	03-JUN-97	SA	<0.00022	U	0.00022	EPA6020	ERCL
Silver	TAV-MW1	23-NOV-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Silver	TAV-MW2	06-JUN-95	F	<0.01	U	0.01	6010	ENCOTEC
Silver	TAV-MW2	18-DEC-95	F	<0.00249	U	0.00249	6010A	GEL
Silver	TAV-MW2	05-DEC-96	SA	<0.000095	U	0.000095	EPA6020	ERCL
Silver	TAV-MW2	04-JUN-97	SPL	.00133	J	0.00042	6010A	GEL
Silver	TAV-MW2	04-JUN-97	SA	<0.00022	U	0.00022	EPA6020	ERCL
Silver	TAV-MW2	20-NOV-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Silver	TAV-MW3	26-FEB-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Silver	TAV-MW3	14-MAY-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Silver	TAV-MW3	19-NOV-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Silver	TAV-MW4	26-FEB-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Silver	TAV-MW5	27-FEB-98	SA	<0.00023	U	0.00023	EPA6020	ERCL
Sodium	AVN-1	13-JUL-95	F	37		5	6010	ENCOTEC
Sodium	AVN-1	13-JUL-95	F	37		5	6010	ENCOTEC
Sodium	AVN-1	13-DEC-95	F	37.9		0.0156	6010A	GEL
Sodium	AVN-1	13-DEC-95	F	39.1		0.0156	6010A	GEL
Sodium	AVN-1	29-MAY-97	SA	36		0.15	EPA6020	ERCL
Sodium	AVN-1	03-JUN-98	SA	37	B	0.15	EPA6020	ERCL
Sodium	AVN-1	16-NOV-08	SA	39		0.15	EPA6020	ERCL
Sodium	AVN-2	11-JUL-95	F	39		5	6010	ENCOTEC

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Sodium	AVN-2	11-JUL-95	F	41		5	6010	ENCOTEC
Sodium	AVN-2	14-DEC-95	F	40.7		0.0156	6010A	GEL
Sodium	AVN-2	14-DEC-95	F	41.8		0.0156	6010A	GEL
Sodium	AVN-2	04-DEC-96	SA	26		0.0085	EPA6020	ERCL
Sodium	AVN-2	29-MAY-97	SA	39		0.15	EPA6020	ERCL
Sodium	AVN-2	03-JUN-98	SA	40	B	0.15	EPA6020	ERCL
Sodium	AVN-2	16-NOV-98	SA	40		0.15	EPA6020	ERCL
Sodium	LWDS-MW1	03-MAY-93	F	51.5		25	6010	ENSECO
Sodium	LWDS-MW1	02-NOV-93	F	.37		0.2	6010	ENCOTEC
Sodium	LWDS-MW1	03-NOV-93	F	120		0.2	6010	ENCOTEC
Sodium	LWDS-MW1	03-NOV-93	F	120		0.2	6010	ENCOTEC
Sodium	LWDS-MW1	10-MAR-94	F	100		0.2	6010	ENCOTEC
Sodium	LWDS-MW1	10-MAR-94	F	96		0.2	6010	ENCOTEC
Sodium	LWDS-MW1	07-JUN-94	F	100		0.2	6010	ENCOTEC
Sodium	LWDS-MW1	07-JUN-94	F	100		0.2	6010	ENCOTEC
Sodium	LWDS-MW1	01-SEP-94	F	96		5	6010	ENCOTEC
Sodium	LWDS-MW1	01-SEP-94	F	96		5	6010	ENCOTEC
Sodium	LWDS-MW1	01-SEP-94	D	93		5	6010	ENCOTEC
Sodium	LWDS-MW1	01-SEP-94	D	94		0.2	6010	ENCOTEC
Sodium	LWDS-MW1	01-SEP-94	F	94		0.2	6010	ENCOTEC
Sodium	LWDS-MW1	01-SEP-94	F	98		0.2	6010	ENCOTEC
Sodium	LWDS-MW1	08-DEC-94	F	93		5	6010	ENCOTEC
Sodium	LWDS-MW1	08-DEC-94	F	93		0.2	6010	ENCOTEC
Sodium	LWDS-MW1	14-JUN-95	F	79		5	6010	ENCOTEC
Sodium	LWDS-MW1	14-JUN-95	F	79		5	6010	ENCOTEC
Sodium	LWDS-MW1	19-DEC-95	F	87		0.0156	6010A	GEL
Sodium	LWDS-MW1	19-DEC-95	F	85.9		0.0156	6010A	GEL
Sodium	LWDS-MW1	19-DEC-95	D	86		0.0156	6010A	GEL
Sodium	LWDS-MW1	19-DEC-95	D	87		0.0156	6010A	GEL
Sodium	LWDS-MW1	06-DEC-96	SA	40		0.0085	EPA6020	ERCL
Sodium	LWDS-MW1	30-MAY-97	SA	64	E	0.15	EPA6020	ERCL
Sodium	LWDS-MW1	08-JUN-98	SPLIT	57.1		0.029	EPA 6010	QSTL
Sodium	LWDS-MW1	08-JUN-98	SA	62	E	0.15	EPA6020	ERCL
Sodium	LWDS-MW1	16-NOV-98	SA	67		0.15	EPA6020	ERCL
Sodium	LWDS-MW1	16-NOV-98	DU	62		0.15	EPA6020	ERCL
Sodium	LWDS-MW-1	02-MAR-95	F	89		5	6010	ENCOTEC
Sodium	LWDS-MW-1	02-MAR-95	F	89		0.2	6010	ENCOTEC
Sodium	LWDS-MW-1	08-JUN-98	DU	64	E	0.15	EPA6020	ERCL
Sodium	LWDS-MW2	21-OCT-92	F	45.6		5	6010	ENSECO
Sodium	LWDS-MW2	24-JUN-93	F	40		0.2	6010	ENCOTEC
Sodium	LWDS-MW2	24-JUN-93	D	41		0.2	6010	ENCOTEC
Sodium	LWDS-MW2	09-MAR-94	F	41		0.2	6010	ENCOTEC
Sodium	LWDS-MW2	09-MAR-94	D	40		0.2	6010	ENCOTEC
Sodium	LWDS-MW2	09-MAR-94	F	40		0.2	6010	ENCOTEC
Sodium	LWDS-MW2	09-MAR-94	D	42		0.2	6010	ENCOTEC
Sodium	LWDS-MW2	06-JUN-94	F	42		0.2	6010	ENCOTEC
Sodium	LWDS-MW2	06-JUN-94	F	41		0.2	6010	ENCOTEC
Sodium	LWDS-MW2	31-AUG-94	F	40		5	6010	ENCOTEC
Sodium	LWDS-MW2	31-AUG-94	F	40		0.2	6010	ENCOTEC
Sodium	LWDS-MW2	07-DEC-94	F	43		5	6010	ENCOTEC
Sodium	LWDS-MW2	07-DEC-94	F	43		0.2	6010	ENCOTEC
Sodium	LWDS-MW2	07-DEC-94	D	43		5	6010	ENCOTEC
Sodium	LWDS-MW2	07-DEC-94	D	43		0.2	6010	ENCOTEC

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Sodium	LWDS-MW2	12-JUN-95	D	41		5	6010	ENCOTEC
Sodium	LWDS-MW2	12-JUN-95	D	41		5	6010	ENCOTEC
Sodium	LWDS-MW2	14-DEC-95	F	43.5		0.0156	6010A	GEL
Sodium	LWDS-MW2	14-DEC-95	F	43.8		0.0156	6010A	GEL
Sodium	LWDS-MW2	05-DEC-96	SA	28		0.0085	EPA6020	ERCL
Sodium	LWDS-MW-2	01-MAR-95	D	43		5	6010	ENCOTEC
Sodium	LWDS-MW-2	01-MAR-95	D	43		0.2	6010	ENCOTEC
Sodium	LWDS-MW-2	03-JUN-98	SA	44	B	0.15	EPA6020	ERCL
Sodium	LWDS-MW-2	17-NOV-98	SA	45		0.15	EPA6020	ERCL
Sodium	TAV-MW1	09-JUN-95	F	55		5	6010	ENCOTEC
Sodium	TAV-MW1	09-JUN-95	F	57		5	6010	ENCOTEC
Sodium	TAV-MW1	18-DEC-95	F	64.1		0.0156	6010A	GEL
Sodium	TAV-MW1	18-DEC-95	F	63.6	B	0.0156	6010A	GEL
Sodium	TAV-MW1	06-DEC-96	DU	37		0.0085	EPA6020	ERCL
Sodium	TAV-MW1	06-DEC-96	SA	29		0.0085	EPA6020	ERCL
Sodium	TAV-MW1	23-NOV-98	SA	62		0.15	EPA6020	ERCL
Sodium	TAV-MW2	06-JUN-95	F	64		5	6010	ENCOTEC
Sodium	TAV-MW2	06-JUN-95	F	62		5	6010	ENCOTEC
Sodium	TAV-MW2	18-DEC-95	F	73.4		0.0156	6010A	GEL
Sodium	TAV-MW2	18-DEC-95	F	69.6		0.0156	6010A	GEL
Sodium	TAV-MW2	05-DEC-96	SA	40		0.0085	EPA6020	ERCL
Sodium	TAV-MW2	04-JUN-97	SPL	63.4		0.0236	6010A	GEL
Sodium	TAV-MW2	20-NOV-98	SA	72		0.15	EPA6020	ERCL
Sodium	TAV-MW3	26-FEB-98	SA	81		0.77	EPA6020	ERCL
Sodium	TAV-MW3	14-MAY-98	SA	62	B	0.15	EPA6020	ERCL
Sodium	TAV-MW3	19-NOV-98	SA	64		0.15	EPA6020	ERCL
Sodium	TAV-MW4	26-FEB-98	SA	36		0.15	EPA6020	ERCL
Sodium	TAV-MW5	27-FEB-98	SA	45		0.15	EPA6020	ERCL
Sulfate	AVN-1	13-JUL-95	F	33		10	9038	ENCOTEC
Sulfate	AVN-1	13-DEC-95	F	30.9		0.45	300.0	GEL
Sulfate	AVN-1	29-MAY-97	SA	34		0.3	Anions_CE	ERCL
Sulfate	AVN-1	03-JUN-98	SA	33		0.3	Anions_CE	ERCL
Sulfate	AVN-1	16-NOV-08	SA	33		0.3	Anions_CE	ERCL
Sulfate	AVN-2	11-JUL-95	F	29		10	9038	ENCOTEC
Sulfate	AVN-2	14-DEC-95	F	27.6		0.18	300.0	GEL
Sulfate	AVN-2	04-DEC-96	SA	32		1.5	Anions_IC	ERCL
Sulfate	AVN-2	29-MAY-97	SA	34		0.3	Anions_CE	ERCL
Sulfate	AVN-2	03-JUN-98	SA	30		0.3	Anions_CE	ERCL
Sulfate	AVN-2	16-NOV-98	SA	30		0.3	Anions_CE	ERCL
Sulfate	LWDS-MW1	02-NOV-93	F	<5	U	5	9038	ENCOTEC
Sulfate	LWDS-MW1	03-NOV-93	F	78		5	9038	ENCOTEC
Sulfate	LWDS-MW1	03-NOV-93	F	77		5	9038	ENCOTEC
Sulfate	LWDS-MW1	10-MAR-94	F	51		10	9038	ENCOTEC
Sulfate	LWDS-MW1	07-JUN-94	F	47		0.5	300.0	ENCOTEC
Sulfate	LWDS-MW1	01-SEP-94	F	49		5	300.0	ENCOTEC
Sulfate	LWDS-MW1	01-SEP-94	F	48		5	300.0	ENCOTEC
Sulfate	LWDS-MW1	01-SEP-94	D	47		5	300.0	ENCOTEC
Sulfate	LWDS-MW1	14-JUN-95	F	47		10	9038	ENCOTEC
Sulfate	LWDS-MW1	19-DEC-95	F	40.7		0.9	300.0	GEL
Sulfate	LWDS-MW1	19-DEC-95	D	40.9		0.9	300.0	GEL
Sulfate	LWDS-MW1	06-DEC-96	SA	41		6	Anions_IC	ERCL
Sulfate	LWDS-MW1	30-MAY-97	SA	44		1.5	Anions_CE	ERCL
Sulfate	LWDS-MW1	08-JUN-98	SA	40		0.3	Anions_CE	ERCL

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Sulfate	LWDS-MW1	08-JUN-98	SPLIT	37.2		0.5	EPA 300.0	QSTL
Sulfate	LWDS-MW1	16-NOV-98	SA	48		0.3	Anions_CE	ERCL
Sulfate	LWDS-MW1	16-NOV-98	DU	42		0.3	Anions_CE	ERCL
Sulfate	LWDS-MW-1	02-MAR-95	F	41		10	9038	ENCOTEC
Sulfate	LWDS-MW-1	08-JUN-98	DU	39		0.3	Anions_CE	ERCL
Sulfate	LWDS-MW2	24-JUN-93	F	38		5	9038	ENCOTEC
Sulfate	LWDS-MW2	24-JUN-93	D	38		5	9038	ENCOTEC
Sulfate	LWDS-MW2	11-MAR-94	F	49		5	9038	ENCOTEC
Sulfate	LWDS-MW2	11-MAR-94	D	48		5	9038	ENCOTEC
Sulfate	LWDS-MW2	06-JUN-94	F	42		0.5	300.0	ENCOTEC
Sulfate	LWDS-MW2	31-AUG-94	F	3.7		1	300.0	ENCOTEC
Sulfate	LWDS-MW2	07-DEC-94	F	39		10	9038	ENCOTEC
Sulfate	LWDS-MW2	07-DEC-94	D	37		10	9038	ENCOTEC
Sulfate	LWDS-MW2	12-JUN-95	D	45		10	9038	ENCOTEC
Sulfate	LWDS-MW2	14-DEC-95	F	39.9		0.45	300.0	GEL
Sulfate	LWDS-MW2	05-DEC-96	SA	43		1.5	Anions_IC	ERCL
Sulfate	LWDS-MW2	02-JUN-97	SA	39		0.6	Anions_CE	ERCL
Sulfate	LWDS-MW-2	01-MAR-95	D	38		10	9038	ENCOTEC
Sulfate	LWDS-MW-2	03-JUN-98	SA	41		0.3	Anions_CE	ERCL
Sulfate	LWDS-MW-2	17-NOV-98	SA	43		0.3	Anions_CE	ERCL
Sulfate	TAV-MW1	09-JUN-95	F	63		20	9038	ENCOTEC
Sulfate	TAV-MW1	18-DEC-95	F	52.8		0.9	300.0	GEL
Sulfate	TAV-MW1	06-DEC-96	SA	54		3	Anions_IC	ERCL
Sulfate	TAV-MW1	06-DEC-96	DU	58		3	Anions_IC	ERCL
Sulfate	TAV-MW1	03-JUN-97	SA	56		0.6	Anions_CE	ERCL
Sulfate	TAV-MW1	23-NOV-98	SA	58		0.3	Anions_CE	ERCL
Sulfate	TAV-MW2	06-JUN-95	F	77		10	9038	ENCOTEC
Sulfate	TAV-MW2	18-DEC-95	F	54.1		0.9	300.0	GEL
Sulfate	TAV-MW2	05-DEC-96	SA	58		3	Anions_IC	ERCL
Sulfate	TAV-MW2	04-JUN-97	SPL	53		1.8	300	GEL
Sulfate	TAV-MW2	04-JUN-97	SA	59		1.5	Anions_CE	ERCL
Sulfate	TAV-MW2	20-NOV-98	SA	78		0.3	Anions_CE	ERCL
Sulfate	TAV-MW3	26-FEB-98	SA	80		0.3	Anions_CE	ERCL
Sulfate	TAV-MW3	19-NOV-98	SA	69		0.3	Anions_CE	ERCL
Sulfate	TAV-MW4	26-FEB-98	SA	33		0.3	Anions_CE	ERCL
Sulfate	TAV-MW5	27-FEB-98	SA	48		0.3	Anions_CE	ERCL
Thallium	AVN-1	13-JUL-95	F	<0.01	U	0.01	6020	ENCOTEC
Thallium	AVN-1	13-DEC-95	F	<0.00207	U	0.00207	6010A	GEL
Thallium	AVN-1	29-MAY-97	SA	<0.0017	U	0.0017	EPA6020	ERCL
Thallium	AVN-2	11-JUL-95	F	<0.01	U	0.01	6020	ENCOTEC
Thallium	AVN-2	14-DEC-95	F	<0.00207	U	0.00207	6010A	GEL
Thallium	AVN-2	29-MAY-97	SA	<0.0017	U	0.0017	EPA6020	ERCL
Thallium	LWDS-MW1	03-MAY-93	F	<0.01	U	0.01	7841	ENSECO
Thallium	LWDS-MW1	02-NOV-93	F	<0.005	U	0.005	7841	ENCOTEC
Thallium	LWDS-MW1	03-NOV-93	F	<0.005	U	0.005	7841	ENCOTEC
Thallium	LWDS-MW1	03-NOV-93	F	<0.005	U	0.005	7841	ENCOTEC
Thallium	LWDS-MW1	10-MAR-94	F	<0.005	U	0.005	7841	ENCOTEC
Thallium	LWDS-MW1	07-JUN-94	F	<0.01	U	0.01	7841	ENCOTEC
Thallium	LWDS-MW1	01-SEP-94	F	<0.01	U	0.01	7841	ENCOTEC
Thallium	LWDS-MW1	01-SEP-94	F	<0.01	U	0.01	7841	ENCOTEC
Thallium	LWDS-MW1	01-SEP-94	D	<0.01	U	0.01	7841	ENCOTEC
Thallium	LWDS-MW1	08-DEC-94	F	<0.01	U	0.01	6020	ENCOTEC
Thallium	LWDS-MW1	14-JUN-95	F	<0.01	U	0.01	6020	ENCOTEC

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Thallium	LWDS-MW1	19-DEC-95	F	<0.00207	U	0.00207	6010A	GEL
Thallium	LWDS-MW1	19-DEC-95	D	<0.00207	U	0.00207	6010A	GEL
Thallium	LWDS-MW1	30-MAY-97	SA	<0.0017	U	0.0017	EPA6020	ERCL
Thallium	LWDS-MW-1	02-MAR-95	F	<0.01	U	0.01	6020	ENCOTEC
Thallium	LWDS-MW2	21-OCT-92	F	<0.01	U	0.01	7841	ENSECO
Thallium	LWDS-MW2	24-JUN-93	F	<0.005	U	0.005	7841	ENCOTEC
Thallium	LWDS-MW2	24-JUN-93	D	<0.005	U	0.005	7841	ENCOTEC
Thallium	LWDS-MW2	09-MAR-94	F	<0.025	U	0.025	7841	ENCOTEC
Thallium	LWDS-MW2	09-MAR-94	D	<0.025	U	0.025	7841	ENCOTEC
Thallium	LWDS-MW2	06-JUN-94	F	<0.01	U	0.01	7841	ENCOTEC
Thallium	LWDS-MW2	31-AUG-94	F	<0.01	U	0.01	7841	ENCOTEC
Thallium	LWDS-MW2	07-DEC-94	F	<0.01	U	0.01	6020	ENCOTEC
Thallium	LWDS-MW2	07-DEC-94	D	<0.01	U	0.01	6020	ENCOTEC
Thallium	LWDS-MW2	12-JUN-95	D	<0.01	U	0.01	6020	ENCOTEC
Thallium	LWDS-MW2	14-DEC-95	F	<0.00207	U	0.00207	6010A	GEL
Thallium	LWDS-MW-2	01-MAR-95	D	<0.01	U	0.01	6020	ENCOTEC
Thallium	TAV-MW1	09-JUN-95	F	<0.01	U	0.01	6020	ENCOTEC
Thallium	TAV-MW1	18-DEC-95	F	<0.00207	U	0.00207	6010A	GEL
Thallium	TAV-MW2	06-JUN-95	F	<0.01	U	0.01	6020	ENCOTEC
Thallium	TAV-MW2	18-DEC-95	F	.00281	J	0.00207	6010A	GEL
Thallium	TAV-MW3	26-FEB-98	SA	<0.0017	U	0.0017	EPA6020	ERCL
Thallium	TAV-MW4	26-FEB-98	SA	<0.0017	U	0.0017	EPA6020	ERCL
Thallium	TAV-MW5	27-FEB-98	SA	<0.0017	U	0.0017	EPA6020	ERCL
Uranium	AVN-1	13-DEC-95	F	<0.00602	U	0.00602	6010A	GEL
Uranium	AVN-2	14-DEC-95	F	<0.00602	U	0.00602	6010A	GEL
Uranium	LWDS-MW1	19-DEC-95	F	<0.00602	U	0.00602	6010A	GEL
Uranium	LWDS-MW1	19-DEC-95	D	<0.00602	U	0.00602	6010A	GEL
Uranium	LWDS-MW2	14-DEC-95	F	<0.00602	U	0.00602	6010A	GEL
Uranium	TAV-MW1	18-DEC-95	F	<0.00602	U	0.00602	6010A	GEL
Uranium	TAV-MW2	18-DEC-95	F	<0.00602	U	0.00602	6010A	GEL
Vanadium	AVN-1	13-JUL-95	F	<0.05	U	0.05	6010	ENCOTEC
Vanadium	AVN-1	13-DEC-95	F	.00683	J	0.00023	6010A	GEL
Vanadium	AVN-1	29-MAY-97	SA	0.0062	J	0.0028	EPA6020	ERCL
Vanadium	AVN-2	11-JUL-95	F	<0.05	U	0.05	6010	ENCOTEC
Vanadium	AVN-2	14-DEC-95	F	.00787	J	0.00023	6010A	GEL
Vanadium	AVN-2	04-DEC-96	SA	0.0068		0.00091	EPA6020	ERCL
Vanadium	AVN-2	29-MAY-97	SA	0.008	J	0.0028	EPA6020	ERCL
Vanadium	LWDS-MW1	03-MAY-93	F	1.2		0.05	6010	ENSECO
Vanadium	LWDS-MW1	02-NOV-93	F	<0.02	U	0.02	6010	ENCOTEC
Vanadium	LWDS-MW1	03-NOV-93	F	<0.02	U	0.02	6010	ENCOTEC
Vanadium	LWDS-MW1	03-NOV-93	F	<0.02	U	0.02	6010	ENCOTEC
Vanadium	LWDS-MW1	10-MAR-94	F	<0.02	U	0.02	6010	ENCOTEC
Vanadium	LWDS-MW1	07-JUN-94	F	<0.02	U	0.02	6010	ENCOTEC
Vanadium	LWDS-MW1	01-SEP-94	F	<0.05	U	0.05	6010	ENCOTEC
Vanadium	LWDS-MW1	01-SEP-94	F	<0.05	U	0.05	6010	ENCOTEC
Vanadium	LWDS-MW1	01-SEP-94	D	<0.05	U	0.05	6010	ENCOTEC
Vanadium	LWDS-MW1	08-DEC-94	F	<0.05	U	0.05	6010	ENCOTEC
Vanadium	LWDS-MW1	14-JUN-95	F	<0.05	U	0.05	6010	ENCOTEC
Vanadium	LWDS-MW1	19-DEC-95	F	.00472	J	0.00023	6010A	GEL
Vanadium	LWDS-MW1	19-DEC-95	D	.00463	J	0.00023	6010A	GEL
Vanadium	LWDS-MW1	06-DEC-96	SA	0.0048		0.00091	EPA6020	ERCL
Vanadium	LWDS-MW1	30-MAY-97	SA	0.0058	J	0.0028	EPA6020	ERCL
Vanadium	LWDS-MW-1	02-MAR-95	F	<0.05	U	0.05	6010	ENCOTEC

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Vanadium	LWDS-MW2	21-OCT-92	F	<0.01	U	0.01	6010	ENSECO
Vanadium	LWDS-MW2	24-JUN-93	F	<0.02	U	0.02	6010	ENCOTEC
Vanadium	LWDS-MW2	24-JUN-93	D	<0.02	U	0.02	6010	ENCOTEC
Vanadium	LWDS-MW2	09-MAR-94	F	<0.02	U	0.02	6010	ENCOTEC
Vanadium	LWDS-MW2	09-MAR-94	D	<0.02	U	0.02	6010	ENCOTEC
Vanadium	LWDS-MW2	06-JUN-94	F	<0.02	U	0.02	6010	ENCOTEC
Vanadium	LWDS-MW2	31-AUG-94	F	<0.05	U	0.05	6010	ENCOTEC
Vanadium	LWDS-MW2	07-DEC-94	F	<0.05	U	0.05	6010	ENCOTEC
Vanadium	LWDS-MW2	07-DEC-94	D	<0.05	U	0.05	6010	ENCOTEC
Vanadium	LWDS-MW2	12-JUN-95	D	<0.05	U	0.05	6010	ENCOTEC
Vanadium	LWDS-MW2	14-DEC-95	F	.00629	J	0.00023	6010A	GEL
Vanadium	LWDS-MW2	05-DEC-96	SA	0.0063		0.00091	EPA6020	ERCL
Vanadium	LWDS-MW-2	01-MAR-95	D	<0.05	U	0.05	6010	ENCOTEC
Vanadium	TAV-MW1	09-JUN-95	F	<0.05	U	0.05	6010	ENCOTEC
Vanadium	TAV-MW1	18-DEC-95	F	.00449	J	0.00023	6010A	GEL
Vanadium	TAV-MW1	06-DEC-96	SA	<0.00091	U	0.00091	EPA6020	ERCL
Vanadium	TAV-MW1	06-DEC-96	DU	<0.00091	U	0.00091	EPA6020	ERCL
Vanadium	TAV-MW2	06-JUN-95	F	<0.05	U	0.05	6010	ENCOTEC
Vanadium	TAV-MW2	18-DEC-95	F	.00498	J	0.00023	6010A	GEL
Vanadium	TAV-MW2	05-DEC-96	SA	0.0045		0.00091	EPA6020	ERCL
Vanadium	TAV-MW3	26-FEB-98	SA	0.0036	J	0.0028	EPA6020	ERCL
Vanadium	TAV-MW4	26-FEB-98	SA	<0.0028	U	0.0028	EPA6020	ERCL
Vanadium	TAV-MW5	27-FEB-98	SA	0.005	J	0.0028	EPA6020	ERCL
Zinc	AVN-1	13-JUL-95	F	.02		0.02	6010	ENCOTEC
Zinc	AVN-1	13-DEC-95	F	.00609	J	0.0027	6010A	GEL
Zinc	AVN-1	29-MAY-97	SA	0.023	J	0.022	EPA6020	ERCL
Zinc	AVN-2	11-JUL-95	F	.03		0.02	6010	ENCOTEC
Zinc	AVN-2	14-DEC-95	F	.017	J	0.0027	6010A	GEL
Zinc	AVN-2	04-DEC-96	SA	0.13		0.0084	EPA6020	ERCL
Zinc	AVN-2	29-MAY-97	SA	0.062	J	0.022	EPA6020	ERCL
Zinc	LWDS-MW1	03-MAY-93	F	2.4		0.1	6010	ENSECO
Zinc	LWDS-MW1	02-NOV-93	F	<0.02	U	0.02	6010	ENCOTEC
Zinc	LWDS-MW1	03-NOV-93	F	<0.02	U	0.02	6010	ENCOTEC
Zinc	LWDS-MW1	03-NOV-93	F	<0.02	U	0.02	6010	ENCOTEC
Zinc	LWDS-MW1	10-MAR-94	F	.04		0.02	6010	ENCOTEC
Zinc	LWDS-MW1	07-JUN-94	F	<0.02	U	0.02	6010	ENCOTEC
Zinc	LWDS-MW1	01-SEP-94	F	<0.02	U	0.02	6010	ENCOTEC
Zinc	LWDS-MW1	01-SEP-94	D	<0.02	U	0.02	6010	ENCOTEC
Zinc	LWDS-MW1	01-SEP-94	F	<0.02	U	0.02	6010	ENCOTEC
Zinc	LWDS-MW1	08-DEC-94	F	<0.02	U	0.02	6010	ENCOTEC
Zinc	LWDS-MW1	14-JUN-95	F	<0.02	U	0.02	6010	ENCOTEC
Zinc	LWDS-MW1	19-DEC-95	F	.00692	J	0.0027	6010A	GEL
Zinc	LWDS-MW1	19-DEC-95	D	.0056	J	0.0027	6010A	GEL
Zinc	LWDS-MW1	06-DEC-96	SA	0.25		0.0084	EPA6020	ERCL
Zinc	LWDS-MW1	30-MAY-97	SA	0.032	J	0.022	EPA6020	ERCL
Zinc	LWDS-MW-1	02-MAR-95	F	<0.02	U	0.02	6010	ENCOTEC
Zinc	LWDS-MW2	21-OCT-92	F	.049		0.02	6010	ENSECO
Zinc	LWDS-MW2	24-JUN-93	F	<0.02	U	0.02	6010	ENCOTEC
Zinc	LWDS-MW2	24-JUN-93	D	<0.02	U	0.02	6010	ENCOTEC
Zinc	LWDS-MW2	09-MAR-94	F	<0.02	U	0.02	6010	ENCOTEC
Zinc	LWDS-MW2	09-MAR-94	D	<0.02	U	0.02	6010	ENCOTEC
Zinc	LWDS-MW2	06-JUN-94	F	<0.02	U	0.02	6010	ENCOTEC
Zinc	LWDS-MW2	31-AUG-94	F	<0.02	U	0.02	6010	ENCOTEC

Appendix H2 (Continued)
TA-V Groundwater Inorganic Data, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (mg/L)	Qualifier	MDL (mg/L)	Analytical Method	Laboratory
Zinc	LWDS-MW2	07-DEC-94	F	<0.02	U	0.02	6010	ENCOTEC
Zinc	LWDS-MW2	07-DEC-94	D	<0.02	U	0.02	6010	ENCOTEC
Zinc	LWDS-MW2	12-JUN-95	D	<0.02	U	0.02	6010	ENCOTEC
Zinc	LWDS-MW2	14-DEC-95	F	<0.0027	U	0.0027	6010A	GEL
Zinc	LWDS-MW2	05-DEC-96	SA	0.022	J	0.0084	EPA6020	ERCL
Zinc	LWDS-MW-2	01-MAR-95	D	<0.02	U	0.02	6010	ENCOTEC
Zinc	TAV-MW1	09-JUN-95	F	<0.02	U	0.02	6010	ENCOTEC
Zinc	TAV-MW1	18-DEC-95	F	.0079	J	0.0027	6010A	GEL
Zinc	TAV-MW1	06-DEC-96	SA	<0.0084	U	0.0084	EPA6020	ERCL
Zinc	TAV-MW1	06-DEC-96	DU	<0.0084	U	0.0084	EPA6020	ERCL
Zinc	TAV-MW2	06-JUN-95	F	<0.02	U	0.02	6010	ENCOTEC
Zinc	TAV-MW2	18-DEC-95	F	.00556	J	0.0027	6010A	GEL
Zinc	TAV-MW2	05-DEC-96	SA	0.064		0.0084	EPA6020	ERCL
Zinc	TAV-MW3	26-FEB-98	SA	<0.023	U	0.023	EPA6020	ERCL
Zinc	TAV-MW4	26-FEB-98	SA	<0.023	U	0.023	EPA6020	ERCL
Zinc	TAV-MW5	27-FEB-98	SA	<0.023	U	0.023	EPA6020	ERCL

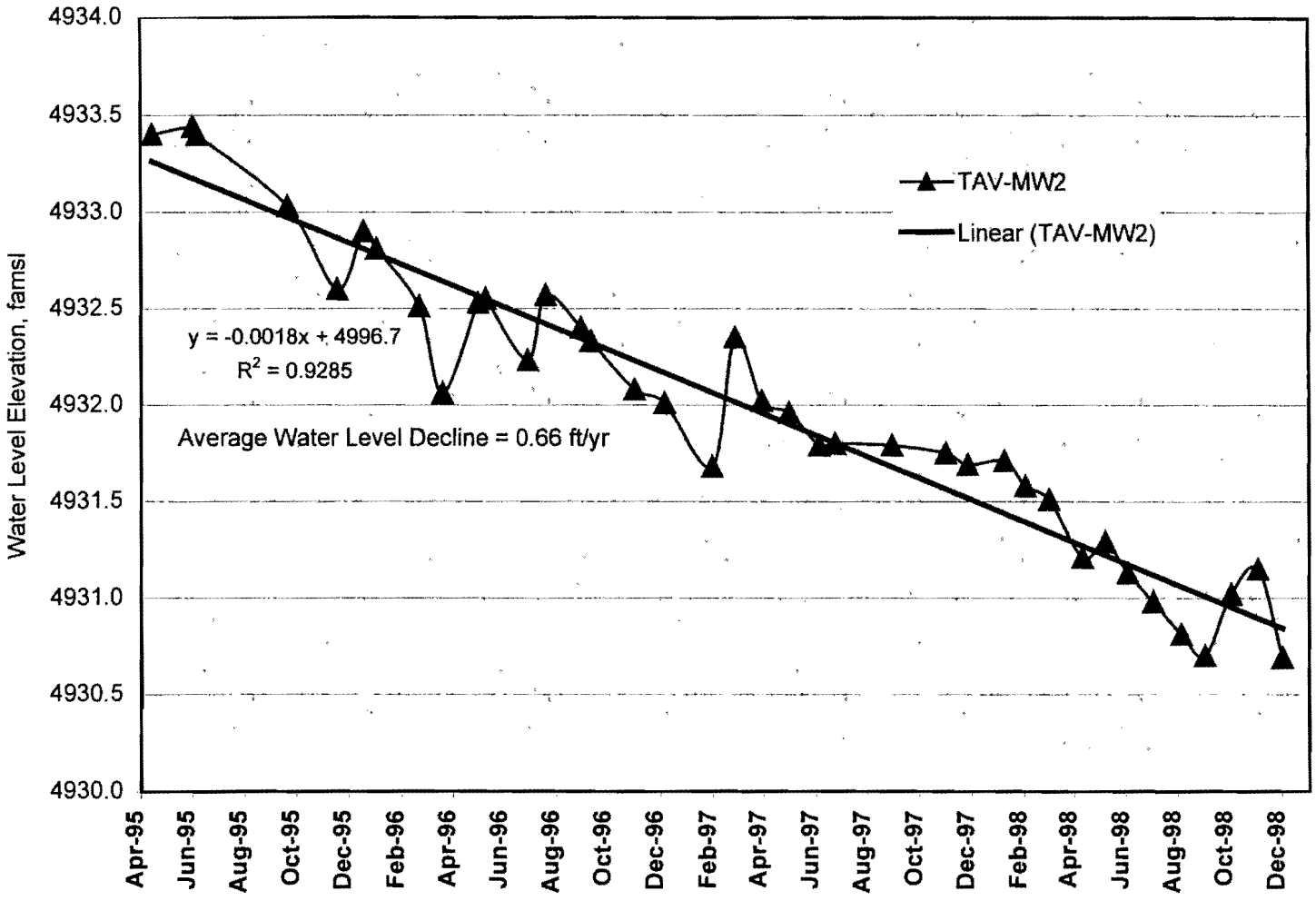


Figure G-4. Hydrograph for TAV-MW2

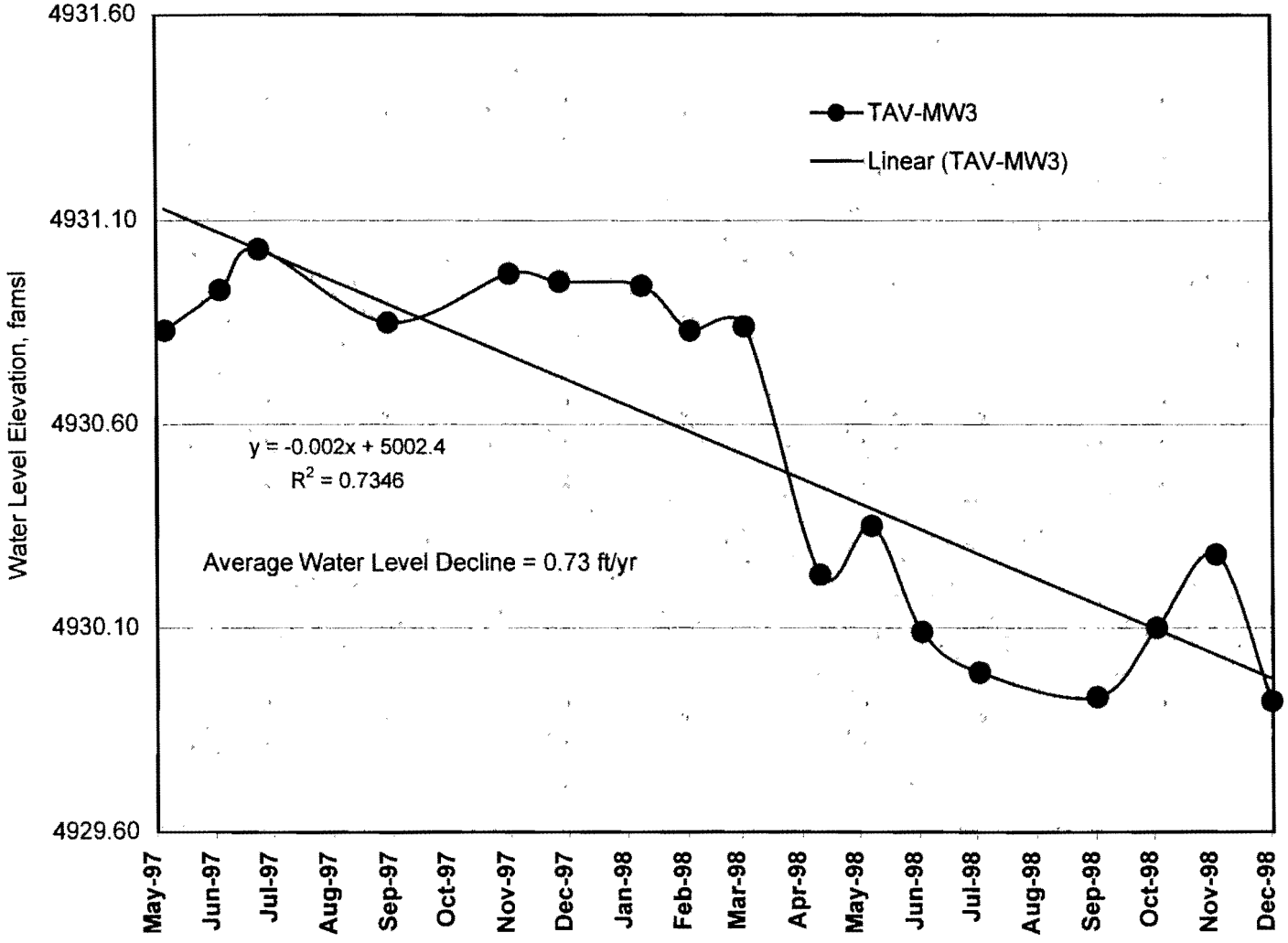


Figure G-5. Hydrograph for TAV-MW3

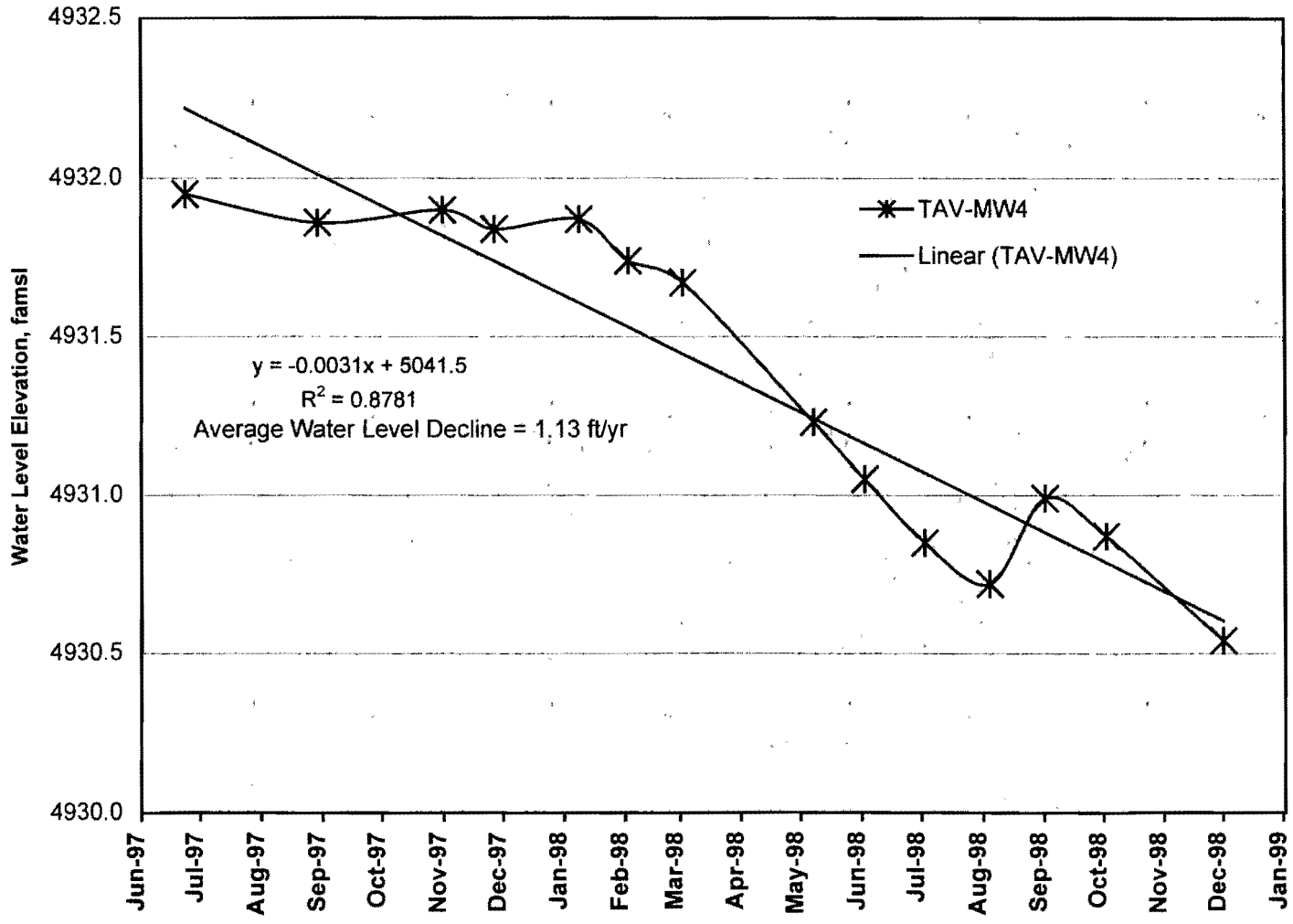


Figure G-6. Hydrograph for TAV-MW4

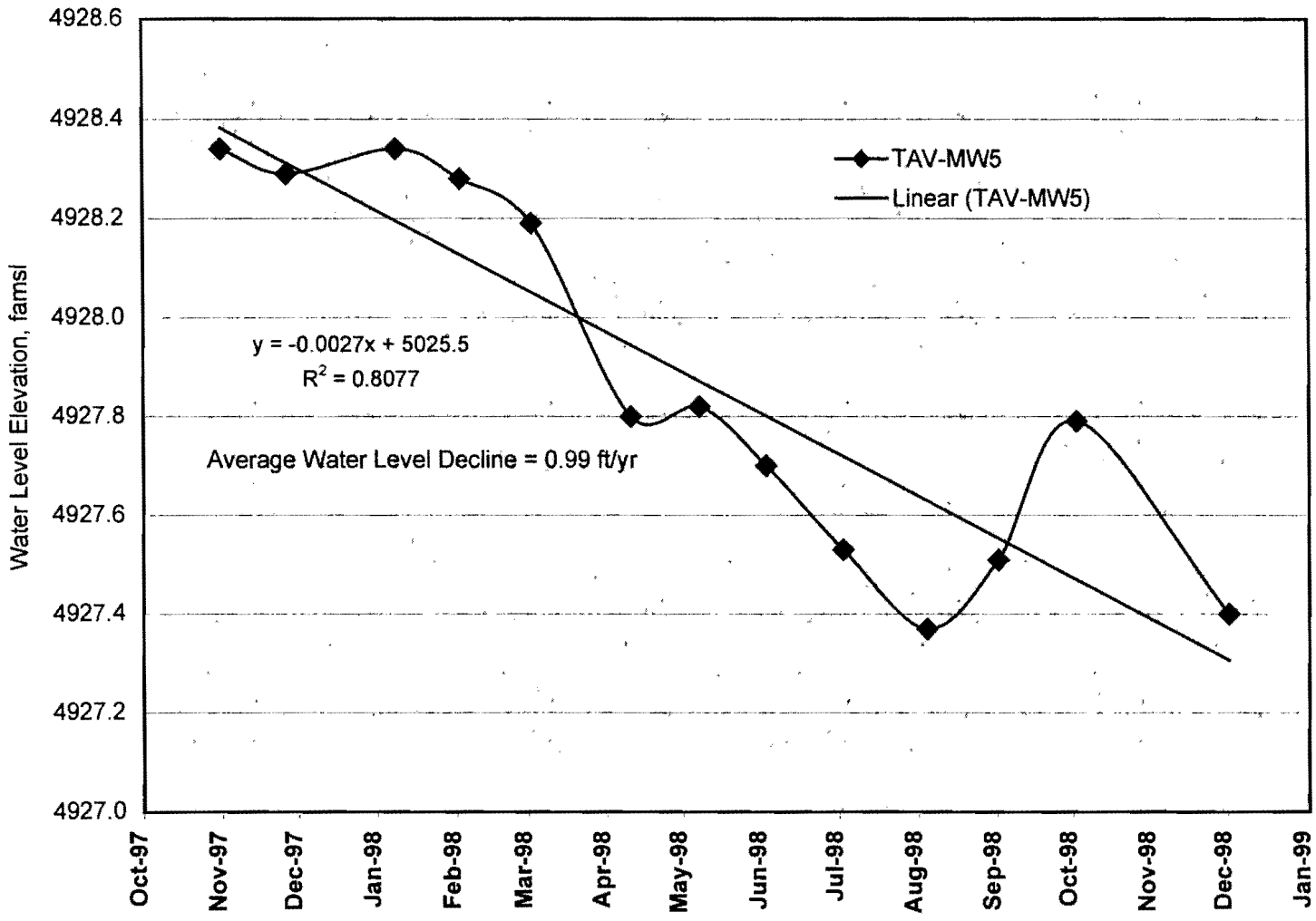


Figure G-7. Hydrograph for TAV-MW5, 1997 - 1999

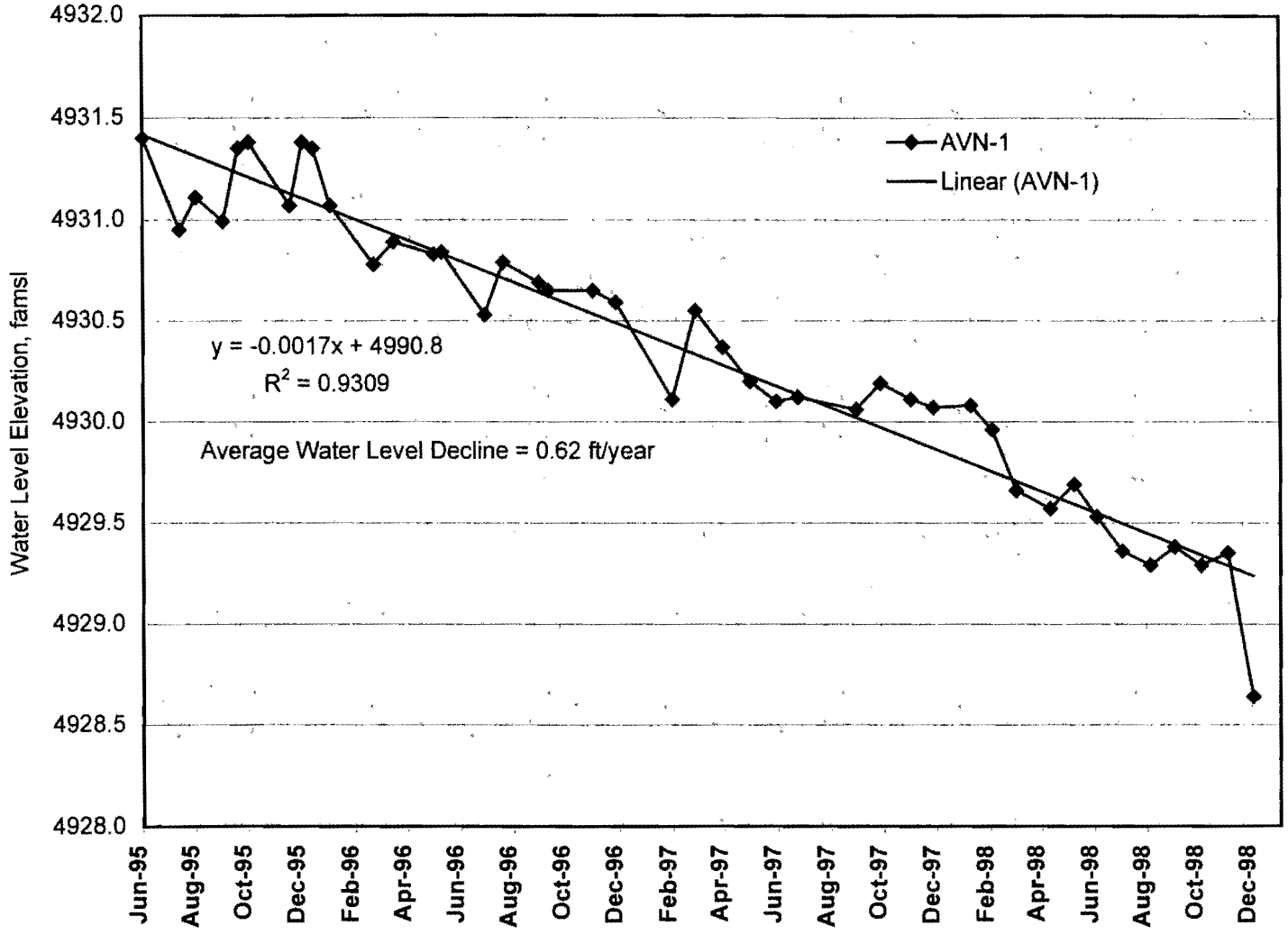


Figure G-8. Hydrograph for AVN-1, 1995 - 1998

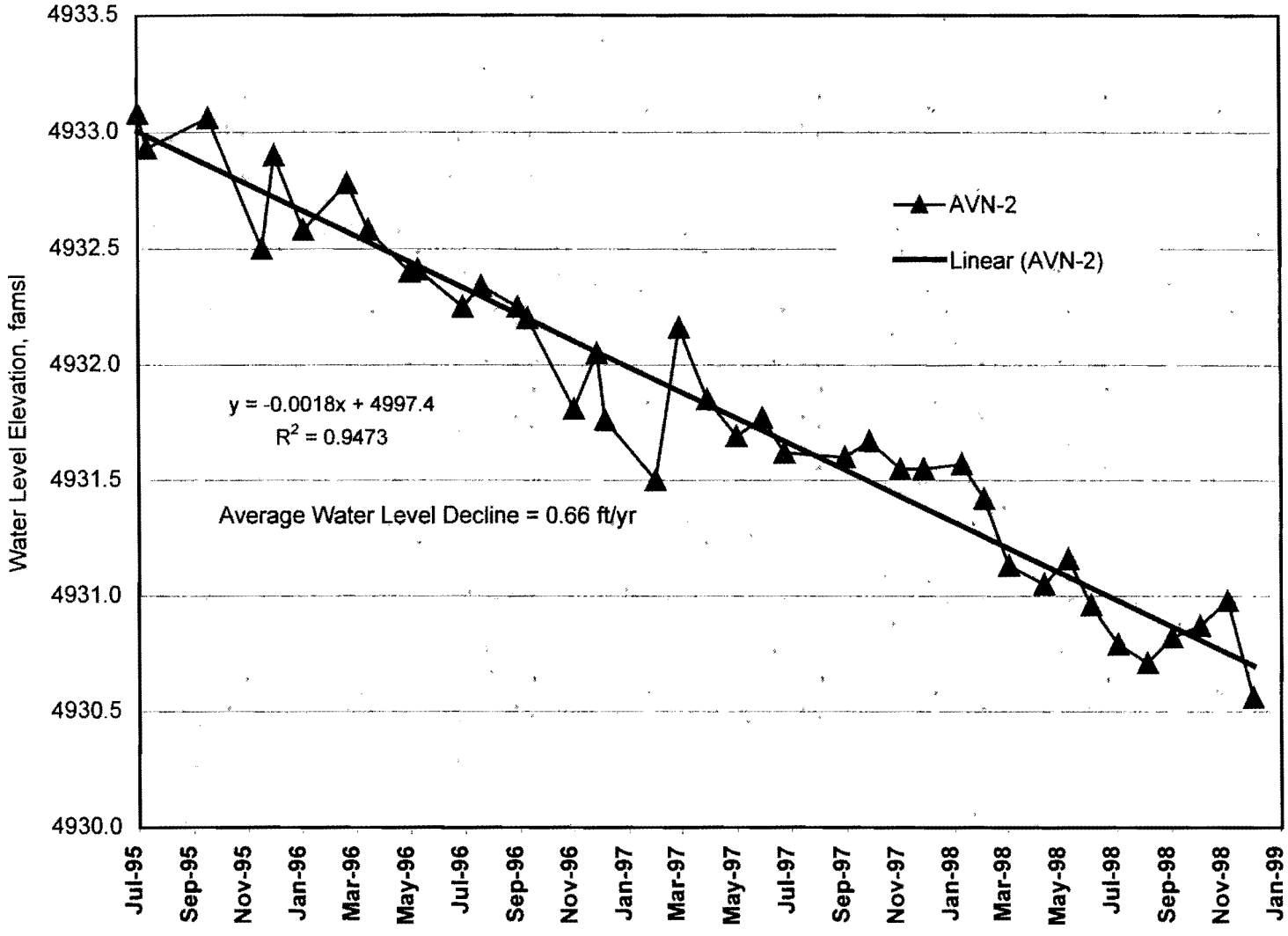


Figure G-9. Hydrograph for AVN-2, 1994 - 1998

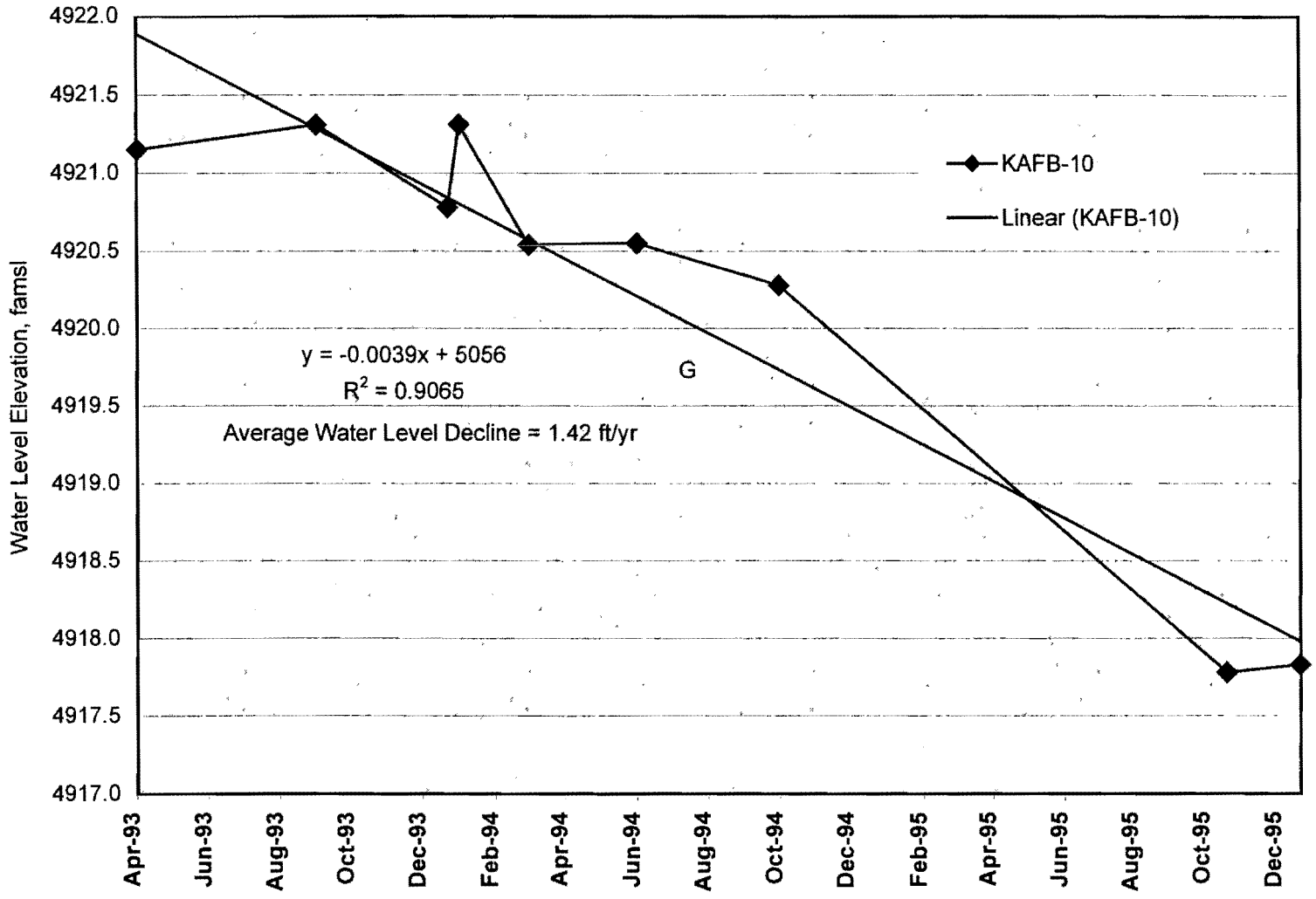


Figure G-10. Hydrograph for KAFB-10, 1993 - 1995

APPENDIX H3

TA-V GROUNDWATER DATA TABLES
ORGANIC COMPOUNDS
1992 THROUGH 1998

Appendix H3
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Acenaphthene	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Acenaphthene	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Acenaphthene	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Acenaphthene	AVN-1	03-JUN-98	SA	<1.1	U	1.1	EPA 8270	QSTL
Acenaphthene	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Acenaphthene	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Acenaphthene	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Acenaphthene	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Acenaphthene	AVN-2	03-JUN-98	SA	<1.1	U	1.1	EPA 8270	QSTL
Acenaphthene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Acenaphthene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Acenaphthene	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Acenaphthene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Acenaphthene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Acenaphthene	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Acenaphthene	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Acenaphthene	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Acenaphthene	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Acenaphthene	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Acenaphthene	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Acenaphthene	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Acenaphthene	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Acenaphthene	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Acenaphthene	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Acenaphthene	LWDS-MW1	08-JUN-98	SA	<1.1	U	1.1	EPA 8270	QSTL
Acenaphthene	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Acenaphthene	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Acenaphthene	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Acenaphthene	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Acenaphthene	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Acenaphthene	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Acenaphthene	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Acenaphthene	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Acenaphthene	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Acenaphthene	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Acenaphthene	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Acenaphthene	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Acenaphthene	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Acenaphthene	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Acenaphthene	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Acenaphthene	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Acenaphthene	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Acenaphthene	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Acenaphthene	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Acenaphthene	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Acenaphthene	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Acenaphthene	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Acenaphthene	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Acenaphthene	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Acenaphthene	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Acenaphthene	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Acenaphthene	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Acenaphthylene	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Acenaphthylene	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Acenaphthylene	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Acenaphthylene	AVN-1	03-JUN-98	SA	<1.3	U	1.3	EPA 8270	QSTL
Acenaphthylene	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Acenaphthylene	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Acenaphthylene	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Acenaphthylene	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Acenaphthylene	AVN-2	03-JUN-98	SA	<1.3	U	1.3	EPA 8270	QSTL
Acenaphthylene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Acenaphthylene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Acenaphthylene	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Acenaphthylene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Acenaphthylene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Acenaphthylene	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Acenaphthylene	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Acenaphthylene	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Acenaphthylene	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Acenaphthylene	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Acenaphthylene	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Acenaphthylene	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Acenaphthylene	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Acenaphthylene	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Acenaphthylene	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Acenaphthylene	LWDS-MW1	08-JUN-98	SA	<1.3	U	1.3	EPA 8270	QSTL
Acenaphthylene	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Acenaphthylene	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Acenaphthylene	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Acenaphthylene	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Acenaphthylene	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Acenaphthylene	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Acenaphthylene	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Acenaphthylene	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Acenaphthylene	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Acenaphthylene	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Acenaphthylene	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Acenaphthylene	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Acenaphthylene	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Acenaphthylene	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Acenaphthylene	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Acenaphthylene	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Acenaphthylene	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Acenaphthylene	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Acenaphthylene	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Acenaphthylene	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Acenaphthylene	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Acenaphthylene	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Acenaphthylene	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Acenaphthylene	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Acenaphthylene	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Acenaphthylene	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Acenaphthylene	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Acetone	AVN-1	13-JUL-95	F	<5	U	5	8260	ENCOTEC
Acetone	AVN-1	15-MAR-96	SA	<5	U	5	EPA8260	ERCL
Acetone	AVN-1	25-JUN-96	SA	<5	U	5	EPA8260	ERCL
Acetone	AVN-1	25-JUN-96	DU	<5	U	5	EPA8260	ERCL
Acetone	AVN-1	09-SEP-96	SA	<5	U	5	EPA8260	ERCL
Acetone	AVN-1	03-MAR-97	SA	10	J	5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Acetone	AVN-1	12-SEP-97	SA	<5	U	5	EPA8260	ERCL
Acetone	AVN-1	14-NOV-97	SA	<5	U	5	EPA8260	ERCL
Acetone	AVN-1	24-FEB-98	SA	<5	U	5	EPA8260	ERCL
Acetone	AVN-1	03-JUN-98	SA	<5	U	5	EPA8260	ERCL
Acetone	AVN-1	01-SEP-98	SA	<5	U	5	EPA8260	ERCL
Acetone	AVN-1	16-NOV-08	SA	<5	U	5	EPA8260	ERCL
Acetone	AVN-2	11-JUL-95	F	<5	U	5	8260	ENCOTEC
Acetone	AVN-2	15-MAR-96	SA	<5	U	5	EPA8260	ERCL
Acetone	AVN-2	25-JUN-96	SA	<5	U	5	EPA8260	ERCL
Acetone	AVN-2	25-JUN-96	DU	<5	U	5	EPA8260	ERCL
Acetone	AVN-2	09-SEP-96	SA	<5	U	5	EPA8260	ERCL
Acetone	AVN-2	04-DEC-96	SA	<5	U	5	EPA8260	ERCL
Acetone	AVN-2	03-MAR-97	SA	<5	U	5	EPA8260	ERCL
Acetone	AVN-2	10-SEP-97	SA	<5	U	5	EPA8260	ERCL
Acetone	AVN-2	14-NOV-97	SA	<5	U	5	EPA8260	ERCL
Acetone	AVN-2	24-FEB-98	SA	<5	U	5	EPA8260	ERCL
Acetone	AVN-2	03-JUN-98	SA	<5	U	5	EPA8260	ERCL
Acetone	AVN-2	01-SEP-98	SA	<5	U	5	EPA8260	ERCL
Acetone	AVN-2	16-NOV-98	SA	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW1	03-MAY-93	F	<10	U	10	8240	ENSECO
Acetone	LWDS-MW1	27-OCT-93	F	<10	U	10	8240	ENCOTEC
Acetone	LWDS-MW1	02-NOV-93	F	<10	U	10	8240	ENCOTEC
Acetone	LWDS-MW1	03-NOV-93	F	<10	U	10	8240	ENCOTEC
Acetone	LWDS-MW1	03-NOV-93	F	<10	U	10	8240	ENCOTEC
Acetone	LWDS-MW1	10-MAR-94	F	<10	U	10	8240	ENCOTEC
Acetone	LWDS-MW1	07-JUN-94	F	7		5	8260	ENCOTEC
Acetone	LWDS-MW1	01-SEP-94	F	<5	U	5	8260	ENCOTEC
Acetone	LWDS-MW1	01-SEP-94	D	<5	U	5	8260	ENCOTEC
Acetone	LWDS-MW1	18-MAR-96	SA	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW1	26-JUN-96	SA	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW1	10-SEP-96	SA	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW1	10-SEP-96	DU	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW1	06-DEC-96	SA	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW1	06-DEC-96	DU	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW1	05-MAR-97	SA	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW1	05-MAR-97	DU	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW1	16-SEP-97	SA	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW1	12-NOV-97	DU	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW1	04-MAR-98	SA	<1.9	UB	1.9	EPA 8260	QSTL
Acetone	LWDS-MW1	04-MAR-98	SA	<1.9	UB	1.9	EPA 8260	QSTL
Acetone	LWDS-MW1	04-MAR-98	SA	<0.76	UB	0.76	EPA 8260	GEL
Acetone	LWDS-MW1	04-MAR-98	SA	4.3	JB	0.76	EPA 8260	GEL
Acetone	LWDS-MW1	04-MAR-98	SA	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW1	04-MAR-98	SA	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW1	08-JUN-98	SPLIT	12	JB	9.7	EPA 8260	QSTL
Acetone	LWDS-MW1	08-JUN-98	SA	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW1	16-NOV-98	SA	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW1	16-NOV-98	DU	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW1	17-NOV-98	SA	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW1	18-NOV-98	SA	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW1	20-NOV-98	SA	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW-1	02-MAR-95	F	12		10	8240	ENCOTEC
Acetone	LWDS-MW-1	16-SEP-97	SA	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW-1	08-JUN-98	DU	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW2	21-OCT-92	F	22		10	8240	ENSECO

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Acetone	LWDS-MW2	24-JUN-93	F	4	J	10	8240	ENCOTEC
Acetone	LWDS-MW2	24-JUN-93	D	3	J	10	8240	ENCOTEC
Acetone	LWDS-MW2	06-JUN-94	F	8	B	5	8260	ENCOTEC
Acetone	LWDS-MW2	31-AUG-94	F	<5	U	5	8260	ENCOTEC
Acetone	LWDS-MW2	18-MAR-96	SA	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW2	09-SEP-96	SA	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW2	05-DEC-96	SA	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW2	04-MAR-97	SA	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW2	12-SEP-97	SA	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW2	25-FEB-98	SA	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW-2	01-MAR-95	F	16		10	8240	ENCOTEC
Acetone	LWDS-MW-2	01-MAR-95	D	6	J	10	8240	ENCOTEC
Acetone	LWDS-MW-2	11-NOV-97	SA	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW-2	03-JUN-98	SA	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW-2	02-SEP-98	SA	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW-2	02-SEP-98	DU	<5	U	5	EPA8260	ERCL
Acetone	LWDS-MW-2	17-NOV-98	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW1	19-MAR-96	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW1	27-JUN-96	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW1	11-SEP-96	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW1	11-SEP-96	DU	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW1	06-DEC-96	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW1	06-DEC-96	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW1	04-MAR-97	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW1	16-SEP-97	F	<1.9	UB	1.9	8260	Quanterra
Acetone	TAV-MW1	16-SEP-97	SA	<1.9	UB	1.9	EPA 8260	QSTL
Acetone	TAV-MW1	16-SEP-97	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW1	13-NOV-97	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW1	03-MAR-98	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW1	03-MAR-98	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW1	23-NOV-98	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW2	19-MAR-96	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW2	27-JUN-96	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW2	10-SEP-96	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW2	10-SEP-96	DU	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW2	05-DEC-96	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW2	05-MAR-97	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW2	16-SEP-97	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW2	11-NOV-97	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW2	24-FEB-98	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW2	20-NOV-98	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW3	22-APR-97	SA	18	J	5	EPA8260	ERCL
Acetone	TAV-MW3	03-JUN-97	F	<2	U	2	8260	GEL
Acetone	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW3	19-NOV-98	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW4	30-APR-97	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW4	29-OCT-98	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW4	29-OCT-98	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW5	02-MAY-97	SA	<5	U	5	EPA8260	ERCL
Acetone	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA8260	ERCL
Acetonitrile	AVN-1	13-JUL-95	F	<5	U	5	8260	ENCOTEC
Acetonitrile	AVN-2	11-JUL-95	F	<5	U	5	8260	ENCOTEC
Acetonitrile	LWDS-MW1	04-MAR-98	SA	<0.08	U	0.08	EPA 8260	GEL
Acetonitrile	LWDS-MW1	04-MAR-98	SA	<0.08	U	0.08	EPA 8260	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Acrolein	AVN-1	13-JUL-95	F	<20	U	20	8260	ENCOTEC
Acrolein	AVN-2	11-JUL-95	F	<20	U	20	8260	ENCOTEC
Acrolein	LWDS-MW1	04-MAR-98	SA	<0.57	U	0.57	EPA 8260	GEL
Acrolein	LWDS-MW1	04-MAR-98	SA	<0.57	U	0.57	EPA 8260	GEL
Acrylonitrile	AVN-1	13-JUL-95	F	<10	U	10	8260	ENCOTEC
Acrylonitrile	AVN-2	11-JUL-95	F	<10	U	10	8260	ENCOTEC
Acrylonitrile	LWDS-MW1	04-MAR-98	SA	<1.26	U	1.26	EPA 8260	GEL
Acrylonitrile	LWDS-MW1	04-MAR-98	SA	<1.26	U	1.26	EPA 8260	GEL
Aldrin	LWDS-MW1	25-SEP-95	F	<0.0125	U	0.0125	8080	GEL
Allyl chloride	AVN-1	13-JUL-95	F	<2	U	2	8260	ENCOTEC
Allyl chloride	AVN-2	11-JUL-95	F	<2	U	2	8260	ENCOTEC
Allyl chloride	LWDS-MW1	04-MAR-98	SA	<0.04	U	0.04	EPA 8260	GEL
Allyl chloride	LWDS-MW1	04-MAR-98	SA	<0.04	U	0.04	EPA 8260	GEL
Aniline	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Aniline	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Aniline	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Aniline	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Aniline	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Anthracene	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Anthracene	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Anthracene	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Anthracene	AVN-1	03-JUN-98	SA	<0.93	U	0.93	EPA 8270	QSTL
Anthracene	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Anthracene	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Anthracene	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Anthracene	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Anthracene	AVN-2	03-JUN-98	SA	<0.93	U	0.93	EPA 8270	QSTL
Anthracene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Anthracene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Anthracene	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Anthracene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Anthracene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Anthracene	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Anthracene	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Anthracene	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Anthracene	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Anthracene	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Anthracene	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Anthracene	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Anthracene	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Anthracene	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Anthracene	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Anthracene	LWDS-MW1	08-JUN-98	SA	<0.93	U	0.93	EPA 8270	QSTL
Anthracene	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Anthracene	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Anthracene	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Anthracene	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Anthracene	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Anthracene	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Anthracene	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Anthracene	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Anthracene	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Anthracene	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Anthracene	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Anthracene	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Anthracene	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Anthracene	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Anthracene	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Anthracene	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Anthracene	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Anthracene	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Anthracene	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Anthracene	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Anthracene	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Anthracene	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Anthracene	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Anthracene	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Anthracene	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Anthracene	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Anthracene	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Aroclor 1016	LWDS-MW1	25-SEP-95	F	<0.1	U	0.1	8080	GEL
Aroclor 1221	LWDS-MW1	25-SEP-95	F	<0.1	U	0.1	8080	GEL
Aroclor 1232	LWDS-MW1	25-SEP-95	F	<0.1	U	0.1	8080	GEL
Aroclor 1242	LWDS-MW1	25-SEP-95	F	<0.1	U	0.1	8080	GEL
Aroclor 1248	LWDS-MW1	25-SEP-95	F	<0.1	U	0.1	8080	GEL
Aroclor 1254	LWDS-MW1	25-SEP-95	F	<0.1	U	0.1	8080	GEL
Aroclor 1260	LWDS-MW1	25-SEP-95	F	<0.1	U	0.1	8080	GEL
Benzene	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Benzene	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Benzene	AVN-1	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	AVN-1	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	AVN-1	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Benzene	AVN-1	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Benzene	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Benzene	AVN-2	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	AVN-2	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	AVN-2	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Benzene	AVN-2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW1	03-MAY-93	F	<5	U	5	8240	ENSECO
Benzene	LWDS-MW1	27-OCT-93	F	<5	U	5	8240	ENCOTEC
Benzene	LWDS-MW1	02-NOV-93	F	<5	U	5	8240	ENCOTEC
Benzene	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Benzene	LWDS-MW1	03-NOV-93	F	6		5	8240	ENCOTEC
Benzene	LWDS-MW1	10-MAR-94	F	<5	U	5	8240	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Benzene	LWDS-MW1	07-JUN-94	F	<1	U	1	8260	ENCOTEC
Benzene	LWDS-MW1	01-SEP-94	F	<1	U	1	8260	ENCOTEC
Benzene	LWDS-MW1	01-SEP-94	D	<1	U	1	8260	ENCOTEC
Benzene	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Benzene	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Benzene	LWDS-MW1	18-MAR-96	F	<0.5	U	0.5	8020	QUANTERR/
Benzene	LWDS-MW1	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW1	26-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW1	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW1	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW1	10-SEP-96	SPL	<0.065	U	0.065	EPA-SW846	QARV
Benzene	LWDS-MW1	06-DEC-96	SA	.51	J	0.5	EPA8260	ERCL
Benzene	LWDS-MW1	06-DEC-96	DU	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW1	04-MAR-98	SA	<0.17	U	0.17	EPA 8260	QSTL
Benzene	LWDS-MW1	04-MAR-98	SA	<0.17	U	0.17	EPA 8260	QSTL
Benzene	LWDS-MW1	04-MAR-98	SA	<0.03	U	0.03	EPA 8260	GEL
Benzene	LWDS-MW1	04-MAR-98	SA	<0.03	U	0.03	EPA 8260	GEL
Benzene	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW1	08-JUN-98	SPLIT	<0.84	U	0.84	EPA 8260	QSTL
Benzene	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW1	18-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW-1	02-MAR-95	F	<5	U	5	8240	ENCOTEC
Benzene	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW2	21-OCT-92	F	<5	U	5	8240	ENSECO
Benzene	LWDS-MW2	24-JUN-93	F	<5	U	5	8240	ENCOTEC
Benzene	LWDS-MW2	24-JUN-93	D	<5	U	5	8240	ENCOTEC
Benzene	LWDS-MW2	06-JUN-94	F	<1	U	1	8260	ENCOTEC
Benzene	LWDS-MW2	31-AUG-94	F	<1	U	1	8260	ENCOTEC
Benzene	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Benzene	LWDS-MW2	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Benzene	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Benzene	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW-2	01-MAR-95	F	<5	U	5	8240	ENCOTEC
Benzene	LWDS-MW-2	01-MAR-95	D	<5	U	5	8240	ENCOTEC
Benzene	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Benzene	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW1	13-APR-95	F	<0.5	U	0.5	8020	QUANTERR/

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Benzene	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Benzene	TAV-MW1	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW1	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW1	11-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW1	11-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW1	11-SEP-96	SPL	<0.065	U	0.065	EPA-SW846	QARV
Benzene	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Benzene	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Benzene	TAV-MW1	16-SEP-97	F	<0.17	U	0.17	8260	Quanterra
Benzene	TAV-MW1	16-SEP-97	SA	<0.17	U	0.17	EPA 8260	QSTL
Benzene	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW2	14-APR-95	F	<0.5	U	0.5	8020	QUANTERRA
Benzene	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Benzene	TAV-MW2	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW2	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW2	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW2	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW2	05-MAR-97	SA	1.1	J	0.5	EPA8260	ERCL
Benzene	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Benzene	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Benzidine	AVN-1	13-JUL-95	F	<80	U	80	8270	ENCOTEC
Benzidine	AVN-2	11-JUL-95	F	<80	U	80	8270	ENCOTEC
Benzidine	LWDS-MW1	02-NOV-93	F	<80	U	80	8270	ENCOTEC
Benzidine	LWDS-MW1	03-NOV-93	F	<80	U	80	8270	ENCOTEC
Benzidine	LWDS-MW1	03-NOV-93	F	<80	U	80	8270	ENCOTEC
Benzidine	LWDS-MW1	12-MAR-94	F	<80	U	80	8270	ENCOTEC
Benzidine	LWDS-MW1	07-JUN-94	F	<80	U	80	8270	ENCOTEC
Benzidine	LWDS-MW1	01-SEP-94	F	<80	U	80	8270	ENCOTEC
Benzidine	LWDS-MW1	01-SEP-94	D	<80	U	80	8270	ENCOTEC
Benzidine	LWDS-MW1	08-DEC-94	F	<80	U	80	8270	ENCOTEC
Benzidine	LWDS-MW1	14-JUN-95	F	<80	U	80	8270	ENCOTEC
Benzidine	LWDS-MW-1	02-MAR-95	F	<80	U	80	8270	ENCOTEC
Benzidine	LWDS-MW2	24-JUN-93	F	<80	U	80	8270	ENCOTEC
Benzidine	LWDS-MW2	24-JUN-93	D	<80	U	80	8270	ENCOTEC
Benzidine	LWDS-MW2	11-MAR-94	F	<80	U	80	8270	ENCOTEC
Benzidine	LWDS-MW2	11-MAR-94	D	<80	U	80	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Benzidine	LWDS-MW2	06-JUN-94	F	<80	U	80	8270	ENCOTEC
Benzidine	LWDS-MW2	31-AUG-94	F	<80	U	80	8270	ENCOTEC
Benzidine	LWDS-MW2	07-DEC-94	F	<80	U	80	8270	ENCOTEC
Benzidine	LWDS-MW2	12-JUN-95	F	<80	U	80	8270	ENCOTEC
Benzidine	LWDS-MW2	12-JUN-95	D	<80	U	80	8270	ENCOTEC
Benzidine	LWDS-MW-2	01-MAR-95	F	<80	U	80	8270	ENCOTEC
Benzidine	TAV-MW1	09-JUN-95	F	<80	U	80	8270	ENCOTEC
Benzidine	TAV-MW2	06-JUN-95	F	<80	U	80	8270	ENCOTEC
Benzo(a)anthracene	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Benzo(a)anthracene	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Benzo(a)anthracene	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Benzo(a)anthracene	AVN-1	03-JUN-98	SA	<0.26	U	0.26	EPA 8270	QSTL
Benzo(a)anthracene	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Benzo(a)anthracene	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Benzo(a)anthracene	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Benzo(a)anthracene	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Benzo(a)anthracene	AVN-2	03-JUN-98	SA	<0.26	U	0.26	EPA 8270	QSTL
Benzo(a)anthracene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Benzo(a)anthracene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Benzo(a)anthracene	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Benzo(a)anthracene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Benzo(a)anthracene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Benzo(a)anthracene	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Benzo(a)anthracene	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Benzo(a)anthracene	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Benzo(a)anthracene	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Benzo(a)anthracene	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Benzo(a)anthracene	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Benzo(a)anthracene	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Benzo(a)anthracene	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Benzo(a)anthracene	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Benzo(a)anthracene	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Benzo(a)anthracene	LWDS-MW1	08-JUN-98	SA	<0.26	U	0.26	EPA 8270	QSTL
Benzo(a)anthracene	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Benzo(a)anthracene	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Benzo(a)anthracene	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Benzo(a)anthracene	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Benzo(a)anthracene	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Benzo(a)anthracene	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Benzo(a)anthracene	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Benzo(a)anthracene	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Benzo(a)anthracene	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Benzo(a)anthracene	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Benzo(a)anthracene	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Benzo(a)anthracene	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Benzo(a)anthracene	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Benzo(a)anthracene	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Benzo(a)anthracene	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Benzo(a)anthracene	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Benzo(a)anthracene	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Benzo(a)anthracene	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Benzo(a)anthracene	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Benzo(a)anthracene	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Benzo(a)anthracene	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Benzo(a)anthracene	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Benzo(a)anthracene	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Benzo(a)anthracene	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Benzo(a)anthracene	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Benzo(a)anthracene	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Benzo(a)anthracene	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Benzo(a)pyrene	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Benzo(a)pyrene	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Benzo(a)pyrene	AVN-1	29-MAY-97	SA	<0.99	U	0.99	EPA8270	ERCL
Benzo(a)pyrene	AVN-1	03-JUN-98	SA	<0.58	U	0.58	EPA 8270	QSTL
Benzo(a)pyrene	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Benzo(a)pyrene	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Benzo(a)pyrene	AVN-2	04-DEC-96	SA	<1	U	1	EPA8270	ERCL
Benzo(a)pyrene	AVN-2	29-MAY-97	SA	<0.96	U	0.96	EPA8270	ERCL
Benzo(a)pyrene	AVN-2	03-JUN-98	SA	<0.58	U	0.58	EPA 8270	QSTL
Benzo(a)pyrene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Benzo(a)pyrene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Benzo(a)pyrene	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Benzo(a)pyrene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Benzo(a)pyrene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Benzo(a)pyrene	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Benzo(a)pyrene	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Benzo(a)pyrene	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Benzo(a)pyrene	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Benzo(a)pyrene	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Benzo(a)pyrene	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Benzo(a)pyrene	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Benzo(a)pyrene	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Benzo(a)pyrene	LWDS-MW1	06-DEC-96	SA	<1	U	1	EPA8270	ERCL
Benzo(a)pyrene	LWDS-MW1	30-MAY-97	SA	<0.99	U	0.99	EPA8270	ERCL
Benzo(a)pyrene	LWDS-MW1	08-JUN-98	SA	<0.58	U	0.58	EPA 8270	QSTL
Benzo(a)pyrene	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Benzo(a)pyrene	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Benzo(a)pyrene	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Benzo(a)pyrene	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Benzo(a)pyrene	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Benzo(a)pyrene	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Benzo(a)pyrene	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Benzo(a)pyrene	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Benzo(a)pyrene	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Benzo(a)pyrene	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Benzo(a)pyrene	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Benzo(a)pyrene	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Benzo(a)pyrene	LWDS-MW2	05-DEC-96	SA	<1	U	1	EPA8270	ERCL
Benzo(a)pyrene	LWDS-MW2	02-JUN-97	SA	<0.89	U	0.89	EPA8270	ERCL
Benzo(a)pyrene	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Benzo(a)pyrene	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Benzo(a)pyrene	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Benzo(a)pyrene	TAV-MW1	06-DEC-96	SA	<1	U	1	EPA8270	ERCL
Benzo(a)pyrene	TAV-MW1	03-JUN-97	SA	<0.95	U	0.95	EPA8270	ERCL
Benzo(a)pyrene	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Benzo(a)pyrene	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Benzo(a)pyrene	TAV-MW2	05-DEC-96	SA	<1	U	1	EPA8270	ERCL
Benzo(a)pyrene	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Benzo(a)pyrene	TAV-MW2	04-JUN-97	SA	<1	U	1	EPA8270	ERCL
Benzo(a)pyrene	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Benzo(a)pyrene	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Benzo(a)pyrene	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Benzo(b)fluoranthene	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Benzo(b)fluoranthene	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Benzo(b)fluoranthene	AVN-1	03-JUN-98	SA	<0.46	U	0.46	EPA 8270	QSTL
Benzo(b)fluoranthene	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Benzo(b)fluoranthene	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Benzo(b)fluoranthene	AVN-2	04-DEC-96	SA	<1	U	1	EPA8270	ERCL
Benzo(b)fluoranthene	AVN-2	03-JUN-98	SA	<0.46	U	0.46	EPA 8270	QSTL
Benzo(b)fluoranthene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Benzo(b)fluoranthene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Benzo(b)fluoranthene	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Benzo(b)fluoranthene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Benzo(b)fluoranthene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Benzo(b)fluoranthene	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Benzo(b)fluoranthene	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Benzo(b)fluoranthene	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Benzo(b)fluoranthene	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Benzo(b)fluoranthene	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Benzo(b)fluoranthene	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Benzo(b)fluoranthene	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Benzo(b)fluoranthene	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Benzo(b)fluoranthene	LWDS-MW1	06-DEC-96	SA	<1	U	1	EPA8270	ERCL
Benzo(b)fluoranthene	LWDS-MW1	08-JUN-98	SA	<0.46	U	0.46	EPA 8270	QSTL
Benzo(b)fluoranthene	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Benzo(b)fluoranthene	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Benzo(b)fluoranthene	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Benzo(b)fluoranthene	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Benzo(b)fluoranthene	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Benzo(b)fluoranthene	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Benzo(b)fluoranthene	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Benzo(b)fluoranthene	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Benzo(b)fluoranthene	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Benzo(b)fluoranthene	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Benzo(b)fluoranthene	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Benzo(b)fluoranthene	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Benzo(b)fluoranthene	LWDS-MW2	05-DEC-96	SA	<1	U	1	EPA8270	ERCL
Benzo(b)fluoranthene	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Benzo(b)fluoranthene	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Benzo(b)fluoranthene	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Benzo(b)fluoranthene	TAV-MW1	06-DEC-96	SA	<1	U	1	EPA8270	ERCL
Benzo(b)fluoranthene	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Benzo(b)fluoranthene	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Benzo(b)fluoranthene	TAV-MW2	05-DEC-96	SA	<1	U	1	EPA8270	ERCL
Benzo(b)fluoranthene	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Benzo(b)fluoranthene	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Benzo(b)fluoranthene	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Benzo(b)fluoranthene	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Benzo(b/k)fluoranther	AVN-1	29-MAY-97	SA	<2	U	2	EPA8270	ERCL
Benzo(b/k)fluoranther	AVN-2	29-MAY-97	SA	<1.9	U	1.9	EPA8270	ERCL
Benzo(b/k)fluoranther	LWDS-MW1	30-MAY-97	SA	<2	U	2	EPA8270	ERCL
Benzo(b/k)fluoranther	LWDS-MW2	02-JUN-97	SA	<1.8	U	1.8	EPA8270	ERCL
Benzo(b/k)fluoranther	TAV-MW1	03-JUN-97	SA	<1.9	U	1.9	EPA8270	ERCL
Benzo(b/k)fluoranther	TAV-MW2	04-JUN-97	SA	<2.1	U	2.1	EPA8270	ERCL
Benzo(ghi)perylene	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Benzo(ghi)perylene	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Benzo(ghi)perylene	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Benzo(ghi)perylene	AVN-1	03-JUN-98	SA	<0.94	U	0.94	EPA 8270	QSTL
Benzo(ghi)perylene	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Benzo(ghi)perylene	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Benzo(ghi)perylene	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Benzo(ghi)perylene	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Benzo(ghi)perylene	AVN-2	03-JUN-98	SA	<0.94	U	0.94	EPA 8270	QSTL
Benzo(ghi)perylene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Benzo(ghi)perylene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Benzo(ghi)perylene	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Benzo(ghi)perylene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Benzo(ghi)perylene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Benzo(ghi)perylene	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Benzo(ghi)perylene	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Benzo(ghi)perylene	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Benzo(ghi)perylene	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Benzo(ghi)perylene	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Benzo(ghi)perylene	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Benzo(ghi)perylene	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Benzo(ghi)perylene	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Benzo(ghi)perylene	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Benzo(ghi)perylene	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Benzo(ghi)perylene	LWDS-MW1	08-JUN-98	SA	<0.94	U	0.94	EPA 8270	QSTL
Benzo(ghi)perylene	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Benzo(ghi)perylene	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Benzo(ghi)perylene	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Benzo(ghi)perylene	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Benzo(ghi)perylene	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Benzo(ghi)perylene	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Benzo(ghi)perylene	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Benzo(ghi)perylene	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Benzo(ghi)perylene	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Benzo(ghi)perylene	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Benzo(ghi)perylene	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Benzo(ghi)perylene	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Benzo(ghi)perylene	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Benzo(ghi)perylene	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Benzo(ghi)perylene	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Benzo(ghi)perylene	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Benzo(ghi)perylene	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Benzo(ghi)perylene	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Benzo(ghi)perylene	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Benzo(ghi)perylene	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Benzo(ghi)perylene	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Benzo(ghi)perylene	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Benzo(ghi)perylene	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Benzo(ghi)perylene	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Benzo(ghi)perylene	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Benzo(ghi)perylene	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Benzo(ghi)perylene	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Benzo(k)fluoranthene	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Benzo(k)fluoranthene	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Benzo(k)fluoranthene	AVN-1	03-JUN-98	SA	<0.87	U	0.87	EPA 8270	QSTL
Benzo(k)fluoranthene	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Benzo(k)fluoranthene	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Benzo(k)fluoranthene	AVN-2	04-DEC-96	SA	<1	U	1	EPA8270	ERCL
Benzo(k)fluoranthene	AVN-2	03-JUN-98	SA	<0.87	U	0.87	EPA 8270	QSTL
Benzo(k)fluoranthene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Benzo(k)fluoranthene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Benzo(k)fluoranthene	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Benzo(k)fluoranthene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Benzo(k)fluoranthene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Benzo(k)fluoranthene	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Benzo(k)fluoranthene	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Benzo(k)fluoranthene	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Benzo(k)fluoranthene	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Benzo(k)fluoranthene	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Benzo(k)fluoranthene	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Benzo(k)fluoranthene	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Benzo(k)fluoranthene	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Benzo(k)fluoranthene	LWDS-MW1	06-DEC-96	SA	<1	U	1	EPA8270	ERCL
Benzo(k)fluoranthene	LWDS-MW1	08-JUN-98	SA	<0.87	U	0.87	EPA 8270	QSTL
Benzo(k)fluoranthene	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Benzo(k)fluoranthene	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Benzo(k)fluoranthene	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Benzo(k)fluoranthene	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Benzo(k)fluoranthene	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Benzo(k)fluoranthene	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Benzo(k)fluoranthene	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Benzo(k)fluoranthene	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Benzo(k)fluoranthene	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Benzo(k)fluoranthene	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Benzo(k)fluoranthene	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Benzo(k)fluoranthene	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Benzo(k)fluoranthene	LWDS-MW2	05-DEC-96	SA	<1	U	1	EPA8270	ERCL
Benzo(k)fluoranthene	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Benzo(k)fluoranthene	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Benzo(k)fluoranthene	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Benzo(k)fluoranthene	TAV-MW1	06-DEC-96	SA	<1	U	1	EPA8270	ERCL
Benzo(k)fluoranthene	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Benzo(k)fluoranthene	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Benzo(k)fluoranthene	TAV-MW2	05-DEC-96	SA	<1	U	1	EPA8270	ERCL
Benzo(k)fluoranthene	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Benzo(k)fluoranthene	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Benzo(k)fluoranthene	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Benzo(k)fluoranthene	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Benzoic acid	AVN-1	13-JUL-95	F	<50	U	50	8270	ENCOTEC
Benzoic acid	AVN-1	13-DEC-95	F	<10	U	10	8270	GEL
Benzoic acid	AVN-2	11-JUL-95	F	<50	U	50	8270	ENCOTEC
Benzoic acid	AVN-2	14-DEC-95	F	<10	U	10	8270	GEL
Benzoic acid	LWDS-MW1	03-MAY-93	F	<50	U	50	8270	ENSECO
Benzoic acid	LWDS-MW1	03-MAY-93	F	<50	U	50	8270	ENSECO
Benzoic acid	LWDS-MW1	02-NOV-93	F	<50	U	50	8270	ENCOTEC
Benzoic acid	LWDS-MW1	03-NOV-93	F	<50	U	50	8270	ENCOTEC
Benzoic acid	LWDS-MW1	03-NOV-93	F	<50	U	50	8270	ENCOTEC
Benzoic acid	LWDS-MW1	12-MAR-94	F	<50	U	50	8270	ENCOTEC
Benzoic acid	LWDS-MW1	07-JUN-94	F	<50	U	50	8270	ENCOTEC
Benzoic acid	LWDS-MW1	01-SEP-94	F	<50	U	50	8270	ENCOTEC
Benzoic acid	LWDS-MW1	01-SEP-94	D	<50	U	50	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Benzoic acid	LWDS-MW1	08-DEC-94	F	<50	U	50	8270	ENCOTEC
Benzoic acid	LWDS-MW1	14-JUN-95	F	<50	U	50	8270	ENCOTEC
Benzoic acid	LWDS-MW1	19-DEC-95	F	<10	U	10	8270	GEL
Benzoic acid	LWDS-MW1	19-DEC-95	D	<10	U	10	8270	GEL
Benzoic acid	LWDS-MW-1	02-MAR-95	F	<50	U	50	8270	ENCOTEC
Benzoic acid	LWDS-MW2	21-OCT-92	F	<50	U	50	8270	ENSECO
Benzoic acid	LWDS-MW2	24-JUN-93	F	<50	U	50	8270	ENCOTEC
Benzoic acid	LWDS-MW2	24-JUN-93	D	<50	U	50	8270	ENCOTEC
Benzoic acid	LWDS-MW2	06-JUN-94	F	<50	U	50	8270	ENCOTEC
Benzoic acid	LWDS-MW2	31-AUG-94	F	<50	U	50	8270	ENCOTEC
Benzoic acid	LWDS-MW2	07-DEC-94	F	<50	U	50	8270	ENCOTEC
Benzoic acid	LWDS-MW2	12-JUN-95	F	<50	U	50	8270	ENCOTEC
Benzoic acid	LWDS-MW2	12-JUN-95	D	<50	U	50	8270	ENCOTEC
Benzoic acid	LWDS-MW2	14-DEC-95	F	<10	U	10	8270	GEL
Benzoic acid	LWDS-MW-2	01-MAR-95	F	<50	U	50	8270	ENCOTEC
Benzoic acid	TAV-MW1	09-JUN-95	F	<50	U	50	8270	ENCOTEC
Benzoic acid	TAV-MW1	18-DEC-95	F	<10	U	10	8270	GEL
Benzoic acid	TAV-MW2	06-JUN-95	F	<50	U	50	8270	ENCOTEC
Benzoic acid	TAV-MW2	18-DEC-95	F	<10	U	10	8270	GEL
Benzoic acid	TAV-MW2	04-JUN-97	SPL	<10	U	10	8270	GEL
Benzoic acid	TAV-MW3	26-FEB-98	SA	<10	U	10	EPA 8270	GEL
Benzoic acid	TAV-MW4	26-FEB-98	SA	<10	U	10	EPA 8270	GEL
Benzoic acid	TAV-MW5	27-FEB-98	SA	<10	U	10	EPA 8270	GEL
Benzyl alcohol	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Benzyl alcohol	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Benzyl alcohol	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Benzyl alcohol	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Benzyl alcohol	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Benzyl alcohol	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Benzyl alcohol	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Benzyl alcohol	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Benzyl alcohol	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Benzyl alcohol	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Benzyl alcohol	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Benzyl alcohol	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Benzyl alcohol	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Benzyl alcohol	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Benzyl alcohol	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Benzyl alcohol	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Benzyl alcohol	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Benzyl alcohol	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Benzyl alcohol	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Benzyl alcohol	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Benzyl alcohol	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Benzyl alcohol	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Benzyl alcohol	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Benzyl alcohol	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Benzyl alcohol	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Benzyl alcohol	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Benzyl alcohol	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Benzyl alcohol	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Benzyl alcohol	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Benzyl alcohol	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Benzyl alcohol	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Benzyl alcohol	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Benzyl alcohol	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Benzyl alcohol	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Benzyl alcohol	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Benzyl alcohol	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
BHC, alpha-	LWDS-MW1	25-SEP-95	F	<0.0125	U	0.0125	8080	GEL
BHC, beta-	LWDS-MW1	25-SEP-95	F	<0.025	U	0.025	8080	GEL
BHC, delta-	LWDS-MW1	25-SEP-95	F	<0.025	U	0.025	8080	GEL
Bromodichloromethan	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Bromodichloromethan	AVN-1	18-SEP-95	F	<1	U	1	8260	GEL
Bromodichloromethan	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Bromodichloromethan	AVN-1	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	AVN-1	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	AVN-1	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	AVN-1	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL
Bromodichloromethan	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Bromodichloromethan	AVN-2	18-SEP-95	F	<1	U	1	8260	GEL
Bromodichloromethan	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Bromodichloromethan	AVN-2	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	AVN-2	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	AVN-2	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	AVN-2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Bromodichloromethan	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW1	03-MAY-93	F	<5	U	5	8240	ENSECO
Bromodichloromethan	LWDS-MW1	27-OCT-93	F	<5	U	5	8240	ENCOTEC
Bromodichloromethan	LWDS-MW1	02-NOV-93	F	<5	U	5	8240	ENCOTEC
Bromodichloromethan	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Bromodichloromethan	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Bromodichloromethan	LWDS-MW1	10-MAR-94	F	<5	U	5	8240	ENCOTEC
Bromodichloromethan	LWDS-MW1	07-JUN-94	F	<1	U	1	8260	ENCOTEC
Bromodichloromethan	LWDS-MW1	01-SEP-94	F	<1	U	1	8260	ENCOTEC
Bromodichloromethan	LWDS-MW1	01-SEP-94	D	<1	U	1	8260	ENCOTEC
Bromodichloromethan	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Bromodichloromethan	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Bromodichloromethan	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Bromodichloromethan	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Bromodichloromethan	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Bromodichloromethan	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Bromodichloromethan	LWDS-MW1	18-MAR-96	F	<2	U	2	8010	QUANTERRA
Bromodichloromethan	LWDS-MW1	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Bromodichloromethan	LWDS-MW1	26-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW1	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW1	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW1	10-SEP-96	SPL	<0.11	U	0.11	EPA-SW846	QARV
Bromodichloromethan	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW1	06-DEC-96	DU	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Bromodichloromethan	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Bromodichloromethan	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW1	04-MAR-98	SA	<0.1	U	0.1	EPA 8260	QSTL
Bromodichloromethan	LWDS-MW1	04-MAR-98	SA	<0.1	U	0.1	EPA 8260	QSTL
Bromodichloromethan	LWDS-MW1	04-MAR-98	SA	<0.04	U	0.04	EPA 8260	GEL
Bromodichloromethan	LWDS-MW1	04-MAR-98	SA	<0.04	U	0.04	EPA 8260	GEL
Bromodichloromethan	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW1	08-JUN-98	SPLIT	<0.5	U	0.5	EPA 8260	QSTL
Bromodichloromethan	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW1	18-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW-1	02-MAR-95	F	<5	U	5	8240	ENCOTEC
Bromodichloromethan	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW2	21-OCT-92	F	<5	U	5	8240	ENSECO
Bromodichloromethan	LWDS-MW2	24-JUN-93	F	<5	U	5	8240	ENCOTEC
Bromodichloromethan	LWDS-MW2	24-JUN-93	D	<5	U	5	8240	ENCOTEC
Bromodichloromethan	LWDS-MW2	06-JUN-94	F	<1	U	1	8260	ENCOTEC
Bromodichloromethan	LWDS-MW2	31-AUG-94	F	<1	U	1	8260	ENCOTEC
Bromodichloromethan	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Bromodichloromethan	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Bromodichloromethan	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Bromodichloromethan	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Bromodichloromethan	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Bromodichloromethan	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Bromodichloromethan	LWDS-MW2	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Bromodichloromethan	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Bromodichloromethan	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Bromodichloromethan	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW-2	01-MAR-95	F	<5	U	5	8240	ENCOTEC
Bromodichloromethan	LWDS-MW-2	01-MAR-95	D	<5	U	5	8240	ENCOTEC
Bromodichloromethan	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Bromodichloromethan	TAV-MW1	13-APR-95	F	<1	U	1	8010	QUANTERRA
Bromodichloromethan	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Bromodichloromethan	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Bromodichloromethan	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Bromodichloromethan	TAV-MW1	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW1	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW1	11-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW1	11-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW1	11-SEP-96	SPL	<0.11	U	0.11	EPA-SW846	QARV
Bromodichloromethan	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Bromodichloromethan	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Bromodichloromethan	TAV-MW1	03-JUN-97	F	<1	U	1	8260	GEL
Bromodichloromethan	TAV-MW1	16-SEP-97	F	<0.1	U	0.1	8260	Quanterra
Bromodichloromethan	TAV-MW1	16-SEP-97	SA	<0.1	U	0.1	EPA 8260	QSTL
Bromodichloromethan	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW2	14-APR-95	F	<1	U	1	8010	QUANTERRA
Bromodichloromethan	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Bromodichloromethan	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Bromodichloromethan	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Bromodichloromethan	TAV-MW2	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW2	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW2	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW2	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW2	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Bromodichloromethan	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Bromodichloromethan	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Bromodichloromethan	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromodichloromethan	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromofluorobenzene,	LWDS-MW2	04-MAR-97	SPL	25			EPA-SW846	GEL
Bromofluorobenzene,	TAV-MW1	04-MAR-97	SPL	25.4			EPA-SW846	GEL
Bromoform	AVN-1	13-JUL-95	F	<2	U	2	8260	ENCOTEC
Bromoform	AVN-1	18-SEP-95	F	<1	U	1	8260	GEL
Bromoform	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Bromoform	AVN-1	15-MAR-96	SA	<2.5	U	2.5	EPA8260	ERCL
Bromoform	AVN-1	25-JUN-96	SA	<2.5	U	2.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Bromoform	AVN-1	25-JUN-96	DU	<2.5	U	2.5	EPA8260	ERCL
Bromoform	AVN-1	09-SEP-96	SA	<2.5	U	2.5	EPA8260	ERCL
Bromoform	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL
Bromoform	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	AVN-1	14-NOV-97	SA	<1	U	1	EPA8260	ERCL
Bromoform	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	AVN-2	11-JUL-95	F	<2	U	2	8260	ENCOTEC
Bromoform	AVN-2	18-SEP-95	F	<1	U	1	8260	GEL
Bromoform	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Bromoform	AVN-2	15-MAR-96	SA	<2.5	U	2.5	EPA8260	ERCL
Bromoform	AVN-2	25-JUN-96	SA	<2.5	U	2.5	EPA8260	ERCL
Bromoform	AVN-2	25-JUN-96	DU	<2.5	U	2.5	EPA8260	ERCL
Bromoform	AVN-2	09-SEP-96	SA	<2.5	U	2.5	EPA8260	ERCL
Bromoform	AVN-2	04-DEC-96	SA	<2.5	U	2.5	EPA8260	ERCL
Bromoform	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Bromoform	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	AVN-2	14-NOV-97	SA	<1	U	1	EPA8260	ERCL
Bromoform	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	LWDS-MW1	03-MAY-93	F	<5	U	5	8240	ENSECO
Bromoform	LWDS-MW1	27-OCT-93	F	<5	U	5	8240	ENCOTEC
Bromoform	LWDS-MW1	02-NOV-93	F	<5	U	5	8240	ENCOTEC
Bromoform	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Bromoform	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Bromoform	LWDS-MW1	10-MAR-94	F	<5	U	5	8240	ENCOTEC
Bromoform	LWDS-MW1	07-JUN-94	F	<2	U	2	8260	ENCOTEC
Bromoform	LWDS-MW1	01-SEP-94	F	<2	U	2	8260	ENCOTEC
Bromoform	LWDS-MW1	01-SEP-94	D	<2	U	2	8260	ENCOTEC
Bromoform	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Bromoform	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Bromoform	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Bromoform	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Bromoform	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Bromoform	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Bromoform	LWDS-MW1	18-MAR-96	F	<10	U	10	8010	QUANTERR/
Bromoform	LWDS-MW1	18-MAR-96	SA	<2.5	U	2.5	EPA8260	ERCL
Bromoform	LWDS-MW1	26-JUN-96	SA	<2.5	U	2.5	EPA8260	ERCL
Bromoform	LWDS-MW1	10-SEP-96	SA	<2.5	U	2.5	EPA8260	ERCL
Bromoform	LWDS-MW1	10-SEP-96	DU	<2.5	U	2.5	EPA8260	ERCL
Bromoform	LWDS-MW1	10-SEP-96	SPL	<0.08	U	0.08	EPA-SW846	QARV
Bromoform	LWDS-MW1	06-DEC-96	SA	<2.5	U	2.5	EPA8260	ERCL
Bromoform	LWDS-MW1	06-DEC-96	DU	<2.5	U	2.5	EPA8260	ERCL
Bromoform	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Bromoform	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Bromoform	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Bromoform	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	LWDS-MW1	12-NOV-97	DU	<1	U	1	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Bromoform	LWDS-MW1	04-MAR-98	SA	<0.072	U	0.072	EPA 8260	QSTL
Bromoform	LWDS-MW1	04-MAR-98	SA	<0.072	U	0.072	EPA 8260	QSTL
Bromoform	LWDS-MW1	04-MAR-98	SA	<0.02	U	0.02	EPA 8260	GEL
Bromoform	LWDS-MW1	04-MAR-98	SA	<0.02	U	0.02	EPA 8260	GEL
Bromoform	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	LWDS-MW1	08-JUN-98	SPLIT	<0.36	U	0.36	EPA 8260	QSTL
Bromoform	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL
Bromoform	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	LWDS-MW1	18-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	LWDS-MW-1	02-MAR-95	F	<5	U	5	8240	ENCOTEC
Bromoform	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Bromoform	LWDS-MW2	21-OCT-92	F	<5	U	5	8240	ENSECO
Bromoform	LWDS-MW2	24-JUN-93	F	<5	U	5	8240	ENCOTEC
Bromoform	LWDS-MW2	24-JUN-93	D	<5	U	5	8240	ENCOTEC
Bromoform	LWDS-MW2	06-JUN-94	F	<2	U	2	8260	ENCOTEC
Bromoform	LWDS-MW2	31-AUG-94	F	<2	U	2	8260	ENCOTEC
Bromoform	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Bromoform	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Bromoform	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Bromoform	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Bromoform	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Bromoform	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Bromoform	LWDS-MW2	18-MAR-96	SA	<2.5	U	2.5	EPA8260	ERCL
Bromoform	LWDS-MW2	09-SEP-96	SA	<2.5	U	2.5	EPA8260	ERCL
Bromoform	LWDS-MW2	05-DEC-96	SA	<2.5	U	2.5	EPA8260	ERCL
Bromoform	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Bromoform	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Bromoform	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Bromoform	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	LWDS-MW-2	01-MAR-95	F	<5	U	5	8240	ENCOTEC
Bromoform	LWDS-MW-2	01-MAR-95	D	<5	U	5	8240	ENCOTEC
Bromoform	LWDS-MW-2	11-NOV-97	SA	<1	U	1	EPA8260	ERCL
Bromoform	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Bromoform	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	TAV-MW1	13-APR-95	F	<5	U	5	8010	QUANTERR/
Bromoform	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Bromoform	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Bromoform	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Bromoform	TAV-MW1	19-MAR-96	SA	<2.5	U	2.5	EPA8260	ERCL
Bromoform	TAV-MW1	27-JUN-96	SA	<2.5	U	2.5	EPA8260	ERCL
Bromoform	TAV-MW1	11-SEP-96	SA	<2.5	U	2.5	EPA8260	ERCL
Bromoform	TAV-MW1	11-SEP-96	DU	<2.5	U	2.5	EPA8260	ERCL
Bromoform	TAV-MW1	11-SEP-96	SPL	<0.08	U	0.08	EPA-SW846	QARV
Bromoform	TAV-MW1	06-DEC-96	SA	<2.5	U	2.5	EPA8260	ERCL
Bromoform	TAV-MW1	06-DEC-96	SA	<2.5	U	2.5	EPA8260	ERCL
Bromoform	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Bromoform	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Bromoform	TAV-MW1	03-JUN-97	F	<1	U	1	8260	GEL
Bromoform	TAV-MW1	16-SEP-97	F	<0.07	U	0.07	8260	Quanterra
Bromoform	TAV-MW1	16-SEP-97	SA	<0.07	U	0.07	EPA 8260	QSTL
Bromoform	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	TAV-MW1	13-NOV-97	SA	<1	U	1	EPA8260	ERCL
Bromoform	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	TAV-MW2	14-APR-95	F	<5	U	5	8010	QUANTERRA
Bromoform	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Bromoform	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Bromoform	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Bromoform	TAV-MW2	19-MAR-96	SA	<2.5	U	2.5	EPA8260	ERCL
Bromoform	TAV-MW2	27-JUN-96	SA	<2.5	U	2.5	EPA8260	ERCL
Bromoform	TAV-MW2	10-SEP-96	SA	<2.5	U	2.5	EPA8260	ERCL
Bromoform	TAV-MW2	10-SEP-96	DU	<2.5	U	2.5	EPA8260	ERCL
Bromoform	TAV-MW2	05-DEC-96	SA	<2.5	U	2.5	EPA8260	ERCL
Bromoform	TAV-MW2	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Bromoform	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Bromoform	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	TAV-MW2	11-NOV-97	SA	<1	U	1	EPA8260	ERCL
Bromoform	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	TAV-MW3	22-APR-97	SA	2.5		0.5	EPA8260	ERCL
Bromoform	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Bromoform	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromoform	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Bromomethane	AVN-1	18-SEP-95	F	<1	U	1	8260	GEL
Bromomethane	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Bromomethane	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL
Bromomethane	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Bromomethane	AVN-2	18-SEP-95	F	<1	U	1	8260	GEL
Bromomethane	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Bromomethane	AVN-2	04-DEC-96	SA	<5	U	5	EPA8260	ERCL
Bromomethane	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Bromomethane	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Bromomethane	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	LWDS-MW1	03-MAY-93	F	<10	U	10	8240	ENSECO
Bromomethane	LWDS-MW1	27-OCT-93	F	<10	U	10	8240	ENCOTEC
Bromomethane	LWDS-MW1	02-NOV-93	F	<10	U	10	8240	ENCOTEC
Bromomethane	LWDS-MW1	03-NOV-93	F	<10	U	10	8240	ENCOTEC
Bromomethane	LWDS-MW1	03-NOV-93	F	<10	U	10	8240	ENCOTEC
Bromomethane	LWDS-MW1	10-MAR-94	F	<10	U	10	8240	ENCOTEC
Bromomethane	LWDS-MW1	07-JUN-94	F	<1	U	1	8260	ENCOTEC
Bromomethane	LWDS-MW1	01-SEP-94	F	<1	U	1	8260	ENCOTEC
Bromomethane	LWDS-MW1	01-SEP-94	D	<1	U	1	8260	ENCOTEC
Bromomethane	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Bromomethane	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Bromomethane	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Bromomethane	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Bromomethane	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Bromomethane	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Bromomethane	LWDS-MW1	18-MAR-96	F	<10	U	10	8010	QUANTERR/
Bromomethane	LWDS-MW1	10-SEP-96	SPL	<0.13	U	0.13	EPA-SW846	QARV
Bromomethane	LWDS-MW1	06-DEC-96	SA	<5	U	5	EPA8260	ERCL
Bromomethane	LWDS-MW1	06-DEC-96	DU	<5	U	5	EPA8260	ERCL
Bromomethane	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Bromomethane	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Bromomethane	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	LWDS-MW1	04-MAR-98	SA	<0.28	U	0.28	EPA 8260	QSTL
Bromomethane	LWDS-MW1	04-MAR-98	SA	<0.28	U	0.28	EPA 8260	QSTL
Bromomethane	LWDS-MW1	04-MAR-98	SA	<0.09	U	0.09	EPA 8260	GEL
Bromomethane	LWDS-MW1	04-MAR-98	SA	<0.09	U	0.09	EPA 8260	GEL
Bromomethane	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	LWDS-MW1	08-JUN-98	SPLIT	<1.4	U	1.4	EPA 8260	QSTL
Bromomethane	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	LWDS-MW1	18-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	LWDS-MW-1	02-MAR-95	F	<10	U	10	8240	ENCOTEC
Bromomethane	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	LWDS-MW2	21-OCT-92	F	<10	U	10	8240	ENSECO
Bromomethane	LWDS-MW2	24-JUN-93	F	<10	U	10	8240	ENCOTEC
Bromomethane	LWDS-MW2	24-JUN-93	D	<10	U	10	8240	ENCOTEC
Bromomethane	LWDS-MW2	06-JUN-94	F	<1	U	1	8260	ENCOTEC
Bromomethane	LWDS-MW2	31-AUG-94	F	<1	U	1	8260	ENCOTEC
Bromomethane	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Bromomethane	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Bromomethane	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Bromomethane	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Bromomethane	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Bromomethane	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Bromomethane	LWDS-MW2	05-DEC-96	SA	<5	U	5	EPA8260	ERCL
Bromomethane	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Bromomethane	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Bromomethane	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Bromomethane	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	LWDS-MW-2	01-MAR-95	F	<10	U	10	8240	ENCOTEC
Bromomethane	LWDS-MW-2	01-MAR-95	D	<10	U	10	8240	ENCOTEC
Bromomethane	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	TAV-MW1	13-APR-95	F	<5	U	5	8010	QUANTERR/
Bromomethane	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Bromomethane	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Bromomethane	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Bromomethane	TAV-MW1	11-SEP-96	SPL	<0.13	U	0.13	EPA-SW846	QARV
Bromomethane	TAV-MW1	06-DEC-96	SA	<5	U	5	EPA8260	ERCL
Bromomethane	TAV-MW1	06-DEC-96	SA	<5	U	5	EPA8260	ERCL
Bromomethane	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Bromomethane	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Bromomethane	TAV-MW1	03-JUN-97	F	<1	U	1	8260	GEL
Bromomethane	TAV-MW1	16-SEP-97	F	<0.28	U	0.28	8260	Quanterra
Bromomethane	TAV-MW1	16-SEP-97	SA	<0.28	U	0.28	EPA 8260	QSTL
Bromomethane	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	TAV-MW2	14-APR-95	F	<5	U	5	8010	QUANTERR/
Bromomethane	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Bromomethane	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Bromomethane	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Bromomethane	TAV-MW2	05-DEC-96	SA	<5	U	5	EPA8260	ERCL
Bromomethane	TAV-MW2	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Bromomethane	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Bromomethane	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Bromomethane	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Bromomethane	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Bromophenyl phenyl e	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Bromophenyl phenyl e	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Bromophenyl phenyl e	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Bromophenyl phenyl e	AVN-1	03-JUN-98	SA	<1.4	U	1.4	EPA 8270	QSTL
Bromophenyl phenyl e	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Bromophenyl phenyl e	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Bromophenyl phenyl e	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Bromophenyl phenyl e	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Bromophenyl phenyl e	AVN-2	03-JUN-98	SA	<1.4	U	1.4	EPA 8270	QSTL
Bromophenyl phenyl e	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Bromophenyl phenyl e	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Bromophenyl phenyl e	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Bromophenyl phenyl e	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Bromophenyl phenyl e	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Bromophenyl phenyl e	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Bromophenyl phenyl e	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Bromophenyl phenyl e	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Bromophenyl phenyl e	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Bromophenyl phenyl e	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Bromophenyl phenyl e	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Bromophenyl phenyl e	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Bromophenyl phenyl e	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Bromophenyl phenyl e	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Bromophenyl phenyl e	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Bromophenyl phenyl e	LWDS-MW1	08-JUN-98	SA	<1.4	U	1.4	EPA 8270	QSTL
Bromophenyl phenyl e	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Bromophenyl phenyl e	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Bromophenyl phenyl e	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Bromophenyl phenyl e	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Bromophenyl phenyl e	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Bromophenyl phenyl e	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Bromophenyl phenyl e	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Bromophenyl phenyl e	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Bromophenyl phenyl e	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Bromophenyl phenyl e	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Bromophenyl phenyl e	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Bromophenyl phenyl e	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Bromophenyl phenyl e	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Bromophenyl phenyl e	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Bromophenyl phenyl e	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Bromophenyl phenyl e	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Bromophenyl phenyl e	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Bromophenyl phenyl e	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Bromophenyl phenyl e	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Bromophenyl phenyl e	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Bromophenyl phenyl e	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Bromophenyl phenyl e	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Bromophenyl phenyl e	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Bromophenyl phenyl e	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Bromophenyl phenyl e	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Bromophenyl phenyl e	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Bromophenyl phenyl e	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Butanone, 2-	AVN-1	13-JUL-95	F	<5	U	5	8260	ENCOTEC
Butanone, 2-	AVN-1	15-MAR-96	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	AVN-1	25-JUN-96	SA	<5	U	5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Butanone, 2-	AVN-1	25-JUN-96	DU	<5	U	5	EPA8260	ERCL
Butanone, 2-	AVN-1	09-SEP-96	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	AVN-1	03-MAR-97	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	AVN-1	12-SEP-97	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	AVN-1	14-NOV-97	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	AVN-1	24-FEB-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	AVN-1	03-JUN-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	AVN-1	01-SEP-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	AVN-1	16-NOV-08	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	AVN-2	11-JUL-95	F	<5	U	5	8260	ENCOTEC
Butanone, 2-	AVN-2	15-MAR-96	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	AVN-2	25-JUN-96	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	AVN-2	25-JUN-96	DU	<5	U	5	EPA8260	ERCL
Butanone, 2-	AVN-2	09-SEP-96	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	AVN-2	04-DEC-96	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	AVN-2	03-MAR-97	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	AVN-2	10-SEP-97	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	AVN-2	14-NOV-97	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	AVN-2	24-FEB-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	AVN-2	03-JUN-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	AVN-2	01-SEP-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	AVN-2	16-NOV-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW1	03-MAY-93	F	<10	U	10	8240	ENSECO
Butanone, 2-	LWDS-MW1	27-OCT-93	F	<10	U	10	8240	ENCOTEC
Butanone, 2-	LWDS-MW1	02-NOV-93	F	<10	U	10	8240	ENCOTEC
Butanone, 2-	LWDS-MW1	03-NOV-93	F	<10	U	10	8240	ENCOTEC
Butanone, 2-	LWDS-MW1	03-NOV-93	F	<10	U	10	8240	ENCOTEC
Butanone, 2-	LWDS-MW1	10-MAR-94	F	<10	U	10	8240	ENCOTEC
Butanone, 2-	LWDS-MW1	07-JUN-94	F	3	J	5	8260	ENCOTEC
Butanone, 2-	LWDS-MW1	01-SEP-94	F	6	B	5	8260	ENCOTEC
Butanone, 2-	LWDS-MW1	01-SEP-94	D	5	B	5	8260	ENCOTEC
Butanone, 2-	LWDS-MW1	18-MAR-96	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW1	26-JUN-96	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW1	10-SEP-96	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW1	10-SEP-96	DU	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW1	06-DEC-96	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW1	06-DEC-96	DU	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW1	05-MAR-97	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW1	05-MAR-97	DU	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW1	16-SEP-97	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW1	12-NOV-97	DU	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW1	04-MAR-98	SA	<0.42	U	0.42	EPA 8260	QSTL
Butanone, 2-	LWDS-MW1	04-MAR-98	SA	<0.42	U	0.42	EPA 8260	QSTL
Butanone, 2-	LWDS-MW1	04-MAR-98	SA	<0.21	U	0.21	EPA 8260	GEL
Butanone, 2-	LWDS-MW1	04-MAR-98	SA	<0.21	U	0.21	EPA 8260	GEL
Butanone, 2-	LWDS-MW1	04-MAR-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW1	04-MAR-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW1	08-JUN-98	SPLIT	<2.1	U	2.1	EPA 8260	QSTL
Butanone, 2-	LWDS-MW1	08-JUN-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW1	16-NOV-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW1	16-NOV-98	DU	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW1	17-NOV-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW1	18-NOV-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW1	20-NOV-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW-1	02-MAR-95	F	<10	U	10	8240	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Butanone, 2-	LWDS-MW-1	16-SEP-97	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW-1	08-JUN-98	DU	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW2	21-OCT-92	F	<10	U	10	8240	ENSECO
Butanone, 2-	LWDS-MW2	24-JUN-93	D	<10	U	10	8240	ENCOTEC
Butanone, 2-	LWDS-MW2	24-JUN-93	F	2	J	10	8240	ENCOTEC
Butanone, 2-	LWDS-MW2	06-JUN-94	F	<5	U	5	8260	ENCOTEC
Butanone, 2-	LWDS-MW2	31-AUG-94	F	4	BJ	5	8260	ENCOTEC
Butanone, 2-	LWDS-MW2	18-MAR-96	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW2	09-SEP-96	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW2	05-DEC-96	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW2	04-MAR-97	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW2	12-SEP-97	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW2	25-FEB-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW-2	01-MAR-95	F	<10	U	10	8240	ENCOTEC
Butanone, 2-	LWDS-MW-2	01-MAR-95	D	<10	U	10	8240	ENCOTEC
Butanone, 2-	LWDS-MW-2	11-NOV-97	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW-2	03-JUN-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW-2	02-SEP-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW-2	02-SEP-98	DU	<5	U	5	EPA8260	ERCL
Butanone, 2-	LWDS-MW-2	17-NOV-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW1	19-MAR-96	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW1	27-JUN-96	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW1	11-SEP-96	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW1	11-SEP-96	DU	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW1	06-DEC-96	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW1	06-DEC-96	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW1	04-MAR-97	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW1	16-SEP-97	F	<0.42	U	0.42	8260	Quanterra
Butanone, 2-	TAV-MW1	16-SEP-97	SA	<0.42	U	0.42	EPA 8260	QSTL
Butanone, 2-	TAV-MW1	16-SEP-97	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW1	13-NOV-97	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW1	03-MAR-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW1	03-MAR-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW1	23-NOV-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW2	19-MAR-96	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW2	27-JUN-96	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW2	10-SEP-96	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW2	10-SEP-96	DU	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW2	05-DEC-96	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW2	05-MAR-97	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW2	16-SEP-97	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW2	11-NOV-97	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW2	24-FEB-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW2	20-NOV-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW3	22-APR-97	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW3	19-NOV-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW4	30-APR-97	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW4	29-OCT-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW4	29-OCT-98	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW5	02-MAY-97	SA	<5	U	5	EPA8260	ERCL
Butanone, 2-	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA8260	ERCL
Butylbenzyl phthalate	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Butylbenzyl phthalate	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Butylbenzyl phthalate	AVN-1	29-MAY-97	SA	<5	U	5	EPA8270	ERCL
Butylbenzyl phthalate	AVN-1	03-JUN-98	SA	<0.48	U	0.48	EPA 8270	QSTL
Butylbenzyl phthalate	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Butylbenzyl phthalate	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Butylbenzyl phthalate	AVN-2	04-DEC-96	SA	<5	U	5	EPA8270	ERCL
Butylbenzyl phthalate	AVN-2	29-MAY-97	SA	<4.8	U	4.8	EPA8270	ERCL
Butylbenzyl phthalate	AVN-2	03-JUN-98	SA	<0.48	U	0.48	EPA 8270	QSTL
Butylbenzyl phthalate	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Butylbenzyl phthalate	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Butylbenzyl phthalate	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Butylbenzyl phthalate	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Butylbenzyl phthalate	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Butylbenzyl phthalate	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Butylbenzyl phthalate	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Butylbenzyl phthalate	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Butylbenzyl phthalate	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Butylbenzyl phthalate	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Butylbenzyl phthalate	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Butylbenzyl phthalate	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Butylbenzyl phthalate	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Butylbenzyl phthalate	LWDS-MW1	06-DEC-96	SA	<5	U	5	EPA8270	ERCL
Butylbenzyl phthalate	LWDS-MW1	30-MAY-97	SA	<5	U	5	EPA8270	ERCL
Butylbenzyl phthalate	LWDS-MW1	08-JUN-98	SA	<0.48	U	0.48	EPA 8270	QSTL
Butylbenzyl phthalate	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Butylbenzyl phthalate	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Butylbenzyl phthalate	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Butylbenzyl phthalate	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Butylbenzyl phthalate	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Butylbenzyl phthalate	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Butylbenzyl phthalate	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Butylbenzyl phthalate	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Butylbenzyl phthalate	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Butylbenzyl phthalate	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Butylbenzyl phthalate	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Butylbenzyl phthalate	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Butylbenzyl phthalate	LWDS-MW2	05-DEC-96	SA	<5	U	5	EPA8270	ERCL
Butylbenzyl phthalate	LWDS-MW2	02-JUN-97	SA	<4.4	U	4.4	EPA8270	ERCL
Butylbenzyl phthalate	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Butylbenzyl phthalate	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Butylbenzyl phthalate	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Butylbenzyl phthalate	TAV-MW1	06-DEC-96	SA	<5	U	5	EPA8270	ERCL
Butylbenzyl phthalate	TAV-MW1	03-JUN-97	SA	<4.8	U	4.8	EPA8270	ERCL
Butylbenzyl phthalate	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Butylbenzyl phthalate	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Butylbenzyl phthalate	TAV-MW2	05-DEC-96	SA	<5	U	5	EPA8270	ERCL
Butylbenzyl phthalate	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Butylbenzyl phthalate	TAV-MW2	04-JUN-97	SA	<5.2	U	5.2	EPA8270	ERCL
Butylbenzyl phthalate	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Butylbenzyl phthalate	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Butylbenzyl phthalate	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Carbazole	AVN-1	03-JUN-98	SA	<1.4	U	1.4	EPA 8270	QSTL
Carbazole	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Carbazole	AVN-2	03-JUN-98	SA	<1.4	U	1.4	EPA 8270	QSTL
Carbazole	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Carbazole	LWDS-MW1	08-JUN-98	SA	<1.4	U	1.4	EPA 8270	QSTL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Carbazole	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Carbazole	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Carbazole	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Carbon disulfide	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Carbon disulfide	AVN-1	15-MAR-96	SA	<5	U	5	EPA8260	ERCL
Carbon disulfide	AVN-1	25-JUN-96	SA	<5	U	5	EPA8260	ERCL
Carbon disulfide	AVN-1	25-JUN-96	DU	<5	U	5	EPA8260	ERCL
Carbon disulfide	AVN-1	09-SEP-96	SA	<5	U	5	EPA8260	ERCL
Carbon disulfide	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Carbon disulfide	AVN-2	15-MAR-96	SA	<5	U	5	EPA8260	ERCL
Carbon disulfide	AVN-2	25-JUN-96	SA	<5	U	5	EPA8260	ERCL
Carbon disulfide	AVN-2	25-JUN-96	DU	<5	U	5	EPA8260	ERCL
Carbon disulfide	AVN-2	09-SEP-96	SA	<5	U	5	EPA8260	ERCL
Carbon disulfide	AVN-2	04-DEC-96	SA	<5	U	5	EPA8260	ERCL
Carbon disulfide	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	LWDS-MW1	03-MAY-93	F	<5	U	5	8240	ENSECO
Carbon disulfide	LWDS-MW1	27-OCT-93	F	<5	U	5	8240	ENCOTEC
Carbon disulfide	LWDS-MW1	02-NOV-93	F	<5	U	5	8240	ENCOTEC
Carbon disulfide	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Carbon disulfide	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Carbon disulfide	LWDS-MW1	10-MAR-94	F	<5	U	5	8240	ENCOTEC
Carbon disulfide	LWDS-MW1	07-JUN-94	F	<1	U	1	8260	ENCOTEC
Carbon disulfide	LWDS-MW1	01-SEP-94	F	<1	U	1	8260	ENCOTEC
Carbon disulfide	LWDS-MW1	01-SEP-94	D	<1	U	1	8260	ENCOTEC
Carbon disulfide	LWDS-MW1	18-MAR-96	SA	<5	U	5	EPA8260	ERCL
Carbon disulfide	LWDS-MW1	26-JUN-96	SA	<5	U	5	EPA8260	ERCL
Carbon disulfide	LWDS-MW1	10-SEP-96	SA	<5	U	5	EPA8260	ERCL
Carbon disulfide	LWDS-MW1	10-SEP-96	DU	<5	U	5	EPA8260	ERCL
Carbon disulfide	LWDS-MW1	06-DEC-96	SA	<5	U	5	EPA8260	ERCL
Carbon disulfide	LWDS-MW1	06-DEC-96	DU	<5	U	5	EPA8260	ERCL
Carbon disulfide	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	LWDS-MW1	04-MAR-98	SA	<0.15	U	0.15	EPA 8260	QSTL
Carbon disulfide	LWDS-MW1	04-MAR-98	SA	<0.15	U	0.15	EPA 8260	QSTL
Carbon disulfide	LWDS-MW1	04-MAR-98	SA	<0.22	U	0.22	EPA 8260	GEL
Carbon disulfide	LWDS-MW1	04-MAR-98	SA	<0.22	U	0.22	EPA 8260	GEL
Carbon disulfide	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	LWDS-MW1	08-JUN-98	SPLIT	<0.74	U	0.74	EPA 8260	QSTL
Carbon disulfide	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Carbon disulfide	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	LWDS-MW1	18-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	LWDS-MW-1	02-MAR-95	F	<5	U	5	8240	ENCOTEC
Carbon disulfide	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	LWDS-MW2	21-OCT-92	F	<5	U	5	8240	ENSECO
Carbon disulfide	LWDS-MW2	24-JUN-93	F	<5	U	5	8240	ENCOTEC
Carbon disulfide	LWDS-MW2	24-JUN-93	D	<5	U	5	8240	ENCOTEC
Carbon disulfide	LWDS-MW2	06-JUN-94	F	<1	U	1	8260	ENCOTEC
Carbon disulfide	LWDS-MW2	31-AUG-94	F	<1	U	1	8260	ENCOTEC
Carbon disulfide	LWDS-MW2	18-MAR-96	SA	<5	U	5	EPA8260	ERCL
Carbon disulfide	LWDS-MW2	09-SEP-96	SA	<5	U	5	EPA8260	ERCL
Carbon disulfide	LWDS-MW2	05-DEC-96	SA	<5	U	5	EPA8260	ERCL
Carbon disulfide	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	LWDS-MW-2	01-MAR-95	F	<5	U	5	8240	ENCOTEC
Carbon disulfide	LWDS-MW-2	01-MAR-95	D	<5	U	5	8240	ENCOTEC
Carbon disulfide	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	TAV-MW1	19-MAR-96	SA	<5	U	5	EPA8260	ERCL
Carbon disulfide	TAV-MW1	27-JUN-96	SA	<5	U	5	EPA8260	ERCL
Carbon disulfide	TAV-MW1	11-SEP-96	SA	<5	U	5	EPA8260	ERCL
Carbon disulfide	TAV-MW1	11-SEP-96	DU	<5	U	5	EPA8260	ERCL
Carbon disulfide	TAV-MW1	06-DEC-96	SA	<5	U	5	EPA8260	ERCL
Carbon disulfide	TAV-MW1	06-DEC-96	SA	<5	U	5	EPA8260	ERCL
Carbon disulfide	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	TAV-MW1	16-SEP-97	F	<0.15	U	0.15	8260	Quanterra
Carbon disulfide	TAV-MW1	16-SEP-97	SA	<0.15	U	0.15	EPA 8260	QSTL
Carbon disulfide	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	TAV-MW2	19-MAR-96	SA	<5	U	5	EPA8260	ERCL
Carbon disulfide	TAV-MW2	27-JUN-96	SA	<5	U	5	EPA8260	ERCL
Carbon disulfide	TAV-MW2	10-SEP-96	SA	<5	U	5	EPA8260	ERCL
Carbon disulfide	TAV-MW2	10-SEP-96	DU	<5	U	5	EPA8260	ERCL
Carbon disulfide	TAV-MW2	05-DEC-96	SA	<5	U	5	EPA8260	ERCL
Carbon disulfide	TAV-MW2	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Carbon disulfide	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon disulfide	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Carbon tetrachloride	AVN-1	18-SEP-95	F	<1	U	1	8260	GEL
Carbon tetrachloride	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Carbon tetrachloride	AVN-1	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	AVN-1	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	AVN-1	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	AVN-1	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL
Carbon tetrachloride	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Carbon tetrachloride	AVN-2	18-SEP-95	F	<1	U	1	8260	GEL
Carbon tetrachloride	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Carbon tetrachloride	AVN-2	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	AVN-2	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	AVN-2	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	AVN-2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Carbon tetrachloride	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW1	03-MAY-93	F	<5	U	5	8240	ENSECO
Carbon tetrachloride	LWDS-MW1	27-OCT-93	F	<5	U	5	8240	ENCOTEC
Carbon tetrachloride	LWDS-MW1	02-NOV-93	F	<5	U	5	8240	ENCOTEC
Carbon tetrachloride	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Carbon tetrachloride	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Carbon tetrachloride	LWDS-MW1	10-MAR-94	F	<5	U	5	8240	ENCOTEC
Carbon tetrachloride	LWDS-MW1	07-JUN-94	F	<1	U	1	8260	ENCOTEC
Carbon tetrachloride	LWDS-MW1	01-SEP-94	F	<1	U	1	8260	ENCOTEC
Carbon tetrachloride	LWDS-MW1	01-SEP-94	D	<1	U	1	8260	ENCOTEC
Carbon tetrachloride	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Carbon tetrachloride	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Carbon tetrachloride	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Carbon tetrachloride	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Carbon tetrachloride	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Carbon tetrachloride	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Carbon tetrachloride	LWDS-MW1	18-MAR-96	F	<1	U	1	8010	QUANTERR/
Carbon tetrachloride	LWDS-MW1	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW1	26-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW1	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW1	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Carbon tetrachloride	LWDS-MW1	10-SEP-96	SPL	<0.12	U	0.12	EPA-SW846	QARV
Carbon tetrachloride	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW1	06-DEC-96	DU	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Carbon tetrachloride	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Carbon tetrachloride	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW1	04-MAR-98	SA	<0.14	U	0.14	EPA 8260	QSTL
Carbon tetrachloride	LWDS-MW1	04-MAR-98	SA	<0.14	U	0.14	EPA 8260	QSTL
Carbon tetrachloride	LWDS-MW1	04-MAR-98	SA	<0.04	U	0.04	EPA 8260	GEL
Carbon tetrachloride	LWDS-MW1	04-MAR-98	SA	<0.04	U	0.04	EPA 8260	GEL
Carbon tetrachloride	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW1	08-JUN-98	SPLIT	<0.71	U	0.71	EPA 8260	QSTL
Carbon tetrachloride	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW1	18-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW-1	02-MAR-95	F	<5	U	5	8240	ENCOTEC
Carbon tetrachloride	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW2	21-OCT-92	F	<5	U	5	8240	ENSECO
Carbon tetrachloride	LWDS-MW2	24-JUN-93	F	<5	U	5	8240	ENCOTEC
Carbon tetrachloride	LWDS-MW2	24-JUN-93	D	<5	U	5	8240	ENCOTEC
Carbon tetrachloride	LWDS-MW2	06-JUN-94	F	<1	U	1	8260	ENCOTEC
Carbon tetrachloride	LWDS-MW2	31-AUG-94	F	<1	U	1	8260	ENCOTEC
Carbon tetrachloride	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Carbon tetrachloride	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Carbon tetrachloride	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Carbon tetrachloride	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Carbon tetrachloride	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Carbon tetrachloride	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Carbon tetrachloride	LWDS-MW2	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Carbon tetrachloride	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Carbon tetrachloride	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Carbon tetrachloride	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW-2	01-MAR-95	F	<5	U	5	8240	ENCOTEC
Carbon tetrachloride	LWDS-MW-2	01-MAR-95	D	<5	U	5	8240	ENCOTEC
Carbon tetrachloride	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW1	13-APR-95	F	<0.5	U	0.5	8010	QUANTERRA
Carbon tetrachloride	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Carbon tetrachloride	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Carbon tetrachloride	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Carbon tetrachloride	TAV-MW1	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW1	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW1	11-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW1	11-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW1	11-SEP-96	SPL	<0.12	U	0.12	EPA-SW846	QARV
Carbon tetrachloride	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Carbon tetrachloride	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Carbon tetrachloride	TAV-MW1	03-JUN-97	F	<1	U	1	8260	GEL
Carbon tetrachloride	TAV-MW1	16-SEP-97	F	<0.14	U	0.14	8260	Quanterra
Carbon tetrachloride	TAV-MW1	16-SEP-97	SA	<0.14	U	0.14	EPA 8260	QSTL
Carbon tetrachloride	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW2	14-APR-95	F	<0.5	U	0.5	8010	QUANTERRA
Carbon tetrachloride	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Carbon tetrachloride	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Carbon tetrachloride	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Carbon tetrachloride	TAV-MW2	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW2	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW2	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW2	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW2	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Carbon tetrachloride	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Carbon tetrachloride	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Carbon tetrachloride	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon tetrachloride	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Carbon, total organic	LWDS-MW1	02-NOV-93	F	<500	U	500	9060	ENCOTEC
Carbon, total organic	LWDS-MW1	03-NOV-93	F	940		500	9060	ENCOTEC
Carbon, total organic	LWDS-MW1	03-NOV-93	F	930		500	9060	ENCOTEC
Carbon, total organic	LWDS-MW1	10-MAR-94	F	<500	U	500	9060	ENCOTEC
Carbon, total organic	LWDS-MW2	24-JUN-93	F	<500	U	500	9060	ENCOTEC
Carbon, total organic	LWDS-MW2	24-JUN-93	D	<500	U	500	9060	ENCOTEC
Carbon, total organic	LWDS-MW2	11-MAR-94	F	<500	U	500	9060	ENCOTEC
Carbon, total organic	LWDS-MW2	11-MAR-94	D	<500	U	500	9060	ENCOTEC
Chlordane	LWDS-MW1	25-SEP-95	F	<0.125	U	0.125	8080	GEL
Chloro-3-methylphenc	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Chloro-3-methylphenc	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Chloro-3-methylphenc	AVN-1	29-MAY-97	SA	<0.99	U	0.99	EPA8270	ERCL
Chloro-3-methylphenc	AVN-1	03-JUN-98	SA	<1.4	U	1.4	EPA 8270	QSTL
Chloro-3-methylphenc	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Chloro-3-methylphenc	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Chloro-3-methylphenc	AVN-2	04-DEC-96	SA	<1	U	1	EPA8270	ERCL
Chloro-3-methylphenc	AVN-2	29-MAY-97	SA	<0.96	U	0.96	EPA8270	ERCL
Chloro-3-methylphenc	AVN-2	03-JUN-98	SA	<1.4	U	1.4	EPA 8270	QSTL
Chloro-3-methylphenc	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Chloro-3-methylphenc	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Chloro-3-methylphenc	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Chloro-3-methylphenc	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Chloro-3-methylphenc	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Chloro-3-methylphenc	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Chloro-3-methylphenc	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Chloro-3-methylphenc	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Chloro-3-methylphenc	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Chloro-3-methylphenc	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Chloro-3-methylphenc	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Chloro-3-methylphenc	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Chloro-3-methylphenc	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Chloro-3-methylphenc	LWDS-MW1	06-DEC-96	SA	<1	U	1	EPA8270	ERCL
Chloro-3-methylphenc	LWDS-MW1	30-MAY-97	SA	<0.99	U	0.99	EPA8270	ERCL
Chloro-3-methylphenc	LWDS-MW1	08-JUN-98	SA	<1.4	U	1.4	EPA 8270	QSTL
Chloro-3-methylphenc	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Chloro-3-methylphenc	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Chloro-3-methylphenc	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Chloro-3-methylphenc	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Chloro-3-methylphenc	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Chloro-3-methylphenc	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Chloro-3-methylphenc	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Chloro-3-methylphenc	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Chloro-3-methylphenc	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Chloro-3-methylphenc	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Chloro-3-methylphenc	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Chloro-3-methylphenc	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Chloro-3-methylphenc	LWDS-MW2	05-DEC-96	SA	<1	U	1	EPA8270	ERCL
Chloro-3-methylphenc	LWDS-MW2	02-JUN-97	SA	<0.89	U	0.89	EPA8270	ERCL
Chloro-3-methylphenc	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Chloro-3-methylphenc	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Chloro-3-methylphenc	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Chloro-3-methylphenc	TAV-MW1	06-DEC-96	SA	<1	U	1	EPA8270	ERCL
Chloro-3-methylphenc	TAV-MW1	03-JUN-97	SA	<0.95	U	0.95	EPA8270	ERCL
Chloro-3-methylphenc	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Chloro-3-methylphenc	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Chloro-3-methylphenc	TAV-MW2	05-DEC-96	SA	<1	U	1	EPA8270	ERCL
Chloro-3-methylphenc	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Chloro-3-methylphenc	TAV-MW2	04-JUN-97	SA	<1	U	1	EPA8270	ERCL
Chloro-3-methylphenc	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Chloro-3-methylphenc	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Chloro-3-methylphenc	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Chlorobenzenamine,	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Chlorobenzenamine,	AVN-1	13-DEC-95	F	<6	U	6	8270	GEL
Chlorobenzenamine,	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Chlorobenzenamine,	AVN-1	03-JUN-98	SA	<1.4	U	1.4	EPA 8270	QSTL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Chlorobenzenamine,	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Chlorobenzenamine,	AVN-2	14-DEC-95	F	<6	U	6	8270	GEL
Chlorobenzenamine,	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chlorobenzenamine,	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Chlorobenzenamine,	AVN-2	03-JUN-98	SA	<1.4	U	1.4	EPA 8270	QSTL
Chlorobenzenamine,	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Chlorobenzenamine,	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Chlorobenzenamine,	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Chlorobenzenamine,	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Chlorobenzenamine,	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Chlorobenzenamine,	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Chlorobenzenamine,	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Chlorobenzenamine,	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Chlorobenzenamine,	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Chlorobenzenamine,	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Chlorobenzenamine,	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Chlorobenzenamine,	LWDS-MW1	19-DEC-95	F	<6	U	6	8270	GEL
Chlorobenzenamine,	LWDS-MW1	19-DEC-95	D	<6	U	6	8270	GEL
Chlorobenzenamine,	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chlorobenzenamine,	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Chlorobenzenamine,	LWDS-MW1	08-JUN-98	SA	<1.4	U	1.4	EPA 8270	QSTL
Chlorobenzenamine,	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Chlorobenzenamine,	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Chlorobenzenamine,	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Chlorobenzenamine,	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Chlorobenzenamine,	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Chlorobenzenamine,	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Chlorobenzenamine,	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Chlorobenzenamine,	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Chlorobenzenamine,	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Chlorobenzenamine,	LWDS-MW2	14-DEC-95	F	<6	U	6	8270	GEL
Chlorobenzenamine,	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chlorobenzenamine,	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Chlorobenzenamine,	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Chlorobenzenamine,	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Chlorobenzenamine,	TAV-MW1	18-DEC-95	F	<6	U	6	8270	GEL
Chlorobenzenamine,	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chlorobenzenamine,	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Chlorobenzenamine,	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Chlorobenzenamine,	TAV-MW2	18-DEC-95	F	<6	U	6	8270	GEL
Chlorobenzenamine,	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chlorobenzenamine,	TAV-MW2	04-JUN-97	SPL	<6	U	6	8270	GEL
Chlorobenzenamine,	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Chlorobenzenamine,	TAV-MW3	26-FEB-98	SA	<6	U	6	EPA 8270	GEL
Chlorobenzenamine,	TAV-MW4	26-FEB-98	SA	<6	U	6	EPA 8270	GEL
Chlorobenzenamine,	TAV-MW5	27-FEB-98	SA	<6	U	6	EPA 8270	GEL
Chlorobenzene	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Chlorobenzene	AVN-1	18-SEP-95	F	<1	U	1	8260	GEL
Chlorobenzene	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Chlorobenzene	AVN-1	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	AVN-1	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	AVN-1	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	AVN-1	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Chlorobenzene	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Chlorobenzene	AVN-2	18-SEP-95	F	<1	U	1	8260	GEL
Chlorobenzene	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Chlorobenzene	AVN-2	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	AVN-2	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	AVN-2	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	AVN-2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Chlorobenzene	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW1	03-MAY-93	F	<5	U	5	8240	ENSECO
Chlorobenzene	LWDS-MW1	27-OCT-93	F	<5	U	5	8240	ENCOTEC
Chlorobenzene	LWDS-MW1	02-NOV-93	F	<5	U	5	8240	ENCOTEC
Chlorobenzene	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Chlorobenzene	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Chlorobenzene	LWDS-MW1	10-MAR-94	F	<5	U	5	8240	ENCOTEC
Chlorobenzene	LWDS-MW1	07-JUN-94	F	<1	U	1	8260	ENCOTEC
Chlorobenzene	LWDS-MW1	01-SEP-94	F	<1	U	1	8260	ENCOTEC
Chlorobenzene	LWDS-MW1	01-SEP-94	D	<1	U	1	8260	ENCOTEC
Chlorobenzene	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Chlorobenzene	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Chlorobenzene	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Chlorobenzene	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Chlorobenzene	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Chlorobenzene	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Chlorobenzene	LWDS-MW1	18-MAR-96	F	.27	J	4	8010	QUANTERR/
Chlorobenzene	LWDS-MW1	18-MAR-96	F	<0.5	U	0.5	8020	QUANTERR/
Chlorobenzene	LWDS-MW1	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW1	26-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW1	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW1	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW1	10-SEP-96	SPL	<0.07	U	0.07	EPA-SW846	QARV
Chlorobenzene	LWDS-MW1	10-SEP-96	SPL	<0.053	U	0.053	EPA-SW846	QARV
Chlorobenzene	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW1	06-DEC-96	DU	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Chlorobenzene	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Chlorobenzene	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW1	04-MAR-98	SA	<0.15	U	0.15	EPA 8260	QSTL
Chlorobenzene	LWDS-MW1	04-MAR-98	SA	<0.15	U	0.15	EPA 8260	QSTL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Chlorobenzene	LWDS-MW1	04-MAR-98	SA	<0.02	U	0.02	EPA 8260	GEL
Chlorobenzene	LWDS-MW1	04-MAR-98	SA	<0.02	U	0.02	EPA 8260	GEL
Chlorobenzene	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW1	08-JUN-98	SPLIT	<0.75	U	0.75	EPA 8260	QSTL
Chlorobenzene	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW1	18-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW-1	02-MAR-95	F	<5	U	5	8240	ENCOTEC
Chlorobenzene	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW2	21-OCT-92	F	<5	U	5	8240	ENSECO
Chlorobenzene	LWDS-MW2	24-JUN-93	F	<5	U	5	8240	ENCOTEC
Chlorobenzene	LWDS-MW2	24-JUN-93	D	<5	U	5	8240	ENCOTEC
Chlorobenzene	LWDS-MW2	06-JUN-94	F	<1	U	1	8260	ENCOTEC
Chlorobenzene	LWDS-MW2	31-AUG-94	F	<1	U	1	8260	ENCOTEC
Chlorobenzene	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Chlorobenzene	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Chlorobenzene	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Chlorobenzene	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Chlorobenzene	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Chlorobenzene	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Chlorobenzene	LWDS-MW2	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Chlorobenzene	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Chlorobenzene	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Chlorobenzene	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW-2	01-MAR-95	F	<5	U	5	8240	ENCOTEC
Chlorobenzene	LWDS-MW-2	01-MAR-95	D	<5	U	5	8240	ENCOTEC
Chlorobenzene	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW1	13-APR-95	F	<2	U	2	8010	QUANTERR/
Chlorobenzene	TAV-MW1	13-APR-95	F	<0.5	U	0.5	8020	QUANTERR/
Chlorobenzene	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Chlorobenzene	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Chlorobenzene	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Chlorobenzene	TAV-MW1	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW1	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW1	11-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW1	11-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW1	11-SEP-96	SPL	<0.07	U	0.07	EPA-SW846	QARV
Chlorobenzene	TAV-MW1	11-SEP-96	SPL	<0.053	U	0.053	EPA-SW846	QARV
Chlorobenzene	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Chlorobenzene	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Chlorobenzene	TAV-MW1	03-JUN-97	F	<1	U	1	8260	GEL
Chlorobenzene	TAV-MW1	16-SEP-97	F	<0.15	U	0.15	8260	Quanterra
Chlorobenzene	TAV-MW1	16-SEP-97	SA	<0.15	U	0.15	EPA 8260	QSTL
Chlorobenzene	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW2	14-APR-95	F	<2	U	2	8010	QUANTERR/
Chlorobenzene	TAV-MW2	14-APR-95	F	<0.5	U	0.5	8020	QUANTERR/
Chlorobenzene	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Chlorobenzene	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Chlorobenzene	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Chlorobenzene	TAV-MW2	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW2	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW2	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW2	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW2	05-MAR-97	SA	1.2	J	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Chlorobenzene	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Chlorobenzene	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Chlorobenzene	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chlorobenzene	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Chloroethane	AVN-1	18-SEP-95	F	<1	U	1	8260	GEL
Chloroethane	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Chloroethane	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL
Chloroethane	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Chloroethane	AVN-2	18-SEP-95	F	<1	U	1	8260	GEL
Chloroethane	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Chloroethane	AVN-2	04-DEC-96	SA	<5	U	5	EPA8260	ERCL
Chloroethane	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Chloroethane	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Chloroethane	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	LWDS-MW1	03-MAY-93	F	<10	U	10	8240	ENSECO
Chloroethane	LWDS-MW1	27-OCT-93	F	<10	U	10	8240	ENCOTEC
Chloroethane	LWDS-MW1	02-NOV-93	F	<10	U	10	8240	ENCOTEC
Chloroethane	LWDS-MW1	03-NOV-93	F	<10	U	10	8240	ENCOTEC
Chloroethane	LWDS-MW1	03-NOV-93	F	<10	U	10	8240	ENCOTEC
Chloroethane	LWDS-MW1	10-MAR-94	F	<10	U	10	8240	ENCOTEC
Chloroethane	LWDS-MW1	07-JUN-94	F	<1	U	1	8260	ENCOTEC
Chloroethane	LWDS-MW1	01-SEP-94	F	<1	U	1	8260	ENCOTEC
Chloroethane	LWDS-MW1	01-SEP-94	D	<1	U	1	8260	ENCOTEC
Chloroethane	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Chloroethane	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Chloroethane	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Chloroethane	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Chloroethane	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Chloroethane	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Chloroethane	LWDS-MW1	18-MAR-96	F	<10	U	10	8010	QUANTERR/
Chloroethane	LWDS-MW1	10-SEP-96	SPL	<0.09	U	0.09	EPA-SW846	QARV
Chloroethane	LWDS-MW1	06-DEC-96	SA	<5	U	5	EPA8260	ERCL
Chloroethane	LWDS-MW1	06-DEC-96	DU	<5	U	5	EPA8260	ERCL
Chloroethane	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Chloroethane	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Chloroethane	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	LWDS-MW1	04-MAR-98	SA	<0.2	U	0.2	EPA 8260	QSTL
Chloroethane	LWDS-MW1	04-MAR-98	SA	<0.2	U	0.2	EPA 8260	QSTL
Chloroethane	LWDS-MW1	04-MAR-98	SA	<0.02	U	0.02	EPA 8260	GEL
Chloroethane	LWDS-MW1	04-MAR-98	SA	<0.02	U	0.02	EPA 8260	GEL
Chloroethane	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	LWDS-MW1	08-JUN-98	SPLIT	<1	U	1	EPA 8260	QSTL
Chloroethane	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	LWDS-MW1	18-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	LWDS-MW-1	02-MAR-95	F	<10	U	10	8240	ENCOTEC
Chloroethane	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	LWDS-MW2	21-OCT-92	F	<10	U	10	8240	ENSECO
Chloroethane	LWDS-MW2	24-JUN-93	F	<10	U	10	8240	ENCOTEC
Chloroethane	LWDS-MW2	24-JUN-93	D	<10	U	10	8240	ENCOTEC
Chloroethane	LWDS-MW2	06-JUN-94	F	<1	U	1	8260	ENCOTEC
Chloroethane	LWDS-MW2	31-AUG-94	F	<1	U	1	8260	ENCOTEC
Chloroethane	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Chloroethane	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Chloroethane	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Chloroethane	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Chloroethane	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Chloroethane	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Chloroethane	LWDS-MW2	05-DEC-96	SA	<5	U	5	EPA8260	ERCL
Chloroethane	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Chloroethane	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Chloroethane	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Chloroethane	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	LWDS-MW-2	01-MAR-95	F	<10	U	10	8240	ENCOTEC
Chloroethane	LWDS-MW-2	01-MAR-95	D	<10	U	10	8240	ENCOTEC
Chloroethane	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	TAV-MW1	13-APR-95	F	<5	U	5	8010	QUANTERRA
Chloroethane	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Chloroethane	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Chloroethane	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Chloroethane	TAV-MW1	11-SEP-96	SPL	<0.09	U	0.09	EPA-SW846	QARV
Chloroethane	TAV-MW1	06-DEC-96	SA	<5	U	5	EPA8260	ERCL
Chloroethane	TAV-MW1	06-DEC-96	SA	<5	U	5	EPA8260	ERCL
Chloroethane	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Chloroethane	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Chloroethane	TAV-MW1	03-JUN-97	F	<1	U	1	8260	GEL
Chloroethane	TAV-MW1	16-SEP-97	F	<0.2	U	0.2	8260	Quanterra
Chloroethane	TAV-MW1	16-SEP-97	SA	<0.2	U	0.2	EPA 8260	QSTL
Chloroethane	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	TAV-MW2	14-APR-95	F	<5	U	5	8010	QUANTERRA
Chloroethane	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Chloroethane	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Chloroethane	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Chloroethane	TAV-MW2	05-DEC-96	SA	<5	U	5	EPA8260	ERCL
Chloroethane	TAV-MW2	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Chloroethane	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Chloroethane	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Chloroethane	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethane	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Chloroethane	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroethoxy)methan	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Chloroethoxy)methan	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Chloroethoxy)methan	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Chloroethoxy)methan	AVN-1	03-JUN-98	SA	<1.2	U	1.2	EPA 8270	QSTL
Chloroethoxy)methan	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Chloroethoxy)methan	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Chloroethoxy)methan	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chloroethoxy)methan	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Chloroethoxy)methan	AVN-2	03-JUN-98	SA	<1.2	U	1.2	EPA 8270	QSTL
Chloroethoxy)methan	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Chloroethoxy)methan	LWDS-MW1	03-MAY-93	F	7.8	J	10	8270	ENSECO
Chloroethoxy)methan	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Chloroethoxy)methan	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Chloroethoxy)methan	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Chloroethoxy)methan	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Chloroethoxy)methan	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Chloroethoxy)methan	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Chloroethoxy)methan	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Chloroethoxy)methan	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Chloroethoxy)methan	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Chloroethoxy)methan	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Chloroethoxy)methan	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Chloroethoxy)methan	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chloroethoxy)methan	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Chloroethoxy)methan	LWDS-MW1	08-JUN-98	SA	<1.2	U	1.2	EPA 8270	QSTL
Chloroethoxy)methan	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Chloroethoxy)methan	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Chloroethoxy)methan	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Chloroethoxy)methan	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Chloroethoxy)methan	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Chloroethoxy)methan	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Chloroethoxy)methan	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Chloroethoxy)methan	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Chloroethoxy)methan	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Chloroethoxy)methan	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Chloroethoxy)methan	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Chloroethoxy)methan	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Chloroethoxy)methan	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chloroethoxy)methan	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Chloroethoxy)methan	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Chloroethoxy)methan	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Chloroethoxy)methan	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Chloroethoxy)methan	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chloroethoxy)methan	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Chloroethoxy)methan	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Chloroethoxy)methan	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Chloroethoxy)methan	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chloroethoxy)methan	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Chloroethoxy)methan	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Chloroethoxy)methan	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Chloroethoxy)methan	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Chloroethoxy)methan	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Chloroethyl vinyl ethe	AVN-1	18-SEP-95	F	<99999999.9999	U	1E+08	8260	GEL
Chloroethyl vinyl ethe	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Chloroethyl vinyl ethe	AVN-1	29-MAY-97	F	<2	U	2	8260	GEL
Chloroethyl vinyl ethe	AVN-2	18-SEP-95	F	≤99999999.9999	U	1E+08	8260	GEL
Chloroethyl vinyl ethe	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Chloroethyl vinyl ethe	AVN-2	29-MAY-97	F	<2	U	2	8260	GEL
Chloroethyl vinyl ethe	LWDS-MW1	27-OCT-93	F	<10	U	10	8240	ENCOTEC
Chloroethyl vinyl ethe	LWDS-MW1	02-NOV-93	F	<10	U	10	8240	ENCOTEC
Chloroethyl vinyl ethe	LWDS-MW1	03-NOV-93	F	<10	U	10	8240	ENCOTEC
Chloroethyl vinyl ethe	LWDS-MW1	03-NOV-93	F	<10	U	10	8240	ENCOTEC
Chloroethyl vinyl ethe	LWDS-MW1	10-MAR-94	F	<10	U	10	8240	ENCOTEC
Chloroethyl vinyl ethe	LWDS-MW1	07-JUN-94	F	<5	U	5	8260	ENCOTEC
Chloroethyl vinyl ethe	LWDS-MW1	01-SEP-94	F	<10	U	10	8260	ENCOTEC
Chloroethyl vinyl ethe	LWDS-MW1	01-SEP-94	D	<10	U	10	8260	ENCOTEC
Chloroethyl vinyl ethe	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Chloroethyl vinyl ethe	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Chloroethyl vinyl ethe	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Chloroethyl vinyl ethe	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Chloroethyl vinyl ethe	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Chloroethyl vinyl ethe	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Chloroethyl vinyl ethe	LWDS-MW1	30-MAY-97	F	<2	U	2	8260	GEL
Chloroethyl vinyl ethe	LWDS-MW1	30-MAY-97	F	<2	U	2	8260	GEL
Chloroethyl vinyl ethe	LWDS-MW-1	02-MAR-95	F	<10	U	10	8240	ENCOTEC
Chloroethyl vinyl ethe	LWDS-MW2	24-JUN-93	F	<10	U	10	8240	ENCOTEC
Chloroethyl vinyl ethe	LWDS-MW2	24-JUN-93	D	<10	U	10	8240	ENCOTEC
Chloroethyl vinyl ethe	LWDS-MW2	06-JUN-94	F	<5	U	5	8260	ENCOTEC
Chloroethyl vinyl ethe	LWDS-MW2	31-AUG-94	F	<10	U	10	8260	ENCOTEC
Chloroethyl vinyl ethe	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Chloroethyl vinyl ethe	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Chloroethyl vinyl ethe	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Chloroethyl vinyl ethe	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Chloroethyl vinyl ethe	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Chloroethyl vinyl ethe	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Chloroethyl vinyl ethe	LWDS-MW2	04-MAR-97	SPL	<2	U	2	8260	GEL
Chloroethyl vinyl ethe	LWDS-MW2	04-MAR-97	SPL	<2	U	2	EPA-SW846	GEL
Chloroethyl vinyl ethe	LWDS-MW2	02-JUN-97	F	<2	U	2	8260	GEL
Chloroethyl vinyl ethe	LWDS-MW-2	01-MAR-95	F	<10	U	10	8240	ENCOTEC
Chloroethyl vinyl ethe	LWDS-MW-2	01-MAR-95	D	<10	U	10	8240	ENCOTEC
Chloroethyl vinyl ethe	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Chloroethyl vinyl ethe	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Chloroethyl vinyl ethe	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Chloroethyl vinyl ethe	TAV-MW1	04-MAR-97	SPL	<2	U	2	8260	GEL
Chloroethyl vinyl ethe	TAV-MW1	04-MAR-97	SPL	<2	U	2	EPA-SW846	GEL
Chloroethyl vinyl ethe	TAV-MW1	03-JUN-97	F	<2	U	2	8260	GEL
Chloroethyl vinyl ethe	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Chloroethyl vinyl ethe	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Chloroethyl vinyl ethe	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Chloroethyl vinyl ethe	TAV-MW2	04-JUN-97	F	<2	U	2	8260	GEL
Chloroethyl vinyl ethe	TAV-MW2	04-JUN-97	SPL	<2	U	2	8260	GEL
Chloroethyl vinyl ethe	TAV-MW3	03-JUN-97	F	<2	U	2	8260	GEL
Chloroethyl)ether, bis(	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Chloroethyl)ether, bis(	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Chloroethyl)ether, bis(	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Chloroethyl)ether, bis(	AVN-1	03-JUN-98	SA	<0.52	U	0.52	EPA 8270	QSTL
Chloroethyl)ether, bis(	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Chloroethyl)ether, bis(	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Chloroethyl)ether, bis(	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Chloroethyl)ether, bis	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Chloroethyl)ether, bis	AVN-2	03-JUN-98	SA	<0.52	U	0.52	EPA 8270	QSTL
Chloroethyl)ether, bis	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Chloroethyl)ether, bis	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Chloroethyl)ether, bis	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Chloroethyl)ether, bis	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Chloroethyl)ether, bis	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Chloroethyl)ether, bis	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Chloroethyl)ether, bis	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Chloroethyl)ether, bis	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Chloroethyl)ether, bis	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Chloroethyl)ether, bis	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Chloroethyl)ether, bis	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Chloroethyl)ether, bis	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Chloroethyl)ether, bis	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Chloroethyl)ether, bis	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chloroethyl)ether, bis	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Chloroethyl)ether, bis	LWDS-MW1	08-JUN-98	SA	<0.52	U	0.52	EPA 8270	QSTL
Chloroethyl)ether, bis	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Chloroethyl)ether, bis	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Chloroethyl)ether, bis	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Chloroethyl)ether, bis	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Chloroethyl)ether, bis	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Chloroethyl)ether, bis	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Chloroethyl)ether, bis	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Chloroethyl)ether, bis	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Chloroethyl)ether, bis	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Chloroethyl)ether, bis	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Chloroethyl)ether, bis	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Chloroethyl)ether, bis	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Chloroethyl)ether, bis	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chloroethyl)ether, bis	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Chloroethyl)ether, bis	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Chloroethyl)ether, bis	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Chloroethyl)ether, bis	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Chloroethyl)ether, bis	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chloroethyl)ether, bis	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Chloroethyl)ether, bis	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Chloroethyl)ether, bis	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Chloroethyl)ether, bis	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chloroethyl)ether, bis	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Chloroethyl)ether, bis	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Chloroethyl)ether, bis	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Chloroethyl)ether, bis	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Chloroethyl)ether, bis	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Chloroform	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Chloroform	AVN-1	18-SEP-95	F	<1	U	1	8260	GEL
Chloroform	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Chloroform	AVN-1	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	AVN-1	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	AVN-1	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Chloroform	AVN-1	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL
Chloroform	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Chloroform	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Chloroform	AVN-2	18-SEP-95	F	<1	U	1	8260	GEL
Chloroform	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Chloroform	AVN-2	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	AVN-2	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	AVN-2	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Chloroform	AVN-2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Chloroform	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW1	03-MAY-93	F	<5	U	5	8240	ENSECO
Chloroform	LWDS-MW1	27-OCT-93	F	<5	U	5	8240	ENCOTEC
Chloroform	LWDS-MW1	02-NOV-93	F	<5	U	5	8240	ENCOTEC
Chloroform	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Chloroform	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Chloroform	LWDS-MW1	10-MAR-94	F	<5	U	5	8240	ENCOTEC
Chloroform	LWDS-MW1	07-JUN-94	F	<1	U	1	8260	ENCOTEC
Chloroform	LWDS-MW1	01-SEP-94	F	<1	U	1	8260	ENCOTEC
Chloroform	LWDS-MW1	01-SEP-94	D	<1	U	1	8260	ENCOTEC
Chloroform	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Chloroform	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Chloroform	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Chloroform	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Chloroform	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Chloroform	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Chloroform	LWDS-MW1	18-MAR-96	F	.27	J	1	8010	QUANTERRA
Chloroform	LWDS-MW1	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW1	26-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW1	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW1	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW1	10-SEP-96	SPL	.36	J	0.11	EPA-SW846	QARV
Chloroform	LWDS-MW1	06-DEC-96	SA	.81	J	0.5	EPA8260	ERCL
Chloroform	LWDS-MW1	06-DEC-96	DU	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Chloroform	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Chloroform	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW1	04-MAR-98	SA	<0.17	U	0.17	EPA 8260	QSTL
Chloroform	LWDS-MW1	04-MAR-98	SA	<0.17	U	0.17	EPA 8260	QSTL
Chloroform	LWDS-MW1	04-MAR-98	SA	<0.02	U	0.02	EPA 8260	GEL
Chloroform	LWDS-MW1	04-MAR-98	SA	<0.02	U	0.02	EPA 8260	GEL
Chloroform	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Chloroform	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW1	08-JUN-98	SPLIT	<0.92	U	0.92	EPA 8260	QSTL
Chloroform	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW1	18-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW-1	02-MAR-95	F	<5	U	5	8240	ENCOTEC
Chloroform	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW2	21-OCT-92	F	<5	U	5	8240	ENSECO
Chloroform	LWDS-MW2	24-JUN-93	F	<5	U	5	8240	ENCOTEC
Chloroform	LWDS-MW2	24-JUN-93	D	<5	U	5	8240	ENCOTEC
Chloroform	LWDS-MW2	06-JUN-94	F	<1	U	1	8260	ENCOTEC
Chloroform	LWDS-MW2	31-AUG-94	F	<1	U	1	8260	ENCOTEC
Chloroform	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Chloroform	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Chloroform	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Chloroform	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Chloroform	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Chloroform	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Chloroform	LWDS-MW2	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Chloroform	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Chloroform	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Chloroform	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW-2	01-MAR-95	F	<5	U	5	8240	ENCOTEC
Chloroform	LWDS-MW-2	01-MAR-95	D	<5	U	5	8240	ENCOTEC
Chloroform	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Chloroform	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW1	13-APR-95	F	<0.5	U	0.5	8010	QUANTERRA
Chloroform	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Chloroform	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Chloroform	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Chloroform	TAV-MW1	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW1	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW1	11-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW1	11-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW1	11-SEP-96	SPL	.17	J	0.11	EPA-SW846	QARV
Chloroform	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Chloroform	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Chloroform	TAV-MW1	03-JUN-97	F	<1	U	1	8260	GEL
Chloroform	TAV-MW1	16-SEP-97	F	<0.17	U	0.17	8260	Quanterra
Chloroform	TAV-MW1	16-SEP-97	SA	<0.17	U	0.17	EPA 8260	QSTL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Chloroform	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW2	14-APR-95	F	<0.5	U	0.5	8010	QUANTERR/
Chloroform	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Chloroform	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Chloroform	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Chloroform	TAV-MW2	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW2	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW2	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW2	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW2	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Chloroform	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Chloroform	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Chloroform	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroform	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloroisopropyl ether	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Chloroisopropyl ether	AVN-1	29-MAY-97	SA	<0.99	U	0.99	EPA8270	ERCL
Chloroisopropyl ether	AVN-1	03-JUN-98	SA	<1.6	U	1.6	EPA 8270	QSTL
Chloroisopropyl ether	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Chloroisopropyl ether	AVN-2	04-DEC-96	SA	<1	U	1	EPA8270	ERCL
Chloroisopropyl ether	AVN-2	29-MAY-97	SA	<0.96	U	0.96	EPA8270	ERCL
Chloroisopropyl ether	AVN-2	03-JUN-98	SA	<1.6	U	1.6	EPA 8270	QSTL
Chloroisopropyl ether	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Chloroisopropyl ether	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Chloroisopropyl ether	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Chloroisopropyl ether	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Chloroisopropyl ether	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Chloroisopropyl ether	LWDS-MW1	06-DEC-96	SA	<1	U	1	EPA8270	ERCL
Chloroisopropyl ether	LWDS-MW1	30-MAY-97	SA	<0.99	U	0.99	EPA8270	ERCL
Chloroisopropyl ether	LWDS-MW1	04-MAR-98	SA	<0.07	U	0.07	EPA 8260	GEL
Chloroisopropyl ether	LWDS-MW1	04-MAR-98	SA	<0.07	U	0.07	EPA 8260	GEL
Chloroisopropyl ether	LWDS-MW1	08-JUN-98	SA	<1.6	U	1.6	EPA 8270	QSTL
Chloroisopropyl ether	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Chloroisopropyl ether	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Chloroisopropyl ether	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Chloroisopropyl ether	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Chloroisopropyl ether	LWDS-MW2	05-DEC-96	SA	<1	U	1	EPA8270	ERCL
Chloroisopropyl ether	LWDS-MW2	02-JUN-97	SA	<0.89	U	0.89	EPA8270	ERCL
Chloroisopropyl ether	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Chloroisopropyl ether	TAV-MW1	06-DEC-96	SA	<1	U	1	EPA8270	ERCL
Chloroisopropyl ether	TAV-MW1	03-JUN-97	SA	<0.95	U	0.95	EPA8270	ERCL
Chloroisopropyl ether	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Chloroisopropyl ether	TAV-MW2	05-DEC-96	SA	<1	U	1	EPA8270	ERCL
Chloroisopropyl ether	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Chloroisopropyl ether	TAV-MW2	04-JUN-97	SA	<1	U	1	EPA8270	ERCL
Chloroisopropyl ether	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Chloroisopropyl ether	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Chloroisopropyl ether	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Chloromethane	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Chloromethane	AVN-1	18-SEP-95	F	<1	U	1	8260	GEL
Chloromethane	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Chloromethane	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL
Chloromethane	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	AVN-1	16-NOV-08	SA	2.4		0.5	EPA8260	ERCL
Chloromethane	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Chloromethane	AVN-2	18-SEP-95	F	<1	U	1	8260	GEL
Chloromethane	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Chloromethane	AVN-2	04-DEC-96	SA	<5	U	5	EPA8260	ERCL
Chloromethane	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Chloromethane	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	LWDS-MW1	03-MAY-93	F	<10	U	10	8240	ENSECO
Chloromethane	LWDS-MW1	27-OCT-93	F	<10	U	10	8240	ENCOTEC
Chloromethane	LWDS-MW1	02-NOV-93	F	<10	U	10	8240	ENCOTEC
Chloromethane	LWDS-MW1	03-NOV-93	F	<10	U	10	8240	ENCOTEC
Chloromethane	LWDS-MW1	03-NOV-93	F	<10	U	10	8240	ENCOTEC
Chloromethane	LWDS-MW1	10-MAR-94	F	<10	U	10	8240	ENCOTEC
Chloromethane	LWDS-MW1	07-JUN-94	F	<1	U	1	8260	ENCOTEC
Chloromethane	LWDS-MW1	01-SEP-94	F	<1	U	1	8260	ENCOTEC
Chloromethane	LWDS-MW1	01-SEP-94	D	<1	U	1	8260	ENCOTEC
Chloromethane	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Chloromethane	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Chloromethane	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Chloromethane	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Chloromethane	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Chloromethane	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Chloromethane	LWDS-MW1	18-MAR-96	F	<10	U	10	8010	QUANTERR/
Chloromethane	LWDS-MW1	10-SEP-96	SPL	<0.24	U	0.24	EPA-SW846	QARV
Chloromethane	LWDS-MW1	06-DEC-96	SA	<5	U	5	EPA8260	ERCL
Chloromethane	LWDS-MW1	06-DEC-96	DU	<5	U	5	EPA8260	ERCL
Chloromethane	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Chloromethane	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Chloromethane	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	LWDS-MW1	04-MAR-98	SA	<0.66	U	0.66	EPA 8260	QSTL
Chloromethane	LWDS-MW1	04-MAR-98	SA	<0.66	U	0.66	EPA 8260	QSTL
Chloromethane	LWDS-MW1	04-MAR-98	SA	<0.07	U	0.07	EPA 8260	GEL
Chloromethane	LWDS-MW1	04-MAR-98	SA	<0.07	U	0.07	EPA 8260	GEL
Chloromethane	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	LWDS-MW1	08-JUN-98	SPLIT	5.9	JB	3.3	EPA 8260	QSTL
Chloromethane	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	LWDS-MW1	16-NOV-98	SA	1	J	0.5	EPA8260	ERCL
Chloromethane	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	LWDS-MW1	18-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	LWDS-MW-1	02-MAR-95	F	<10	U	10	8240	ENCOTEC
Chloromethane	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	LWDS-MW2	21-OCT-92	F	<10	U	10	8240	ENSECO
Chloromethane	LWDS-MW2	24-JUN-93	F	<10	U	10	8240	ENCOTEC
Chloromethane	LWDS-MW2	24-JUN-93	D	<10	U	10	8240	ENCOTEC
Chloromethane	LWDS-MW2	06-JUN-94	F	<1	U	1	8260	ENCOTEC
Chloromethane	LWDS-MW2	31-AUG-94	F	<1	U	1	8260	ENCOTEC
Chloromethane	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Chloromethane	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Chloromethane	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Chloromethane	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Chloromethane	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Chloromethane	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Chloromethane	LWDS-MW2	05-DEC-96	SA	<5	U	5	EPA8260	ERCL
Chloromethane	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Chloromethane	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Chloromethane	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Chloromethane	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	LWDS-MW-2	01-MAR-95	F	<10	U	10	8240	ENCOTEC
Chloromethane	LWDS-MW-2	01-MAR-95	D	<10	U	10	8240	ENCOTEC
Chloromethane	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	TAV-MW1	13-APR-95	F	<5	U	5	8010	QUANTERRA
Chloromethane	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Chloromethane	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Chloromethane	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Chloromethane	TAV-MW1	11-SEP-96	SPL	<0.24	U	0.24	EPA-SW846	QARV
Chloromethane	TAV-MW1	06-DEC-96	SA	<5	U	5	EPA8260	ERCL
Chloromethane	TAV-MW1	06-DEC-96	SA	<5	U	5	EPA8260	ERCL
Chloromethane	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Chloromethane	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Chloromethane	TAV-MW1	03-JUN-97	F	<1	U	1	8260	GEL
Chloromethane	TAV-MW1	16-SEP-97	F	<0.46	U	0.46	8260	Quanterra

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Chloromethane	TAV-MW1	16-SEP-97	SA	<0.46	U	0.46	EPA 8260	QSTL
Chloromethane	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	TAV-MW2	14-APR-95	F	<5	U	5	8010	QUANTERRA
Chloromethane	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Chloromethane	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Chloromethane	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Chloromethane	TAV-MW2	05-DEC-96	SA	<5	U	5	EPA8260	ERCL
Chloromethane	TAV-MW2	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Chloromethane	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Chloromethane	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Chloromethane	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	TAV-MW3	19-NOV-98	SA	2.2		0.5	EPA8260	ERCL
Chloromethane	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Chloromethane	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Chloronaphthalene, 2	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Chloronaphthalene, 2	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Chloronaphthalene, 2	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Chloronaphthalene, 2	AVN-1	03-JUN-98	SA	<1.6	U	1.6	EPA 8270	QSTL
Chloronaphthalene, 2	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Chloronaphthalene, 2	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Chloronaphthalene, 2	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chloronaphthalene, 2	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Chloronaphthalene, 2	AVN-2	03-JUN-98	SA	<1.6	U	1.6	EPA 8270	QSTL
Chloronaphthalene, 2	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Chloronaphthalene, 2	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Chloronaphthalene, 2	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Chloronaphthalene, 2	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Chloronaphthalene, 2	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Chloronaphthalene, 2	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Chloronaphthalene, 2	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Chloronaphthalene, 2	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Chloronaphthalene, 2	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Chloronaphthalene, 2	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Chloronaphthalene, 2	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Chloronaphthalene, 2	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Chloronaphthalene, 2	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Chloronaphthalene, 2	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chloronaphthalene, 2	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Chloronaphthalene, 2	LWDS-MW1	08-JUN-98	SA	<1.6	U	1.6	EPA 8270	QSTL
Chloronaphthalene, 2	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Chloronaphthalene, 2	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Chloronaphthalene, 2	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Chloronaphthalene, 2	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Chloronaphthalene, 2	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Chloronaphthalene, 2	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Chloronaphthalene, 2	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Chloronaphthalene, 2	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Chloronaphthalene, 2	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Chloronaphthalene, 2	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Chloronaphthalene, 2	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Chloronaphthalene, 2	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Chloronaphthalene, 2	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chloronaphthalene, 2	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Chloronaphthalene, 2	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Chloronaphthalene, 2	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Chloronaphthalene, 2	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Chloronaphthalene, 2	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chloronaphthalene, 2	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Chloronaphthalene, 2	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Chloronaphthalene, 2	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Chloronaphthalene, 2	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chloronaphthalene, 2	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Chloronaphthalene, 2	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Chloronaphthalene, 2	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Chloronaphthalene, 2	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Chloronaphthalene, 2	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Chlorophenol, 2-	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Chlorophenol, 2-	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Chlorophenol, 2-	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Chlorophenol, 2-	AVN-1	03-JUN-98	SA	<1.1	U	1.1	EPA 8270	QSTL
Chlorophenol, 2-	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Chlorophenol, 2-	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Chlorophenol, 2-	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chlorophenol, 2-	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Chlorophenol, 2-	AVN-2	03-JUN-98	SA	<1.1	U	1.1	EPA 8270	QSTL
Chlorophenol, 2-	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Chlorophenol, 2-	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Chlorophenol, 2-	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Chlorophenol, 2-	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Chlorophenol, 2-	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Chlorophenol, 2-	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Chlorophenol, 2-	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Chlorophenol, 2-	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Chlorophenol, 2-	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Chlorophenol, 2-	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Chlorophenol, 2-	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Chlorophenol, 2-	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Chlorophenol, 2-	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Chlorophenol, 2-	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chlorophenol, 2-	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Chlorophenol, 2-	LWDS-MW1	08-JUN-98	SA	<1.1	U	1.1	EPA 8270	QSTL
Chlorophenol, 2-	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Chlorophenol, 2-	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Chlorophenol, 2-	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Chlorophenol, 2-	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Chlorophenol, 2-	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Chlorophenol, 2-	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Chlorophenol, 2-	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Chlorophenol, 2-	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Chlorophenol, 2-	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Chlorophenol, 2-	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Chlorophenol, 2-	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Chlorophenol, 2-	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Chlorophenol, 2-	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chlorophenol, 2-	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Chlorophenol, 2-	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Chlorophenol, 2-	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Chlorophenol, 2-	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Chlorophenol, 2-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chlorophenol, 2-	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Chlorophenol, 2-	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Chlorophenol, 2-	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Chlorophenol, 2-	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chlorophenol, 2-	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Chlorophenol, 2-	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Chlorophenol, 2-	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Chlorophenol, 2-	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Chlorophenol, 2-	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Chlorophenyl phenyl e	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Chlorophenyl phenyl e	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Chlorophenyl phenyl e	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Chlorophenyl phenyl e	AVN-1	03-JUN-98	SA	<1.2	U	1.2	EPA 8270	QSTL
Chlorophenyl phenyl e	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Chlorophenyl phenyl e	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Chlorophenyl phenyl e	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chlorophenyl phenyl e	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Chlorophenyl phenyl e	AVN-2	03-JUN-98	SA	<1.2	U	1.2	EPA 8270	QSTL
Chlorophenyl phenyl e	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Chlorophenyl phenyl e	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Chlorophenyl phenyl e	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Chlorophenyl phenyl e	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Chlorophenyl phenyl e	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Chlorophenyl phenyl e	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Chlorophenyl phenyl e	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Chlorophenyl phenyl e	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Chlorophenyl phenyl e	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Chlorophenyl phenyl e	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Chlorophenyl phenyl e	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Chlorophenyl phenyl e	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Chlorophenyl phenyl e	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Chlorophenyl phenyl e	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chlorophenyl phenyl e	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Chlorophenyl phenyl e	LWDS-MW1	08-JUN-98	SA	<1.2	U	1.2	EPA 8270	QSTL
Chlorophenyl phenyl e	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Chlorophenyl phenyl e	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Chlorophenyl phenyl e	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Chlorophenyl phenyl e	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Chlorophenyl phenyl e	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Chlorophenyl phenyl e	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Chlorophenyl phenyl e	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Chlorophenyl phenyl e	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Chlorophenyl phenyl e	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Chlorophenyl phenyl e	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Chlorophenyl phenyl e	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Chlorophenyl phenyl e	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Chlorophenyl phenyl e	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chlorophenyl phenyl e	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Chlorophenyl phenyl e	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Chlorophenyl phenyl e	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Chlorophenyl phenyl e	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Chlorophenyl phenyl e	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chlorophenyl phenyl e	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Chlorophenyl phenyl e	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Chlorophenyl phenyl e	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Chlorophenyl phenyl e	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chlorophenyl phenyl e	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Chlorophenyl phenyl e	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Chlorophenyl phenyl e	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Chlorophenyl phenyl e	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Chlorophenyl phenyl e	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Chloroprene	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Chloroprene	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Chloroprene	LWDS-MW1	04-MAR-98	SA	<0.03	U	0.03	EPA 8260	GEL
Chloroprene	LWDS-MW1	04-MAR-98	SA	<0.03	U	0.03	EPA 8260	GEL
Chrysene	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Chrysene	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Chrysene	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Chrysene	AVN-1	03-JUN-98	SA	<0.23	U	0.23	EPA 8270	QSTL
Chrysene	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Chrysene	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Chrysene	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chrysene	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Chrysene	AVN-2	03-JUN-98	SA	<0.23	U	0.23	EPA 8270	QSTL
Chrysene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Chrysene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Chrysene	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Chrysene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Chrysene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Chrysene	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Chrysene	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Chrysene	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Chrysene	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Chrysene	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Chrysene	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Chrysene	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Chrysene	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Chrysene	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chrysene	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Chrysene	LWDS-MW1	08-JUN-98	SA	<0.23	U	0.23	EPA 8270	QSTL
Chrysene	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Chrysene	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Chrysene	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Chrysene	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Chrysene	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Chrysene	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Chrysene	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Chrysene	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Chrysene	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Chrysene	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Chrysene	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Chrysene	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Chrysene	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chrysene	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Chrysene	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Chrysene	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Chrysene	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Chrysene	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chrysene	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Chrysene	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Chrysene	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Chrysene	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Chrysene	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Chrysene	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Chrysene	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Chrysene	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Chrysene	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Cresol, m,p-	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Cresol, m,p-	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Cresol, m,p-	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Cresol, m,p-	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Cresol, m,p-	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Cresol, m,p-	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Cresol, m,p-	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Cresol, m,p-	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Cresol, m,p-	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Cresol, m,p-	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Cresol, m,p-	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Cresol, o-	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Cresol, o-	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Cresol, o-	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Cresol, o-	AVN-1	03-JUN-98	SA	<0.85	U	0.85	EPA 8270	QSTL
Cresol, o-	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Cresol, o-	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Cresol, o-	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Cresol, o-	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Cresol, o-	AVN-2	03-JUN-98	SA	<0.85	U	0.85	EPA 8270	QSTL
Cresol, o-	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Cresol, o-	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Cresol, o-	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Cresol, o-	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Cresol, o-	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Cresol, o-	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Cresol, o-	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Cresol, o-	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Cresol, o-	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Cresol, o-	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Cresol, o-	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Cresol, o-	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Cresol, o-	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Cresol, o-	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Cresol, o-	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Cresol, o-	LWDS-MW1	08-JUN-98	SA	<0.85	U	0.85	EPA 8270	QSTL
Cresol, o-	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Cresol, o-	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Cresol, o-	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Cresol, o-	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Cresol, o-	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Cresol, o-	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Cresol, o-	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Cresol, o-	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Cresol, o-	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Cresol, o-	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Cresol, o-	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Cresol, o-	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Cresol, o-	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Cresol, o-	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Cresol, o-	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Cresol, o-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Cresol, o-	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Cresol, o-	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Cresol, o-	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Cresol, o-	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Cresol, o-	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Cresol, o-	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Cresol, o-	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Cresol, o-	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Cresol, o-	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
DDT, 4,4'-	LWDS-MW1	25-SEP-95	F	<0.05	U	0.05	8080	GEL
Dibenz[a,h]anthracen	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Dibenz[a,h]anthracen	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Dibenz[a,h]anthracen	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Dibenz[a,h]anthracen	AVN-1	03-JUN-98	SA	<0.74	U	0.74	EPA 8270	QSTL
Dibenz[a,h]anthracen	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Dibenz[a,h]anthracen	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Dibenz[a,h]anthracen	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dibenz[a,h]anthracen	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Dibenz[a,h]anthracen	AVN-2	03-JUN-98	SA	<0.74	U	0.74	EPA 8270	QSTL
Dibenz[a,h]anthracen	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Dibenz[a,h]anthracen	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Dibenz[a,h]anthracen	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Dibenz[a,h]anthracen	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Dibenz[a,h]anthracen	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Dibenz[a,h]anthracen	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Dibenz[a,h]anthracen	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Dibenz[a,h]anthracen	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Dibenz[a,h]anthracen	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Dibenz[a,h]anthracen	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Dibenz[a,h]anthracen	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Dibenz[a,h]anthracen	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Dibenz[a,h]anthracen	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Dibenz[a,h]anthracen	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dibenz[a,h]anthracen	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Dibenz[a,h]anthracen	LWDS-MW1	08-JUN-98	SA	<0.74	U	0.74	EPA 8270	QSTL
Dibenz[a,h]anthracen	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Dibenz[a,h]anthracen	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Dibenz[a,h]anthracen	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dibenz[a,h]anthracen	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Dibenz[a,h]anthracen	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Dibenz[a,h]anthracen	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Dibenz[a,h]anthracen	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Dibenz[a,h]anthracen	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Dibenz[a,h]anthracen	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Dibenz[a,h]anthracen	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Dibenz[a,h]anthracen	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Dibenz[a,h]anthracen	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Dibenz[a,h]anthracen	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dibenz[a,h]anthracen	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Dibenz[a,h]anthracen	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Dibenz[a,h]anthracen	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Dibenz[a,h]anthracen	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Dibenz[a,h]anthracen	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dibenz[a,h]anthracen	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Dibenz[a,h]anthracen	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Dibenz[a,h]anthracen	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Dibenz[a,h]anthracen	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dibenz[a,h]anthracen	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Dibenz[a,h]anthracen	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Dibenz[a,h]anthracen	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dibenz[a,h]anthracen	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dibenz[a,h]anthracen	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dibenzofuran	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Dibenzofuran	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Dibenzofuran	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Dibenzofuran	AVN-1	03-JUN-98	SA	<1.2	U	1.2	EPA 8270	QSTL
Dibenzofuran	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Dibenzofuran	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Dibenzofuran	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dibenzofuran	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Dibenzofuran	AVN-2	03-JUN-98	SA	<1.2	U	1.2	EPA 8270	QSTL
Dibenzofuran	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Dibenzofuran	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Dibenzofuran	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Dibenzofuran	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Dibenzofuran	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Dibenzofuran	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Dibenzofuran	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Dibenzofuran	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Dibenzofuran	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Dibenzofuran	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Dibenzofuran	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Dibenzofuran	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Dibenzofuran	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Dibenzofuran	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dibenzofuran	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Dibenzofuran	LWDS-MW1	08-JUN-98	SA	<1.2	U	1.2	EPA 8270	QSTL
Dibenzofuran	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Dibenzofuran	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Dibenzofuran	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Dibenzofuran	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Dibenzofuran	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Dibenzofuran	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dibenzofuran	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Dibenzofuran	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Dibenzofuran	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Dibenzofuran	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Dibenzofuran	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dibenzofuran	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Dibenzofuran	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Dibenzofuran	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Dibenzofuran	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Dibenzofuran	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dibenzofuran	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Dibenzofuran	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Dibenzofuran	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Dibenzofuran	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dibenzofuran	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Dibenzofuran	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Dibenzofuran	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dibenzofuran	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dibenzofuran	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dibromo-3-chloroprop	AVN-1	13-JUL-95	F	<2	U	2	8260	ENCOTEC
Dibromo-3-chloroprop	AVN-2	11-JUL-95	F	<2	U	2	8260	ENCOTEC
Dibromo-3-chloroprop	LWDS-MW1	04-MAR-98	SA	<0.05	U	0.05	EPA 8260	GEL
Dibromo-3-chloroprop	LWDS-MW1	04-MAR-98	SA	<0.05	U	0.05	EPA 8260	GEL
Dibromochloromethar	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Dibromochloromethar	AVN-1	18-SEP-95	F	<1	U	1	8260	GEL
Dibromochloromethar	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Dibromochloromethar	AVN-1	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	AVN-1	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	AVN-1	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	AVN-1	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL
Dibromochloromethar	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Dibromochloromethar	AVN-2	18-SEP-95	F	<1	U	1	8260	GEL
Dibromochloromethar	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Dibromochloromethar	AVN-2	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	AVN-2	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	AVN-2	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	AVN-2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Dibromochloromethar	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW1	03-MAY-93	F	<5	U	5	8240	ENSECO

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dibromochloromethar	LWDS-MW1	27-OCT-93	F	<5	U	5	8240	ENCOTEC
Dibromochloromethar	LWDS-MW1	02-NOV-93	F	<5	U	5	8240	ENCOTEC
Dibromochloromethar	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Dibromochloromethar	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Dibromochloromethar	LWDS-MW1	10-MAR-94	F	<5	U	5	8240	ENCOTEC
Dibromochloromethar	LWDS-MW1	07-JUN-94	F	<1	U	1	8260	ENCOTEC
Dibromochloromethar	LWDS-MW1	01-SEP-94	F	<1	U	1	8260	ENCOTEC
Dibromochloromethar	LWDS-MW1	01-SEP-94	D	<1	U	1	8260	ENCOTEC
Dibromochloromethar	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Dibromochloromethar	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Dibromochloromethar	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Dibromochloromethar	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Dibromochloromethar	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Dibromochloromethar	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Dibromochloromethar	LWDS-MW1	18-MAR-96	F	<2	U	2	8010	QUANTERRA
Dibromochloromethar	LWDS-MW1	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW1	26-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW1	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW1	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW1	10-SEP-96	SPL	.18	J	0.07	EPA-SW846	QARV
Dibromochloromethar	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW1	06-DEC-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Dibromochloromethar	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Dibromochloromethar	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW1	04-MAR-98	SA	<0.066	U	0.066	EPA 8260	QSTL
Dibromochloromethar	LWDS-MW1	04-MAR-98	SA	<0.066	U	0.066	EPA 8260	QSTL
Dibromochloromethar	LWDS-MW1	04-MAR-98	SA	<0.03	U	0.03	EPA 8260	GEL
Dibromochloromethar	LWDS-MW1	04-MAR-98	SA	<0.03	U	0.03	EPA 8260	GEL
Dibromochloromethar	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW1	08-JUN-98	SPLIT	<0.33	U	0.33	EPA 8260	QSTL
Dibromochloromethar	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW1	18-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW-1	02-MAR-95	F	<5	U	5	8240	ENCOTEC
Dibromochloromethar	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW2	21-OCT-92	F	<5	U	5	8240	ENSECO
Dibromochloromethar	LWDS-MW2	24-JUN-93	F	<5	U	5	8240	ENCOTEC
Dibromochloromethar	LWDS-MW2	24-JUN-93	D	<5	U	5	8240	ENCOTEC
Dibromochloromethar	LWDS-MW2	06-JUN-94	F	<1	U	1	8260	ENCOTEC
Dibromochloromethar	LWDS-MW2	31-AUG-94	F	<1	U	1	8260	ENCOTEC
Dibromochloromethar	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Dibromochloromethar	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Dibromochloromethar	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Dibromochloromethar	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Dibromochloromethar	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Dibromochloromethar	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dibromochloromethar	LWDS-MW2	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Dibromochloromethar	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Dibromochloromethar	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Dibromochloromethar	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW-2	01-MAR-95	F	<5	U	5	8240	ENCOTEC
Dibromochloromethar	LWDS-MW-2	01-MAR-95	D	<5	U	5	8240	ENCOTEC
Dibromochloromethar	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW1	13-APR-95	F	<1	U	1	8010	QUANTERRA
Dibromochloromethar	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Dibromochloromethar	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Dibromochloromethar	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Dibromochloromethar	TAV-MW1	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW1	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW1	11-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW1	11-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW1	11-SEP-96	SPL	<0.07	U	0.07	EPA-SW846	QARV
Dibromochloromethar	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Dibromochloromethar	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Dibromochloromethar	TAV-MW1	03-JUN-97	F	<1	U	1	8260	GEL
Dibromochloromethar	TAV-MW1	16-SEP-97	F	<0.07	U	0.07	8260	Quanterra
Dibromochloromethar	TAV-MW1	16-SEP-97	SA	<0.07	U	0.07	EPA 8260	QSTL
Dibromochloromethar	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW2	14-APR-95	F	<1	U	1	8010	QUANTERRA
Dibromochloromethar	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Dibromochloromethar	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Dibromochloromethar	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Dibromochloromethar	TAV-MW2	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW2	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW2	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW2	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW2	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Dibromochloromethar	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Dibromochloromethar	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW3	22-APR-97	SA	1.7		0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dibromochloromethar	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Dibromochloromethar	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromochloromethar	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dibromoethane, 1,2-	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Dibromoethane, 1,2-	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Dibromoethane, 1,2-	LWDS-MW1	18-MAR-96	F	<4	U	4	8010	QUANTERR/
Dibromoethane, 1,2-	LWDS-MW1	10-SEP-96	SPL	<0.48	U	0.48	EPA-SW846	QARV
Dibromoethane, 1,2-	LWDS-MW1	04-MAR-98	SA	<0.04	U	0.04	EPA 8260	GEL
Dibromoethane, 1,2-	LWDS-MW1	04-MAR-98	SA	<0.04	U	0.04	EPA 8260	GEL
Dibromoethane, 1,2-	TAV-MW1	13-APR-95	F	<2	U	2	8010	QUANTERR/
Dibromoethane, 1,2-	TAV-MW1	11-SEP-96	SPL	<0.48	U	0.48	EPA-SW846	QARV
Dibromoethane, 1,2-	TAV-MW2	14-APR-95	F	<2	U	2	8010	QUANTERR/
Dibromofluoromethan	LWDS-MW2	04-MAR-97	SPL	24.2			EPA-SW846	GEL
Dibromofluoromethan	TAV-MW1	04-MAR-97	SPL	24.1			EPA-SW846	GEL
Dibromomethane	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Dibromomethane	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Dibromomethane	LWDS-MW1	04-MAR-98	SA	<0.02	U	0.02	EPA 8260	GEL
Dibromomethane	LWDS-MW1	04-MAR-98	SA	<0.02	U	0.02	EPA 8260	GEL
Dichloro-2-butene, 1,4	LWDS-MW1	04-MAR-98	SA	<0.12	U	0.12	EPA 8260	GEL
Dichloro-2-butene, 1,4	LWDS-MW1	04-MAR-98	SA	<0.12	U	0.12	EPA 8260	GEL
Dichloro-2-butene, tra	AVN-1	13-JUL-95	F	<10	U	10	8260	ENCOTEC
Dichloro-2-butene, tra	AVN-2	11-JUL-95	F	<10	U	10	8260	ENCOTEC
Dichlorobenzene, 1,2-	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,2-	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Dichlorobenzene, 1,2-	AVN-1	18-SEP-95	F	<99999999.9999	U	1E+08	8260	GEL
Dichlorobenzene, 1,2-	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,2-	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Dichlorobenzene, 1,2-	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,2-	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorobenzene, 1,2-	AVN-1	03-JUN-98	SA	<1.1	U	1.1	EPA 8270	QSTL
Dichlorobenzene, 1,2-	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,2-	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Dichlorobenzene, 1,2-	AVN-2	18-SEP-95	F	<99999999.9999	U	1E+08	8260	GEL
Dichlorobenzene, 1,2-	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,2-	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Dichlorobenzene, 1,2-	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorobenzene, 1,2-	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,2-	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Dichlorobenzene, 1,2-	AVN-2	03-JUN-98	SA	<1.1	U	1.1	EPA 8270	QSTL
Dichlorobenzene, 1,2-	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Dichlorobenzene, 1,2-	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Dichlorobenzene, 1,2-	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,2-	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,2-	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,2-	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,2-	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,2-	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,2-	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,2-	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichlorobenzene, 1,2-	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Dichlorobenzene, 1,2-	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,2-	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichlorobenzene, 1,2-	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,2-	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Dichlorobenzene, 1,2-	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,2-	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Dichlorobenzene, 1,2-	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Dichlorobenzene, 1,2-	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Dichlorobenzene, 1,2-	LWDS-MW1	18-MAR-96	F	<0.5	U	0.5	8020	QUANTERR/
Dichlorobenzene, 1,2-	LWDS-MW1	10-SEP-96	SPL	<0.098	U	0.098	EPA-SW846	QARV
Dichlorobenzene, 1,2-	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorobenzene, 1,2-	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,2-	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,2-	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorobenzene, 1,2-	LWDS-MW1	04-MAR-98	SA	<0.02	U	0.02	EPA 8260	GEL
Dichlorobenzene, 1,2-	LWDS-MW1	04-MAR-98	SA	<0.02	U	0.02	EPA 8260	GEL
Dichlorobenzene, 1,2-	LWDS-MW1	08-JUN-98	SA	<1.1	U	1.1	EPA 8270	QSTL
Dichlorobenzene, 1,2-	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,2-	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Dichlorobenzene, 1,2-	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,2-	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,2-	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,2-	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,2-	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,2-	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,2-	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,2-	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Dichlorobenzene, 1,2-	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Dichlorobenzene, 1,2-	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,2-	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,2-	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichlorobenzene, 1,2-	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Dichlorobenzene, 1,2-	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,2-	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,2-	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Dichlorobenzene, 1,2-	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorobenzene, 1,2-	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Dichlorobenzene, 1,2-	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Dichlorobenzene, 1,2-	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,2-	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Dichlorobenzene, 1,2-	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,2-	TAV-MW1	13-APR-95	F	<0.5	U	0.5	8020	QUANTERR/
Dichlorobenzene, 1,2-	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,2-	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichlorobenzene, 1,2-	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,2-	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,2-	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Dichlorobenzene, 1,2-	TAV-MW1	11-SEP-96	SPL	<0.098	U	0.098	EPA-SW846	QARV
Dichlorobenzene, 1,2-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorobenzene, 1,2-	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Dichlorobenzene, 1,2-	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Dichlorobenzene, 1,2-	TAV-MW1	03-JUN-97	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,2-	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Dichlorobenzene, 1,2-	TAV-MW2	14-APR-95	F	<0.5	U	0.5	8020	QUANTERR/

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichlorobenzene, 1,2-	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,2-	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichlorobenzene, 1,2-	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,2-	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,2-	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Dichlorobenzene, 1,2-	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorobenzene, 1,2-	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,2-	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Dichlorobenzene, 1,2-	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Dichlorobenzene, 1,2-	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Dichlorobenzene, 1,2-	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,2-	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dichlorobenzene, 1,2-	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dichlorobenzene, 1,2-	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dichlorobenzene, 1,3-	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,3-	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Dichlorobenzene, 1,3-	AVN-1	18-SEP-95	F	<99999999.99999	U	1E+08	8260	GEL
Dichlorobenzene, 1,3-	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,3-	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Dichlorobenzene, 1,3-	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,3-	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorobenzene, 1,3-	AVN-1	03-JUN-98	SA	<1.5	U	1.5	EPA 8270	QSTL
Dichlorobenzene, 1,3-	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,3-	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Dichlorobenzene, 1,3-	AVN-2	18-SEP-95	F	<99999999.99999	U	1E+08	8260	GEL
Dichlorobenzene, 1,3-	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,3-	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Dichlorobenzene, 1,3-	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorobenzene, 1,3-	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,3-	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Dichlorobenzene, 1,3-	AVN-2	03-JUN-98	SA	<1.5	U	1.5	EPA 8270	QSTL
Dichlorobenzene, 1,3-	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Dichlorobenzene, 1,3-	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Dichlorobenzene, 1,3-	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,3-	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,3-	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,3-	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,3-	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,3-	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,3-	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,3-	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,3-	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Dichlorobenzene, 1,3-	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,3-	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichlorobenzene, 1,3-	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,3-	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Dichlorobenzene, 1,3-	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,3-	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Dichlorobenzene, 1,3-	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Dichlorobenzene, 1,3-	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Dichlorobenzene, 1,3-	LWDS-MW1	18-MAR-96	F	<0.5	U	0.5	8020	QUANTERRA
Dichlorobenzene, 1,3-	LWDS-MW1	10-SEP-96	SPL	<0.16	U	0.16	EPA-SW846	QARV
Dichlorobenzene, 1,3-	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorobenzene, 1,3-	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,3-	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichlorobenzene, 1,3-	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorobenzene, 1,3-	LWDS-MW1	04-MAR-98	SA	<0.02	U	0.02	EPA 8260	GEL
Dichlorobenzene, 1,3-	LWDS-MW1	04-MAR-98	SA	<0.02	U	0.02	EPA 8260	GEL
Dichlorobenzene, 1,3-	LWDS-MW1	08-JUN-98	SA	<1.5	U	1.5	EPA 8270	QSTL
Dichlorobenzene, 1,3-	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,3-	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Dichlorobenzene, 1,3-	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,3-	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,3-	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,3-	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,3-	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,3-	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,3-	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,3-	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Dichlorobenzene, 1,3-	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Dichlorobenzene, 1,3-	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,3-	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,3-	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichlorobenzene, 1,3-	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Dichlorobenzene, 1,3-	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,3-	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,3-	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Dichlorobenzene, 1,3-	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorobenzene, 1,3-	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Dichlorobenzene, 1,3-	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Dichlorobenzene, 1,3-	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,3-	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Dichlorobenzene, 1,3-	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,3-	TAV-MW1	13-APR-95	F	<0.5	U	0.5	8020	QUANTERR/
Dichlorobenzene, 1,3-	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,3-	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichlorobenzene, 1,3-	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,3-	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,3-	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Dichlorobenzene, 1,3-	TAV-MW1	11-SEP-96	SPL	<0.16	U	0.16	EPA-SW846	QARV
Dichlorobenzene, 1,3-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorobenzene, 1,3-	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Dichlorobenzene, 1,3-	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Dichlorobenzene, 1,3-	TAV-MW1	03-JUN-97	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,3-	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Dichlorobenzene, 1,3-	TAV-MW2	14-APR-95	F	<0.5	U	0.5	8020	QUANTERR/
Dichlorobenzene, 1,3-	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,3-	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichlorobenzene, 1,3-	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,3-	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,3-	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Dichlorobenzene, 1,3-	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorobenzene, 1,3-	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,3-	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Dichlorobenzene, 1,3-	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Dichlorobenzene, 1,3-	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Dichlorobenzene, 1,3-	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,3-	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dichlorobenzene, 1,3-	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dichlorobenzene, 1,3-	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichlorobenzene, 1,4-	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,4-	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Dichlorobenzene, 1,4-	AVN-1	18-SEP-95	F	<99999999.9999	U	1E+08	8260	GEL
Dichlorobenzene, 1,4-	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,4-	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Dichlorobenzene, 1,4-	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,4-	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorobenzene, 1,4-	AVN-1	03-JUN-98	SA	<0.96	U	0.96	EPA 8270	QSTL
Dichlorobenzene, 1,4-	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,4-	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Dichlorobenzene, 1,4-	AVN-2	18-SEP-95	F	<99999999.9999	U	1E+08	8260	GEL
Dichlorobenzene, 1,4-	AVN-2	14-DEC-95	F	<1	UB	1	8260	GEL
Dichlorobenzene, 1,4-	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Dichlorobenzene, 1,4-	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorobenzene, 1,4-	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,4-	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Dichlorobenzene, 1,4-	AVN-2	03-JUN-98	SA	<0.96	U	0.96	EPA 8270	QSTL
Dichlorobenzene, 1,4-	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Dichlorobenzene, 1,4-	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Dichlorobenzene, 1,4-	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,4-	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,4-	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,4-	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,4-	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,4-	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,4-	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,4-	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,4-	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Dichlorobenzene, 1,4-	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,4-	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichlorobenzene, 1,4-	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,4-	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Dichlorobenzene, 1,4-	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,4-	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Dichlorobenzene, 1,4-	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Dichlorobenzene, 1,4-	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Dichlorobenzene, 1,4-	LWDS-MW1	18-MAR-96	F	<0.5	U	0.5	8020	QUANTERR/
Dichlorobenzene, 1,4-	LWDS-MW1	10-SEP-96	SPL	<0.091	U	0.091	EPA-SW846	QARV
Dichlorobenzene, 1,4-	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorobenzene, 1,4-	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,4-	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,4-	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorobenzene, 1,4-	LWDS-MW1	04-MAR-98	SA	<0.02	U	0.02	EPA 8260	GEL
Dichlorobenzene, 1,4-	LWDS-MW1	04-MAR-98	SA	<0.02	U	0.02	EPA 8260	GEL
Dichlorobenzene, 1,4-	LWDS-MW1	08-JUN-98	SA	<0.96	U	0.96	EPA 8270	QSTL
Dichlorobenzene, 1,4-	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,4-	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Dichlorobenzene, 1,4-	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,4-	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,4-	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,4-	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,4-	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,4-	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,4-	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,4-	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichlorobenzene, 1,4-	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Dichlorobenzene, 1,4-	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,4-	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,4-	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichlorobenzene, 1,4-	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Dichlorobenzene, 1,4-	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,4-	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,4-	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Dichlorobenzene, 1,4-	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorobenzene, 1,4-	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Dichlorobenzene, 1,4-	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Dichlorobenzene, 1,4-	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,4-	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Dichlorobenzene, 1,4-	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,4-	TAV-MW1	13-APR-95	F	<0.5	U	0.5	8020	QUANTERR/
Dichlorobenzene, 1,4-	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,4-	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichlorobenzene, 1,4-	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,4-	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,4-	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Dichlorobenzene, 1,4-	TAV-MW1	11-SEP-96	SPL	<0.091	U	0.091	EPA-SW846	QARV
Dichlorobenzene, 1,4-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorobenzene, 1,4-	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Dichlorobenzene, 1,4-	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Dichlorobenzene, 1,4-	TAV-MW1	03-JUN-97	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,4-	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Dichlorobenzene, 1,4-	TAV-MW2	14-APR-95	F	<0.5	U	0.5	8020	QUANTERR/
Dichlorobenzene, 1,4-	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Dichlorobenzene, 1,4-	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichlorobenzene, 1,4-	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,4-	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,4-	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Dichlorobenzene, 1,4-	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorobenzene, 1,4-	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,4-	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Dichlorobenzene, 1,4-	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Dichlorobenzene, 1,4-	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Dichlorobenzene, 1,4-	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Dichlorobenzene, 1,4-	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dichlorobenzene, 1,4-	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dichlorobenzene, 1,4-	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dichlorobenzidine, 3,3	AVN-1	13-JUL-95	F	<20	U	20	8270	ENCOTEC
Dichlorobenzidine, 3,3	AVN-1	13-DEC-95	F	<50	U	50	8270	GEL
Dichlorobenzidine, 3,3	AVN-1	29-MAY-97	SA	<0.99	U	0.99	EPA8270	ERCL
Dichlorobenzidine, 3,3	AVN-1	03-JUN-98	SA	<1	U	1	EPA 8270	QSTL
Dichlorobenzidine, 3,3	AVN-2	11-JUL-95	F	<20	U	20	8270	ENCOTEC
Dichlorobenzidine, 3,3	AVN-2	14-DEC-95	F	<50	U	50	8270	GEL
Dichlorobenzidine, 3,3	AVN-2	04-DEC-96	SA	<1	U	1	EPA8270	ERCL
Dichlorobenzidine, 3,3	AVN-2	29-MAY-97	SA	<0.96	U	0.96	EPA8270	ERCL
Dichlorobenzidine, 3,3	AVN-2	03-JUN-98	SA	<1	U	1	EPA 8270	QSTL
Dichlorobenzidine, 3,3	LWDS-MW1	03-MAY-93	F	<20	U	20	8270	ENSECO
Dichlorobenzidine, 3,3	LWDS-MW1	03-MAY-93	F	<20	U	20	8270	ENSECO
Dichlorobenzidine, 3,3	LWDS-MW1	02-NOV-93	F	<20	U	20	8270	ENCOTEC
Dichlorobenzidine, 3,3	LWDS-MW1	03-NOV-93	F	<20	U	20	8270	ENCOTEC
Dichlorobenzidine, 3,3	LWDS-MW1	03-NOV-93	F	<20	U	20	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichlorobenzidine, 3,3	LWDS-MW1	12-MAR-94	F	<20	U	20	8270	ENCOTEC
Dichlorobenzidine, 3,3	LWDS-MW1	07-JUN-94	F	<20	U	20	8270	ENCOTEC
Dichlorobenzidine, 3,3	LWDS-MW1	01-SEP-94	F	<20	U	20	8270	ENCOTEC
Dichlorobenzidine, 3,3	LWDS-MW1	01-SEP-94	D	<20	U	20	8270	ENCOTEC
Dichlorobenzidine, 3,3	LWDS-MW1	08-DEC-94	F	<20	U	20	8270	ENCOTEC
Dichlorobenzidine, 3,3	LWDS-MW1	14-JUN-95	F	<20	U	20	8270	ENCOTEC
Dichlorobenzidine, 3,3	LWDS-MW1	19-DEC-95	F	<50	U	50	8270	GEL
Dichlorobenzidine, 3,3	LWDS-MW1	19-DEC-95	D	<50	U	50	8270	GEL
Dichlorobenzidine, 3,3	LWDS-MW1	06-DEC-96	SA	<1	U	1	EPA8270	ERCL
Dichlorobenzidine, 3,3	LWDS-MW1	30-MAY-97	SA	<0.99	U	0.99	EPA8270	ERCL
Dichlorobenzidine, 3,3	LWDS-MW1	08-JUN-98	SA	<1	U	1	EPA 8270	QSTL
Dichlorobenzidine, 3,3	LWDS-MW-1	02-MAR-95	F	<20	U	20	8270	ENCOTEC
Dichlorobenzidine, 3,3	LWDS-MW2	21-OCT-92	F	<20	U	20	8270	ENSECO
Dichlorobenzidine, 3,3	LWDS-MW2	24-JUN-93	F	<20	U	20	8270	ENCOTEC
Dichlorobenzidine, 3,3	LWDS-MW2	24-JUN-93	D	<20	U	20	8270	ENCOTEC
Dichlorobenzidine, 3,3	LWDS-MW2	11-MAR-94	F	<20	U	20	8270	ENCOTEC
Dichlorobenzidine, 3,3	LWDS-MW2	11-MAR-94	D	<20	U	20	8270	ENCOTEC
Dichlorobenzidine, 3,3	LWDS-MW2	06-JUN-94	F	<20	U	20	8270	ENCOTEC
Dichlorobenzidine, 3,3	LWDS-MW2	31-AUG-94	F	<20	U	20	8270	ENCOTEC
Dichlorobenzidine, 3,3	LWDS-MW2	07-DEC-94	F	<20	U	20	8270	ENCOTEC
Dichlorobenzidine, 3,3	LWDS-MW2	12-JUN-95	F	<20	U	20	8270	ENCOTEC
Dichlorobenzidine, 3,3	LWDS-MW2	12-JUN-95	D	<20	U	20	8270	ENCOTEC
Dichlorobenzidine, 3,3	LWDS-MW2	14-DEC-95	F	<50	U	50	8270	GEL
Dichlorobenzidine, 3,3	LWDS-MW2	05-DEC-96	SA	<1	U	1	EPA8270	ERCL
Dichlorobenzidine, 3,3	LWDS-MW2	02-JUN-97	SA	<0.89	U	0.89	EPA8270	ERCL
Dichlorobenzidine, 3,3	LWDS-MW-2	01-MAR-95	F	<20	U	20	8270	ENCOTEC
Dichlorobenzidine, 3,3	TAV-MW1	09-JUN-95	F	<20	U	20	8270	ENCOTEC
Dichlorobenzidine, 3,3	TAV-MW1	18-DEC-95	F	<50	U	50	8270	GEL
Dichlorobenzidine, 3,3	TAV-MW1	06-DEC-96	SA	<1	U	1	EPA8270	ERCL
Dichlorobenzidine, 3,3	TAV-MW1	03-JUN-97	SA	<0.95	U	0.95	EPA8270	ERCL
Dichlorobenzidine, 3,3	TAV-MW2	06-JUN-95	F	<20	U	20	8270	ENCOTEC
Dichlorobenzidine, 3,3	TAV-MW2	18-DEC-95	F	<50	U	50	8270	GEL
Dichlorobenzidine, 3,3	TAV-MW2	05-DEC-96	SA	<1	U	1	EPA8270	ERCL
Dichlorobenzidine, 3,3	TAV-MW2	04-JUN-97	SPL	<25	U	25	8270	GEL
Dichlorobenzidine, 3,3	TAV-MW2	04-JUN-97	SA	<1	U	1	EPA8270	ERCL
Dichlorobenzidine, 3,3	TAV-MW3	26-FEB-98	SA	<25	U	25	EPA 8270	GEL
Dichlorobenzidine, 3,3	TAV-MW4	26-FEB-98	SA	<25	U	25	EPA 8270	GEL
Dichlorobenzidine, 3,3	TAV-MW5	27-FEB-98	SA	<25	U	25	EPA 8270	GEL
Dichlorodifluorometha	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Dichlorodifluorometha	AVN-1	18-SEP-95	F	<99999999.9999	U	1E+08	8260	GEL
Dichlorodifluorometha	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Dichlorodifluorometha	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL
Dichlorodifluorometha	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Dichlorodifluorometha	AVN-2	18-SEP-95	F	<99999999.9999	U	1E+08	8260	GEL
Dichlorodifluorometha	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Dichlorodifluorometha	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Dichlorodifluorometha	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Dichlorodifluorometha	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichlorodifluorometha	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Dichlorodifluorometha	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Dichlorodifluorometha	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Dichlorodifluorometha	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Dichlorodifluorometha	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Dichlorodifluorometha	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Dichlorodifluorometha	LWDS-MW1	04-MAR-98	SA	<0.02	U	0.02	EPA 8260	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichlorodifluorometha	LWDS-MW1	04-MAR-98	SA	<0.02	U	0.02	EPA 8260	GEL
Dichlorodifluorometha	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Dichlorodifluorometha	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Dichlorodifluorometha	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichlorodifluorometha	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Dichlorodifluorometha	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Dichlorodifluorometha	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Dichlorodifluorometha	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Dichlorodifluorometha	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Dichlorodifluorometha	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Dichlorodifluorometha	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichlorodifluorometha	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Dichlorodifluorometha	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Dichlorodifluorometha	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Dichlorodifluorometha	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Dichlorodifluorometha	TAV-MW1	03-JUN-97	F	<1	U	1	8260	GEL
Dichlorodifluorometha	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichlorodifluorometha	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Dichlorodifluorometha	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Dichlorodifluorometha	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Dichlorodifluorometha	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Dichlorodifluorometha	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Dichlorodiisopropyl et	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Dichlorodiisopropyl et	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Dichlorodiisopropyl et	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Dichlorodiisopropyl et	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Dichlorodiisopropyl et	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Dichlorodiisopropyl et	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Dichlorodiisopropyl et	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Dichlorodiisopropyl et	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Dichlorodiisopropyl et	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Dichlorodiisopropyl et	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Dichlorodiisopropyl et	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Dichlorodiisopropyl et	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Dichlorodiisopropyl et	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Dichlorodiisopropyl et	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Dichlorodiisopropyl et	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Dichlorodiisopropyl et	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Dichlorodiisopropyl et	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Dichlorodiisopropyl et	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Dichlorodiisopropyl et	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Dichlorodiisopropyl et	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Dichlorodiisopropyl et	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Dichlorodiphenyldichl	LWDS-MW1	25-SEP-95	F	<0.05	U	0.05	8080	GEL
Dichlorodiphenyldichl	LWDS-MW1	25-SEP-95	F	<0.025	U	0.025	8080	GEL
Dichloroethane, 1,1-	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Dichloroethane, 1,1-	AVN-1	18-SEP-95	F	<1	U	1	8260	GEL
Dichloroethane, 1,1-	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Dichloroethane, 1,1-	AVN-1	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	AVN-1	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	AVN-1	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	AVN-1	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL
Dichloroethane, 1,1-	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichloroethane, 1,1-	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Dichloroethane, 1,1-	AVN-2	18-SEP-95	F	<1	U	1	8260	GEL
Dichloroethane, 1,1-	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Dichloroethane, 1,1-	AVN-2	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	AVN-2	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	AVN-2	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	AVN-2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Dichloroethane, 1,1-	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW1	03-MAY-93	F	<5	U	5	8240	ENSECO
Dichloroethane, 1,1-	LWDS-MW1	27-OCT-93	F	<5	U	5	8240	ENCOTEC
Dichloroethane, 1,1-	LWDS-MW1	02-NOV-93	F	<5	U	5	8240	ENCOTEC
Dichloroethane, 1,1-	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Dichloroethane, 1,1-	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Dichloroethane, 1,1-	LWDS-MW1	10-MAR-94	F	<5	U	5	8240	ENCOTEC
Dichloroethane, 1,1-	LWDS-MW1	07-JUN-94	F	<1	U	1	8260	ENCOTEC
Dichloroethane, 1,1-	LWDS-MW1	01-SEP-94	F	<1	U	1	8260	ENCOTEC
Dichloroethane, 1,1-	LWDS-MW1	01-SEP-94	D	<1	U	1	8260	ENCOTEC
Dichloroethane, 1,1-	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Dichloroethane, 1,1-	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloroethane, 1,1-	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Dichloroethane, 1,1-	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Dichloroethane, 1,1-	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Dichloroethane, 1,1-	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Dichloroethane, 1,1-	LWDS-MW1	18-MAR-96	F	.17	J	1	8010	QUANTERRA
Dichloroethane, 1,1-	LWDS-MW1	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW1	26-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW1	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW1	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW1	10-SEP-96	SPL	.18	J	0.13	EPA-SW846	QARV
Dichloroethane, 1,1-	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW1	06-DEC-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Dichloroethane, 1,1-	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Dichloroethane, 1,1-	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW1	04-MAR-98	SA	<0.2	U	0.2	EPA 8260	QSTL
Dichloroethane, 1,1-	LWDS-MW1	04-MAR-98	SA	<0.2	U	0.2	EPA 8260	QSTL
Dichloroethane, 1,1-	LWDS-MW1	04-MAR-98	SA	<0.02	U	0.02	EPA 8260	GEL
Dichloroethane, 1,1-	LWDS-MW1	04-MAR-98	SA	<0.02	U	0.02	EPA 8260	GEL
Dichloroethane, 1,1-	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichloroethane, 1,1-	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW1	08-JUN-98	SPLIT	<1	U	1	EPA 8260	QSTL
Dichloroethane, 1,1-	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW1	18-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW-1	02-MAR-95	F	<5	U	5	8240	ENCOTEC
Dichloroethane, 1,1-	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW2	21-OCT-92	F	<5	U	5	8240	ENSECO
Dichloroethane, 1,1-	LWDS-MW2	24-JUN-93	F	<5	U	5	8240	ENCOTEC
Dichloroethane, 1,1-	LWDS-MW2	24-JUN-93	D	<5	U	5	8240	ENCOTEC
Dichloroethane, 1,1-	LWDS-MW2	06-JUN-94	F	<1	U	1	8260	ENCOTEC
Dichloroethane, 1,1-	LWDS-MW2	31-AUG-94	F	<1	U	1	8260	ENCOTEC
Dichloroethane, 1,1-	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Dichloroethane, 1,1-	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Dichloroethane, 1,1-	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloroethane, 1,1-	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Dichloroethane, 1,1-	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Dichloroethane, 1,1-	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Dichloroethane, 1,1-	LWDS-MW2	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Dichloroethane, 1,1-	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Dichloroethane, 1,1-	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Dichloroethane, 1,1-	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW-2	01-MAR-95	F	<5	U	5	8240	ENCOTEC
Dichloroethane, 1,1-	LWDS-MW-2	01-MAR-95	D	<5	U	5	8240	ENCOTEC
Dichloroethane, 1,1-	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW1	13-APR-95	F	<0.5	U	0.5	8010	QUANTERRA
Dichloroethane, 1,1-	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloroethane, 1,1-	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Dichloroethane, 1,1-	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Dichloroethane, 1,1-	TAV-MW1	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW1	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW1	11-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW1	11-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW1	11-SEP-96	SPL	<0.13	U	0.13	EPA-SW846	QARV
Dichloroethane, 1,1-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Dichloroethane, 1,1-	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Dichloroethane, 1,1-	TAV-MW1	03-JUN-97	F	<1	U	1	8260	GEL
Dichloroethane, 1,1-	TAV-MW1	16-SEP-97	F	<0.2	U	0.2	8260	Quanterra
Dichloroethane, 1,1-	TAV-MW1	16-SEP-97	SA	<0.2	U	0.2	EPA 8260	QSTL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichloroethane, 1,1-	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW2	14-APR-95	F	<0.5	U	0.5	8010	QUANTERRA
Dichloroethane, 1,1-	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloroethane, 1,1-	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Dichloroethane, 1,1-	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Dichloroethane, 1,1-	TAV-MW2	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW2	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW2	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW2	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW2	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Dichloroethane, 1,1-	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Dichloroethane, 1,1-	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Dichloroethane, 1,1-	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,1-	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Dichloroethane, 1,2-	AVN-1	18-SEP-95	F	<1	U	1	8260	GEL
Dichloroethane, 1,2-	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Dichloroethane, 1,2-	AVN-1	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	AVN-1	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	AVN-1	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	AVN-1	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL
Dichloroethane, 1,2-	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Dichloroethane, 1,2-	AVN-2	18-SEP-95	F	<1	U	1	8260	GEL
Dichloroethane, 1,2-	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Dichloroethane, 1,2-	AVN-2	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	AVN-2	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	AVN-2	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	AVN-2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichloroethane, 1,2-	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Dichloroethane, 1,2-	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW1	03-MAY-93	F	<5	U	5	8240	ENSECO
Dichloroethane, 1,2-	LWDS-MW1	27-OCT-93	F	<5	U	5	8240	ENCOTEC
Dichloroethane, 1,2-	LWDS-MW1	02-NOV-93	F	<5	U	5	8240	ENCOTEC
Dichloroethane, 1,2-	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Dichloroethane, 1,2-	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Dichloroethane, 1,2-	LWDS-MW1	10-MAR-94	F	<5	U	5	8240	ENCOTEC
Dichloroethane, 1,2-	LWDS-MW1	07-JUN-94	F	<1	U	1	8260	ENCOTEC
Dichloroethane, 1,2-	LWDS-MW1	01-SEP-94	F	<1	U	1	8260	ENCOTEC
Dichloroethane, 1,2-	LWDS-MW1	01-SEP-94	D	<1	U	1	8260	ENCOTEC
Dichloroethane, 1,2-	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Dichloroethane, 1,2-	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloroethane, 1,2-	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Dichloroethane, 1,2-	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Dichloroethane, 1,2-	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Dichloroethane, 1,2-	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Dichloroethane, 1,2-	LWDS-MW1	18-MAR-96	F	<2	U	2	8010	QUANTERRA
Dichloroethane, 1,2-	LWDS-MW1	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW1	26-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW1	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW1	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW1	10-SEP-96	SPL	<0.1	U	0.1	EPA-SW846	QARV
Dichloroethane, 1,2-	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW1	06-DEC-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Dichloroethane, 1,2-	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Dichloroethane, 1,2-	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW1	04-MAR-98	SA	<0.14	U	0.14	EPA 8260	QSTL
Dichloroethane, 1,2-	LWDS-MW1	04-MAR-98	SA	<0.14	U	0.14	EPA 8260	QSTL
Dichloroethane, 1,2-	LWDS-MW1	04-MAR-98	SA	<0.03	U	0.03	EPA 8260	GEL
Dichloroethane, 1,2-	LWDS-MW1	04-MAR-98	SA	<0.03	U	0.03	EPA 8260	GEL
Dichloroethane, 1,2-	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW1	08-JUN-98	SPLIT	<1.4	U	1.4	EPA 8260	QSTL
Dichloroethane, 1,2-	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW1	18-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW-1	02-MAR-95	F	<5	U	5	8240	ENCOTEC
Dichloroethane, 1,2-	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW2	21-OCT-92	F	<5	U	5	8240	ENSECO
Dichloroethane, 1,2-	LWDS-MW2	24-JUN-93	F	<5	U	5	8240	ENCOTEC
Dichloroethane, 1,2-	LWDS-MW2	24-JUN-93	D	<5	U	5	8240	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichloroethane, 1,2-	LWDS-MW2	06-JUN-94	F	<1	U	1	8260	ENCOTEC
Dichloroethane, 1,2-	LWDS-MW2	31-AUG-94	F	<1	U	1	8260	ENCOTEC
Dichloroethane, 1,2-	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Dichloroethane, 1,2-	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Dichloroethane, 1,2-	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloroethane, 1,2-	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Dichloroethane, 1,2-	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Dichloroethane, 1,2-	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Dichloroethane, 1,2-	LWDS-MW2	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Dichloroethane, 1,2-	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Dichloroethane, 1,2-	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Dichloroethane, 1,2-	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW-2	01-MAR-95	F	<5	U	5	8240	ENCOTEC
Dichloroethane, 1,2-	LWDS-MW-2	01-MAR-95	D	<5	U	5	8240	ENCOTEC
Dichloroethane, 1,2-	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW1	13-APR-95	F	<1	U	1	8010	QUANTERRA
Dichloroethane, 1,2-	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloroethane, 1,2-	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Dichloroethane, 1,2-	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Dichloroethane, 1,2-	TAV-MW1	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW1	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW1	11-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW1	11-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW1	11-SEP-96	SPL	<0.1	U	0.1	EPA-SW846	QARV
Dichloroethane, 1,2-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Dichloroethane, 1,2-	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Dichloroethane, 1,2-	TAV-MW1	03-JUN-97	F	<1	U	1	8260	GEL
Dichloroethane, 1,2-	TAV-MW1	16-SEP-97	F	<0.14	U	0.14	8260	Quanterra
Dichloroethane, 1,2-	TAV-MW1	16-SEP-97	SA	<0.14	U	0.14	EPA 8260	QSTL
Dichloroethane, 1,2-	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW2	14-APR-95	F	<1	U	1	8010	QUANTERRA
Dichloroethane, 1,2-	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloroethane, 1,2-	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Dichloroethane, 1,2-	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Dichloroethane, 1,2-	TAV-MW2	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW2	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW2	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW2	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichloroethane, 1,2-	TAV-MW2	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Dichloroethane, 1,2-	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Dichloroethane, 1,2-	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Dichloroethane, 1,2-	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethane, 1,2-	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Dichloroethene, 1,1-	AVN-1	18-SEP-95	F	<1	U	1	8260	GEL
Dichloroethene, 1,1-	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Dichloroethene, 1,1-	AVN-1	15-MAR-96	SA	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	AVN-1	25-JUN-96	SA	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	AVN-1	25-JUN-96	DU	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	AVN-1	09-SEP-96	SA	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL
Dichloroethene, 1,1-	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Dichloroethene, 1,1-	AVN-2	18-SEP-95	F	<1	U	1	8260	GEL
Dichloroethene, 1,1-	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Dichloroethene, 1,1-	AVN-2	15-MAR-96	SA	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	AVN-2	25-JUN-96	SA	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	AVN-2	25-JUN-96	DU	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	AVN-2	09-SEP-96	SA	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	AVN-2	04-DEC-96	SA	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Dichloroethene, 1,1-	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW1	03-MAY-93	F	<5	U	5	8240	ENSECO
Dichloroethene, 1,1-	LWDS-MW1	27-OCT-93	F	<5	U	5	8240	ENCOTEC
Dichloroethene, 1,1-	LWDS-MW1	02-NOV-93	F	<5	U	5	8240	ENCOTEC
Dichloroethene, 1,1-	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Dichloroethene, 1,1-	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Dichloroethene, 1,1-	LWDS-MW1	10-MAR-94	F	<5	U	5	8240	ENCOTEC
Dichloroethene, 1,1-	LWDS-MW1	07-JUN-94	F	<1	U	1	8260	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichloroethene, 1,1-	LWDS-MW1	01-SEP-94	F	<1	U	1	8260	ENCOTEC
Dichloroethene, 1,1-	LWDS-MW1	01-SEP-94	D	<1	U	1	8260	ENCOTEC
Dichloroethene, 1,1-	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Dichloroethene, 1,1-	LWDS-MW1	14-JUN-95	F	3		1	8010	ENCOTEC
Dichloroethene, 1,1-	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Dichloroethene, 1,1-	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Dichloroethene, 1,1-	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Dichloroethene, 1,1-	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Dichloroethene, 1,1-	LWDS-MW1	18-MAR-96	F	<1	U	1	8010	QUANTERR/
Dichloroethene, 1,1-	LWDS-MW1	18-MAR-96	SA	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW1	26-JUN-96	SA	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW1	10-SEP-96	SA	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW1	10-SEP-96	DU	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW1	10-SEP-96	SPL	<0.21	U	0.21	EPA-SW846	QARV
Dichloroethene, 1,1-	LWDS-MW1	06-DEC-96	SA	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW1	06-DEC-96	DU	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Dichloroethene, 1,1-	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Dichloroethene, 1,1-	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW1	04-MAR-98	SA	<0.19	U	0.19	EPA 8260	QSTL
Dichloroethene, 1,1-	LWDS-MW1	04-MAR-98	SA	<0.19	U	0.19	EPA 8260	QSTL
Dichloroethene, 1,1-	LWDS-MW1	04-MAR-98	SA	<0.05	U	0.05	EPA 8260	GEL
Dichloroethene, 1,1-	LWDS-MW1	04-MAR-98	SA	<0.05	U	0.05	EPA 8260	GEL
Dichloroethene, 1,1-	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW1	08-JUN-98	SPLIT	<0.97	U	0.97	EPA 8260	QSTL
Dichloroethene, 1,1-	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW1	18-NOV-98	SA	0.61	J	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW-1	02-MAR-95	F	<5	U	5	8240	ENCOTEC
Dichloroethene, 1,1-	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW2	21-OCT-92	F	<5	U	5	8240	ENSECO
Dichloroethene, 1,1-	LWDS-MW2	24-JUN-93	F	<5	U	5	8240	ENCOTEC
Dichloroethene, 1,1-	LWDS-MW2	24-JUN-93	D	<5	U	5	8240	ENCOTEC
Dichloroethene, 1,1-	LWDS-MW2	06-JUN-94	F	<1	U	1	8260	ENCOTEC
Dichloroethene, 1,1-	LWDS-MW2	31-AUG-94	F	<1	U	1	8260	ENCOTEC
Dichloroethene, 1,1-	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Dichloroethene, 1,1-	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Dichloroethene, 1,1-	LWDS-MW2	12-JUN-95	F	3		1	8010	ENCOTEC
Dichloroethene, 1,1-	LWDS-MW2	12-JUN-95	D	3		1	8010	ENCOTEC
Dichloroethene, 1,1-	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Dichloroethene, 1,1-	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Dichloroethene, 1,1-	LWDS-MW2	18-MAR-96	SA	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW2	09-SEP-96	SA	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW2	05-DEC-96	SA	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Dichloroethene, 1,1-	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichloroethene, 1,1-	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Dichloroethene, 1,1-	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW-2	01-MAR-95	F	<5	U	5	8240	ENCOTEC
Dichloroethene, 1,1-	LWDS-MW-2	01-MAR-95	D	<5	U	5	8240	ENCOTEC
Dichloroethene, 1,1-	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW1	13-APR-95	F	<0.5	U	0.5	8010	QUANTERRA
Dichloroethene, 1,1-	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloroethene, 1,1-	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Dichloroethene, 1,1-	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Dichloroethene, 1,1-	TAV-MW1	19-MAR-96	SA	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW1	27-JUN-96	SA	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW1	11-SEP-96	SA	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW1	11-SEP-96	DU	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW1	11-SEP-96	SPL	<0.21	U	0.21	EPA-SW846	QARV
Dichloroethene, 1,1-	TAV-MW1	06-DEC-96	SA	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW1	06-DEC-96	SA	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Dichloroethene, 1,1-	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Dichloroethene, 1,1-	TAV-MW1	03-JUN-97	F	<1	U	1	8260	GEL
Dichloroethene, 1,1-	TAV-MW1	16-SEP-97	F	<0.19	U	0.19	8260	Quanterra
Dichloroethene, 1,1-	TAV-MW1	16-SEP-97	SA	<0.19	U	0.19	EPA 8260	QSTL
Dichloroethene, 1,1-	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW2	14-APR-95	F	<0.5	U	0.5	8010	QUANTERRA
Dichloroethene, 1,1-	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloroethene, 1,1-	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Dichloroethene, 1,1-	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Dichloroethene, 1,1-	TAV-MW2	19-MAR-96	SA	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW2	27-JUN-96	SA	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW2	10-SEP-96	SA	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW2	10-SEP-96	DU	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW2	05-DEC-96	SA	<5	U	5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW2	05-MAR-97	SA	.89	J	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Dichloroethene, 1,1-	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Dichloroethene, 1,1-	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Dichloroethene, 1,1-	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichloroethene, 1,1-	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,1-	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, 1,2-	LWDS-MW1	03-MAY-93	F	<5	U	5	8240	ENSECO
Dichloroethene, 1,2-	LWDS-MW1	27-OCT-93	F	<5	U	5	8240	ENCOTEC
Dichloroethene, 1,2-	LWDS-MW1	02-NOV-93	F	<5	U	5	8240	ENCOTEC
Dichloroethene, 1,2-	LWDS-MW1	03-NOV-93	F	1	J	5	8240	ENCOTEC
Dichloroethene, 1,2-	LWDS-MW1	03-NOV-93	F	1	J	5	8240	ENCOTEC
Dichloroethene, 1,2-	LWDS-MW1	10-MAR-94	F	<5	U	5	8240	ENCOTEC
Dichloroethene, 1,2-	LWDS-MW1	07-JUN-94	F	<1	U	1	8260	ENCOTEC
Dichloroethene, 1,2-	LWDS-MW1	01-SEP-94	F	2		1	8260	ENCOTEC
Dichloroethene, 1,2-	LWDS-MW1	01-SEP-94	D	2		1	8260	ENCOTEC
Dichloroethene, 1,2-	LWDS-MW1	04-MAR-98	SA	4.8		0.13	EPA 8260	QSTL
Dichloroethene, 1,2-	LWDS-MW1	04-MAR-98	SA	4.5		0.13	EPA 8260	QSTL
Dichloroethene, 1,2-	LWDS-MW-1	02-MAR-95	F	2	J	5	8240	ENCOTEC
Dichloroethene, 1,2-	LWDS-MW2	21-OCT-92	F	<5	U	5	8240	ENSECO
Dichloroethene, 1,2-	LWDS-MW2	24-JUN-93	F	<5	U	5	8240	ENCOTEC
Dichloroethene, 1,2-	LWDS-MW2	24-JUN-93	D	<5	U	5	8240	ENCOTEC
Dichloroethene, 1,2-	LWDS-MW2	06-JUN-94	F	<1	U	1	8260	ENCOTEC
Dichloroethene, 1,2-	LWDS-MW2	31-AUG-94	F	<1	U	1	8260	ENCOTEC
Dichloroethene, 1,2-	LWDS-MW-2	01-MAR-95	F	<5	U	5	8240	ENCOTEC
Dichloroethene, 1,2-	LWDS-MW-2	01-MAR-95	D	<5	U	5	8240	ENCOTEC
Dichloroethene, 1,2-	TAV-MW1	16-SEP-97	F	<0.13	U	0.13	8260	Quanterra
Dichloroethene, 1,2-	TAV-MW1	16-SEP-97	SA	<0.13	U	0.13	EPA 8260	QSTL
Dichloroethene, cis-1,	AVN-1	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	AVN-1	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	AVN-1	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	AVN-1	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	AVN-2	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	AVN-2	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	AVN-2	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	AVN-2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW1	08-DEC-94	F	2		1	8010	ENCOTEC
Dichloroethene, cis-1,	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloroethene, cis-1,	LWDS-MW1	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW1	26-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW1	10-SEP-96	SA	3.4		0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW1	10-SEP-96	DU	3.5		0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW1	06-DEC-96	SA	3.1		0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW1	06-DEC-96	DU	2.6		0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichloroethene, cis-1,	LWDS-MW1	05-MAR-97	SA	2.9		0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW1	05-MAR-97	DU	3.2		0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW1	16-SEP-97	SA	3.1		0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW1	12-NOV-97	DU	3		0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW1	04-MAR-98	SA	4		0.03	EPA 8260	GEL
Dichloroethene, cis-1,	LWDS-MW1	04-MAR-98	SA	4		0.03	EPA 8260	GEL
Dichloroethene, cis-1,	LWDS-MW1	04-MAR-98	SA	4.4		0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW1	04-MAR-98	SA	4.2		0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW1	08-JUN-98	SPLIT	4.3		0.51	EPA 8260	QSTL
Dichloroethene, cis-1,	LWDS-MW1	08-JUN-98	SA	3.8		0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW1	16-NOV-98	SA	4.5		0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW1	16-NOV-98	DU	4.5		0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW1	17-NOV-98	SA	4.6		0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW1	18-NOV-98	SA	3.9		0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW1	20-NOV-98	SA	4		0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW-1	16-SEP-97	SA	3		0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW-1	08-JUN-98	DU	3.8		0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Dichloroethene, cis-1,	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Dichloroethene, cis-1,	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloroethene, cis-1,	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Dichloroethene, cis-1,	LWDS-MW2	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloroethene, cis-1,	TAV-MW1	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW1	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW1	11-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW1	11-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloroethene, cis-1,	TAV-MW2	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW2	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW2	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW2	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW2	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichloroethene, cis-1,	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, cis-1,	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Dichloroethene, trans	AVN-1	18-SEP-95	F	<1	U	1	8260	GEL
Dichloroethene, trans	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Dichloroethene, trans	AVN-1	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	AVN-1	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	AVN-1	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	AVN-1	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL
Dichloroethene, trans	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Dichloroethene, trans	AVN-2	18-SEP-95	F	<1	U	1	8260	GEL
Dichloroethene, trans	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Dichloroethene, trans	AVN-2	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	AVN-2	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	AVN-2	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	AVN-2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Dichloroethene, trans	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Dichloroethene, trans	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloroethene, trans	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Dichloroethene, trans	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Dichloroethene, trans	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Dichloroethene, trans	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Dichloroethene, trans	LWDS-MW1	18-MAR-96	F	<1	U	1	8010	QUANTERRA
Dichloroethene, trans	LWDS-MW1	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	LWDS-MW1	26-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	LWDS-MW1	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	LWDS-MW1	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	LWDS-MW1	10-SEP-96	SPL	<0.12	U	0.12	EPA-SW846	QARV
Dichloroethene, trans	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans	LWDS-MW1	06-DEC-96	DU	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichloroethene, trans-	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Dichloroethene, trans-	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Dichloroethene, trans-	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	LWDS-MW1	04-MAR-98	SA	<0.05	U	0.05	EPA 8260	GEL
Dichloroethene, trans-	LWDS-MW1	04-MAR-98	SA	<0.05	U	0.05	EPA 8260	GEL
Dichloroethene, trans-	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	LWDS-MW1	08-JUN-98	SPLIT	<0.63	U	0.63	EPA 8260	QSTL
Dichloroethene, trans-	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	LWDS-MW1	18-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Dichloroethene, trans-	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Dichloroethene, trans-	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloroethene, trans-	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Dichloroethene, trans-	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Dichloroethene, trans-	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Dichloroethene, trans-	LWDS-MW2	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	LWDS-MW2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Dichloroethene, trans-	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Dichloroethene, trans-	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Dichloroethene, trans-	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW1	13-APR-95	F	<0.5	U	0.5	8010	QUANTERRA
Dichloroethene, trans-	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloroethene, trans-	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Dichloroethene, trans-	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Dichloroethene, trans-	TAV-MW1	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW1	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW1	11-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW1	11-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW1	11-SEP-96	SPL	<0.12	U	0.12	EPA-SW846	QARV
Dichloroethene, trans-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Dichloroethene, trans-	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Dichloroethene, trans-	TAV-MW1	03-JUN-97	F	<1	U	1	8260	GEL
Dichloroethene, trans-	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichloroethene, trans-	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW2	14-APR-95	F	<0.5	U	0.5	8010	QUANTERR/
Dichloroethene, trans-	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloroethene, trans-	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Dichloroethene, trans-	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Dichloroethene, trans-	TAV-MW2	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW2	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW2	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW2	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW2	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Dichloroethene, trans-	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Dichloroethene, trans-	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Dichloroethene, trans-	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloroethene, trans-	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Dichloropropane, 1,2-	AVN-1	18-SEP-95	F	<1	U	1	8260	GEL
Dichloropropane, 1,2-	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Dichloropropane, 1,2-	AVN-1	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	AVN-1	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	AVN-1	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL
Dichloropropane, 1,2-	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Dichloropropane, 1,2-	AVN-2	18-SEP-95	F	<1	U	1	8260	GEL
Dichloropropane, 1,2-	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Dichloropropane, 1,2-	AVN-2	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	AVN-2	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	AVN-2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Dichloropropane, 1,2-	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichloropropane, 1,2-	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW1	03-MAY-93	F	<5	U	5	8240	ENSECO
Dichloropropane, 1,2-	LWDS-MW1	27-OCT-93	F	<5	U	5	8240	ENCOTEC
Dichloropropane, 1,2-	LWDS-MW1	02-NOV-93	F	<5	U	5	8240	ENCOTEC
Dichloropropane, 1,2-	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Dichloropropane, 1,2-	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Dichloropropane, 1,2-	LWDS-MW1	10-MAR-94	F	<5	U	5	8240	ENCOTEC
Dichloropropane, 1,2-	LWDS-MW1	07-JUN-94	F	<1	U	1	8260	ENCOTEC
Dichloropropane, 1,2-	LWDS-MW1	01-SEP-94	F	<1	U	1	8260	ENCOTEC
Dichloropropane, 1,2-	LWDS-MW1	01-SEP-94	D	<1	U	1	8260	ENCOTEC
Dichloropropane, 1,2-	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Dichloropropane, 1,2-	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloropropane, 1,2-	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Dichloropropane, 1,2-	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Dichloropropane, 1,2-	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Dichloropropane, 1,2-	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Dichloropropane, 1,2-	LWDS-MW1	18-MAR-96	F	<2	U	2	8010	QUANTERR/
Dichloropropane, 1,2-	LWDS-MW1	26-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW1	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW1	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW1	10-SEP-96	SPL	<0.11	U	0.11	EPA-SW846	QARV
Dichloropropane, 1,2-	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW1	06-DEC-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Dichloropropane, 1,2-	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Dichloropropane, 1,2-	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW1	04-MAR-98	SA	<0.2	U	0.2	EPA 8260	QSTL
Dichloropropane, 1,2-	LWDS-MW1	04-MAR-98	SA	<0.2	U	0.2	EPA 8260	QSTL
Dichloropropane, 1,2-	LWDS-MW1	04-MAR-98	SA	<0.03	U	0.03	EPA 8260	GEL
Dichloropropane, 1,2-	LWDS-MW1	04-MAR-98	SA	<0.03	U	0.03	EPA 8260	GEL
Dichloropropane, 1,2-	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW1	08-JUN-98	SPLIT	<1	U	1	EPA 8260	QSTL
Dichloropropane, 1,2-	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW1	18-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW-1	02-MAR-95	F	<5	U	5	8240	ENCOTEC
Dichloropropane, 1,2-	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW2	21-OCT-92	F	<5	U	5	8240	ENSECO
Dichloropropane, 1,2-	LWDS-MW2	24-JUN-93	F	<5	U	5	8240	ENCOTEC
Dichloropropane, 1,2-	LWDS-MW2	24-JUN-93	D	<5	U	5	8240	ENCOTEC
Dichloropropane, 1,2-	LWDS-MW2	06-JUN-94	F	<1	U	1	8260	ENCOTEC
Dichloropropane, 1,2-	LWDS-MW2	31-AUG-94	F	<1	U	1	8260	ENCOTEC
Dichloropropane, 1,2-	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Dichloropropane, 1,2-	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichloropropane, 1,2-	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloropropane, 1,2-	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Dichloropropane, 1,2-	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Dichloropropane, 1,2-	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Dichloropropane, 1,2-	LWDS-MW2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Dichloropropane, 1,2-	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Dichloropropane, 1,2-	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Dichloropropane, 1,2-	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW-2	01-MAR-95	F	<5	U	5	8240	ENCOTEC
Dichloropropane, 1,2-	LWDS-MW-2	01-MAR-95	D	<5	U	5	8240	ENCOTEC
Dichloropropane, 1,2-	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW1	13-APR-95	F	<1	U	1	8010	QUANTERRA
Dichloropropane, 1,2-	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloropropane, 1,2-	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Dichloropropane, 1,2-	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Dichloropropane, 1,2-	TAV-MW1	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW1	11-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW1	11-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW1	11-SEP-96	SPL	<0.11	U	0.11	EPA-SW846	QARV
Dichloropropane, 1,2-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Dichloropropane, 1,2-	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Dichloropropane, 1,2-	TAV-MW1	03-JUN-97	F	<1	U	1	8260	GEL
Dichloropropane, 1,2-	TAV-MW1	16-SEP-97	F	<0.2	U	0.2	8260	Quanterra
Dichloropropane, 1,2-	TAV-MW1	16-SEP-97	SA	<0.2	U	0.2	EPA 8260	QSTL
Dichloropropane, 1,2-	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW2	14-APR-95	F	<1	U	1	8010	QUANTERRA
Dichloropropane, 1,2-	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloropropane, 1,2-	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Dichloropropane, 1,2-	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Dichloropropane, 1,2-	TAV-MW2	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW2	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW2	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW2	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Dichloropropane, 1,2-	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Dichloropropane, 1,2-	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichloropropane, 1,2-	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Dichloropropane, 1,2-	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropane, 1,2-	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	AVN-1	13-JUL-95	F	<2	U	2	8260	ENCOTEC
Dichloropropene, cis-	AVN-1	18-SEP-95	F	<1	U	1	8260	GEL
Dichloropropene, cis-	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Dichloropropene, cis-	AVN-1	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	AVN-1	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	AVN-1	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	AVN-1	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL
Dichloropropene, cis-	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	AVN-2	11-JUL-95	F	<2	U	2	8260	ENCOTEC
Dichloropropene, cis-	AVN-2	18-SEP-95	F	<1	U	1	8260	GEL
Dichloropropene, cis-	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Dichloropropene, cis-	AVN-2	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	AVN-2	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	AVN-2	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	AVN-2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Dichloropropene, cis-	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW1	03-MAY-93	F	<5	U	5	8240	ENSECO
Dichloropropene, cis-	LWDS-MW1	27-OCT-93	F	<5	U	5	8240	ENCOTEC
Dichloropropene, cis-	LWDS-MW1	02-NOV-93	F	<5	U	5	8240	ENCOTEC
Dichloropropene, cis-	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Dichloropropene, cis-	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Dichloropropene, cis-	LWDS-MW1	10-MAR-94	F	<5	U	5	8240	ENCOTEC
Dichloropropene, cis-	LWDS-MW1	07-JUN-94	F	<2	U	2	8260	ENCOTEC
Dichloropropene, cis-	LWDS-MW1	01-SEP-94	F	<2	U	2	8260	ENCOTEC
Dichloropropene, cis-	LWDS-MW1	01-SEP-94	D	<2	U	2	8260	ENCOTEC
Dichloropropene, cis-	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Dichloropropene, cis-	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloropropene, cis-	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Dichloropropene, cis-	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Dichloropropene, cis-	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichloropropene, cis-	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Dichloropropene, cis-	LWDS-MW1	18-MAR-96	F	<4	U	4	8010	QUANTERRA
Dichloropropene, cis-	LWDS-MW1	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW1	26-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW1	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW1	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW1	10-SEP-96	SPL	<0.06	U	0.06	EPA-SW846	QARV
Dichloropropene, cis-	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW1	06-DEC-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Dichloropropene, cis-	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Dichloropropene, cis-	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW1	04-MAR-98	SA	<0.1	U	0.1	EPA 8260	QSTL
Dichloropropene, cis-	LWDS-MW1	04-MAR-98	SA	<0.1	U	0.1	EPA 8260	QSTL
Dichloropropene, cis-	LWDS-MW1	04-MAR-98	SA	<0.02	U	0.02	EPA 8260	GEL
Dichloropropene, cis-	LWDS-MW1	04-MAR-98	SA	<0.02	U	0.02	EPA 8260	GEL
Dichloropropene, cis-	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW1	08-JUN-98	SPLIT	<0.52	U	0.52	EPA 8260	QSTL
Dichloropropene, cis-	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW1	18-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW-1	02-MAR-95	F	<5	U	5	8240	ENCOTEC
Dichloropropene, cis-	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW2	21-OCT-92	F	<5	U	5	8240	ENSECO
Dichloropropene, cis-	LWDS-MW2	24-JUN-93	F	<5	U	5	8240	ENCOTEC
Dichloropropene, cis-	LWDS-MW2	24-JUN-93	D	<5	U	5	8240	ENCOTEC
Dichloropropene, cis-	LWDS-MW2	06-JUN-94	F	<2	U	2	8260	ENCOTEC
Dichloropropene, cis-	LWDS-MW2	31-AUG-94	F	<2	U	2	8260	ENCOTEC
Dichloropropene, cis-	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Dichloropropene, cis-	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Dichloropropene, cis-	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloropropene, cis-	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Dichloropropene, cis-	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Dichloropropene, cis-	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Dichloropropene, cis-	LWDS-MW2	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Dichloropropene, cis-	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Dichloropropene, cis-	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Dichloropropene, cis-	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW-2	01-MAR-95	F	<5	U	5	8240	ENCOTEC
Dichloropropene, cis-	LWDS-MW-2	01-MAR-95	D	<5	U	5	8240	ENCOTEC
Dichloropropene, cis-	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichloropropene, cis-	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW1	13-APR-95	F	<2	U	2	8010	QUANTERRA
Dichloropropene, cis-	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloropropene, cis-	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Dichloropropene, cis-	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Dichloropropene, cis-	TAV-MW1	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW1	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW1	11-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW1	11-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW1	11-SEP-96	SPL	<0.06	U	0.06	EPA-SW846	QARV
Dichloropropene, cis-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Dichloropropene, cis-	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Dichloropropene, cis-	TAV-MW1	03-JUN-97	F	<1	U	1	8260	GEL
Dichloropropene, cis-	TAV-MW1	16-SEP-97	F	<0.1	U	0.1	8260	Quanterra
Dichloropropene, cis-	TAV-MW1	16-SEP-97	SA	<0.1	U	0.1	EPA 8260	QSTL
Dichloropropene, cis-	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW2	14-APR-95	F	<2	U	2	8010	QUANTERRA
Dichloropropene, cis-	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloropropene, cis-	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Dichloropropene, cis-	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Dichloropropene, cis-	TAV-MW2	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW2	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW2	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW2	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW2	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Dichloropropene, cis-	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Dichloropropene, cis-	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Dichloropropene, cis-	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, cis-	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	AVN-1	13-JUL-95	F	<5	U	5	8260	ENCOTEC
Dichloropropene, tran	AVN-1	18-SEP-95	F	<1	U	1	8260	GEL
Dichloropropene, tran	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Dichloropropene, tran	AVN-1	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichloropropene, tran	AVN-1	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	AVN-1	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	AVN-1	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL
Dichloropropene, tran	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	AVN-2	11-JUL-95	F	<5	U	5	8260	ENCOTEC
Dichloropropene, tran	AVN-2	18-SEP-95	F	<1	U	1	8260	GEL
Dichloropropene, tran	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Dichloropropene, tran	AVN-2	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	AVN-2	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	AVN-2	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	AVN-2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Dichloropropene, tran	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW1	03-MAY-93	F	<5	U	5	8240	ENSECO
Dichloropropene, tran	LWDS-MW1	27-OCT-93	F	<5	U	5	8240	ENCOTEC
Dichloropropene, tran	LWDS-MW1	02-NOV-93	F	<5	U	5	8240	ENCOTEC
Dichloropropene, tran	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Dichloropropene, tran	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Dichloropropene, tran	LWDS-MW1	10-MAR-94	F	<5	U	5	8240	ENCOTEC
Dichloropropene, tran	LWDS-MW1	07-JUN-94	F	<5	U	5	8260	ENCOTEC
Dichloropropene, tran	LWDS-MW1	01-SEP-94	F	<5	U	5	8260	ENCOTEC
Dichloropropene, tran	LWDS-MW1	01-SEP-94	D	<5	U	5	8260	ENCOTEC
Dichloropropene, tran	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Dichloropropene, tran	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloropropene, tran	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Dichloropropene, tran	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Dichloropropene, tran	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Dichloropropene, tran	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Dichloropropene, tran	LWDS-MW1	18-MAR-96	F	<2	U	2	8010	QUANTERR/
Dichloropropene, tran	LWDS-MW1	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW1	26-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW1	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW1	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW1	10-SEP-96	SPL	<0.03	U	0.03	EPA-SW846	QARV
Dichloropropene, tran	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW1	06-DEC-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Dichloropropene, tran	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Dichloropropene, tran	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichloropropene, tran	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW1	04-MAR-98	SA	<0.058	U	0.058	EPA 8260	QSTL
Dichloropropene, tran	LWDS-MW1	04-MAR-98	SA	<0.058	U	0.058	EPA 8260	QSTL
Dichloropropene, tran	LWDS-MW1	04-MAR-98	SA	<0.04	U	0.04	EPA 8260	GEL
Dichloropropene, tran	LWDS-MW1	04-MAR-98	SA	<0.04	U	0.04	EPA 8260	GEL
Dichloropropene, tran	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW1	08-JUN-98	SPLIT	<0.29	U	0.29	EPA 8260	QSTL
Dichloropropene, tran	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW1	18-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW-1	02-MAR-95	F	<5	U	5	8240	ENCOTEC
Dichloropropene, tran	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW2	21-OCT-92	F	<5	U	5	8240	ENSECO
Dichloropropene, tran	LWDS-MW2	24-JUN-93	F	<5	U	5	8240	ENCOTEC
Dichloropropene, tran	LWDS-MW2	24-JUN-93	D	<5	U	5	8240	ENCOTEC
Dichloropropene, tran	LWDS-MW2	06-JUN-94	F	<5	U	5	8260	ENCOTEC
Dichloropropene, tran	LWDS-MW2	31-AUG-94	F	<5	U	5	8260	ENCOTEC
Dichloropropene, tran	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Dichloropropene, tran	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Dichloropropene, tran	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloropropene, tran	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Dichloropropene, tran	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Dichloropropene, tran	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Dichloropropene, tran	LWDS-MW2	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Dichloropropene, tran	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Dichloropropene, tran	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Dichloropropene, tran	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW-2	01-MAR-95	F	<5	U	5	8240	ENCOTEC
Dichloropropene, tran	LWDS-MW-2	01-MAR-95	D	<5	U	5	8240	ENCOTEC
Dichloropropene, tran	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW1	13-APR-95	F	<1	U	1	8010	QUANTERRA
Dichloropropene, tran	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloropropene, tran	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Dichloropropene, tran	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Dichloropropene, tran	TAV-MW1	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW1	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW1	11-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW1	11-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW1	11-SEP-96	SPL	<0.03	U	0.03	EPA-SW846	QARV
Dichloropropene, tran	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichloropropene, tran	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Dichloropropene, tran	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Dichloropropene, tran	TAV-MW1	03-JUN-97	F	<1	U	1	8260	GEL
Dichloropropene, tran	TAV-MW1	16-SEP-97	F	<0.06	U	0.06	8260	Quanterra
Dichloropropene, tran	TAV-MW1	16-SEP-97	SA	<0.06	U	0.06	EPA 8260	QSTL
Dichloropropene, tran	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW2	14-APR-95	F	<1	U	1	8010	QUANTERRA
Dichloropropene, tran	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Dichloropropene, tran	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Dichloropropene, tran	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Dichloropropene, tran	TAV-MW2	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW2	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW2	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW2	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW2	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Dichloropropene, tran	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Dichloropropene, tran	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Dichloropropene, tran	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Dichloropropene, tran	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Dichlorphenol, 2,4-	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Dichlorphenol, 2,4-	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Dichlorphenol, 2,4-	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorphenol, 2,4-	AVN-1	03-JUN-98	SA	<1.5	U	1.5	EPA 8270	QSTL
Dichlorphenol, 2,4-	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Dichlorphenol, 2,4-	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Dichlorphenol, 2,4-	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorphenol, 2,4-	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Dichlorphenol, 2,4-	AVN-2	03-JUN-98	SA	<1.5	U	1.5	EPA 8270	QSTL
Dichlorphenol, 2,4-	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Dichlorphenol, 2,4-	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Dichlorphenol, 2,4-	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Dichlorphenol, 2,4-	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Dichlorphenol, 2,4-	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Dichlorphenol, 2,4-	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Dichlorphenol, 2,4-	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Dichlorphenol, 2,4-	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Dichlorphenol, 2,4-	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dichlorphenol, 2,4-	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Dichlorphenol, 2,4-	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Dichlorphenol, 2,4-	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Dichlorphenol, 2,4-	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Dichlorphenol, 2,4-	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorphenol, 2,4-	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorphenol, 2,4-	LWDS-MW1	08-JUN-98	SA	<1.5	U	1.5	EPA 8270	QSTL
Dichlorphenol, 2,4-	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Dichlorphenol, 2,4-	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Dichlorphenol, 2,4-	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Dichlorphenol, 2,4-	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Dichlorphenol, 2,4-	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Dichlorphenol, 2,4-	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Dichlorphenol, 2,4-	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Dichlorphenol, 2,4-	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Dichlorphenol, 2,4-	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Dichlorphenol, 2,4-	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Dichlorphenol, 2,4-	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Dichlorphenol, 2,4-	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Dichlorphenol, 2,4-	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorphenol, 2,4-	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Dichlorphenol, 2,4-	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Dichlorphenol, 2,4-	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Dichlorphenol, 2,4-	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Dichlorphenol, 2,4-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorphenol, 2,4-	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Dichlorphenol, 2,4-	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Dichlorphenol, 2,4-	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Dichlorphenol, 2,4-	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dichlorphenol, 2,4-	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Dichlorphenol, 2,4-	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Dichlorphenol, 2,4-	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dichlorphenol, 2,4-	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dichlorphenol, 2,4-	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dieldrin	LWDS-MW1	25-SEP-95	F	<0.025	U	0.025	8080	GEL
Diethylphthalate	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Diethylphthalate	AVN-1	13-DEC-95	F	<1.42	U	1.42	8270	GEL
Diethylphthalate	AVN-1	29-MAY-97	SA	<5	U	5	EPA8270	ERCL
Diethylphthalate	AVN-1	03-JUN-98	SA	<0.79	U	0.79	EPA 8270	QSTL
Diethylphthalate	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Diethylphthalate	AVN-2	14-DEC-95	F	<1.42	U	1.42	8270	GEL
Diethylphthalate	AVN-2	04-DEC-96	SA	<5	U	5	EPA8270	ERCL
Diethylphthalate	AVN-2	29-MAY-97	SA	<4.8	U	4.8	EPA8270	ERCL
Diethylphthalate	AVN-2	03-JUN-98	SA	<0.79	U	0.79	EPA 8270	QSTL
Diethylphthalate	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Diethylphthalate	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Diethylphthalate	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Diethylphthalate	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Diethylphthalate	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Diethylphthalate	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Diethylphthalate	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Diethylphthalate	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Diethylphthalate	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Diethylphthalate	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Diethylphthalate	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Diethylphthalate	LWDS-MW1	19-DEC-95	F	<1.42	U	1.42	8270	GEL
Diethylphthalate	LWDS-MW1	19-DEC-95	D	<1.42	U	1.42	8270	GEL
Diethylphthalate	LWDS-MW1	06-DEC-96	SA	<5	U	5	EPA8270	ERCL
Diethylphthalate	LWDS-MW1	30-MAY-97	SA	<5	U	5	EPA8270	ERCL
Diethylphthalate	LWDS-MW1	08-JUN-98	SA	<0.79	U	0.79	EPA 8270	QSTL
Diethylphthalate	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Diethylphthalate	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Diethylphthalate	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Diethylphthalate	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Diethylphthalate	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Diethylphthalate	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Diethylphthalate	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Diethylphthalate	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Diethylphthalate	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Diethylphthalate	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Diethylphthalate	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Diethylphthalate	LWDS-MW2	14-DEC-95	F	<1.42	U	1.42	8270	GEL
Diethylphthalate	LWDS-MW2	05-DEC-96	SA	<5	U	5	EPA8270	ERCL
Diethylphthalate	LWDS-MW2	02-JUN-97	SA	<4.4	U	4.4	EPA8270	ERCL
Diethylphthalate	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Diethylphthalate	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Diethylphthalate	TAV-MW1	18-DEC-95	F	<1.42	U	1.42	8270	GEL
Diethylphthalate	TAV-MW1	06-DEC-96	SA	<5	U	5	EPA8270	ERCL
Diethylphthalate	TAV-MW1	03-JUN-97	SA	<4.8	U	4.8	EPA8270	ERCL
Diethylphthalate	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Diethylphthalate	TAV-MW2	18-DEC-95	F	<1.42	U	1.42	8270	GEL
Diethylphthalate	TAV-MW2	05-DEC-96	SA	<5	U	5	EPA8270	ERCL
Diethylphthalate	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Diethylphthalate	TAV-MW2	04-JUN-97	SA	<5.2	U	5.2	EPA8270	ERCL
Diethylphthalate	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Diethylphthalate	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Diethylphthalate	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dimethylphenol, 2,4-	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Dimethylphenol, 2,4-	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Dimethylphenol, 2,4-	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Dimethylphenol, 2,4-	AVN-1	03-JUN-98	SA	<1.4	U	1.4	EPA 8270	QSTL
Dimethylphenol, 2,4-	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Dimethylphenol, 2,4-	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Dimethylphenol, 2,4-	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dimethylphenol, 2,4-	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Dimethylphenol, 2,4-	AVN-2	03-JUN-98	SA	<1.4	U	1.4	EPA 8270	QSTL
Dimethylphenol, 2,4-	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Dimethylphenol, 2,4-	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Dimethylphenol, 2,4-	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Dimethylphenol, 2,4-	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Dimethylphenol, 2,4-	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Dimethylphenol, 2,4-	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Dimethylphenol, 2,4-	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Dimethylphenol, 2,4-	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Dimethylphenol, 2,4-	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Dimethylphenol, 2,4-	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Dimethylphenol, 2,4-	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Dimethylphenol, 2,4-	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Dimethylphenol, 2,4-	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Dimethylphenol, 2,4-	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dimethylphenol, 2,4-	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Dimethylphenol, 2,4-	LWDS-MW1	08-JUN-98	SA	<1.4	U	1.4	EPA 8270	QSTL
Dimethylphenol, 2,4-	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Dimethylphenol, 2,4-	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Dimethylphenol, 2,4-	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Dimethylphenol, 2,4-	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Dimethylphenol, 2,4-	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Dimethylphenol, 2,4-	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Dimethylphenol, 2,4-	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Dimethylphenol, 2,4-	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Dimethylphenol, 2,4-	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Dimethylphenol, 2,4-	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Dimethylphenol, 2,4-	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Dimethylphenol, 2,4-	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Dimethylphenol, 2,4-	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dimethylphenol, 2,4-	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Dimethylphenol, 2,4-	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Dimethylphenol, 2,4-	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Dimethylphenol, 2,4-	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Dimethylphenol, 2,4-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dimethylphenol, 2,4-	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Dimethylphenol, 2,4-	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Dimethylphenol, 2,4-	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Dimethylphenol, 2,4-	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dimethylphenol, 2,4-	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Dimethylphenol, 2,4-	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Dimethylphenol, 2,4-	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dimethylphenol, 2,4-	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dimethylphenol, 2,4-	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dimethylphthalate	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Dimethylphthalate	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Dimethylphthalate	AVN-1	29-MAY-97	SA	<5	U	5	EPA8270	ERCL
Dimethylphthalate	AVN-1	03-JUN-98	SA	<0.98	U	0.98	EPA 8270	QSTL
Dimethylphthalate	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Dimethylphthalate	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Dimethylphthalate	AVN-2	04-DEC-96	SA	<5	U	5	EPA8270	ERCL
Dimethylphthalate	AVN-2	29-MAY-97	SA	<4.8	U	4.8	EPA8270	ERCL
Dimethylphthalate	AVN-2	03-JUN-98	SA	<0.98	U	0.98	EPA 8270	QSTL
Dimethylphthalate	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Dimethylphthalate	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Dimethylphthalate	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Dimethylphthalate	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Dimethylphthalate	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Dimethylphthalate	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Dimethylphthalate	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Dimethylphthalate	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Dimethylphthalate	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Dimethylphthalate	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Dimethylphthalate	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Dimethylphthalate	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Dimethylphthalate	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Dimethylphthalate	LWDS-MW1	06-DEC-96	SA	<5	U	5	EPA8270	ERCL
Dimethylphthalate	LWDS-MW1	30-MAY-97	SA	<5	U	5	EPA8270	ERCL
Dimethylphthalate	LWDS-MW1	08-JUN-98	SA	<0.98	U	0.98	EPA 8270	QSTL
Dimethylphthalate	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dimethylphthalate	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Dimethylphthalate	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Dimethylphthalate	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Dimethylphthalate	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Dimethylphthalate	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Dimethylphthalate	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Dimethylphthalate	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Dimethylphthalate	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Dimethylphthalate	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Dimethylphthalate	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Dimethylphthalate	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Dimethylphthalate	LWDS-MW2	05-DEC-96	SA	<5	U	5	EPA8270	ERCL
Dimethylphthalate	LWDS-MW2	02-JUN-97	SA	<4.4	U	4.4	EPA8270	ERCL
Dimethylphthalate	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Dimethylphthalate	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Dimethylphthalate	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Dimethylphthalate	TAV-MW1	06-DEC-96	SA	<5	U	5	EPA8270	ERCL
Dimethylphthalate	TAV-MW1	03-JUN-97	SA	<4.8	U	4.8	EPA8270	ERCL
Dimethylphthalate	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Dimethylphthalate	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Dimethylphthalate	TAV-MW2	05-DEC-96	SA	<5	U	5	EPA8270	ERCL
Dimethylphthalate	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Dimethylphthalate	TAV-MW2	04-JUN-97	SA	<5.2	U	5.2	EPA8270	ERCL
Dimethylphthalate	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dimethylphthalate	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dimethylphthalate	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Di-n-butyl phthalate	AVN-1	13-JUL-95	F	1	J	10	8270	ENCOTEC
Di-n-butyl phthalate	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Di-n-butyl phthalate	AVN-1	29-MAY-97	SA	<5	U	5	EPA8270	ERCL
Di-n-butyl phthalate	AVN-1	03-JUN-98	SA	<0.82	U	0.82	EPA 8270	QSTL
Di-n-butyl phthalate	AVN-2	11-JUL-95	F	2	J	10	8270	ENCOTEC
Di-n-butyl phthalate	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Di-n-butyl phthalate	AVN-2	04-DEC-96	SA	<5	U	5	EPA8270	ERCL
Di-n-butyl phthalate	AVN-2	29-MAY-97	SA	<4.8	U	4.8	EPA8270	ERCL
Di-n-butyl phthalate	AVN-2	03-JUN-98	SA	<0.82	U	0.82	EPA 8270	QSTL
Di-n-butyl phthalate	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Di-n-butyl phthalate	LWDS-MW1	03-MAY-93	F	6.2	J	10	8270	ENSECO
Di-n-butyl phthalate	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Di-n-butyl phthalate	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Di-n-butyl phthalate	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Di-n-butyl phthalate	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Di-n-butyl phthalate	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Di-n-butyl phthalate	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Di-n-butyl phthalate	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Di-n-butyl phthalate	LWDS-MW1	08-DEC-94	F	3	BJ	10	8270	ENCOTEC
Di-n-butyl phthalate	LWDS-MW1	14-JUN-95	F	4	JB	10	8270	ENCOTEC
Di-n-butyl phthalate	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Di-n-butyl phthalate	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Di-n-butyl phthalate	LWDS-MW1	06-DEC-96	SA	<5	U	5	EPA8270	ERCL
Di-n-butyl phthalate	LWDS-MW1	30-MAY-97	SA	<5	U	5	EPA8270	ERCL
Di-n-butyl phthalate	LWDS-MW1	08-JUN-98	SA	<0.82	U	0.82	EPA 8270	QSTL
Di-n-butyl phthalate	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Di-n-butyl phthalate	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Di-n-butyl phthalate	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Di-n-butyl phthalate	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Di-n-butyl phthalate	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Di-n-butyl phthalate	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Di-n-butyl phthalate	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Di-n-butyl phthalate	LWDS-MW2	31-AUG-94	F	1	J	10	8270	ENCOTEC
Di-n-butyl phthalate	LWDS-MW2	07-DEC-94	F	1	BJ	10	8270	ENCOTEC
Di-n-butyl phthalate	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Di-n-butyl phthalate	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Di-n-butyl phthalate	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Di-n-butyl phthalate	LWDS-MW2	05-DEC-96	SA	<5	U	5	EPA8270	ERCL
Di-n-butyl phthalate	LWDS-MW2	02-JUN-97	SA	<4.4	U	4.4	EPA8270	ERCL
Di-n-butyl phthalate	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Di-n-butyl phthalate	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Di-n-butyl phthalate	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Di-n-butyl phthalate	TAV-MW1	06-DEC-96	SA	<5	U	5	EPA8270	ERCL
Di-n-butyl phthalate	TAV-MW1	03-JUN-97	SA	<4.8	U	4.8	EPA8270	ERCL
Di-n-butyl phthalate	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Di-n-butyl phthalate	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Di-n-butyl phthalate	TAV-MW2	05-DEC-96	SA	<5	U	5	EPA8270	ERCL
Di-n-butyl phthalate	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Di-n-butyl phthalate	TAV-MW2	04-JUN-97	SA	<5.2	U	5.2	EPA8270	ERCL
Di-n-butyl phthalate	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Di-n-butyl phthalate	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Di-n-butyl phthalate	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dinitro-o-cresol	AVN-1	13-JUL-95	F	<50	U	50	8270	ENCOTEC
Dinitro-o-cresol	AVN-1	13-DEC-95	F	<1.78	U	1.78	8270	GEL
Dinitro-o-cresol	AVN-1	29-MAY-97	SA	<20	U	20	EPA8270	ERCL
Dinitro-o-cresol	AVN-1	03-JUN-98	SA	<0.46	U	0.46	EPA 8270	QSTL
Dinitro-o-cresol	AVN-2	11-JUL-95	F	<50	U	50	8270	ENCOTEC
Dinitro-o-cresol	AVN-2	14-DEC-95	F	<1.78	U	1.78	8270	GEL
Dinitro-o-cresol	AVN-2	04-DEC-96	SA	<20	U	20	EPA8270	ERCL
Dinitro-o-cresol	AVN-2	29-MAY-97	SA	<19	U	19	EPA8270	ERCL
Dinitro-o-cresol	AVN-2	03-JUN-98	SA	<0.46	U	0.46	EPA 8270	QSTL
Dinitro-o-cresol	LWDS-MW1	03-MAY-93	F	<50	U	50	8270	ENSECO
Dinitro-o-cresol	LWDS-MW1	03-MAY-93	F	<50	U	50	8270	ENSECO
Dinitro-o-cresol	LWDS-MW1	02-NOV-93	F	<50	U	50	8270	ENCOTEC
Dinitro-o-cresol	LWDS-MW1	03-NOV-93	F	<50	U	50	8270	ENCOTEC
Dinitro-o-cresol	LWDS-MW1	03-NOV-93	F	<50	U	50	8270	ENCOTEC
Dinitro-o-cresol	LWDS-MW1	12-MAR-94	F	<50	U	50	8270	ENCOTEC
Dinitro-o-cresol	LWDS-MW1	07-JUN-94	F	<50	U	50	8270	ENCOTEC
Dinitro-o-cresol	LWDS-MW1	01-SEP-94	F	<50	U	50	8270	ENCOTEC
Dinitro-o-cresol	LWDS-MW1	01-SEP-94	D	<50	U	50	8270	ENCOTEC
Dinitro-o-cresol	LWDS-MW1	08-DEC-94	F	<50	U	50	8270	ENCOTEC
Dinitro-o-cresol	LWDS-MW1	14-JUN-95	F	<50	U	50	8270	ENCOTEC
Dinitro-o-cresol	LWDS-MW1	19-DEC-95	F	<1.78	U	1.78	8270	GEL
Dinitro-o-cresol	LWDS-MW1	19-DEC-95	D	<1.78	U	1.78	8270	GEL
Dinitro-o-cresol	LWDS-MW1	06-DEC-96	SA	<20	U	20	EPA8270	ERCL
Dinitro-o-cresol	LWDS-MW1	30-MAY-97	SA	<20	U	20	EPA8270	ERCL
Dinitro-o-cresol	LWDS-MW1	08-JUN-98	SA	<0.46	U	0.46	EPA 8270	QSTL
Dinitro-o-cresol	LWDS-MW-1	02-MAR-95	F	<50	U	50	8270	ENCOTEC
Dinitro-o-cresol	LWDS-MW2	21-OCT-92	F	<50	U	50	8270	ENSECO
Dinitro-o-cresol	LWDS-MW2	24-JUN-93	F	<50	U	50	8270	ENCOTEC
Dinitro-o-cresol	LWDS-MW2	24-JUN-93	D	<50	U	50	8270	ENCOTEC
Dinitro-o-cresol	LWDS-MW2	11-MAR-94	F	<50	U	50	8270	ENCOTEC
Dinitro-o-cresol	LWDS-MW2	11-MAR-94	D	<50	U	50	8270	ENCOTEC
Dinitro-o-cresol	LWDS-MW2	06-JUN-94	F	<50	U	50	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dinitro-o-cresol	LWDS-MW2	31-AUG-94	F	<50	U	50	8270	ENCOTEC
Dinitro-o-cresol	LWDS-MW2	07-DEC-94	F	<50	U	50	8270	ENCOTEC
Dinitro-o-cresol	LWDS-MW2	12-JUN-95	F	<50	U	50	8270	ENCOTEC
Dinitro-o-cresol	LWDS-MW2	12-JUN-95	D	<50	U	50	8270	ENCOTEC
Dinitro-o-cresol	LWDS-MW2	14-DEC-95	F	<1.78	U	1.78	8270	GEL
Dinitro-o-cresol	LWDS-MW2	05-DEC-96	SA	<20	U	20	EPA8270	ERCL
Dinitro-o-cresol	LWDS-MW2	02-JUN-97	SA	<18	U	18	EPA8270	ERCL
Dinitro-o-cresol	LWDS-MW-2	01-MAR-95	F	<50	U	50	8270	ENCOTEC
Dinitro-o-cresol	TAV-MW1	09-JUN-95	F	<50	U	50	8270	ENCOTEC
Dinitro-o-cresol	TAV-MW1	18-DEC-95	F	<1.78	U	1.78	8270	GEL
Dinitro-o-cresol	TAV-MW1	06-DEC-96	SA	<20	U	20	EPA8270	ERCL
Dinitro-o-cresol	TAV-MW1	03-JUN-97	SA	<19	U	19	EPA8270	ERCL
Dinitro-o-cresol	TAV-MW2	06-JUN-95	F	<50	U	50	8270	ENCOTEC
Dinitro-o-cresol	TAV-MW2	18-DEC-95	F	<1.78	U	1.78	8270	GEL
Dinitro-o-cresol	TAV-MW2	05-DEC-96	SA	<20	U	20	EPA8270	ERCL
Dinitro-o-cresol	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Dinitro-o-cresol	TAV-MW2	04-JUN-97	SA	<21	U	21	EPA8270	ERCL
Dinitro-o-cresol	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dinitro-o-cresol	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dinitro-o-cresol	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dinitrophenol, 2,4-	AVN-1	13-JUL-95	F	<50	U	50	8270	ENCOTEC
Dinitrophenol, 2,4-	AVN-1	13-DEC-95	F	<10	U	10	8270	GEL
Dinitrophenol, 2,4-	AVN-1	29-MAY-97	SA	<20	U	20	EPA8270	ERCL
Dinitrophenol, 2,4-	AVN-1	03-JUN-98	SA	<1.2	U	1.2	EPA 8270	QSTL
Dinitrophenol, 2,4-	AVN-2	11-JUL-95	F	<50	U	50	8270	ENCOTEC
Dinitrophenol, 2,4-	AVN-2	14-DEC-95	F	<10	U	10	8270	GEL
Dinitrophenol, 2,4-	AVN-2	04-DEC-96	SA	<20	U	20	EPA8270	ERCL
Dinitrophenol, 2,4-	AVN-2	29-MAY-97	SA	<19	U	19	EPA8270	ERCL
Dinitrophenol, 2,4-	AVN-2	03-JUN-98	SA	<1.2	U	1.2	EPA 8270	QSTL
Dinitrophenol, 2,4-	LWDS-MW1	03-MAY-93	F	<50	U	50	8270	ENSECO
Dinitrophenol, 2,4-	LWDS-MW1	03-MAY-93	F	<50	U	50	8270	ENSECO
Dinitrophenol, 2,4-	LWDS-MW1	02-NOV-93	F	<50	U	50	8270	ENCOTEC
Dinitrophenol, 2,4-	LWDS-MW1	03-NOV-93	F	<50	U	50	8270	ENCOTEC
Dinitrophenol, 2,4-	LWDS-MW1	03-NOV-93	F	<50	U	50	8270	ENCOTEC
Dinitrophenol, 2,4-	LWDS-MW1	12-MAR-94	F	<50	U	50	8270	ENCOTEC
Dinitrophenol, 2,4-	LWDS-MW1	07-JUN-94	F	<50	U	50	8270	ENCOTEC
Dinitrophenol, 2,4-	LWDS-MW1	01-SEP-94	F	<50	U	50	8270	ENCOTEC
Dinitrophenol, 2,4-	LWDS-MW1	01-SEP-94	D	<50	U	50	8270	ENCOTEC
Dinitrophenol, 2,4-	LWDS-MW1	08-DEC-94	F	<50	U	50	8270	ENCOTEC
Dinitrophenol, 2,4-	LWDS-MW1	14-JUN-95	F	<50	U	50	8270	ENCOTEC
Dinitrophenol, 2,4-	LWDS-MW1	19-DEC-95	F	<10	U	10	8270	GEL
Dinitrophenol, 2,4-	LWDS-MW1	19-DEC-95	D	<10	U	10	8270	GEL
Dinitrophenol, 2,4-	LWDS-MW1	06-DEC-96	SA	<20	U	20	EPA8270	ERCL
Dinitrophenol, 2,4-	LWDS-MW1	30-MAY-97	SA	<20	U	20	EPA8270	ERCL
Dinitrophenol, 2,4-	LWDS-MW1	08-JUN-98	SA	<1.2	U	1.2	EPA 8270	QSTL
Dinitrophenol, 2,4-	LWDS-MW-1	02-MAR-95	F	<50	U	50	8270	ENCOTEC
Dinitrophenol, 2,4-	LWDS-MW2	21-OCT-92	F	<50	U	50	8270	ENSECO
Dinitrophenol, 2,4-	LWDS-MW2	24-JUN-93	F	<50	U	50	8270	ENCOTEC
Dinitrophenol, 2,4-	LWDS-MW2	24-JUN-93	D	<50	U	50	8270	ENCOTEC
Dinitrophenol, 2,4-	LWDS-MW2	11-MAR-94	F	<50	U	50	8270	ENCOTEC
Dinitrophenol, 2,4-	LWDS-MW2	11-MAR-94	D	<50	U	50	8270	ENCOTEC
Dinitrophenol, 2,4-	LWDS-MW2	06-JUN-94	F	<50	U	50	8270	ENCOTEC
Dinitrophenol, 2,4-	LWDS-MW2	31-AUG-94	F	<50	U	50	8270	ENCOTEC
Dinitrophenol, 2,4-	LWDS-MW2	07-DEC-94	F	<50	U	50	8270	ENCOTEC
Dinitrophenol, 2,4-	LWDS-MW2	12-JUN-95	F	<50	U	50	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dinitrophenol, 2,4-	LWDS-MW2	12-JUN-95	D	<50	U	50	8270	ENCOTEC
Dinitrophenol, 2,4-	LWDS-MW2	14-DEC-95	F	<10	U	10	8270	GEL
Dinitrophenol, 2,4-	LWDS-MW2	05-DEC-96	SA	<20	U	20	EPA8270	ERCL
Dinitrophenol, 2,4-	LWDS-MW2	02-JUN-97	SA	<18	U	18	EPA8270	ERCL
Dinitrophenol, 2,4-	LWDS-MW-2	01-MAR-95	F	<50	U	50	8270	ENCOTEC
Dinitrophenol, 2,4-	TAV-MW1	09-JUN-95	F	<50	U	50	8270	ENCOTEC
Dinitrophenol, 2,4-	TAV-MW1	18-DEC-95	F	<10	U	10	8270	GEL
Dinitrophenol, 2,4-	TAV-MW1	06-DEC-96	SA	<20	U	20	EPA8270	ERCL
Dinitrophenol, 2,4-	TAV-MW1	03-JUN-97	SA	<19	U	19	EPA8270	ERCL
Dinitrophenol, 2,4-	TAV-MW2	06-JUN-95	F	<50	U	50	8270	ENCOTEC
Dinitrophenol, 2,4-	TAV-MW2	18-DEC-95	F	<10	U	10	8270	GEL
Dinitrophenol, 2,4-	TAV-MW2	05-DEC-96	SA	<20	U	20	EPA8270	ERCL
Dinitrophenol, 2,4-	TAV-MW2	04-JUN-97	SPL	<10	U	10	8270	GEL
Dinitrophenol, 2,4-	TAV-MW2	04-JUN-97	SA	<21	U	21	EPA8270	ERCL
Dinitrophenol, 2,4-	TAV-MW3	26-FEB-98	SA	<10	U	10	EPA 8270	GEL
Dinitrophenol, 2,4-	TAV-MW4	26-FEB-98	SA	<10	U	10	EPA 8270	GEL
Dinitrophenol, 2,4-	TAV-MW5	27-FEB-98	SA	<10	U	10	EPA 8270	GEL
Dinitrotoluene, 2,4-	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,4-	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Dinitrotoluene, 2,4-	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Dinitrotoluene, 2,4-	AVN-1	03-JUN-98	SA	<0.95	U	0.95	EPA 8270	QSTL
Dinitrotoluene, 2,4-	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,4-	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Dinitrotoluene, 2,4-	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dinitrotoluene, 2,4-	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Dinitrotoluene, 2,4-	AVN-2	03-JUN-98	SA	<0.95	U	0.95	EPA 8270	QSTL
Dinitrotoluene, 2,4-	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Dinitrotoluene, 2,4-	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Dinitrotoluene, 2,4-	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,4-	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,4-	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,4-	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,4-	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,4-	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,4-	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,4-	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,4-	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,4-	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Dinitrotoluene, 2,4-	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Dinitrotoluene, 2,4-	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dinitrotoluene, 2,4-	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Dinitrotoluene, 2,4-	LWDS-MW1	08-JUN-98	SA	<0.95	U	0.95	EPA 8270	QSTL
Dinitrotoluene, 2,4-	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,4-	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Dinitrotoluene, 2,4-	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,4-	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,4-	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,4-	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,4-	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,4-	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,4-	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,4-	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,4-	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,4-	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Dinitrotoluene, 2,4-	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dinitrotoluene, 2,4-	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Dinitrotoluene, 2,4-	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,4-	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,4-	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Dinitrotoluene, 2,4-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dinitrotoluene, 2,4-	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Dinitrotoluene, 2,4-	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,4-	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Dinitrotoluene, 2,4-	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Dinitrotoluene, 2,4-	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Dinitrotoluene, 2,4-	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Dinitrotoluene, 2,4-	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dinitrotoluene, 2,4-	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dinitrotoluene, 2,4-	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dinitrotoluene, 2,6-	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,6-	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Dinitrotoluene, 2,6-	AVN-1	29-MAY-97	SA	<0.99	U	0.99	EPA8270	ERCL
Dinitrotoluene, 2,6-	AVN-1	03-JUN-98	SA	<0.97	U	0.97	EPA 8270	QSTL
Dinitrotoluene, 2,6-	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,6-	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Dinitrotoluene, 2,6-	AVN-2	04-DEC-96	SA	<1	U	1	EPA8270	ERCL
Dinitrotoluene, 2,6-	AVN-2	29-MAY-97	SA	<0.96	U	0.96	EPA8270	ERCL
Dinitrotoluene, 2,6-	AVN-2	03-JUN-98	SA	<0.97	U	0.97	EPA 8270	QSTL
Dinitrotoluene, 2,6-	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Dinitrotoluene, 2,6-	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Dinitrotoluene, 2,6-	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,6-	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,6-	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,6-	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,6-	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,6-	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,6-	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,6-	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,6-	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,6-	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Dinitrotoluene, 2,6-	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Dinitrotoluene, 2,6-	LWDS-MW1	06-DEC-96	SA	<1	U	1	EPA8270	ERCL
Dinitrotoluene, 2,6-	LWDS-MW1	30-MAY-97	SA	<0.99	U	0.99	EPA8270	ERCL
Dinitrotoluene, 2,6-	LWDS-MW1	08-JUN-98	SA	<0.97	U	0.97	EPA 8270	QSTL
Dinitrotoluene, 2,6-	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,6-	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Dinitrotoluene, 2,6-	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,6-	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,6-	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,6-	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,6-	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,6-	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,6-	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,6-	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,6-	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,6-	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Dinitrotoluene, 2,6-	LWDS-MW2	05-DEC-96	SA	<1	U	1	EPA8270	ERCL
Dinitrotoluene, 2,6-	LWDS-MW2	02-JUN-97	SA	<0.89	U	0.89	EPA8270	ERCL
Dinitrotoluene, 2,6-	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,6-	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Dinitrotoluene, 2,6-	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Dinitrotoluene, 2,6-	TAV-MW1	06-DEC-96	SA	<1	U	1	EPA8270	ERCL
Dinitrotoluene, 2,6-	TAV-MW1	03-JUN-97	SA	<0.95	U	0.95	EPA8270	ERCL
Dinitrotoluene, 2,6-	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Dinitrotoluene, 2,6-	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Dinitrotoluene, 2,6-	TAV-MW2	05-DEC-96	SA	<1	U	1	EPA8270	ERCL
Dinitrotoluene, 2,6-	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Dinitrotoluene, 2,6-	TAV-MW2	04-JUN-97	SA	<1	U	1	EPA8270	ERCL
Dinitrotoluene, 2,6-	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dinitrotoluene, 2,6-	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dinitrotoluene, 2,6-	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Di-n-octyl phthalate	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Di-n-octyl phthalate	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Di-n-octyl phthalate	AVN-1	29-MAY-97	SA	<5	U	5	EPA8270	ERCL
Di-n-octyl phthalate	AVN-1	03-JUN-98	SA	4	J	0.43	EPA 8270	QSTL
Di-n-octyl phthalate	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Di-n-octyl phthalate	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Di-n-octyl phthalate	AVN-2	04-DEC-96	SA	<5	U	5	EPA8270	ERCL
Di-n-octyl phthalate	AVN-2	29-MAY-97	SA	<4.8	U	4.8	EPA8270	ERCL
Di-n-octyl phthalate	AVN-2	03-JUN-98	SA	<0.43	U	0.43	EPA 8270	QSTL
Di-n-octyl phthalate	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Di-n-octyl phthalate	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Di-n-octyl phthalate	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Di-n-octyl phthalate	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Di-n-octyl phthalate	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Di-n-octyl phthalate	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Di-n-octyl phthalate	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Di-n-octyl phthalate	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Di-n-octyl phthalate	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Di-n-octyl phthalate	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Di-n-octyl phthalate	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Di-n-octyl phthalate	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Di-n-octyl phthalate	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Di-n-octyl phthalate	LWDS-MW1	06-DEC-96	SA	<5	U	5	EPA8270	ERCL
Di-n-octyl phthalate	LWDS-MW1	30-MAY-97	SA	<5	U	5	EPA8270	ERCL
Di-n-octyl phthalate	LWDS-MW1	08-JUN-98	SA	<0.43	U	0.43	EPA 8270	QSTL
Di-n-octyl phthalate	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Di-n-octyl phthalate	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Di-n-octyl phthalate	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Di-n-octyl phthalate	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Di-n-octyl phthalate	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Di-n-octyl phthalate	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Di-n-octyl phthalate	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Di-n-octyl phthalate	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Di-n-octyl phthalate	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Di-n-octyl phthalate	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Di-n-octyl phthalate	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Di-n-octyl phthalate	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Di-n-octyl phthalate	LWDS-MW2	05-DEC-96	SA	<5	U	5	EPA8270	ERCL
Di-n-octyl phthalate	LWDS-MW2	02-JUN-97	SA	<4.4	U	4.4	EPA8270	ERCL
Di-n-octyl phthalate	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Di-n-octyl phthalate	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Di-n-octyl phthalate	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Di-n-octyl phthalate	TAV-MW1	06-DEC-96	SA	<5	U	5	EPA8270	ERCL
Di-n-octyl phthalate	TAV-MW1	03-JUN-97	SA	<4.8	U	4.8	EPA8270	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Di-n-octyl phthalate	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Di-n-octyl phthalate	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Di-n-octyl phthalate	TAV-MW2	05-DEC-96	SA	<5	U	5	EPA8270	ERCL
Di-n-octyl phthalate	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Di-n-octyl phthalate	TAV-MW2	04-JUN-97	SA	<5.2	U	5.2	EPA8270	ERCL
Di-n-octyl phthalate	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Di-n-octyl phthalate	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Di-n-octyl phthalate	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Dioxane, 1,4-	AVN-1	13-JUL-95	F	<300	U	300	8260	ENCOTEC
Dioxane, 1,4-	AVN-2	11-JUL-95	F	<300	U	300	8260	ENCOTEC
Dioxane, 1,4-	LWDS-MW1	04-MAR-98	SA	<5	U	5	EPA 8260	GEL
Dioxane, 1,4-	LWDS-MW1	04-MAR-98	SA	<5	U	5	EPA 8260	GEL
Diphenylhydrazine, 1,	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Diphenylhydrazine, 1,	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Diphenylhydrazine, 1,	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Diphenylhydrazine, 1,	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Diphenylhydrazine, 1,	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Endosulfan I	LWDS-MW1	25-SEP-95	F	<0.025	U	0.025	8080	GEL
Endosulfan II	LWDS-MW1	25-SEP-95	F	<0.05	U	0.05	8080	GEL
Endosulfan sulfate	LWDS-MW1	25-SEP-95	F	<0.05	U	0.05	8080	GEL
Endrin	LWDS-MW1	25-SEP-95	F	<0.025	U	0.025	8080	GEL
Endrin aldehyde	LWDS-MW1	25-SEP-95	F	<0.0625	U	0.0625	8080	GEL
Ethyl benzene	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Ethyl benzene	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Ethyl benzene	AVN-1	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	AVN-1	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	AVN-1	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	AVN-1	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Ethyl benzene	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Ethyl benzene	AVN-2	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	AVN-2	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	AVN-2	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	AVN-2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW1	03-MAY-93	F	<5	U	5	8240	ENSECO
Ethyl benzene	LWDS-MW1	27-OCT-93	F	<5	U	5	8240	ENCOTEC
Ethyl benzene	LWDS-MW1	02-NOV-93	F	<5	U	5	8240	ENCOTEC
Ethyl benzene	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Ethyl benzene	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Ethyl benzene	LWDS-MW1	10-MAR-94	F	<5	U	5	8240	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Ethyl benzene	LWDS-MW1	07-JUN-94	F	<1	U	1	8260	ENCOTEC
Ethyl benzene	LWDS-MW1	01-SEP-94	F	<1	U	1	8260	ENCOTEC
Ethyl benzene	LWDS-MW1	01-SEP-94	D	<1	U	1	8260	ENCOTEC
Ethyl benzene	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Ethyl benzene	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Ethyl benzene	LWDS-MW1	18-MAR-96	F	<0.5	U	0.5	8020	QUANTERRA
Ethyl benzene	LWDS-MW1	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW1	26-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW1	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW1	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW1	10-SEP-96	SPL	<0.045	U	0.045	EPA-SW846	QARV
Ethyl benzene	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW1	06-DEC-96	DU	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW1	04-MAR-98	SA	<0.26	U	0.26	EPA 8260	QSTL
Ethyl benzene	LWDS-MW1	04-MAR-98	SA	<0.26	U	0.26	EPA 8260	QSTL
Ethyl benzene	LWDS-MW1	04-MAR-98	SA	<0.04	U	0.04	EPA 8260	GEL
Ethyl benzene	LWDS-MW1	04-MAR-98	SA	<0.04	U	0.04	EPA 8260	GEL
Ethyl benzene	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW1	08-JUN-98	SPLIT	<1.3	U	1.3	EPA 8260	QSTL
Ethyl benzene	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW1	18-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW-1	02-MAR-95	F	<5	U	5	8240	ENCOTEC
Ethyl benzene	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW2	21-OCT-92	F	<5	U	5	8240	ENSECO
Ethyl benzene	LWDS-MW2	24-JUN-93	F	<5	U	5	8240	ENCOTEC
Ethyl benzene	LWDS-MW2	24-JUN-93	D	<5	U	5	8240	ENCOTEC
Ethyl benzene	LWDS-MW2	06-JUN-94	F	<1	U	1	8260	ENCOTEC
Ethyl benzene	LWDS-MW2	31-AUG-94	F	<1	U	1	8260	ENCOTEC
Ethyl benzene	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Ethyl benzene	LWDS-MW2	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Ethyl benzene	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Ethyl benzene	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW-2	01-MAR-95	F	<5	U	5	8240	ENCOTEC
Ethyl benzene	LWDS-MW-2	01-MAR-95	D	<5	U	5	8240	ENCOTEC
Ethyl benzene	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW1	13-APR-95	F	.43	J	0.5	8020	QUANTERRA

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Ethyl benzene	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Ethyl benzene	TAV-MW1	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW1	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW1	11-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW1	11-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW1	11-SEP-96	SPL	<0.045	U	0.045	EPA-SW846	QARV
Ethyl benzene	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Ethyl benzene	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Ethyl benzene	TAV-MW1	16-SEP-97	F	<0.26	U	0.26	8260	Quanterra
Ethyl benzene	TAV-MW1	16-SEP-97	SA	<0.26	U	0.26	EPA 8260	QSTL
Ethyl benzene	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW2	14-APR-95	F	<0.5	U	0.5	8020	QUANTERR/
Ethyl benzene	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Ethyl benzene	TAV-MW2	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW2	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW2	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW2	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW2	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl benzene	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Ethyl cyanide	AVN-1	13-JUL-95	F	<10	U	10	8260	ENCOTEC
Ethyl cyanide	AVN-2	11-JUL-95	F	<10	U	10	8260	ENCOTEC
Ethyl cyanide	LWDS-MW1	04-MAR-98	SA	<0.42	U	0.42	EPA 8260	GEL
Ethyl cyanide	LWDS-MW1	04-MAR-98	SA	<0.42	U	0.42	EPA 8260	GEL
Ethyl methacrylate	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Ethyl methacrylate	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Ethyl methacrylate	LWDS-MW1	04-MAR-98	SA	<0.03	U	0.03	EPA 8260	GEL
Ethyl methacrylate	LWDS-MW1	04-MAR-98	SA	<0.03	U	0.03	EPA 8260	GEL
Ethylhexyl)phthalate,	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Ethylhexyl)phthalate,	AVN-1	13-DEC-95	F	9.5	J	5	8270	GEL
Ethylhexyl)phthalate,	AVN-1	29-MAY-97	SA	<5	U	5	EPA8270	ERCL
Ethylhexyl)phthalate,	AVN-1	03-JUN-98	SA	5	JB	0.45	EPA 8270	QSTL
Ethylhexyl)phthalate,	AVN-2	11-JUL-95	F	3	JB	10	8270	ENCOTEC
Ethylhexyl)phthalate,	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Ethylhexyl)phthalate,	AVN-2	04-DEC-96	SA	<5	U	5	EPA8270	ERCL
Ethylhexyl)phthalate,	AVN-2	29-MAY-97	SA	<4.8	U	4.8	EPA8270	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Ethylhexyl)phthalate,	AVN-2	03-JUN-98	SA	<0.45	U	0.45	EPA 8270	QSTL
Ethylhexyl)phthalate,	LWDS-MW1	03-MAY-93	F	4.8	J	10	8270	ENSECO
Ethylhexyl)phthalate,	LWDS-MW1	03-MAY-93	F	24		10	8270	ENSECO
Ethylhexyl)phthalate,	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Ethylhexyl)phthalate,	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Ethylhexyl)phthalate,	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Ethylhexyl)phthalate,	LWDS-MW1	12-MAR-94	F	8		10	8270	ENCOTEC
Ethylhexyl)phthalate,	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Ethylhexyl)phthalate,	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Ethylhexyl)phthalate,	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Ethylhexyl)phthalate,	LWDS-MW1	08-DEC-94	F	3	J	10	8270	ENCOTEC
Ethylhexyl)phthalate,	LWDS-MW1	14-JUN-95	F	3	J	10	8270	ENCOTEC
Ethylhexyl)phthalate,	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Ethylhexyl)phthalate,	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Ethylhexyl)phthalate,	LWDS-MW1	06-DEC-96	SA	<5	U	5	EPA8270	ERCL
Ethylhexyl)phthalate,	LWDS-MW1	30-MAY-97	SA	<5	U	5	EPA8270	ERCL
Ethylhexyl)phthalate,	LWDS-MW1	08-JUN-98	SA	<0.45	U	0.45	EPA 8270	QSTL
Ethylhexyl)phthalate,	LWDS-MW-1	02-MAR-95	F	3	J	10	8270	ENCOTEC
Ethylhexyl)phthalate,	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Ethylhexyl)phthalate,	LWDS-MW2	24-JUN-93	F	7	J	10	8270	ENCOTEC
Ethylhexyl)phthalate,	LWDS-MW2	24-JUN-93	D	7	J	10	8270	ENCOTEC
Ethylhexyl)phthalate,	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Ethylhexyl)phthalate,	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Ethylhexyl)phthalate,	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Ethylhexyl)phthalate,	LWDS-MW2	31-AUG-94	F	2	J	10	8270	ENCOTEC
Ethylhexyl)phthalate,	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Ethylhexyl)phthalate,	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Ethylhexyl)phthalate,	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Ethylhexyl)phthalate,	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Ethylhexyl)phthalate,	LWDS-MW2	05-DEC-96	SA	<5	U	5	EPA8270	ERCL
Ethylhexyl)phthalate,	LWDS-MW2	02-JUN-97	SA	<4.4	U	4.4	EPA8270	ERCL
Ethylhexyl)phthalate,	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Ethylhexyl)phthalate,	TAV-MW1	09-JUN-95	F	3	J	10	8270	ENCOTEC
Ethylhexyl)phthalate,	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Ethylhexyl)phthalate,	TAV-MW1	06-DEC-96	SA	<5	U	5	EPA8270	ERCL
Ethylhexyl)phthalate,	TAV-MW1	03-JUN-97	SA	<4.8	U	4.8	EPA8270	ERCL
Ethylhexyl)phthalate,	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Ethylhexyl)phthalate,	TAV-MW2	18-DEC-95	F	61.4		5	8270	GEL
Ethylhexyl)phthalate,	TAV-MW2	05-DEC-96	SA	<5	U	5	EPA8270	ERCL
Ethylhexyl)phthalate,	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Ethylhexyl)phthalate,	TAV-MW2	04-JUN-97	SA	<5.2	U	5.2	EPA8270	ERCL
Ethylhexyl)phthalate,	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Ethylhexyl)phthalate,	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Ethylhexyl)phthalate,	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Fluoranthene	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Fluoranthene	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Fluoranthene	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Fluoranthene	AVN-1	03-JUN-98	SA	<0.14	U	0.14	EPA 8270	QSTL
Fluoranthene	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Fluoranthene	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Fluoranthene	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Fluoranthene	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Fluoranthene	AVN-2	03-JUN-98	SA	<0.14	U	0.14	EPA 8270	QSTL
Fluoranthene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Fluoranthene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Fluoranthene	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Fluoranthene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Fluoranthene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Fluoranthene	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Fluoranthene	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Fluoranthene	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Fluoranthene	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Fluoranthene	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Fluoranthene	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Fluoranthene	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Fluoranthene	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Fluoranthene	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Fluoranthene	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Fluoranthene	LWDS-MW1	08-JUN-98	SA	<0.14	U	0.14	EPA 8270	QSTL
Fluoranthene	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Fluoranthene	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Fluoranthene	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Fluoranthene	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Fluoranthene	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Fluoranthene	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Fluoranthene	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Fluoranthene	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Fluoranthene	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Fluoranthene	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Fluoranthene	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Fluoranthene	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Fluoranthene	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Fluoranthene	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Fluoranthene	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Fluoranthene	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Fluoranthene	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Fluoranthene	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Fluoranthene	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Fluoranthene	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Fluoranthene	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Fluoranthene	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Fluoranthene	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Fluoranthene	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Fluoranthene	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Fluoranthene	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Fluoranthene	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Fluorene	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Fluorene	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Fluorene	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Fluorene	AVN-1	03-JUN-98	SA	<0.85	U	0.85	EPA 8270	QSTL
Fluorene	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Fluorene	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Fluorene	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Fluorene	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Fluorene	AVN-2	03-JUN-98	SA	<0.85	U	0.85	EPA 8270	QSTL
Fluorene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Fluorene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Fluorene	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Fluorene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Fluorene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Fluorene	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Fluorene	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Fluorene	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Fluorene	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Fluorene	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Fluorene	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Fluorene	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Fluorene	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Fluorene	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Fluorene	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Fluorene	LWDS-MW1	08-JUN-98	SA	<0.85	U	0.85	EPA 8270	QSTL
Fluorene	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Fluorene	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Fluorene	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Fluorene	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Fluorene	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Fluorene	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Fluorene	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Fluorene	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Fluorene	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Fluorene	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Fluorene	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Fluorene	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Fluorene	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Fluorene	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Fluorene	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Fluorene	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Fluorene	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Fluorene	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Fluorene	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Fluorene	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Fluorene	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Fluorene	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Fluorene	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Fluorene	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Fluorene	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Fluorene	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Fluorene	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Formaldehyde	LWDS-MW1	25-SEP-95	F	<500	U	500	AOAC 20.06	GEL
Heptachlor	LWDS-MW1	25-SEP-95	F	<0.025	U	0.025	8080	GEL
Heptachlor epoxide	LWDS-MW1	25-SEP-95	F	<0.025	U	0.025	8080	GEL
Hexachlorobenzene	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Hexachlorobenzene	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Hexachlorobenzene	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachlorobenzene	AVN-1	03-JUN-98	SA	<1.6	U	1.6	EPA 8270	QSTL
Hexachlorobenzene	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Hexachlorobenzene	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Hexachlorobenzene	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachlorobenzene	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Hexachlorobenzene	AVN-2	03-JUN-98	SA	<1.6	U	1.6	EPA 8270	QSTL
Hexachlorobenzene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Hexachlorobenzene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Hexachlorobenzene	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Hexachlorobenzene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Hexachlorobenzene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Hexachlorobenzene	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Hexachlorobenzene	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Hexachlorobenzene	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Hexachlorobenzene	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Hexachlorobenzene	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Hexachlorobenzene	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Hexachlorobenzene	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Hexachlorobenzene	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Hexachlorobenzene	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachlorobenzene	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachlorobenzene	LWDS-MW1	08-JUN-98	SA	<1.6	U	1.6	EPA 8270	QSTL
Hexachlorobenzene	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Hexachlorobenzene	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Hexachlorobenzene	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Hexachlorobenzene	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Hexachlorobenzene	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Hexachlorobenzene	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Hexachlorobenzene	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Hexachlorobenzene	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Hexachlorobenzene	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Hexachlorobenzene	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Hexachlorobenzene	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Hexachlorobenzene	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Hexachlorobenzene	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachlorobenzene	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Hexachlorobenzene	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Hexachlorobenzene	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Hexachlorobenzene	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Hexachlorobenzene	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachlorobenzene	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Hexachlorobenzene	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Hexachlorobenzene	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Hexachlorobenzene	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachlorobenzene	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Hexachlorobenzene	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Hexachlorobenzene	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Hexachlorobenzene	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Hexachlorobenzene	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Hexachlorobutadiene	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Hexachlorobutadiene	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Hexachlorobutadiene	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachlorobutadiene	AVN-1	03-JUN-98	SA	<2	U	2	EPA 8270	QSTL
Hexachlorobutadiene	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Hexachlorobutadiene	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Hexachlorobutadiene	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachlorobutadiene	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Hexachlorobutadiene	AVN-2	03-JUN-98	SA	<2	U	2	EPA 8270	QSTL
Hexachlorobutadiene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Hexachlorobutadiene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Hexachlorobutadiene	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Hexachlorobutadiene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Hexachlorobutadiene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Hexachlorobutadiene	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Hexachlorobutadiene	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Hexachlorobutadiene	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Hexachlorobutadiene	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Hexachlorobutadiene	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Hexachlorobutadiene	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Hexachlorobutadiene	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Hexachlorobutadiene	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Hexachlorobutadiene	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachlorobutadiene	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachlorobutadiene	LWDS-MW1	08-JUN-98	SA	<2	U	2	EPA 8270	QSTL
Hexachlorobutadiene	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Hexachlorobutadiene	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Hexachlorobutadiene	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Hexachlorobutadiene	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Hexachlorobutadiene	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Hexachlorobutadiene	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Hexachlorobutadiene	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Hexachlorobutadiene	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Hexachlorobutadiene	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Hexachlorobutadiene	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Hexachlorobutadiene	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Hexachlorobutadiene	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Hexachlorobutadiene	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachlorobutadiene	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Hexachlorobutadiene	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Hexachlorobutadiene	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Hexachlorobutadiene	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Hexachlorobutadiene	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachlorobutadiene	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Hexachlorobutadiene	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Hexachlorobutadiene	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Hexachlorobutadiene	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachlorobutadiene	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Hexachlorobutadiene	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Hexachlorobutadiene	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Hexachlorobutadiene	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Hexachlorobutadiene	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Hexachlorocyclopenta	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Hexachlorocyclopenta	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Hexachlorocyclopenta	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachlorocyclopenta	AVN-1	03-JUN-98	SA	<1.7	U	1.7	EPA 8270	QSTL
Hexachlorocyclopenta	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Hexachlorocyclopenta	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Hexachlorocyclopenta	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachlorocyclopenta	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Hexachlorocyclopenta	AVN-2	03-JUN-98	SA	<1.7	U	1.7	EPA 8270	QSTL
Hexachlorocyclopenta	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Hexachlorocyclopenta	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Hexachlorocyclopenta	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Hexachlorocyclopenta	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Hexachlorocyclopenta	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Hexachlorocyclopenta	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Hexachlorocyclopenta	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Hexachlorocyclopenta	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Hexachlorocyclopenta	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Hexachlorocyclopenta	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Hexachlorocyclopenta	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Hexachlorocyclopenta	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Hexachlorocyclopenta	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Hexachlorocyclopenta	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachlorocyclopenta	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachlorocyclopenta	LWDS-MW1	08-JUN-98	SA	<1.7	U	1.7	EPA 8270	QSTL
Hexachlorocyclopenta	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Hexachlorocyclopenta	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Hexachlorocyclopenta	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Hexachlorocyclopenta	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Hexachlorocyclopenta	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Hexachlorocyclopenta	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Hexachlorocyclopenta	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Hexachlorocyclopenta	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Hexachlorocyclopenta	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Hexachlorocyclopenta	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Hexachlorocyclopenta	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Hexachlorocyclopenta	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Hexachlorocyclopenta	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachlorocyclopenta	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Hexachlorocyclopenta	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Hexachlorocyclopenta	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Hexachlorocyclopenta	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Hexachlorocyclopenta	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachlorocyclopenta	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Hexachlorocyclopenta	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Hexachlorocyclopenta	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Hexachlorocyclopenta	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachlorocyclopenta	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Hexachlorocyclopenta	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Hexachlorocyclopenta	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Hexachlorocyclopenta	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Hexachlorocyclopenta	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Hexachloroethane	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Hexachloroethane	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Hexachloroethane	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachloroethane	AVN-1	03-JUN-98	SA	<1.4	U	1.4	EPA 8270	QSTL
Hexachloroethane	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Hexachloroethane	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Hexachloroethane	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachloroethane	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Hexachloroethane	AVN-2	03-JUN-98	SA	<1.4	U	1.4	EPA 8270	QSTL
Hexachloroethane	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Hexachloroethane	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Hexachloroethane	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Hexachloroethane	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Hexachloroethane	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Hexachloroethane	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Hexachloroethane	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Hexachloroethane	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Hexachloroethane	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Hexachloroethane	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Hexachloroethane	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Hexachloroethane	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Hexachloroethane	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Hexachloroethane	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Hexachloroethane	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachloroethane	LWDS-MW1	08-JUN-98	SA	<1.4	U	1.4	EPA 8270	QSTL
Hexachloroethane	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Hexachloroethane	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Hexachloroethane	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Hexachloroethane	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Hexachloroethane	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Hexachloroethane	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Hexachloroethane	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Hexachloroethane	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Hexachloroethane	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Hexachloroethane	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Hexachloroethane	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Hexachloroethane	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Hexachloroethane	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachloroethane	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Hexachloroethane	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Hexachloroethane	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Hexachloroethane	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Hexachloroethane	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachloroethane	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Hexachloroethane	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Hexachloroethane	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Hexachloroethane	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Hexachloroethane	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Hexachloroethane	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Hexachloroethane	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Hexachloroethane	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Hexachloroethane	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Hexanone, 2-	AVN-1	13-JUL-95	F	<2	U	2	8260	ENCOTEC
Hexanone, 2-	AVN-1	15-MAR-96	SA	<5	U	5	EPA8260	ERCL
Hexanone, 2-	AVN-1	09-SEP-96	SA	<5	U	5	EPA8260	ERCL
Hexanone, 2-	AVN-1	14-NOV-97	SA	<5	U	5	EPA8260	ERCL
Hexanone, 2-	AVN-1	24-FEB-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	AVN-1	03-JUN-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	AVN-1	01-SEP-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	AVN-1	16-NOV-08	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	AVN-2	11-JUL-95	F	<2	U	2	8260	ENCOTEC
Hexanone, 2-	AVN-2	15-MAR-96	SA	<5	U	5	EPA8260	ERCL
Hexanone, 2-	AVN-2	09-SEP-96	SA	<5	U	5	EPA8260	ERCL
Hexanone, 2-	AVN-2	14-NOV-97	SA	<5	U	5	EPA8260	ERCL
Hexanone, 2-	AVN-2	24-FEB-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	AVN-2	03-JUN-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	AVN-2	01-SEP-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	AVN-2	16-NOV-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	LWDS-MW1	03-MAY-93	F	<10	U	10	8240	ENSECO
Hexanone, 2-	LWDS-MW1	27-OCT-93	F	<10	U	10	8240	ENCOTEC
Hexanone, 2-	LWDS-MW1	02-NOV-93	F	<10	U	10	8240	ENCOTEC
Hexanone, 2-	LWDS-MW1	03-NOV-93	F	<10	U	10	8240	ENCOTEC
Hexanone, 2-	LWDS-MW1	03-NOV-93	F	<10	U	10	8240	ENCOTEC
Hexanone, 2-	LWDS-MW1	10-MAR-94	F	<10	U	10	8240	ENCOTEC
Hexanone, 2-	LWDS-MW1	07-JUN-94	F	1	J	2	8260	ENCOTEC
Hexanone, 2-	LWDS-MW1	01-SEP-94	F	<2	U	2	8260	ENCOTEC
Hexanone, 2-	LWDS-MW1	01-SEP-94	D	<2	U	2	8260	ENCOTEC
Hexanone, 2-	LWDS-MW1	18-MAR-96	SA	<5	U	5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Hexanone, 2-	LWDS-MW1	10-SEP-96	SA	<5	U	5	EPA8260	ERCL
Hexanone, 2-	LWDS-MW1	10-SEP-96	DU	<5	U	5	EPA8260	ERCL
Hexanone, 2-	LWDS-MW1	12-NOV-97	DU	<5	U	5	EPA8260	ERCL
Hexanone, 2-	LWDS-MW1	04-MAR-98	SA	<0.36	U	0.36	EPA 8260	QSTL
Hexanone, 2-	LWDS-MW1	04-MAR-98	SA	<0.36	U	0.36	EPA 8260	QSTL
Hexanone, 2-	LWDS-MW1	04-MAR-98	SA	<0.31	U	0.31	EPA 8260	GEL
Hexanone, 2-	LWDS-MW1	04-MAR-98	SA	<0.31	U	0.31	EPA 8260	GEL
Hexanone, 2-	LWDS-MW1	04-MAR-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	LWDS-MW1	04-MAR-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	LWDS-MW1	08-JUN-98	SPLIT	<1.8	U	1.8	EPA 8260	QSTL
Hexanone, 2-	LWDS-MW1	08-JUN-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	LWDS-MW1	16-NOV-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	LWDS-MW1	16-NOV-98	DU	<10	U	10	EPA8260	ERCL
Hexanone, 2-	LWDS-MW1	17-NOV-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	LWDS-MW1	18-NOV-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	LWDS-MW1	20-NOV-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	LWDS-MW-1	02-MAR-95	F	<10	U	10	8240	ENCOTEC
Hexanone, 2-	LWDS-MW-1	08-JUN-98	DU	<10	U	10	EPA8260	ERCL
Hexanone, 2-	LWDS-MW2	21-OCT-92	F	<10	U	10	8240	ENSECO
Hexanone, 2-	LWDS-MW2	24-JUN-93	F	<10	U	10	8240	ENCOTEC
Hexanone, 2-	LWDS-MW2	24-JUN-93	D	<10	U	10	8240	ENCOTEC
Hexanone, 2-	LWDS-MW2	06-JUN-94	F	<2	U	2	8260	ENCOTEC
Hexanone, 2-	LWDS-MW2	31-AUG-94	F	<2	U	2	8260	ENCOTEC
Hexanone, 2-	LWDS-MW2	18-MAR-96	SA	<5	U	5	EPA8260	ERCL
Hexanone, 2-	LWDS-MW2	09-SEP-96	SA	<5	U	5	EPA8260	ERCL
Hexanone, 2-	LWDS-MW2	25-FEB-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	LWDS-MW-2	01-MAR-95	F	<10	U	10	8240	ENCOTEC
Hexanone, 2-	LWDS-MW-2	01-MAR-95	D	<10	U	10	8240	ENCOTEC
Hexanone, 2-	LWDS-MW-2	11-NOV-97	SA	<5	U	5	EPA8260	ERCL
Hexanone, 2-	LWDS-MW-2	03-JUN-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	LWDS-MW-2	02-SEP-98	SA	20	J	10	EPA8260	ERCL
Hexanone, 2-	LWDS-MW-2	02-SEP-98	DU	<10	U	10	EPA8260	ERCL
Hexanone, 2-	LWDS-MW-2	17-NOV-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	TAV-MW1	19-MAR-96	SA	<5	U	5	EPA8260	ERCL
Hexanone, 2-	TAV-MW1	11-SEP-96	SA	<5	U	5	EPA8260	ERCL
Hexanone, 2-	TAV-MW1	11-SEP-96	DU	<5	U	5	EPA8260	ERCL
Hexanone, 2-	TAV-MW1	16-SEP-97	F	<0.36	U	0.36	8260	Quanterra
Hexanone, 2-	TAV-MW1	16-SEP-97	SA	<0.36	U	0.36	EPA 8260	QSTL
Hexanone, 2-	TAV-MW1	13-NOV-97	SA	<5	U	5	EPA8260	ERCL
Hexanone, 2-	TAV-MW1	03-MAR-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	TAV-MW1	03-MAR-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	TAV-MW1	23-NOV-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	TAV-MW2	19-MAR-96	SA	<5	U	5	EPA8260	ERCL
Hexanone, 2-	TAV-MW2	10-SEP-96	SA	<5	U	5	EPA8260	ERCL
Hexanone, 2-	TAV-MW2	10-SEP-96	DU	<5	U	5	EPA8260	ERCL
Hexanone, 2-	TAV-MW2	11-NOV-97	SA	<5	U	5	EPA8260	ERCL
Hexanone, 2-	TAV-MW2	24-FEB-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	TAV-MW2	20-NOV-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	TAV-MW3	22-APR-97	SA	<1	U	1	EPA8260	ERCL
Hexanone, 2-	TAV-MW3	26-FEB-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	TAV-MW3	19-NOV-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	TAV-MW4	26-FEB-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	TAV-MW4	29-OCT-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	TAV-MW4	29-OCT-98	SA	<10	U	10	EPA8260	ERCL
Hexanone, 2-	TAV-MW5	27-FEB-98	SA	<10	U	10	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Indeno(1,2,3-c,d)pyre	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Indeno(1,2,3-c,d)pyre	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Indeno(1,2,3-c,d)pyre	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Indeno(1,2,3-c,d)pyre	AVN-1	03-JUN-98	SA	<0.84	U	0.84	EPA 8270	QSTL
Indeno(1,2,3-c,d)pyre	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Indeno(1,2,3-c,d)pyre	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Indeno(1,2,3-c,d)pyre	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Indeno(1,2,3-c,d)pyre	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Indeno(1,2,3-c,d)pyre	AVN-2	03-JUN-98	SA	<0.84	U	0.84	EPA 8270	QSTL
Indeno(1,2,3-c,d)pyre	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Indeno(1,2,3-c,d)pyre	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Indeno(1,2,3-c,d)pyre	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Indeno(1,2,3-c,d)pyre	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Indeno(1,2,3-c,d)pyre	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Indeno(1,2,3-c,d)pyre	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Indeno(1,2,3-c,d)pyre	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Indeno(1,2,3-c,d)pyre	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Indeno(1,2,3-c,d)pyre	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Indeno(1,2,3-c,d)pyre	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Indeno(1,2,3-c,d)pyre	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Indeno(1,2,3-c,d)pyre	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Indeno(1,2,3-c,d)pyre	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Indeno(1,2,3-c,d)pyre	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Indeno(1,2,3-c,d)pyre	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Indeno(1,2,3-c,d)pyre	LWDS-MW1	08-JUN-98	SA	<0.84	U	0.84	EPA 8270	QSTL
Indeno(1,2,3-c,d)pyre	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Indeno(1,2,3-c,d)pyre	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Indeno(1,2,3-c,d)pyre	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Indeno(1,2,3-c,d)pyre	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Indeno(1,2,3-c,d)pyre	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Indeno(1,2,3-c,d)pyre	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Indeno(1,2,3-c,d)pyre	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Indeno(1,2,3-c,d)pyre	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Indeno(1,2,3-c,d)pyre	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Indeno(1,2,3-c,d)pyre	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Indeno(1,2,3-c,d)pyre	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Indeno(1,2,3-c,d)pyre	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Indeno(1,2,3-c,d)pyre	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Indeno(1,2,3-c,d)pyre	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Indeno(1,2,3-c,d)pyre	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Indeno(1,2,3-c,d)pyre	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Indeno(1,2,3-c,d)pyre	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Indeno(1,2,3-c,d)pyre	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Indeno(1,2,3-c,d)pyre	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Indeno(1,2,3-c,d)pyre	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Indeno(1,2,3-c,d)pyre	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Indeno(1,2,3-c,d)pyre	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Indeno(1,2,3-c,d)pyre	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Indeno(1,2,3-c,d)pyre	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Indeno(1,2,3-c,d)pyre	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Indeno(1,2,3-c,d)pyre	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Indeno(1,2,3-c,d)pyre	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Iodomethane	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Iodomethane	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Iodomethane	LWDS-MW1	04-MAR-98	SA	<0.52	U	0.52	EPA 8260	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Iodomethane	LWDS-MW1	04-MAR-98	SA	<0.52	U	0.52	EPA 8260	GEL
Isobutanol	AVN-1	13-JUL-95	F	<100	U	100	8260	ENCOTEC
Isobutanol	AVN-2	11-JUL-95	F	<100	U	100	8260	ENCOTEC
Isobutanol	LWDS-MW1	04-MAR-98	SA	<0.17	U	0.17	EPA 8260	GEL
Isobutanol	LWDS-MW1	04-MAR-98	SA	<0.17	U	0.17	EPA 8260	GEL
Isophorone	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Isophorone	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Isophorone	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Isophorone	AVN-1	03-JUN-98	SA	<1	U	1	EPA 8270	QSTL
Isophorone	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Isophorone	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Isophorone	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Isophorone	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Isophorone	AVN-2	03-JUN-98	SA	<1	U	1	EPA 8270	QSTL
Isophorone	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Isophorone	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Isophorone	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Isophorone	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Isophorone	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Isophorone	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Isophorone	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Isophorone	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Isophorone	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Isophorone	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Isophorone	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Isophorone	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Isophorone	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Isophorone	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Isophorone	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Isophorone	LWDS-MW1	08-JUN-98	SA	<1	U	1	EPA 8270	QSTL
Isophorone	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Isophorone	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Isophorone	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Isophorone	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Isophorone	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Isophorone	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Isophorone	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Isophorone	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Isophorone	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Isophorone	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Isophorone	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Isophorone	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Isophorone	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Isophorone	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Isophorone	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Isophorone	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Isophorone	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Isophorone	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Isophorone	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Isophorone	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Isophorone	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Isophorone	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Isophorone	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Isophorone	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Isophorone	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Isophorone	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Isophorone	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Lindane	LWDS-MW1	25-SEP-95	F	<0.0125	U	0.0125	8080	GEL
m/p-methylphenol	AVN-1	29-MAY-97	SA	<0.99	U	0.99	EPA8270	ERCL
m/p-methylphenol	AVN-2	29-MAY-97	SA	<0.96	U	0.96	EPA8270	ERCL
m/p-methylphenol	LWDS-MW1	30-MAY-97	SA	<0.99	U	0.99	EPA8270	ERCL
m/p-methylphenol	LWDS-MW2	02-JUN-97	SA	<0.89	U	0.89	EPA8270	ERCL
m/p-methylphenol	TAV-MW1	03-JUN-97	SA	<0.95	U	0.95	EPA8270	ERCL
m/p-methylphenol	TAV-MW2	04-JUN-97	SA	<1	U	1	EPA8270	ERCL
Methacrylonitrile	AVN-1	13-JUL-95	F	<5	U	5	8260	ENCOTEC
Methacrylonitrile	AVN-2	11-JUL-95	F	<5	U	5	8260	ENCOTEC
Methacrylonitrile	LWDS-MW1	04-MAR-98	SA	<0.04	U	0.04	EPA 8260	GEL
Methacrylonitrile	LWDS-MW1	04-MAR-98	SA	<0.04	U	0.04	EPA 8260	GEL
Methoxychlor	LWDS-MW1	25-SEP-95	F	<0.25	U	0.25	8080	GEL
Methyl methacrylate	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Methyl methacrylate	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Methyl methacrylate	LWDS-MW1	04-MAR-98	SA	<0.05	U	0.05	EPA 8260	GEL
Methyl methacrylate	LWDS-MW1	04-MAR-98	SA	<0.05	U	0.05	EPA 8260	GEL
Methylene chloride	AVN-1	13-JUL-95	F	<2	U	2	8260	ENCOTEC
Methylene chloride	AVN-1	18-SEP-95	F	<1	U	1	8260	GEL
Methylene chloride	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Methylene chloride	AVN-1	15-MAR-96	SA	<1	U	1	EPA8260	ERCL
Methylene chloride	AVN-1	25-JUN-96	SA	<1	U	1	EPA8260	ERCL
Methylene chloride	AVN-1	25-JUN-96	DU	<1	U	1	EPA8260	ERCL
Methylene chloride	AVN-1	09-SEP-96	SA	<1	U	1	EPA8260	ERCL
Methylene chloride	AVN-1	03-MAR-97	SA	<5	U	5	EPA8260	ERCL
Methylene chloride	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL
Methylene chloride	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	AVN-2	11-JUL-95	F	<2	U	2	8260	ENCOTEC
Methylene chloride	AVN-2	18-SEP-95	F	<1	U	1	8260	GEL
Methylene chloride	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Methylene chloride	AVN-2	15-MAR-96	SA	<1	U	1	EPA8260	ERCL
Methylene chloride	AVN-2	25-JUN-96	SA	<1	U	1	EPA8260	ERCL
Methylene chloride	AVN-2	25-JUN-96	DU	<1	U	1	EPA8260	ERCL
Methylene chloride	AVN-2	09-SEP-96	SA	<1	U	1	EPA8260	ERCL
Methylene chloride	AVN-2	04-DEC-96	SA	<1	U	1	EPA8260	ERCL
Methylene chloride	AVN-2	03-MAR-97	SA	<5	U	5	EPA8260	ERCL
Methylene chloride	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Methylene chloride	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	LWDS-MW1	03-MAY-93	F	<5	U	5	8240	ENSECO
Methylene chloride	LWDS-MW1	27-OCT-93	F	4	BJ	5	8240	ENCOTEC
Methylene chloride	LWDS-MW1	02-NOV-93	F	4	BJ	5	8240	ENCOTEC
Methylene chloride	LWDS-MW1	03-NOV-93	F	4	BJ	5	8240	ENCOTEC
Methylene chloride	LWDS-MW1	03-NOV-93	F	4	BJ	5	8240	ENCOTEC
Methylene chloride	LWDS-MW1	10-MAR-94	F	2		5	8240	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Methylene chloride	LWDS-MW1	07-JUN-94	F	<2	U	2	8260	ENCOTEC
Methylene chloride	LWDS-MW1	01-SEP-94	F	<2	U	2	8260	ENCOTEC
Methylene chloride	LWDS-MW1	01-SEP-94	D	<2	U	2	8260	ENCOTEC
Methylene chloride	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Methylene chloride	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Methylene chloride	LWDS-MW1	25-SEP-95	F	<1	UB	1	8260	GEL
Methylene chloride	LWDS-MW1	25-SEP-95	D	1.37	JB	1	8260	GEL
Methylene chloride	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Methylene chloride	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Methylene chloride	LWDS-MW1	18-MAR-96	F	<10	U	10	8010	QUANTERR/
Methylene chloride	LWDS-MW1	18-MAR-96	SA	<1	U	1	EPA8260	ERCL
Methylene chloride	LWDS-MW1	26-JUN-96	SA	<1	U	1	EPA8260	ERCL
Methylene chloride	LWDS-MW1	10-SEP-96	SA	<1	U	1	EPA8260	ERCL
Methylene chloride	LWDS-MW1	10-SEP-96	DU	<1	U	1	EPA8260	ERCL
Methylene chloride	LWDS-MW1	10-SEP-96	SPL	<2.3	U	2.3	EPA-SW846	QARV
Methylene chloride	LWDS-MW1	06-DEC-96	SA	<1	U	1	EPA8260	ERCL
Methylene chloride	LWDS-MW1	06-DEC-96	DU	<1	U	1	EPA8260	ERCL
Methylene chloride	LWDS-MW1	05-MAR-97	SA	<5	U	5	EPA8260	ERCL
Methylene chloride	LWDS-MW1	05-MAR-97	DU	<5	U	5	EPA8260	ERCL
Methylene chloride	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Methylene chloride	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Methylene chloride	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	LWDS-MW1	04-MAR-98	SA	<0.76	UB	0.76	EPA 8260	QSTL
Methylene chloride	LWDS-MW1	04-MAR-98	SA	<0.76	UB	0.76	EPA 8260	QSTL
Methylene chloride	LWDS-MW1	04-MAR-98	SA	1.2	B	0.07	EPA 8260	GEL
Methylene chloride	LWDS-MW1	04-MAR-98	SA	.72	JB	0.07	EPA 8260	GEL
Methylene chloride	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	LWDS-MW1	08-JUN-98	SPLIT	<3.8	U	3.8	EPA 8260	QSTL
Methylene chloride	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	LWDS-MW1	18-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	LWDS-MW-1	02-MAR-95	F	<5	U	5	8240	ENCOTEC
Methylene chloride	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	LWDS-MW2	21-OCT-92	F	<5	U	5	8240	ENSECO
Methylene chloride	LWDS-MW2	24-JUN-93	D	<5	U	5	8240	ENCOTEC
Methylene chloride	LWDS-MW2	24-JUN-93	F	4	BJ	5	8240	ENCOTEC
Methylene chloride	LWDS-MW2	06-JUN-94	F	<2	U	2	8260	ENCOTEC
Methylene chloride	LWDS-MW2	31-AUG-94	F	<2	U	2	8260	ENCOTEC
Methylene chloride	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Methylene chloride	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Methylene chloride	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Methylene chloride	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Methylene chloride	LWDS-MW2	21-SEP-95	F	<1	UB	1	8260	GEL
Methylene chloride	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Methylene chloride	LWDS-MW2	18-MAR-96	SA	<1	U	1	EPA8260	ERCL
Methylene chloride	LWDS-MW2	09-SEP-96	SA	<1	U	1	EPA8260	ERCL
Methylene chloride	LWDS-MW2	05-DEC-96	SA	<1	U	1	EPA8260	ERCL
Methylene chloride	LWDS-MW2	04-MAR-97	SPL	<1	UB	1	8260	GEL
Methylene chloride	LWDS-MW2	04-MAR-97	SA	<5	U	5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Methylene chloride	LWDS-MW2	04-MAR-97	SPL	1	B	1	EPA-SW846	GEL
Methylene chloride	LWDS-MW2	04-MAR-97	SPL	<1	U	1	EPA-SW846	GEL
Methylene chloride	LWDS-MW2	02-JUN-97	F	<1	UB	1	8260	GEL
Methylene chloride	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	LWDS-MW-2	01-MAR-95	F	<5	U	5	8240	ENCOTEC
Methylene chloride	LWDS-MW-2	01-MAR-95	D	<5	U	5	8240	ENCOTEC
Methylene chloride	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	TAV-MW1	13-APR-95	F	<5	U	5	8010	QUANTERRA
Methylene chloride	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Methylene chloride	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Methylene chloride	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Methylene chloride	TAV-MW1	19-MAR-96	SA	<1	U	1	EPA8260	ERCL
Methylene chloride	TAV-MW1	27-JUN-96	SA	<1	U	1	EPA8260	ERCL
Methylene chloride	TAV-MW1	11-SEP-96	SA	<1	U	1	EPA8260	ERCL
Methylene chloride	TAV-MW1	11-SEP-96	DU	<1	U	1	EPA8260	ERCL
Methylene chloride	TAV-MW1	11-SEP-96	SPL	<2.3	U	2.3	EPA-SW846	QARV
Methylene chloride	TAV-MW1	06-DEC-96	SA	<1	U	1	EPA8260	ERCL
Methylene chloride	TAV-MW1	06-DEC-96	SA	<1	U	1	EPA8260	ERCL
Methylene chloride	TAV-MW1	04-MAR-97	SPL	<1	UB	1	8260	GEL
Methylene chloride	TAV-MW1	04-MAR-97	SA	<5	U	5	EPA8260	ERCL
Methylene chloride	TAV-MW1	04-MAR-97	SPL	1	B	1	EPA-SW846	GEL
Methylene chloride	TAV-MW1	04-MAR-97	SPL	<1	U	1	EPA-SW846	GEL
Methylene chloride	TAV-MW1	03-JUN-97	F	<1	UB	1	8260	GEL
Methylene chloride	TAV-MW1	16-SEP-97	F	<0.76	U	0.76	8260	Quanterra
Methylene chloride	TAV-MW1	16-SEP-97	SA	<0.76	U	0.76	EPA 8260	QSTL
Methylene chloride	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	TAV-MW2	14-APR-95	F	<5	U	5	8010	QUANTERRA
Methylene chloride	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Methylene chloride	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Methylene chloride	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Methylene chloride	TAV-MW2	19-MAR-96	SA	<1	U	1	EPA8260	ERCL
Methylene chloride	TAV-MW2	27-JUN-96	SA	<1	U	1	EPA8260	ERCL
Methylene chloride	TAV-MW2	10-SEP-96	SA	<1	U	1	EPA8260	ERCL
Methylene chloride	TAV-MW2	10-SEP-96	DU	<1	U	1	EPA8260	ERCL
Methylene chloride	TAV-MW2	05-DEC-96	SA	<1	U	1	EPA8260	ERCL
Methylene chloride	TAV-MW2	05-MAR-97	SA	<5	U	5	EPA8260	ERCL
Methylene chloride	TAV-MW2	04-JUN-97	F	<1	UB	1	8260	GEL
Methylene chloride	TAV-MW2	04-JUN-97	SPL	<1	UB	1	8260	GEL
Methylene chloride	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	TAV-MW3	22-APR-97	SA	<5	U	5	EPA8260	ERCL
Methylene chloride	TAV-MW3	03-JUN-97	F	1.47	JB	1	8260	GEL
Methylene chloride	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Methylene chloride	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Methylene chloride	TAV-MW4	30-APR-97	SA	<5	U	5	EPA8260	ERCL
Methylene chloride	TAV-MW4	26-FEB-98	SA	1.2	J	0.5	EPA8260	ERCL
Methylene chloride	TAV-MW4	29-OCT-98	SA	0.69	J	0.5	EPA8260	ERCL
Methylene chloride	TAV-MW4	29-OCT-98	SA	0.66	J	0.5	EPA8260	ERCL
Methylene chloride	TAV-MW5	02-MAY-97	SA	<5	U	5	EPA8260	ERCL
Methylene chloride	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Methylnaphthalene, 2	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Methylnaphthalene, 2	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Methylnaphthalene, 2	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Methylnaphthalene, 2	AVN-1	03-JUN-98	SA	<1.2	U	1.2	EPA 8270	QSTL
Methylnaphthalene, 2	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Methylnaphthalene, 2	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Methylnaphthalene, 2	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Methylnaphthalene, 2	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Methylnaphthalene, 2	AVN-2	03-JUN-98	SA	<1.2	U	1.2	EPA 8270	QSTL
Methylnaphthalene, 2	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Methylnaphthalene, 2	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Methylnaphthalene, 2	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Methylnaphthalene, 2	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Methylnaphthalene, 2	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Methylnaphthalene, 2	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Methylnaphthalene, 2	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Methylnaphthalene, 2	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Methylnaphthalene, 2	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Methylnaphthalene, 2	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Methylnaphthalene, 2	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Methylnaphthalene, 2	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Methylnaphthalene, 2	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Methylnaphthalene, 2	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Methylnaphthalene, 2	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Methylnaphthalene, 2	LWDS-MW1	08-JUN-98	SA	<1.2	U	1.2	EPA 8270	QSTL
Methylnaphthalene, 2	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Methylnaphthalene, 2	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Methylnaphthalene, 2	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Methylnaphthalene, 2	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Methylnaphthalene, 2	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Methylnaphthalene, 2	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Methylnaphthalene, 2	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Methylnaphthalene, 2	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Methylnaphthalene, 2	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Methylnaphthalene, 2	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Methylnaphthalene, 2	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Methylnaphthalene, 2	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Methylnaphthalene, 2	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Methylnaphthalene, 2	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Methylnaphthalene, 2	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Methylnaphthalene, 2	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Methylnaphthalene, 2	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Methylnaphthalene, 2	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Methylnaphthalene, 2	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Methylnaphthalene, 2	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Methylnaphthalene, 2	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Methylnaphthalene, 2	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Methylnaphthalene, 2	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Methylnaphthalene, 2	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Methylnaphthalene, 2	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Methylphenol, 3-	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Methylphenol, 3-	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Methylphenol, 3-	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Methylphenol, 3-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Methylphenol, 3-	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Methylphenol, 4-	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Methylphenol, 4-	AVN-1	03-JUN-98	SA	<0.74	U	0.74	EPA 8270	QSTL
Methylphenol, 4-	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Methylphenol, 4-	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Methylphenol, 4-	AVN-2	03-JUN-98	SA	<0.74	U	0.74	EPA 8270	QSTL
Methylphenol, 4-	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Methylphenol, 4-	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Methylphenol, 4-	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Methylphenol, 4-	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Methylphenol, 4-	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Methylphenol, 4-	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Methylphenol, 4-	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Methylphenol, 4-	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Methylphenol, 4-	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Methylphenol, 4-	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Methylphenol, 4-	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Methylphenol, 4-	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Methylphenol, 4-	LWDS-MW1	08-JUN-98	SA	<0.74	U	0.74	EPA 8270	QSTL
Methylphenol, 4-	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Methylphenol, 4-	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Methylphenol, 4-	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Methylphenol, 4-	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Methylphenol, 4-	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Methylphenol, 4-	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Methylphenol, 4-	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Methylphenol, 4-	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Methylphenol, 4-	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Methylphenol, 4-	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Methylphenol, 4-	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Methylphenol, 4-	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Methylphenol, 4-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Methylphenol, 4-	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Methylphenol, 4-	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Naphthalene	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Naphthalene	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Naphthalene	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Naphthalene	AVN-1	03-JUN-98	SA	<1.6	U	1.6	EPA 8270	QSTL
Naphthalene	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Naphthalene	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Naphthalene	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Naphthalene	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Naphthalene	AVN-2	03-JUN-98	SA	<1.6	U	1.6	EPA 8270	QSTL
Naphthalene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Naphthalene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Naphthalene	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Naphthalene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Naphthalene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Naphthalene	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Naphthalene	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Naphthalene	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Naphthalene	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Naphthalene	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Naphthalene	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Naphthalene	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Naphthalene	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Naphthalene	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Naphthalene	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Naphthalene	LWDS-MW1	08-JUN-98	SA	<1.6	U	1.6	EPA 8270	QSTL
Naphthalene	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Naphthalene	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Naphthalene	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Naphthalene	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Naphthalene	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Naphthalene	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Naphthalene	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Naphthalene	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Naphthalene	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Naphthalene	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Naphthalene	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Naphthalene	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Naphthalene	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Naphthalene	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Naphthalene	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Naphthalene	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Naphthalene	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Naphthalene	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Naphthalene	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Naphthalene	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Naphthalene	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Naphthalene	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Naphthalene	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Naphthalene	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Naphthalene	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Naphthalene	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Naphthalene	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Nitrate as N	LWDS-MW1	16-SEP-97	SA	10400		50	EPA 353.1	QSTL
Nitrate as N	LWDS-MW1	08-JUN-98	SPLIT	12.1		50	EPA 353.1	QSTL
Nitrate as N	TAV-MW1	16-SEP-97	SA	4640		50	EPA 353.1	QSTL
Nitroaniline, 2-	AVN-1	13-JUL-95	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 2-	AVN-1	13-DEC-95	F	<1.82	U	1.82	8270	GEL
Nitroaniline, 2-	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Nitroaniline, 2-	AVN-1	03-JUN-98	SA	<1.1	U	1.1	EPA 8270	QSTL
Nitroaniline, 2-	AVN-2	11-JUL-95	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 2-	AVN-2	14-DEC-95	F	<1.82	U	1.82	8270	GEL
Nitroaniline, 2-	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitroaniline, 2-	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Nitroaniline, 2-	AVN-2	03-JUN-98	SA	<1.1	U	1.1	EPA 8270	QSTL
Nitroaniline, 2-	LWDS-MW1	03-MAY-93	F	<50	U	50	8270	ENSECO
Nitroaniline, 2-	LWDS-MW1	03-MAY-93	F	<50	U	50	8270	ENSECO
Nitroaniline, 2-	LWDS-MW1	02-NOV-93	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 2-	LWDS-MW1	03-NOV-93	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 2-	LWDS-MW1	03-NOV-93	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 2-	LWDS-MW1	12-MAR-94	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 2-	LWDS-MW1	07-JUN-94	F	<50	U	50	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Nitroaniline, 2-	LWDS-MW1	01-SEP-94	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 2-	LWDS-MW1	01-SEP-94	D	<50	U	50	8270	ENCOTEC
Nitroaniline, 2-	LWDS-MW1	08-DEC-94	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 2-	LWDS-MW1	14-JUN-95	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 2-	LWDS-MW1	19-DEC-95	F	<1.82	U	1.82	8270	GEL
Nitroaniline, 2-	LWDS-MW1	19-DEC-95	D	<1.82	U	1.82	8270	GEL
Nitroaniline, 2-	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitroaniline, 2-	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Nitroaniline, 2-	LWDS-MW1	08-JUN-98	SA	<1.1	U	1.1	EPA 8270	QSTL
Nitroaniline, 2-	LWDS-MW-1	02-MAR-95	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 2-	LWDS-MW2	21-OCT-92	F	<50	U	50	8270	ENSECO
Nitroaniline, 2-	LWDS-MW2	24-JUN-93	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 2-	LWDS-MW2	24-JUN-93	D	<50	U	50	8270	ENCOTEC
Nitroaniline, 2-	LWDS-MW2	06-JUN-94	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 2-	LWDS-MW2	31-AUG-94	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 2-	LWDS-MW2	07-DEC-94	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 2-	LWDS-MW2	12-JUN-95	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 2-	LWDS-MW2	12-JUN-95	D	<50	U	50	8270	ENCOTEC
Nitroaniline, 2-	LWDS-MW2	14-DEC-95	F	<1.82	U	1.82	8270	GEL
Nitroaniline, 2-	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitroaniline, 2-	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Nitroaniline, 2-	LWDS-MW-2	01-MAR-95	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 2-	TAV-MW1	09-JUN-95	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 2-	TAV-MW1	18-DEC-95	F	<1.82	U	1.82	8270	GEL
Nitroaniline, 2-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitroaniline, 2-	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Nitroaniline, 2-	TAV-MW2	06-JUN-95	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 2-	TAV-MW2	18-DEC-95	F	<1.82	U	1.82	8270	GEL
Nitroaniline, 2-	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitroaniline, 2-	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Nitroaniline, 2-	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Nitroaniline, 2-	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Nitroaniline, 2-	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Nitroaniline, 2-	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Nitroaniline, 3-	AVN-1	13-JUL-95	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 3-	AVN-1	13-DEC-95	F	<5.02	U	5.02	8270	GEL
Nitroaniline, 3-	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Nitroaniline, 3-	AVN-1	03-JUN-98	SA	<1	U	1	EPA 8270	QSTL
Nitroaniline, 3-	AVN-2	11-JUL-95	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 3-	AVN-2	14-DEC-95	F	<5.02	U	5.02	8270	GEL
Nitroaniline, 3-	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitroaniline, 3-	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Nitroaniline, 3-	AVN-2	03-JUN-98	SA	<1	U	1	EPA 8270	QSTL
Nitroaniline, 3-	LWDS-MW1	03-MAY-93	F	<50	U	50	8270	ENSECO
Nitroaniline, 3-	LWDS-MW1	03-MAY-93	F	<50	U	50	8270	ENSECO
Nitroaniline, 3-	LWDS-MW1	02-NOV-93	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 3-	LWDS-MW1	03-NOV-93	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 3-	LWDS-MW1	03-NOV-93	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 3-	LWDS-MW1	12-MAR-94	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 3-	LWDS-MW1	07-JUN-94	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 3-	LWDS-MW1	01-SEP-94	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 3-	LWDS-MW1	01-SEP-94	D	<50	U	50	8270	ENCOTEC
Nitroaniline, 3-	LWDS-MW1	08-DEC-94	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 3-	LWDS-MW1	14-JUN-95	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 3-	LWDS-MW1	19-DEC-95	F	<5.02	U	5.02	8270	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Nitroaniline, 3-	LWDS-MW1	19-DEC-95	D	<5.02	U	5.02	8270	GEL
Nitroaniline, 3-	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitroaniline, 3-	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Nitroaniline, 3-	LWDS-MW1	08-JUN-98	SA	<1	U	1	EPA 8270	QSTL
Nitroaniline, 3-	LWDS-MW-1	02-MAR-95	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 3-	LWDS-MW2	21-OCT-92	F	<50	U	50	8270	ENSECO
Nitroaniline, 3-	LWDS-MW2	24-JUN-93	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 3-	LWDS-MW2	24-JUN-93	D	<50	U	50	8270	ENCOTEC
Nitroaniline, 3-	LWDS-MW2	06-JUN-94	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 3-	LWDS-MW2	31-AUG-94	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 3-	LWDS-MW2	07-DEC-94	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 3-	LWDS-MW2	12-JUN-95	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 3-	LWDS-MW2	12-JUN-95	D	<50	U	50	8270	ENCOTEC
Nitroaniline, 3-	LWDS-MW2	14-DEC-95	F	<5.02	U	5.02	8270	GEL
Nitroaniline, 3-	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitroaniline, 3-	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Nitroaniline, 3-	LWDS-MW-2	01-MAR-95	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 3-	TAV-MW1	09-JUN-95	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 3-	TAV-MW1	18-DEC-95	F	<5.02	U	5.02	8270	GEL
Nitroaniline, 3-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitroaniline, 3-	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Nitroaniline, 3-	TAV-MW2	06-JUN-95	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 3-	TAV-MW2	18-DEC-95	F	<5.02	U	5.02	8270	GEL
Nitroaniline, 3-	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitroaniline, 3-	TAV-MW2	04-JUN-97	SPL	<6	U	6	8270	GEL
Nitroaniline, 3-	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Nitroaniline, 3-	TAV-MW3	26-FEB-98	SA	<6	U	6	EPA 8270	GEL
Nitroaniline, 3-	TAV-MW4	26-FEB-98	SA	<6	U	6	EPA 8270	GEL
Nitroaniline, 3-	TAV-MW5	27-FEB-98	SA	<6	U	6	EPA 8270	GEL
Nitroaniline, 4-	AVN-1	13-JUL-95	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 4-	AVN-1	13-DEC-95	F	<1.49	U	1.49	8270	GEL
Nitroaniline, 4-	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Nitroaniline, 4-	AVN-1	03-JUN-98	SA	<0.53	U	0.53	EPA 8270	QSTL
Nitroaniline, 4-	AVN-2	11-JUL-95	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 4-	AVN-2	14-DEC-95	F	<1.49	U	1.49	8270	GEL
Nitroaniline, 4-	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitroaniline, 4-	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Nitroaniline, 4-	AVN-2	03-JUN-98	SA	<0.53	U	0.53	EPA 8270	QSTL
Nitroaniline, 4-	LWDS-MW1	03-MAY-93	F	<50	U	50	8270	ENSECO
Nitroaniline, 4-	LWDS-MW1	03-MAY-93	F	<50	U	50	8270	ENSECO
Nitroaniline, 4-	LWDS-MW1	02-NOV-93	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 4-	LWDS-MW1	03-NOV-93	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 4-	LWDS-MW1	03-NOV-93	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 4-	LWDS-MW1	12-MAR-94	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 4-	LWDS-MW1	07-JUN-94	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 4-	LWDS-MW1	01-SEP-94	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 4-	LWDS-MW1	01-SEP-94	D	<50	U	50	8270	ENCOTEC
Nitroaniline, 4-	LWDS-MW1	08-DEC-94	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 4-	LWDS-MW1	14-JUN-95	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 4-	LWDS-MW1	19-DEC-95	F	<1.49	U	1.49	8270	GEL
Nitroaniline, 4-	LWDS-MW1	19-DEC-95	D	<1.49	U	1.49	8270	GEL
Nitroaniline, 4-	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitroaniline, 4-	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Nitroaniline, 4-	LWDS-MW1	08-JUN-98	SA	<0.53	U	0.53	EPA 8270	QSTL
Nitroaniline, 4-	LWDS-MW-1	02-MAR-95	F	<50	U	50	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Nitroaniline, 4-	LWDS-MW2	21-OCT-92	F	<50	U	50	8270	ENSECO
Nitroaniline, 4-	LWDS-MW2	24-JUN-93	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 4-	LWDS-MW2	24-JUN-93	D	<50	U	50	8270	ENCOTEC
Nitroaniline, 4-	LWDS-MW2	06-JUN-94	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 4-	LWDS-MW2	31-AUG-94	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 4-	LWDS-MW2	07-DEC-94	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 4-	LWDS-MW2	12-JUN-95	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 4-	LWDS-MW2	12-JUN-95	D	<50	U	50	8270	ENCOTEC
Nitroaniline, 4-	LWDS-MW2	14-DEC-95	F	<1.49	U	1.49	8270	GEL
Nitroaniline, 4-	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitroaniline, 4-	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Nitroaniline, 4-	LWDS-MW-2	01-MAR-95	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 4-	TAV-MW1	09-JUN-95	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 4-	TAV-MW1	18-DEC-95	F	<1.49	U	1.49	8270	GEL
Nitroaniline, 4-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitroaniline, 4-	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Nitroaniline, 4-	TAV-MW2	06-JUN-95	F	<50	U	50	8270	ENCOTEC
Nitroaniline, 4-	TAV-MW2	18-DEC-95	F	<1.49	U	1.49	8270	GEL
Nitroaniline, 4-	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitroaniline, 4-	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Nitroaniline, 4-	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Nitroaniline, 4-	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Nitroaniline, 4-	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Nitroaniline, 4-	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Nitro-benzene	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Nitro-benzene	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Nitro-benzene	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Nitro-benzene	AVN-1	03-JUN-98	SA	<1.2	U	1.2	EPA 8270	QSTL
Nitro-benzene	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Nitro-benzene	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Nitro-benzene	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitro-benzene	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Nitro-benzene	AVN-2	03-JUN-98	SA	<1.2	U	1.2	EPA 8270	QSTL
Nitro-benzene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Nitro-benzene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Nitro-benzene	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Nitro-benzene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Nitro-benzene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Nitro-benzene	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Nitro-benzene	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Nitro-benzene	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Nitro-benzene	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Nitro-benzene	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Nitro-benzene	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Nitro-benzene	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Nitro-benzene	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Nitro-benzene	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitro-benzene	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Nitro-benzene	LWDS-MW1	08-JUN-98	SA	<1.2	U	1.2	EPA 8270	QSTL
Nitro-benzene	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Nitro-benzene	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Nitro-benzene	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Nitro-benzene	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Nitro-benzene	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Nitro-benzene	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Nitro-benzene	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Nitro-benzene	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Nitro-benzene	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Nitro-benzene	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Nitro-benzene	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Nitro-benzene	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Nitro-benzene	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitro-benzene	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Nitro-benzene	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Nitro-benzene	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Nitro-benzene	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Nitro-benzene	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitro-benzene	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Nitro-benzene	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Nitro-benzene	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Nitro-benzene	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitro-benzene	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Nitro-benzene	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Nitro-benzene	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Nitro-benzene	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Nitro-benzene	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Nitrophenol, 2-	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Nitrophenol, 2-	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Nitrophenol, 2-	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrophenol, 2-	AVN-1	03-JUN-98	SA	<1.2	U	1.2	EPA 8270	QSTL
Nitrophenol, 2-	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Nitrophenol, 2-	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Nitrophenol, 2-	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrophenol, 2-	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Nitrophenol, 2-	AVN-2	03-JUN-98	SA	<1.2	U	1.2	EPA 8270	QSTL
Nitrophenol, 2-	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Nitrophenol, 2-	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Nitrophenol, 2-	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Nitrophenol, 2-	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Nitrophenol, 2-	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Nitrophenol, 2-	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Nitrophenol, 2-	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Nitrophenol, 2-	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Nitrophenol, 2-	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Nitrophenol, 2-	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Nitrophenol, 2-	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Nitrophenol, 2-	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Nitrophenol, 2-	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Nitrophenol, 2-	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrophenol, 2-	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrophenol, 2-	LWDS-MW1	08-JUN-98	SA	<1.2	U	1.2	EPA 8270	QSTL
Nitrophenol, 2-	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Nitrophenol, 2-	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Nitrophenol, 2-	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Nitrophenol, 2-	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Nitrophenol, 2-	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Nitrophenol, 2-	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Nitrophenol, 2-	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Nitrophenol, 2-	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Nitrophenol, 2-	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Nitrophenol, 2-	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Nitrophenol, 2-	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Nitrophenol, 2-	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Nitrophenol, 2-	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrophenol, 2-	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Nitrophenol, 2-	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Nitrophenol, 2-	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Nitrophenol, 2-	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Nitrophenol, 2-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrophenol, 2-	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Nitrophenol, 2-	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Nitrophenol, 2-	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Nitrophenol, 2-	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrophenol, 2-	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Nitrophenol, 2-	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Nitrophenol, 2-	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Nitrophenol, 2-	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Nitrophenol, 2-	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Nitrophenol, 4-	AVN-1	13-JUL-95	F	<50	U	50	8270	ENCOTEC
Nitrophenol, 4-	AVN-1	13-DEC-95	F	<10	U	10	8270	GEL
Nitrophenol, 4-	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrophenol, 4-	AVN-1	03-JUN-98	SA	<0.84	U	0.84	EPA 8270	QSTL
Nitrophenol, 4-	AVN-2	11-JUL-95	F	<50	U	50	8270	ENCOTEC
Nitrophenol, 4-	AVN-2	14-DEC-95	F	<10	U	10	8270	GEL
Nitrophenol, 4-	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrophenol, 4-	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Nitrophenol, 4-	AVN-2	03-JUN-98	SA	<0.84	U	0.84	EPA 8270	QSTL
Nitrophenol, 4-	LWDS-MW1	03-MAY-93	F	<50	U	50	8270	ENSECO
Nitrophenol, 4-	LWDS-MW1	03-MAY-93	F	<50	U	50	8270	ENSECO
Nitrophenol, 4-	LWDS-MW1	02-NOV-93	F	<50	U	50	8270	ENCOTEC
Nitrophenol, 4-	LWDS-MW1	03-NOV-93	F	<50	U	50	8270	ENCOTEC
Nitrophenol, 4-	LWDS-MW1	03-NOV-93	F	<50	U	50	8270	ENCOTEC
Nitrophenol, 4-	LWDS-MW1	12-MAR-94	F	<50	U	50	8270	ENCOTEC
Nitrophenol, 4-	LWDS-MW1	07-JUN-94	F	<50	U	50	8270	ENCOTEC
Nitrophenol, 4-	LWDS-MW1	01-SEP-94	F	<50	U	50	8270	ENCOTEC
Nitrophenol, 4-	LWDS-MW1	01-SEP-94	D	<50	U	50	8270	ENCOTEC
Nitrophenol, 4-	LWDS-MW1	08-DEC-94	F	<50	U	50	8270	ENCOTEC
Nitrophenol, 4-	LWDS-MW1	14-JUN-95	F	<50	U	50	8270	ENCOTEC
Nitrophenol, 4-	LWDS-MW1	19-DEC-95	F	<10	U	10	8270	GEL
Nitrophenol, 4-	LWDS-MW1	19-DEC-95	D	<10	U	10	8270	GEL
Nitrophenol, 4-	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrophenol, 4-	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrophenol, 4-	LWDS-MW1	08-JUN-98	SA	<0.84	U	0.84	EPA 8270	QSTL
Nitrophenol, 4-	LWDS-MW-1	02-MAR-95	F	<50	U	50	8270	ENCOTEC
Nitrophenol, 4-	LWDS-MW2	21-OCT-92	F	<50	U	50	8270	ENSECO
Nitrophenol, 4-	LWDS-MW2	24-JUN-93	F	<50	U	50	8270	ENCOTEC
Nitrophenol, 4-	LWDS-MW2	24-JUN-93	D	<50	U	50	8270	ENCOTEC
Nitrophenol, 4-	LWDS-MW2	11-MAR-94	F	<50	U	50	8270	ENCOTEC
Nitrophenol, 4-	LWDS-MW2	11-MAR-94	D	<50	U	50	8270	ENCOTEC
Nitrophenol, 4-	LWDS-MW2	06-JUN-94	F	<50	U	50	8270	ENCOTEC
Nitrophenol, 4-	LWDS-MW2	31-AUG-94	F	<50	U	50	8270	ENCOTEC
Nitrophenol, 4-	LWDS-MW2	07-DEC-94	F	<50	U	50	8270	ENCOTEC
Nitrophenol, 4-	LWDS-MW2	12-JUN-95	F	<50	U	50	8270	ENCOTEC
Nitrophenol, 4-	LWDS-MW2	12-JUN-95	D	<50	U	50	8270	ENCOTEC
Nitrophenol, 4-	LWDS-MW2	14-DEC-95	F	<10	U	10	8270	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Nitrophenol, 4-	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrophenol, 4-	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Nitrophenol, 4-	LWDS-MW-2	01-MAR-95	F	<50	U	50	8270	ENCOTEC
Nitrophenol, 4-	TAV-MW1	09-JUN-95	F	<50	U	50	8270	ENCOTEC
Nitrophenol, 4-	TAV-MW1	18-DEC-95	F	<10	U	10	8270	GEL
Nitrophenol, 4-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrophenol, 4-	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Nitrophenol, 4-	TAV-MW2	06-JUN-95	F	<50	U	50	8270	ENCOTEC
Nitrophenol, 4-	TAV-MW2	18-DEC-95	F	<10	U	10	8270	GEL
Nitrophenol, 4-	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrophenol, 4-	TAV-MW2	04-JUN-97	SPL	<10	U	10	8270	GEL
Nitrophenol, 4-	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Nitrophenol, 4-	TAV-MW3	26-FEB-98	SA	<10	U	10	EPA 8270	GEL
Nitrophenol, 4-	TAV-MW4	26-FEB-98	SA	<10	U	10	EPA 8270	GEL
Nitrophenol, 4-	TAV-MW5	27-FEB-98	SA	<10	U	10	EPA 8270	GEL
Nitrosodimethylamine	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Nitrosodimethylamine	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Nitrosodiphenylamine	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Nitrosodiphenylamine	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Nitrosodiphenylamine	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrosodiphenylamine	AVN-1	03-JUN-98	SA	<0.59	U	0.59	EPA 8270	QSTL
Nitrosodiphenylamine	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Nitrosodiphenylamine	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Nitrosodiphenylamine	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrosodiphenylamine	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Nitrosodiphenylamine	AVN-2	03-JUN-98	SA	<0.59	U	0.59	EPA 8270	QSTL
Nitrosodiphenylamine	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Nitrosodiphenylamine	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Nitrosodiphenylamine	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Nitrosodiphenylamine	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Nitrosodiphenylamine	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Nitrosodiphenylamine	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Nitrosodiphenylamine	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Nitrosodiphenylamine	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Nitrosodiphenylamine	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Nitrosodiphenylamine	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Nitrosodiphenylamine	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Nitrosodiphenylamine	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Nitrosodiphenylamine	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Nitrosodiphenylamine	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrosodiphenylamine	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrosodiphenylamine	LWDS-MW1	08-JUN-98	SA	<0.59	U	0.59	EPA 8270	QSTL
Nitrosodiphenylamine	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Nitrosodiphenylamine	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Nitrosodiphenylamine	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Nitrosodiphenylamine	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Nitrosodiphenylamine	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Nitrosodiphenylamine	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Nitrosodiphenylamine	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Nitrosodiphenylamine	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Nitrosodiphenylamine	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Nitrosodiphenylamine	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Nitrosodiphenylamine	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Nitrosodiphenylamine	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Nitrosodiphenylamine	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Nitrosodiphenylamine	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Nitrosodiphenylamine	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Nitrosodiphenylamine	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Nitrosodiphenylamine	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Nitrosodiphenylamine	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrosodiphenylamine	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Nitrosodiphenylamine	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Nitrosodiphenylamine	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Nitrosodiphenylamine	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrosodiphenylamine	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Nitrosodiphenylamine	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Nitrosodiphenylamine	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Nitrosodiphenylamine	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Nitrosodiphenylamine	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Nitrosodipropylamine,	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Nitrosodipropylamine,	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Nitrosodipropylamine,	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrosodipropylamine,	AVN-1	03-JUN-98	SA	<2.2	U	2.2	EPA 8270	QSTL
Nitrosodipropylamine,	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Nitrosodipropylamine,	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Nitrosodipropylamine,	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrosodipropylamine,	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Nitrosodipropylamine,	AVN-2	03-JUN-98	SA	<2.2	U	2.2	EPA 8270	QSTL
Nitrosodipropylamine,	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Nitrosodipropylamine,	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Nitrosodipropylamine,	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Nitrosodipropylamine,	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Nitrosodipropylamine,	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Nitrosodipropylamine,	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Nitrosodipropylamine,	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Nitrosodipropylamine,	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Nitrosodipropylamine,	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Nitrosodipropylamine,	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Nitrosodipropylamine,	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Nitrosodipropylamine,	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Nitrosodipropylamine,	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Nitrosodipropylamine,	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrosodipropylamine,	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrosodipropylamine,	LWDS-MW1	08-JUN-98	SA	<2.2	U	2.2	EPA 8270	QSTL
Nitrosodipropylamine,	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Nitrosodipropylamine,	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Nitrosodipropylamine,	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Nitrosodipropylamine,	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Nitrosodipropylamine,	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Nitrosodipropylamine,	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Nitrosodipropylamine,	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Nitrosodipropylamine,	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Nitrosodipropylamine,	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Nitrosodipropylamine,	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Nitrosodipropylamine,	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Nitrosodipropylamine,	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Nitrosodipropylamine,	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrosodipropylamine,	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Nitrosodipropylamine,	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Nitrosodipropylamine,	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Nitrosodipropylamine,	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Nitrosodipropylamine,	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrosodipropylamine,	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Nitrosodipropylamine,	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Nitrosodipropylamine,	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Nitrosodipropylamine,	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Nitrosodipropylamine,	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Nitrosodipropylamine,	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Nitrosodipropylamine,	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Nitrosodipropylamine,	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Nitrosodipropylamine,	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Organic carbon, total	AVN-1	13-DEC-95	F	2230		143	415.1	GEL
Organic carbon, total	AVN-2	14-DEC-95	F	1450		143	415.1	GEL
Organic carbon, total	LWDS-MW1	19-DEC-95	D	3520		143	415.1	GEL
Organic carbon, total	LWDS-MW1	19-DEC-95	F	3220		143	415.1	GEL
Organic carbon, total	LWDS-MW2	14-DEC-95	F	1980		143	415.1	GEL
Organic carbon, total	TAV-MW1	18-DEC-95	F	1830		143	415.1	GEL
Organic carbon, total	TAV-MW2	18-DEC-95	F	2990		143	415.1	GEL
Pentachlorophenol	AVN-1	13-JUL-95	F	<50	U	50	8270	ENCOTEC
Pentachlorophenol	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Pentachlorophenol	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Pentachlorophenol	AVN-1	03-JUN-98	SA	<0.84	U	0.84	EPA 8270	QSTL
Pentachlorophenol	AVN-2	11-JUL-95	F	<50	U	50	8270	ENCOTEC
Pentachlorophenol	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Pentachlorophenol	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Pentachlorophenol	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Pentachlorophenol	AVN-2	03-JUN-98	SA	<0.84	U	0.84	EPA 8270	QSTL
Pentachlorophenol	LWDS-MW1	03-MAY-93	F	<50	U	50	8270	ENSECO
Pentachlorophenol	LWDS-MW1	03-MAY-93	F	<50	U	50	8270	ENSECO
Pentachlorophenol	LWDS-MW1	02-NOV-93	F	<50	U	50	8270	ENCOTEC
Pentachlorophenol	LWDS-MW1	03-NOV-93	F	<50	U	50	8270	ENCOTEC
Pentachlorophenol	LWDS-MW1	03-NOV-93	F	<50	U	50	8270	ENCOTEC
Pentachlorophenol	LWDS-MW1	12-MAR-94	F	<50	U	50	8270	ENCOTEC
Pentachlorophenol	LWDS-MW1	07-JUN-94	F	<50	U	50	8270	ENCOTEC
Pentachlorophenol	LWDS-MW1	01-SEP-94	F	<50	U	50	8270	ENCOTEC
Pentachlorophenol	LWDS-MW1	01-SEP-94	D	<50	U	50	8270	ENCOTEC
Pentachlorophenol	LWDS-MW1	08-DEC-94	F	<50	U	50	8270	ENCOTEC
Pentachlorophenol	LWDS-MW1	14-JUN-95	F	<50	U	50	8270	ENCOTEC
Pentachlorophenol	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Pentachlorophenol	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Pentachlorophenol	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Pentachlorophenol	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Pentachlorophenol	LWDS-MW1	08-JUN-98	SA	<0.84	U	0.84	EPA 8270	QSTL
Pentachlorophenol	LWDS-MW-1	02-MAR-95	F	<50	U	50	8270	ENCOTEC
Pentachlorophenol	LWDS-MW2	21-OCT-92	F	<50	U	50	8270	ENSECO
Pentachlorophenol	LWDS-MW2	24-JUN-93	F	<50	U	50	8270	ENCOTEC
Pentachlorophenol	LWDS-MW2	24-JUN-93	D	<50	U	50	8270	ENCOTEC
Pentachlorophenol	LWDS-MW2	11-MAR-94	F	<50	U	50	8270	ENCOTEC
Pentachlorophenol	LWDS-MW2	11-MAR-94	D	<50	U	50	8270	ENCOTEC
Pentachlorophenol	LWDS-MW2	06-JUN-94	F	<50	U	50	8270	ENCOTEC
Pentachlorophenol	LWDS-MW2	31-AUG-94	F	<50	U	50	8270	ENCOTEC
Pentachlorophenol	LWDS-MW2	07-DEC-94	F	<50	U	50	8270	ENCOTEC
Pentachlorophenol	LWDS-MW2	12-JUN-95	F	<50	U	50	8270	ENCOTEC
Pentachlorophenol	LWDS-MW2	12-JUN-95	D	<50	U	50	8270	ENCOTEC
Pentachlorophenol	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Pentachlorophenol	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Pentachlorophenol	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Pentachlorophenol	LWDS-MW-2	01-MAR-95	F	<50	U	50	8270	ENCOTEC
Pentachlorophenol	TAV-MW1	09-JUN-95	F	<50	U	50	8270	ENCOTEC
Pentachlorophenol	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Pentachlorophenol	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Pentachlorophenol	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Pentachlorophenol	TAV-MW2	06-JUN-95	F	<50	U	50	8270	ENCOTEC
Pentachlorophenol	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Pentachlorophenol	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Pentachlorophenol	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Pentachlorophenol	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Pentachlorophenol	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Pentachlorophenol	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Pentachlorophenol	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Pentanone, 4-methyl-	AVN-1	13-JUL-95	F	<2	U	2	8260	ENCOTEC
Pentanone, 4-methyl-	AVN-1	15-MAR-96	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	AVN-1	09-SEP-96	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	AVN-1	14-NOV-97	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	AVN-1	24-FEB-98	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	AVN-1	03-JUN-98	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	AVN-1	01-SEP-98	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	AVN-1	16-NOV-08	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	AVN-2	11-JUL-95	F	<2	U	2	8260	ENCOTEC
Pentanone, 4-methyl-	AVN-2	15-MAR-96	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	AVN-2	09-SEP-96	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	AVN-2	14-NOV-97	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	AVN-2	24-FEB-98	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	AVN-2	03-JUN-98	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	AVN-2	01-SEP-98	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	AVN-2	16-NOV-98	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	LWDS-MW1	03-MAY-93	F	<10	U	10	8240	ENSECO
Pentanone, 4-methyl-	LWDS-MW1	27-OCT-93	F	<10	U	10	8240	ENCOTEC
Pentanone, 4-methyl-	LWDS-MW1	02-NOV-93	F	<10	U	10	8240	ENCOTEC
Pentanone, 4-methyl-	LWDS-MW1	03-NOV-93	F	<10	U	10	8240	ENCOTEC
Pentanone, 4-methyl-	LWDS-MW1	03-NOV-93	F	<10	U	10	8240	ENCOTEC
Pentanone, 4-methyl-	LWDS-MW1	10-MAR-94	F	<5	U	5	8240	ENCOTEC
Pentanone, 4-methyl-	LWDS-MW1	07-JUN-94	F	3		2	8260	ENCOTEC
Pentanone, 4-methyl-	LWDS-MW1	01-SEP-94	F	<2	U	2	8260	ENCOTEC
Pentanone, 4-methyl-	LWDS-MW1	01-SEP-94	D	<2	U	2	8260	ENCOTEC
Pentanone, 4-methyl-	LWDS-MW1	18-MAR-96	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	LWDS-MW1	10-SEP-96	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	LWDS-MW1	10-SEP-96	DU	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	LWDS-MW1	12-NOV-97	DU	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	LWDS-MW1	04-MAR-98	SA	<0.19	U	0.19	EPA 8260	QSTL
Pentanone, 4-methyl-	LWDS-MW1	04-MAR-98	SA	<0.19	U	0.19	EPA 8260	QSTL
Pentanone, 4-methyl-	LWDS-MW1	04-MAR-98	SA	<0.37	U	0.37	EPA 8260	GEL
Pentanone, 4-methyl-	LWDS-MW1	04-MAR-98	SA	<0.37	U	0.37	EPA 8260	GEL
Pentanone, 4-methyl-	LWDS-MW1	04-MAR-98	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	LWDS-MW1	04-MAR-98	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	LWDS-MW1	08-JUN-98	SPLIT	<1	U	1	EPA 8260	QSTL
Pentanone, 4-methyl-	LWDS-MW1	08-JUN-98	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	LWDS-MW1	16-NOV-98	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	LWDS-MW1	16-NOV-98	DU	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	LWDS-MW1	17-NOV-98	SA	<5	U	5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Pentanone, 4-methyl-	LWDS-MW1	18-NOV-98	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	LWDS-MW1	20-NOV-98	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	LWDS-MW-1	02-MAR-95	F	<10	U	10	8240	ENCOTEC
Pentanone, 4-methyl-	LWDS-MW-1	08-JUN-98	DU	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	LWDS-MW2	21-OCT-92	F	<10	U	10	8240	ENSECO
Pentanone, 4-methyl-	LWDS-MW2	24-JUN-93	F	<10	U	10	8240	ENCOTEC
Pentanone, 4-methyl-	LWDS-MW2	24-JUN-93	D	<10	U	10	8240	ENCOTEC
Pentanone, 4-methyl-	LWDS-MW2	06-JUN-94	F	<2	U	2	8260	ENCOTEC
Pentanone, 4-methyl-	LWDS-MW2	31-AUG-94	F	<2	U	2	8260	ENCOTEC
Pentanone, 4-methyl-	LWDS-MW2	18-MAR-96	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	LWDS-MW2	09-SEP-96	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	LWDS-MW2	25-FEB-98	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	LWDS-MW-2	01-MAR-95	F	<10	U	10	8240	ENCOTEC
Pentanone, 4-methyl-	LWDS-MW-2	01-MAR-95	D	<10	U	10	8240	ENCOTEC
Pentanone, 4-methyl-	LWDS-MW-2	11-NOV-97	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	LWDS-MW-2	03-JUN-98	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	LWDS-MW-2	02-SEP-98	SA	5.5	J	5	EPA8260	ERCL
Pentanone, 4-methyl-	LWDS-MW-2	02-SEP-98	DU	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	LWDS-MW-2	17-NOV-98	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	TAV-MW1	19-MAR-96	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	TAV-MW1	11-SEP-96	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	TAV-MW1	11-SEP-96	DU	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	TAV-MW1	16-SEP-97	F	<0.19	U	0.19	8260	Quanterra
Pentanone, 4-methyl-	TAV-MW1	16-SEP-97	SA	<0.19	U	0.19	EPA 8260	QSTL
Pentanone, 4-methyl-	TAV-MW1	13-NOV-97	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	TAV-MW1	03-MAR-98	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	TAV-MW1	03-MAR-98	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	TAV-MW1	23-NOV-98	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	TAV-MW2	19-MAR-96	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	TAV-MW2	10-SEP-96	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	TAV-MW2	10-SEP-96	DU	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	TAV-MW2	11-NOV-97	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	TAV-MW2	24-FEB-98	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	TAV-MW2	20-NOV-98	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	TAV-MW3	22-APR-97	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	TAV-MW3	19-NOV-98	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	TAV-MW4	29-OCT-98	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	TAV-MW4	29-OCT-98	SA	<5	U	5	EPA8260	ERCL
Pentanone, 4-methyl-	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA8260	ERCL
Phenanthrene	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Phenanthrene	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Phenanthrene	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Phenanthrene	AVN-1	03-JUN-98	SA	<0.68	U	0.68	EPA 8270	QSTL
Phenanthrene	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Phenanthrene	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Phenanthrene	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Phenanthrene	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Phenanthrene	AVN-2	03-JUN-98	SA	<0.68	U	0.68	EPA 8270	QSTL
Phenanthrene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Phenanthrene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Phenanthrene	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Phenanthrene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Phenanthrene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Phenanthrene	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Phenanthrene	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Phenanthrene	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Phenanthrene	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Phenanthrene	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Phenanthrene	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Phenanthrene	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Phenanthrene	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Phenanthrene	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Phenanthrene	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Phenanthrene	LWDS-MW1	08-JUN-98	SA	<0.68	U	0.68	EPA 8270	QSTL
Phenanthrene	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Phenanthrene	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Phenanthrene	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Phenanthrene	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Phenanthrene	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Phenanthrene	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Phenanthrene	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Phenanthrene	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Phenanthrene	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Phenanthrene	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Phenanthrene	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Phenanthrene	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Phenanthrene	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Phenanthrene	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Phenanthrene	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Phenanthrene	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Phenanthrene	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Phenanthrene	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Phenanthrene	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Phenanthrene	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Phenanthrene	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Phenanthrene	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Phenanthrene	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Phenanthrene	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Phenanthrene	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Phenanthrene	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Phenanthrene	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Phenol	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Phenol	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Phenol	AVN-1	29-MAY-97	SA	<0.99	U	0.99	EPA8270	ERCL
Phenol	AVN-1	03-JUN-98	SA	<0.7	U	0.7	EPA 8270	QSTL
Phenol	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Phenol	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Phenol	AVN-2	04-DEC-96	SA	<1	U	1	EPA8270	ERCL
Phenol	AVN-2	29-MAY-97	SA	<0.96	U	0.96	EPA8270	ERCL
Phenol	AVN-2	03-JUN-98	SA	<0.7	U	0.7	EPA 8270	QSTL
Phenol	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Phenol	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Phenol	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Phenol	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Phenol	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Phenol	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Phenol	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Phenol	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Phenol	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Phenol	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Phenol	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Phenol	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Phenol	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Phenol	LWDS-MW1	06-DEC-96	SA	<1	U	1	EPA8270	ERCL
Phenol	LWDS-MW1	30-MAY-97	SA	<0.99	U	0.99	EPA8270	ERCL
Phenol	LWDS-MW1	08-JUN-98	SA	<0.7	U	0.7	EPA 8270	QSTL
Phenol	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Phenol	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Phenol	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Phenol	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Phenol	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Phenol	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Phenol	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Phenol	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Phenol	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Phenol	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Phenol	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Phenol	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Phenol	LWDS-MW2	05-DEC-96	SA	<1	U	1	EPA8270	ERCL
Phenol	LWDS-MW2	02-JUN-97	SA	<0.89	U	0.89	EPA8270	ERCL
Phenol	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Phenol	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Phenol	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Phenol	TAV-MW1	06-DEC-96	SA	<1	U	1	EPA8270	ERCL
Phenol	TAV-MW1	03-JUN-97	SA	<0.95	U	0.95	EPA8270	ERCL
Phenol	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Phenol	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Phenol	TAV-MW2	05-DEC-96	SA	<1	U	1	EPA8270	ERCL
Phenol	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Phenol	TAV-MW2	04-JUN-97	SA	<1	U	1	EPA8270	ERCL
Phenol	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Phenol	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Phenol	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Phenols	LWDS-MW1	25-SEP-95	F	3.52	JB	1.95	420.2	GEL
Pyrene	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Pyrene	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Pyrene	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Pyrene	AVN-1	03-JUN-98	SA	<0.52	U	0.52	EPA 8270	QSTL
Pyrene	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Pyrene	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Pyrene	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Pyrene	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Pyrene	AVN-2	03-JUN-98	SA	<0.52	U	0.52	EPA 8270	QSTL
Pyrene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Pyrene	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Pyrene	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Pyrene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Pyrene	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Pyrene	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Pyrene	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Pyrene	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Pyrene	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Pyrene	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Pyrene	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Pyrene	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Pyrene	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Pyrene	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Pyrene	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Pyrene	LWDS-MW1	08-JUN-98	SA	<0.52	U	0.52	EPA 8270	QSTL
Pyrene	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Pyrene	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Pyrene	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Pyrene	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Pyrene	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Pyrene	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Pyrene	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Pyrene	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Pyrene	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Pyrene	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Pyrene	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Pyrene	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Pyrene	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Pyrene	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Pyrene	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Pyrene	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Pyrene	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Pyrene	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Pyrene	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Pyrene	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Pyrene	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Pyrene	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Pyrene	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Pyrene	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Pyrene	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Pyrene	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Pyrene	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Styrene	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Styrene	AVN-1	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	AVN-1	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	AVN-1	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Styrene	AVN-1	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Styrene	AVN-2	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	AVN-2	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	AVN-2	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Styrene	AVN-2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Styrene	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW1	03-MAY-93	F	<5	U	5	8240	ENSECO
Styrene	LWDS-MW1	27-OCT-93	F	<5	U	5	8240	ENCOTEC
Styrene	LWDS-MW1	02-NOV-93	F	<5	U	5	8240	ENCOTEC
Styrene	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Styrene	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Styrene	LWDS-MW1	10-MAR-94	F	<5	U	5	8240	ENCOTEC
Styrene	LWDS-MW1	07-JUN-94	F	<1	U	1	8260	ENCOTEC
Styrene	LWDS-MW1	01-SEP-94	F	<1	U	1	8260	ENCOTEC
Styrene	LWDS-MW1	01-SEP-94	D	<1	U	1	8260	ENCOTEC
Styrene	LWDS-MW1	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW1	26-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW1	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW1	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW1	06-DEC-96	DU	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW1	04-MAR-98	SA	<0.13	U	0.13	EPA 8260	QSTL
Styrene	LWDS-MW1	04-MAR-98	SA	<0.13	U	0.13	EPA 8260	QSTL
Styrene	LWDS-MW1	04-MAR-98	SA	<0.04	U	0.04	EPA 8260	GEL
Styrene	LWDS-MW1	04-MAR-98	SA	<0.04	U	0.04	EPA 8260	GEL
Styrene	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW1	08-JUN-98	SPLIT	<0.64	U	0.64	EPA 8260	QSTL
Styrene	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW1	18-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW-1	02-MAR-95	F	<5	U	5	8240	ENCOTEC
Styrene	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW2	21-OCT-92	F	<5	U	5	8240	ENSECO
Styrene	LWDS-MW2	24-JUN-93	F	<5	U	5	8240	ENCOTEC
Styrene	LWDS-MW2	24-JUN-93	D	<5	U	5	8240	ENCOTEC
Styrene	LWDS-MW2	06-JUN-94	F	<1	U	1	8260	ENCOTEC
Styrene	LWDS-MW2	31-AUG-94	F	<1	U	1	8260	ENCOTEC
Styrene	LWDS-MW2	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW-2	01-MAR-95	F	<5	U	5	8240	ENCOTEC
Styrene	LWDS-MW-2	01-MAR-95	D	<5	U	5	8240	ENCOTEC
Styrene	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Styrene	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW1	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW1	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW1	11-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW1	11-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW1	16-SEP-97	F	<0.13	U	0.13	8260	Quanterra
Styrene	TAV-MW1	16-SEP-97	SA	<0.13	U	0.13	EPA 8260	QSTL
Styrene	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW2	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW2	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW2	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW2	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW2	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Styrene	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachlorodibenzo-p-	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Tetrachlorodibenzo-p-	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Tetrachloroethane, 1,	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Tetrachloroethane, 1,	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Tetrachloroethane, 1,	LWDS-MW1	04-MAR-98	SA	<0.04	U	0.04	EPA 8260	GEL
Tetrachloroethane, 1,	LWDS-MW1	04-MAR-98	SA	<0.04	U	0.04	EPA 8260	GEL
Tetrachloroethane, 1,	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Tetrachloroethane, 1,	AVN-1	18-SEP-95	F	<1	U	1	8260	GEL
Tetrachloroethane, 1,	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Tetrachloroethane, 1,	AVN-1	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	AVN-1	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	AVN-1	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	AVN-1	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL
Tetrachloroethane, 1,	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Tetrachloroethane, 1,	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Tetrachloroethane, 1,	AVN-2	18-SEP-95	F	<1	U	1	8260	GEL
Tetrachloroethane, 1,	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Tetrachloroethane, 1,	AVN-2	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	AVN-2	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	AVN-2	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	AVN-2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Tetrachloroethane, 1,	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW1	03-MAY-93	F	<5	U	5	8240	ENSECO
Tetrachloroethane, 1,	LWDS-MW1	27-OCT-93	F	<5	U	5	8240	ENCOTEC
Tetrachloroethane, 1,	LWDS-MW1	02-NOV-93	F	<5	U	5	8240	ENCOTEC
Tetrachloroethane, 1,	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Tetrachloroethane, 1,	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Tetrachloroethane, 1,	LWDS-MW1	10-MAR-94	F	<5	U	5	8240	ENCOTEC
Tetrachloroethane, 1,	LWDS-MW1	07-JUN-94	F	<1	U	1	8260	ENCOTEC
Tetrachloroethane, 1,	LWDS-MW1	01-SEP-94	F	<1	U	1	8260	ENCOTEC
Tetrachloroethane, 1,	LWDS-MW1	01-SEP-94	D	<1	U	1	8260	ENCOTEC
Tetrachloroethane, 1,	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Tetrachloroethane, 1,	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Tetrachloroethane, 1,	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Tetrachloroethane, 1,	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Tetrachloroethane, 1,	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Tetrachloroethane, 1,	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Tetrachloroethane, 1,	LWDS-MW1	18-MAR-96	F	<2	U	2	8010	QUANTERRA
Tetrachloroethane, 1,	LWDS-MW1	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW1	26-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW1	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW1	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW1	10-SEP-96	SPL	<0.19	U	0.19	EPA-SW846	QARV
Tetrachloroethane, 1,	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW1	06-DEC-96	DU	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Tetrachloroethane, 1,	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Tetrachloroethane, 1,	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW1	04-MAR-98	SA	<0.3	U	0.3	EPA 8260	QSTL
Tetrachloroethane, 1,	LWDS-MW1	04-MAR-98	SA	<0.3	U	0.3	EPA 8260	QSTL
Tetrachloroethane, 1,	LWDS-MW1	04-MAR-98	SA	<0.04	U	0.04	EPA 8260	GEL
Tetrachloroethane, 1,	LWDS-MW1	04-MAR-98	SA	<0.04	U	0.04	EPA 8260	GEL
Tetrachloroethane, 1,	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW1	08-JUN-98	SPLIT	<0.57	U	0.57	EPA 8260	QSTL
Tetrachloroethane, 1,	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Tetrachloroethane, 1,	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW1	18-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW-1	02-MAR-95	F	<5	U	5	8240	ENCOTEC
Tetrachloroethane, 1,	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW2	21-OCT-92	F	<5	U	5	8240	ENSECO
Tetrachloroethane, 1,	LWDS-MW2	24-JUN-93	F	<5	U	5	8240	ENCOTEC
Tetrachloroethane, 1,	LWDS-MW2	24-JUN-93	D	<5	U	5	8240	ENCOTEC
Tetrachloroethane, 1,	LWDS-MW2	06-JUN-94	F	<1	U	1	8260	ENCOTEC
Tetrachloroethane, 1,	LWDS-MW2	31-AUG-94	F	<1	U	1	8260	ENCOTEC
Tetrachloroethane, 1,	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Tetrachloroethane, 1,	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Tetrachloroethane, 1,	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Tetrachloroethane, 1,	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Tetrachloroethane, 1,	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Tetrachloroethane, 1,	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Tetrachloroethane, 1,	LWDS-MW2	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Tetrachloroethane, 1,	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Tetrachloroethane, 1,	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Tetrachloroethane, 1,	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW-2	01-MAR-95	F	<5	U	5	8240	ENCOTEC
Tetrachloroethane, 1,	LWDS-MW-2	01-MAR-95	D	<5	U	5	8240	ENCOTEC
Tetrachloroethane, 1,	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW1	13-APR-95	F	<1	U	1	8010	QUANTERRA
Tetrachloroethane, 1,	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Tetrachloroethane, 1,	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Tetrachloroethane, 1,	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Tetrachloroethane, 1,	TAV-MW1	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW1	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW1	11-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW1	11-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW1	11-SEP-96	SPL	<0.19	U	0.19	EPA-SW846	QARV
Tetrachloroethane, 1,	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Tetrachloroethane, 1,	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Tetrachloroethane, 1,	TAV-MW1	03-JUN-97	F	<1	U	1	8260	GEL
Tetrachloroethane, 1,	TAV-MW1	16-SEP-97	F	<0.3	U	0.3	8260	Quanterra
Tetrachloroethane, 1,	TAV-MW1	16-SEP-97	SA	<0.3	U	0.3	EPA 8260	QSTL
Tetrachloroethane, 1,	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Tetrachloroethane, 1,	TAV-MW2	14-APR-95	F	<1	U	1	8010	QUANTERR/
Tetrachloroethane, 1,	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Tetrachloroethane, 1,	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Tetrachloroethane, 1,	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Tetrachloroethane, 1,	TAV-MW2	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW2	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW2	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW2	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW2	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Tetrachloroethane, 1,	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Tetrachloroethane, 1,	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Tetrachloroethane, 1,	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethane, 1,	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Tetrachloroethene	AVN-1	18-SEP-95	F	<1	U	1	8260	GEL
Tetrachloroethene	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Tetrachloroethene	AVN-1	15-MAR-96	SA	<1	U	1	EPA8260	ERCL
Tetrachloroethene	AVN-1	25-JUN-96	SA	<1	U	1	EPA8260	ERCL
Tetrachloroethene	AVN-1	25-JUN-96	DU	<1	U	1	EPA8260	ERCL
Tetrachloroethene	AVN-1	09-SEP-96	SA	<1	U	1	EPA8260	ERCL
Tetrachloroethene	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL
Tetrachloroethene	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Tetrachloroethene	AVN-2	18-SEP-95	F	<1	U	1	8260	GEL
Tetrachloroethene	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Tetrachloroethene	AVN-2	15-MAR-96	SA	<1	U	1	EPA8260	ERCL
Tetrachloroethene	AVN-2	25-JUN-96	SA	<1	U	1	EPA8260	ERCL
Tetrachloroethene	AVN-2	25-JUN-96	DU	<1	U	1	EPA8260	ERCL
Tetrachloroethene	AVN-2	09-SEP-96	SA	<1	U	1	EPA8260	ERCL
Tetrachloroethene	AVN-2	04-DEC-96	SA	<1	U	1	EPA8260	ERCL
Tetrachloroethene	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Tetrachloroethene	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Tetrachloroethene	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	LWDS-MW1	03-MAY-93	F	<5	U	5	8240	ENSECO
Tetrachloroethene	LWDS-MW1	27-OCT-93	F	<5	U	5	8240	ENCOTEC
Tetrachloroethene	LWDS-MW1	02-NOV-93	F	<5	U	5	8240	ENCOTEC
Tetrachloroethene	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Tetrachloroethene	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Tetrachloroethene	LWDS-MW1	10-MAR-94	F	<5	U	5	8240	ENCOTEC
Tetrachloroethene	LWDS-MW1	07-JUN-94	F	<1	U	1	8260	ENCOTEC
Tetrachloroethene	LWDS-MW1	01-SEP-94	F	<1	U	1	8260	ENCOTEC
Tetrachloroethene	LWDS-MW1	01-SEP-94	D	<1	U	1	8260	ENCOTEC
Tetrachloroethene	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Tetrachloroethene	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Tetrachloroethene	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Tetrachloroethene	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Tetrachloroethene	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Tetrachloroethene	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Tetrachloroethene	LWDS-MW1	18-MAR-96	F	<1	U	1	8010	QUANTERRA
Tetrachloroethene	LWDS-MW1	18-MAR-96	SA	<1	U	1	EPA8260	ERCL
Tetrachloroethene	LWDS-MW1	26-JUN-96	SA	<1	U	1	EPA8260	ERCL
Tetrachloroethene	LWDS-MW1	10-SEP-96	SA	<1	U	1	EPA8260	ERCL
Tetrachloroethene	LWDS-MW1	10-SEP-96	DU	<1	U	1	EPA8260	ERCL
Tetrachloroethene	LWDS-MW1	10-SEP-96	SPL	.18	J	0.15	EPA-SW846	QARV
Tetrachloroethene	LWDS-MW1	06-DEC-96	SA	<1	U	1	EPA8260	ERCL
Tetrachloroethene	LWDS-MW1	06-DEC-96	DU	<1	U	1	EPA8260	ERCL
Tetrachloroethene	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Tetrachloroethene	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Tetrachloroethene	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	LWDS-MW1	04-MAR-98	SA	<0.18	U	0.18	EPA 8260	QSTL
Tetrachloroethene	LWDS-MW1	04-MAR-98	SA	<0.18	U	0.18	EPA 8260	QSTL
Tetrachloroethene	LWDS-MW1	04-MAR-98	SA	<0.03	U	0.03	EPA 8260	GEL
Tetrachloroethene	LWDS-MW1	04-MAR-98	SA	<0.03	U	0.03	EPA 8260	GEL
Tetrachloroethene	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	LWDS-MW1	08-JUN-98	SPLIT	<0.92	U	0.92	EPA 8260	QSTL
Tetrachloroethene	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	LWDS-MW1	18-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	LWDS-MW-1	02-MAR-95	F	<5	U	5	8240	ENCOTEC
Tetrachloroethene	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	LWDS-MW2	21-OCT-92	F	<5	U	5	8240	ENSECO
Tetrachloroethene	LWDS-MW2	24-JUN-93	F	<5	U	5	8240	ENCOTEC
Tetrachloroethene	LWDS-MW2	24-JUN-93	D	<5	U	5	8240	ENCOTEC
Tetrachloroethene	LWDS-MW2	06-JUN-94	F	<1	U	1	8260	ENCOTEC
Tetrachloroethene	LWDS-MW2	31-AUG-94	F	<1	U	1	8260	ENCOTEC
Tetrachloroethene	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Tetrachloroethene	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Tetrachloroethene	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Tetrachloroethene	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Tetrachloroethene	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Tetrachloroethene	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Tetrachloroethene	LWDS-MW2	18-MAR-96	SA	<1	U	1	EPA8260	ERCL
Tetrachloroethene	LWDS-MW2	09-SEP-96	SA	<1	U	1	EPA8260	ERCL
Tetrachloroethene	LWDS-MW2	05-DEC-96	SA	<1	U	1	EPA8260	ERCL
Tetrachloroethene	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Tetrachloroethene	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Tetrachloroethene	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Tetrachloroethene	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	LWDS-MW-2	01-MAR-95	F	<5	U	5	8240	ENCOTEC
Tetrachloroethene	LWDS-MW-2	01-MAR-95	D	<5	U	5	8240	ENCOTEC
Tetrachloroethene	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	TAV-MW1	13-APR-95	F	<0.5	U	0.5	8010	QUANTERRA
Tetrachloroethene	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Tetrachloroethene	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Tetrachloroethene	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Tetrachloroethene	TAV-MW1	19-MAR-96	SA	<1	U	1	EPA8260	ERCL
Tetrachloroethene	TAV-MW1	27-JUN-96	SA	<1	U	1	EPA8260	ERCL
Tetrachloroethene	TAV-MW1	11-SEP-96	SA	<1	U	1	EPA8260	ERCL
Tetrachloroethene	TAV-MW1	11-SEP-96	DU	<1	U	1	EPA8260	ERCL
Tetrachloroethene	TAV-MW1	11-SEP-96	SPL	.17	J	0.15	EPA-SW846	QARV
Tetrachloroethene	TAV-MW1	06-DEC-96	SA	<1	U	1	EPA8260	ERCL
Tetrachloroethene	TAV-MW1	06-DEC-96	SA	<1	U	1	EPA8260	ERCL
Tetrachloroethene	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Tetrachloroethene	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Tetrachloroethene	TAV-MW1	03-JUN-97	F	<1	U	1	8260	GEL
Tetrachloroethene	TAV-MW1	16-SEP-97	F	<0.18	U	0.18	8260	Quanterra
Tetrachloroethene	TAV-MW1	16-SEP-97	SA	<0.18	U	0.18	EPA 8260	QSTL
Tetrachloroethene	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	TAV-MW2	14-APR-95	F	<0.5	U	0.5	8010	QUANTERRA
Tetrachloroethene	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Tetrachloroethene	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Tetrachloroethene	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Tetrachloroethene	TAV-MW2	19-MAR-96	SA	<1	U	1	EPA8260	ERCL
Tetrachloroethene	TAV-MW2	27-JUN-96	SA	<1	U	1	EPA8260	ERCL
Tetrachloroethene	TAV-MW2	10-SEP-96	SA	<1	U	1	EPA8260	ERCL
Tetrachloroethene	TAV-MW2	10-SEP-96	DU	<1	U	1	EPA8260	ERCL
Tetrachloroethene	TAV-MW2	05-DEC-96	SA	<1	U	1	EPA8260	ERCL
Tetrachloroethene	TAV-MW2	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Tetrachloroethene	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Tetrachloroethene	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Tetrachloroethene	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Tetrachloroethene	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Tetrachloroethene	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Toluene	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Toluene	AVN-1	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	AVN-1	25-JUN-96	SA	.55	J	0.5	EPA8260	ERCL
Toluene	AVN-1	25-JUN-96	DU	.51	J	0.5	EPA8260	ERCL
Toluene	AVN-1	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	AVN-2	11-JUL-95	F	7		1	8260	ENCOTEC
Toluene	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Toluene	AVN-2	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	AVN-2	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	AVN-2	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Toluene	AVN-2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	LWDS-MW1	03-MAY-93	F	<5	U	5	8240	ENSECO
Toluene	LWDS-MW1	27-OCT-93	F	<5	U	5	8240	ENCOTEC
Toluene	LWDS-MW1	02-NOV-93	F	1	J	5	8240	ENCOTEC
Toluene	LWDS-MW1	03-NOV-93	F	2	J	5	8240	ENCOTEC
Toluene	LWDS-MW1	03-NOV-93	F	2	J	5	8240	ENCOTEC
Toluene	LWDS-MW1	10-MAR-94	F	2		5	8240	ENCOTEC
Toluene	LWDS-MW1	07-JUN-94	F	1		1	8260	ENCOTEC
Toluene	LWDS-MW1	01-SEP-94	F	<1	U	1	8260	ENCOTEC
Toluene	LWDS-MW1	01-SEP-94	D	<1	U	1	8260	ENCOTEC
Toluene	LWDS-MW1	19-DEC-95	F	<1	UB	1	8260	GEL
Toluene	LWDS-MW1	19-DEC-95	D	<1	UB	1	8260	GEL
Toluene	LWDS-MW1	18-MAR-96	F	<0.5	U	0.5	8020	QUANTERR/
Toluene	LWDS-MW1	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	LWDS-MW1	26-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	LWDS-MW1	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	LWDS-MW1	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Toluene	LWDS-MW1	10-SEP-96	SPL	<0.048	U	0.048	EPA-SW846	QARV
Toluene	LWDS-MW1	06-DEC-96	SA	.5	J	0.5	EPA8260	ERCL
Toluene	LWDS-MW1	06-DEC-96	DU	<0.5	U	0.5	EPA8260	ERCL
Toluene	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Toluene	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Toluene	LWDS-MW1	04-MAR-98	SA	<0.16	U	0.16	EPA 8260	QSTL
Toluene	LWDS-MW1	04-MAR-98	SA	<0.16	U	0.16	EPA 8260	QSTL
Toluene	LWDS-MW1	04-MAR-98	SA	<0.04	U	0.04	EPA 8260	GEL
Toluene	LWDS-MW1	04-MAR-98	SA	<0.04	U	0.04	EPA 8260	GEL
Toluene	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	LWDS-MW1	08-JUN-98	SPLIT	<0.79	U	0.79	EPA 8260	QSTL
Toluene	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	LWDS-MW1	16-NOV-98	DU	0.88	J	0.5	EPA8260	ERCL
Toluene	LWDS-MW1	17-NOV-98	SA	1.6	J	0.5	EPA8260	ERCL
Toluene	LWDS-MW1	18-NOV-98	SA	1.5	J	0.5	EPA8260	ERCL
Toluene	LWDS-MW1	20-NOV-98	SA	1.6	J	0.5	EPA8260	ERCL
Toluene	LWDS-MW-1	02-MAR-95	F	<5	U	5	8240	ENCOTEC
Toluene	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Toluene	LWDS-MW2	21-OCT-92	F	<5	U	5	8240	ENSECO
Toluene	LWDS-MW2	24-JUN-93	F	<5	U	5	8240	ENCOTEC
Toluene	LWDS-MW2	24-JUN-93	D	<5	U	5	8240	ENCOTEC
Toluene	LWDS-MW2	06-JUN-94	F	<1	U	1	8260	ENCOTEC
Toluene	LWDS-MW2	31-AUG-94	F	<1	U	1	8260	ENCOTEC
Toluene	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Toluene	LWDS-MW2	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	LWDS-MW2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Toluene	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Toluene	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	LWDS-MW-2	01-MAR-95	F	<5	U	5	8240	ENCOTEC
Toluene	LWDS-MW-2	01-MAR-95	D	<5	U	5	8240	ENCOTEC
Toluene	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Toluene	LWDS-MW-2	17-NOV-98	SA	0.83	J	0.5	EPA8260	ERCL
Toluene	TAV-MW1	13-APR-95	F	1.1		0.5	8020	QUANTERRA
Toluene	TAV-MW1	18-DEC-95	F	<1	UB	1	8260	GEL
Toluene	TAV-MW1	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	TAV-MW1	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	TAV-MW1	11-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	TAV-MW1	11-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Toluene	TAV-MW1	11-SEP-96	SPL	<0.048	U	0.048	EPA-SW846	QARV
Toluene	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Toluene	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Toluene	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Toluene	TAV-MW1	16-SEP-97	F	<0.16	U	0.16	8260	Quanterra
Toluene	TAV-MW1	16-SEP-97	SA	<0.16	U	0.16	EPA 8260	QSTL
Toluene	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	TAV-MW1	23-NOV-98	SA	0.83	J	0.5	EPA8260	ERCL
Toluene	TAV-MW2	14-APR-95	F	1.2		0.5	8020	QUANTERR/
Toluene	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Toluene	TAV-MW2	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	TAV-MW2	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	TAV-MW2	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	TAV-MW2	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Toluene	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	TAV-MW2	05-MAR-97	SA	1.1	J	0.5	EPA8260	ERCL
Toluene	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	TAV-MW2	20-NOV-98	SA	0.68	J	0.5	EPA8260	ERCL
Toluene	TAV-MW3	22-APR-97	SA	.84	J	0.5	EPA8260	ERCL
Toluene	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Toluene	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	TAV-MW3	19-NOV-98	SA	1.1	J	0.5	EPA8260	ERCL
Toluene	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Toluene-d8	LWDS-MW2	04-MAR-97	SPL	27.8			EPA-SW846	GEL
Toluene-d8	TAV-MW1	04-MAR-97	SPL	27.5			EPA-SW846	GEL
Toxaphene	LWDS-MW1	25-SEP-95	F	<0.5	U	0.5	8080	GEL
Tribromophenol, 2,4,6	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Tribromophenol, 2,4,6	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Tribromophenol, 2,4,6	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Tribromophenol, 2,4,6	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Tribromophenol, 2,4,6	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Tribromophenol, 2,4,6	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Tribromophenol, 2,4,6	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Tribromophenol, 2,4,6	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Tribromophenol, 2,4,6	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Tribromophenol, 2,4,6	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Tribromophenol, 2,4,6	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Trichloro-1,2,2-trifluor	LWDS-MW1	18-MAR-96	F	<10	U	10	8010	QUANTERR/
Trichloro-1,2,2-trifluor	LWDS-MW1	10-SEP-96	SPL	<0.64	U	0.64	EPA-SW846	QARV
Trichloro-1,2,2-trifluor	TAV-MW1	13-APR-95	F	<5	U	5	8010	QUANTERR/
Trichloro-1,2,2-trifluor	TAV-MW1	11-SEP-96	SPL	<0.64	U	0.64	EPA-SW846	QARV
Trichloro-1,2,2-trifluor	TAV-MW2	14-APR-95	F	<5	U	5	8010	QUANTERR/
Trichlorobenzene, 1,2	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Trichlorobenzene, 1,2	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Trichlorobenzene, 1,2	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Trichlorobenzene, 1,2	AVN-1	03-JUN-98	SA	<1.1	U	1.1	EPA 8270	QSTL
Trichlorobenzene, 1,2	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Trichlorobenzene, 1,2	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Trichlorobenzene, 1,2	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Trichlorobenzene, 1,2	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Trichlorobenzene, 1,2	AVN-2	03-JUN-98	SA	<1.1	U	1.1	EPA 8270	QSTL
Trichlorobenzene, 1,2	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Trichlorobenzene, 1,2	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Trichlorobenzene, 1,2	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Trichlorobenzene, 1,2	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Trichlorobenzene, 1,2	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Trichlorobenzene, 1,2	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Trichlorobenzene, 1,2	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Trichlorobenzene, 1,2	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Trichlorobenzene, 1,2	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Trichlorobenzene, 1,2	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Trichlorobenzene, 1,2	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Trichlorobenzene, 1,2	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Trichlorobenzene, 1,2	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Trichlorobenzene, 1,2	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Trichlorobenzene, 1,2	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Trichlorobenzene, 1,2	LWDS-MW1	08-JUN-98	SA	<1.1	U	1.1	EPA 8270	QSTL
Trichlorobenzene, 1,2	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Trichlorobenzene, 1,2	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Trichlorobenzene, 1,2	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Trichlorobenzene, 1,2	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Trichlorobenzene, 1,2	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Trichlorobenzene, 1,2	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Trichlorobenzene, 1,2	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Trichlorobenzene, 1,2	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Trichlorobenzene, 1,2	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Trichlorobenzene, 1,2	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Trichlorobenzene, 1,2	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Trichlorobenzene, 1,2	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Trichlorobenzene, 1,2	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Trichlorobenzene, 1,2	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Trichlorobenzene, 1,2	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Trichlorobenzene, 1,2	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Trichlorobenzene, 1,2	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Trichlorobenzene, 1,2	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Trichlorobenzene, 1,2	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Trichlorobenzene, 1,2	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Trichlorobenzene, 1,2	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Trichlorobenzene, 1,2	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Trichlorobenzene, 1,2	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Trichlorobenzene, 1,2	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Trichlorobenzene, 1,2	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Trichlorobenzene, 1,2	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Trichlorobenzene, 1,2	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Trichloroethane, 1,1,1	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Trichloroethane, 1,1,1	AVN-1	18-SEP-95	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,1	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,1	AVN-1	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	AVN-1	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	AVN-1	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	AVN-1	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Trichloroethane, 1,1,1	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Trichloroethane, 1,1,1	AVN-2	18-SEP-95	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,1	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,1	AVN-2	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	AVN-2	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	AVN-2	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	AVN-2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,1	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW1	03-MAY-93	F	<5	U	5	8240	ENSECO
Trichloroethane, 1,1,1	LWDS-MW1	27-OCT-93	F	<5	U	5	8240	ENCOTEC
Trichloroethane, 1,1,1	LWDS-MW1	02-NOV-93	F	<5	U	5	8240	ENCOTEC
Trichloroethane, 1,1,1	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Trichloroethane, 1,1,1	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Trichloroethane, 1,1,1	LWDS-MW1	10-MAR-94	F	<5	U	5	8240	ENCOTEC
Trichloroethane, 1,1,1	LWDS-MW1	07-JUN-94	F	<1	U	1	8260	ENCOTEC
Trichloroethane, 1,1,1	LWDS-MW1	01-SEP-94	F	<1	U	1	8260	ENCOTEC
Trichloroethane, 1,1,1	LWDS-MW1	01-SEP-94	D	<1	U	1	8260	ENCOTEC
Trichloroethane, 1,1,1	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Trichloroethane, 1,1,1	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Trichloroethane, 1,1,1	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,1	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Trichloroethane, 1,1,1	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,1	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Trichloroethane, 1,1,1	LWDS-MW1	18-MAR-96	F	<1	U	1	8010	QUANTERR/
Trichloroethane, 1,1,1	LWDS-MW1	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW1	26-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW1	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW1	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW1	10-SEP-96	SPL	<0.11	U	0.11	EPA-SW846	QARV
Trichloroethane, 1,1,1	LWDS-MW1	06-DEC-96	SA	.54	J	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW1	06-DEC-96	DU	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,1	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,1	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW1	04-MAR-98	SA	<0.18	U	0.18	EPA 8260	QSTL
Trichloroethane, 1,1,1	LWDS-MW1	04-MAR-98	SA	<0.18	U	0.18	EPA 8260	QSTL
Trichloroethane, 1,1,1	LWDS-MW1	04-MAR-98	SA	<0.02	U	0.02	EPA 8260	GEL
Trichloroethane, 1,1,1	LWDS-MW1	04-MAR-98	SA	<0.02	U	0.02	EPA 8260	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Trichloroethane, 1,1,1	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW1	08-JUN-98	SPLIT	<0.89	U	0.89	EPA 8260	QSTL
Trichloroethane, 1,1,1	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW1	18-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW-1	02-MAR-95	F	<5	U	5	8240	ENCOTEC
Trichloroethane, 1,1,1	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW2	21-OCT-92	F	<5	U	5	8240	ENSECO
Trichloroethane, 1,1,1	LWDS-MW2	24-JUN-93	F	<5	U	5	8240	ENCOTEC
Trichloroethane, 1,1,1	LWDS-MW2	24-JUN-93	D	<5	U	5	8240	ENCOTEC
Trichloroethane, 1,1,1	LWDS-MW2	06-JUN-94	F	<1	U	1	8260	ENCOTEC
Trichloroethane, 1,1,1	LWDS-MW2	31-AUG-94	F	<1	U	1	8260	ENCOTEC
Trichloroethane, 1,1,1	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Trichloroethane, 1,1,1	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Trichloroethane, 1,1,1	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Trichloroethane, 1,1,1	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Trichloroethane, 1,1,1	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,1	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,1	LWDS-MW2	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Trichloroethane, 1,1,1	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Trichloroethane, 1,1,1	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,1	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW-2	01-MAR-95	F	<5	U	5	8240	ENCOTEC
Trichloroethane, 1,1,1	LWDS-MW-2	01-MAR-95	D	<5	U	5	8240	ENCOTEC
Trichloroethane, 1,1,1	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW1	13-APR-95	F	<0.5	U	0.5	8010	QUANTERRA
Trichloroethane, 1,1,1	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Trichloroethane, 1,1,1	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,1	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,1	TAV-MW1	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW1	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW1	11-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW1	11-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW1	11-SEP-96	SPL	<0.11	U	0.11	EPA-SW846	QARV
Trichloroethane, 1,1,1	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Trichloroethane, 1,1,1	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Trichloroethane, 1,1,1	TAV-MW1	03-JUN-97	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,1	TAV-MW1	16-SEP-97	F	<0.18	U	0.18	8260	Quanterra

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Trichloroethane, 1,1,1	TAV-MW1	16-SEP-97	SA	<0.18	U	0.18	EPA 8260	QSTL
Trichloroethane, 1,1,1	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW2	14-APR-95	F	<0.5	U	0.5	8010	QUANTERRA
Trichloroethane, 1,1,1	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Trichloroethane, 1,1,1	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,1	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,1	TAV-MW2	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW2	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW2	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW2	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW2	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,1	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Trichloroethane, 1,1,1	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,1	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,1	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Trichloroethane, 1,1,2	AVN-1	18-SEP-95	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,2	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,2	AVN-1	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	AVN-1	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	AVN-1	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	AVN-1	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,2	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Trichloroethane, 1,1,2	AVN-2	18-SEP-95	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,2	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,2	AVN-2	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	AVN-2	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	AVN-2	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	AVN-2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Trichloroethane, 1,1,2	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,2	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW1	03-MAY-93	F	<5	U	5	8240	ENSECO
Trichloroethane, 1,1,2	LWDS-MW1	27-OCT-93	F	<5	U	5	8240	ENCOTEC
Trichloroethane, 1,1,2	LWDS-MW1	02-NOV-93	F	<5	U	5	8240	ENCOTEC
Trichloroethane, 1,1,2	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Trichloroethane, 1,1,2	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Trichloroethane, 1,1,2	LWDS-MW1	10-MAR-94	F	<5	U	5	8240	ENCOTEC
Trichloroethane, 1,1,2	LWDS-MW1	07-JUN-94	F	<1	U	1	8260	ENCOTEC
Trichloroethane, 1,1,2	LWDS-MW1	01-SEP-94	F	<1	U	1	8260	ENCOTEC
Trichloroethane, 1,1,2	LWDS-MW1	01-SEP-94	D	<1	U	1	8260	ENCOTEC
Trichloroethane, 1,1,2	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Trichloroethane, 1,1,2	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Trichloroethane, 1,1,2	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,2	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Trichloroethane, 1,1,2	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,2	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Trichloroethane, 1,1,2	LWDS-MW1	18-MAR-96	F	<2	U	2	8010	QUANTERR/
Trichloroethane, 1,1,2	LWDS-MW1	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW1	26-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW1	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW1	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW1	10-SEP-96	SPL	<0.11	U	0.11	EPA-SW846	QARV
Trichloroethane, 1,1,2	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW1	06-DEC-96	DU	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,2	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,2	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW1	04-MAR-98	SA	<0.1	U	0.1	EPA 8260	QSTL
Trichloroethane, 1,1,2	LWDS-MW1	04-MAR-98	SA	<0.1	U	0.1	EPA 8260	QSTL
Trichloroethane, 1,1,2	LWDS-MW1	04-MAR-98	SA	<0.05	U	0.05	EPA 8260	GEL
Trichloroethane, 1,1,2	LWDS-MW1	04-MAR-98	SA	<0.05	U	0.05	EPA 8260	GEL
Trichloroethane, 1,1,2	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW1	08-JUN-98	SPLIT	<0.5	U	0.5	EPA 8260	QSTL
Trichloroethane, 1,1,2	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW1	18-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW-1	02-MAR-95	F	<5	U	5	8240	ENCOTEC
Trichloroethane, 1,1,2	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW2	21-OCT-92	F	<5	U	5	8240	ENSECO
Trichloroethane, 1,1,2	LWDS-MW2	24-JUN-93	F	<5	U	5	8240	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Trichloroethane, 1,1,2	LWDS-MW2	24-JUN-93	D	<5	U	5	8240	ENCOTEC
Trichloroethane, 1,1,2	LWDS-MW2	06-JUN-94	F	<1	U	1	8260	ENCOTEC
Trichloroethane, 1,1,2	LWDS-MW2	31-AUG-94	F	<1	U	1	8260	ENCOTEC
Trichloroethane, 1,1,2	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Trichloroethane, 1,1,2	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Trichloroethane, 1,1,2	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Trichloroethane, 1,1,2	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Trichloroethane, 1,1,2	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,2	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,2	LWDS-MW2	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Trichloroethane, 1,1,2	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Trichloroethane, 1,1,2	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,2	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW-2	01-MAR-95	F	<5	U	5	8240	ENCOTEC
Trichloroethane, 1,1,2	LWDS-MW-2	01-MAR-95	D	<5	U	5	8240	ENCOTEC
Trichloroethane, 1,1,2	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW1	13-APR-95	F	<1	U	1	8010	QUANTERRA
Trichloroethane, 1,1,2	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Trichloroethane, 1,1,2	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,2	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,2	TAV-MW1	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW1	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW1	11-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW1	11-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW1	11-SEP-96	SPL	<0.11	U	0.11	EPA-SW846	QARV
Trichloroethane, 1,1,2	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Trichloroethane, 1,1,2	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Trichloroethane, 1,1,2	TAV-MW1	03-JUN-97	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,2	TAV-MW1	16-SEP-97	F	<0.1	U	0.1	8260	Quanterra
Trichloroethane, 1,1,2	TAV-MW1	16-SEP-97	SA	<0.1	U	0.1	EPA 8260	QSTL
Trichloroethane, 1,1,2	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW2	14-APR-95	F	<1	U	1	8010	QUANTERRA
Trichloroethane, 1,1,2	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Trichloroethane, 1,1,2	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,2	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,2	TAV-MW2	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW2	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW2	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW2	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Trichloroethane, 1,1,2	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW2	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,2	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Trichloroethane, 1,1,2	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Trichloroethane, 1,1,2	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethane, 1,1,2	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Trichloroethene	AVN-1	18-SEP-95	F	<1	U	1	8260	GEL
Trichloroethene	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Trichloroethene	AVN-1	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	AVN-1	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	AVN-1	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	AVN-1	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL
Trichloroethene	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Trichloroethene	AVN-2	18-SEP-95	F	<1	U	1	8260	GEL
Trichloroethene	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Trichloroethene	AVN-2	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	AVN-2	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	AVN-2	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	AVN-2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Trichloroethene	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	03-MAY-93	F	<5	U	5	8240	ENSECO
Trichloroethene	LWDS-MW1	27-OCT-93	F	<5	U	5	8240	ENCOTEC
Trichloroethene	LWDS-MW1	02-NOV-93	F	<5	U	5	8240	ENCOTEC
Trichloroethene	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Trichloroethene	LWDS-MW1	03-NOV-93	F	6		5	8240	ENCOTEC
Trichloroethene	LWDS-MW1	10-MAR-94	F	13		5	8240	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Trichloroethene	LWDS-MW1	07-JUN-94	F	13		1	8260	ENCOTEC
Trichloroethene	LWDS-MW1	01-SEP-94	D	12		1	8260	ENCOTEC
Trichloroethene	LWDS-MW1	01-SEP-94	F	10		1	8260	ENCOTEC
Trichloroethene	LWDS-MW1	08-DEC-94	F	14		1	8010	ENCOTEC
Trichloroethene	LWDS-MW1	14-JUN-95	F	15		1	8010	ENCOTEC
Trichloroethene	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Trichloroethene	LWDS-MW1	25-SEP-95	D	9.18		1	8260	GEL
Trichloroethene	LWDS-MW1	19-DEC-95	F	14.8		1	8260	GEL
Trichloroethene	LWDS-MW1	19-DEC-95	D	14.9		1	8260	GEL
Trichloroethene	LWDS-MW1	18-MAR-96	F	10		1	8010	QUANTERRA
Trichloroethene	LWDS-MW1	18-MAR-96	SA	14		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	26-JUN-96	SA	15		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	10-SEP-96	SA	18		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	10-SEP-96	DU	19		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	10-SEP-96	SPL	14		0.14	EPA-SW846	QARV
Trichloroethene	LWDS-MW1	06-DEC-96	SA	15		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	06-DEC-96	DU	14		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	05-MAR-97	SA	15		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	05-MAR-97	DU	16		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	30-MAY-97	F	17.8		1	8260	GEL
Trichloroethene	LWDS-MW1	30-MAY-97	F	18.7		1	8260	GEL
Trichloroethene	LWDS-MW1	16-SEP-97	SA	18		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	12-NOV-97	DU	18		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	04-MAR-98	SA	20		0.4	EPA 8260	QSTL
Trichloroethene	LWDS-MW1	04-MAR-98	SA	20		0.4	EPA 8260	QSTL
Trichloroethene	LWDS-MW1	04-MAR-98	SA	21		0.03	EPA 8260	GEL
Trichloroethene	LWDS-MW1	04-MAR-98	SA	21		0.03	EPA 8260	GEL
Trichloroethene	LWDS-MW1	04-MAR-98	SA	22		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	04-MAR-98	SA	20		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	08-JUN-98	SPLIT	20		2	EPA 8260	QSTL
Trichloroethene	LWDS-MW1	08-JUN-98	SA	19		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	16-NOV-98	SA	23		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	16-NOV-98	DU	23		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	17-NOV-98	SA	22		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	18-NOV-98	SA	20		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW1	20-NOV-98	SA	17		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW-1	02-MAR-95	F	17		5	8240	ENCOTEC
Trichloroethene	LWDS-MW-1	16-SEP-97	SA	18		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW-1	08-JUN-98	DU	19		0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW2	21-OCT-92	F	<5	U	5	8240	ENSECO
Trichloroethene	LWDS-MW2	24-JUN-93	F	<5	U	5	8240	ENCOTEC
Trichloroethene	LWDS-MW2	24-JUN-93	D	<5	U	5	8240	ENCOTEC
Trichloroethene	LWDS-MW2	06-JUN-94	F	<1	U	1	8260	ENCOTEC
Trichloroethene	LWDS-MW2	31-AUG-94	F	3		1	8260	ENCOTEC
Trichloroethene	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Trichloroethene	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Trichloroethene	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Trichloroethene	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Trichloroethene	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Trichloroethene	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Trichloroethene	LWDS-MW2	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Trichloroethene	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Trichloroethene	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Trichloroethene	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Trichloroethene	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW-2	01-MAR-95	F	<5	U	5	8240	ENCOTEC
Trichloroethene	LWDS-MW-2	01-MAR-95	D	<5	U	5	8240	ENCOTEC
Trichloroethene	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	TAV-MW1	13-APR-95	F	.39	J	0.5	8010	QUANTERRA
Trichloroethene	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Trichloroethene	TAV-MW1	19-SEP-95	F	1.44	J	1	8260	GEL
Trichloroethene	TAV-MW1	18-DEC-95	F	1.44	J	1	8260	GEL
Trichloroethene	TAV-MW1	19-MAR-96	SA	2.7		0.5	EPA8260	ERCL
Trichloroethene	TAV-MW1	27-JUN-96	SA	2.7		0.5	EPA8260	ERCL
Trichloroethene	TAV-MW1	11-SEP-96	SA	2.7		0.5	EPA8260	ERCL
Trichloroethene	TAV-MW1	11-SEP-96	DU	2.7		0.5	EPA8260	ERCL
Trichloroethene	TAV-MW1	11-SEP-96	SPL	2.1		0.14	EPA-SW846	QARV
Trichloroethene	TAV-MW1	06-DEC-96	SA	2		0.5	EPA8260	ERCL
Trichloroethene	TAV-MW1	06-DEC-96	SA	2		0.5	EPA8260	ERCL
Trichloroethene	TAV-MW1	04-MAR-97	SPL	2.8		0.5	8260	GEL
Trichloroethene	TAV-MW1	04-MAR-97	SA	2.3		0.5	EPA8260	ERCL
Trichloroethene	TAV-MW1	04-MAR-97	SPL	2.8		0.5	EPA-SW846	GEL
Trichloroethene	TAV-MW1	03-JUN-97	F	3.79		1	8260	GEL
Trichloroethene	TAV-MW1	16-SEP-97	F	3		0.4	8260	Quanterra
Trichloroethene	TAV-MW1	16-SEP-97	SA	3		0.4	EPA 8260	QSTL
Trichloroethene	TAV-MW1	16-SEP-97	SA	2.1		0.5	EPA8260	ERCL
Trichloroethene	TAV-MW1	13-NOV-97	SA	2.7		0.5	EPA8260	ERCL
Trichloroethene	TAV-MW1	03-MAR-98	SA	3.6		0.5	EPA8260	ERCL
Trichloroethene	TAV-MW1	03-MAR-98	SA	3.3		0.5	EPA8260	ERCL
Trichloroethene	TAV-MW1	23-NOV-98	SA	3		0.5	EPA8260	ERCL
Trichloroethene	TAV-MW2	14-APR-95	F	<0.5	U	0.5	8010	QUANTERRA
Trichloroethene	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Trichloroethene	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Trichloroethene	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Trichloroethene	TAV-MW2	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	TAV-MW2	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	TAV-MW2	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	TAV-MW2	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	TAV-MW2	05-MAR-97	SA	.99	J	0.5	EPA8260	ERCL
Trichloroethene	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Trichloroethene	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Trichloroethene	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Trichloroethene	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	TAV-MW4	26-FEB-98	SA	1.2	J	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Trichloroethene	TAV-MW4	29-OCT-98	SA	1.7	J	0.5	EPA8260	ERCL
Trichloroethene	TAV-MW4	29-OCT-98	SA	1.5	J	0.5	EPA8260	ERCL
Trichloroethene	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Trichloroethene	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Trichlorofluoromethan	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Trichlorofluoromethan	AVN-1	18-SEP-95	F	<99999999.9999	U	1E+08	8260	GEL
Trichlorofluoromethan	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Trichlorofluoromethan	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL
Trichlorofluoromethan	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Trichlorofluoromethan	AVN-2	18-SEP-95	F	<99999999.9999	U	1E+08	8260	GEL
Trichlorofluoromethan	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Trichlorofluoromethan	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Trichlorofluoromethan	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Trichlorofluoromethan	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Trichlorofluoromethan	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Trichlorofluoromethan	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Trichlorofluoromethan	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Trichlorofluoromethan	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Trichlorofluoromethan	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Trichlorofluoromethan	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Trichlorofluoromethan	LWDS-MW1	04-MAR-98	SA	<0.03	U	0.03	EPA 8260	GEL
Trichlorofluoromethan	LWDS-MW1	04-MAR-98	SA	<0.03	U	0.03	EPA 8260	GEL
Trichlorofluoromethan	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Trichlorofluoromethan	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Trichlorofluoromethan	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Trichlorofluoromethan	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Trichlorofluoromethan	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Trichlorofluoromethan	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Trichlorofluoromethan	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Trichlorofluoromethan	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Trichlorofluoromethan	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Trichlorofluoromethan	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Trichlorofluoromethan	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Trichlorofluoromethan	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Trichlorofluoromethan	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Trichlorofluoromethan	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Trichlorofluoromethan	TAV-MW1	03-JUN-97	F	<1	U	1	8260	GEL
Trichlorofluoromethan	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Trichlorofluoromethan	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Trichlorofluoromethan	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Trichlorofluoromethan	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Trichlorofluoromethan	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Trichlorofluoromethan	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Trichlorophenol, 2,4,5	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,5	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Trichlorophenol, 2,4,5	AVN-1	29-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Trichlorophenol, 2,4,5	AVN-1	03-JUN-98	SA	<1.2	U	1.2	EPA 8270	QSTL
Trichlorophenol, 2,4,5	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,5	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Trichlorophenol, 2,4,5	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Trichlorophenol, 2,4,5	AVN-2	29-MAY-97	SA	<0.48	U	0.48	EPA8270	ERCL
Trichlorophenol, 2,4,5	AVN-2	03-JUN-98	SA	<1.2	U	1.2	EPA 8270	QSTL
Trichlorophenol, 2,4,5	LWDS-MW1	03-MAY-93	F	<50	U	50	8270	ENSECO
Trichlorophenol, 2,4,5	LWDS-MW1	03-MAY-93	F	<50	U	50	8270	ENSECO
Trichlorophenol, 2,4,5	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Trichlorophenol, 2,4,5	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,5	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,5	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,5	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,5	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,5	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,5	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,5	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,5	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Trichlorophenol, 2,4,5	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Trichlorophenol, 2,4,5	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Trichlorophenol, 2,4,5	LWDS-MW1	30-MAY-97	SA	<0.5	U	0.5	EPA8270	ERCL
Trichlorophenol, 2,4,5	LWDS-MW1	08-JUN-98	SA	<1.2	U	1.2	EPA 8270	QSTL
Trichlorophenol, 2,4,5	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,5	LWDS-MW2	21-OCT-92	F	<50	U	50	8270	ENSECO
Trichlorophenol, 2,4,5	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,5	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,5	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,5	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,5	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,5	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,5	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,5	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Trichlorophenol, 2,4,5	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Trichlorophenol, 2,4,5	LWDS-MW2	02-JUN-97	SA	<0.44	U	0.44	EPA8270	ERCL
Trichlorophenol, 2,4,5	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,5	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,5	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Trichlorophenol, 2,4,5	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Trichlorophenol, 2,4,5	TAV-MW1	03-JUN-97	SA	<0.48	U	0.48	EPA8270	ERCL
Trichlorophenol, 2,4,5	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,5	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Trichlorophenol, 2,4,5	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8270	ERCL
Trichlorophenol, 2,4,5	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Trichlorophenol, 2,4,5	TAV-MW2	04-JUN-97	SA	<0.52	U	0.52	EPA8270	ERCL
Trichlorophenol, 2,4,5	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Trichlorophenol, 2,4,5	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Trichlorophenol, 2,4,5	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Trichlorophenol, 2,4,6	AVN-1	13-JUL-95	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,6	AVN-1	13-DEC-95	F	<5	U	5	8270	GEL
Trichlorophenol, 2,4,6	AVN-1	03-JUN-98	SA	<1.6	U	1.6	EPA 8270	QSTL
Trichlorophenol, 2,4,6	AVN-2	11-JUL-95	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,6	AVN-2	14-DEC-95	F	<5	U	5	8270	GEL
Trichlorophenol, 2,4,6	AVN-2	03-JUN-98	SA	<1.6	U	1.6	EPA 8270	QSTL
Trichlorophenol, 2,4,6	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Trichlorophenol, 2,4,6	LWDS-MW1	03-MAY-93	F	<10	U	10	8270	ENSECO
Trichlorophenol, 2,4,6	LWDS-MW1	02-NOV-93	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,6	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,6	LWDS-MW1	03-NOV-93	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,6	LWDS-MW1	12-MAR-94	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,6	LWDS-MW1	07-JUN-94	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,6	LWDS-MW1	01-SEP-94	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,6	LWDS-MW1	01-SEP-94	D	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,6	LWDS-MW1	08-DEC-94	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,6	LWDS-MW1	14-JUN-95	F	<10	U	10	8270	ENCOTEC

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Trichlorophenol, 2,4,6	LWDS-MW1	19-DEC-95	F	<5	U	5	8270	GEL
Trichlorophenol, 2,4,6	LWDS-MW1	19-DEC-95	D	<5	U	5	8270	GEL
Trichlorophenol, 2,4,6	LWDS-MW1	08-JUN-98	SA	<1.6	U	1.6	EPA 8270	QSTL
Trichlorophenol, 2,4,6	LWDS-MW-1	02-MAR-95	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,6	LWDS-MW2	21-OCT-92	F	<10	U	10	8270	ENSECO
Trichlorophenol, 2,4,6	LWDS-MW2	24-JUN-93	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,6	LWDS-MW2	24-JUN-93	D	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,6	LWDS-MW2	11-MAR-94	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,6	LWDS-MW2	11-MAR-94	D	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,6	LWDS-MW2	06-JUN-94	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,6	LWDS-MW2	31-AUG-94	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,6	LWDS-MW2	07-DEC-94	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,6	LWDS-MW2	12-JUN-95	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,6	LWDS-MW2	12-JUN-95	D	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,6	LWDS-MW2	14-DEC-95	F	<5	U	5	8270	GEL
Trichlorophenol, 2,4,6	LWDS-MW-2	01-MAR-95	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,6	TAV-MW1	09-JUN-95	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,6	TAV-MW1	18-DEC-95	F	<5	U	5	8270	GEL
Trichlorophenol, 2,4,6	TAV-MW2	06-JUN-95	F	<10	U	10	8270	ENCOTEC
Trichlorophenol, 2,4,6	TAV-MW2	18-DEC-95	F	<5	U	5	8270	GEL
Trichlorophenol, 2,4,6	TAV-MW2	04-JUN-97	SPL	<5	U	5	8270	GEL
Trichlorophenol, 2,4,6	TAV-MW3	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Trichlorophenol, 2,4,6	TAV-MW4	26-FEB-98	SA	<5	U	5	EPA 8270	GEL
Trichlorophenol, 2,4,6	TAV-MW5	27-FEB-98	SA	<5	U	5	EPA 8270	GEL
Trichloropropane, 1,2	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Trichloropropane, 1,2	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Trichloropropane, 1,2	LWDS-MW1	04-MAR-98	SA	<0.04	U	0.04	EPA 8260	GEL
Trichloropropane, 1,2	LWDS-MW1	04-MAR-98	SA	<0.04	U	0.04	EPA 8260	GEL
Vinyl acetate	AVN-1	13-JUL-95	F	<5	U	5	8260	ENCOTEC
Vinyl acetate	AVN-2	11-JUL-95	F	<5	U	5	8260	ENCOTEC
Vinyl acetate	LWDS-MW1	03-MAY-93	F	<10	U	10	8240	ENSECO
Vinyl acetate	LWDS-MW1	27-OCT-93	F	<10	U	10	8240	ENCOTEC
Vinyl acetate	LWDS-MW1	02-NOV-93	F	<10	U	10	8240	ENCOTEC
Vinyl acetate	LWDS-MW1	03-NOV-93	F	<10	U	10	8240	ENCOTEC
Vinyl acetate	LWDS-MW1	03-NOV-93	F	<10	U	10	8240	ENCOTEC
Vinyl acetate	LWDS-MW1	10-MAR-94	F	<10	U	10	8240	ENCOTEC
Vinyl acetate	LWDS-MW1	07-JUN-94	F	<5	U	5	8260	ENCOTEC
Vinyl acetate	LWDS-MW1	01-SEP-94	F	<5	U	5	8260	ENCOTEC
Vinyl acetate	LWDS-MW1	01-SEP-94	D	<5	U	5	8260	ENCOTEC
Vinyl acetate	LWDS-MW1	04-MAR-98	SA	<0.16	U	0.16	EPA 8260	GEL
Vinyl acetate	LWDS-MW1	04-MAR-98	SA	<0.16	U	0.16	EPA 8260	GEL
Vinyl acetate	LWDS-MW-1	02-MAR-95	F	<10	U	10	8240	ENCOTEC
Vinyl acetate	LWDS-MW2	21-OCT-92	F	<10	U	10	8240	ENSECO
Vinyl acetate	LWDS-MW2	24-JUN-93	F	<10	U	10	8240	ENCOTEC
Vinyl acetate	LWDS-MW2	24-JUN-93	D	<10	U	10	8240	ENCOTEC
Vinyl acetate	LWDS-MW2	06-JUN-94	F	<5	U	5	8260	ENCOTEC
Vinyl acetate	LWDS-MW2	31-AUG-94	F	<5	U	5	8260	ENCOTEC
Vinyl acetate	LWDS-MW-2	01-MAR-95	F	<10	U	10	8240	ENCOTEC
Vinyl acetate	LWDS-MW-2	01-MAR-95	D	<10	U	10	8240	ENCOTEC
Vinyl chloride	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Vinyl chloride	AVN-1	18-SEP-95	F	<1	U	1	8260	GEL
Vinyl chloride	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Vinyl chloride	AVN-1	15-MAR-96	SA	<5	U	5	EPA8260	ERCL
Vinyl chloride	AVN-1	25-JUN-96	SA	<5	U	5	EPA8260	ERCL
Vinyl chloride	AVN-1	25-JUN-96	DU	<5	U	5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Vinyl chloride	AVN-1	09-SEP-96	SA	<5	U	5	EPA8260	ERCL
Vinyl chloride	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	AVN-1	29-MAY-97	F	<1	U	1	8260	GEL
Vinyl chloride	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Vinyl chloride	AVN-2	18-SEP-95	F	<1	U	1	8260	GEL
Vinyl chloride	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Vinyl chloride	AVN-2	15-MAR-96	SA	<5	U	5	EPA8260	ERCL
Vinyl chloride	AVN-2	25-JUN-96	SA	<5	U	5	EPA8260	ERCL
Vinyl chloride	AVN-2	25-JUN-96	DU	<5	U	5	EPA8260	ERCL
Vinyl chloride	AVN-2	09-SEP-96	SA	<5	U	5	EPA8260	ERCL
Vinyl chloride	AVN-2	04-DEC-96	SA	<5	U	5	EPA8260	ERCL
Vinyl chloride	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	AVN-2	29-MAY-97	F	<1	U	1	8260	GEL
Vinyl chloride	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	LWDS-MW1	03-MAY-93	F	<10	U	10	8240	ENSECO
Vinyl chloride	LWDS-MW1	27-OCT-93	F	<10	U	10	8240	ENCOTEC
Vinyl chloride	LWDS-MW1	02-NOV-93	F	<10	U	10	8240	ENCOTEC
Vinyl chloride	LWDS-MW1	03-NOV-93	F	<10	U	10	8240	ENCOTEC
Vinyl chloride	LWDS-MW1	03-NOV-93	F	<10	U	10	8240	ENCOTEC
Vinyl chloride	LWDS-MW1	10-MAR-94	F	<10	U	10	8240	ENCOTEC
Vinyl chloride	LWDS-MW1	07-JUN-94	F	<1	U	1	8260	ENCOTEC
Vinyl chloride	LWDS-MW1	01-SEP-94	F	<1	U	1	8260	ENCOTEC
Vinyl chloride	LWDS-MW1	01-SEP-94	D	<1	U	1	8260	ENCOTEC
Vinyl chloride	LWDS-MW1	08-DEC-94	F	<1	U	1	8010	ENCOTEC
Vinyl chloride	LWDS-MW1	14-JUN-95	F	<1	U	1	8010	ENCOTEC
Vinyl chloride	LWDS-MW1	25-SEP-95	F	<1	U	1	8260	GEL
Vinyl chloride	LWDS-MW1	25-SEP-95	D	<1	U	1	8260	GEL
Vinyl chloride	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Vinyl chloride	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Vinyl chloride	LWDS-MW1	18-MAR-96	F	<2	U	2	8010	QUANTERRA
Vinyl chloride	LWDS-MW1	18-MAR-96	SA	<5	U	5	EPA8260	ERCL
Vinyl chloride	LWDS-MW1	26-JUN-96	SA	<5	U	5	EPA8260	ERCL
Vinyl chloride	LWDS-MW1	10-SEP-96	SA	<5	U	5	EPA8260	ERCL
Vinyl chloride	LWDS-MW1	10-SEP-96	DU	<5	U	5	EPA8260	ERCL
Vinyl chloride	LWDS-MW1	10-SEP-96	SPL	<0.23	U	0.23	EPA-SW846	QARV
Vinyl chloride	LWDS-MW1	06-DEC-96	SA	<5	U	5	EPA8260	ERCL
Vinyl chloride	LWDS-MW1	06-DEC-96	DU	<5	U	5	EPA8260	ERCL
Vinyl chloride	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Vinyl chloride	LWDS-MW1	30-MAY-97	F	<1	U	1	8260	GEL
Vinyl chloride	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	LWDS-MW1	04-MAR-98	SA	<0.68	U	0.68	EPA 8260	QSTL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Vinyl chloride	LWDS-MW1	04-MAR-98	SA	<0.68	U	0.68	EPA 8260	QSTL
Vinyl chloride	LWDS-MW1	04-MAR-98	SA	<0.02	U	0.02	EPA 8260	GEL
Vinyl chloride	LWDS-MW1	04-MAR-98	SA	<0.02	U	0.02	EPA 8260	GEL
Vinyl chloride	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	LWDS-MW1	08-JUN-98	SPLIT	<3.4	U	3.4	EPA 8260	QSTL
Vinyl chloride	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	LWDS-MW1	18-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	LWDS-MW-1	02-MAR-95	F	<5	U	5	8240	ENCOTEC
Vinyl chloride	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	LWDS-MW2	21-OCT-92	F	<10	U	10	8240	ENSECO
Vinyl chloride	LWDS-MW2	24-JUN-93	F	<10	U	10	8240	ENCOTEC
Vinyl chloride	LWDS-MW2	24-JUN-93	D	<10	U	10	8240	ENCOTEC
Vinyl chloride	LWDS-MW2	06-JUN-94	F	<1	U	1	8260	ENCOTEC
Vinyl chloride	LWDS-MW2	31-AUG-94	F	<1	U	1	8260	ENCOTEC
Vinyl chloride	LWDS-MW2	07-DEC-94	F	<1	U	1	8010	ENCOTEC
Vinyl chloride	LWDS-MW2	07-DEC-94	D	<1	U	1	8010	ENCOTEC
Vinyl chloride	LWDS-MW2	12-JUN-95	F	<1	U	1	8010	ENCOTEC
Vinyl chloride	LWDS-MW2	12-JUN-95	D	<1	U	1	8010	ENCOTEC
Vinyl chloride	LWDS-MW2	21-SEP-95	F	<1	U	1	8260	GEL
Vinyl chloride	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Vinyl chloride	LWDS-MW2	18-MAR-96	SA	<5	U	5	EPA8260	ERCL
Vinyl chloride	LWDS-MW2	09-SEP-96	SA	<5	U	5	EPA8260	ERCL
Vinyl chloride	LWDS-MW2	05-DEC-96	SA	<5	U	5	EPA8260	ERCL
Vinyl chloride	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Vinyl chloride	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	LWDS-MW2	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Vinyl chloride	LWDS-MW2	02-JUN-97	F	<1	U	1	8260	GEL
Vinyl chloride	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	LWDS-MW-2	01-MAR-95	F	<5	U	5	8240	ENCOTEC
Vinyl chloride	LWDS-MW-2	01-MAR-95	D	<5	U	5	8240	ENCOTEC
Vinyl chloride	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	TAV-MW1	13-APR-95	F	<1	U	1	8010	QUANTERRA
Vinyl chloride	TAV-MW1	09-JUN-95	F	<1	U	1	8010	ENCOTEC
Vinyl chloride	TAV-MW1	19-SEP-95	F	<1	U	1	8260	GEL
Vinyl chloride	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Vinyl chloride	TAV-MW1	19-MAR-96	SA	<5	U	5	EPA8260	ERCL
Vinyl chloride	TAV-MW1	27-JUN-96	SA	<5	U	5	EPA8260	ERCL
Vinyl chloride	TAV-MW1	11-SEP-96	SA	<5	U	5	EPA8260	ERCL
Vinyl chloride	TAV-MW1	11-SEP-96	DU	<5	U	5	EPA8260	ERCL
Vinyl chloride	TAV-MW1	11-SEP-96	SPL	<0.23	U	0.23	EPA-SW846	QARV
Vinyl chloride	TAV-MW1	06-DEC-96	SA	<5	U	5	EPA8260	ERCL
Vinyl chloride	TAV-MW1	06-DEC-96	SA	<5	U	5	EPA8260	ERCL
Vinyl chloride	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	8260	GEL
Vinyl chloride	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Vinyl chloride	TAV-MW1	04-MAR-97	SPL	<0.5	U	0.5	EPA-SW846	GEL
Vinyl chloride	TAV-MW1	03-JUN-97	F	<1	U	1	8260	GEL
Vinyl chloride	TAV-MW1	16-SEP-97	F	<0.68	U	0.68	8260	Quanterra
Vinyl chloride	TAV-MW1	16-SEP-97	SA	<0.68	U	0.68	EPA 8260	QSTL
Vinyl chloride	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	TAV-MW2	14-APR-95	F	<1	U	1	8010	QUANTERRA
Vinyl chloride	TAV-MW2	06-JUN-95	F	<1	U	1	8010	ENCOTEC
Vinyl chloride	TAV-MW2	20-SEP-95	F	<1	U	1	8260	GEL
Vinyl chloride	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Vinyl chloride	TAV-MW2	19-MAR-96	SA	<5	U	5	EPA8260	ERCL
Vinyl chloride	TAV-MW2	27-JUN-96	SA	<5	U	5	EPA8260	ERCL
Vinyl chloride	TAV-MW2	10-SEP-96	SA	<5	U	5	EPA8260	ERCL
Vinyl chloride	TAV-MW2	10-SEP-96	DU	<5	U	5	EPA8260	ERCL
Vinyl chloride	TAV-MW2	05-DEC-96	SA	<5	U	5	EPA8260	ERCL
Vinyl chloride	TAV-MW2	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	TAV-MW2	04-JUN-97	F	<1	U	1	8260	GEL
Vinyl chloride	TAV-MW2	04-JUN-97	SPL	<1	U	1	8260	GEL
Vinyl chloride	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	TAV-MW3	03-JUN-97	F	<1	U	1	8260	GEL
Vinyl chloride	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Vinyl chloride	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene	AVN-1	13-JUL-95	F	<1	U	1	8260	ENCOTEC
Xylene	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Xylene	AVN-2	11-JUL-95	F	<1	U	1	8260	ENCOTEC
Xylene	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Xylene	LWDS-MW1	03-MAY-93	F	<5	U	5	8240	ENSECO
Xylene	LWDS-MW1	27-OCT-93	F	<5	U	5	8240	ENCOTEC
Xylene	LWDS-MW1	02-NOV-93	F	<5	U	5	8240	ENCOTEC
Xylene	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Xylene	LWDS-MW1	03-NOV-93	F	<5	U	5	8240	ENCOTEC
Xylene	LWDS-MW1	10-MAR-94	F	<5	U	5	8240	ENCOTEC
Xylene	LWDS-MW1	07-JUN-94	F	<1	U	1	8260	ENCOTEC
Xylene	LWDS-MW1	01-SEP-94	F	<1	U	1	8260	ENCOTEC
Xylene	LWDS-MW1	01-SEP-94	D	<1	U	1	8260	ENCOTEC
Xylene	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Xylene	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Xylene	LWDS-MW1	18-MAR-96	F	<0.5	U	0.5	8020	QUANTERRA
Xylene	LWDS-MW1	10-SEP-96	SPL	<0.15	U	0.15	EPA-SW846	QARV
Xylene	LWDS-MW1	04-MAR-98	SA	<0.14	U	0.14	EPA 8260	QSTL
Xylene	LWDS-MW1	04-MAR-98	SA	<0.14	U	0.14	EPA 8260	QSTL
Xylene	LWDS-MW1	04-MAR-98	SA	<0.08	U	0.08	EPA 8260	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Xylene	LWDS-MW1	04-MAR-98	SA	<0.08	U	0.08	EPA 8260	GEL
Xylene	LWDS-MW1	08-JUN-98	SPLIT	<0.71	U	0.71	EPA 8260	QSTL
Xylene	LWDS-MW-1	02-MAR-95	F	<5	U	5	8240	ENCOTEC
Xylene	LWDS-MW2	21-OCT-92	F	<5	U	5	8240	ENSECO
Xylene	LWDS-MW2	24-JUN-93	F	<5	U	5	8240	ENCOTEC
Xylene	LWDS-MW2	24-JUN-93	D	<5	U	5	8240	ENCOTEC
Xylene	LWDS-MW2	06-JUN-94	F	<1	U	1	8260	ENCOTEC
Xylene	LWDS-MW2	31-AUG-94	F	<1	U	1	8260	ENCOTEC
Xylene	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Xylene	LWDS-MW2	04-MAR-97	SPL	<2	U	2	8260	GEL
Xylene	LWDS-MW2	04-MAR-97	SPL	<2	U	2	EPA-SW846	GEL
Xylene	LWDS-MW-2	01-MAR-95	F	<5	U	5	8240	ENCOTEC
Xylene	LWDS-MW-2	01-MAR-95	D	<5	U	5	8240	ENCOTEC
Xylene	TAV-MW1	13-APR-95	F	.84		0.5	8020	QUANTERR/
Xylene	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Xylene	TAV-MW1	11-SEP-96	SPL	<0.15	U	0.15	EPA-SW846	QARV
Xylene	TAV-MW1	04-MAR-97	SPL	<2	U	2	8260	GEL
Xylene	TAV-MW1	04-MAR-97	SPL	<2	U	2	EPA-SW846	GEL
Xylene	TAV-MW1	16-SEP-97	F	<0.14	U	0.14	8260	Quanterra
Xylene	TAV-MW1	16-SEP-97	SA	<0.14	U	0.14	EPA 8260	QSTL
Xylene	TAV-MW2	14-APR-95	F	<0.5	U	0.5	8020	QUANTERR/
Xylene	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Xylene, m-	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, m-	AVN-2	04-DEC-96	SA	<1	U	1	EPA8260	ERCL
Xylene, m-	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, m-	LWDS-MW1	06-DEC-96	SA	<1	U	1	EPA8260	ERCL
Xylene, m-	LWDS-MW1	06-DEC-96	DU	<1	U	1	EPA8260	ERCL
Xylene, m-	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, m-	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Xylene, m-	LWDS-MW2	05-DEC-96	SA	<1	U	1	EPA8260	ERCL
Xylene, m-	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, m-	TAV-MW1	06-DEC-96	SA	<1	U	1	EPA8260	ERCL
Xylene, m-	TAV-MW1	06-DEC-96	SA	<1	U	1	EPA8260	ERCL
Xylene, m-	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, m-	TAV-MW2	05-DEC-96	SA	<1	U	1	EPA8260	ERCL
Xylene, m-	TAV-MW2	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, m-	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, m-	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, m-	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	AVN-1	13-DEC-95	F	<1	U	1	8260	GEL
Xylene, o-	AVN-1	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	AVN-1	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	AVN-1	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	AVN-1	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	AVN-1	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	AVN-1	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	AVN-1	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	AVN-1	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	AVN-1	16-NOV-08	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	AVN-2	14-DEC-95	F	<1	U	1	8260	GEL
Xylene, o-	AVN-2	15-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	AVN-2	25-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	AVN-2	25-JUN-96	DU	<0.5	U	0.5	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Xylene, o-	AVN-2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	AVN-2	04-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	AVN-2	03-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	AVN-2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	AVN-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	AVN-2	01-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	AVN-2	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW1	19-DEC-95	F	<1	U	1	8260	GEL
Xylene, o-	LWDS-MW1	19-DEC-95	D	<1	U	1	8260	GEL
Xylene, o-	LWDS-MW1	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW1	26-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW1	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW1	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW1	06-DEC-96	DU	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW1	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW1	05-MAR-97	DU	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW1	04-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW1	08-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW1	16-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW1	16-NOV-98	DU	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW1	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW1	18-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW1	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW-1	08-JUN-98	DU	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW2	14-DEC-95	F	<1	U	1	8260	GEL
Xylene, o-	LWDS-MW2	18-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW2	09-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW2	04-MAR-97	SPL	<1	U	1	8260	GEL
Xylene, o-	LWDS-MW2	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW2	04-MAR-97	SPL	<1	U	1	EPA-SW846	GEL
Xylene, o-	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW2	25-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW-2	03-JUN-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW-2	02-SEP-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW-2	02-SEP-98	DU	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	LWDS-MW-2	17-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW1	18-DEC-95	F	<1	U	1	8260	GEL
Xylene, o-	TAV-MW1	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW1	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW1	11-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW1	11-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW1	06-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW1	04-MAR-97	SPL	<1	U	1	8260	GEL
Xylene, o-	TAV-MW1	04-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW1	04-MAR-97	SPL	<1	U	1	EPA-SW846	GEL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Xylene, o-	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW1	03-MAR-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW1	23-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW2	18-DEC-95	F	<1	U	1	8260	GEL
Xylene, o-	TAV-MW2	19-MAR-96	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW2	27-JUN-96	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW2	10-SEP-96	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW2	10-SEP-96	DU	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW2	05-DEC-96	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW2	05-MAR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW2	24-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW2	20-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW3	22-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW3	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW3	19-NOV-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW4	30-APR-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW4	26-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW4	29-OCT-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW5	02-MAY-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, o-	TAV-MW5	27-FEB-98	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, p-, xylene, m-	AVN-1	15-MAR-96	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	AVN-1	25-JUN-96	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	AVN-1	25-JUN-96	DU	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	AVN-1	09-SEP-96	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	AVN-1	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, p-, xylene, m-	AVN-1	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, p-, xylene, m-	AVN-1	24-FEB-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	AVN-1	03-JUN-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	AVN-1	01-SEP-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	AVN-1	16-NOV-08	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	AVN-2	15-MAR-96	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	AVN-2	25-JUN-96	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	AVN-2	25-JUN-96	DU	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	AVN-2	09-SEP-96	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	AVN-2	10-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, p-, xylene, m-	AVN-2	14-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, p-, xylene, m-	AVN-2	24-FEB-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	AVN-2	03-JUN-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	AVN-2	01-SEP-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	AVN-2	16-NOV-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	LWDS-MW1	18-MAR-96	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	LWDS-MW1	26-JUN-96	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	LWDS-MW1	10-SEP-96	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	LWDS-MW1	10-SEP-96	DU	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	LWDS-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, p-, xylene, m-	LWDS-MW1	12-NOV-97	DU	<0.5	U	0.5	EPA8260	ERCL
Xylene, p-, xylene, m-	LWDS-MW1	04-MAR-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	LWDS-MW1	04-MAR-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	LWDS-MW1	08-JUN-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	LWDS-MW1	16-NOV-98	SA	<1	U	1	EPA8260	ERCL

Appendix H3 (Continued)
TA-V Groundwater Data, Organic Compounds, 1992 through 1998

Analyte	Well	Sample Date	Sample Type	Concentration (ug/L)	Qualifier	MDL (ug/L)	Analytical Method	Laboratory
Xylene, p-, xylene, m-	LWDS-MW1	16-NOV-98	DU	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	LWDS-MW1	17-NOV-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	LWDS-MW1	18-NOV-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	LWDS-MW1	20-NOV-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	LWDS-MW-1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, p-, xylene, m-	LWDS-MW-1	08-JUN-98	DU	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	LWDS-MW2	18-MAR-96	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	LWDS-MW2	09-SEP-96	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	LWDS-MW2	12-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, p-, xylene, m-	LWDS-MW2	25-FEB-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	LWDS-MW-2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, p-, xylene, m-	LWDS-MW-2	03-JUN-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	LWDS-MW-2	02-SEP-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	LWDS-MW-2	02-SEP-98	DU	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	LWDS-MW-2	17-NOV-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	TAV-MW1	19-MAR-96	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	TAV-MW1	27-JUN-96	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	TAV-MW1	11-SEP-96	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	TAV-MW1	11-SEP-96	DU	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	TAV-MW1	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, p-, xylene, m-	TAV-MW1	13-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, p-, xylene, m-	TAV-MW1	03-MAR-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	TAV-MW1	03-MAR-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	TAV-MW1	23-NOV-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	TAV-MW2	19-MAR-96	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	TAV-MW2	27-JUN-96	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	TAV-MW2	10-SEP-96	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	TAV-MW2	10-SEP-96	DU	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	TAV-MW2	16-SEP-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, p-, xylene, m-	TAV-MW2	11-NOV-97	SA	<0.5	U	0.5	EPA8260	ERCL
Xylene, p-, xylene, m-	TAV-MW2	24-FEB-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	TAV-MW2	20-NOV-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	TAV-MW3	26-FEB-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	TAV-MW3	19-NOV-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	TAV-MW4	26-FEB-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	TAV-MW4	29-OCT-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	TAV-MW4	29-OCT-98	SA	<1	U	1	EPA8260	ERCL
Xylene, p-, xylene, m-	TAV-MW5	27-FEB-98	SA	<1	U	1	EPA8260	ERCL

APPENDIX H4

TA-V GROUNDWATER DATA TABLES
RADIONUCLIDES
1992 THROUGH 1998

Appendix H4
TA-V Groundwater Radionuclide Data, 1992 through 1996

Analyte	Well	Sample Date	Sample Type	Concentration (pCi/L)	Qualifier	MDL (pCi/L)	Analytical Method	Laboratory	+/- 2 Sigma Error
Actimium-227	LWDS-MW1	07-JUN-94	D	ND	U	562	GAMMA	SNL 7715	NA
Actimium-227	LWDS-MW1	07-JUN-94	F	ND	U	512	GAMMA	SNL 7715	NA
Actimium-227	LWDS-MW1	02-SEP-94	F	ND	U	616	GAMMA	SNL 7715	NA
Actimium-227	LWDS-MW1	02-SEP-94	D	ND	U	564	GAMMA	SNL 7715	NA
Actimium-227	LWDS-MW1	08-DEC-94	F	ND	U	497	GAMMA	SNL 7715	NA
Actimium-227	LWDS-MW2	06-JUN-94	F	ND	U	566	GAMMA	SNL 7715	NA
Actimium-227	LWDS-MW2	02-SEP-94	F	ND	U	596	GAMMA	SNL 7715	NA
Actimium-227	LWDS-MW2	02-SEP-94	F	ND	U	568	GAMMA	SNL 7715	NA
Actimium-227	LWDS-MW2	07-DEC-94	F	ND	U	781	GAMMA	SNL 7715	NA
Actimium-227	LWDS-MW2	07-DEC-94	D	ND	U	754	GAMMA	SNL 7715	NA
Actinium-228	AVN-1	13-JUL-95	F	59		59	901.1	QUAN SL	NA
Actinium-228	AVN-2	11-JUL-95	F	44		44	901.1	QUAN SL	NA
Actinium-228	LWDS-MW1	03-MAY-93	F	ND	U	160	GAMMA	TMA EBERLINE	NA
Actinium-228	LWDS-MW1	03-NOV-93	D	ND	U	96	GAMMA	TMA EBERLINE	NA
Actinium-228	LWDS-MW1	03-NOV-93	F	ND	U	100	GAMMA	TMA EBERLINE	NA
Actinium-228	LWDS-MW1	07-JUN-94	F	ND	U	42.2	GAMMA	SNL 7715	NA
Actinium-228	LWDS-MW1	07-JUN-94	D	ND	U	39	GAMMA	SNL 7715	NA
Actinium-228	LWDS-MW1	02-SEP-94	F	ND	U	46.6	GAMMA	SNL 7715	NA
Actinium-228	LWDS-MW1	02-SEP-94	D	ND	U	44.5	GAMMA	SNL 7715	NA
Actinium-228	LWDS-MW1	08-DEC-94	F	ND	U	44.2	GAMMA	SNL 7715	NA
Actinium-228	LWDS-MW1	14-JUN-95	F	49.4		49.4	901.1	QUAN SL	NA
Actinium-228	LWDS-MW2	21-OCT-92	F	95.8	U	95.8	GAMMA	ENSECO	NA
Actinium-228	LWDS-MW2	24-JUN-93	F	ND	U	95	GAMMA	TMA EBERLINE	NA
Actinium-228	LWDS-MW2	24-JUN-93	D	ND	U	95	GAMMA	TMA EBERLINE	NA
Actinium-228	LWDS-MW2	06-JUN-94	F	ND	U	46	GAMMA	SNL 7715	NA
Actinium-228	LWDS-MW2	02-SEP-94	F	ND	U	51	GAMMA	SNL 7715	NA
Actinium-228	LWDS-MW2	02-SEP-94	F	ND	U	46.6	GAMMA	SNL 7715	NA
Actinium-228	LWDS-MW2	07-DEC-94	F	ND	U	50.8	GAMMA	SNL 7715	NA
Actinium-228	LWDS-MW2	07-DEC-94	D	ND	U	36.5	GAMMA	SNL 7715	NA
Actinium-228	LWDS-MW2	12-JUN-95	D	51.7		51.7	901.1	QUAN SL	NA
Actinium-228	LWDS-MW2	12-JUN-95	F	45.8		45.8	901.1	QUAN SL	NA
Actinium-228	TAV-MW1	09-JUN-95	F	33.6		33.6	901.1	QUAN SL	NA
Actinium-228	TAV-MW2	06-JUN-95	F	40		40	901.1	QUAN SL	NA
Alpha, gross	AVN-1	13-JUL-95	F	8.25		1.48	900.0	QUAN SL	1.64
Alpha, gross	AVN-1	15-MAR-96	F	4.31		1.03	900.0	QUAN SL	1.13
Alpha, gross	AVN-2	11-JUL-95	F	10.5		2.3	900.0	QUAN SL	2.3
Alpha, gross	AVN-2	15-MAR-96	F	5.25		0.98	900.0	QUAN SL	1.21
Alpha, gross	LWDS-MW1	03-NOV-93	F	14		4.2	GA	TMA EBERLINE	6.1
Alpha, gross	LWDS-MW1	03-NOV-93	D	ND		0.93	GA	TMA EBERLINE	0.5
Alpha, gross	LWDS-MW1	10-MAR-94	F	3.4		3.3	GA	TMA EBERLINE	3.1
Alpha, gross	LWDS-MW1	07-JUN-94	D	6.1		2.5	900.0	TMA EBERLINE	3
Alpha, gross	LWDS-MW1	07-JUN-94	F	5		2.6	900.0	TMA EBERLINE	2.8
Alpha, gross	LWDS-MW1	01-SEP-94	F	5.82		2.02	900.0	QUANTERRA	1.78
Alpha, gross	LWDS-MW1	01-SEP-94	F	5.57		1.79	900.0	QUANTERRA	1.63
Alpha, gross	LWDS-MW1	08-DEC-94	F	5.4		3	900.0	TMA EBERLINE	2.7
Alpha, gross	LWDS-MW1	14-JUN-95	F	3.94		2.9	900.0	QUAN SL	2.24
Alpha, gross	LWDS-MW1	25-SEP-95	F	3.5		3	900.0	GEL	0.993
Alpha, gross	LWDS-MW1	18-MAR-96.	D	4.95		1.49	900.0	QUAN SL	1.48
Alpha, gross	LWDS-MW1	18-MAR-96	F	4.04		1.47	900.0	QUAN SL	1.36
Alpha, gross	LWDS-MW-1	02-MAR-95	F	4.7		2.5	900.0	TMA EBERLINE	2.5
Alpha, gross	LWDS-MW2	24-JUN-93	D	4.6		1.7	GA	TMA EBERLINE	2.4
Alpha, gross	LWDS-MW2	24-JUN-93	F	3.8		1.8	GA	TMA EBERLINE	2.3
Alpha, gross	LWDS-MW2	09-MAR-94	D	4.6		2	GA	TMA EBERLINE	2.5
Alpha, gross	LWDS-MW2	09-MAR-94	F	4.8		1.6	GA	TMA EBERLINE	2.4
Alpha, gross	LWDS-MW2	06-JUN-94	F	4.5		1.5	900.0	TMA EBERLINE	2.1
Alpha, gross	LWDS-MW2	31-AUG-94	D	5.65		0.97	900.0	QUANTERRA	1.13
Alpha, gross	LWDS-MW2	31-AUG-94	F	3.49		0.92	900.0	QUANTERRA	0.89
Alpha, gross	LWDS-MW2	31-AUG-94	F	1.05		0.26	900.0	QUANTERRA	0.27
Alpha, gross	LWDS-MW2	07-DEC-94	F	6.3		1.9	900.0	TMA EBERLINE	2.2
Alpha, gross	LWDS-MW2	07-DEC-94	D	5		1.9	900.0	TMA EBERLINE	2
Alpha, gross	LWDS-MW2	12-JUN-95	F	7.41		1.3	900.0	QUAN SL	1.48
Alpha, gross	LWDS-MW2	12-JUN-95	D	5.2		1.13	900.0	QUAN SL	1.18
Alpha, gross	LWDS-MW2	18-MAR-96	F	5.32		1.19	900.0	QUAN SL	1.33
Alpha, gross	LWDS-MW-2	01-MAR-95	D	5.9		1.7	900.0	TMA EBERLINE	2.5
Alpha, gross	LWDS-MW-2	01-MAR-95	F	3.7		1.9	900.0	TMA EBERLINE	1.9
Alpha, gross	TAV-MW1	09-JUN-95	F	5.88		1.16	900.0	QUAN SL	1.24

Appendix H4 (Continued)
TA-V Groundwater Radionuclide Data, 1992 through 1996

Analyte	Well	Sample Date	Sample Type	Concentration (pCi/L)	Qualifier	MDL (pCi/L)	Analytical Method	Laboratory	+/- 2 Sigma Error
Alpha, gross	TAV-MW1	19-MAR-96	F	8.47		0.47	900.0	QUAN SL	1.63
Alpha, gross	TAV-MW2	06-JUN-95	F	13.2		5	900.0	QUAN SL	5
Alpha, gross	TAV-MW2	19-MAR-96	F	9.47		1.3	900.0	QUAN SL	1.85
Americium-241	AVN-1	13-JUL-95	F	100		100	901.1	QUAN SL	NA
Americium-241	AVN-2	11-JUL-95	F	26		26	901.1	QUAN SL	NA
Americium-241	LWDS-MW1	03-MAY-93	F	ND	U	140	GAMMA	TMA EBERLINE	NA
Americium-241	LWDS-MW1	03-NOV-93	F	ND	U	36	GAMMA	TMA EBERLINE	NA
Americium-241	LWDS-MW1	03-NOV-93	D	ND	U	36	GAMMA	TMA EBERLINE	NA
Americium-241	LWDS-MW1	07-JUN-94	D	ND	U	59.3	GAMMA	SNL 7715	NA
Americium-241	LWDS-MW1	07-JUN-94	F	ND	U	56.7	GAMMA	SNL 7715	NA
Americium-241	LWDS-MW1	02-SEP-94	D	ND	U	19.9	GAMMA	SNL 7715	NA
Americium-241	LWDS-MW1	02-SEP-94	F	ND	U	18.4	GAMMA	SNL 7715	NA
Americium-241	LWDS-MW1	08-DEC-94	F	ND	U	64.4	GAMMA	SNL 7715	NA
Americium-241	LWDS-MW1	14-JUN-95	F	16.3		16.3	901.1	QUAN SL	NA
Americium-241	LWDS-MW2	21-OCT-92	F	27.2	U	27.2	GAMMA	ENSECO	NA
Americium-241	LWDS-MW2	24-JUN-93	D	ND	U	40	GAMMA	TMA EBERLINE	NA
Americium-241	LWDS-MW2	24-JUN-93	F	ND	U	35	GAMMA	TMA EBERLINE	NA
Americium-241	LWDS-MW2	06-JUN-94	F	ND	U	65.5	GAMMA	SNL 7715	NA
Americium-241	LWDS-MW2	02-SEP-94	F	ND	U	20.3	GAMMA	SNL 7715	NA
Americium-241	LWDS-MW2	02-SEP-94	F	ND	U	19.2	GAMMA	SNL 7715	NA
Americium-241	LWDS-MW2	07-DEC-94	F	ND	U	45.4	GAMMA	SNL 7715	NA
Americium-241	LWDS-MW2	07-DEC-94	D	ND	U	40	GAMMA	SNL 7715	NA
Americium-241	LWDS-MW2	12-JUN-95	F	14.7		14.7	901.1	QUAN SL	NA
Americium-241	LWDS-MW2	12-JUN-95	D	14.6		14.6	901.1	QUAN SL	NA
Americium-241	TAV-MW1	09-JUN-95	F	229		229	901.1	QUAN SL	NA
Americium-241	TAV-MW2	06-JUN-95	F	26.2		26.2	901.1	QUAN SL	NA
Antimony-124	LWDS-MW1	07-JUN-94	D	ND	U	10.8	GAMMA	SNL 7715	NA
Antimony-124	LWDS-MW1	07-JUN-94	F	ND	U	9.61	GAMMA	SNL 7715	NA
Antimony-124	LWDS-MW1	02-SEP-94	D	ND	U	12.4	GAMMA	SNL 7715	NA
Antimony-124	LWDS-MW1	02-SEP-94	F	ND	U	11.9	GAMMA	SNL 7715	NA
Antimony-124	LWDS-MW1	08-DEC-94	F	ND	U	12.8	GAMMA	SNL 7715	NA
Antimony-124	LWDS-MW2	06-JUN-94	F	ND	U	11.2	GAMMA	SNL 7715	NA
Antimony-124	LWDS-MW2	02-SEP-94	F	ND	U	13.3	GAMMA	SNL 7715	NA
Antimony-124	LWDS-MW2	02-SEP-94	F	ND	U	11.1	GAMMA	SNL 7715	NA
Antimony-124	LWDS-MW2	07-DEC-94	F	ND	U	12.3	GAMMA	SNL 7715	NA
Antimony-124	LWDS-MW2	07-DEC-94	D	ND	U	11.1	GAMMA	SNL 7715	NA
Antimony-125	LWDS-MW1	07-JUN-94	D	ND	U	26.8	GAMMA	SNL 7715	NA
Antimony-125	LWDS-MW1	07-JUN-94	F	ND	U	26	GAMMA	SNL 7715	NA
Antimony-125	LWDS-MW1	02-SEP-94	F	ND	U	34.2	GAMMA	SNL 7715	NA
Antimony-125	LWDS-MW1	02-SEP-94	D	ND	U	32.2	GAMMA	SNL 7715	NA
Antimony-125	LWDS-MW1	08-DEC-94	F	ND	U	31.6	GAMMA	SNL 7715	NA
Antimony-125	LWDS-MW2	21-OCT-92	F	43.4	U	43.4	GAMMA	ENSECO	NA
Antimony-125	LWDS-MW2	06-JUN-94	F	ND	U	31.6	GAMMA	SNL 7715	NA
Antimony-125	LWDS-MW2	02-SEP-94	F	ND	U	38.4	GAMMA	SNL 7715	NA
Antimony-125	LWDS-MW2	02-SEP-94	F	ND	U	31.9	GAMMA	SNL 7715	NA
Antimony-125	LWDS-MW2	07-DEC-94	D	ND	U	29.5	GAMMA	SNL 7715	NA
Antimony-125	LWDS-MW2	07-DEC-94	F	ND	U	24.6	GAMMA	SNL 7715	NA
Antimony-126	LWDS-MW1	07-JUN-94	D	ND	U	9.51	GAMMA	SNL 7715	NA
Antimony-126	LWDS-MW1	07-JUN-94	F	ND	U	8.61	GAMMA	SNL 7715	NA
Antimony-126	LWDS-MW1	02-SEP-94	D	ND	U	13.9	GAMMA	SNL 7715	NA
Antimony-126	LWDS-MW1	02-SEP-94	F	ND	U	13.6	GAMMA	SNL 7715	NA
Antimony-126	LWDS-MW1	08-DEC-94	F	ND	U	13.2	GAMMA	SNL 7715	NA
Antimony-126	LWDS-MW2	06-JUN-94	F	ND	U	12.8	GAMMA	SNL 7715	NA
Antimony-126	LWDS-MW2	02-SEP-94	F	ND	U	15.6	GAMMA	SNL 7715	NA
Antimony-126	LWDS-MW2	02-SEP-94	F	ND	U	12.8	GAMMA	SNL 7715	NA
Antimony-126	LWDS-MW2	07-DEC-94	F	ND	U	12.3	GAMMA	SNL 7715	NA
Antimony-126	LWDS-MW2	07-DEC-94	D	ND	U	11.7	GAMMA	SNL 7715	NA
Barium-133	LWDS-MW1	07-JUN-94	D	ND	U	16.2	GAMMA	SNL 7715	NA
Barium-133	LWDS-MW1	07-JUN-94	F	ND	U	14.7	GAMMA	SNL 7715	NA
Barium-133	LWDS-MW1	02-SEP-94	F	ND	U	17.6	GAMMA	SNL 7715	NA
Barium-133	LWDS-MW1	02-SEP-94	D	ND	U	17.5	GAMMA	SNL 7715	NA
Barium-133	LWDS-MW1	08-DEC-94	F	ND	U	14.7	GAMMA	SNL 7715	NA
Barium-133	LWDS-MW2	21-OCT-92	F	27.4	U	27.4	GAMMA	ENSECO	NA
Barium-133	LWDS-MW2	06-JUN-94	F	ND	U	15.2	GAMMA	SNL 7715	NA
Barium-133	LWDS-MW2	02-SEP-94	F	ND	U	17.7	GAMMA	SNL 7715	NA
Barium-133	LWDS-MW2	02-SEP-94	F	ND	U	16.1	GAMMA	SNL 7715	NA

Appendix H4 (Continued)
TA-V Groundwater Radionuclide Data, 1992 through 1996

Analyte	Well	Sample Date	Sample Type	Concentration (pCi/L)	Qualifier	MDL (pCi/L)	Analytical Method	Laboratory	+/- 2 Sigma Error
Barium-133	LWDS-MW2	07-DEC-94	F	ND	U	13.9	GAMMA	SNL 7715	NA
Barium-133	LWDS-MW2	07-DEC-94	D	ND	U	13.9	GAMMA	SNL 7715	NA
Barium-140	LWDS-MW1	07-JUN-94	D	ND	U	36.2	GAMMA	SNL 7715	NA
Barium-140	LWDS-MW1	07-JUN-94	F	ND	U	31.4	GAMMA	SNL 7715	NA
Barium-140	LWDS-MW1	02-SEP-94	F	ND	U	53.7	GAMMA	SNL 7715	NA
Barium-140	LWDS-MW1	02-SEP-94	D	ND	U	48.7	GAMMA	SNL 7715	NA
Barium-140	LWDS-MW1	08-DEC-94	F	ND	U	53.1	GAMMA	SNL 7715	NA
Barium-140	LWDS-MW2	06-JUN-94	F	ND	U	42.3	GAMMA	SNL 7715	NA
Barium-140	LWDS-MW2	02-SEP-94	F	ND	U	60.3	GAMMA	SNL 7715	NA
Barium-140	LWDS-MW2	02-SEP-94	F	ND	U	50.5	GAMMA	SNL 7715	NA
Barium-140	LWDS-MW2	07-DEC-94	D	ND	U	38.6	GAMMA	SNL 7715	NA
Barium-140	LWDS-MW2	07-DEC-94	F	ND	U	36.4	GAMMA	SNL 7715	NA
Beryllium-7	LWDS-MW1	07-JUN-94	D	ND	U	79.8	GAMMA	SNL 7715	NA
Beryllium-7	LWDS-MW1	07-JUN-94	F	ND	U	77.9	GAMMA	SNL 7715	NA
Beryllium-7	LWDS-MW1	02-SEP-94	D	ND	U	97	GAMMA	SNL 7715	NA
Beryllium-7	LWDS-MW1	02-SEP-94	F	ND	U	95.1	GAMMA	SNL 7715	NA
Beryllium-7	LWDS-MW1	08-DEC-94	F	ND	U	87.9	GAMMA	SNL 7715	NA
Beryllium-7	LWDS-MW2	21-OCT-92	F	169	U	169	GAMMA	ENSECO	NA
Beryllium-7	LWDS-MW2	06-JUN-94	F	ND	U	80.7	GAMMA	SNL 7715	NA
Beryllium-7	LWDS-MW2	02-SEP-94	F	ND	U	120	GAMMA	SNL 7715	NA
Beryllium-7	LWDS-MW2	02-SEP-94	F	ND	U	94.1	GAMMA	SNL 7715	NA
Beryllium-7	LWDS-MW2	07-DEC-94	F	ND	U	87.4	GAMMA	SNL 7715	NA
Beryllium-7	LWDS-MW2	07-DEC-94	D	ND	U	86.6	GAMMA	SNL 7715	NA
Beta, gross	AVN-1	13-JUL-95	F	4.08		0.87	900.0	QUAN SL	0.67
Beta, gross	AVN-1	15-MAR-96	F	3.54		0.96	900.0	QUAN SL	0.7
Beta, gross	AVN-2	11-JUL-95	F	2.74		1.74	900.0	QUAN SL	0.93
Beta, gross	AVN-2	15-MAR-96	F	3.6		0.98	900.0	QUAN SL	0.71
Beta, gross	LWDS-MW1	03-NOV-93	F	18		3	GB	TMA EBERLINE	3.9
Beta, gross	LWDS-MW1	03-NOV-93	D	ND		2.1	GB	TMA EBERLINE	1.2
Beta, gross	LWDS-MW1	10-MAR-94	F	ND	U	3.1	GB	TMA EBERLINE	2.1
Beta, gross	LWDS-MW1	07-JUN-94	F	4.9		2.2	900.0	TMA EBERLINE	1.6
Beta, gross	LWDS-MW1	07-JUN-94	D	4.8		2	900.0	TMA EBERLINE	1.5
Beta, gross	LWDS-MW1	01-SEP-94	F	4.8		1.68	900.0	QUANTERRA	1.12
Beta, gross	LWDS-MW1	01-SEP-94	F	4.15		1.76	900.0	QUANTERRA	1.11
Beta, gross	LWDS-MW1	08-DEC-94	F	2.8		2.5	900.0	TMA EBERLINE	1.6
Beta, gross	LWDS-MW1	14-JUN-95	F	1.56		2.02	900.0	QUAN SL	1.09
Beta, gross	LWDS-MW1	18-MAR-96	F	3.75		0.94	900.0	QUAN SL	0.72
Beta, gross	LWDS-MW1	18-MAR-96	D	3.11		1	900.0	QUAN SL	0.7
Beta, gross	LWDS-MW-1	02-MAR-95	F	5.9		3.7	900.0	TMA EBERLINE	2.7
Beta, gross	LWDS-MW2	24-JUN-93	D	2.9		2.3	GB	TMA EBERLINE	1.7
Beta, gross	LWDS-MW2	24-JUN-93	F	3.1		2.1	GB	TMA EBERLINE	1.6
Beta, gross	LWDS-MW2	09-MAR-94	D	3.1		1.9	GB	TMA EBERLINE	1.5
Beta, gross	LWDS-MW2	09-MAR-94	F	2.3		2	GB	TMA EBERLINE	1.3
Beta, gross	LWDS-MW2	06-JUN-94	F	3		2.2	900.0	TMA EBERLINE	1.5
Beta, gross	LWDS-MW2	31-AUG-94	D	3.72		0.7	900.0	QUANTERRA	0.58
Beta, gross	LWDS-MW2	31-AUG-94	F	3.46		0.66	900.0	QUANTERRA	0.55
Beta, gross	LWDS-MW2	31-AUG-94	F	.34		0.61	900.0	QUANTERRA	0.27
Beta, gross	LWDS-MW2	07-DEC-94	D	3.3		2.1	900.0	TMA EBERLINE	1.4
Beta, gross	LWDS-MW2	07-DEC-94	F	2.2		2.1	900.0	TMA EBERLINE	1.3
Beta, gross	LWDS-MW2	12-JUN-95	F	3.16		0.84	900.0	QUAN SL	0.59
Beta, gross	LWDS-MW2	12-JUN-95	D	2.82		0.85	900.0	QUAN SL	0.58
Beta, gross	LWDS-MW2	18-MAR-96	F	3.16		1.02	900.0	QUAN SL	0.7
Beta, gross	LWDS-MW-2	01-MAR-95	F	2.6		2.2	900.0	TMA EBERLINE	1.5
Beta, gross	LWDS-MW-2	01-MAR-95	D	2.5		2.3	900.0	TMA EBERLINE	1.5
Beta, gross	TAV-MW1	09-JUN-95	F	3.06		0.94	900.0	QUAN SL	0.63
Beta, gross	TAV-MW1	19-MAR-96	F	3.35		0.49	900.0	QUAN SL	0.69
Beta, gross	TAV-MW2	06-JUN-95	F	6.98		2.76	900.0	QUAN SL	1.91
Beta, gross	TAV-MW2	19-MAR-96	F	3.97		1.05	900.0	QUAN SL	0.76
Bismuth-207	LWDS-MW1	07-JUN-94	D	ND	U	14.8	GAMMA	SNL 7715	NA
Bismuth-207	LWDS-MW1	07-JUN-94	F	ND	U	14.6	GAMMA	SNL 7715	NA
Bismuth-207	LWDS-MW1	02-SEP-94	D	ND	U	10.6	GAMMA	SNL 7715	NA
Bismuth-207	LWDS-MW1	02-SEP-94	F	ND	U	10.5	GAMMA	SNL 7715	NA
Bismuth-207	LWDS-MW1	08-DEC-94	F	ND	U	15.9	GAMMA	SNL 7715	NA
Bismuth-207	LWDS-MW2	06-JUN-94	F	ND	U	15.4	GAMMA	SNL 7715	NA
Bismuth-207	LWDS-MW2	02-SEP-94	F	ND	U	11	GAMMA	SNL 7715	NA
Bismuth-207	LWDS-MW2	02-SEP-94	F	ND	U	10.3	GAMMA	SNL 7715	NA

Appendix H4 (Continued)
TA-V Groundwater Radionuclide Data, 1992 through 1996

Analyte	Well	Sample Date	Sample Type	Concentration (pCi/L)	Qualifier	MDL (pCi/L)	Analytical Method	Laboratory	+/- 2 Sigma Error
Bismuth-207	LWDS-MW2	07-DEC-94	D	ND	U	9.21	GAMMA	SNL 7715	NA
Bismuth-207	LWDS-MW2	07-DEC-94	F	ND	U	8.76	GAMMA	SNL 7715	NA
Bismuth-212	LWDS-MW1	07-JUN-94	F	ND	U	85.9	GAMMA	SNL 7715	NA
Bismuth-212	LWDS-MW1	07-JUN-94	D	ND	U	85.9	GAMMA	SNL 7715	NA
Bismuth-212	LWDS-MW1	02-SEP-94	D	ND	U	88.9	GAMMA	SNL 7715	NA
Bismuth-212	LWDS-MW1	02-SEP-94	F	ND	U	87.6	GAMMA	SNL 7715	NA
Bismuth-212	LWDS-MW1	08-DEC-94	F	ND	U	66.4	GAMMA	SNL 7715	NA
Bismuth-212	LWDS-MW2	21-OCT-92	F	319	U	319	GAMMA	ENSECO	NA
Bismuth-212	LWDS-MW2	06-JUN-94	F	ND	U	91.1	GAMMA	SNL 7715	NA
Bismuth-212	LWDS-MW2	02-SEP-94	F	ND	U	98.9	GAMMA	SNL 7715	NA
Bismuth-212	LWDS-MW2	02-SEP-94	F	ND	U	92.9	GAMMA	SNL 7715	NA
Bismuth-212	LWDS-MW2	07-DEC-94	F	ND	U	108	GAMMA	SNL 7715	NA
Bismuth-212	LWDS-MW2	07-DEC-94	D	ND	U	104	GAMMA	SNL 7715	NA
Bismuth-214	LWDS-MW1	07-JUN-94	D	ND	U	48.3	GAMMA	SNL 7715	NA
Bismuth-214	LWDS-MW1	07-JUN-94	F	142		100000000	GAMMA	SNL 7715	0.0369
Bismuth-214	LWDS-MW1	02-SEP-94	F	ND	U	37.2	GAMMA	SNL 7715	NA
Bismuth-214	LWDS-MW1	02-SEP-94	D	ND	U	36.8	GAMMA	SNL 7715	NA
Bismuth-214	LWDS-MW1	08-DEC-94	F	ND	U	29.4	GAMMA	SNL 7715	NA
Bismuth-214	LWDS-MW2	21-OCT-92	F	55.6	U	55.6	GAMMA	ENSECO	NA
Bismuth-214	LWDS-MW2	06-JUN-94	F	279		100000000	GAMMA	SNL 7715	0.043
Bismuth-214	LWDS-MW2	02-SEP-94	F	ND	U	53.6	GAMMA	SNL 7715	NA
Bismuth-214	LWDS-MW2	02-SEP-94	F	ND	U	30.3	GAMMA	SNL 7715	NA
Bismuth-214	LWDS-MW2	07-DEC-94	F	542		100000000	GAMMA	SNL 7715	0.055
Bismuth-214	LWDS-MW2	07-DEC-94	D	477		100000000	GAMMA	SNL 7715	0.0513
Cadmium-109	LWDS-MW1	07-JUN-94	F	ND	U	343	GAMMA	SNL 7715	NA
Cadmium-109	LWDS-MW1	07-JUN-94	D	ND	U	332	GAMMA	SNL 7715	NA
Cadmium-109	LWDS-MW1	02-SEP-94	D	ND	U	192	GAMMA	SNL 7715	NA
Cadmium-109	LWDS-MW1	02-SEP-94	F	ND	U	187	GAMMA	SNL 7715	NA
Cadmium-109	LWDS-MW1	08-DEC-94	F	ND	U	260	GAMMA	SNL 7715	NA
Cadmium-109	LWDS-MW2	06-JUN-94	F	ND	U	369	GAMMA	SNL 7715	NA
Cadmium-109	LWDS-MW2	02-SEP-94	F	ND	U	227	GAMMA	SNL 7715	NA
Cadmium-109	LWDS-MW2	02-SEP-94	F	ND	U	186	GAMMA	SNL 7715	NA
Cadmium-109	LWDS-MW2	07-DEC-94	F	ND	U	302	GAMMA	SNL 7715	NA
Cadmium-109	LWDS-MW2	07-DEC-94	D	ND	U	291	GAMMA	SNL 7715	NA
Cerium-139	LWDS-MW1	07-JUN-94	D	ND	U	9.62	GAMMA	SNL 7715	NA
Cerium-139	LWDS-MW1	07-JUN-94	F	ND	U	9.16	GAMMA	SNL 7715	NA
Cerium-139	LWDS-MW1	02-SEP-94	F	ND	U	10.5	GAMMA	SNL 7715	NA
Cerium-139	LWDS-MW1	02-SEP-94	D	ND	U	10.3	GAMMA	SNL 7715	NA
Cerium-139	LWDS-MW1	08-DEC-94	F	ND	U	7.99	GAMMA	SNL 7715	NA
Cerium-139	LWDS-MW2	06-JUN-94	F	ND	U	9.1	GAMMA	SNL 7715	NA
Cerium-139	LWDS-MW2	02-SEP-94	F	ND	U	10.9	GAMMA	SNL 7715	NA
Cerium-139	LWDS-MW2	02-SEP-94	F	ND	U	10.9	GAMMA	SNL 7715	NA
Cerium-139	LWDS-MW2	07-DEC-94	F	ND	U	13.6	GAMMA	SNL 7715	NA
Cerium-139	LWDS-MW2	07-DEC-94	D	ND	U	13.5	GAMMA	SNL 7715	NA
Cerium-144	AVN-1	13-JUL-95	F	96		96	901.1	QUAN SL	NA
Cerium-144	AVN-2	11-JUL-95	F	63		63	901.1	QUAN SL	NA
Cerium-144	LWDS-MW1	03-MAY-93	F	ND	U	180	GAMMA	TMA EBERLINE	NA
Cerium-144	LWDS-MW1	03-NOV-93	F	ND	U	110	GAMMA	TMA EBERLINE	NA
Cerium-144	LWDS-MW1	03-NOV-93	D	ND	U	110	GAMMA	TMA EBERLINE	NA
Cerium-144	LWDS-MW1	07-JUN-94	D	ND	U	70.6	GAMMA	SNL 7715	NA
Cerium-144	LWDS-MW1	07-JUN-94	F	ND	U	66.8	GAMMA	SNL 7715	NA
Cerium-144	LWDS-MW1	02-SEP-94	F	ND	U	76.2	GAMMA	SNL 7715	NA
Cerium-144	LWDS-MW1	02-SEP-94	D	ND	U	74.6	GAMMA	SNL 7715	NA
Cerium-144	LWDS-MW1	08-DEC-94	F	ND	U	71.5	GAMMA	SNL 7715	NA
Cerium-144	LWDS-MW1	14-JUN-95	F	52.4		52.4	901.1	QUAN SL	NA
Cerium-144	LWDS-MW2	21-OCT-92	F	154	U	154	GAMMA	ENSECO	NA
Cerium-144	LWDS-MW2	24-JUN-93	F	ND	U	110	GAMMA	TMA EBERLINE	NA
Cerium-144	LWDS-MW2	24-JUN-93	D	ND	U	110	GAMMA	TMA EBERLINE	NA
Cerium-144	LWDS-MW2	06-JUN-94	F	ND	U	67.4	GAMMA	SNL 7715	NA
Cerium-144	LWDS-MW2	02-SEP-94	F	ND	U	76.5	GAMMA	SNL 7715	NA
Cerium-144	LWDS-MW2	02-SEP-94	F	ND	U	68.2	GAMMA	SNL 7715	NA
Cerium-144	LWDS-MW2	07-DEC-94	F	ND	U	78.9	GAMMA	SNL 7715	NA
Cerium-144	LWDS-MW2	07-DEC-94	D	ND	U	68.1	GAMMA	SNL 7715	NA
Cerium-144	LWDS-MW2	12-JUN-95	D	47.4		47.4	901.1	QUAN SL	NA
Cerium-144	LWDS-MW2	12-JUN-95	F	45.7		45.7	901.1	QUAN SL	NA
Cerium-144	TAV-MW1	09-JUN-95	F	68.7		68.7	901.1	QUAN SL	NA

Appendix H4 (Continued)
TA-V Groundwater Radionuclide Data, 1992 through 1996

Analyte	Well	Sample Date	Sample Type	Concentration (pCi/L)	Qualifier	MDL (pCi/L)	Analytical Method	Laboratory	+/- 2 Sigma Error
Cerium-144	TAV-MW2	06-JUN-95	F	65.1		65.1	901.1	QUAN SL	NA
Cesium-134	AVN-1	13-JUL-95	F	12		12	901.1	QUAN SL	NA
Cesium-134	AVN-2	11-JUL-95	F	10		10	901.1	QUAN SL	NA
Cesium-134	LWDS-MW1	03-MAY-93	F	ND	U	23	GAMMA	TMA EBERLINE	NA
Cesium-134	LWDS-MW1	03-NOV-93	F	ND	U	21	GAMMA	TMA EBERLINE	NA
Cesium-134	LWDS-MW1	03-NOV-93	D	ND	U	20	GAMMA	TMA EBERLINE	NA
Cesium-134	LWDS-MW1	07-JUN-94	F	ND	U	8.7	GAMMA	SNL 7715	NA
Cesium-134	LWDS-MW1	07-JUN-94	D	ND	U	8.29	GAMMA	SNL 7715	NA
Cesium-134	LWDS-MW1	02-SEP-94	D	ND	U	12.3	GAMMA	SNL 7715	NA
Cesium-134	LWDS-MW1	02-SEP-94	F	ND	U	11.5	GAMMA	SNL 7715	NA
Cesium-134	LWDS-MW1	08-DEC-94	F	ND	U	11.6	GAMMA	SNL 7715	NA
Cesium-134	LWDS-MW1	14-JUN-95	F	9.77		9.77	901.1	QUAN SL	NA
Cesium-134	LWDS-MW2	21-OCT-92	F	19.1	U	19.1	GAMMA	ENSECO	NA
Cesium-134	LWDS-MW2	24-JUN-93	F	ND	U	20	GAMMA	TMA EBERLINE	NA
Cesium-134	LWDS-MW2	24-JUN-93	D	ND	U	20	GAMMA	TMA EBERLINE	NA
Cesium-134	LWDS-MW2	06-JUN-94	F	ND	U	10.5	GAMMA	SNL 7715	NA
Cesium-134	LWDS-MW2	02-SEP-94	F	ND	U	12.2	GAMMA	SNL 7715	NA
Cesium-134	LWDS-MW2	02-SEP-94	F	ND	U	11.6	GAMMA	SNL 7715	NA
Cesium-134	LWDS-MW2	07-DEC-94	F	ND	U	11.8	GAMMA	SNL 7715	NA
Cesium-134	LWDS-MW2	07-DEC-94	D	ND	U	11.4	GAMMA	SNL 7715	NA
Cesium-134	LWDS-MW2	12-JUN-95	F	11.3		11.3	901.1	QUAN SL	NA
Cesium-134	LWDS-MW2	12-JUN-95	D	11		11	901.1	QUAN SL	NA
Cesium-134	TAV-MW1	09-JUN-95	F	10.8		10.8	901.1	QUAN SL	NA
Cesium-134	TAV-MW2	06-JUN-95	F	10.3		10.3	901.1	QUAN SL	NA
Cesium-137	AVN-1	13-JUL-95	F	17		17	901.1	QUAN SL	NA
Cesium-137	AVN-2	11-JUL-95	F	9		9	901.1	QUAN SL	NA
Cesium-137	LWDS-MW1	03-MAY-93	F	ND	U	27	GAMMA	TMA EBERLINE	NA
Cesium-137	LWDS-MW1	03-NOV-93	F	ND	U	24	GAMMA	TMA EBERLINE	NA
Cesium-137	LWDS-MW1	03-NOV-93	D	ND	U	24	GAMMA	TMA EBERLINE	NA
Cesium-137	LWDS-MW1	07-JUN-94	F	ND	U	9.68	GAMMA	SNL 7715	NA
Cesium-137	LWDS-MW1	07-JUN-94	D	ND	U	9.32	GAMMA	SNL 7715	NA
Cesium-137	LWDS-MW1	02-SEP-94	D	ND	U	11.8	GAMMA	SNL 7715	NA
Cesium-137	LWDS-MW1	02-SEP-94	F	ND	U	10.3	GAMMA	SNL 7715	NA
Cesium-137	LWDS-MW1	08-DEC-94	F	ND	U	23	GAMMA	TMA EBERLINE	NA
Cesium-137	LWDS-MW1	08-DEC-94	F	ND	U	9.86	GAMMA	SNL 7715	NA
Cesium-137	LWDS-MW1	14-JUN-95	F	11.1		11.1	901.1	QUAN SL	NA
Cesium-137	LWDS-MW-1	02-MAR-95	F	ND	U	20	GAMMA	TMA EBERLINE	NA
Cesium-137	LWDS-MW2	21-OCT-92	F	16.9	U	16.9	GAMMA	ENSECO	NA
Cesium-137	LWDS-MW2	24-JUN-93	D	ND	U	29	GAMMA	TMA EBERLINE	NA
Cesium-137	LWDS-MW2	24-JUN-93	F	ND	U	24	GAMMA	TMA EBERLINE	NA
Cesium-137	LWDS-MW2	06-JUN-94	F	ND	U	11.8	GAMMA	SNL 7715	NA
Cesium-137	LWDS-MW2	02-SEP-94	F	ND	U	11.8	GAMMA	SNL 7715	NA
Cesium-137	LWDS-MW2	02-SEP-94	F	ND	U	11.1	GAMMA	SNL 7715	NA
Cesium-137	LWDS-MW2	07-DEC-94	F	ND	U	26	GAMMA	TMA EBERLINE	NA
Cesium-137	LWDS-MW2	07-DEC-94	D	ND	U	22	GAMMA	TMA EBERLINE	NA
Cesium-137	LWDS-MW2	07-DEC-94	D	ND	U	11.6	GAMMA	SNL 7715	NA
Cesium-137	LWDS-MW2	07-DEC-94	F	ND	U	11	GAMMA	SNL 7715	NA
Cesium-137	LWDS-MW2	12-JUN-95	F	11.2		11.2	901.1	QUAN SL	NA
Cesium-137	LWDS-MW2	12-JUN-95	D	11		11	901.1	QUAN SL	NA
Cesium-137	LWDS-MW-2	01-MAR-95	F	ND	U	27	GAMMA	TMA EBERLINE	NA
Cesium-137	LWDS-MW-2	01-MAR-95	D	ND	U	23	GAMMA	TMA EBERLINE	NA
Cesium-137	TAV-MW1	09-JUN-95	F	10		10	901.1	QUAN SL	NA
Cesium-137	TAV-MW2	06-JUN-95	F	10.3		10.3	901.1	QUAN SL	NA
Chromium-51	AVN-1	13-JUL-95	F	140		140	901.1	QUAN SL	NA
Chromium-51	AVN-2	11-JUL-95	F	110		110	901.1	QUAN SL	NA
Chromium-51	LWDS-MW1	03-MAY-93	F	ND	U	280	GAMMA	TMA EBERLINE	NA
Chromium-51	LWDS-MW1	03-NOV-93	D	ND	U	240	GAMMA	TMA EBERLINE	NA
Chromium-51	LWDS-MW1	03-NOV-93	F	ND	U	210	GAMMA	TMA EBERLINE	NA
Chromium-51	LWDS-MW1	07-JUN-94	D	ND	U	97.8	GAMMA	SNL 7715	NA
Chromium-51	LWDS-MW1	07-JUN-94	F	ND	U	94	GAMMA	SNL 7715	NA
Chromium-51	LWDS-MW1	02-SEP-94	D	ND	U	115	GAMMA	SNL 7715	NA
Chromium-51	LWDS-MW1	02-SEP-94	F	ND	U	114	GAMMA	SNL 7715	NA
Chromium-51	LWDS-MW1	08-DEC-94	F	ND	U	105	GAMMA	SNL 7715	NA
Chromium-51	LWDS-MW1	14-JUN-95	F	104		104	901.1	QUAN SL	NA
Chromium-51	LWDS-MW2	21-OCT-92	F	179	U	179	GAMMA	ENSECO	NA
Chromium-51	LWDS-MW2	24-JUN-93	D	ND	U	360	GAMMA	TMA EBERLINE	NA

Appendix H4 (Continued)
TA-V Groundwater Radionuclide Data, 1992 through 1996

Analyte	Well	Sample Date	Sample Type	Concentration (pCi/L)	Qualifier	MDL (pCi/L)	Analytical Method	Laboratory	+/- 2 Sigma Error
Chromium-51	LWDS-MW2	24-JUN-93	F	ND	U	330	GAMMA	TMA EBERLINE	NA
Chromium-51	LWDS-MW2	06-JUN-94	F	ND	U	98.9	GAMMA	SNL 7715	NA
Chromium-51	LWDS-MW2	02-SEP-94	F	ND	U	121	GAMMA	SNL 7715	NA
Chromium-51	LWDS-MW2	02-SEP-94	F	ND	U	116	GAMMA	SNL 7715	NA
Chromium-51	LWDS-MW2	07-DEC-94	F	ND	U	99.8	GAMMA	SNL 7715	NA
Chromium-51	LWDS-MW2	07-DEC-94	D	ND	U	85.7	GAMMA	SNL 7715	NA
Chromium-51	LWDS-MW2	12-JUN-95	D	111		111	901.1	QUAN SL	NA
Chromium-51	LWDS-MW2	12-JUN-95	F	98.4		98.4	901.1	QUAN SL	NA
Chromium-51	TAV-MW1	09-JUN-95	F	115		115	901.1	QUAN SL	NA
Chromium-51	TAV-MW2	06-JUN-95	F	126		126	901.1	QUAN SL	NA
Cobalt-56	LWDS-MW1	07-JUN-94	F	ND	U	22.3	GAMMA	SNL 7715	NA
Cobalt-56	LWDS-MW1	07-JUN-94	D	ND	U	20.7	GAMMA	SNL 7715	NA
Cobalt-56	LWDS-MW1	02-SEP-94	D	ND	U	21.1	GAMMA	SNL 7715	NA
Cobalt-56	LWDS-MW1	02-SEP-94	F	ND	U	18	GAMMA	SNL 7715	NA
Cobalt-56	LWDS-MW1	08-DEC-94	F	ND	U	23.9	GAMMA	SNL 7715	NA
Cobalt-56	LWDS-MW2	06-JUN-94	F	ND	U	20.1	GAMMA	SNL 7715	NA
Cobalt-56	LWDS-MW2	02-SEP-94	F	ND	U	18.8	GAMMA	SNL 7715	NA
Cobalt-56	LWDS-MW2	02-SEP-94	F	ND	U	18.2	GAMMA	SNL 7715	NA
Cobalt-56	LWDS-MW2	07-DEC-94	F	ND	U	24.8	GAMMA	SNL 7715	NA
Cobalt-56	LWDS-MW2	07-DEC-94	D	ND	U	22.8	GAMMA	SNL 7715	NA
Cobalt-57	LWDS-MW1	07-JUN-94	F	ND	U	8.49	GAMMA	SNL 7715	NA
Cobalt-57	LWDS-MW1	07-JUN-94	D	ND	U	8.49	GAMMA	SNL 7715	NA
Cobalt-57	LWDS-MW1	02-SEP-94	F	ND	U	9.35	GAMMA	SNL 7715	NA
Cobalt-57	LWDS-MW1	02-SEP-94	D	ND	U	8.69	GAMMA	SNL 7715	NA
Cobalt-57	LWDS-MW1	08-DEC-94	F	ND	U	8.62	GAMMA	SNL 7715	NA
Cobalt-57	LWDS-MW2	21-OCT-92	F	13.9	U	13.9	GAMMA	ENSECO	NA
Cobalt-57	LWDS-MW2	06-JUN-94	F	ND	U	8.45	GAMMA	SNL 7715	NA
Cobalt-57	LWDS-MW2	02-SEP-94	F	ND	U	9.43	GAMMA	SNL 7715	NA
Cobalt-57	LWDS-MW2	02-SEP-94	F	ND	U	9.41	GAMMA	SNL 7715	NA
Cobalt-57	LWDS-MW2	07-DEC-94	F	ND	U	8.56	GAMMA	SNL 7715	NA
Cobalt-57	LWDS-MW2	07-DEC-94	D	ND	U	8.28	GAMMA	SNL 7715	NA
Cobalt-58	LWDS-MW1	07-JUN-94	D	ND	U	10.2	GAMMA	SNL 7715	NA
Cobalt-58	LWDS-MW1	07-JUN-94	F	ND	U	10.1	GAMMA	SNL 7715	NA
Cobalt-58	LWDS-MW1	02-SEP-94	F	ND	U	10.2	GAMMA	SNL 7715	NA
Cobalt-58	LWDS-MW1	02-SEP-94	D	ND	U	9.74	GAMMA	SNL 7715	NA
Cobalt-58	LWDS-MW1	08-DEC-94	F	ND	U	9.73	GAMMA	SNL 7715	NA
Cobalt-58	LWDS-MW2	21-OCT-92	F	16.1	U	16.1	GAMMA	ENSECO	NA
Cobalt-58	LWDS-MW2	06-JUN-94	F	ND	U	10.6	GAMMA	SNL 7715	NA
Cobalt-58	LWDS-MW2	02-SEP-94	F	ND	U	11.1	GAMMA	SNL 7715	NA
Cobalt-58	LWDS-MW2	02-SEP-94	F	ND	U	10.5	GAMMA	SNL 7715	NA
Cobalt-58	LWDS-MW2	07-DEC-94	D	ND	U	13.3	GAMMA	SNL 7715	NA
Cobalt-58	LWDS-MW2	07-DEC-94	F	ND	U	12	GAMMA	SNL 7715	NA
Cobalt-60	AVN-1	13-JUL-95	F	19		19	901.1	QUAN SL	NA
Cobalt-60	AVN-2	11-JUL-95	F	11		11	901.1	QUAN SL	NA
Cobalt-60	LWDS-MW1	03-MAY-93	F	ND	U	34	GAMMA	TMA EBERLINE	NA
Cobalt-60	LWDS-MW1	03-NOV-93	D	ND	U	22	GAMMA	TMA EBERLINE	NA
Cobalt-60	LWDS-MW1	03-NOV-93	F	ND	U	21	GAMMA	TMA EBERLINE	NA
Cobalt-60	LWDS-MW1	07-JUN-94	F	ND	U	12.5	GAMMA	SNL 7715	NA
Cobalt-60	LWDS-MW1	07-JUN-94	D	ND	U	12.2	GAMMA	SNL 7715	NA
Cobalt-60	LWDS-MW1	02-SEP-94	F	ND	U	13.9	GAMMA	SNL 7715	NA
Cobalt-60	LWDS-MW1	02-SEP-94	D	ND	U	11.2	GAMMA	SNL 7715	NA
Cobalt-60	LWDS-MW1	08-DEC-94	F	ND	U	26	GAMMA	TMA EBERLINE	NA
Cobalt-60	LWDS-MW1	08-DEC-94	F	ND	U	9.52	GAMMA	SNL 7715	NA
Cobalt-60	LWDS-MW1	14-JUN-95	F	13.1		13.1	901.1	QUAN SL	NA
Cobalt-60	LWDS-MW-1	02-MAR-95	F	ND	U	21	GAMMA	TMA EBERLINE	NA
Cobalt-60	LWDS-MW2	21-OCT-92	F	17.7	U	17.7	GAMMA	ENSECO	NA
Cobalt-60	LWDS-MW2	24-JUN-93	F	ND	U	24	GAMMA	TMA EBERLINE	NA
Cobalt-60	LWDS-MW2	24-JUN-93	D	ND	U	24	GAMMA	TMA EBERLINE	NA
Cobalt-60	LWDS-MW2	06-JUN-94	F	ND	U	13.1	GAMMA	SNL 7715	NA
Cobalt-60	LWDS-MW2	02-SEP-94	F	ND	U	13.3	GAMMA	SNL 7715	NA
Cobalt-60	LWDS-MW2	02-SEP-94	F	ND	U	13	GAMMA	SNL 7715	NA
Cobalt-60	LWDS-MW2	07-DEC-94	D	ND	U	26	GAMMA	TMA EBERLINE	NA
Cobalt-60	LWDS-MW2	07-DEC-94	F	ND	U	20	GAMMA	TMA EBERLINE	NA
Cobalt-60	LWDS-MW2	07-DEC-94	F	ND	U	13.2	GAMMA	SNL 7715	NA
Cobalt-60	LWDS-MW2	07-DEC-94	D	ND	U	9.72	GAMMA	SNL 7715	NA
Cobalt-60	LWDS-MW2	12-JUN-95	F	12.6		12.6	901.1	QUAN SL	NA

Appendix H4 (Continued)
TA-V Groundwater Radionuclide Data, 1992 through 1996

Analyte	Well	Sample Date	Sample Type	Concentration (pCi/L)	Qualifier	MDL (pCi/L)	Analytical Method	Laboratory	+/- 2 Sigma Error
Cobalt-60	LWDS-MW2	12-JUN-95	D	12.2		12.2	901.1	QUAN SL	NA
Cobalt-60	LWDS-MW-2	01-MAR-95	D	ND	U	25	GAMMA	TMA EBERLINE	NA
Cobalt-60	LWDS-MW-2	01-MAR-95	F	ND	U	24	GAMMA	TMA EBERLINE	NA
Cobalt-60	TAV-MW1	09-JUN-95	F	6.68		6.68	901.1	QUAN SL	NA
Cobalt-60	TAV-MW2	06-JUN-95	F	10.4		10.4	901.1	QUAN SL	NA
Copper-64	LWDS-MW1	07-JUN-94	D	ND	U	30800	GAMMA	SNL 7715	NA
Copper-64	LWDS-MW1	07-JUN-94	F	ND	U	22400	GAMMA	SNL 7715	NA
Copper-64	LWDS-MW2	06-JUN-94	F	ND	U	103000	GAMMA	SNL 7715	NA
Copper-64	LWDS-MW2	07-DEC-94	F	ND	U	16100	GAMMA	SNL 7715	NA
Copper-64	LWDS-MW2	07-DEC-94	D	ND	U	14600	GAMMA	SNL 7715	NA
Europium-152	LWDS-MW1	07-JUN-94	F	ND	U	25.9	GAMMA	SNL 7715	NA
Europium-152	LWDS-MW1	07-JUN-94	D	ND	U	25.4	GAMMA	SNL 7715	NA
Europium-152	LWDS-MW1	02-SEP-94	F	ND	U	28.2	GAMMA	SNL 7715	NA
Europium-152	LWDS-MW1	02-SEP-94	D	ND	U	26.2	GAMMA	SNL 7715	NA
Europium-152	LWDS-MW1	08-DEC-94	F	ND	U	25.4	GAMMA	SNL 7715	NA
Europium-152	LWDS-MW2	06-JUN-94	F	ND	U	25.2	GAMMA	SNL 7715	NA
Europium-152	LWDS-MW2	02-SEP-94	F	ND	U	28.3	GAMMA	SNL 7715	NA
Europium-152	LWDS-MW2	02-SEP-94	F	ND	U	28	GAMMA	SNL 7715	NA
Europium-152	LWDS-MW2	07-DEC-94	F	ND	U	25.9	GAMMA	SNL 7715	NA
Europium-152	LWDS-MW2	07-DEC-94	D	ND	U	25.3	GAMMA	SNL 7715	NA
Europium-154	LWDS-MW1	07-JUN-94	D	ND	U	48.3	GAMMA	SNL 7715	NA
Europium-154	LWDS-MW1	07-JUN-94	F	ND	U	39.7	GAMMA	SNL 7715	NA
Europium-154	LWDS-MW1	02-SEP-94	D	ND	U	54.5	GAMMA	SNL 7715	NA
Europium-154	LWDS-MW1	02-SEP-94	F	ND	U	53.7	GAMMA	SNL 7715	NA
Europium-154	LWDS-MW1	08-DEC-94	F	ND	U	42.5	GAMMA	SNL 7715	NA
Europium-154	LWDS-MW2	06-JUN-94	F	ND	U	46.7	GAMMA	SNL 7715	NA
Europium-154	LWDS-MW2	02-SEP-94	F	ND	U	55.9	GAMMA	SNL 7715	NA
Europium-154	LWDS-MW2	02-SEP-94	F	ND	U	47.6	GAMMA	SNL 7715	NA
Europium-154	LWDS-MW2	07-DEC-94	D	ND	U	54.3	GAMMA	SNL 7715	NA
Europium-154	LWDS-MW2	07-DEC-94	F	ND	U	49.8	GAMMA	SNL 7715	NA
Europium-155	LWDS-MW1	07-JUN-94	D	ND	U	40.9	GAMMA	SNL 7715	NA
Europium-155	LWDS-MW1	07-JUN-94	F	ND	U	35.4	GAMMA	SNL 7715	NA
Europium-155	LWDS-MW1	02-SEP-94	D	ND	U	34.7	GAMMA	SNL 7715	NA
Europium-155	LWDS-MW1	02-SEP-94	F	ND	U	33	GAMMA	SNL 7715	NA
Europium-155	LWDS-MW1	08-DEC-94	F	ND	U	41.9	GAMMA	SNL 7715	NA
Europium-155	LWDS-MW2	06-JUN-94	F	ND	U	36.3	GAMMA	SNL 7715	NA
Europium-155	LWDS-MW2	02-SEP-94	F	ND	U	36.7	GAMMA	SNL 7715	NA
Europium-155	LWDS-MW2	02-SEP-94	F	ND	U	35.1	GAMMA	SNL 7715	NA
Europium-155	LWDS-MW2	07-DEC-94	F	ND	U	37.7	GAMMA	SNL 7715	NA
Europium-155	LWDS-MW2	07-DEC-94	D	ND	U	35.7	GAMMA	SNL 7715	NA
Gadolinium-153	LWDS-MW1	07-JUN-94	F	ND	U	23.7	GAMMA	SNL 7715	NA
Gadolinium-153	LWDS-MW1	07-JUN-94	D	ND	U	23.4	GAMMA	SNL 7715	NA
Gadolinium-153	LWDS-MW1	02-SEP-94	D	ND	U	23.3	GAMMA	SNL 7715	NA
Gadolinium-153	LWDS-MW1	02-SEP-94	F	ND	U	20.3	GAMMA	SNL 7715	NA
Gadolinium-153	LWDS-MW1	08-DEC-94	F	ND	U	25.9	GAMMA	SNL 7715	NA
Gadolinium-153	LWDS-MW2	06-JUN-94	F	ND	U	27.6	GAMMA	SNL 7715	NA
Gadolinium-153	LWDS-MW2	02-SEP-94	F	ND	U	22.7	GAMMA	SNL 7715	NA
Gadolinium-153	LWDS-MW2	02-SEP-94	F	ND	U	22.4	GAMMA	SNL 7715	NA
Gadolinium-153	LWDS-MW2	07-DEC-94	F	ND	U	26	GAMMA	SNL 7715	NA
Gadolinium-153	LWDS-MW2	07-DEC-94	D	ND	U	26	GAMMA	SNL 7715	NA
Holmium-166	LWDS-MW1	08-DEC-94	F	ND	U	9.23	GAMMA	SNL 7715	NA
Holmium-166	LWDS-MW2	07-DEC-94	F	ND	U	15.3	GAMMA	SNL 7715	NA
Holmium-166	LWDS-MW2	07-DEC-94	D	ND	U	15.2	GAMMA	SNL 7715	NA
Indium-115M	LWDS-MW2	07-DEC-94	D	ND	U	1180	GAMMA	SNL 7715	NA
Indium-115M	LWDS-MW2	07-DEC-94	F	ND	U	1130	GAMMA	SNL 7715	NA
Iodine-125	LWDS-MW1	07-JUN-94	D	ND	U	0	GAMMA	SNL 7715	NA
Iodine-125	LWDS-MW1	07-JUN-94	F	ND	U	0	GAMMA	SNL 7715	NA
Iodine-125	LWDS-MW1	08-DEC-94	F	ND	U	1E+11	GAMMA	SNL 7715	NA
Iodine-125	LWDS-MW2	06-JUN-94	F	ND	U	0	GAMMA	SNL 7715	NA
Iodine-125	LWDS-MW2	07-DEC-94	F	ND	U	0	GAMMA	SNL 7715	NA
Iodine-125	LWDS-MW2	07-DEC-94	D	ND	U	0	GAMMA	SNL 7715	NA
Iodine-129	LWDS-MW1	07-JUN-94	F	ND	U	0	GAMMA	SNL 7715	NA
Iodine-129	LWDS-MW1	07-JUN-94	D	ND	U	0	GAMMA	SNL 7715	NA
Iodine-129	LWDS-MW1	02-SEP-94	F	ND	U	1E+11	GAMMA	SNL 7715	NA
Iodine-129	LWDS-MW1	02-SEP-94	D	ND	U	1E+11	GAMMA	SNL 7715	NA
Iodine-129	LWDS-MW1	08-DEC-94	F	ND	U	1E+11	GAMMA	SNL 7715	NA

Appendix H4 (Continued)
TA-V Groundwater Radionuclide Data, 1992 through 1996

Analyte	Well	Sample Date	Sample Type	Concentration (pCi/L)	Qualifier	MDL (pCi/L)	Analytical Method	Laboratory	+/- 2 Sigma Error
Iodine-129	LWDS-MW2	06-JUN-94	F	ND	U	0	GAMMA	SNL 7715	NA
Iodine-129	LWDS-MW2	02-SEP-94	F	ND	U	1E+11	GAMMA	SNL 7715	NA
Iodine-129	LWDS-MW2	02-SEP-94	F	ND	U	1E+11	GAMMA	SNL 7715	NA
Iodine-129	LWDS-MW2	07-DEC-94	F	ND	U	0	GAMMA	SNL 7715	NA
Iodine-129	LWDS-MW2	07-DEC-94	D	ND	U	0	GAMMA	SNL 7715	NA
Iodine-131	LWDS-MW1	07-JUN-94	D	ND	U	12.1	GAMMA	SNL 7715	NA
Iodine-131	LWDS-MW1	07-JUN-94	F	ND	U	11.6	GAMMA	SNL 7715	NA
Iodine-131	LWDS-MW1	02-SEP-94	F	ND	U	19.1	GAMMA	SNL 7715	NA
Iodine-131	LWDS-MW1	02-SEP-94	D	ND	U	18.7	GAMMA	SNL 7715	NA
Iodine-131	LWDS-MW1	08-DEC-94	F	ND	U	20.8	GAMMA	SNL 7715	NA
Iodine-131	LWDS-MW2	06-JUN-94	F	ND	U	13.9	GAMMA	SNL 7715	NA
Iodine-131	LWDS-MW2	02-SEP-94	F	ND	U	19.5	GAMMA	SNL 7715	NA
Iodine-131	LWDS-MW2	02-SEP-94	F	ND	U	17.8	GAMMA	SNL 7715	NA
Iodine-131	LWDS-MW2	07-DEC-94	D	ND	U	11.8	GAMMA	SNL 7715	NA
Iodine-131	LWDS-MW2	07-DEC-94	F	ND	U	11.1	GAMMA	SNL 7715	NA
Iridium-192	LWDS-MW1	07-JUN-94	F	ND	U	11.2	GAMMA	SNL 7715	NA
Iridium-192	LWDS-MW1	07-JUN-94	D	ND	U	11	GAMMA	SNL 7715	NA
Iridium-192	LWDS-MW1	02-SEP-94	D	ND	U	12.7	GAMMA	SNL 7715	NA
Iridium-192	LWDS-MW1	02-SEP-94	F	ND	U	11.9	GAMMA	SNL 7715	NA
Iridium-192	LWDS-MW1	08-DEC-94	F	ND	U	11.1	GAMMA	SNL 7715	NA
Iridium-192	LWDS-MW2	06-JUN-94	F	ND	U	10.8	GAMMA	SNL 7715	NA
Iridium-192	LWDS-MW2	02-SEP-94	F	ND	U	13.3	GAMMA	SNL 7715	NA
Iridium-192	LWDS-MW2	02-SEP-94	F	ND	U	13	GAMMA	SNL 7715	NA
Iridium-192	LWDS-MW2	07-DEC-94	F	ND	U	12.6	GAMMA	SNL 7715	NA
Iridium-192	LWDS-MW2	07-DEC-94	D	ND	U	11.8	GAMMA	SNL 7715	NA
Iron-59	AVN-1	13-JUL-95	F	32		32	901.1	QUAN SL	NA
Iron-59	AVN-2	11-JUL-95	F	25		25	901.1	QUAN SL	NA
Iron-59	LWDS-MW1	03-MAY-93	F	ND	U	63	GAMMA	TMA EBERLINE	NA
Iron-59	LWDS-MW1	03-NOV-93	F	ND	U	57	GAMMA	TMA EBERLINE	NA
Iron-59	LWDS-MW1	03-NOV-93	D	ND	U	55	GAMMA	TMA EBERLINE	NA
Iron-59	LWDS-MW1	07-JUN-94	D	ND	U	18.3	GAMMA	SNL 7715	NA
Iron-59	LWDS-MW1	07-JUN-94	F	ND	U	16.3	GAMMA	SNL 7715	NA
Iron-59	LWDS-MW1	02-SEP-94	D	ND	U	27.7	GAMMA	SNL 7715	NA
Iron-59	LWDS-MW1	02-SEP-94	F	ND	U	24.7	GAMMA	SNL 7715	NA
Iron-59	LWDS-MW1	08-DEC-94	F	ND	U	20.4	GAMMA	SNL 7715	NA
Iron-59	LWDS-MW1	14-JUN-95	F	26.8		26.8	901.1	QUAN SL	NA
Iron-59	LWDS-MW2	24-JUN-93	D	ND	U	73	GAMMA	TMA EBERLINE	NA
Iron-59	LWDS-MW2	24-JUN-93	F	ND	U	68	GAMMA	TMA EBERLINE	NA
Iron-59	LWDS-MW2	06-JUN-94	F	ND	U	22.9	GAMMA	SNL 7715	NA
Iron-59	LWDS-MW2	02-SEP-94	F	ND	U	25.5	GAMMA	SNL 7715	NA
Iron-59	LWDS-MW2	02-SEP-94	F	ND	U	25	GAMMA	SNL 7715	NA
Iron-59	LWDS-MW2	07-DEC-94	F	ND	U	26.7	GAMMA	SNL 7715	NA
Iron-59	LWDS-MW2	07-DEC-94	D	ND	U	24.6	GAMMA	SNL 7715	NA
Iron-59	LWDS-MW2	12-JUN-95	D	29.1		29.1	901.1	QUAN SL	NA
Iron-59	LWDS-MW2	12-JUN-95	F	24.8		24.8	901.1	QUAN SL	NA
Iron-59	TAV-MW1	09-JUN-95	F	30		30	901.1	QUAN SL	NA
Iron-59	TAV-MW2	06-JUN-95	F	25.4		25.4	901.1	QUAN SL	NA
Lanthanum-140	LWDS-MW1	07-JUN-94	F	ND	U	28.1	GAMMA	SNL 7715	NA
Lanthanum-140	LWDS-MW1	07-JUN-94	D	ND	U	19.2	GAMMA	SNL 7715	NA
Lanthanum-140	LWDS-MW1	02-SEP-94	F	ND	U	125	GAMMA	SNL 7715	NA
Lanthanum-140	LWDS-MW1	02-SEP-94	D	ND	U	108	GAMMA	SNL 7715	NA
Lanthanum-140	LWDS-MW1	08-DEC-94	F	ND	U	154	GAMMA	SNL 7715	NA
Lanthanum-140	LWDS-MW2	06-JUN-94	F	ND	U	32.6	GAMMA	SNL 7715	NA
Lanthanum-140	LWDS-MW2	02-SEP-94	F	ND	U	144	GAMMA	SNL 7715	NA
Lanthanum-140	LWDS-MW2	02-SEP-94	F	ND	U	119	GAMMA	SNL 7715	NA
Lanthanum-140	LWDS-MW2	07-DEC-94	D	ND	U	19.3	GAMMA	SNL 7715	NA
Lanthanum-140	LWDS-MW2	07-DEC-94	F	ND	U	19.1	GAMMA	SNL 7715	NA
Lead-210	LWDS-MW1	07-JUN-94	D	ND	U	0	GAMMA	SNL 7715	NA
Lead-210	LWDS-MW1	07-JUN-94	F	ND	U	0	GAMMA	SNL 7715	NA
Lead-210	LWDS-MW1	02-SEP-94	F	ND	U	1E+11	GAMMA	SNL 7715	NA
Lead-210	LWDS-MW1	08-DEC-94	F	ND	U	1E+11	GAMMA	SNL 7715	NA
Lead-210	LWDS-MW2	21-OCT-92	F	329	U	329	GAMMA	ENSECO	NA
Lead-210	LWDS-MW2	06-JUN-94	F	ND	U	0	GAMMA	SNL 7715	NA
Lead-210	LWDS-MW2	02-SEP-94	F	ND	U	1E+11	GAMMA	SNL 7715	NA
Lead-210	LWDS-MW2	07-DEC-94	F	ND	U	0	GAMMA	SNL 7715	NA
Lead-210	LWDS-MW2	07-DEC-94	D	ND	U	0	GAMMA	SNL 7715	NA

Appendix H4 (Continued)
TA-V Groundwater Radionuclide Data, 1992 through 1996

Analyte	Well	Sample Date	Sample Type	Concentration (pCi/L)	Qualifier	MDL (pCi/L)	Analytical Method	Laboratory	+/- 2 Sigma Error
Lead-212	AVN-1	13-JUL-95	F	24		24	901.1	QUAN SL	NA
Lead-212	AVN-2	11-JUL-95	F	18		18	901.1	QUAN SL	NA
Lead-212	LWDS-MW1	03-MAY-93	F	ND	U	59	GAMMA	TMA EBERLINE	NA
Lead-212	LWDS-MW1	03-NOV-93	D	ND	U	33	GAMMA	TMA EBERLINE	NA
Lead-212	LWDS-MW1	03-NOV-93	F	ND	U	32	GAMMA	TMA EBERLINE	NA
Lead-212	LWDS-MW1	07-JUN-94	D	ND	U	20.3	GAMMA	SNL 7715	NA
Lead-212	LWDS-MW1	07-JUN-94	F	ND	U	18.7	GAMMA	SNL 7715	NA
Lead-212	LWDS-MW1	02-SEP-94	F	ND	U	27.3	GAMMA	SNL 7715	NA
Lead-212	LWDS-MW1	02-SEP-94	D	ND	U	27.3	GAMMA	SNL 7715	NA
Lead-212	LWDS-MW1	08-DEC-94	F	ND	U	20.1	GAMMA	SNL 7715	NA
Lead-212	LWDS-MW1	14-JUN-95	F	19.2		19.2	901.1	QUAN SL	NA
Lead-212	LWDS-MW2	21-OCT-92	F	46.6	U	46.6	GAMMA	ENSECO	NA
Lead-212	LWDS-MW2	24-JUN-93	F	ND	U	32	GAMMA	TMA EBERLINE	NA
Lead-212	LWDS-MW2	24-JUN-93	D	21		58	GAMMA	TMA EBERLINE	37
Lead-212	LWDS-MW2	06-JUN-94	F	ND	U	18.5	GAMMA	SNL 7715	NA
Lead-212	LWDS-MW2	02-SEP-94	F	ND	U	25.8	GAMMA	SNL 7715	NA
Lead-212	LWDS-MW2	02-SEP-94	F	ND	U	25.2	GAMMA	SNL 7715	NA
Lead-212	LWDS-MW2	07-DEC-94	F	ND	U	26.6	GAMMA	SNL 7715	NA
Lead-212	LWDS-MW2	07-DEC-94	D	28.8		100000000	GAMMA	SNL 7715	0.0198
Lead-212	LWDS-MW2	12-JUN-95	D	17.2		17.2	901.1	QUAN SL	NA
Lead-212	LWDS-MW2	12-JUN-95	F	16.1		16.1	901.1	QUAN SL	NA
Lead-212	TAV-MW1	09-JUN-95	F	17.2		17.2	901.1	QUAN SL	NA
Lead-212	TAV-MW2	06-JUN-95	F	19.3		19.3	901.1	QUAN SL	NA
Lead-214	AVN-1	13-JUL-95	F	25		25	901.1	QUAN SL	NA
Lead-214	AVN-2	11-JUL-95	F	16		16	901.1	QUAN SL	NA
Lead-214	LWDS-MW1	03-MAY-93	F	ND	U	53	GAMMA	TMA EBERLINE	NA
Lead-214	LWDS-MW1	03-NOV-93	F	ND	U	46	GAMMA	TMA EBERLINE	NA
Lead-214	LWDS-MW1	03-NOV-93	D	ND	U	44	GAMMA	TMA EBERLINE	NA
Lead-214	LWDS-MW1	07-JUN-94	F	ND	U	44.7	GAMMA	SNL 7715	NA
Lead-214	LWDS-MW1	07-JUN-94	D	127		100000000	GAMMA	SNL 7715	0.0445
Lead-214	LWDS-MW1	02-SEP-94	F	ND	U	37.7	GAMMA	SNL 7715	NA
Lead-214	LWDS-MW1	02-SEP-94	D	ND	U	36.5	GAMMA	SNL 7715	NA
Lead-214	LWDS-MW1	08-DEC-94	F	ND	U	26.1	GAMMA	SNL 7715	NA
Lead-214	LWDS-MW1	14-JUN-95	F	29.3		29.3	901.1	QUAN SL	NA
Lead-214	LWDS-MW2	21-OCT-92	F	53	U	53	GAMMA	ENSECO	NA
Lead-214	LWDS-MW2	24-JUN-93	D	ND	U	46	GAMMA	TMA EBERLINE	NA
Lead-214	LWDS-MW2	24-JUN-93	F	ND	U	39	GAMMA	TMA EBERLINE	NA
Lead-214	LWDS-MW2	06-JUN-94	F	324		100000000	GAMMA	SNL 7715	0.0515
Lead-214	LWDS-MW2	02-SEP-94	F	ND	U	29.2	GAMMA	SNL 7715	NA
Lead-214	LWDS-MW2	02-SEP-94	F	160		100000000	GAMMA	SNL 7715	0.0446
Lead-214	LWDS-MW2	07-DEC-94	F	478		100000000	GAMMA	SNL 7715	0.0504
Lead-214	LWDS-MW2	07-DEC-94	D	439		100000000	GAMMA	SNL 7715	0.0482
Lead-214	LWDS-MW2	12-JUN-95	F	28.6		28.6	901.1	QUAN SL	NA
Lead-214	LWDS-MW2	12-JUN-95	D	27.4		27.4	901.1	QUAN SL	NA
Lead-214	TAV-MW1	09-JUN-95	F	24		24	901.1	QUAN SL	NA
Lead-214	TAV-MW2	06-JUN-95	F	23		23	901.1	QUAN SL	NA
Manganese-54	LWDS-MW1	07-JUN-94	D	ND	U	9.21	GAMMA	SNL 7715	NA
Manganese-54	LWDS-MW1	07-JUN-94	F	ND	U	8.49	GAMMA	SNL 7715	NA
Manganese-54	LWDS-MW1	02-SEP-94	D	ND	U	11.4	GAMMA	SNL 7715	NA
Manganese-54	LWDS-MW1	02-SEP-94	F	ND	U	10.6	GAMMA	SNL 7715	NA
Manganese-54	LWDS-MW1	08-DEC-94	F	ND	U	10.2	GAMMA	SNL 7715	NA
Manganese-54	LWDS-MW2	21-OCT-92	F	18.6	U	18.6	GAMMA	ENSECO	NA
Manganese-54	LWDS-MW2	06-JUN-94	F	ND	U	10.5	GAMMA	SNL 7715	NA
Manganese-54	LWDS-MW2	02-SEP-94	F	ND	U	11	GAMMA	SNL 7715	NA
Manganese-54	LWDS-MW2	02-SEP-94	F	ND	U	10.4	GAMMA	SNL 7715	NA
Manganese-54	LWDS-MW2	07-DEC-94	F	ND	U	13.5	GAMMA	SNL 7715	NA
Manganese-54	LWDS-MW2	07-DEC-94	D	ND	U	12.9	GAMMA	SNL 7715	NA
Manganese-56	LWDS-MW2	21-OCT-92	F	91.6	U	91.6	GAMMA	ENSECO	NA
Mercury-203	LWDS-MW1	07-JUN-94	D	ND	U	12	GAMMA	SNL 7715	NA
Mercury-203	LWDS-MW1	07-JUN-94	F	ND	U	11.5	GAMMA	SNL 7715	NA
Mercury-203	LWDS-MW1	02-SEP-94	D	ND	U	14.5	GAMMA	SNL 7715	NA
Mercury-203	LWDS-MW1	02-SEP-94	F	ND	U	13.9	GAMMA	SNL 7715	NA
Mercury-203	LWDS-MW1	08-DEC-94	F	ND	U	11.4	GAMMA	SNL 7715	NA
Mercury-203	LWDS-MW2	06-JUN-94	F	ND	U	12.4	GAMMA	SNL 7715	NA
Mercury-203	LWDS-MW2	02-SEP-94	F	ND	U	14.6	GAMMA	SNL 7715	NA
Mercury-203	LWDS-MW2	02-SEP-94	F	ND	U	14.2	GAMMA	SNL 7715	NA

Appendix H4 (Continued)
TA-V Groundwater Radionuclide Data, 1992 through 1996

Analyte	Well	Sample Date	Sample Type	Concentration (pCi/L)	Qualifier	MDL (pCi/L)	Analytical Method	Laboratory	+/- 2 Sigma Error
Mercury-203	LWDS-MW2	07-DEC-94	F	ND	U	13.3	GAMMA	SNL 7715	NA
Mercury-203	LWDS-MW2	07-DEC-94	D	ND	U	13.2	GAMMA	SNL 7715	NA
Neptunium-237	LWDS-MW1	07-JUN-94	D	ND	U	88.2	GAMMA	SNL 7715	NA
Neptunium-237	LWDS-MW1	07-JUN-94	F	ND	U	80.9	GAMMA	SNL 7715	NA
Neptunium-237	LWDS-MW1	02-SEP-94	D	ND	U	48.6	GAMMA	SNL 7715	NA
Neptunium-237	LWDS-MW1	02-SEP-94	F	ND	U	47.2	GAMMA	SNL 7715	NA
Neptunium-237	LWDS-MW1	08-DEC-94	F	ND	U	65.5	GAMMA	SNL 7715	NA
Neptunium-237	LWDS-MW2	06-JUN-94	F	ND	U	93.5	GAMMA	SNL 7715	NA
Neptunium-237	LWDS-MW2	02-SEP-94	F	ND	U	57.4	GAMMA	SNL 7715	NA
Neptunium-237	LWDS-MW2	02-SEP-94	F	ND	U	49.1	GAMMA	SNL 7715	NA
Neptunium-237	LWDS-MW2	07-DEC-94	D	ND	U	79.7	GAMMA	SNL 7715	NA
Neptunium-237	LWDS-MW2	07-DEC-94	F	ND	U	75.8	GAMMA	SNL 7715	NA
Niobium-95	LWDS-MW1	07-JUN-94	D	ND	U	39.7	GAMMA	SNL 7715	NA
Niobium-95	LWDS-MW1	07-JUN-94	F	ND	U	39.2	GAMMA	SNL 7715	NA
Niobium-95	LWDS-MW1	02-SEP-94	F	ND	U	102	GAMMA	SNL 7715	NA
Niobium-95	LWDS-MW1	02-SEP-94	D	ND	U	97.7	GAMMA	SNL 7715	NA
Niobium-95	LWDS-MW1	08-DEC-94	F	ND	U	93.3	GAMMA	SNL 7715	NA
Niobium-95	LWDS-MW2	06-JUN-94	F	ND	U	49.5	GAMMA	SNL 7715	NA
Niobium-95	LWDS-MW2	02-SEP-94	F	ND	U	119	GAMMA	SNL 7715	NA
Niobium-95	LWDS-MW2	02-SEP-94	F	ND	U	118	GAMMA	SNL 7715	NA
Niobium-95	LWDS-MW2	07-DEC-94	F	ND	U	50.8	GAMMA	SNL 7715	NA
Niobium-95	LWDS-MW2	07-DEC-94	D	ND	U	50.7	GAMMA	SNL 7715	NA
Nonvolatile Beta	LWDS-MW1	25-SEP-95	F	5.33		3	900.0	GEL	1.4
Plutonium-239	LWDS-MW1	08-DEC-94	F	ND	U	130000	GAMMA	SNL 7715	NA
Plutonium-239	LWDS-MW2	07-DEC-94	F	ND	U	129000	GAMMA	SNL 7715	NA
Plutonium-239	LWDS-MW2	07-DEC-94	D	ND	U	115000	GAMMA	SNL 7715	NA
Potassium-40	AVN-1	13-JUL-95	F	118		100	901.1	QUAN SL	162
Potassium-40	AVN-2	11-JUL-95	F	80.2		72	901.1	QUAN SL	95.8
Potassium-40	LWDS-MW1	03-MAY-93	F	130		800	GAMMA	TMA EBERLINE	570
Potassium-40	LWDS-MW1	03-NOV-93	F	ND	U	520	GAMMA	TMA EBERLINE	NA
Potassium-40	LWDS-MW1	03-NOV-93	D	ND	U	460	GAMMA	TMA EBERLINE	NA
Potassium-40	LWDS-MW1	07-JUN-94	D	ND	U	233	GAMMA	SNL 7715	NA
Potassium-40	LWDS-MW1	07-JUN-94	F	ND	U	229	GAMMA	SNL 7715	NA
Potassium-40	LWDS-MW1	02-SEP-94	D	ND	U	198	GAMMA	SNL 7715	NA
Potassium-40	LWDS-MW1	02-SEP-94	F	ND	U	165	GAMMA	SNL 7715	NA
Potassium-40	LWDS-MW1	08-DEC-94	F	ND	U	650	GAMMA	TMA EBERLINE	NA
Potassium-40	LWDS-MW1	08-DEC-94	F	ND	U	184	GAMMA	SNL 7715	NA
Potassium-40	LWDS-MW1	14-JUN-95	F	180		180	901.1	QUAN SL	NA
Potassium-40	LWDS-MW-1	02-MAR-95	F	ND	U	630	GAMMA	TMA EBERLINE	NA
Potassium-40	LWDS-MW2	21-OCT-92	F	542	U	542	GAMMA	ENSECO	NA
Potassium-40	LWDS-MW2	24-JUN-93	D	ND	U	530	GAMMA	TMA EBERLINE	NA
Potassium-40	LWDS-MW2	24-JUN-93	F	ND	U	520	GAMMA	TMA EBERLINE	NA
Potassium-40	LWDS-MW2	06-JUN-94	F	ND	U	245	GAMMA	SNL 7715	NA
Potassium-40	LWDS-MW2	02-SEP-94	F	ND	U	177	GAMMA	SNL 7715	NA
Potassium-40	LWDS-MW2	02-SEP-94	F	ND	U	153	GAMMA	SNL 7715	NA
Potassium-40	LWDS-MW2	07-DEC-94	F	ND	U	590	GAMMA	TMA EBERLINE	NA
Potassium-40	LWDS-MW2	07-DEC-94	D	ND	U	590	GAMMA	TMA EBERLINE	NA
Potassium-40	LWDS-MW2	07-DEC-94	D	ND	U	177	GAMMA	SNL 7715	NA
Potassium-40	LWDS-MW2	07-DEC-94	F	ND	U	165	GAMMA	SNL 7715	NA
Potassium-40	LWDS-MW2	12-JUN-95	D	139		139	901.1	QUAN SL	NA
Potassium-40	LWDS-MW2	12-JUN-95	F	138		138	901.1	QUAN SL	NA
Potassium-40	LWDS-MW-2	01-MAR-95	D	ND	U	650	GAMMA	TMA EBERLINE	NA
Potassium-40	LWDS-MW-2	01-MAR-95	F	ND	U	350	GAMMA	TMA EBERLINE	380
Potassium-40	TAV-MW1	09-JUN-95	F	149		149	901.1	QUAN SL	NA
Potassium-40	TAV-MW2	06-JUN-95	F	161		161	901.1	QUAN SL	NA
Protactinium-223	LWDS-MW1	07-JUN-94	D	ND	U	25	GAMMA	SNL 7715	NA
Protactinium-223	LWDS-MW1	07-JUN-94	F	ND	U	24.5	GAMMA	SNL 7715	NA
Protactinium-223	LWDS-MW1	02-SEP-94	D	ND	U	28.6	GAMMA	SNL 7715	NA
Protactinium-223	LWDS-MW1	02-SEP-94	F	ND	U	28	GAMMA	SNL 7715	NA
Protactinium-223	LWDS-MW1	08-DEC-94	F	ND	U	22.1	GAMMA	SNL 7715	NA
Protactinium-223	LWDS-MW2	06-JUN-94	F	ND	U	25.1	GAMMA	SNL 7715	NA
Protactinium-223	LWDS-MW2	02-SEP-94	F	ND	U	29.6	GAMMA	SNL 7715	NA
Protactinium-223	LWDS-MW2	02-SEP-94	F	ND	U	28.1	GAMMA	SNL 7715	NA
Protactinium-223	LWDS-MW2	07-DEC-94	F	ND	U	24.9	GAMMA	SNL 7715	NA
Protactinium-223	LWDS-MW2	07-DEC-94	D	ND	U	23.5	GAMMA	SNL 7715	NA
Protactinium-231	LWDS-MW1	07-JUN-94	F	ND	U	423	GAMMA	SNL 7715	NA

Appendix H4 (Continued)
TA-V Groundwater Radionuclide Data, 1992 through 1996

Analyte	Well	Sample Date	Sample Type	Concentration (pCi/L)	Qualifier	MDL (pCi/L)	Analytical Method	Laboratory	+/- 2 Sigma Error
Protactinium-231	LWDS-MW1	07-JUN-94	D	ND	U	398	GAMMA	SNL 7715	NA
Protactinium-231	LWDS-MW1	02-SEP-94	D	ND	U	475	GAMMA	SNL 7715	NA
Protactinium-231	LWDS-MW1	02-SEP-94	F	ND	U	435	GAMMA	SNL 7715	NA
Protactinium-231	LWDS-MW1	08-DEC-94	F	ND	U	336	GAMMA	SNL 7715	NA
Protactinium-231	LWDS-MW2	06-JUN-94	F	ND	U	402	GAMMA	SNL 7715	NA
Protactinium-231	LWDS-MW2	02-SEP-94	F	ND	U	444	GAMMA	SNL 7715	NA
Protactinium-231	LWDS-MW2	02-SEP-94	F	ND	U	406	GAMMA	SNL 7715	NA
Protactinium-231	LWDS-MW2	07-DEC-94	F	ND	U	435	GAMMA	SNL 7715	NA
Protactinium-231	LWDS-MW2	07-DEC-94	D	ND	U	400	GAMMA	SNL 7715	NA
Radium-224	LWDS-MW1	07-JUN-94	D	ND	U	223	GAMMA	SNL 7715	NA
Radium-224	LWDS-MW1	07-JUN-94	F	ND	U	219	GAMMA	SNL 7715	NA
Radium-224	LWDS-MW1	02-SEP-94	F	ND	U	289	GAMMA	SNL 7715	NA
Radium-224	LWDS-MW1	02-SEP-94	D	758		100000000	GAMMA	SNL 7715	0.482
Radium-224	LWDS-MW1	08-DEC-94	F	ND	U	200	GAMMA	SNL 7715	NA
Radium-224	LWDS-MW2	06-JUN-94	F	ND	U	255	GAMMA	SNL 7715	NA
Radium-224	LWDS-MW2	02-SEP-94	F	ND	U	326	GAMMA	SNL 7715	NA
Radium-224	LWDS-MW2	02-SEP-94	F	ND	U	277	GAMMA	SNL 7715	NA
Radium-224	LWDS-MW2	07-DEC-94	F	ND	U	339	GAMMA	SNL 7715	NA
Radium-226	AVN-1	13-JUL-95	F	27		27	901.1	QUAN SL	NA
Radium-226	AVN-2	11-JUL-95	F	20		20	901.1	QUAN SL	NA
Radium-226	LWDS-MW1	03-MAY-93	F	ND	U	64	GAMMA	TMA EBERLINE	NA
Radium-226	LWDS-MW1	03-NOV-93	F	ND	U	50	GAMMA	TMA EBERLINE	NA
Radium-226	LWDS-MW1	03-NOV-93	D	ND	U	44	GAMMA	TMA EBERLINE	NA
Radium-226	LWDS-MW1	07-JUN-94	D	ND	U	244	GAMMA	SNL 7715	NA
Radium-226	LWDS-MW1	07-JUN-94	F	ND	U	239	GAMMA	SNL 7715	NA
Radium-226	LWDS-MW1	02-SEP-94	F	ND	U	115	GAMMA	SNL 7715	NA
Radium-226	LWDS-MW1	02-SEP-94	D	ND	U	114	GAMMA	SNL 7715	NA
Radium-226	LWDS-MW1	08-DEC-94	F	ND	U	50	GAMMA	TMA EBERLINE	NA
Radium-226	LWDS-MW1	08-DEC-94	F	ND	U	239	GAMMA	SNL 7715	NA
Radium-226	LWDS-MW1	14-JUN-95	F	30.2		30.2	901.1	QUAN SL	NA
Radium-226	LWDS-MW-1	02-MAR-95	F	ND	U	45	GAMMA	TMA EBERLINE	NA
Radium-226	LWDS-MW2	21-OCT-92	F	464	U	464	GAMMA	ENSECO	NA
Radium-226	LWDS-MW2	24-JUN-93	D	ND	U	47	GAMMA	TMA EBERLINE	NA
Radium-226	LWDS-MW2	24-JUN-93	F	ND	U	46	GAMMA	TMA EBERLINE	NA
Radium-226	LWDS-MW2	06-JUN-94	F	ND	U	249	GAMMA	SNL 7715	NA
Radium-226	LWDS-MW2	02-SEP-94	F	ND	U	119	GAMMA	SNL 7715	NA
Radium-226	LWDS-MW2	07-DEC-94	F	ND	U	54	GAMMA	TMA EBERLINE	NA
Radium-226	LWDS-MW2	07-DEC-94	D	ND	U	344	GAMMA	SNL 7715	NA
Radium-226	LWDS-MW2	07-DEC-94	F	ND	U	336	GAMMA	SNL 7715	NA
Radium-226	LWDS-MW2	07-DEC-94	D	43		91	GAMMA	TMA EBERLINE	59
Radium-226	LWDS-MW2	12-JUN-95	F	33.4		33.4	901.1	QUAN SL	NA
Radium-226	LWDS-MW2	12-JUN-95	D	29.7		29.7	901.1	QUAN SL	NA
Radium-226	LWDS-MW-2	01-MAR-95	D	ND	U	48	GAMMA	TMA EBERLINE	NA
Radium-226	LWDS-MW-2	01-MAR-95	F	ND	U	45	GAMMA	TMA EBERLINE	NA
Radium-226	TAV-MW1	09-JUN-95	F	26.8		26.8	901.1	QUAN SL	NA
Radium-226	TAV-MW2	06-JUN-95	F	23.6		23.6	901.1	QUAN SL	NA
Radium-228	AVN-1	13-JUL-95	F	59		59	901.1	QUAN SL	NA
Radium-228	AVN-2	11-JUL-95	F	44		44	901.1	QUAN SL	NA
Radium-228	LWDS-MW1	07-JUN-94	F	ND	U	46.8	GAMMA	SNL 7715	NA
Radium-228	LWDS-MW1	07-JUN-94	D	ND	U	43.2	GAMMA	SNL 7715	NA
Radium-228	LWDS-MW1	02-SEP-94	F	ND	U	51.6	GAMMA	SNL 7715	NA
Radium-228	LWDS-MW1	02-SEP-94	D	ND	U	49.3	GAMMA	SNL 7715	NA
Radium-228	LWDS-MW1	08-DEC-94	F	ND	U	86	GAMMA	TMA EBERLINE	NA
Radium-228	LWDS-MW1	08-DEC-94	F	ND	U	48.9	GAMMA	SNL 7715	NA
Radium-228	LWDS-MW1	14-JUN-95	F	49.4		49.4	901.1	QUAN SL	NA
Radium-228	LWDS-MW-1	02-MAR-95	F	ND	U	110	GAMMA	TMA EBERLINE	NA
Radium-228	LWDS-MW2	06-JUN-94	F	ND	U	51	GAMMA	SNL 7715	NA
Radium-228	LWDS-MW2	02-SEP-94	F	ND	U	56.5	GAMMA	SNL 7715	NA
Radium-228	LWDS-MW2	02-SEP-94	F	ND	U	51.6	GAMMA	SNL 7715	NA
Radium-228	LWDS-MW2	07-DEC-94	D	ND	U	94	GAMMA	TMA EBERLINE	NA
Radium-228	LWDS-MW2	07-DEC-94	F	ND	U	100	GAMMA	TMA EBERLINE	NA
Radium-228	LWDS-MW2	07-DEC-94	F	ND	U	56.3	GAMMA	SNL 7715	NA
Radium-228	LWDS-MW2	07-DEC-94	D	ND	U	40.4	GAMMA	SNL 7715	NA
Radium-228	LWDS-MW2	12-JUN-95	D	51.7		51.7	901.1	QUAN SL	NA
Radium-228	LWDS-MW2	12-JUN-95	F	45.8		45.8	901.1	QUAN SL	NA
Radium-228	LWDS-MW-2	01-MAR-95	F	ND	U	92	GAMMA	TMA EBERLINE	NA

Appendix H4 (Continued)
TA-V Groundwater Radionuclide Data, 1992 through 1996

Analyte	Well	Sample Date	Sample Type	Concentration (pCi/L)	Qualifier	MDL (pCi/L)	Analytical Method	Laboratory	+/- 2 Sigma Error
Radium-228	LWDS-MW-2	01-MAR-95	D	ND	U	91	GAMMA	TMA EBERLINE	NA
Radium-228	TAV-MW1	09-JUN-95	F	33.6		33.6	901.1	QUAN SL	NA
Radium-228	TAV-MW2	06-JUN-95	F	40		40	901.1	QUAN SL	NA
Ruthenium-103	AVN-1	13-JUL-95	F	19		19	901.1	QUAN SL	NA
Ruthenium-103	AVN-2	11-JUL-95	F	12		12	901.1	QUAN SL	NA
Ruthenium-103	LWDS-MW1	03-MAY-93	F	ND	U	30	GAMMA	TMA EBERLINE	NA
Ruthenium-103	LWDS-MW1	03-NOV-93	F	ND	U	25	GAMMA	TMA EBERLINE	NA
Ruthenium-103	LWDS-MW1	03-NOV-93	D	ND	U	23	GAMMA	TMA EBERLINE	NA
Ruthenium-103	LWDS-MW1	07-JUN-94	D	ND	U	10.2	GAMMA	SNL 7715	NA
Ruthenium-103	LWDS-MW1	07-JUN-94	F	ND	U	9.35	GAMMA	SNL 7715	NA
Ruthenium-103	LWDS-MW1	02-SEP-94	F	ND	U	12	GAMMA	SNL 7715	NA
Ruthenium-103	LWDS-MW1	02-SEP-94	D	ND	U	11.8	GAMMA	SNL 7715	NA
Ruthenium-103	LWDS-MW1	08-DEC-94	F	ND	U	10.8	GAMMA	SNL 7715	NA
Ruthenium-103	LWDS-MW1	14-JUN-95	F	12.8		12.8	901.1	QUAN SL	NA
Ruthenium-103	LWDS-MW2	24-JUN-93	F	ND	U	35	GAMMA	TMA EBERLINE	NA
Ruthenium-103	LWDS-MW2	24-JUN-93	D	ND	U	30	GAMMA	TMA EBERLINE	NA
Ruthenium-103	LWDS-MW2	06-JUN-94	F	ND	U	11	GAMMA	SNL 7715	NA
Ruthenium-103	LWDS-MW2	02-SEP-94	F	ND	U	12.9	GAMMA	SNL 7715	NA
Ruthenium-103	LWDS-MW2	02-SEP-94	F	ND	U	11.6	GAMMA	SNL 7715	NA
Ruthenium-103	LWDS-MW2	07-DEC-94	D	ND	U	10.2	GAMMA	SNL 7715	NA
Ruthenium-103	LWDS-MW2	07-DEC-94	F	ND	U	9.27	GAMMA	SNL 7715	NA
Ruthenium-103	LWDS-MW2	12-JUN-95	F	13.5		13.5	901.1	QUAN SL	NA
Ruthenium-103	LWDS-MW2	12-JUN-95	D	13.5		13.5	901.1	QUAN SL	NA
Ruthenium-103	TAV-MW1	09-JUN-95	F	12.1		12.1	901.1	QUAN SL	NA
Ruthenium-103	TAV-MW2	06-JUN-95	F	12.8		12.8	901.1	QUAN SL	NA
Ruthenium-106	AVN-1	13-JUL-95	F	130		130	901.1	QUAN SL	NA
Ruthenium-106	AVN-2	11-JUL-95	F	89		89	901.1	QUAN SL	NA
Ruthenium-106	LWDS-MW1	03-MAY-93	F	ND	U	250	GAMMA	TMA EBERLINE	NA
Ruthenium-106	LWDS-MW1	03-NOV-93	F	ND	U	200	GAMMA	TMA EBERLINE	NA
Ruthenium-106	LWDS-MW1	03-NOV-93	D	ND	U	190	GAMMA	TMA EBERLINE	NA
Ruthenium-106	LWDS-MW1	07-JUN-94	D	ND	U	90.2	GAMMA	SNL 7715	NA
Ruthenium-106	LWDS-MW1	07-JUN-94	F	ND	U	90.2	GAMMA	SNL 7715	NA
Ruthenium-106	LWDS-MW1	02-SEP-94	D	ND	U	114	GAMMA	SNL 7715	NA
Ruthenium-106	LWDS-MW1	02-SEP-94	F	ND	U	110	GAMMA	SNL 7715	NA
Ruthenium-106	LWDS-MW1	08-DEC-94	F	ND	U	94.6	GAMMA	SNL 7715	NA
Ruthenium-106	LWDS-MW1	14-JUN-95	F	112		112	901.1	QUAN SL	NA
Ruthenium-106	LWDS-MW2	21-OCT-92	F	183	U	183	GAMMA	ENSECO	NA
Ruthenium-106	LWDS-MW2	24-JUN-93	D	ND	U	190	GAMMA	TMA EBERLINE	NA
Ruthenium-106	LWDS-MW2	24-JUN-93	F	ND	U	170	GAMMA	TMA EBERLINE	NA
Ruthenium-106	LWDS-MW2	06-JUN-94	F	ND	U	96.8	GAMMA	SNL 7715	NA
Ruthenium-106	LWDS-MW2	02-SEP-94	F	ND	U	116	GAMMA	SNL 7715	NA
Ruthenium-106	LWDS-MW2	02-SEP-94	F	ND	U	104	GAMMA	SNL 7715	NA
Ruthenium-106	LWDS-MW2	07-DEC-94	F	ND	U	93.1	GAMMA	SNL 7715	NA
Ruthenium-106	LWDS-MW2	07-DEC-94	D	ND	U	88.4	GAMMA	SNL 7715	NA
Ruthenium-106	LWDS-MW2	12-JUN-95	F	101		101	901.1	QUAN SL	NA
Ruthenium-106	LWDS-MW2	12-JUN-95	D	90.6		90.6	901.1	QUAN SL	NA
Ruthenium-106	TAV-MW1	09-JUN-95	F	98.5		98.5	901.1	QUAN SL	NA
Ruthenium-106	TAV-MW2	06-JUN-95	F	89.2		89.2	901.1	QUAN SL	NA
Scandium-46	LWDS-MW1	07-JUN-94	D	ND	U	9.99	GAMMA	SNL 7715	NA
Scandium-46	LWDS-MW1	07-JUN-94	F	ND	U	9.98	GAMMA	SNL 7715	NA
Scandium-46	LWDS-MW1	02-SEP-94	F	ND	U	14	GAMMA	SNL 7715	NA
Scandium-46	LWDS-MW1	02-SEP-94	D	ND	U	13.3	GAMMA	SNL 7715	NA
Scandium-46	LWDS-MW1	08-DEC-94	F	ND	U	11.9	GAMMA	SNL 7715	NA
Scandium-46	LWDS-MW2	06-JUN-94	F	ND	U	9.8	GAMMA	SNL 7715	NA
Scandium-46	LWDS-MW2	02-SEP-94	F	ND	U	13	GAMMA	SNL 7715	NA
Scandium-46	LWDS-MW2	02-SEP-94	F	ND	U	9.99	GAMMA	SNL 7715	NA
Scandium-46	LWDS-MW2	07-DEC-94	F	ND	U	13.5	GAMMA	SNL 7715	NA
Scandium-46	LWDS-MW2	07-DEC-94	D	ND	U	13.2	GAMMA	SNL 7715	NA
Silver-110	LWDS-MW1	07-JUN-94	F	ND	U	9.35	GAMMA	SNL 7715	NA
Silver-110	LWDS-MW1	07-JUN-94	D	ND	U	8.06	GAMMA	SNL 7715	NA
Silver-110	LWDS-MW1	02-SEP-94	F	ND	U	11.3	GAMMA	SNL 7715	NA
Silver-110	LWDS-MW1	02-SEP-94	D	ND	U	9.83	GAMMA	SNL 7715	NA
Silver-110	LWDS-MW1	08-DEC-94	F	ND	U	10.5	GAMMA	SNL 7715	NA
Silver-110	LWDS-MW2	06-JUN-94	F	ND	U	10.1	GAMMA	SNL 7715	NA
Silver-110	LWDS-MW2	02-SEP-94	F	ND	U	12.3	GAMMA	SNL 7715	NA
Silver-110	LWDS-MW2	02-SEP-94	F	ND	U	12	GAMMA	SNL 7715	NA

Appendix H4 (Continued)
TA-V Groundwater Radionuclide Data, 1992 through 1996

Analyte	Well	Sample Date	Sample Type	Concentration (pCi/L)	Qualifier	MDL (pCi/L)	Analytical Method	Laboratory	+/- 2 Sigma Error
Silver-110	LWDS-MW2	07-DEC-94	D	ND	U	11.7	GAMMA	SNL 7715	NA
Silver-110	LWDS-MW2	07-DEC-94	F	ND	U	11.2	GAMMA	SNL 7715	NA
Sodium-22	LWDS-MW1	07-JUN-94	D	ND	U	10.5	GAMMA	SNL 7715	NA
Sodium-22	LWDS-MW1	07-JUN-94	F	ND	U	10.1	GAMMA	SNL 7715	NA
Sodium-22	LWDS-MW1	02-SEP-94	F	ND	U	13.5	GAMMA	SNL 7715	NA
Sodium-22	LWDS-MW1	02-SEP-94	D	ND	U	12.3	GAMMA	SNL 7715	NA
Sodium-22	LWDS-MW1	08-DEC-94	F	ND	U	9.67	GAMMA	SNL 7715	NA
Sodium-22	LWDS-MW2	21-OCT-92	F	13.5	U	13.5	GAMMA	ENSECO	NA
Sodium-22	LWDS-MW2	06-JUN-94	F	ND	U	10.5	GAMMA	SNL 7715	NA
Sodium-22	LWDS-MW2	02-SEP-94	F	ND	U	15.1	GAMMA	SNL 7715	NA
Sodium-22	LWDS-MW2	02-SEP-94	F	ND	U	14.5	GAMMA	SNL 7715	NA
Sodium-22	LWDS-MW2	07-DEC-94	F	ND	U	11.2	GAMMA	SNL 7715	NA
Sodium-22	LWDS-MW2	07-DEC-94	D	ND	U	8.65	GAMMA	SNL 7715	NA
Sodium-24	LWDS-MW1	07-JUN-94	F	ND	U	68.1	GAMMA	SNL 7715	NA
Sodium-24	LWDS-MW1	07-JUN-94	D	ND	U	61.3	GAMMA	SNL 7715	NA
Sodium-24	LWDS-MW1	02-SEP-94	F	ND	U	3260	GAMMA	SNL 7715	NA
Sodium-24	LWDS-MW1	02-SEP-94	D	ND	U	3100	GAMMA	SNL 7715	NA
Sodium-24	LWDS-MW2	21-OCT-92	F	13.6	U	13.6	GAMMA	ENSECO	NA
Sodium-24	LWDS-MW2	06-JUN-94	F	ND	U	197	GAMMA	SNL 7715	NA
Sodium-24	LWDS-MW2	07-DEC-94	D	ND	U	49.7	GAMMA	SNL 7715	NA
Sodium-24	LWDS-MW2	07-DEC-94	F	ND	U	32.9	GAMMA	SNL 7715	NA
Strontium-85	LWDS-MW1	07-JUN-94	F	ND	U	12.3	GAMMA	SNL 7715	NA
Strontium-85	LWDS-MW1	07-JUN-94	D	ND	U	11.9	GAMMA	SNL 7715	NA
Strontium-85	LWDS-MW1	02-SEP-94	D	ND	U	16	GAMMA	SNL 7715	NA
Strontium-85	LWDS-MW1	02-SEP-94	F	ND	U	15.6	GAMMA	SNL 7715	NA
Strontium-85	LWDS-MW1	08-DEC-94	F	ND	U	12.3	GAMMA	SNL 7715	NA
Strontium-85	LWDS-MW2	06-JUN-94	F	ND	U	13.1	GAMMA	SNL 7715	NA
Strontium-85	LWDS-MW2	02-SEP-94	F	ND	U	15.1	GAMMA	SNL 7715	NA
Strontium-85	LWDS-MW2	02-SEP-94	F	20.7		100000000	GAMMA	SNL 7715	0.0125
Strontium-85	LWDS-MW2	07-DEC-94	F	ND	U	11.5	GAMMA	SNL 7715	NA
Strontium-85	LWDS-MW2	07-DEC-94	D	ND	U	11.2	GAMMA	SNL 7715	NA
Tantalum-182	LWDS-MW1	07-JUN-94	D	ND	U	68.4	GAMMA	SNL 7715	NA
Tantalum-182	LWDS-MW1	07-JUN-94	F	ND	U	66.2	GAMMA	SNL 7715	NA
Tantalum-182	LWDS-MW1	02-SEP-94	F	ND	U	97.9	GAMMA	SNL 7715	NA
Tantalum-182	LWDS-MW1	02-SEP-94	D	ND	U	88.7	GAMMA	SNL 7715	NA
Tantalum-182	LWDS-MW1	08-DEC-94	F	ND	U	58.3	GAMMA	SNL 7715	NA
Tantalum-182	LWDS-MW2	06-JUN-94	F	ND	U	62	GAMMA	SNL 7715	NA
Tantalum-182	LWDS-MW2	02-SEP-94	F	ND	U	83.1	GAMMA	SNL 7715	NA
Tantalum-182	LWDS-MW2	02-SEP-94	F	ND	U	64.4	GAMMA	SNL 7715	NA
Tantalum-182	LWDS-MW2	07-DEC-94	F	ND	U	73.1	GAMMA	SNL 7715	NA
Tantalum-182	LWDS-MW2	07-DEC-94	D	ND	U	58.1	GAMMA	SNL 7715	NA
Tellurium-123M	LWDS-MW1	08-DEC-94	F	ND	U	7.85	GAMMA	SNL 7715	NA
Tellurium-123M	LWDS-MW2	07-DEC-94	F	ND	U	13	GAMMA	SNL 7715	NA
Tellurium-123M	LWDS-MW2	07-DEC-94	D	ND	U	12.5	GAMMA	SNL 7715	NA
Thallium-201	LWDS-MW1	07-JUN-94	D	ND	U	108	GAMMA	SNL 7715	NA
Thallium-201	LWDS-MW1	07-JUN-94	F	ND	U	104	GAMMA	SNL 7715	NA
Thallium-201	LWDS-MW1	02-SEP-94	F	ND	U	249	GAMMA	SNL 7715	NA
Thallium-201	LWDS-MW1	02-SEP-94	D	ND	U	232	GAMMA	SNL 7715	NA
Thallium-201	LWDS-MW1	08-DEC-94	F	ND	U	279	GAMMA	SNL 7715	NA
Thallium-201	LWDS-MW2	06-JUN-94	F	ND	U	124	GAMMA	SNL 7715	NA
Thallium-201	LWDS-MW2	02-SEP-94	F	ND	U	306	GAMMA	SNL 7715	NA
Thallium-201	LWDS-MW2	02-SEP-94	F	ND	U	300	GAMMA	SNL 7715	NA
Thallium-201	LWDS-MW2	07-DEC-94	D	ND	U	132	GAMMA	SNL 7715	NA
Thallium-201	LWDS-MW2	07-DEC-94	F	ND	U	128	GAMMA	SNL 7715	NA
Thallium-208	LWDS-MW1	07-JUN-94	D	ND	U	13	GAMMA	SNL 7715	NA
Thallium-208	LWDS-MW1	07-JUN-94	F	ND	U	10.2	GAMMA	SNL 7715	NA
Thallium-208	LWDS-MW1	02-SEP-94	D	ND	U	45.7	GAMMA	SNL 7715	NA
Thallium-208	LWDS-MW1	02-SEP-94	F	ND	U	39.1	GAMMA	SNL 7715	NA
Thallium-208	LWDS-MW1	08-DEC-94	F	ND	U	35.8	GAMMA	SNL 7715	NA
Thallium-208	LWDS-MW2	21-OCT-92	F	24.4	U	24.4	GAMMA	ENSECO	NA
Thallium-208	LWDS-MW2	06-JUN-94	F	ND	U	11.8	GAMMA	SNL 7715	NA
Thallium-208	LWDS-MW2	02-SEP-94	F	ND	U	42.5	GAMMA	SNL 7715	NA
Thallium-208	LWDS-MW2	02-SEP-94	F	ND	U	41.6	GAMMA	SNL 7715	NA
Thallium-208	LWDS-MW2	07-DEC-94	F	ND	U	38.7	GAMMA	SNL 7715	NA
Thallium-208	LWDS-MW2	07-DEC-94	D	ND	U	32.5	GAMMA	SNL 7715	NA
Thorium-227	LWDS-MW1	07-JUN-94	D	ND	U	65.8	GAMMA	SNL 7715	NA

Appendix H4 (Continued)
TA-V Groundwater Radionuclide Data, 1992 through 1996

Analyte	Well	Sample Date	Sample Type	Concentration (pCi/L)	Qualifier	MDL (pCi/L)	Analytical Method	Laboratory	+/- 2 Sigma Error
Thorium-227	LWDS-MW1	07-JUN-94	F	ND	U	60.7	GAMMA	SNL 7715	NA
Thorium-227	LWDS-MW1	02-SEP-94	F	ND	U	84.8	GAMMA	SNL 7715	NA
Thorium-227	LWDS-MW1	02-SEP-94	D	ND	U	82.8	GAMMA	SNL 7715	NA
Thorium-227	LWDS-MW1	08-DEC-94	F	ND	U	64.9	GAMMA	SNL 7715	NA
Thorium-227	LWDS-MW2	06-JUN-94	F	ND	U	66.1	GAMMA	SNL 7715	NA
Thorium-227	LWDS-MW2	02-SEP-94	F	ND	U	85.3	GAMMA	SNL 7715	NA
Thorium-227	LWDS-MW2	02-SEP-94	F	ND	U	82.8	GAMMA	SNL 7715	NA
Thorium-227	LWDS-MW2	07-DEC-94	F	ND	U	91	GAMMA	SNL 7715	NA
Thorium-227	LWDS-MW2	07-DEC-94	D	ND	U	89.1	GAMMA	SNL 7715	NA
Thorium-228	LWDS-MW1	07-JUN-94	D	ND	U	20.2	GAMMA	SNL 7715	NA
Thorium-228	LWDS-MW1	07-JUN-94	F	ND	U	18.6	GAMMA	SNL 7715	NA
Thorium-228	LWDS-MW1	02-SEP-94	F	ND	U	27.2	GAMMA	SNL 7715	NA
Thorium-228	LWDS-MW1	02-SEP-94	D	ND	U	27.2	GAMMA	SNL 7715	NA
Thorium-228	LWDS-MW1	08-DEC-94	F	ND	U	20	GAMMA	SNL 7715	NA
Thorium-228	LWDS-MW2	06-JUN-94	F	ND	U	18.4	GAMMA	SNL 7715	NA
Thorium-228	LWDS-MW2	02-SEP-94	F	ND	U	25.6	GAMMA	SNL 7715	NA
Thorium-228	LWDS-MW2	02-SEP-94	F	ND	U	25.1	GAMMA	SNL 7715	NA
Thorium-228	LWDS-MW2	07-DEC-94	F	ND	U	26.4	GAMMA	SNL 7715	NA
Thorium-228	LWDS-MW2	07-DEC-94	D	ND	U	26.2	GAMMA	SNL 7715	NA
Thorium-229	LWDS-MW1	07-JUN-94	F	ND	U	36.8	GAMMA	SNL 7715	NA
Thorium-229	LWDS-MW1	07-JUN-94	D	ND	U	36.4	GAMMA	SNL 7715	NA
Thorium-229	LWDS-MW1	02-SEP-94	F	ND	U	40.1	GAMMA	SNL 7715	NA
Thorium-229	LWDS-MW1	02-SEP-94	D	ND	U	39.4	GAMMA	SNL 7715	NA
Thorium-229	LWDS-MW1	08-DEC-94	F	ND	U	32.2	GAMMA	SNL 7715	NA
Thorium-229	LWDS-MW2	06-JUN-94	F	ND	U	36.9	GAMMA	SNL 7715	NA
Thorium-229	LWDS-MW2	02-SEP-94	F	ND	U	41.9	GAMMA	SNL 7715	NA
Thorium-229	LWDS-MW2	02-SEP-94	F	ND	U	36.1	GAMMA	SNL 7715	NA
Thorium-229	LWDS-MW2	07-DEC-94	F	ND	U	52.1	GAMMA	SNL 7715	NA
Thorium-229	LWDS-MW2	07-DEC-94	D	ND	U	48.1	GAMMA	SNL 7715	NA
Thorium-231	AVN-1	13-JUL-95	F	450		450	901.1	QUAN SL	NA
Thorium-231	AVN-2	11-JUL-95	F	330		330	901.1	QUAN SL	NA
Thorium-231	LWDS-MW1	03-MAY-93	F	ND	U	370	GAMMA	TMA EBERLINE	NA
Thorium-231	LWDS-MW1	03-NOV-93	F	ND	U	130	GAMMA	TMA EBERLINE	NA
Thorium-231	LWDS-MW1	03-NOV-93	D	ND	U	110	GAMMA	TMA EBERLINE	NA
Thorium-231	LWDS-MW1	07-JUN-94	D	ND	U	148	GAMMA	SNL 7715	NA
Thorium-231	LWDS-MW1	07-JUN-94	F	ND	U	137	GAMMA	SNL 7715	NA
Thorium-231	LWDS-MW1	02-SEP-94	F	ND	U	93.3	GAMMA	SNL 7715	NA
Thorium-231	LWDS-MW1	02-SEP-94	D	ND	U	87.7	GAMMA	SNL 7715	NA
Thorium-231	LWDS-MW1	08-DEC-94	F	ND	U	118	GAMMA	SNL 7715	NA
Thorium-231	LWDS-MW1	14-JUN-95	F	358		358	901.1	QUAN SL	NA
Thorium-231	LWDS-MW2	24-JUN-93	F	ND	U	120	GAMMA	TMA EBERLINE	NA
Thorium-231	LWDS-MW2	24-JUN-93	D	ND	U	110	GAMMA	TMA EBERLINE	NA
Thorium-231	LWDS-MW2	06-JUN-94	F	ND	U	151	GAMMA	SNL 7715	NA
Thorium-231	LWDS-MW2	02-SEP-94	F	ND	U	91.9	GAMMA	SNL 7715	NA
Thorium-231	LWDS-MW2	02-SEP-94	F	ND	U	85.6	GAMMA	SNL 7715	NA
Thorium-231	LWDS-MW2	07-DEC-94	D	ND	U	119	GAMMA	SNL 7715	NA
Thorium-231	LWDS-MW2	07-DEC-94	F	ND	U	115	GAMMA	SNL 7715	NA
Thorium-231	LWDS-MW2	12-JUN-95	F	295		295	901.1	QUAN SL	NA
Thorium-231	LWDS-MW2	12-JUN-95	D	293		293	901.1	QUAN SL	NA
Thorium-231	TAV-MW1	09-JUN-95	F	328		328	901.1	QUAN SL	NA
Thorium-231	TAV-MW2	06-JUN-95	F	321		321	901.1	QUAN SL	NA
Thorium-232	AVN-1	13-JUL-95	F	59		59	901.1	QUAN SL	NA
Thorium-232	AVN-2	11-JUL-95	F	44		44	901.1	QUAN SL	NA
Thorium-232	LWDS-MW1	03-MAY-93	F	ND	U	160	GAMMA	TMA EBERLINE	NA
Thorium-232	LWDS-MW1	03-NOV-93	D	ND	U	96	GAMMA	TMA EBERLINE	NA
Thorium-232	LWDS-MW1	03-NOV-93	F	ND	U	100	GAMMA	TMA EBERLINE	NA
Thorium-232	LWDS-MW1	07-JUN-94	F	ND	U	46.8	GAMMA	SNL 7715	NA
Thorium-232	LWDS-MW1	07-JUN-94	D	ND	U	43.2	GAMMA	SNL 7715	NA
Thorium-232	LWDS-MW1	02-SEP-94	F	ND	U	51.6	GAMMA	SNL 7715	NA
Thorium-232	LWDS-MW1	02-SEP-94	D	ND	U	49.3	GAMMA	SNL 7715	NA
Thorium-232	LWDS-MW1	08-DEC-94	F	ND	U	48.9	GAMMA	SNL 7715	NA
Thorium-232	LWDS-MW1	14-JUN-95	F	49.4		49.4	901.1	QUAN SL	NA
Thorium-232	LWDS-MW2	24-JUN-93	F	ND	U	95	GAMMA	TMA EBERLINE	NA
Thorium-232	LWDS-MW2	24-JUN-93	D	ND	U	95	GAMMA	TMA EBERLINE	NA
Thorium-232	LWDS-MW2	06-JUN-94	F	ND	U	51	GAMMA	SNL 7715	NA
Thorium-232	LWDS-MW2	02-SEP-94	F	ND	U	56.5	GAMMA	SNL 7715	NA

Appendix H4 (Continued)
TA-V Groundwater Radionuclide Data, 1992 through 1996

Analyte	Well	Sample Date	Sample Type	Concentration (pCi/L)	Qualifier	MDL (pCi/L)	Analytical Method	Laboratory	+/- 2 Sigma Error
Thorium-232	LWDS-MW2	02-SEP-94	F	ND	U	51.6	GAMMA	SNL 7715	NA
Thorium-232	LWDS-MW2	07-DEC-94	F	ND	U	56.3	GAMMA	SNL 7715	NA
Thorium-232	LWDS-MW2	07-DEC-94	D	ND	U	40.4	GAMMA	SNL 7715	NA
Thorium-232	LWDS-MW2	12-JUN-95	D	51.7		51.7	901.1	QUAN SL	NA
Thorium-232	LWDS-MW2	12-JUN-95	F	45.8		45.8	901.1	QUAN SL	NA
Thorium-232	TAV-MW1	09-JUN-95	F	33.6		33.6	901.1	QUAN SL	NA
Thorium-232	TAV-MW2	06-JUN-95	F	40		40	901.1	QUAN SL	NA
Thorium-234	AVN-1	13-JUL-95	F	270		270	901.1	QUAN SL	NA
Thorium-234	AVN-2	11-JUL-95	F	180		180	901.1	QUAN SL	NA
Thorium-234	LWDS-MW1	03-MAY-93	F	ND	U	480	GAMMA	TMA EBERLINE	NA
Thorium-234	LWDS-MW1	03-NOV-93	F	ND	U	200	GAMMA	TMA EBERLINE	NA
Thorium-234	LWDS-MW1	03-NOV-93	D	ND	U	190	GAMMA	TMA EBERLINE	NA
Thorium-234	LWDS-MW1	07-JUN-94	D	ND	U	260	GAMMA	SNL 7715	NA
Thorium-234	LWDS-MW1	07-JUN-94	F	ND	U	246	GAMMA	SNL 7715	NA
Thorium-234	LWDS-MW1	02-SEP-94	D	ND	U	173	GAMMA	SNL 7715	NA
Thorium-234	LWDS-MW1	02-SEP-94	F	266		100000000	GAMMA	SNL 7715	0.183
Thorium-234	LWDS-MW1	08-DEC-94	F	ND	U	192	GAMMA	SNL 7715	NA
Thorium-234	LWDS-MW1	14-JUN-95	F	113		98	901.1	QUAN SL	100
Thorium-234	LWDS-MW2	21-OCT-92	F	344	U	344	GAMMA	ENSECO	NA
Thorium-234	LWDS-MW2	24-JUN-93	F	ND	U	200	GAMMA	TMA EBERLINE	NA
Thorium-234	LWDS-MW2	24-JUN-93	D	ND	U	180	GAMMA	TMA EBERLINE	NA
Thorium-234	LWDS-MW2	06-JUN-94	F	ND	U	252	GAMMA	SNL 7715	NA
Thorium-234	LWDS-MW2	02-SEP-94	F	ND	U	178	GAMMA	SNL 7715	NA
Thorium-234	LWDS-MW2	02-SEP-94	F	ND	U	173	GAMMA	SNL 7715	NA
Thorium-234	LWDS-MW2	07-DEC-94	F	ND	U	164	GAMMA	SNL 7715	NA
Thorium-234	LWDS-MW2	07-DEC-94	D	ND	U	153	GAMMA	SNL 7715	NA
Thorium-234	LWDS-MW2	12-JUN-95	F	146		146	901.1	QUAN SL	NA
Thorium-234	LWDS-MW2	12-JUN-95	D	140		140	901.1	QUAN SL	NA
Thorium-234	TAV-MW1	09-JUN-95	F	224		224	901.1	QUAN SL	NA
Thorium-234	TAV-MW2	06-JUN-95	F	188		188	901.1	QUAN SL	NA
Tin-113	LWDS-MW1	07-JUN-94	D	ND	U	14.3	GAMMA	SNL 7715	NA
Tin-113	LWDS-MW1	07-JUN-94	F	ND	U	13.2	GAMMA	SNL 7715	NA
Tin-113	LWDS-MW1	02-SEP-94	F	ND	U	16.8	GAMMA	SNL 7715	NA
Tin-113	LWDS-MW1	02-SEP-94	D	ND	U	16	GAMMA	SNL 7715	NA
Tin-113	LWDS-MW1	08-DEC-94	F	ND	U	15.4	GAMMA	SNL 7715	NA
Tin-113	LWDS-MW2	06-JUN-94	F	ND	U	14.8	GAMMA	SNL 7715	NA
Tin-113	LWDS-MW2	02-SEP-94	F	ND	U	18.3	GAMMA	SNL 7715	NA
Tin-113	LWDS-MW2	02-SEP-94	F	ND	U	15.1	GAMMA	SNL 7715	NA
Tin-113	LWDS-MW2	07-DEC-94	D	ND	U	14.7	GAMMA	SNL 7715	NA
Tin-113	LWDS-MW2	07-DEC-94	F	ND	U	13.9	GAMMA	SNL 7715	NA
Tritium	AVN-1	13-JUL-95	F	ND		173	906.0	QUAN SL	100
Tritium	AVN-1	15-MAR-96	F	ND	U	163	906.0	QUAN SL	94
Tritium	AVN-2	11-JUL-95	F	ND		83.5	906.0	QUAN SL	49
Tritium	AVN-2	15-MAR-96	F	ND	U	163	906.0	QUAN SL	94
Tritium	LWDS-MW1	03-MAY-93	F	ND		410	EPA H-01	TMA EBERLINE	230
Tritium	LWDS-MW1	03-NOV-93	F	11		260	EPA H-01	TMA EBERLINE	160
Tritium	LWDS-MW1	03-NOV-93	D	ND		250	EPA H-01	TMA EBERLINE	150
Tritium	LWDS-MW1	10-MAR-94	F	ND	U	250	EPA H-01	TMA EBERLINE	160
Tritium	LWDS-MW1	07-JUN-94	F	330	B	230	906.0	TMA EBERLINE	150
Tritium	LWDS-MW1	07-JUN-94	D	300	B	230	906.0	TMA EBERLINE	150
Tritium	LWDS-MW1	01-SEP-94	F	62		199	906.0	QUANTERRA	118
Tritium	LWDS-MW1	01-SEP-94	F	46		199	906.0	QUANTERRA	117
Tritium	LWDS-MW1	08-DEC-94	F	ND	U	240	906.0	TMA EBERLINE	150
Tritium	LWDS-MW1	14-JUN-95	F	ND		175	906.0	QUAN SL	100
Tritium	LWDS-MW1	18-MAR-96	D	ND	U	162	906.0	QUAN SL	94
Tritium	LWDS-MW1	18-MAR-96	F	ND	U	163	906.0	QUAN SL	94
Tritium	LWDS-MW-1	02-MAR-95	F	ND	U	230	GAMMA	TMA EBERLINE	140
Tritium	LWDS-MW2	21-OCT-92	F	200		100000000	EPA H-03	ENSECO	200
Tritium	LWDS-MW2	24-JUN-93	F	120		370	EPA H-01	TMA EBERLINE	230
Tritium	LWDS-MW2	24-JUN-93	D	97		370	EPA H-01	TMA EBERLINE	230
Tritium	LWDS-MW2	09-MAR-94	D	ND	U	250	EPA H-01	TMA EBERLINE	150
Tritium	LWDS-MW2	09-MAR-94	F	ND	U	250	EPA H-01	TMA EBERLINE	150
Tritium	LWDS-MW2	06-JUN-94	F	ND	U	230	906.0	TMA EBERLINE	140
Tritium	LWDS-MW2	31-AUG-94	F	7		199	906.0	QUANTERRA	116
Tritium	LWDS-MW2	31-AUG-94	D	5		199	906.0	QUANTERRA	116
Tritium	LWDS-MW2	31-AUG-94	F	ND		199	906.0	QUANTERRA	115

Appendix H4 (Continued)
TA-V Groundwater Radionuclide Data, 1992 through 1996

Analyte	Well	Sample Date	Sample Type	Concentration (pCi/L)	Qualifier	MDL (pCi/L)	Analytical Method	Laboratory	+/- 2 Sigma Error
Tritium	LWDS-MW2	07-DEC-94	F	ND	U	360	906.0	TMA EBERLINE	220
Tritium	LWDS-MW2	07-DEC-94	D	ND	U	360	906.0	TMA EBERLINE	220
Tritium	LWDS-MW2	12-JUN-95	F	ND		182	906.0	QUAN SL	105
Tritium	LWDS-MW2	12-JUN-95	D	ND		182	906.0	QUAN SL	105
Tritium	LWDS-MW2	18-MAR-96	F	ND	U	162	906.0	QUAN SL	93
Tritium	LWDS-MW-2	01-MAR-95	F	ND	U	230	GAMMA	TMA EBERLINE	150
Tritium	LWDS-MW-2	01-MAR-95	D	ND	U	230	GAMMA	TMA EBERLINE	150
Tritium	TAV-MW1	09-JUN-95	F	18		175	906.0	QUAN SL	102
Tritium	TAV-MW1	19-MAR-96	F	ND	U	163	906.0	QUAN SL	94
Tritium	TAV-MW2	06-JUN-95	F	87		170	906.0	QUAN SL	102
Tritium	TAV-MW2	19-MAR-96	F	ND	U	162	906.0	QUAN SL	93
Uranium	LWDS-MW1	03-NOV-93	F	6.1		0.5	GAMMA	TMA EBERLINE	0.47
Uranium	LWDS-MW1	03-NOV-93	D	ND		0.5	GAMMA	TMA EBERLINE	0.001
Uranium	LWDS-MW1	10-MAR-94	F	3.9		0.05	GAMMA	TMA EBERLINE	0.16
Uranium	LWDS-MW2	09-MAR-94	F	2.9		0.05	GAMMA	TMA EBERLINE	0.13
Uranium	LWDS-MW2	09-MAR-94	D	2.7		0.05	GAMMA	TMA EBERLINE	0.12
Uranium-234	LWDS-MW1	07-JUN-94	D	ND	U	3220	GAMMA	SNL 7715	NA
Uranium-234	LWDS-MW1	07-JUN-94	F	ND	U	3020	GAMMA	SNL 7715	NA
Uranium-234	LWDS-MW1	02-SEP-94	F	ND	U	1060	GAMMA	SNL 7715	NA
Uranium-234	LWDS-MW1	02-SEP-94	D	ND	U	1000	GAMMA	SNL 7715	NA
Uranium-234	LWDS-MW1	08-DEC-94	F	ND	U	5570	GAMMA	SNL 7715	NA
Uranium-234	LWDS-MW2	06-JUN-94	F	ND	U	3050	GAMMA	SNL 7715	NA
Uranium-234	LWDS-MW2	02-SEP-94	F	ND	U	1120	GAMMA	SNL 7715	NA
Uranium-234	LWDS-MW2	02-SEP-94	F	ND	U	1020	GAMMA	SNL 7715	NA
Uranium-234	LWDS-MW2	07-DEC-94	D	ND	U	3170	GAMMA	SNL 7715	NA
Uranium-235	AVN-1	13-JUL-95	F	97		97	901.1	QUAN SL	NA
Uranium-235	AVN-2	11-JUL-95	F	66		66	901.1	QUAN SL	NA
Uranium-235	LWDS-MW1	03-MAY-93	F	ND	U	35	TU	TMA EBERLINE	NA
Uranium-235	LWDS-MW1	03-NOV-93	D	ND	U	23	TU	TMA EBERLINE	NA
Uranium-235	LWDS-MW1	03-NOV-93	F	ND	U	22	TU	TMA EBERLINE	NA
Uranium-235	LWDS-MW1	07-JUN-94	D	ND	U	15.3	GAMMA	SNL 7715	NA
Uranium-235	LWDS-MW1	07-JUN-94	F	ND	U	14.5	GAMMA	SNL 7715	NA
Uranium-235	LWDS-MW1	02-SEP-94	F	ND	U	17.6	GAMMA	SNL 7715	NA
Uranium-235	LWDS-MW1	02-SEP-94	D	ND	U	17.6	GAMMA	SNL 7715	NA
Uranium-235	LWDS-MW1	08-DEC-94	F	ND	U	14.3	GAMMA	SNL 7715	NA
Uranium-235	LWDS-MW1	14-JUN-95	F	54.7		54.7	901.1	QUAN SL	NA
Uranium-235	LWDS-MW2	21-OCT-92	F	30.2	U	30.2	GAMMA	ENSECO	NA
Uranium-235	LWDS-MW2	24-JUN-93	F	ND	U	23	TU	TMA EBERLINE	NA
Uranium-235	LWDS-MW2	24-JUN-93	D	ND	U	23	TU	TMA EBERLINE	NA
Uranium-235	LWDS-MW2	06-JUN-94	F	ND	U	15.2	GAMMA	SNL 7715	NA
Uranium-235	LWDS-MW2	02-SEP-94	F	ND	U	19.4	GAMMA	SNL 7715	NA
Uranium-235	LWDS-MW2	02-SEP-94	F	ND	U	17.9	GAMMA	SNL 7715	NA
Uranium-235	LWDS-MW2	07-DEC-94	F	ND	U	20.8	GAMMA	SNL 7715	NA
Uranium-235	LWDS-MW2	07-DEC-94	D	ND	U	20.2	GAMMA	SNL 7715	NA
Uranium-235	LWDS-MW2	12-JUN-95	D	50.7		50.7	901.1	QUAN SL	NA
Uranium-235	LWDS-MW2	12-JUN-95	F	44.7		44.7	901.1	QUAN SL	NA
Uranium-235	TAV-MW1	09-JUN-95	F	61.5		61.5	901.1	QUAN SL	NA
Uranium-235	TAV-MW2	06-JUN-95	F	61.4		61.4	901.1	QUAN SL	NA
Uranium-238	AVN-1	13-JUL-95	F	270		270	901.1	QUAN SL	NA
Uranium-238	AVN-2	11-JUL-95	F	180		180	901.1	QUAN SL	NA
Uranium-238	LWDS-MW1	03-MAY-93	F	ND	U	1200	TU	TMA EBERLINE	NA
Uranium-238	LWDS-MW1	03-NOV-93	F	ND	U	360	TU	TMA EBERLINE	NA
Uranium-238	LWDS-MW1	03-NOV-93	D	ND	U	360	TU	TMA EBERLINE	NA
Uranium-238	LWDS-MW1	07-JUN-94	D	ND	U	266	GAMMA	SNL 7715	NA
Uranium-238	LWDS-MW1	07-JUN-94	F	ND	U	258	GAMMA	SNL 7715	NA
Uranium-238	LWDS-MW1	02-SEP-94	D	ND	U	172	GAMMA	SNL 7715	NA
Uranium-238	LWDS-MW1	02-SEP-94	F	265		100000000	GAMMA	SNL 7715	0.182
Uranium-238	LWDS-MW1	08-DEC-94	F	ND	U	191	GAMMA	SNL 7715	NA
Uranium-238	LWDS-MW1	14-JUN-95	F	113		98	901.1	QUAN SL	100
Uranium-238	LWDS-MW2	24-JUN-93	F	ND	U	370	TU	TMA EBERLINE	NA
Uranium-238	LWDS-MW2	24-JUN-93	D	ND	U	370	TU	TMA EBERLINE	NA
Uranium-238	LWDS-MW2	06-JUN-94	F	ND	U	257	GAMMA	SNL 7715	NA
Uranium-238	LWDS-MW2	02-SEP-94	F	ND	U	177	GAMMA	SNL 7715	NA
Uranium-238	LWDS-MW2	02-SEP-94	F	ND	U	173	GAMMA	SNL 7715	NA
Uranium-238	LWDS-MW2	07-DEC-94	F	ND	U	164	GAMMA	SNL 7715	NA
Uranium-238	LWDS-MW2	07-DEC-94	D	ND	U	153	GAMMA	SNL 7715	NA

Appendix H4 (Continued)
TA-V Groundwater Radionuclide Data, 1992 through 1996

Analyte	Well	Sample Date	Sample Type	Concentration (pCi/L)	Qualifier	MDL (pCi/L)	Analytical Method	Laboratory	+/- 2 Sigma Error
Uranium-238	LWDS-MW2	12-JUN-95	F	146		146	901.1	QUAN SL	NA
Uranium-238	LWDS-MW2	12-JUN-95	D	140		140	901.1	QUAN SL	NA
Uranium-238	TAV-MW1	09-JUN-95	F	224		224	901.1	QUAN SL	NA
Uranium-238	TAV-MW2	06-JUN-95	F	188		188	901.1	QUAN SL	NA
Xenon-133,-133M	LWDS-MW1	07-JUN-94	D	ND	U	40.6	GAMMA	SNL 7715	NA
Xenon-133,-133M	LWDS-MW1	07-JUN-94	F	ND	U	36.8	GAMMA	SNL 7715	NA
Xenon-133,-133M	LWDS-MW1	02-SEP-94	F	ND	U	38	GAMMA	SNL 7715	NA
Xenon-133,-133M	LWDS-MW1	02-SEP-94	D	ND	U	34.4	GAMMA	SNL 7715	NA
Xenon-133,-133M	LWDS-MW1	08-DEC-94	F	ND	U	63.2	GAMMA	SNL 7715	NA
Xenon-133,-133M	LWDS-MW2	21-OCT-92	F	156	U	156	GAMMA	ENSECO	NA
Xenon-133,-133M	LWDS-MW2	06-JUN-94	F	ND	U	46.3	GAMMA	SNL 7715	NA
Xenon-133,-133M	LWDS-MW2	02-SEP-94	F	ND	U	44	GAMMA	SNL 7715	NA
Xenon-133,-133M	LWDS-MW2	02-SEP-94	F	ND	U	42.3	GAMMA	SNL 7715	NA
Xenon-133,-133M	LWDS-MW2	07-DEC-94	F	ND	U	30.7	GAMMA	SNL 7715	NA
Xenon-133,-133M	LWDS-MW2	07-DEC-94	D	ND	U	28.7	GAMMA	SNL 7715	NA
Yttrium-88	LWDS-MW1	07-JUN-94	D	ND	U	11.8	GAMMA	SNL 7715	NA
Yttrium-88	LWDS-MW1	07-JUN-94	F	ND	U	10.5	GAMMA	SNL 7715	NA
Yttrium-88	LWDS-MW1	02-SEP-94	D	ND	U	13.4	GAMMA	SNL 7715	NA
Yttrium-88	LWDS-MW1	02-SEP-94	F	ND	U	13	GAMMA	SNL 7715	NA
Yttrium-88	LWDS-MW1	08-DEC-94	F	ND	U	9.68	GAMMA	SNL 7715	NA
Yttrium-88	LWDS-MW2	06-JUN-94	F	ND	U	11.6	GAMMA	SNL 7715	NA
Yttrium-88	LWDS-MW2	02-SEP-94	F	ND	U	13.9	GAMMA	SNL 7715	NA
Yttrium-88	LWDS-MW2	02-SEP-94	F	ND	U	13.3	GAMMA	SNL 7715	NA
Yttrium-88	LWDS-MW2	07-DEC-94	F	ND	U	17.3	GAMMA	SNL 7715	NA
Yttrium-88	LWDS-MW2	07-DEC-94	D	ND	U	16.9	GAMMA	SNL 7715	NA
Zinc-65	LWDS-MW1	07-JUN-94	F	ND	U	22.7	GAMMA	SNL 7715	NA
Zinc-65	LWDS-MW1	07-JUN-94	D	ND	U	18.7	GAMMA	SNL 7715	NA
Zinc-65	LWDS-MW1	02-SEP-94	F	ND	U	21.9	GAMMA	SNL 7715	NA
Zinc-65	LWDS-MW1	02-SEP-94	D	ND	U	21.9	GAMMA	SNL 7715	NA
Zinc-65	LWDS-MW1	08-DEC-94	F	ND	U	20.5	GAMMA	SNL 7715	NA
Zinc-65	LWDS-MW2	21-OCT-92	F	63.6	U	63.6	GAMMA	ENSECO	NA
Zinc-65	LWDS-MW2	06-JUN-94	F	ND	U	22.1	GAMMA	SNL 7715	NA
Zinc-65	LWDS-MW2	02-SEP-94	F	ND	U	26.8	GAMMA	SNL 7715	NA
Zinc-65	LWDS-MW2	02-SEP-94	F	ND	U	23.2	GAMMA	SNL 7715	NA
Zinc-65	LWDS-MW2	07-DEC-94	D	ND	U	28.1	GAMMA	SNL 7715	NA
Zinc-65	LWDS-MW2	07-DEC-94	F	ND	U	23.9	GAMMA	SNL 7715	NA
Zirconium-95	AVN-1	13-JUL-95	F	27		27	901.1	QUAN SL	NA
Zirconium-95	AVN-2	11-JUL-95	F	19		19	901.1	QUAN SL	NA
Zirconium-95	LWDS-MW1	03-MAY-93	F	ND	U	58	GAMMA	TMA EBERLINE	NA
Zirconium-95	LWDS-MW1	03-NOV-93	D	ND	U	41	GAMMA	TMA EBERLINE	NA
Zirconium-95	LWDS-MW1	03-NOV-93	F	ND	U	34	GAMMA	TMA EBERLINE	NA
Zirconium-95	LWDS-MW1	07-JUN-94	D	ND	U	15.9	GAMMA	SNL 7715	NA
Zirconium-95	LWDS-MW1	07-JUN-94	F	ND	U	12.2	GAMMA	SNL 7715	NA
Zirconium-95	LWDS-MW1	02-SEP-94	D	ND	U	20.9	GAMMA	SNL 7715	NA
Zirconium-95	LWDS-MW1	02-SEP-94	F	ND	U	19.7	GAMMA	SNL 7715	NA
Zirconium-95	LWDS-MW1	08-DEC-94	F	ND	U	18.1	GAMMA	SNL 7715	NA
Zirconium-95	LWDS-MW1	14-JUN-95	F	20.1		20.1	901.1	QUAN SL	NA
Zirconium-95	LWDS-MW2	21-OCT-92	F	22.6	U	22.6	GAMMA	ENSECO	NA
Zirconium-95	LWDS-MW2	24-JUN-93	D	ND	U	51	GAMMA	TMA EBERLINE	NA
Zirconium-95	LWDS-MW2	24-JUN-93	F	ND	U	39	GAMMA	TMA EBERLINE	NA
Zirconium-95	LWDS-MW2	06-JUN-94	F	ND	U	16.8	GAMMA	SNL 7715	NA
Zirconium-95	LWDS-MW2	02-SEP-94	F	ND	U	19.9	GAMMA	SNL 7715	NA
Zirconium-95	LWDS-MW2	02-SEP-94	F	ND	U	18.2	GAMMA	SNL 7715	NA
Zirconium-95	LWDS-MW2	07-DEC-94	D	ND	U	21.1	GAMMA	SNL 7715	NA
Zirconium-95	LWDS-MW2	07-DEC-94	F	ND	U	19.3	GAMMA	SNL 7715	NA
Zirconium-95	LWDS-MW2	12-JUN-95	F	22.8		22.8	901.1	QUAN SL	NA
Zirconium-95	LWDS-MW2	12-JUN-95	D	22.5		22.5	901.1	QUAN SL	NA
Zirconium-95	TAV-MW1	09-JUN-95	F	18.3		18.3	901.1	QUAN SL	NA
Zirconium-95	TAV-MW2	06-JUN-95	F	24.5		24.5	901.1	QUAN SL	NA

APPENDIX I

TA-V GROUNDWATER
STIFF AND PIPER DIAGRAMS

Figure I-1 Piper Trilinear Diagram of TA-V Groundwater

June 1995

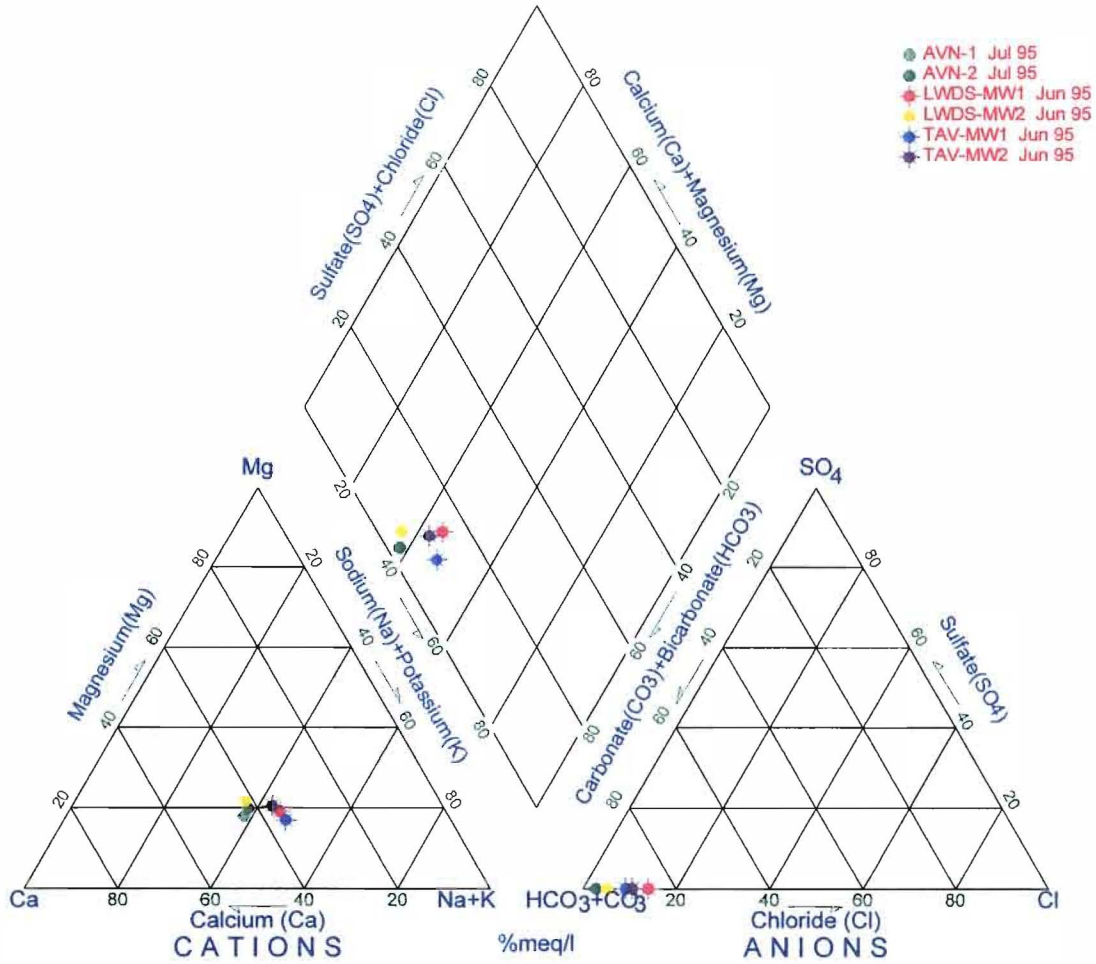


Figure I-2 Piper Trilinear Diagram of TA-V Groundwater

December 1995

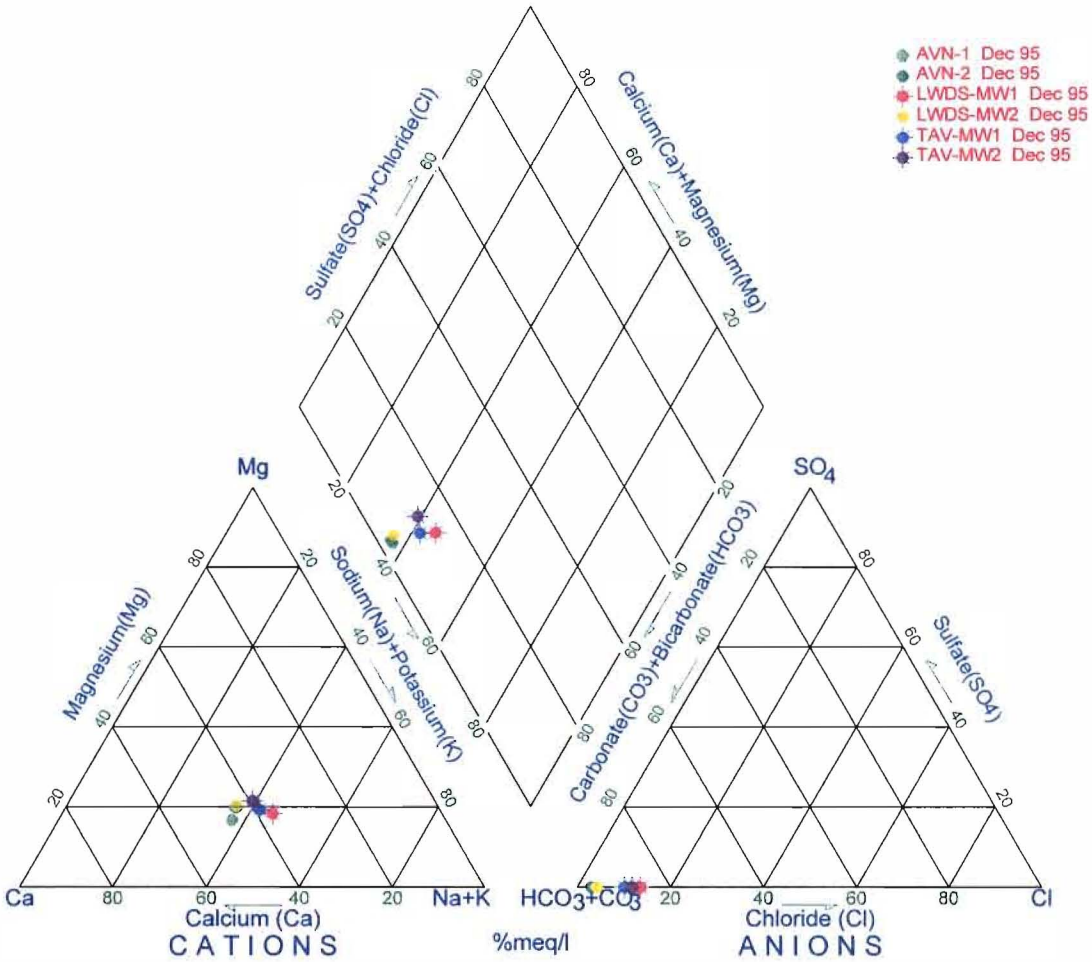


Figure I-3 Piper Trilinear Diagram of TA-V Groundwater

June 1998

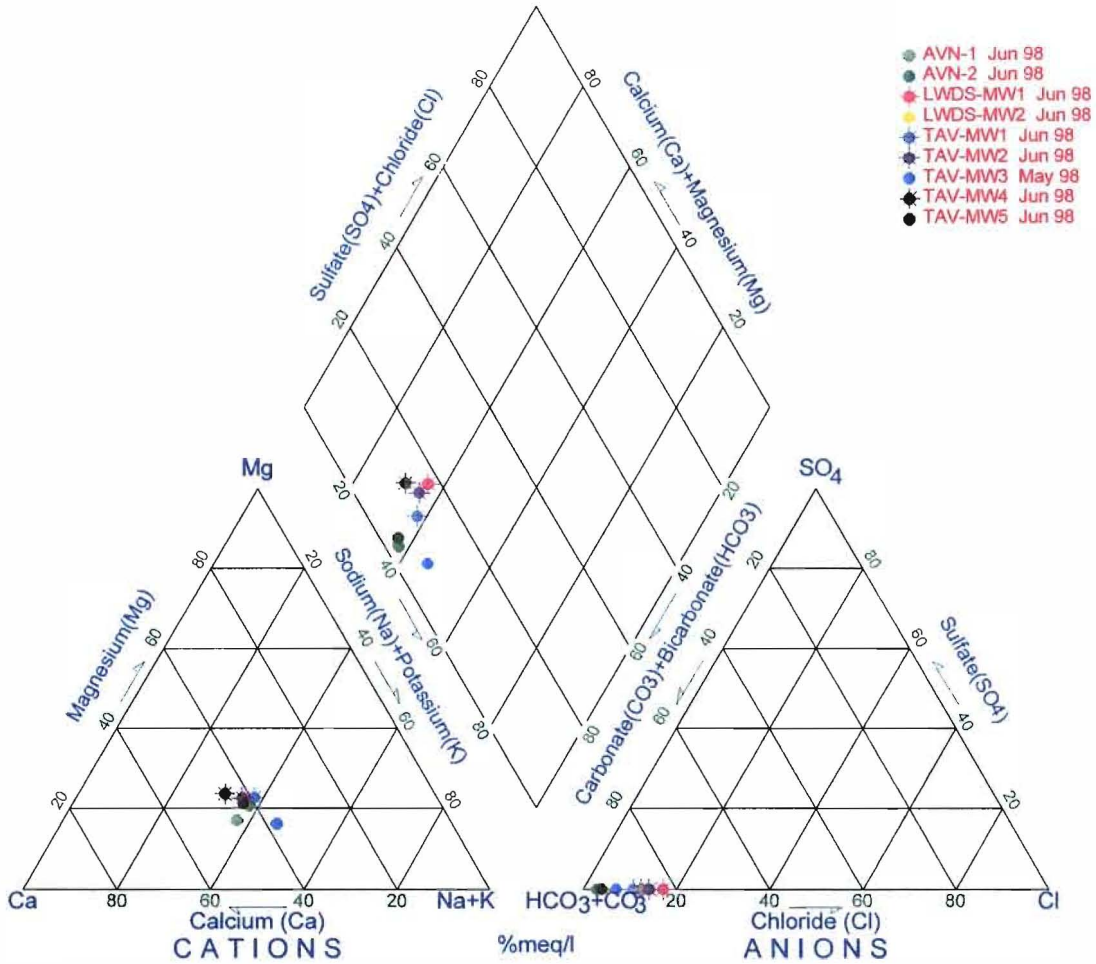


Figure I-4 Piper Trilinear Diagram of TA-V Groundwater

November 1998

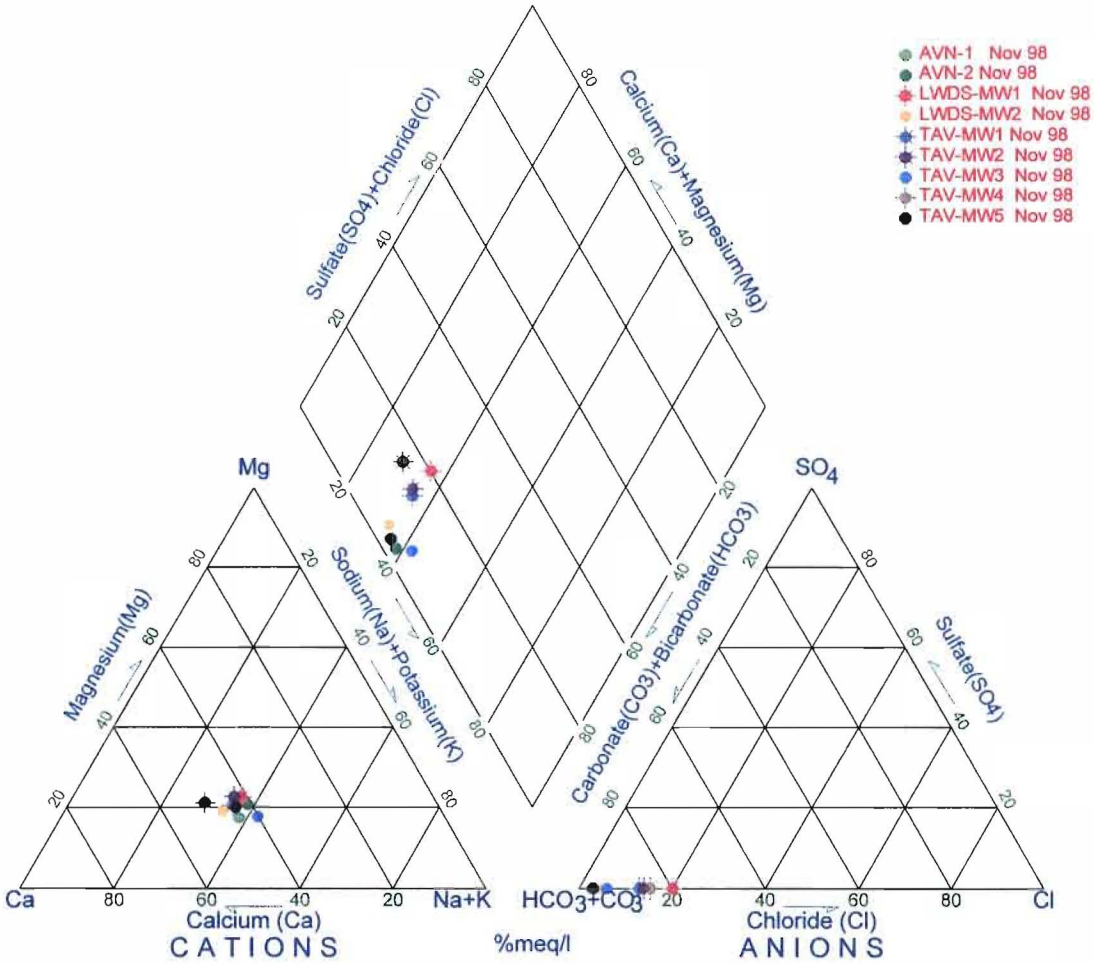


Figure I-5 Piper Trilinear Diagram of AVN-1 Groundwater

July 1995 through November 1998

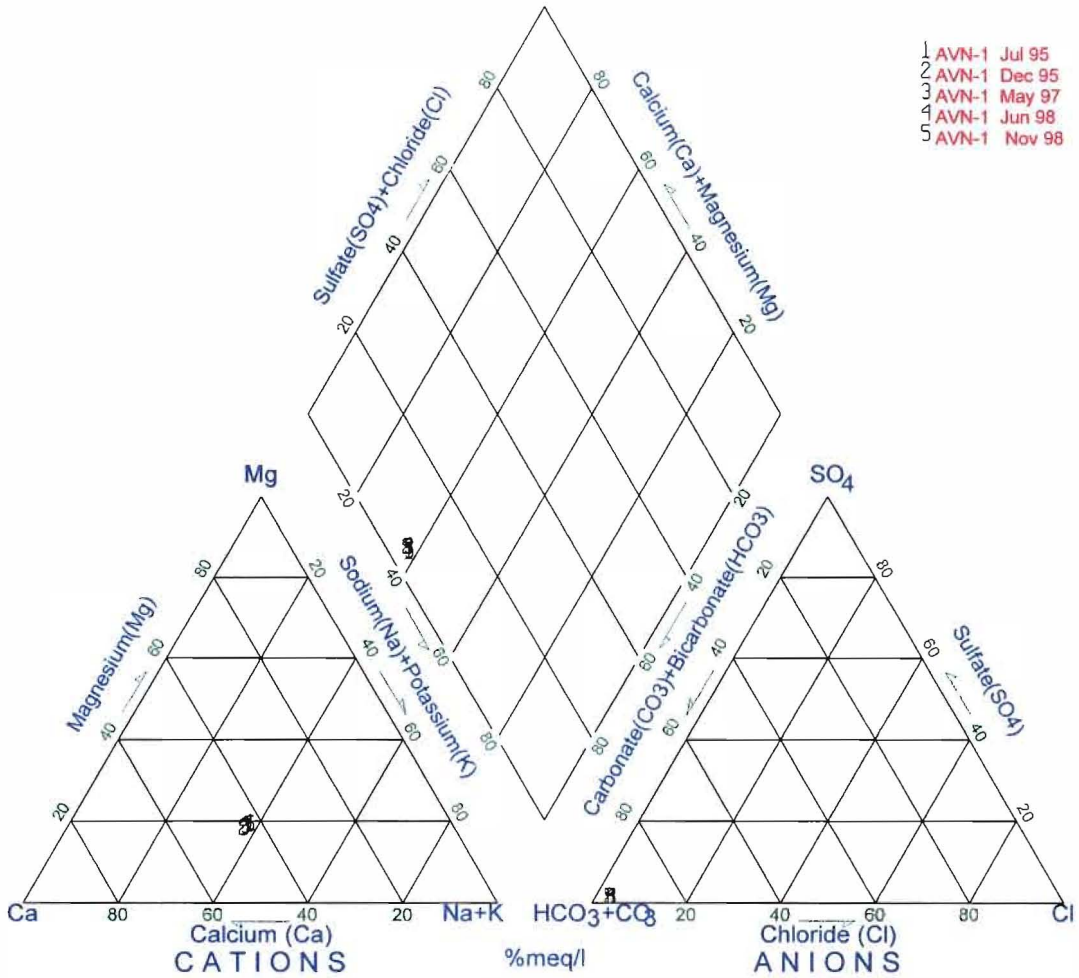


Figure I-6 Piper Trilinear Diagram of AVN-2 Groundwater

July 1995 through November 1998

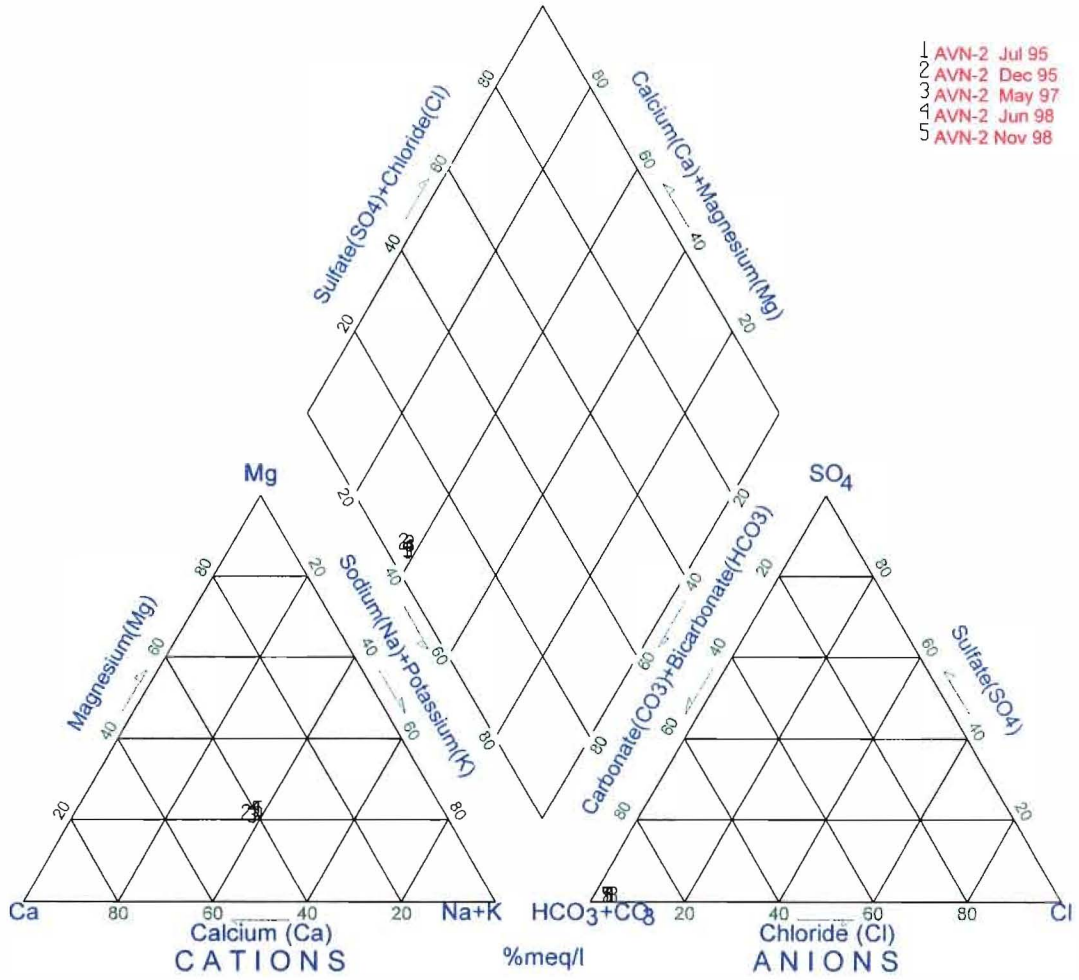


Figure I-7 Piper Trilinear Diagram of TAV-MW1 Groundwater

June 1995 through November 1998

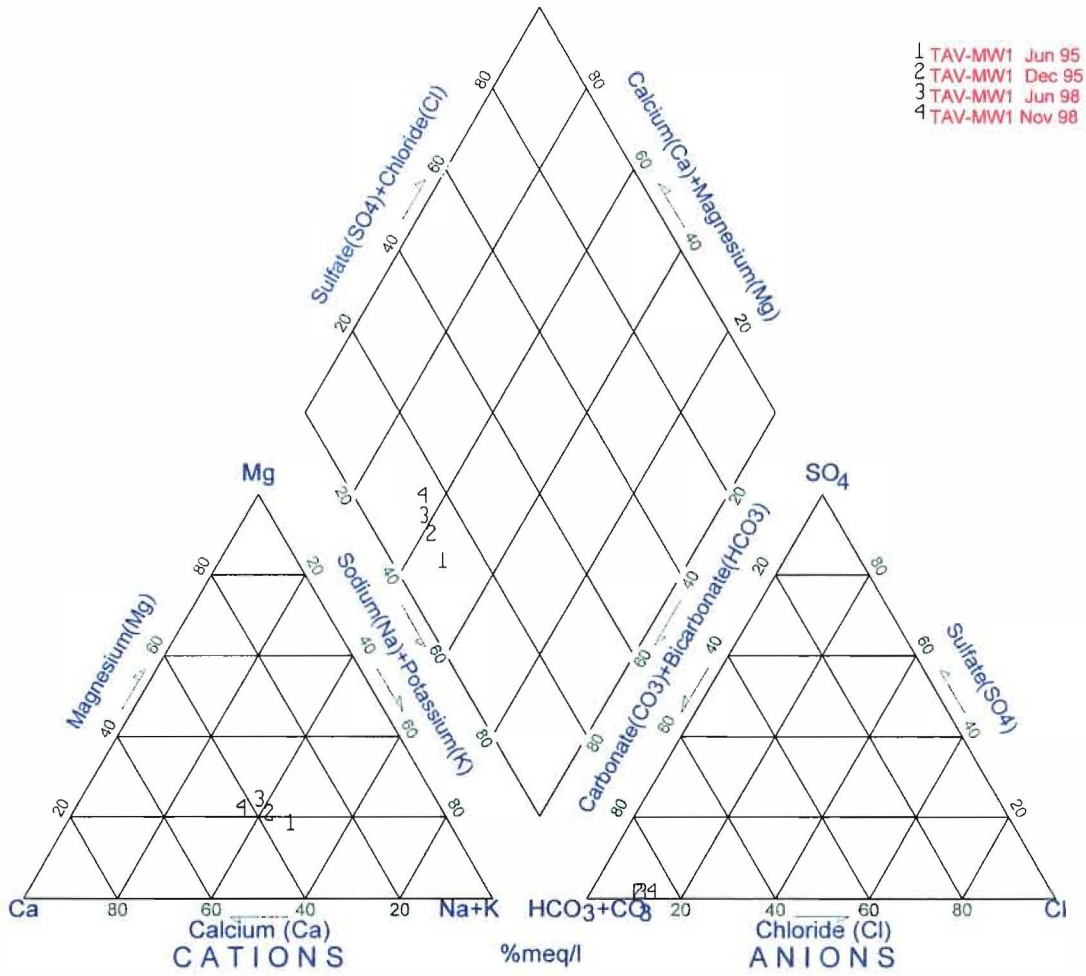


Figure I-8 Piper Trilinear Diagram of TAV-MW2 Groundwater

June 1995 through November 1998

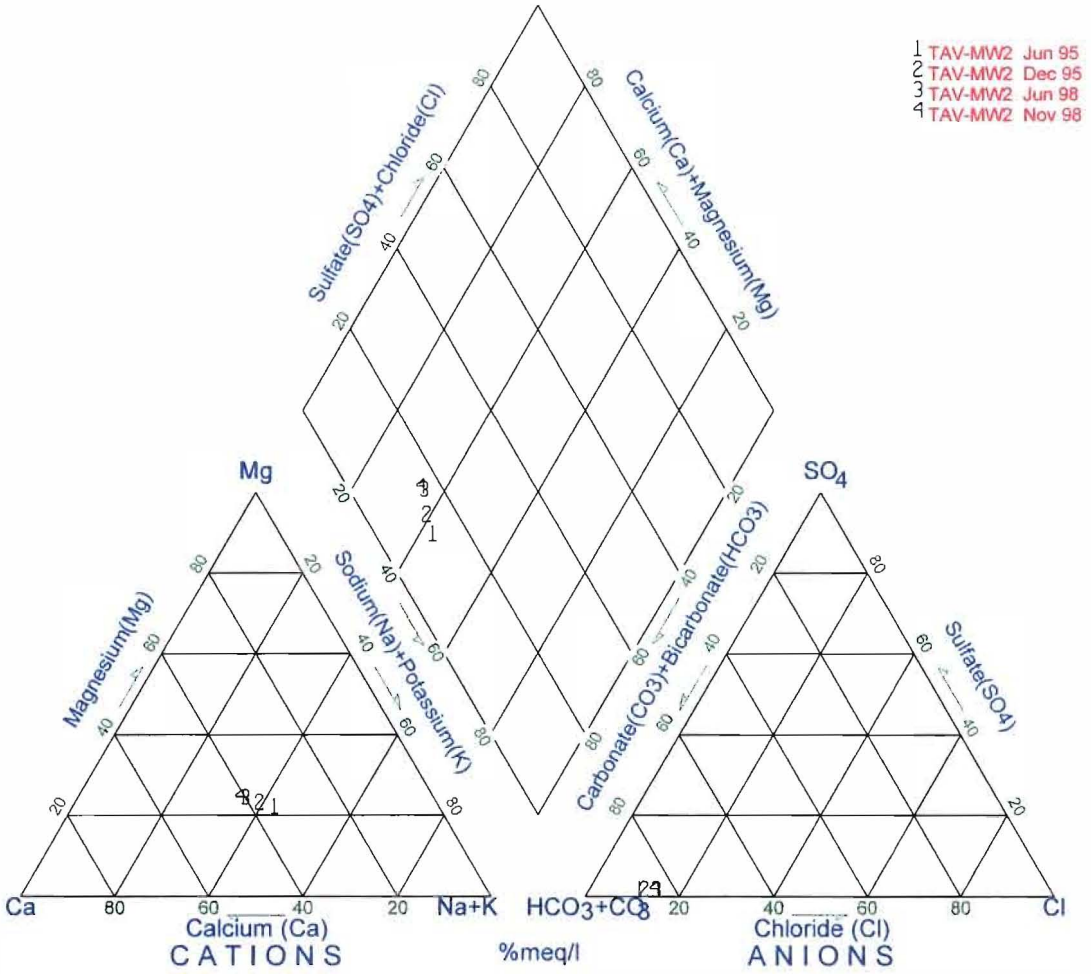


Figure I-9 Piper Trilinear Diagram of TAV-MW3 Groundwater

February 1998 through November 1998

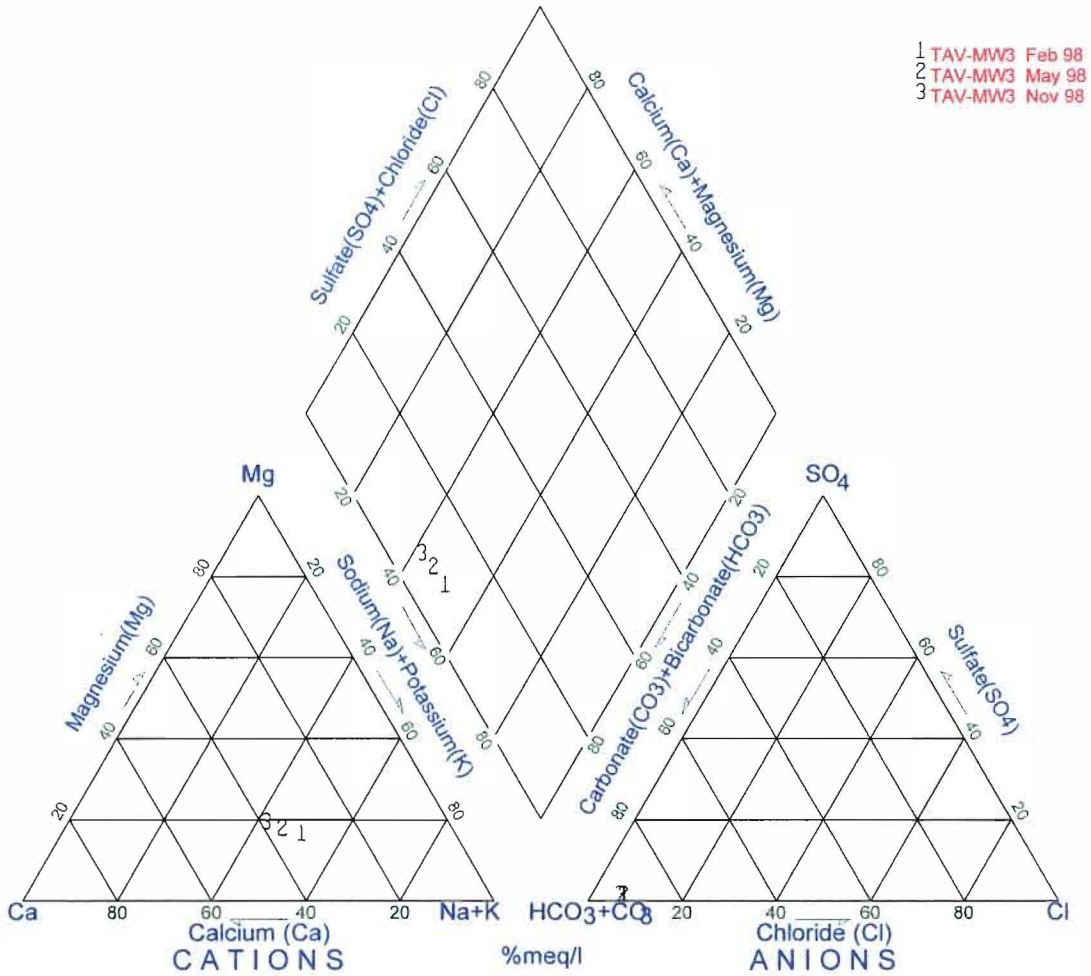


Figure I-10 Piper Trilinear Diagram of TAV-MW4 Groundwater

February 1998 through November 1998

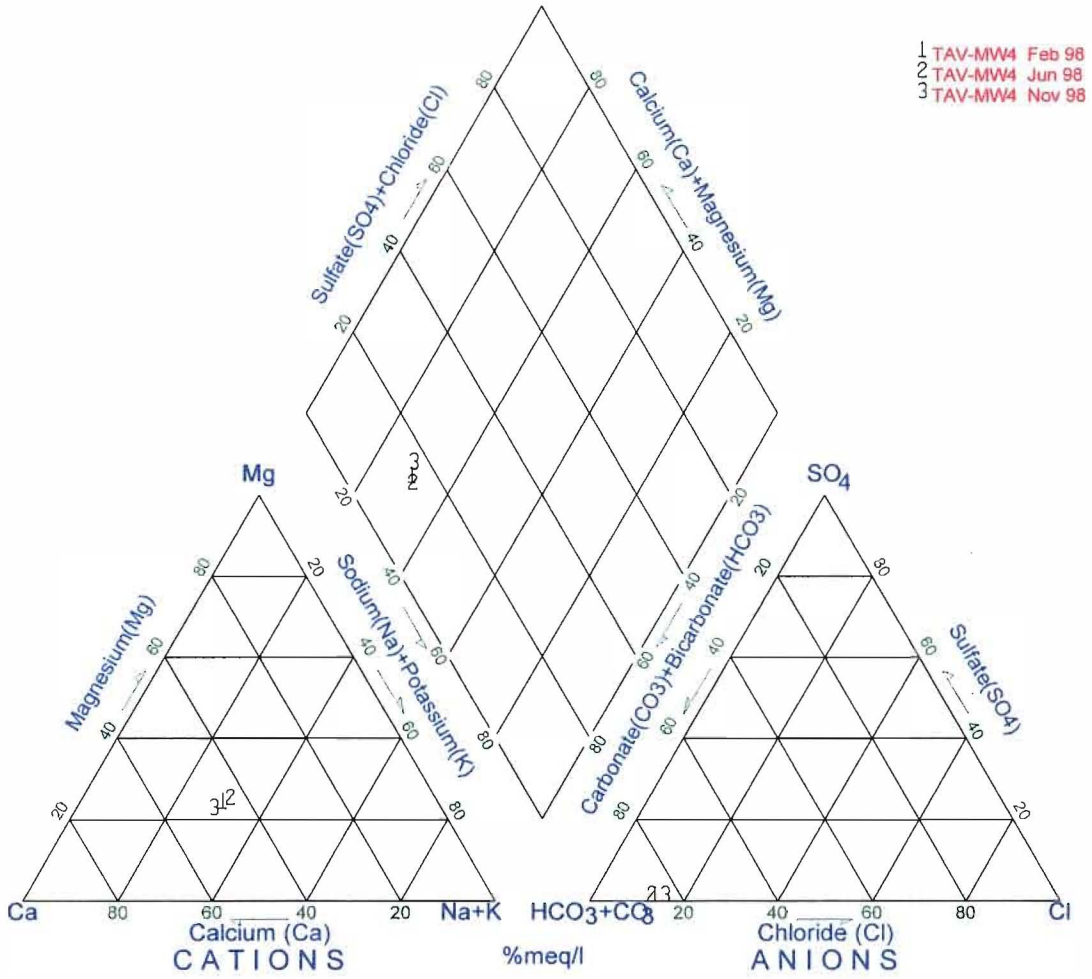


Figure I-11 Piper Trilinear Diagram of TAV-MW5 Groundwater

February 1998 through November 1998

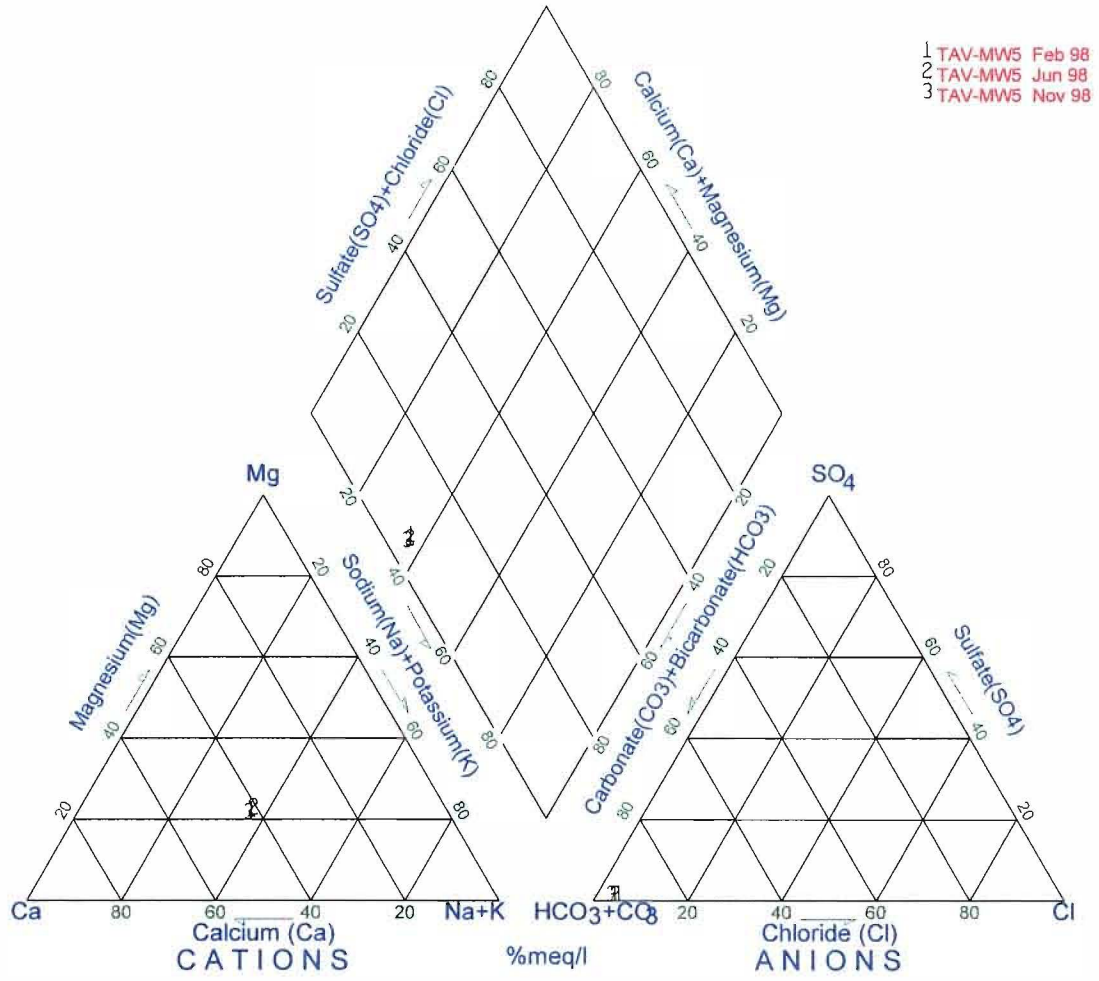


Figure I-12 Piper Trilinear Diagram of LWDS-MW1 Groundwater

November 1993 through November 1998

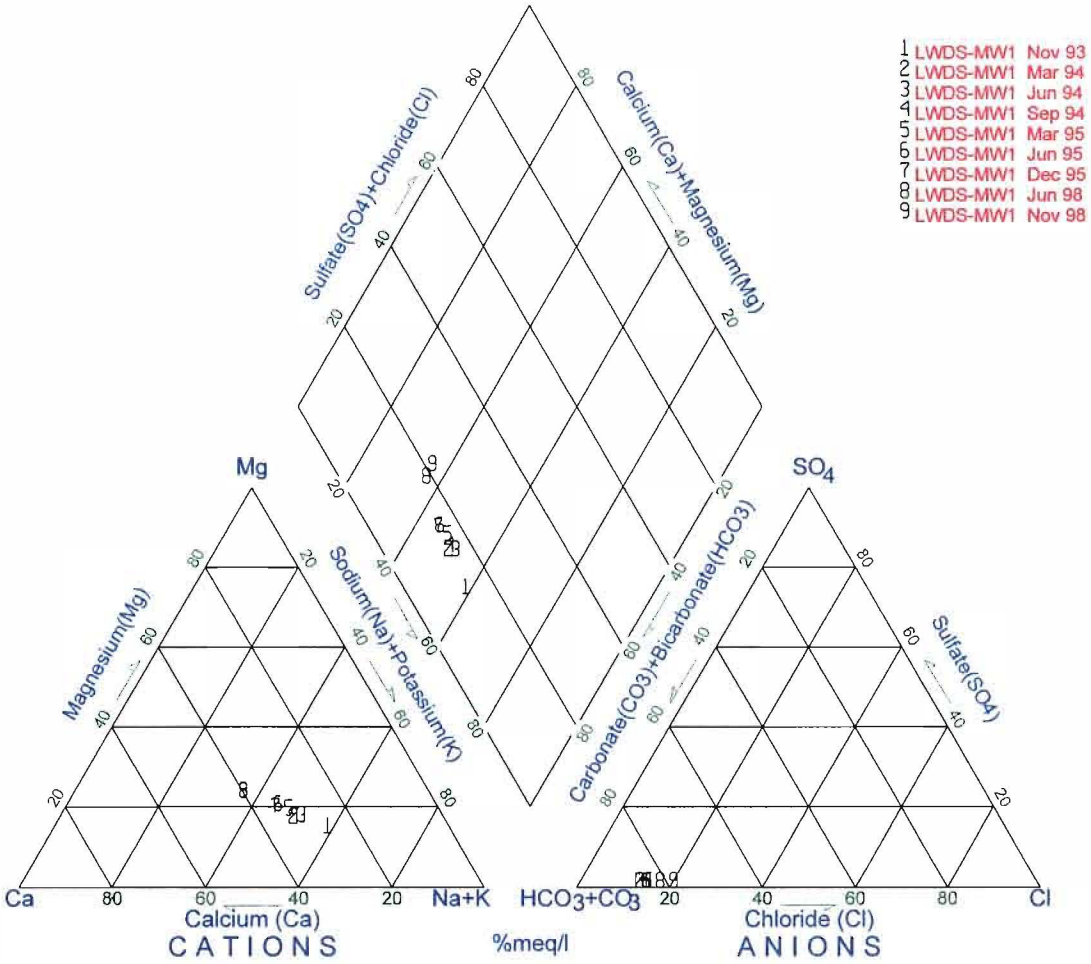


Figure I-13 Piper Trilinear Diagram of LWDS-MW2 Groundwater

June 1993 through November 1998

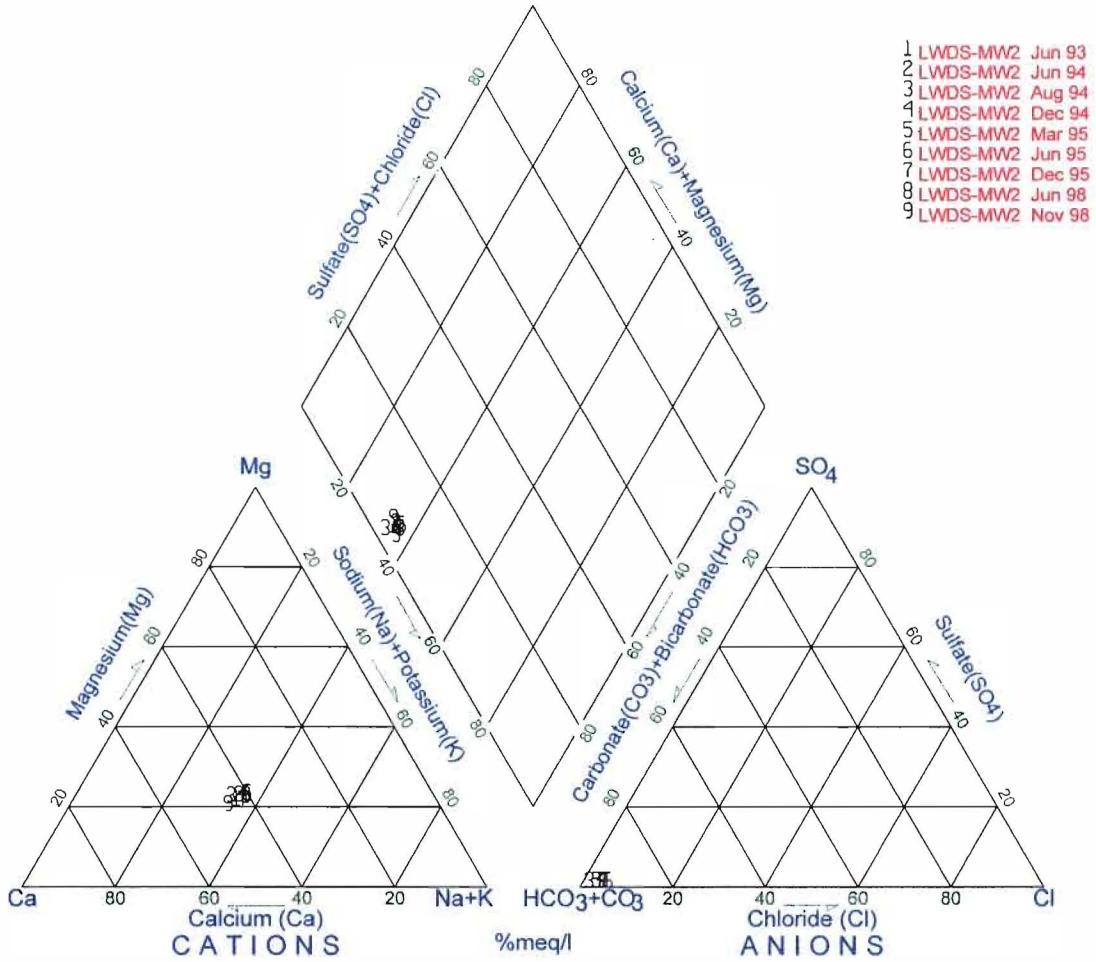


Figure I-14 Stiff Diagrams of TA-V Groundwater

June / July 1995

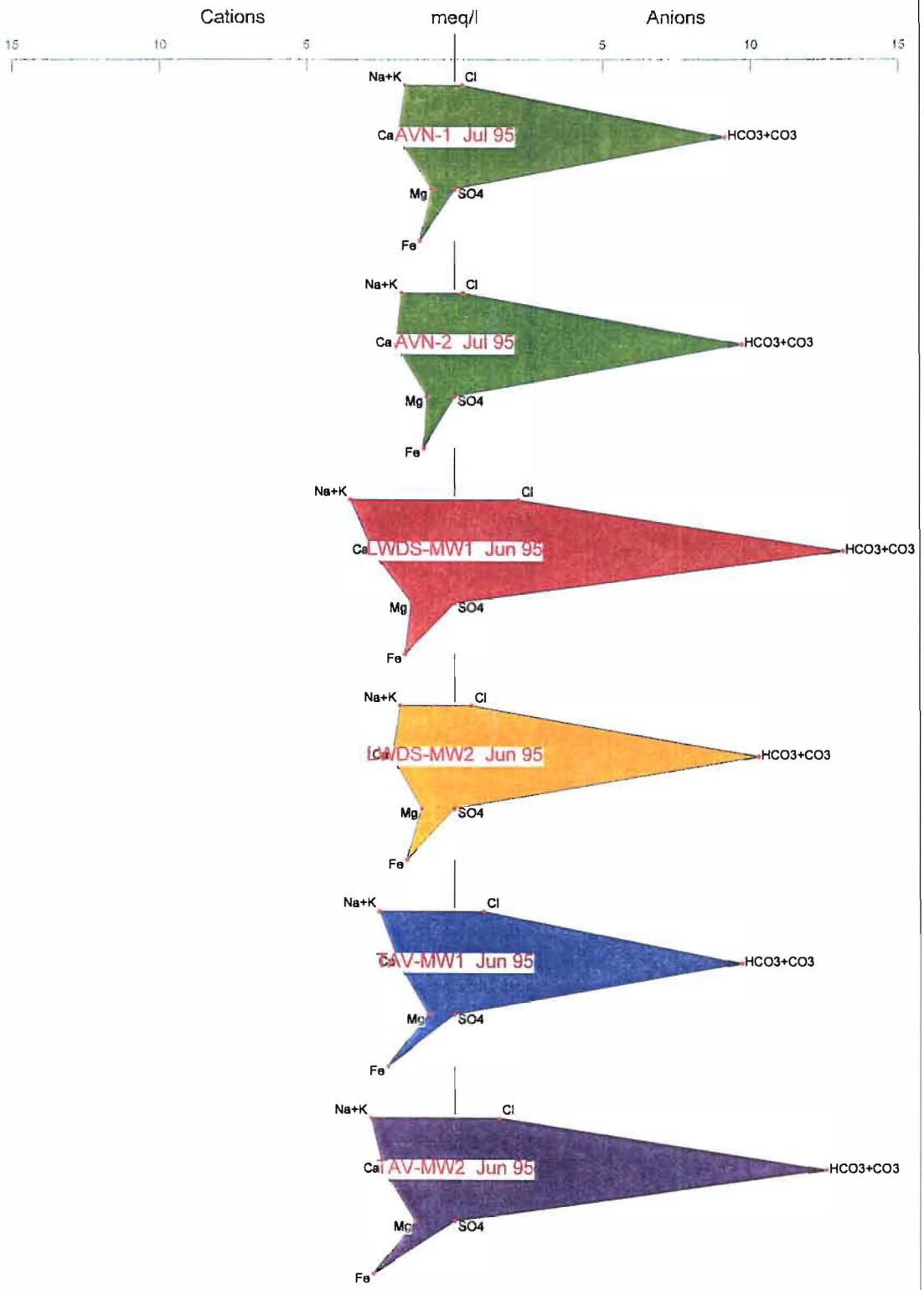


Figure I-15 Stiff Diagrams of TA-V Groundwater

December 1995

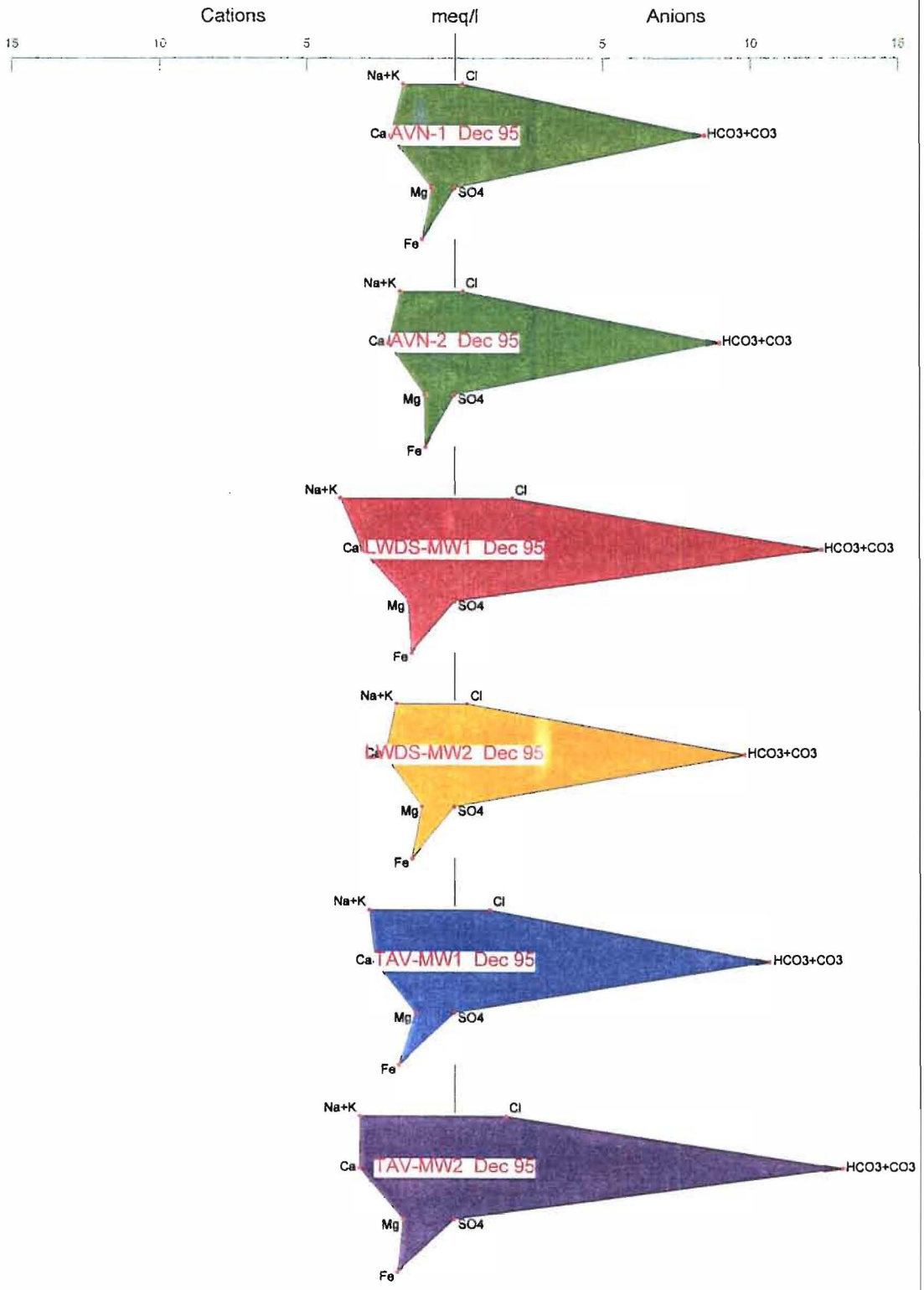


Figure I-16 Stiff Diagrams of TA-V Groundwater
June 1998

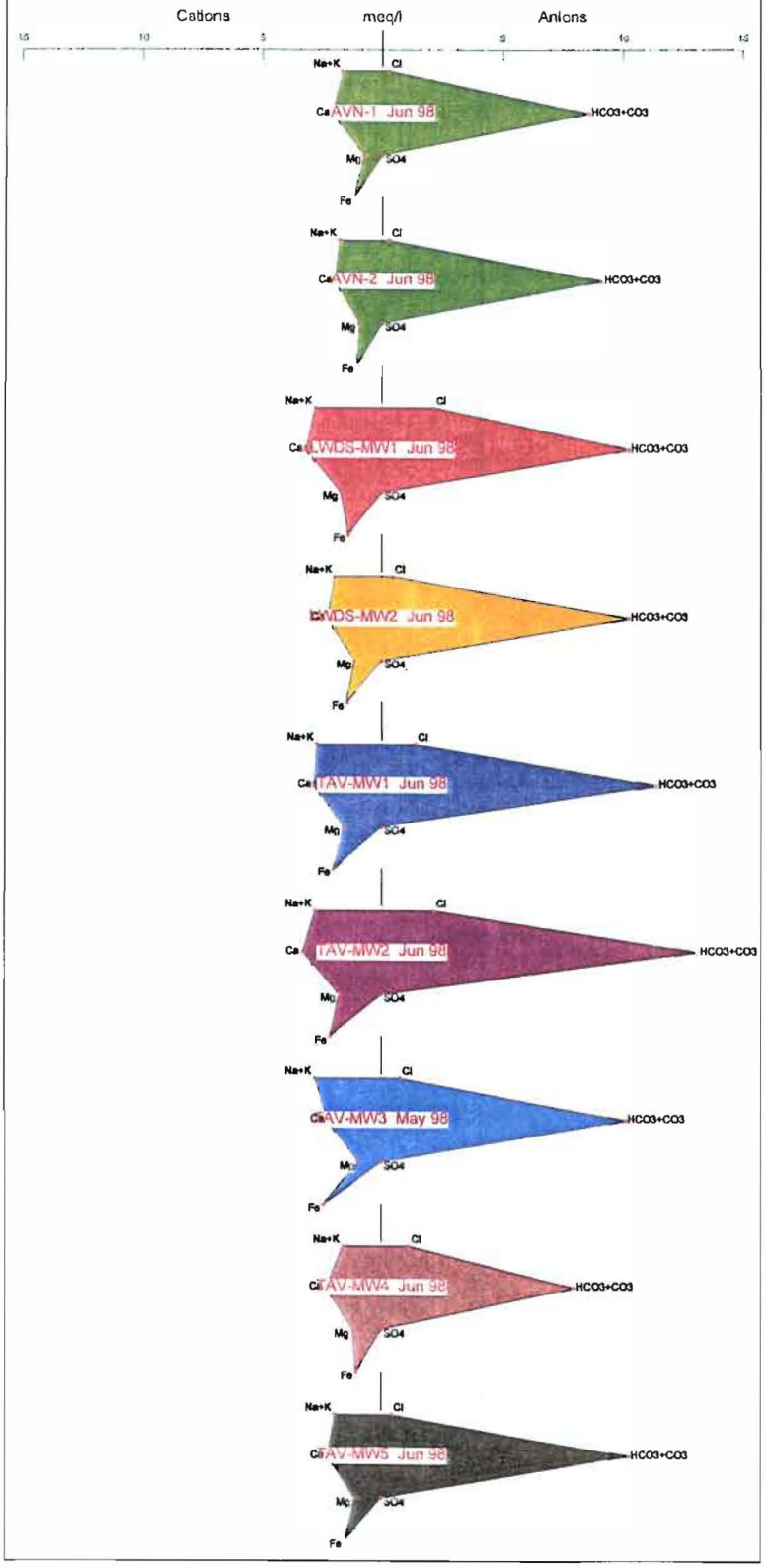


Figure I-17 Stiff Diagrams of TA-V Groundwater
November 1998

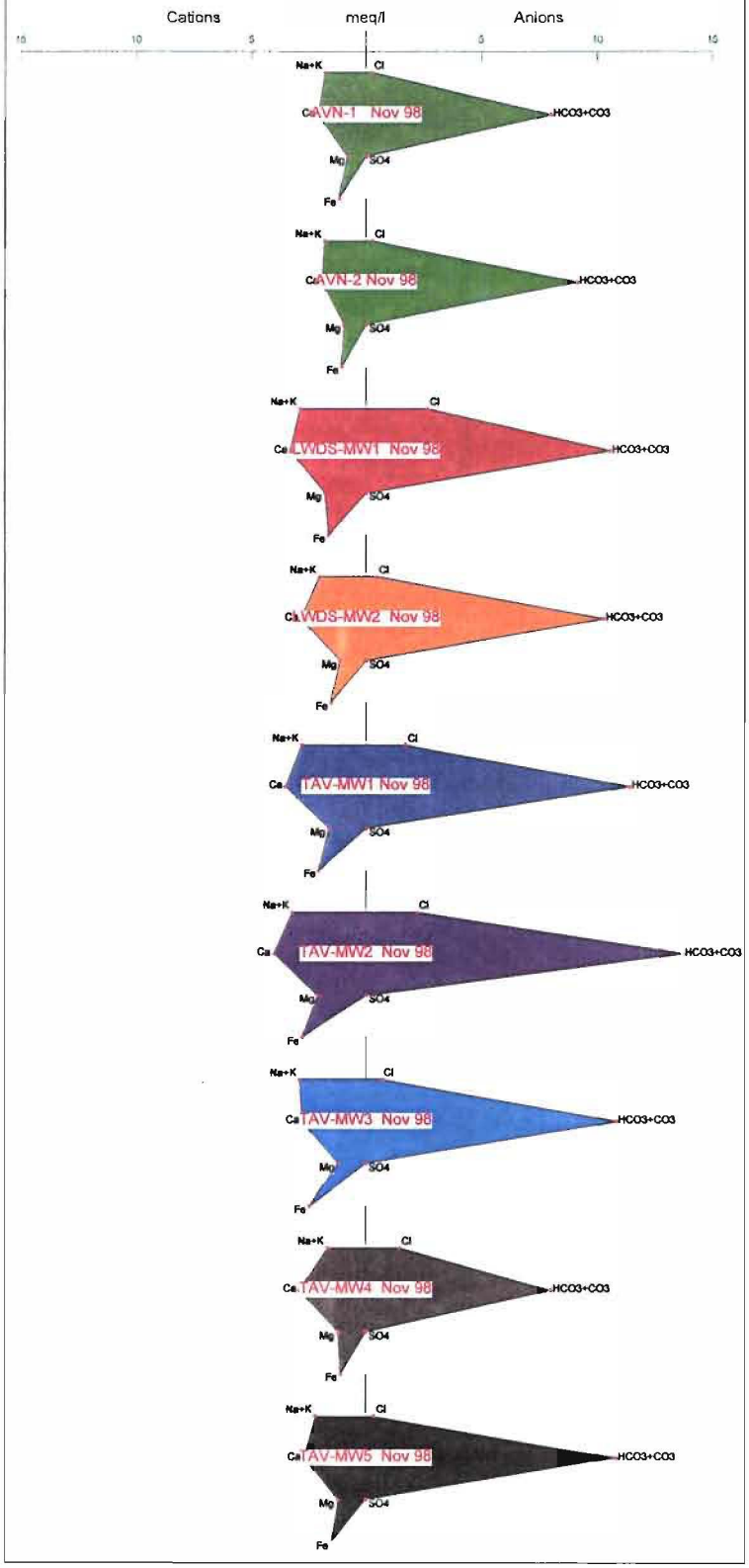


Figure I-18 Stiff Diagrams of AVN-1 Groundwater

July 1995 through November 1998

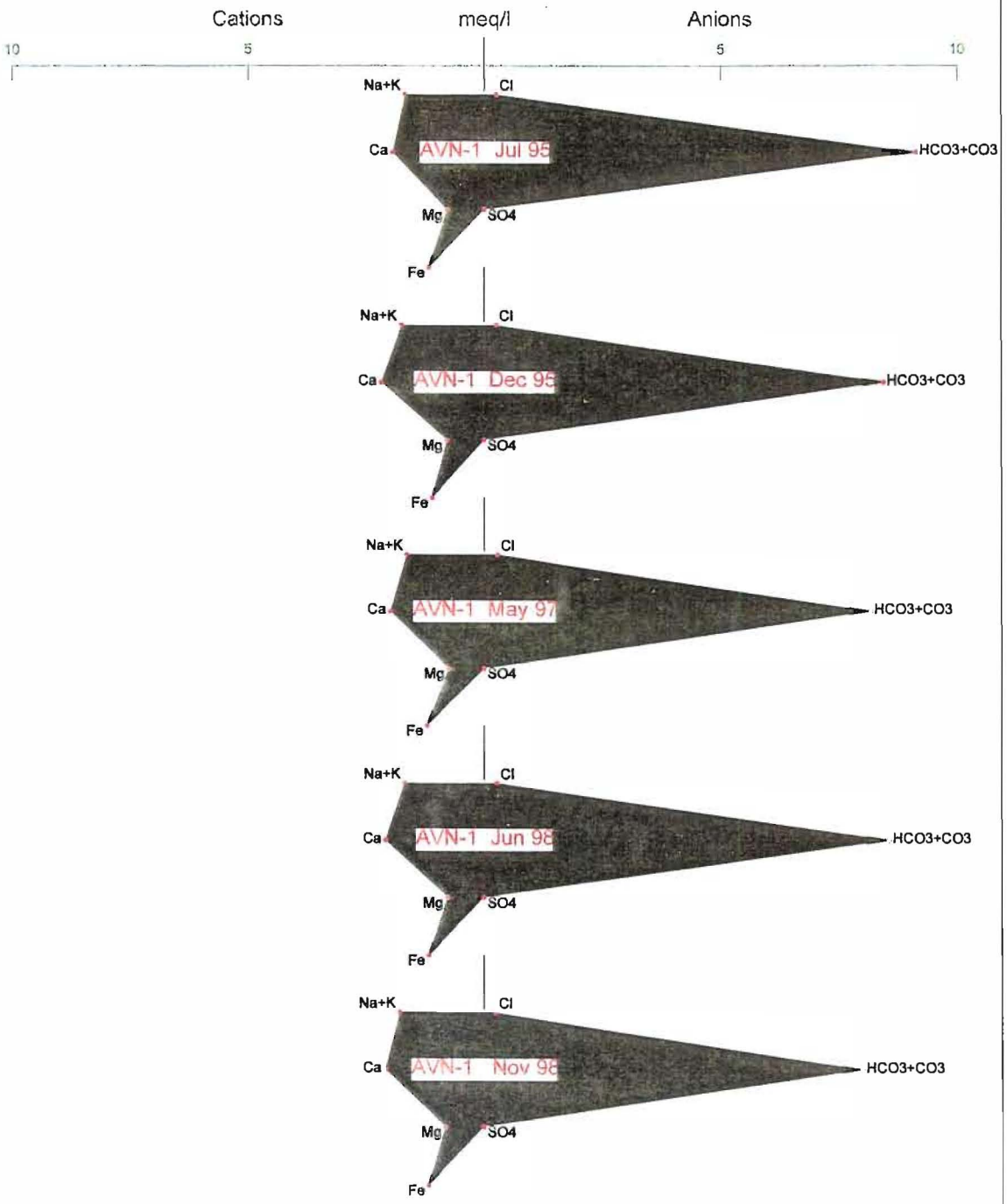


Figure I-19 Stiff Diagrams of AVN-2 Groundwater

July 1995 through November 1998

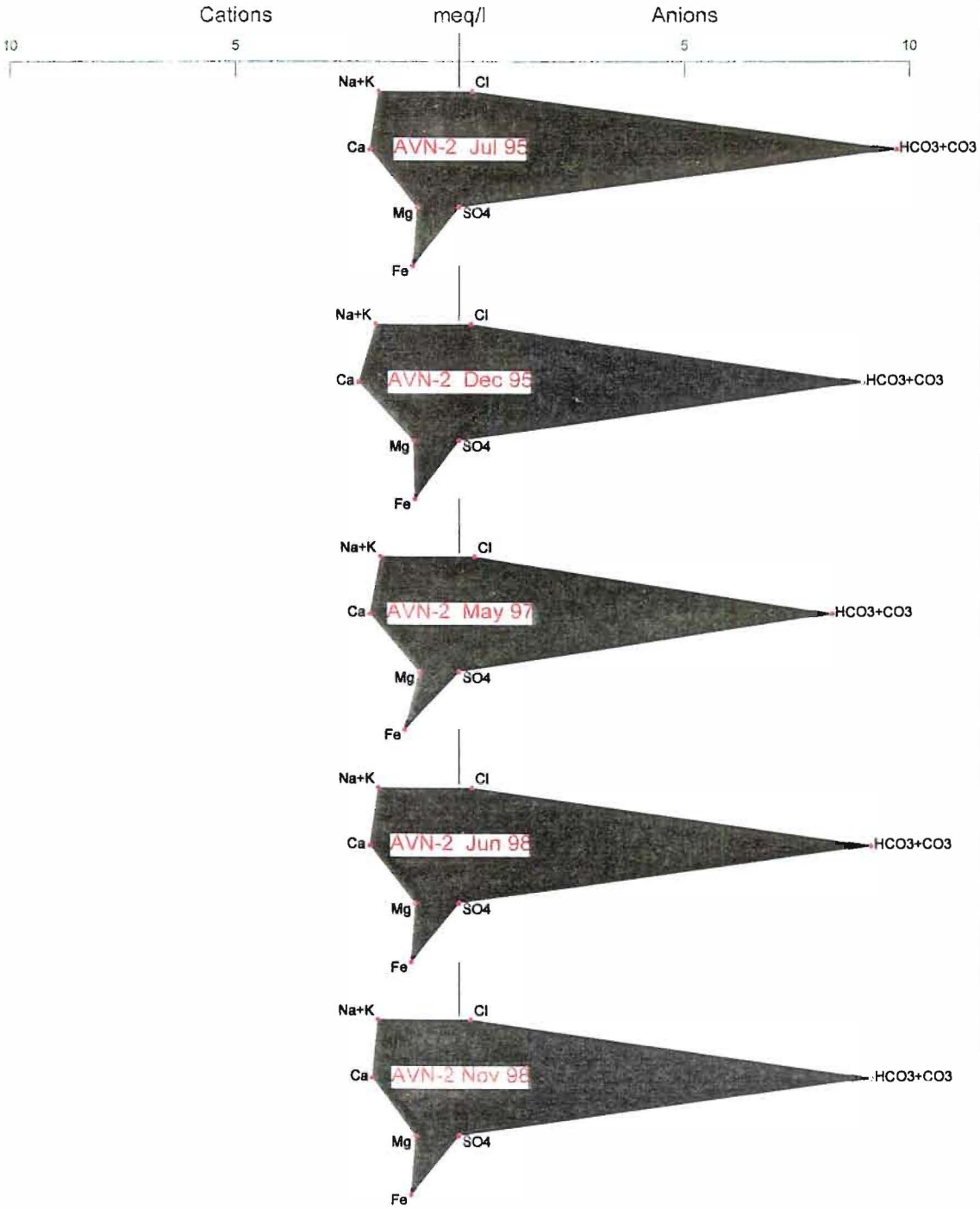


Figure I-20 Stiff Diagrams of TAV-MW1 Groundwater

June 1995 through November 1998

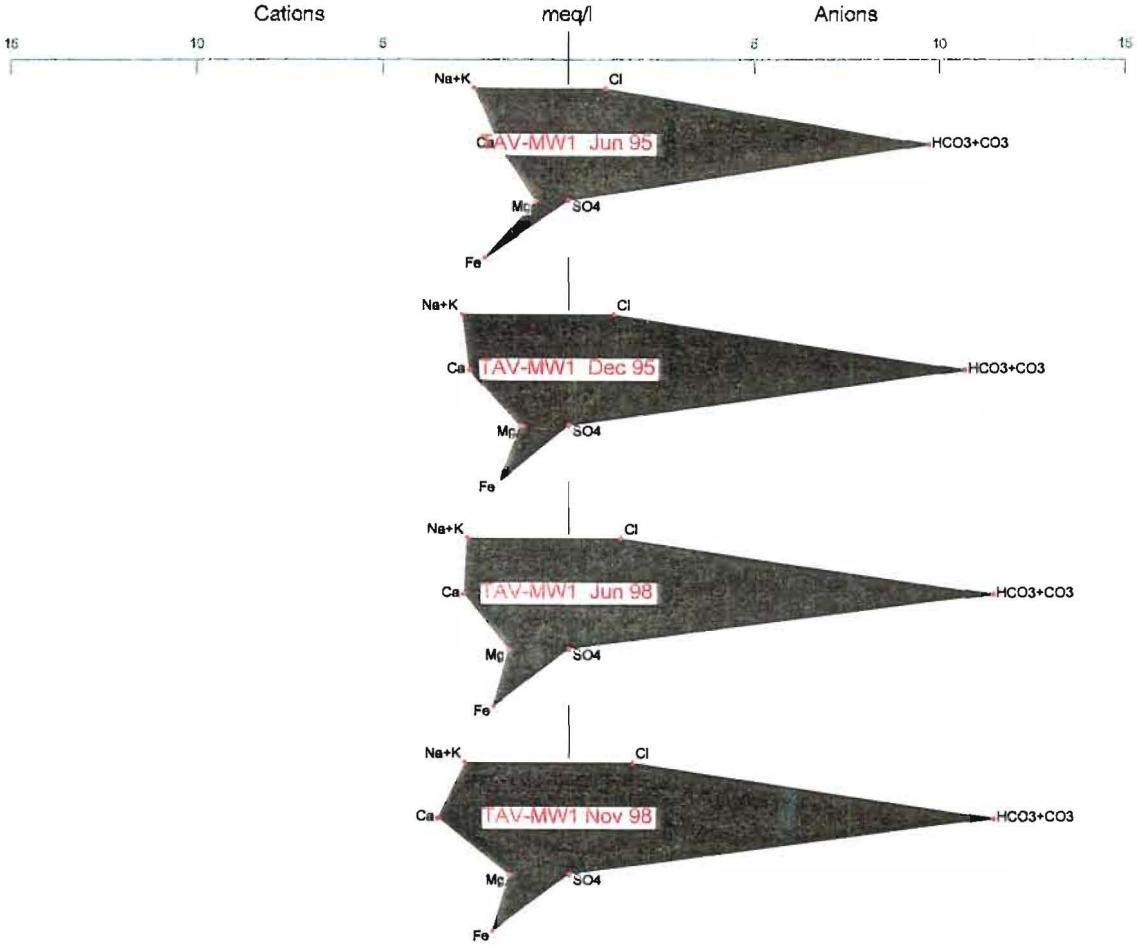


Figure I-21 Stiff Diagrams of TAV-MW2 Groundwater

June 1995 through November 1998

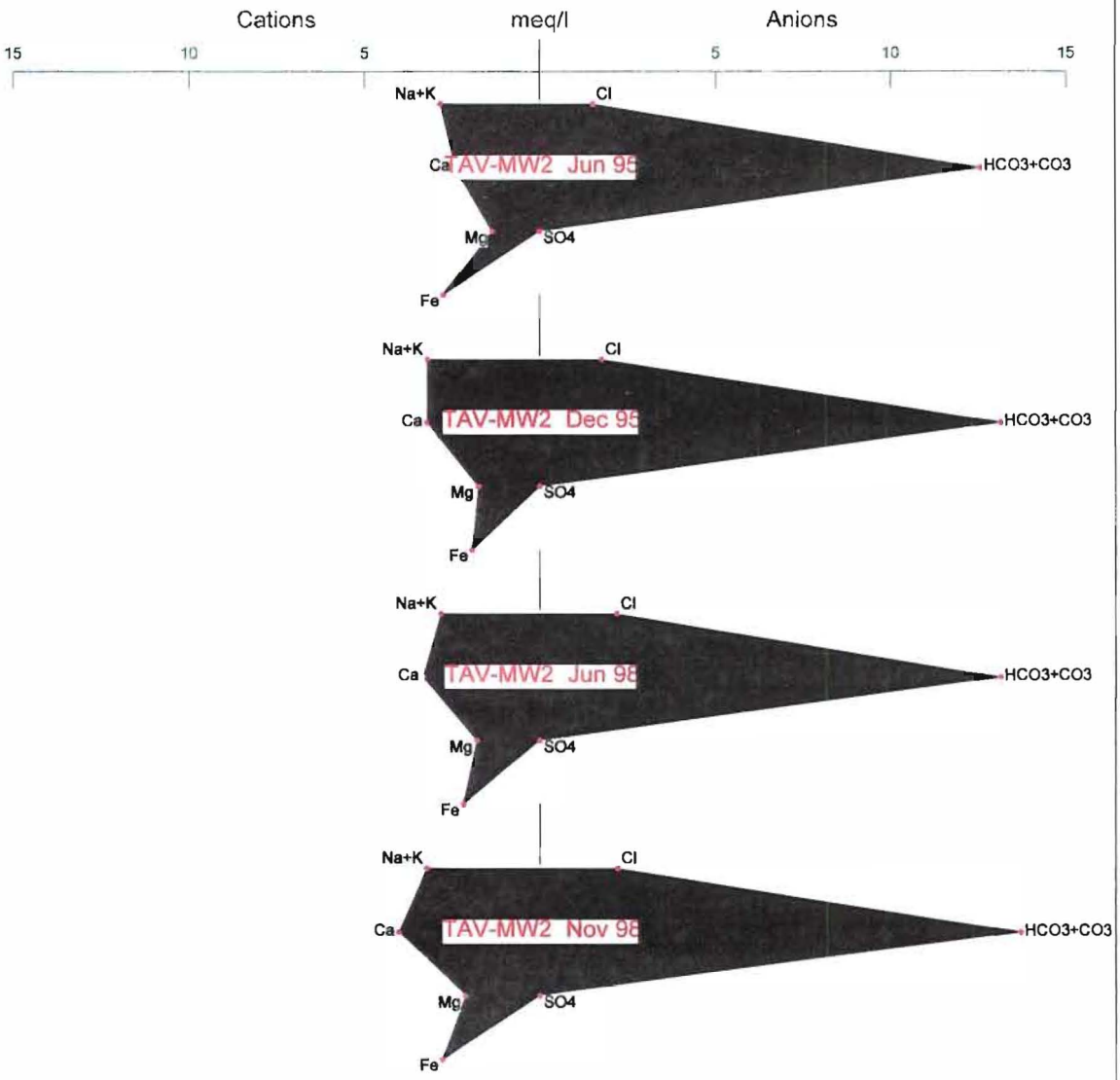


Figure I-22 Stiff Diagrams of TAV-MW3 Groundwater

February 1998 through November 1998

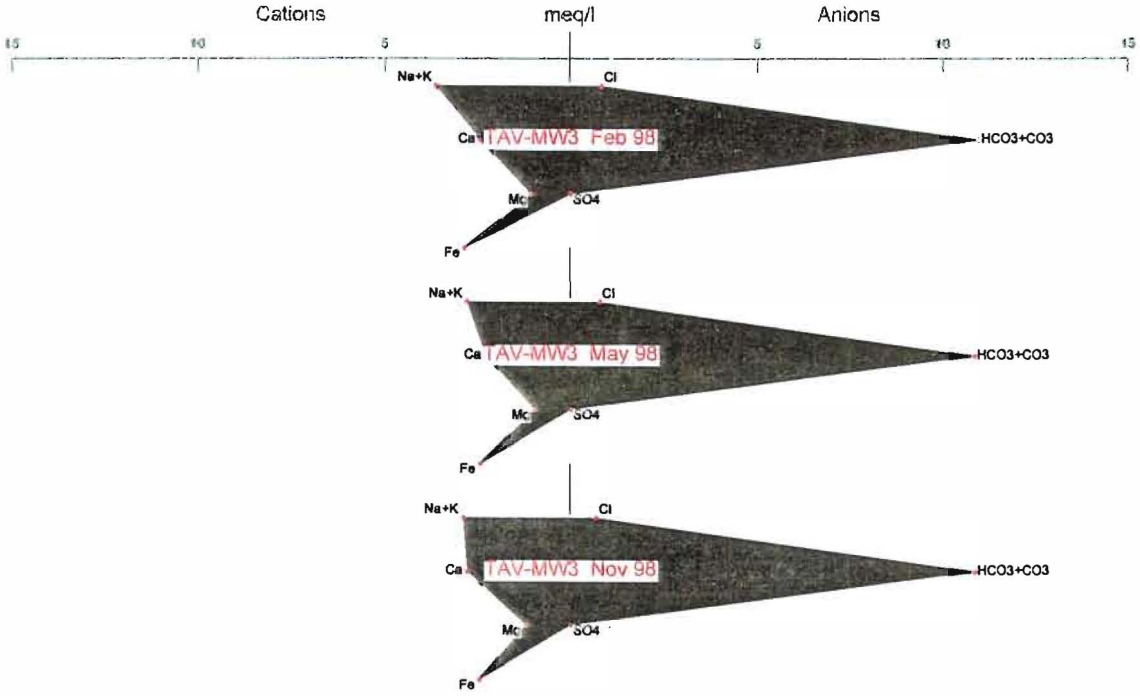


Figure I-23 Stiff Diagrams of TAV-MW4 Groundwater

February 1998 through November 1998

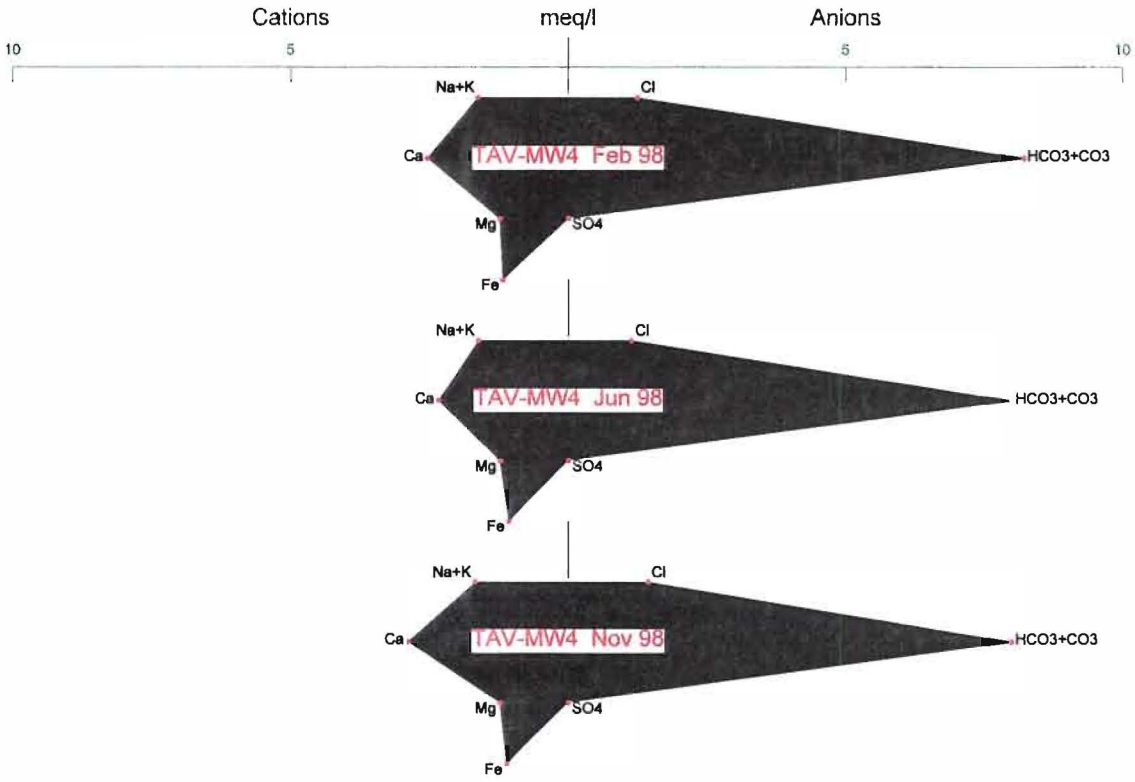


Figure I-24 Stiff Diagrams of TAV-MW5 Groundwater

February 1998 through November 1998

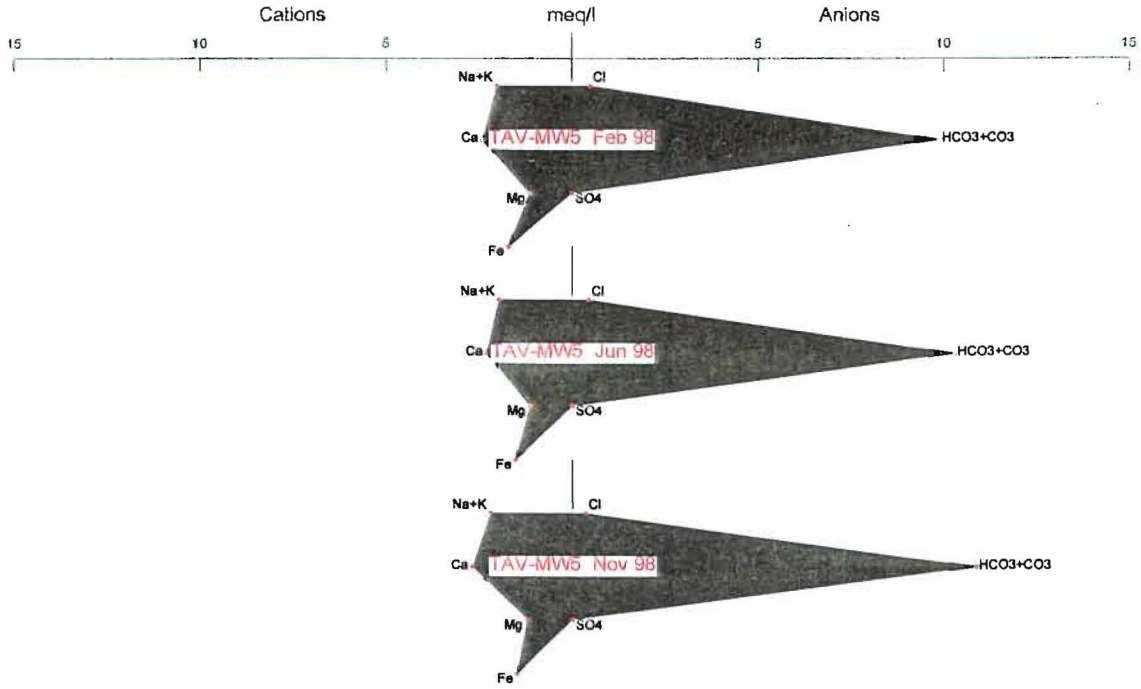


Figure I-25 Stiff Diagrams of LWDS-MW1 GroundWater
November 1993 through November 1998

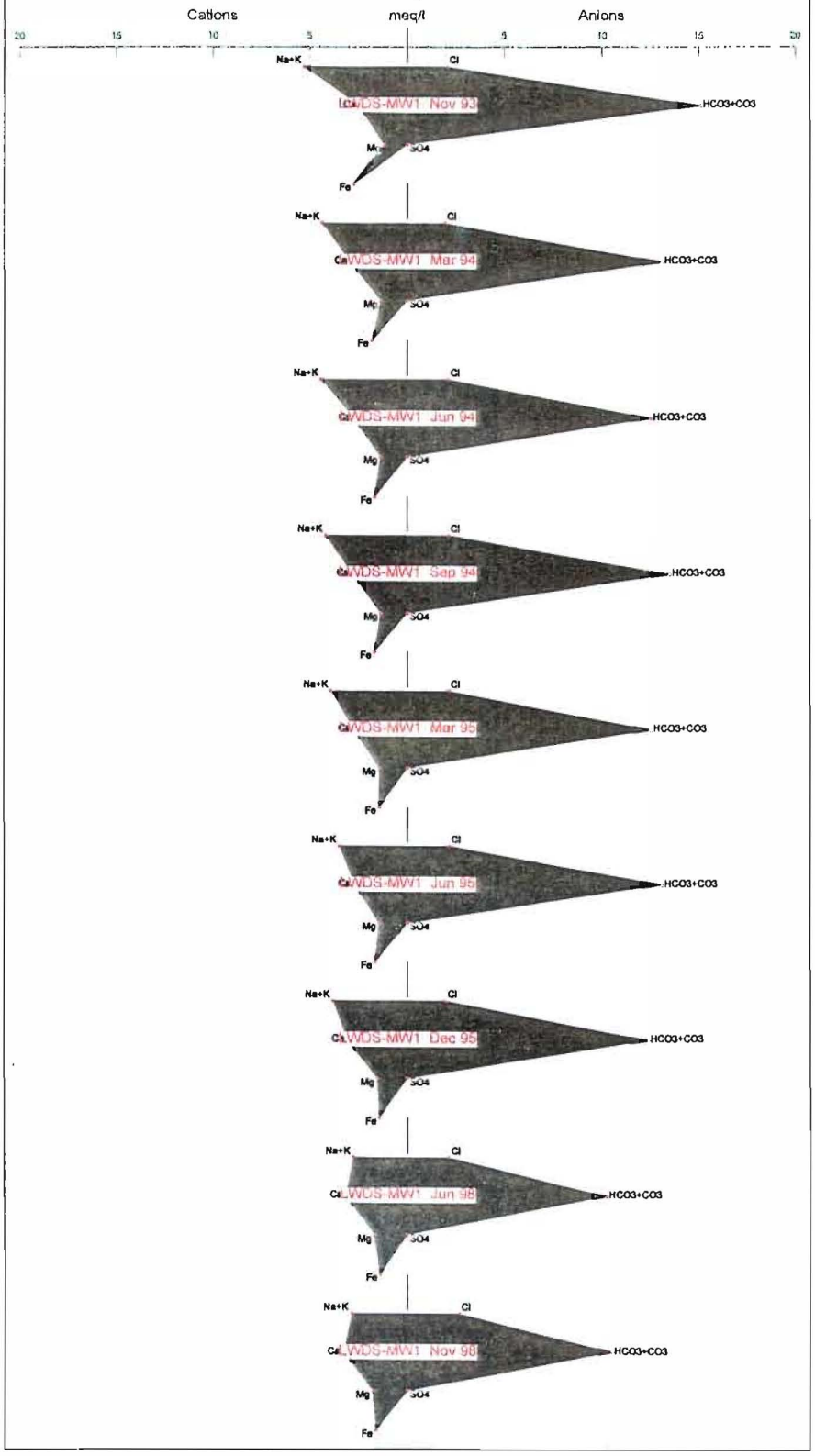
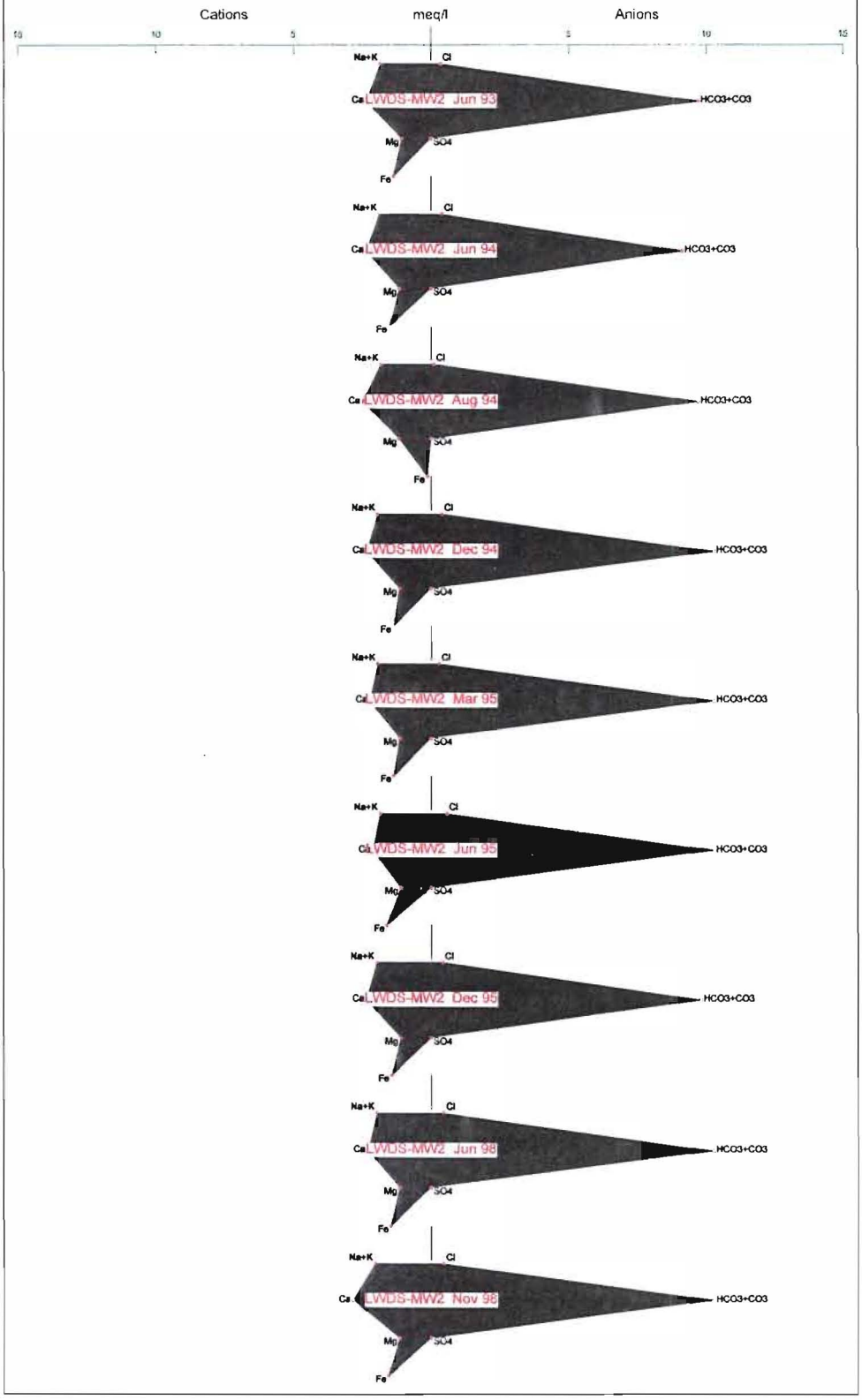


Figure I-26 Stiff Diagrams of LWDS-MW2 Groundwater

June 1993 through November 1998



ATTACHMENT 1
SANDIA NATIONAL LABORATORIES/NEW MEXICO
MEMORANDA OF INTERVIEWS OF TA-V PERSONNEL DATED
JANUARY 6, 1999, MARCH 10, 1999, AND MARCH 12, 1999

January 6, 1999 Interview with Theodore R. Schmidt and Marion J. McDonald Conducted by Anh Lai, Tim Goering, and Mike Sanders

Subject: TA V

Interview notes:

- Possible industrial solvents used:
    - Buildings 6595, 6596, and 6597 where the PROTO I, II, and III projects were conducted, the diodes, plumb lines, and various other test components needed to be kept clean and therefore, some type of solvents were used. Ted Schmidt recommended that we contact Arthur Sharpe (Dept. 9342) to verify what type of solvents was used for this purpose.
    - There was a machine shop located in the northern part of Building 6591, which was shut down approximately 5 years ago. This may explain the TCE and PCE hits found in the passive soil gas survey conducted in 1994 and 1995 just outside of this building.

- Ted was able to provide us with the exact description of the construction of the LWDS drainfield that was confusing in previous ER reports. The drainfield was a concrete culvert 6 feet in diameter by 60 feet in length with 2-inch gaps at every 6 feet along its length.

The following contacts were given to us for further investigation:

- Adrian Jones (Dept. 7575)– for organics sampling data of the LECS system
- Joe Jones (Dept. 6849) – worked on the conversion from using the LWDS to the LECS and sanitary sewer system
- Donald Berry (Dept. 6433) – for more as-built drawings
- Robert Jefferson – was involved in the building of the facilities in TA V in the late 1950s. He is retired but is still on contract with Sandia National Laboratories.

SC-M-67-2974

SANDIA ENGINEERING REACTOR MANUAL (REVISED)

REACTOR DOCUMENT
REFERENCE USE ONLY

Alan M. Chodorow
Reactor Applications Division 9141
Sandia Laboratory, Albuquerque

Original by C. B. Becherer, 5331, and
L. W. Morrison, 5331

July 1968

Indication System. Operation of PWV-15 is discussed in Section 3.4 and the Tank Level Indication System in Section 3.16. PWF-1 operation is described in Section 3.2.2.

3.11 Liquid Waste Disposal System

The Liquid Waste Disposal System is designed to harmlessly dispose of all possibly contaminated liquid waste. It receives essentially all liquid wastes, except sanitary wastes, from Buildings 6580 and 6581, and the Pump House. Specifically, the following drains are piped to the Liquid Waste Disposal System:

a. Reactor Vessel Drain Line

b. Process Water Supply Header Drain Line

c. Process Water Surge Tank Overflow and Drain Line

d. Storage Tank Drain Line

e. Fuel Cutoff Pool Overflow Line

f. Water Softener Drain Line

g. Floor Drains, Building 6580

h. Floor Drains, Pump House, and Demineralizer Enclosure

i. Cooling Tower Sump Overflow, Sump Drain, and Blowdown (normally discharged to Drain Field)

j. Shield Cooling Surge Tank Overflow and Drain Line

k. Shield Cooling Tower Sump Overflow and Drain Line

The Cooling Tower Sump overflow and drain waste and Cooling Tower System blowdown can be directed either to the Liquid Waste Disposal System or to the Drain Field by a three-way valve. It is normally discharged to the Drain Field unless primary coolant leakage is suspected in the Cooling Tower. Shield Cooling Tower System blowdown and Building 6581 floor drains are also sent to the Drain Field. The remainder of Buildings 6580 and 6581 liquid waste, consisting of drainage from restrooms and showers, drains to the Sewage System.

3.11.1 Description and Operation

The Liquid Waste Disposal System tanks and interconnecting piping are shown in Figure 3-11. All drainage flows into Tank 1 and through the normally open Tank 1 Drain Valve. When Tank 2 is three-fourths full, the submersible Recirculating Pump automatically commences recirculation of the water in Tank 2 in order to obtain a representative sample. When Tank 2 is full, automatic circuitry draws a representative sample, shuts the Tank 1 Drain Valve and Recirculating Valve, and opens the Discharge Valve. The liquid waste is discharged to the Radioactive Drain Field. When Tank 2 is empty, the initial conditions are automatically re-established. If Tank 1 becomes full during the discharge cycle, the Tank 1 Drain Valve will automatically open, allowing drainage into Tank 2 until

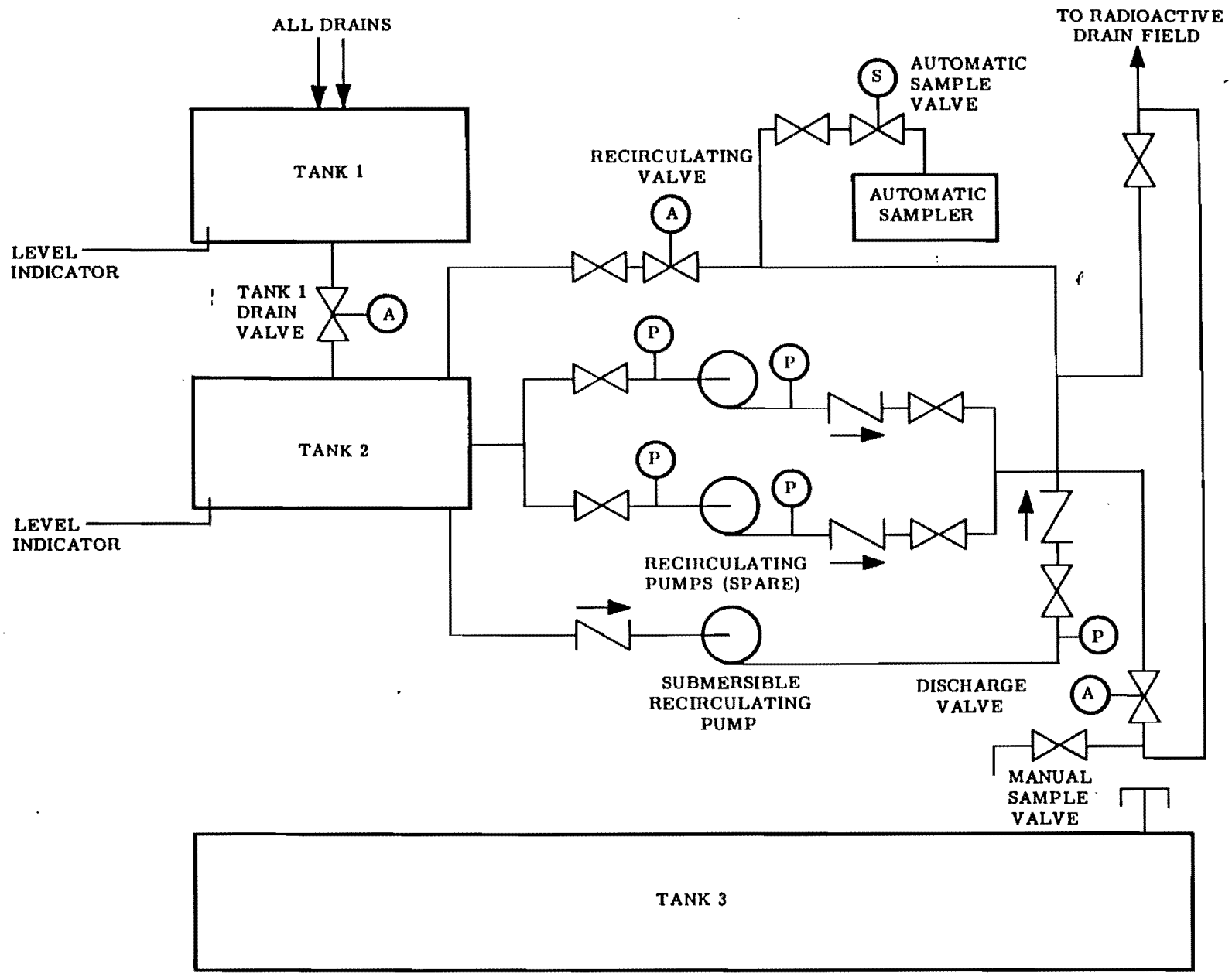


Figure 3-11. Liquid waste disposal system

the Tank 1 full condition is corrected. All sequences are indicated on Pilot Light Panels in the Control Room, Guard House, and Liquid Waste Disposal Control Pit west of Building 6580.

If highly contaminated water is being sent to the Liquid Waste Disposal System, the automatic sequence may be manually overriden, and liquid waste discharged to a tank truck, by breaking the connection to the Drain Field and making that connection to the truck. All manual controls are located in the Control Pit.

Tank 1 is a 9-foot long by 3-foot wide by 10-foot deep concrete tank with a capacity of 2000 gallons. Tank 2 is 16 x 5 x 10 feet and is constructed of concrete. Tank 3 is 6 feet in diameter by 60 feet in length. It is a concrete culvert with 2-inch gaps every 6 feet. Total capacity of Tank 3 is 12,000 gallons. This tank is no longer used. The Radioactive Drain Field is 20 feet wide, 100 feet long, and 10 feet in depth, and is located northwest of Area V. The waste seeps into soil, which exhibits both filtering and ion exchanger properties and removes essentially all radioactive nuclides before the water could reach the water table.

Power for Liquid Waste Disposal System operations is supplied from Panelboard 4C to Panel A in the Control Pit.

3.12 Shield Door Hydraulic System

The Shield Door Hydraulic System is used exclusively for the operation of the six concrete doors in the irradiation facility shield. The design pressure of the system is 1750 psig and the operating pressure is approximately 1300 psig. Normally all Hydraulic System operations are conducted from the Shield Door Operating Console in Room 107, Building 6580. Local control is possible from the Equipment Room 222. Figure 3-12 shows the operating schematic for Door 1. All other doors are similar. The 1200-gallon Storage Tank is sized to allow any two doors to be down simultaneously. If more than two doors are down, this tank will overflow.

3.12.1 Description and Operation

When the Door 1 lowering circuit is energized, the Shield Door Hydraulic Pump starts and pressurizes the system. The Control Valve Pilot Valve energizes, directing hydraulic pressure to the underside of the piston which raises the door to its full-up limit. The Unlatching Pilot Valve then energizes to retract the door latches. When unlatching is completed, the Control Valve Pilot repositions the Control Valve, allowing oil from the door cylinder to drain to the Storage Tank through the flow control orifice, and the door lowers. The system returns to its original standby condition when the door reaches its bottom limit. At the Shield Door Operating Panel, the operator is able to monitor the Hydraulic System performance by observing the pneumatically transmitted pressure signals.

To raise the door again, the raising circuit is energized, starting the pump and positioning the Control Valve to raise. Hydraulic pressure drives the

Memorandum

To: File/Records

From: Stacy Griffith (Dept. 6133)

Date: 03/10/99

Re: Telephone interview with Richard Stump

I called Richard Stump (Dept. 7525) on 3/10/99 at 3:55 p.m. to confirm information from an earlier interview (interviewer not recorded on the document). The 2/20/90 interview (ER/1307/REP/90 document 44579) reports that Mr. Stump recalled solvent disposal in drains in TA-V. I discussed with him the information from the 1990 interview and he confirmed the contents of the interview. He reiterated the following:

- In the late 1970's his office was located in Room 205 of Building 6580. There was several chemistry labs located on the first floor (also called the mezzanine) and there was a machine shop in the basement of the building. All of these facilities had sink and floor drains that drained to the LWDS.

- Periodically, there were very volatile fumes throughout the building when solvents were disposed of down the drains. At times, the fumes were so bad that workers had to leave the building.

- The practice of disposing of the solvents seemed to cease in 1980 – 1981 when the EPA began to provide guidance on the proper disposal of these items.

- He did not know what types of solvents were in use in the labs or the machine shop.

- He did not know how long the practice of disposing of solvents down these drains had been occurring.

Memorandum

To: File/Records

From: Stacy Griffith (Dept. 6133)

Date: 03/12/99

Re: Telephone interview with Art Sharpe

Spoke with Susan Hess (Mr. Sharpe's secretary) and gave her my question to relay to Art who was out of town on business. Asked about the use of solvents for cleaning diodes and other equipment at the PROTO facility during operation in the TA-V.

She returned my call after speaking to Art. He stated that hexane was used to clean parts and that TCE was not used at the PROTO facility. No other information was offered concerning the disposal practices of the solvents used.

ATTACHMENT 2
RESULTS OF ANALYSES ON SAMPLES SNLA010118, SNLA010120, AND SNLA010121 COLLECTED FROM LIQUID WASTE DISPOSAL SYSTEM TANKS AT TECHNICAL AREA V ON JULY 29, 1992
IT CORPORATION
NOVEMBER 2, 1992

INTERNATIONAL TECHNOLOGY CORPORATION

November 3, 1992

Project No. 301540.13.03

Mr. Lon Dawson
Department 6622
Sandia National Laboratories
P.O. Box 5800
Albuquerque, NM 87185

Results of Analyses on Samples SNLA010118, SNLA010120, and SNLA010121
Collected from Liquid Waste Disposal System Tanks
at Technical Area V on July 29, 1992

Dear Mr. Dawson:

Enclosed is an analytical report and the corresponding sample control documentation for six fractions each of samples SNLA010118, SNLA010120, and SNLA010121. These samples were collected by Sandia National Laboratories, Albuquerque, (SNL) Department 7723 personnel at Technical Area V on July 29, 1992. The first two samples were identified as liquid from the Liquid Waste Disposal System (LWDS) Tank Number 2 and the third as liquid from the LWDS Tank Number 4. IT Corporation (IT) took custody of the samples on July 30, 1992 and shipped them to the Enseco laboratory in Arvada, Colorado the same day. Normal turnaround was requested for the following analyses: gross alpha, gross beta, gamma spectroscopy, tritium, volatile organic compounds (VOC), semivolatile organic compounds (SVOC), total metals, and total cyanide. Dates of analyses, analytical methods, analytical results, and internal laboratory quality control sample results can be found in the enclosed analytical report.

Table 1-A shows the levels of detected chemical parameters for each sample and the corresponding action levels given in the "RCRA Facility Investigation Work Plan for the Liquid Waste Disposal System," April 1992, (LWDS Work Plan) 10-2 through 10-6. Two VOCs and seventeen metals were detected in Tank No. 2; fourteen metals were detected in Tank No. 4. Semivolatile organic compounds and cyanide were not detected in either tank. Parameters that exceeded the corresponding action level are highlighted in the table.

AL/10-92/ESRC/ESC-MW.126

Regional Office
5301 Central Avenue, N.E. • Suite 700 • Albuquerque, New Mexico 87108 • (505) 262-8800

IT Corporation is a wholly owned subsidiary of International Technology Corporation

In order to analyze for the entire suite of VOCs given in Table 10-2 of the LWDS Work Plan, EPA Test Method 8240 was used instead of the specified Test Methods 8010 and 8020. Method detection limits for 8240 are higher than those for 8010 and 8020, which are the detection limits shown in Table 10-2 of the workplan. The sample SNLA010120 was diluted before analysis for SVOCs due to the presence of non-target compounds; consequently, the SVOC reporting limits were raised for that sample. Reporting limits were higher than the detection limit requirements of the LWDS Work Plan for the following chemical analyses:

- VOC analyses for all samples;
- SVOC analyses for SNLA010120;
- The metals copper, nickel, potassium, and thallium for all samples; and
- The additional metal arsenic for SNLA010121.

The reporting limits have also been compared to the action levels given in the LWDS Work Plan. The reporting limit exceeded the action level for the following chemical analyses:

- The VOCs vinyl chloride, carbon tetrachloride, bromodichloromethane,[1] 1,1,2,2-tetrachloroethane, and tetrachloroethene for all samples;

- The SVOCs bis(2-chlorethyl) ether,[1] hexachlorobutadiene,[1] 2,6-dinitrotoluene,[1] N-nitrosodiphenylamine,[1] 3,3-dichlorobenzidine,[1] and bis(2-ethylhexyl) phthalate,[1] for all samples;

- The additional SVOCs hexachloroethane, nitrobenzene, isophorone, and hexachlorocyclopentadiene for SNLA010120; and

- The metal thallium[1] for all samples.

Laboratory quality control sample results reported concurrent with SNLA010118, SNLA010120, and SNLA010121 included single and duplicate control samples and method blank analyses. Measures of accuracy and precision for all parameters are within analytical control limits. All parameters were undetected in the method blanks.

Table 1-B shows the results of the radiochemistry analyses and corresponding action levels given in Table 3-2 of the LWDS Work Plan. Radionuclides are considered undetected if the 2-sigma uncertainty is greater than the result (such as that for sample SNLA010118, gross alpha); however, results with this uncertainty for gross alpha, gross beta, and tritium analyses are shown in the table for your information. Only the gamma spectroscopy results which were above the detection limit are shown in the table; the detection limits for all gamma emitters for which the laboratory analyzed the samples are shown in the radioanalysis section

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(1) The action level given in the work plan is lower than the detection level the EPA considers reasonably achievable for the given method (the practical quantitation limit).

of the analytical report. The results of the gamma spectroscopy indicate that cobalt-60 and cesium-137 are present in the sample from Tank No. 4 at detectible levels, but below the action level.

If you have any questions or require additional information concerning these analytical results, please contact the undersigned or Mr. Mark Lyon at 262-8800.

Sincerely,

IT CORPORATION

Mary B. Worth

Mary Worth
Project Chemist

MW:vm
Enclosure

TABLE 1-A

PARAMETER	ACTION LEVEL* (µg/L)	SNLA010118 (µg/L) Tank #2	SNLA010120 (µg/L) Tank #2	SNLA010121 (µg/L) Tank #4
Volatile Organic Compounds				
1,2-Dichloroethene	Not Determined	1.60E02	1.20E02	ND
Trichloroethene	5.0E00	2.7E01	2.8E01	ND
Semivolatile Organic Compounds				
	Various	ND	ND	ND
Cyanide, Total				
	Not Determined	ND	ND	ND
Metals, Total				
Aluminum	Not Determined	1.50E02	9.50E02	1.20E02
Arsenic	5.0E01	7.4E00	5.9E00	ND
Barium	1.000E03	9.5E01	1.20E02	1.8E01
Boron	Not Determined	3.1E02	2.7E02	3.10E02
Cadmium	1.0E01	ND	1.3E01	2.8E01
Calcium	Not Determined	6.52E04	6.54E04	5.9E03
Chromium	Not Determined	ND	1.1E01	ND
Copper	Not Determined	ND	9.9E01	7.5E01
Iron	Not Determined	1.8E03	7.0E03	2.5E03
Lead	5.0E01	1.2E01	5.8E01	1.3E01
Magnesium	Not Determined	2.48E04	2.32E04	3.9E03
Manganese	Not Determined	7.5E01	9.0E01	2.2E01
Mercury	2.0E00	4.0E-01	1.5E00	3.9E00
Potassium	Not Determined	8.1E03	7.2E03	ND
Silicon	Not Determined	5.89E04	5.95E04	3.4E03
Sodium	Not Determined	8.87E04	8.10E04	6.40E04
Zinc	Not Determined	4.30E02	6.20E02	4.5E01

Table 1-B

PARAMETER	ACTION LEVEL[a] (pCi/L)	SNLA010118 (pCi/L)	SNLA010120 (pCi/L)	SNLA010121 (pCi/L)
Radionuclides				
Gross alpha	Not Determined	4E00 +/- 7E00	8E00 +/- 9E00	8E00 +/- 9E00
Gross beta	Not Determined	1E01 +/- 2E01	3E01 +/- 2E01	30E01 +/- 3E01
Gamma spectrum	Various: Co-60: 5E03 Cs-137: 3E03	None > DL	None > DL	Co-60: 8E01 +/- 2E01
				Cs-137: 5.2E02 +/- 5E01
Tritium	2E06	-3E02 +/- 3E02	-2E02 +/- 3E02	1E02 +/- 3E02

ND = Not Detected
DL = Detection Limit
[a] = From the "RCRA Facility Investigation Work Plan for the Liquid Waste Disposal System (LWDS), April 1992, Tables 3-2 and 10-2 to 10-6.

ATTACHMENT 3

LAWRENCE LIVERMORE NATIONAL LABORATORY
GROUNDWATER FLOW STUDY
MARCH 1997

Lawrence Livermore National Laboratory
University of California
Livermore, California 94551

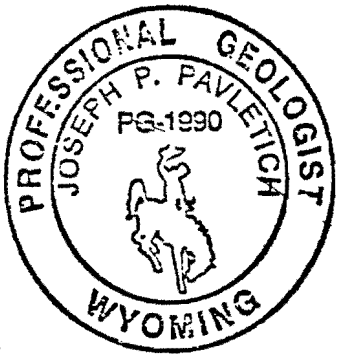
UCRL-AR-126781

Direct Ground Water Flow Direction and Velocity Measurements Using the Variable-Focus Colloidal Borescope at Sandia National Laboratory Albuquerque, New Mexico

Authors:

David K. Wood*
Robert A. Ferry*
Richard K. Landgraf

March 1997



*Weiss Associates, Emeryville, California

Environmental Protection Department
Environmental Restoration Program and Division

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Joseph P. Pavletich of GRAHAM Inc., Albuquerque, New Mexico.

Rosanne Depue, Kim Heyward, Fred Hoffman, and Michael Taffet of Lawrence Livermore National Laboratory, Livermore, California.

Lindee Berg of Weiss Associates, Emeryville, California.

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Appendix

Appendix A. Data Plots

1. Introduction

The colloidal borescope directly observes suspended colloids (particles generally 1–10 microns [μm] in size) to measure real-time local ground water flow direction and velocity in a monitor well. In addition, the borescope can be used to observe colloid mobilization during well sampling and ground water pumping. A fixed focus borescope was developed at Oak Ridge National Laboratory (Kearl, 1997), which has been used successfully to investigate ground water flow at several DOE facilities including Lawrence Livermore National Laboratory (LLNL), Kansas City, Fernald, Savannah River, Hanford, Portsmouth, and Paducah.

A remotely controlled, variable-focus borescope was developed at LLNL (Ferry et al., 1995) and used in this study. This borescope consists of a video camera, flux gate magnetic compass, variable 36-136× magnification lens, and illumination source, which are encased in a stainless steel (SS), waterproof housing (Fig. 1). Focal length is controlled from a camera control unit (CCU) at the surface, and can be varied over a 20–500 millimeter range to image any desired interval within this range without raising or lowering the borescope. This is beneficial because moving the borescope disturbs the ground water flow field and mobilizes large numbers of colloids, thus greatly increasing the ground water flow field stabilization time. A compass displays the orientation of the borescope digitally at the CCU. Illumination is provided by low-heat producing light-emitting diodes, and can be adjusted from the CCU to improve contrast and optimize colloid definition.

A typical field deployment is shown in Figure 2. The downhole borescope assembly is lowered to the desired depth in a well using an electric winch with an electronic depth counter. Depth measurements are confirmed using cable markings. Once the borescope reaches the water surface in the wellbore, the insertion speed is slowed as much as possible to minimize colloid mobilization and flow disturbances. After the borescope is positioned at the desired depth, a packer is inflated above the borescope to ensure centralization in the well, and to eliminate barometric and wind noise effects. The orientation of the downhole camera is noted in relationship to magnetic north. Video images of colloids are displayed on a video monitor at the CCU and stored on a video cassette recorder (VCR). Once data collection is initiated, the video signal from the monitor is repeated to a frame grabber board installed in a portable personal computer. At time intervals determined by the operator (usually about 4 seconds), images are digitized, and the computer software compares the initial and subsequent images to calculate the distance and direction the colloids have moved. Ground water flow velocities are determined by calculating the distance the colloids move over time. The average azimuth of all colloids (relative to instrument north) and average speed of colloid movement are stored on the computer hard disk. Software parameters and the illumination intensity can be adjusted to optimize image acquisition if conditions change.

Data are typically collected for several hours; extremely large data sets can be collected to overcome the effects of short-term fluctuations in ground water flow. Characteristic curves display a stabilization period of about 20–40 minutes. Flow stabilization time is inversely proportional to the *in situ* velocity of ground water flow, i.e., at higher flow velocities, less time is required. By changing the focal length of the camera lens, any desired depth interval may be examined, and flow direction and velocity profiles developed. These data are graphed as X-Y or

polar plots. The colloidal borescope can measure ground water flow velocities as low as 1 micron per second (µm/sec) (0.09 meters per day [m/d]).

2. Field Data Collection

Data from the colloidal borescope were collected at Sandia National Laboratory in Albuquerque, NM (SNL/NM) on November 12–21, 1996. Ground water flow direction and velocity measurements were made in five wells at Tech Area V (Fig. 3). At Tech Area II, ground water flow direction and velocity measurements were made in one well. Additionally, an evaluation of colloid mobilization and flow patterns induced by low-flow-rate purging were conducted in this well.

3. Data Processing

Some data scatter is inevitable due to the nature of natural ground water flow and the hardware and software operation of the data acquisition package. Subsequent data processing of the SNL/NM field data consisted of the following steps:

1) Plotting data as X-Y graphs, observing the signal-to-noise ratio (SNR), and if necessary, applying mathematical outlier identification algorithms to improve the SNR. In the SNL/NM data sets, 3 to 30% of the data points were filtered. However, due to the large number of measurements (typically 100 to 8,000 data points), sufficient data were retained to provide a clear indication of flow direction and velocity.

2) Correcting the apparent azimuth data to reflect the orientation of the instrument within the wellbore to yield the azimuth relative to magnetic north, and then using the local declination to correct data relative to true north.

3) Correcting velocities for the magnification factor and the well-to-formation velocity differential. The velocity differential results from the hydraulic conductivity contrast between the wellbore, the sandpack, and the formation. Discounting skin effects (Kearl, 1997), the wellbore has a higher hydraulic conductivity than the sandpack, which is higher than the formation, thus the ground water flowlines converge in the wellbore. This results in higher observed velocities. However, it is important to note that the flow direction of the center flowline is unaffected and no correction is necessary. Kearl (1997) found that in sandbox experiments, the velocity measured by the borescope in the wellbore is 1.0 to 4.0 higher than the formation velocity. Freeze and Cherry (1979) calculated a correction factor of 0.2 to 1.8. Momii et al. (1993) derive an approximate correction factor of 3. A correction value of 2.5 was used for the SNL/NM data.

4) Generating X-Yand polar plots from the SNL/NM data. These plots are described below and presented in Appendix A.

X-Y Plots. X-Y plots display elapsed time in hours, minutes, and seconds on the horizontal x-axis, ground water velocity on the left hand vertical y-axis in µm/s, and azimuth in degrees relative to true north on the right hand y-axis. Figure 4 presents a representative X-Y plot.

Polar Plots. Polar plots are oriented with true north (zero degrees azimuth) at the top of the page, with degrees increasing clockwise. Velocity values are plotted radially outward from zero velocity located at the center of the plot. These plots are particularly useful in simultaneously displaying more than one data set, either from more than one well, or from multiple intervals within a single well. Figure 5 presents a representative polar plot.

5) Evaluating and subjectively ranking data quality as being excellent, good, fair, and poor (Tables 1 and 2). Only excellent, good and fair quality data are considered as accurate indicators of local ground water flow. The highest quality data for a given interval within a well are used for evaluation. Data identified as poor are not used for ground water flow determination, but are used to identify noise sources and improve future data collection techniques.

4. Results

Tech Area V. The colloidal borescope was used to measure ground water flow and direction in five ground water monitor wells at SNL/NM Tech Area V. Multiple intervals were logged in two of the wells. The results are summarized in Table 1. The colloidal borescope measured southern ground water flow in wells AVN-2, LWDS-MW1, and TA5-MW1, and a more west-southwest flow in well TA5-MW2. Ground water velocities ranged from 4 to 11 µm/s (0.35 to 0.95 m/d). Well LWDS-MW2 data indicates a ground water flow direction to the south-southeast. Velocity in this well is considerably higher, at approximately 40 µm/s. Additional data were not obtained from this well due to time constraints. No vertical flow was observed in these wells.

Tech Area II. The colloidal borescope was used in well TA2-MW1 at SNL/NM Tech Area II to demonstrate the effects of a micropurge sampling pump on wellbore flow fields after observing the *in situ* flow field. Table 2 summarizes the borescope measurements taken with the pump attached to the borescope before, during, and after pumping. These data show that local ground water flow at well TA2-MW1 is toward the east-southeast at 3 to 4 µm/s (0.26 to 0.35 m/d).

To demonstrate the effects of micropurge sampling, a pump intake was attached to a reference mark on the borescope and then the pump intake was adjacent to the focusing interval. The flow field was observed under non-pumping conditions. Pumping was then initiated at the recommended rate of 100 milliliters per minute (ml/min), and the pumping rate was gradually increased to approximately 500 ml/min. At all pumping rates, colloids were observed to move in a horizontally laminar, radial manner toward the pump inlet. No vertical flow was observed within the depth of field of the instrument (0.1 millimeters) except when pumping at the maximum rate (500 ml/min). There was no observable increase in mobilized colloids over background conditions at any pumping rate, confirming the field observations of Kearl et al. (1992;1994). Data recorded during and after pumping reflected a disturbed flow field and a stabilization to easterly flow directions.

5. Conclusions

The colloidal borescope measurements at SNL/NM were successful in estimating local ground water flow direction and velocity. Typical site-wide well spacing rarely provides sufficient resolution to determine local ground water flow patterns, especially in heterogeneous subsurface environments. Measurements made using the colloidal borescope may provide important information on local ground water flow near contaminant release sites, and when designing extraction systems or monitoring engineered subsurface barriers. SNL/NM may wish to integrate the measurements from the colloidal borescope with other hydrogeologic information to enhance the understanding of local ground water flow dynamics, improve conceptual hydrogeologic models, and locate future monitor wells.

6. References

Ferry, R. A., L. R. Rueth, R. K. Landgraf, B. Q. Qualheim, and P. M. Kearl (1995), "Direct Ground Water Flow Direction and Velocity Measurements Using the Colloidal Borescope" in proceedings of *ER'95 Conference*, Denver Colorado, August 13–17, 1995.

Freeze, R. A. and J. A. Cherry (1979), Groundwater (Prentice Hall, Englewood Cliffs, New Jersey).

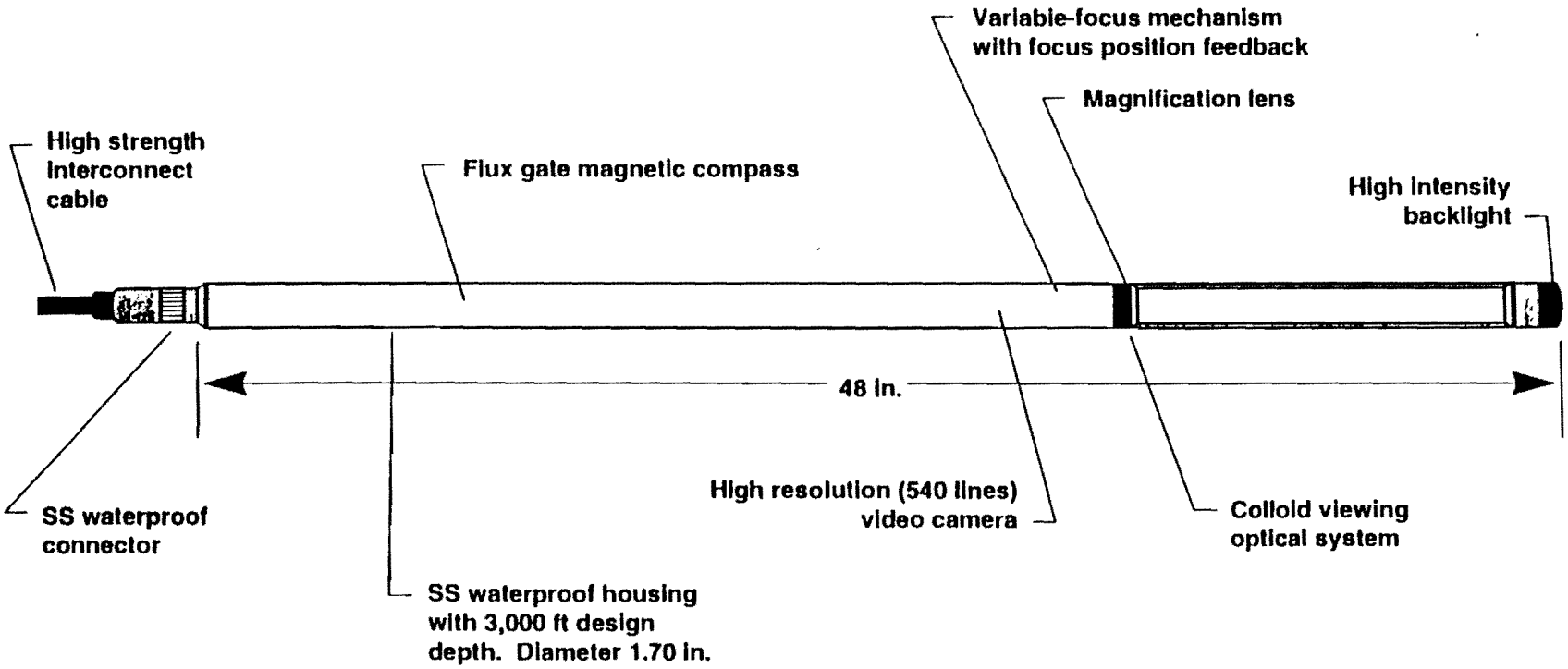
Kearl, P. M., N. E. Korte, and T. A. Cronk (1992), "Suggested Modifications to Ground Water Sampling Procedures Based on Observations from the Colloidal Borescope," *Ground Water Monitoring Review*, Spring 1994, p. 155–160.

Kearl, P. M., N. E. Korte, M. Stites, and J. Baker (1994), "Field Comparison of Micropurging vs. Traditional Ground Water Sampling," *Ground Water Monitoring Review*, Fall 1994, p. 183–190.

Kearl, P. M. (1997), "Observations of Particle Movement in a Monitoring Well Using the Colloidal Borescope," *Journal of Hydrogeology* (in press).

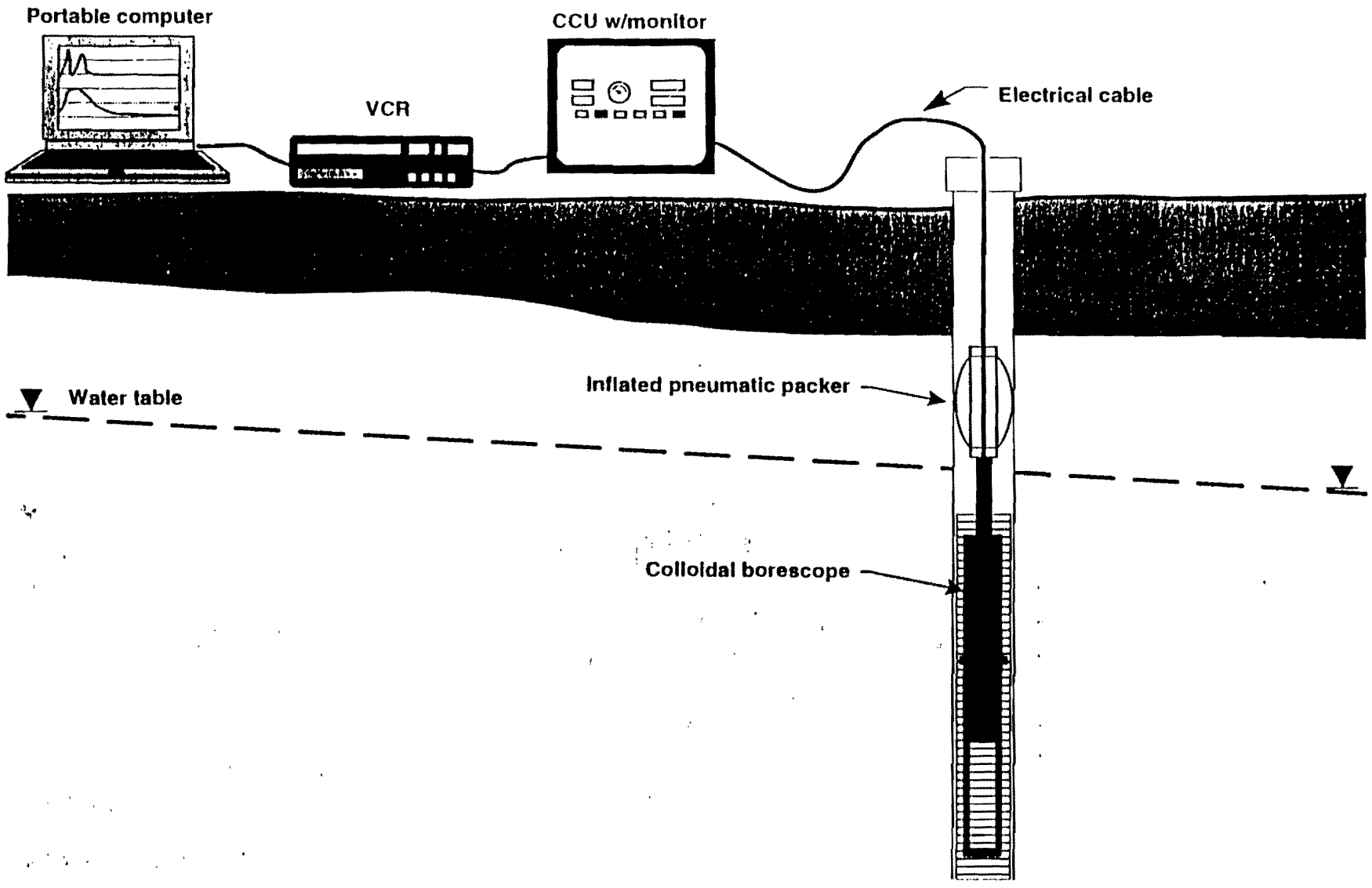
Momii, K., K. Jinno, and F. Hirano (1993), "Laboratory Studies on a New Laser Doppler Velocimeter System for Horizontal Groundwater Velocity Measurements in a Borehole," *Water Resources Research*, **29**(2), p. 283–291.

Figures



ERD-LSR-97-0022

Figure 1. Schematic of variable-focus colloidal borescope.



ERD-LSR-97-0023

Figure 2. Field setup of the colloidal borescope.

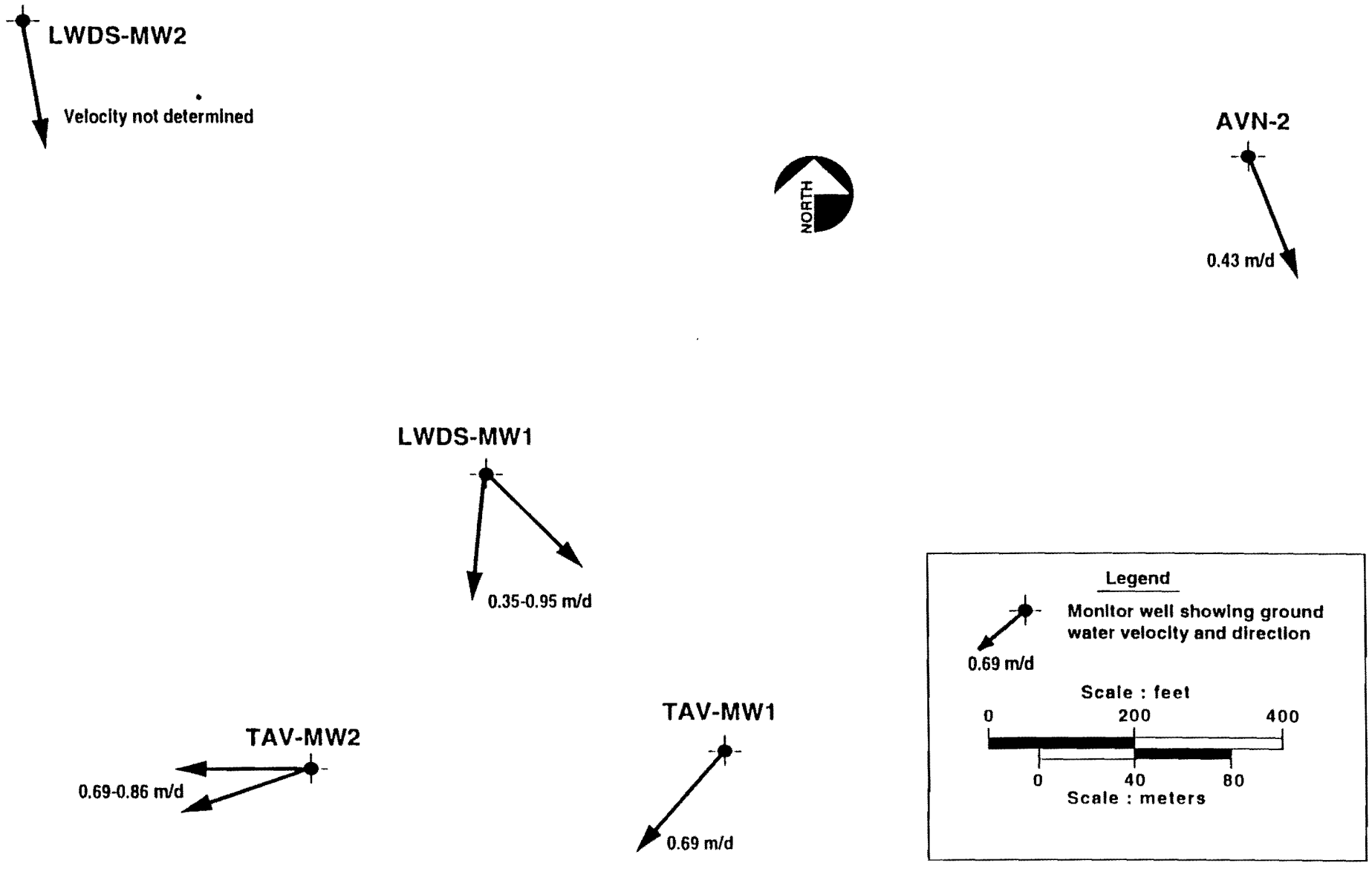


Figure 3. Colloidal borescope measurements at Tech Area V, Sandia National Laboratory, New Mexico.

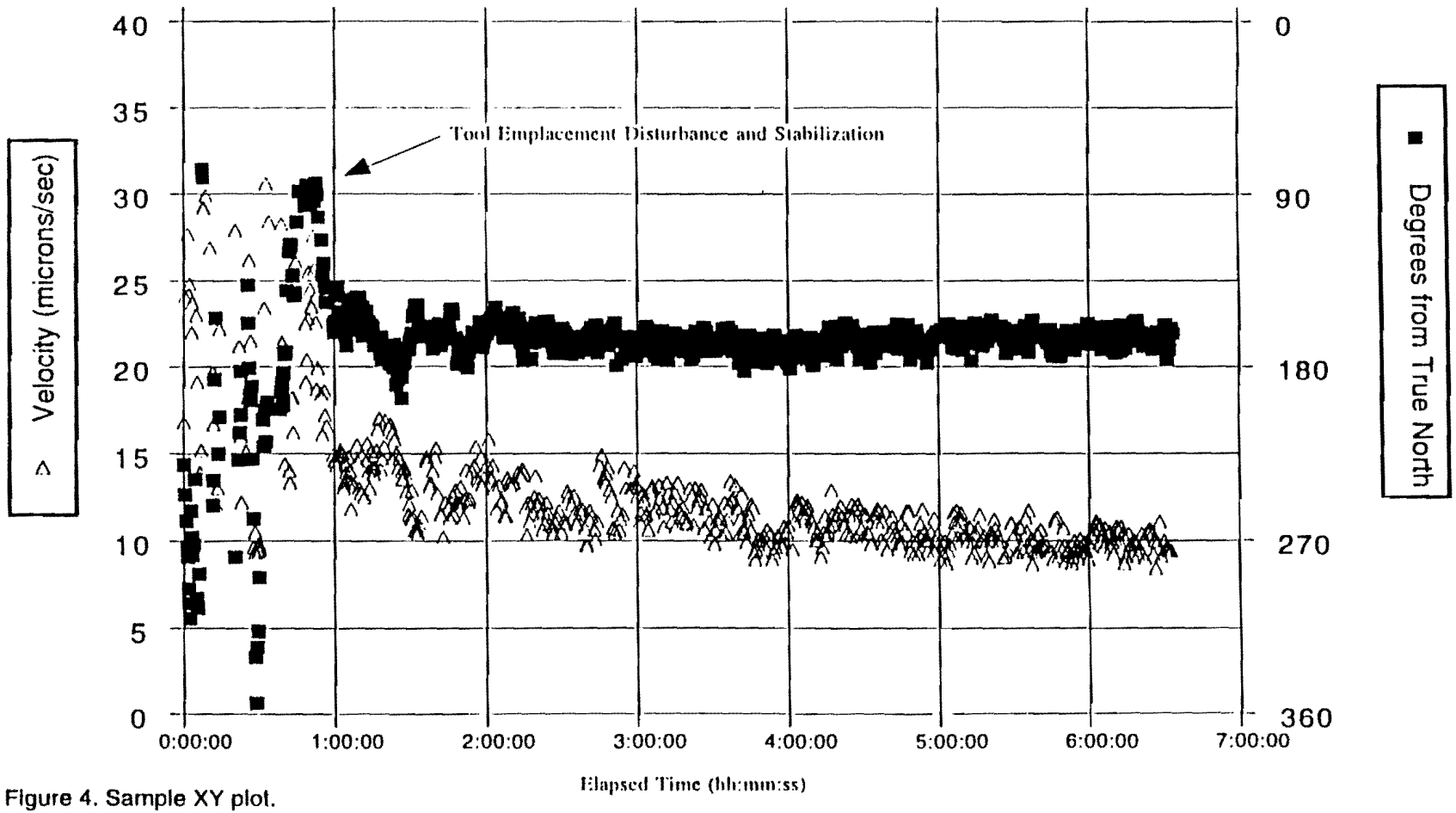


Figure 4. Sample XY plot.

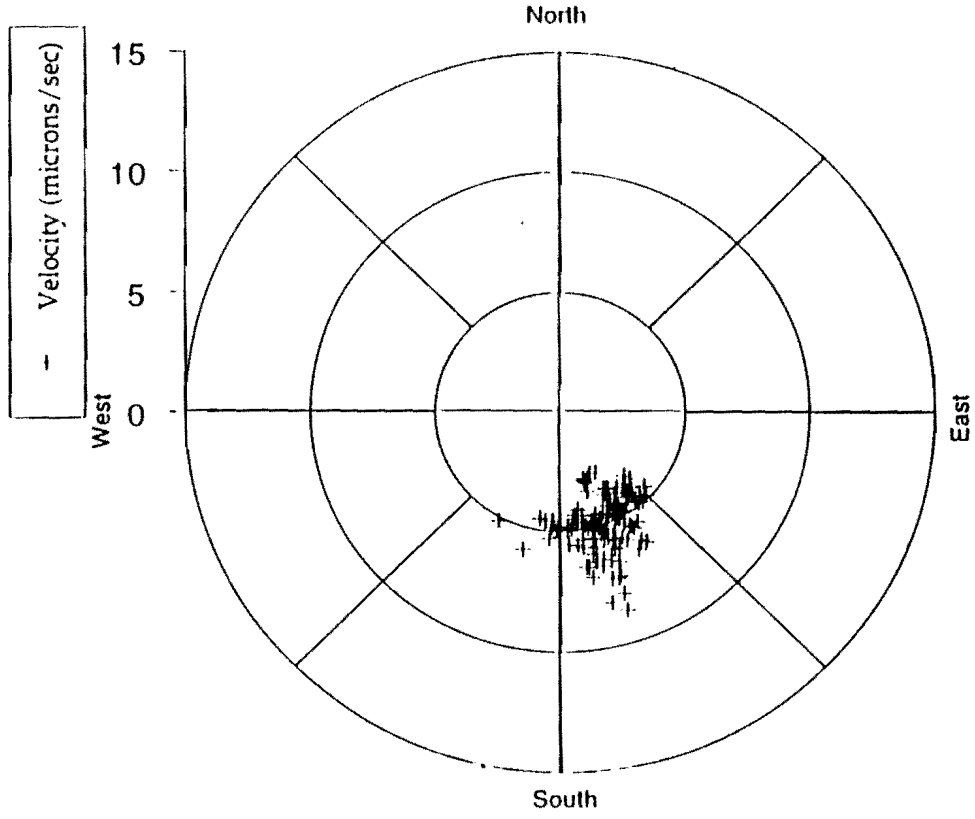


Figure 5. Sample polar plot.

Tables

Table 1. Data summary for Tech Area V, SNL/NM.

Well name	Log number	Depth (ft bgs)	Velocity (μm/s)	Velocity (m/d)	Azimuth (degrees)	Data quality[a]
AVN-2	Log 0088	509.0	5	0.43	160	Excellent
LWDS-MW1	Log 0091	500.0	5	0.43	145	Excellent
	Log 0094	500.0	9	0.80	150	Excellent
	Log 0095	502.4	7	0.60	185	Good
	Log 0101	504.5	9	0.80	185	Good
	Log 0103	508.5	11	0.95	170	Excellent
	Log 0104	512.0	4	0.35	135	Excellent
LWDS-MW2	Log 0114	507.0	40	3.60	170	Fair
TA5-MW2	Log 0111	511.5	10	0.86	265	Fair
	Log 0112	507.5	8	0.69	260	Good
	Log 0113	509.5	10	0.86	270	Good
TA5-MW1	Log 0108	507.0	8	0.69	220	Good

bgs = Below ground surface.

[a] The quality classification criteria for borescope data plot are:

Excellent = High confidence, characteristic curve with high SNR and consistent values.

Good = Some confidence, characteristic curve and moderate SNR and consistent values.

Fair = Low confidence, low SNR and variable values.

Poor = Unusable data due to low SNR, unstabilized flow, or inconsistent values.

Table 2. Data summary for Tech Area II, SNL/NM.

Well name	Log number	Depth (ft bgs)	Velocity (μm/s)	Velocity (m/d)	Azimuth (degrees)	Data quality[a]
TA2-MW1	Log 0085	At intake	3	0.26	90	Fair
	Log 0086	At intake	4	0.35	120	Fair

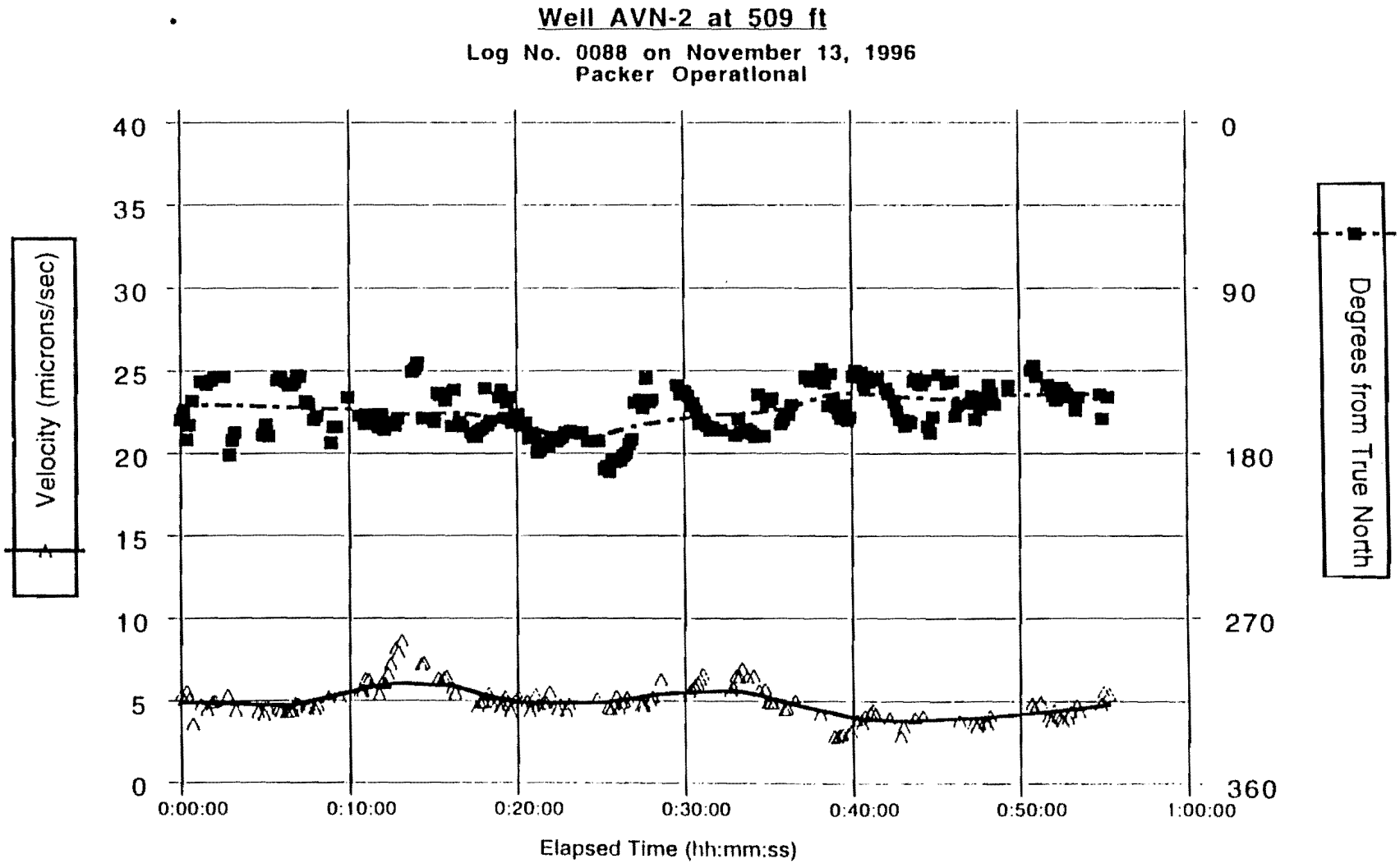
bgs = Below ground surface.

[a] The quality classification criteria for borescope data plot are:

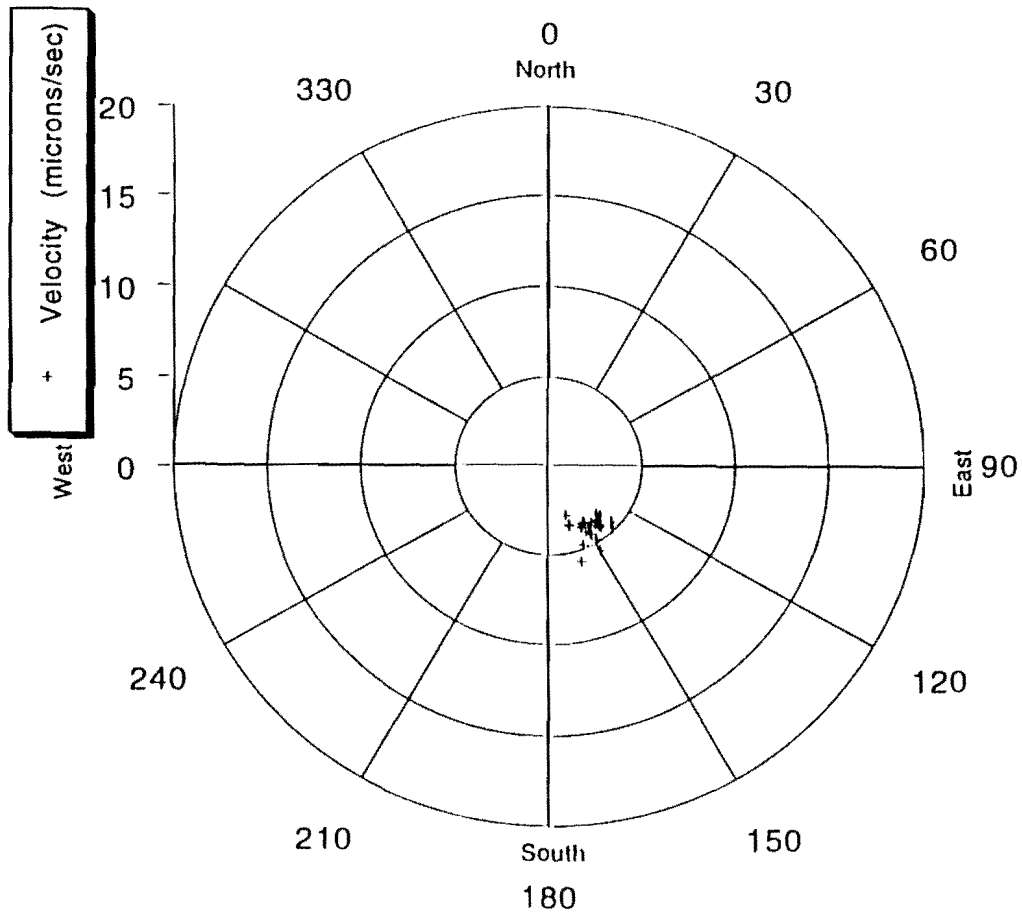
Fair = Low confidence, low SNR, and variable values.

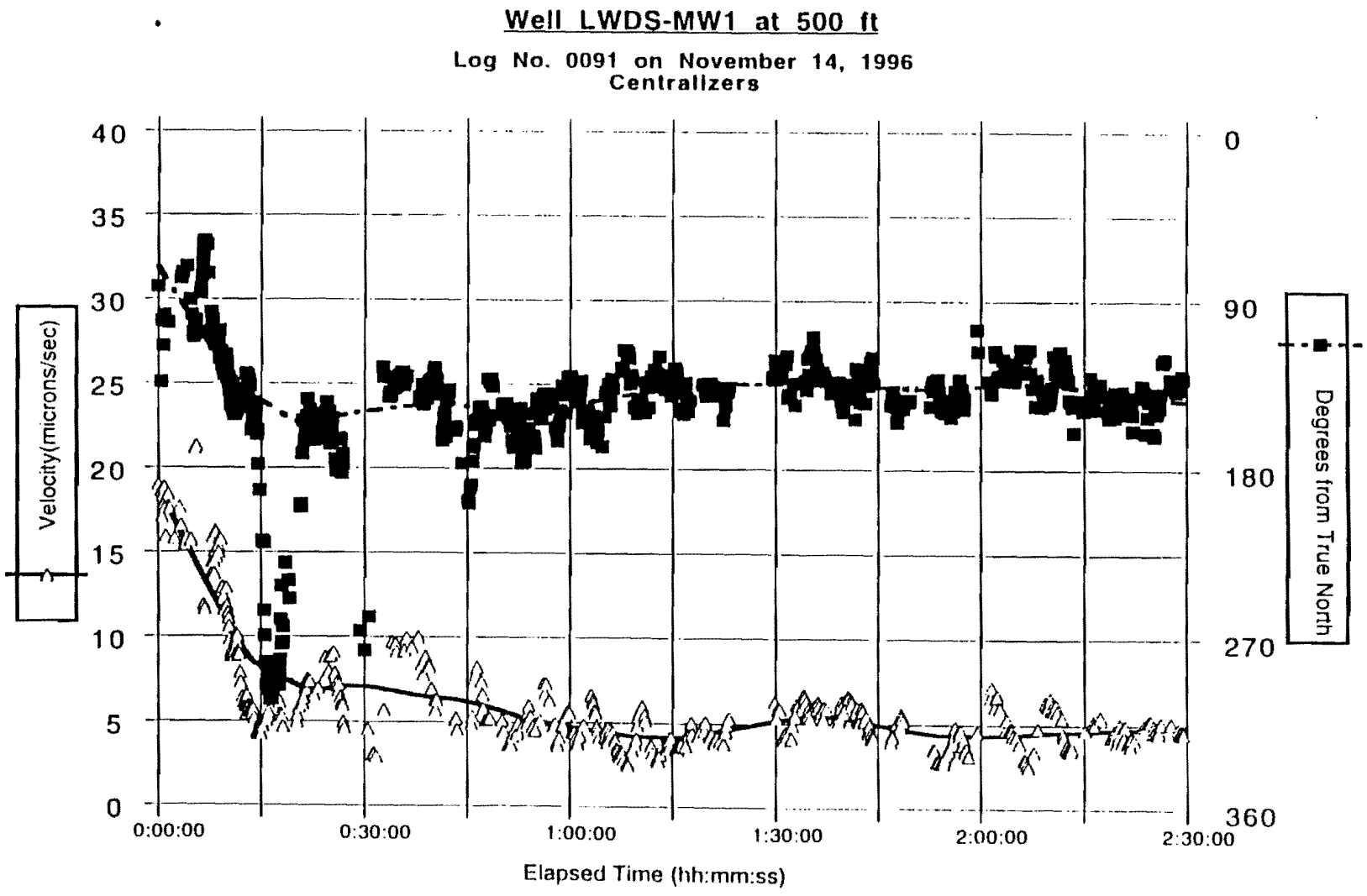
Appendix A

Data Plots

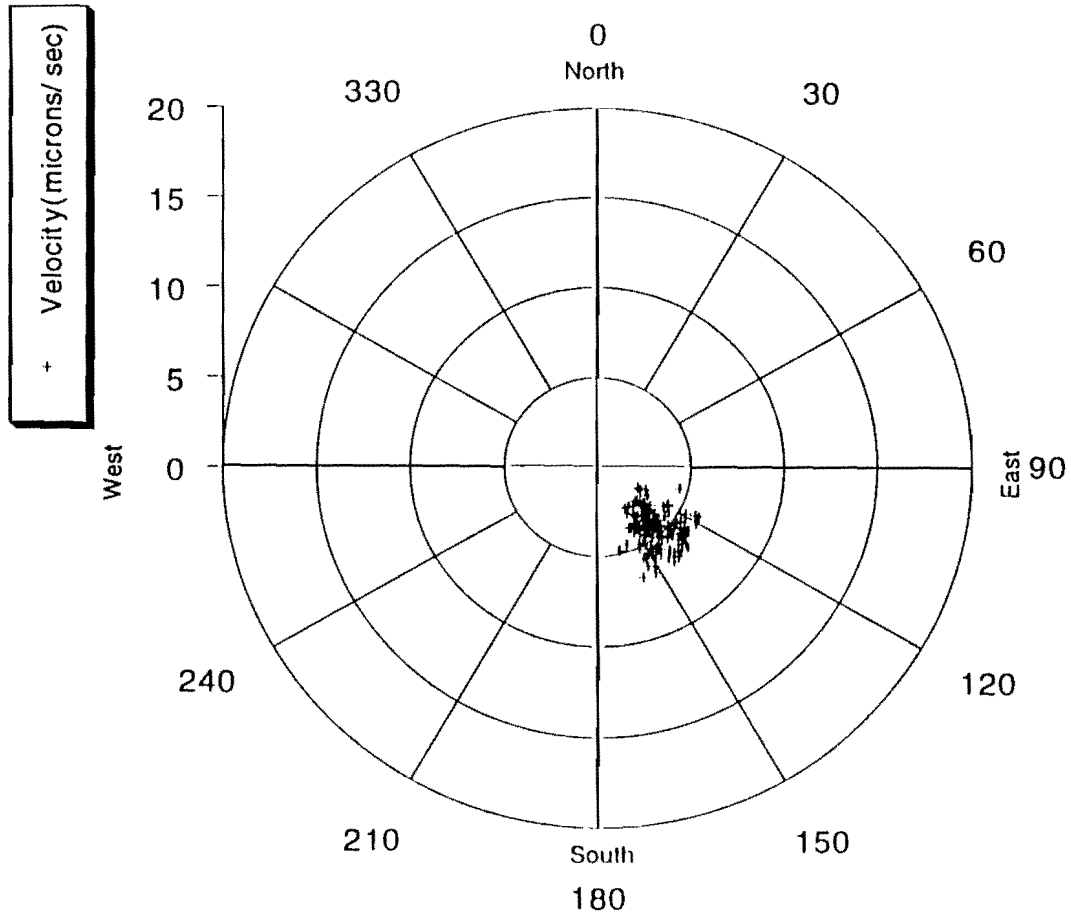

Well AVN-2 at 509 ft
Log No. 0088 on November 13, 1996
Packer Operational
Velocity (microns/sec)
Degrees from True North
40
35
30
25
20
15
10
5
0
0
90
180
270
360
0:00:00
0:10:00
0:20:00
0:30:00
0:40:00
0:50:00
1:00:00
Elapsed Time (hh:mm:ss)

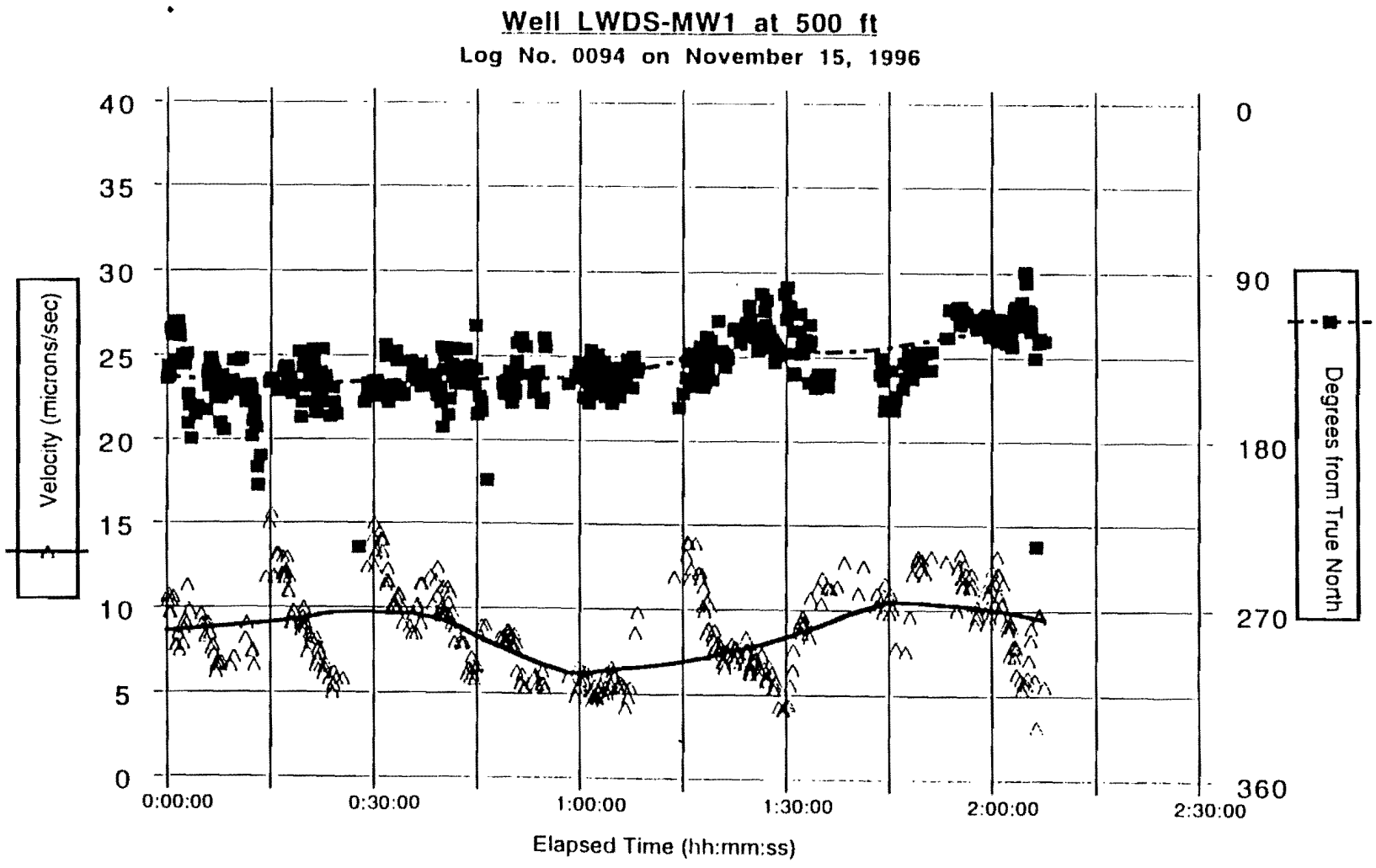
Well AVN-2 at 509 ft
Log 0088, elapsed time 0:40:00-0:53:00 on November 13, 1996



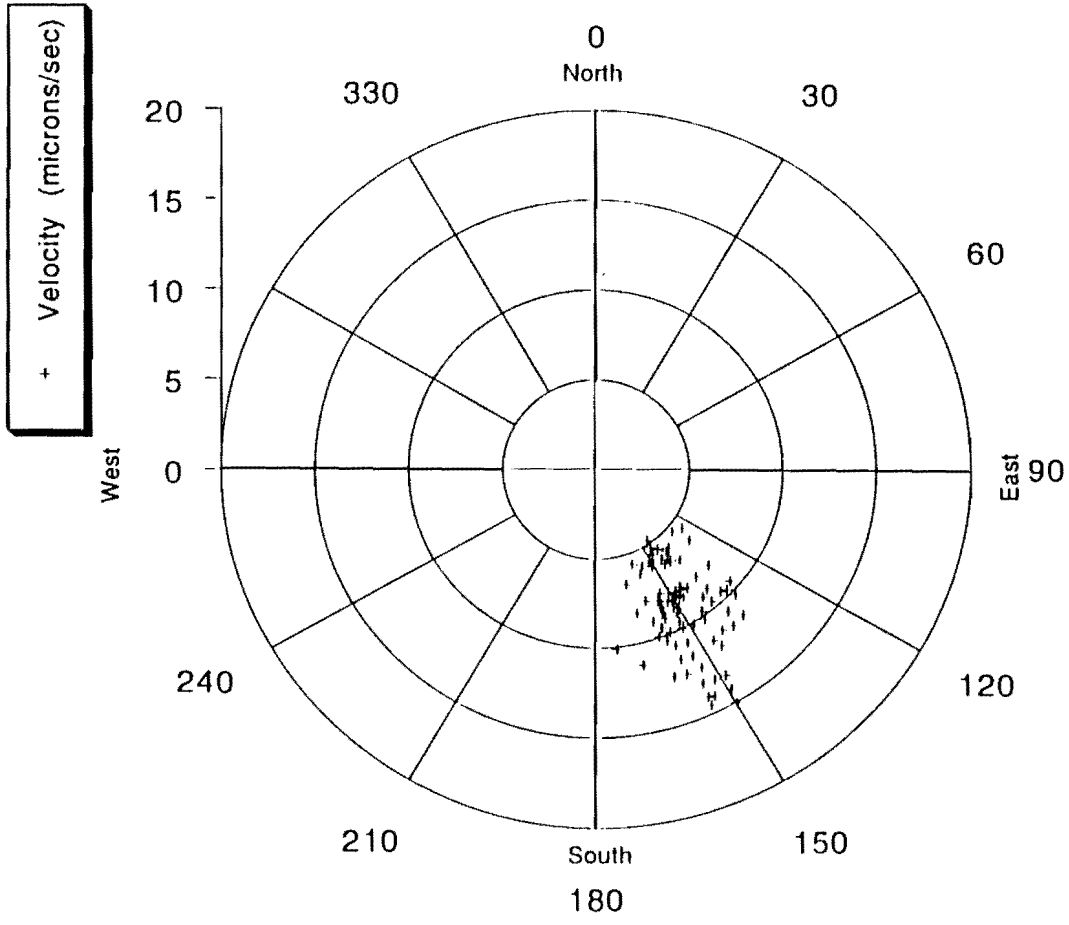

Well LWDS-MW1 at 500 ft
Log No. 0091 on November 14, 1996
Centralizers
Velocity(microns/sec)
40
35
30
25
20
15
10
5
0
0:00:00
0:30:00
1:00:00
1:30:00
2:00:00
2:30:00
Elapsed Time (hh:mm:ss)
0
90
180
270
360
Degrees from True North

Well LWDS-MW-1 at 500 ft
Log 0091, elapsed time 1:00:00-2:00:00 on November 14, 1996



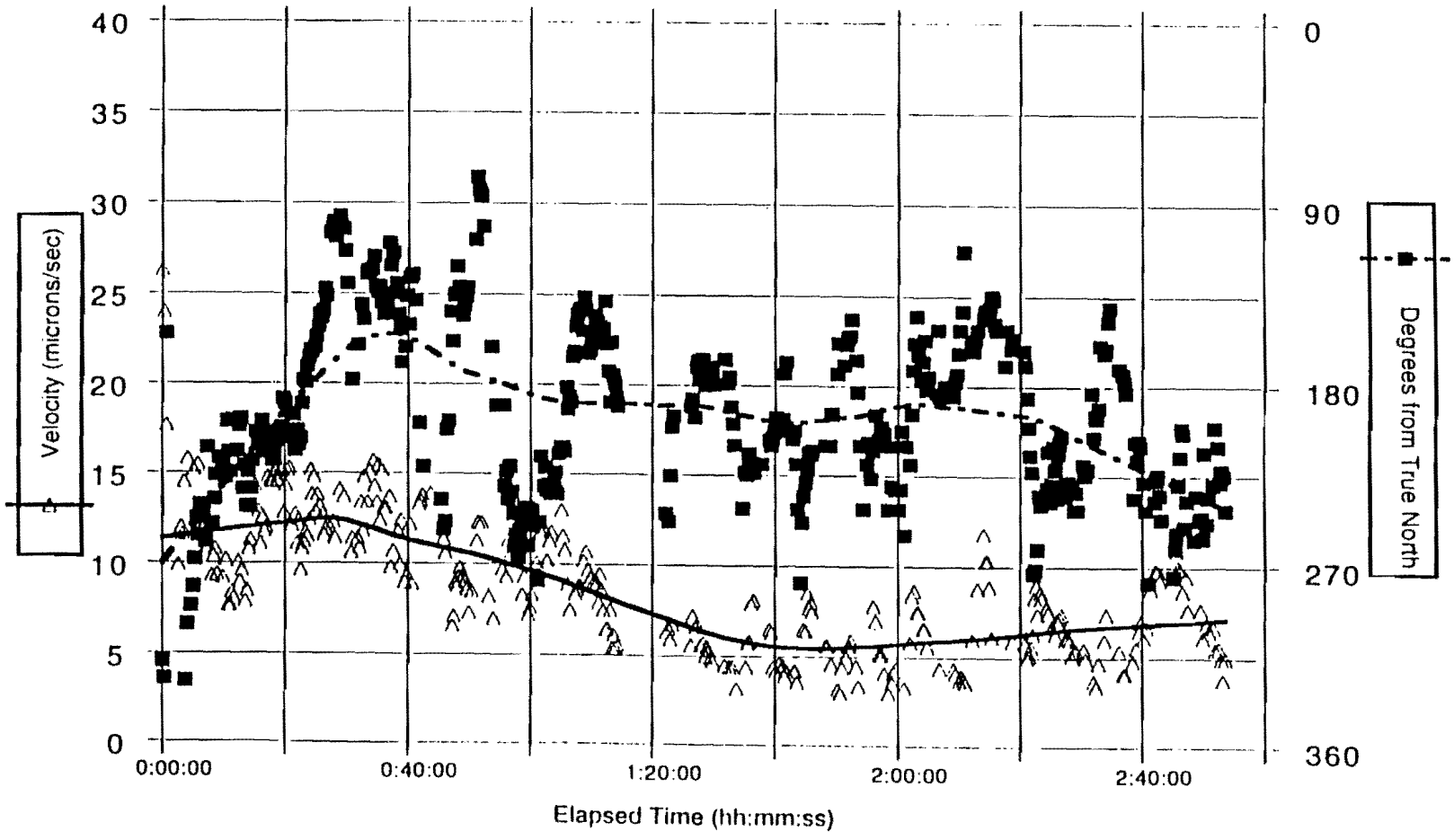

Well LWDS-MW1 at 500 ft
Log No. 0094 on November 15, 1996
Velocity (microns/sec)
40
35
30
25
20
15
10
5
0
0:00:00
0:30:00
1:00:00
1:30:00
2:00:00
2:30:00
Elapsed Time (hh:mm:ss)
0
90
180
270
360
Degrees from True North

Well LWDS-MW-1 at 500 ft
Log 0094, elapsed time 0:30:00-1:00:00 on November 15, 1996

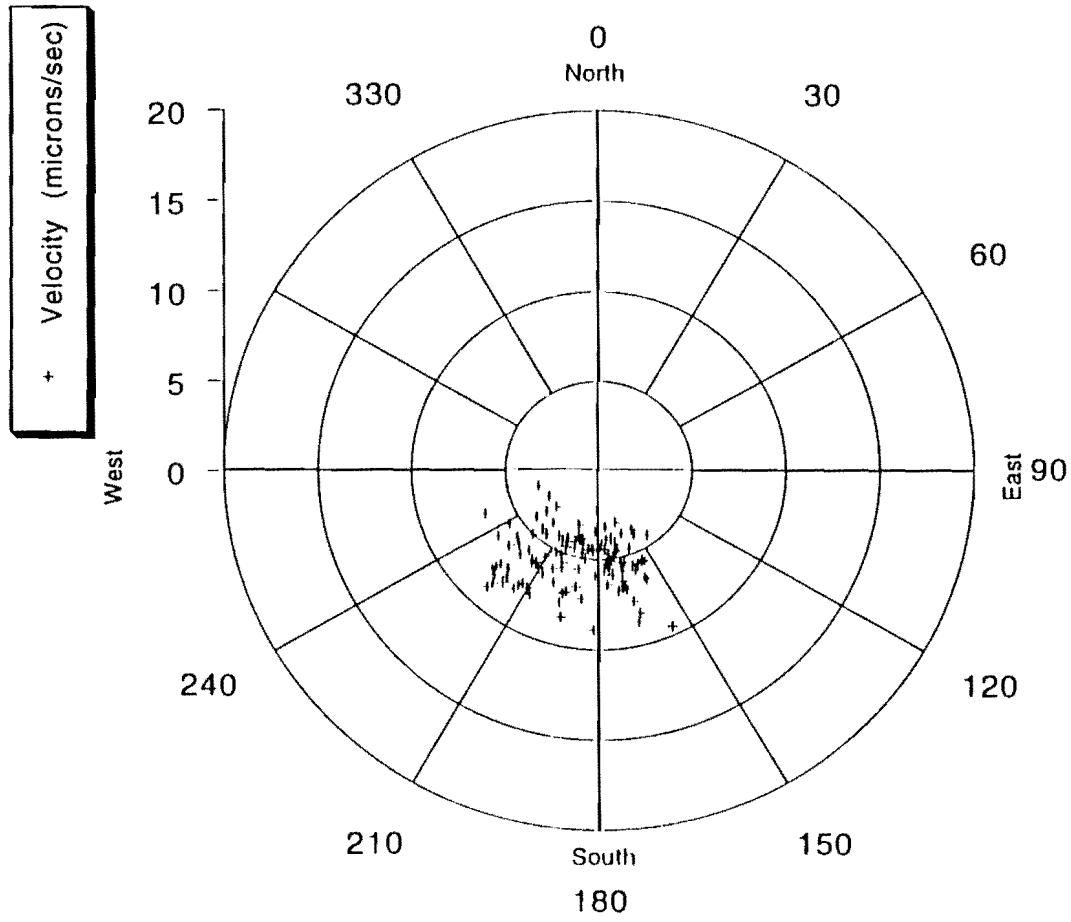


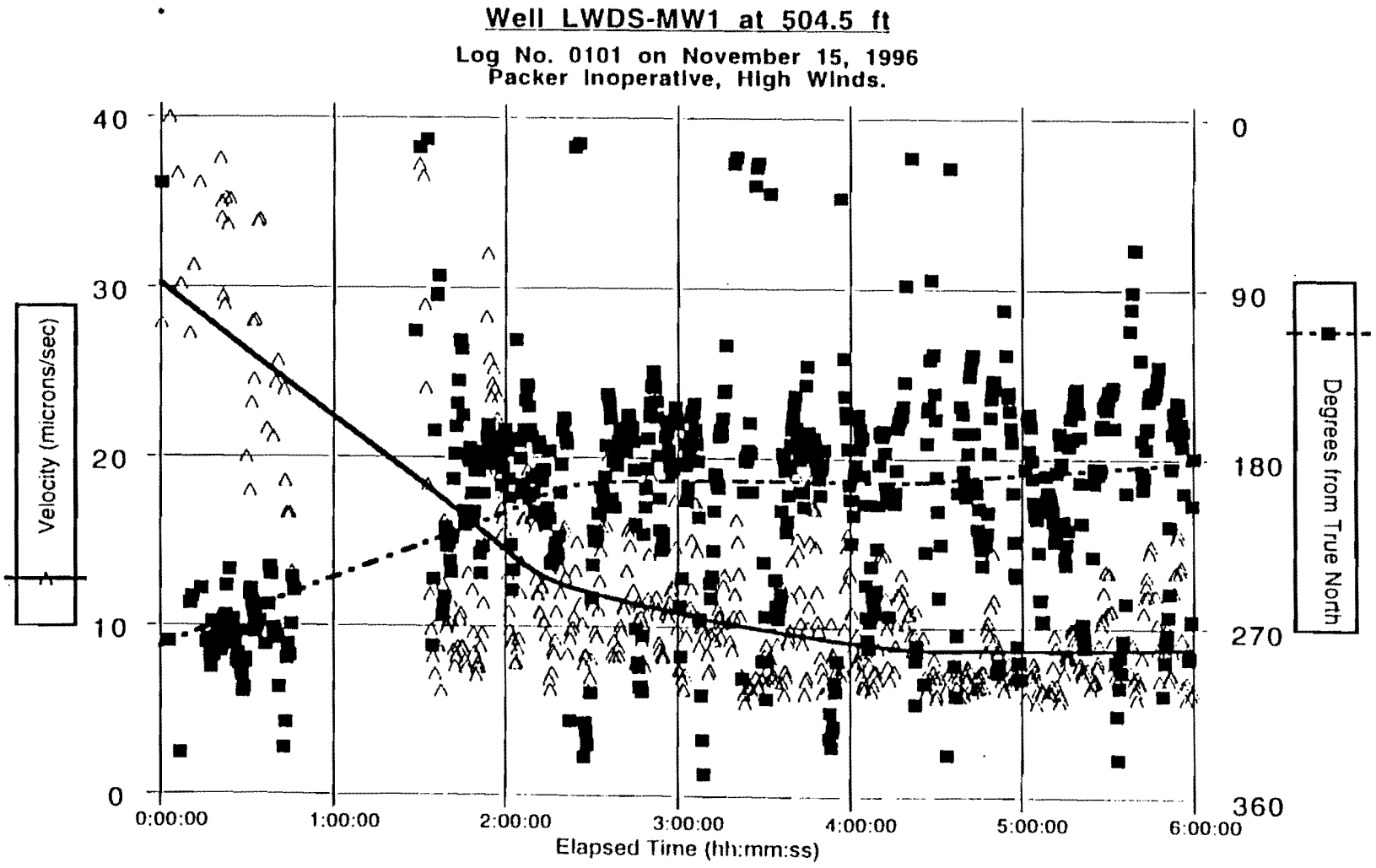
Well LWDS-MW1 at 502.4 ft

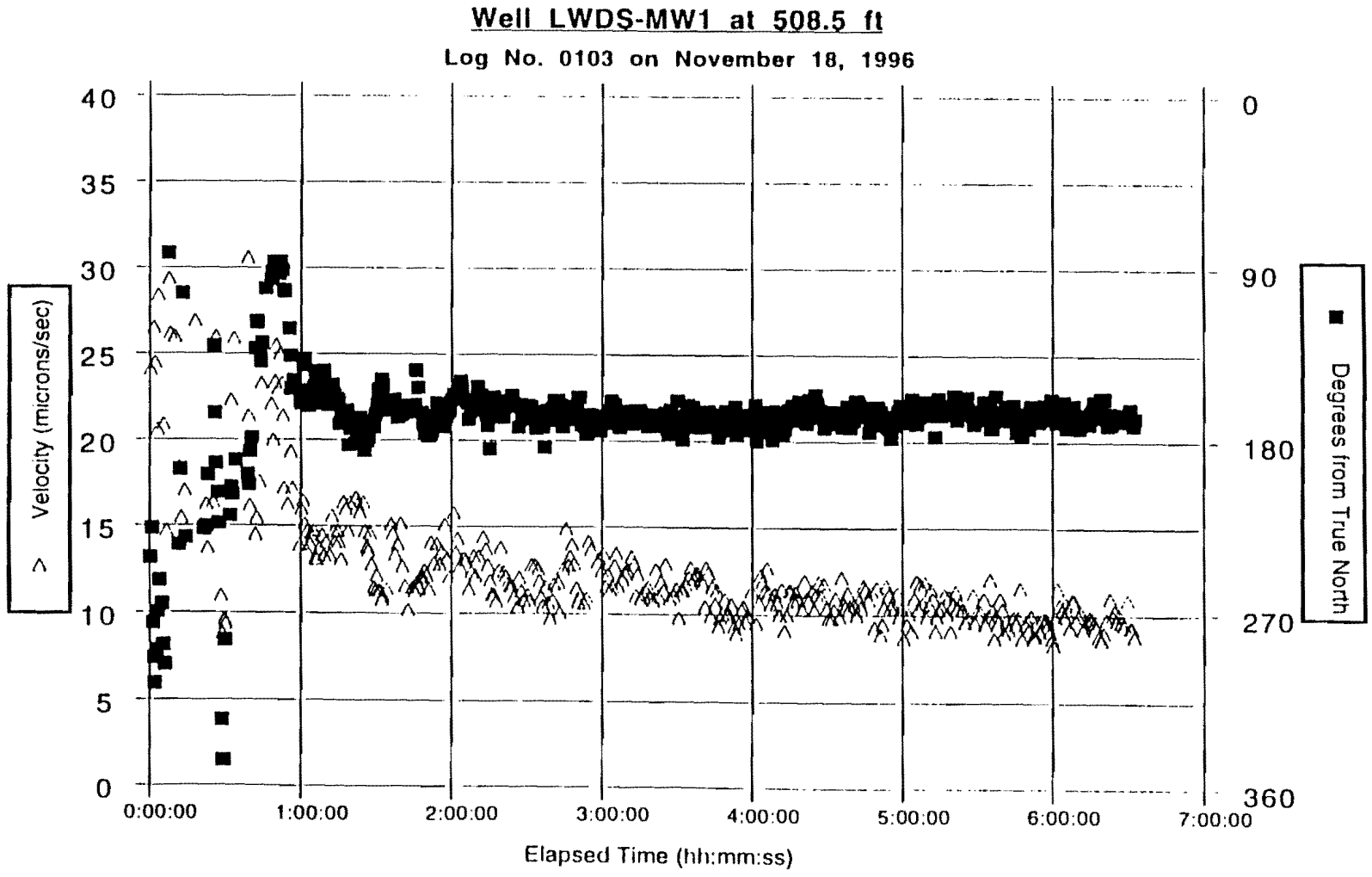
Log No. 0095 on November 15, 1996
No packer, high winds



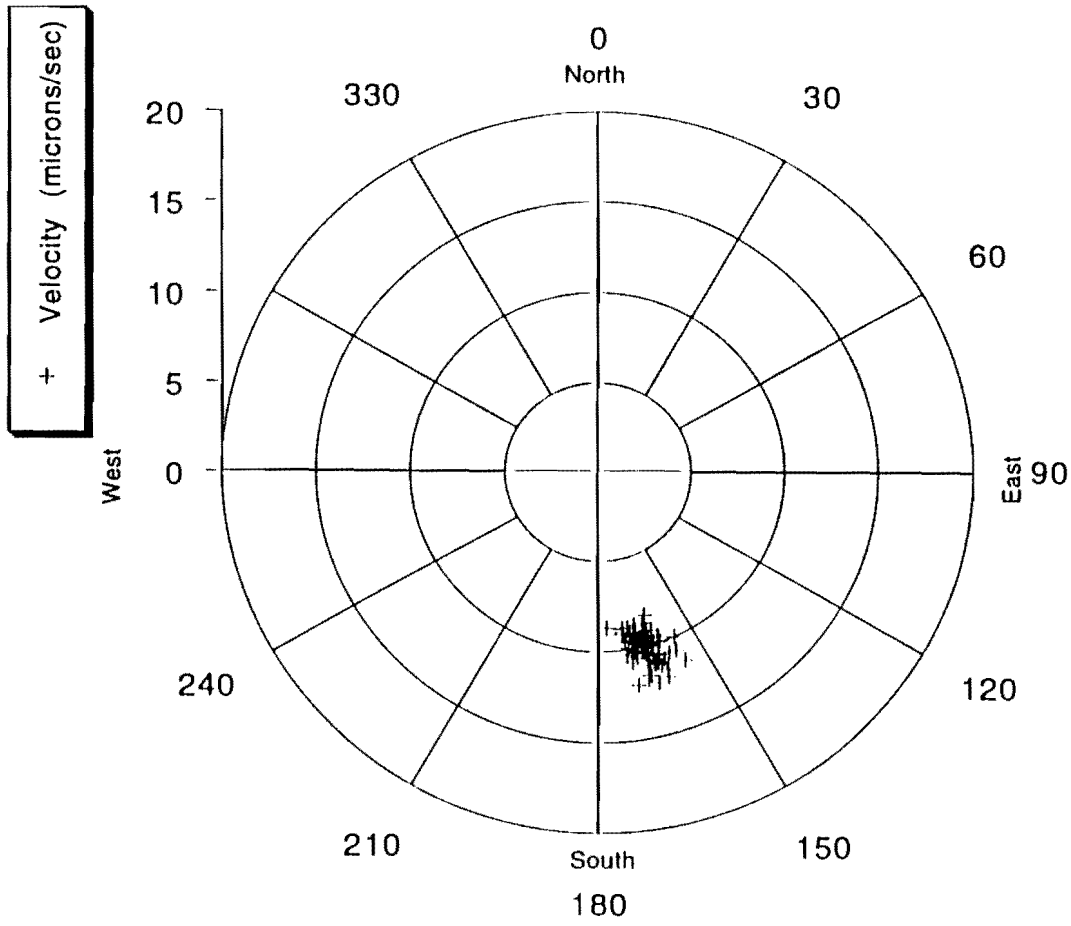
Well LWDS-MW-1 at 502.4 ft
Log 0095, elapsed time 1:22:00-2:10:00 on November 15, 1996

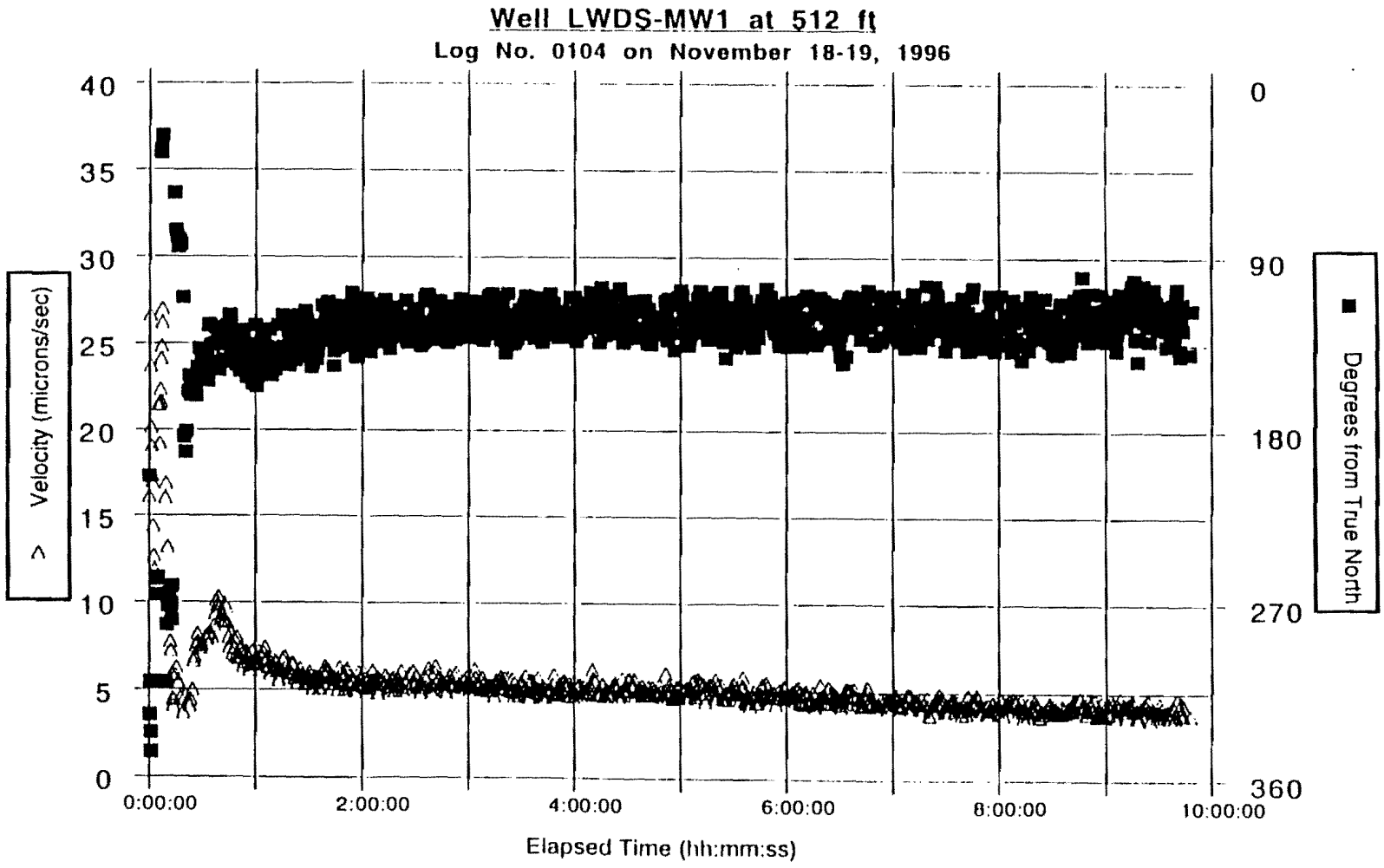



Well LWDS-MW1 at 504.5 ft
Log No. 0101 on November 15, 1996
Packer Inoperative, High Winds.
Velocity (microns/sec)
Degrees from True North
Elapsed Time (hh:mm:ss)
0
10
20
30
40
0
90
180
270
360
0:00:00
1:00:00
2:00:00
3:00:00
4:00:00
5:00:00
6:00:00

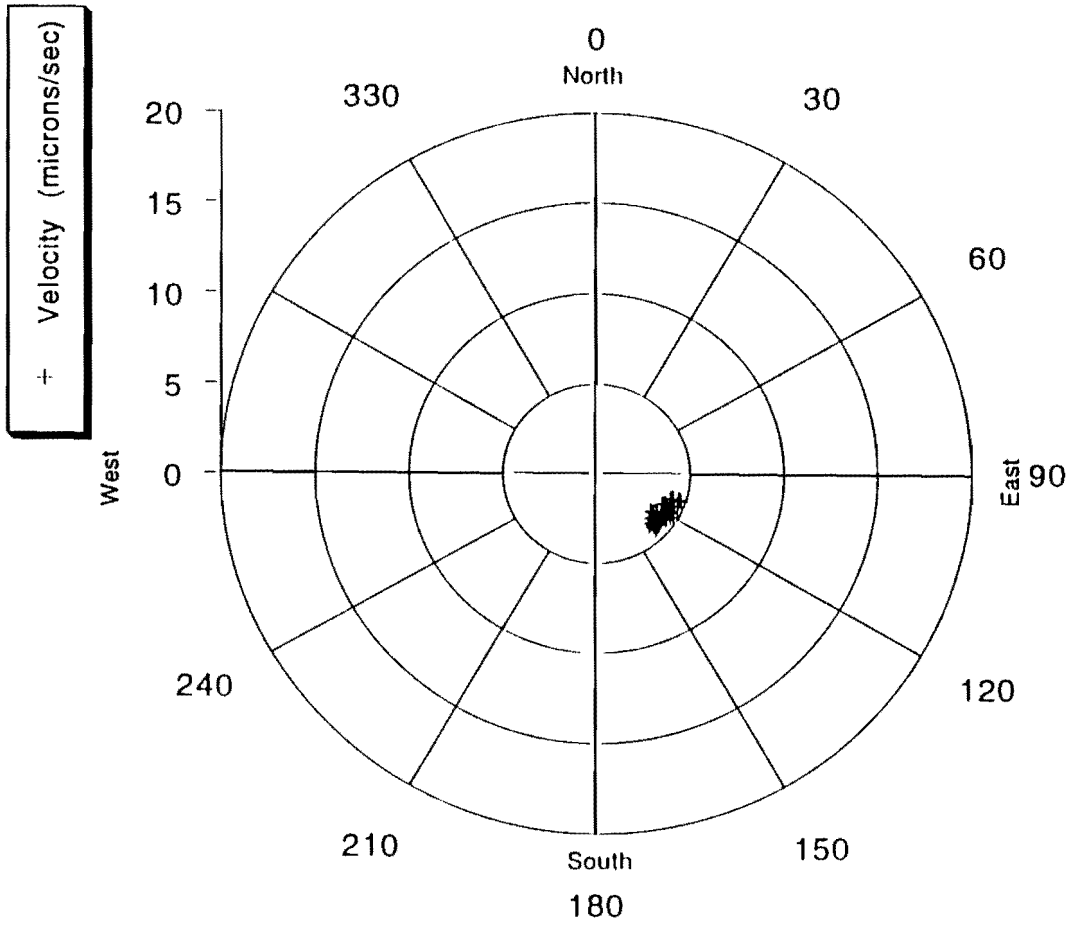

Well LWDS-MW1 at 508.5 ft
Log No. 0103 on November 18, 1996
Velocity (microns/sec)
Degrees from True North
Elapsed Time (hh:mm:ss)
0
5
10
15
20
25
30
35
40
0
90
180
270
360
0:00:00
1:00:00
2:00:00
3:00:00
4:00:00
5:00:00
6:00:00
7:00:00

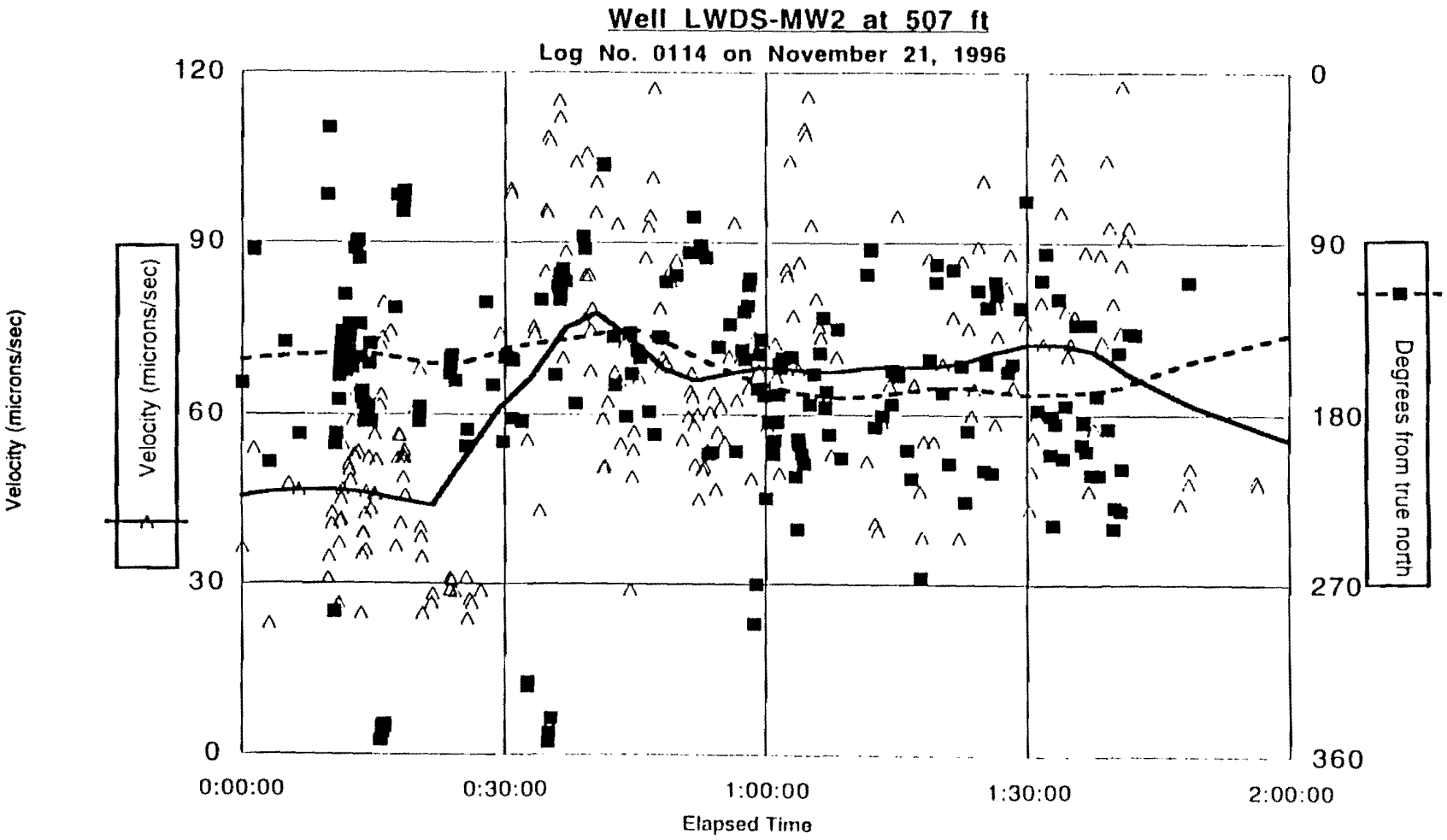
Well LWDS-MW-1 at 508.5 ft
Log 0103, elapsed time 5:00:00-6:00:00 on November 18, 1996



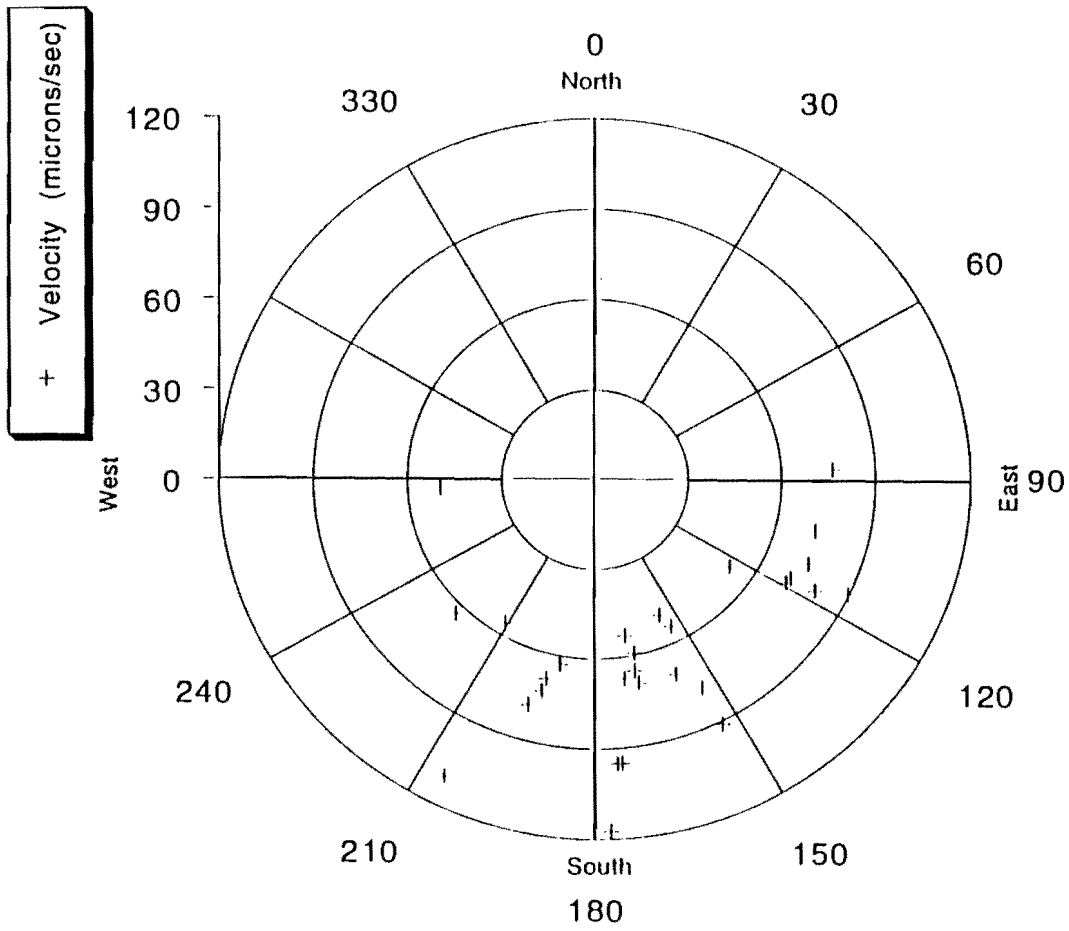

Well LWDS-MW1 at 512 ft
Log No. 0104 on November 18-19, 1996
Velocity (microns/sec)
Degrees from True North
Elapsed Time (hh:mm:ss)
0
5
10
15
20
25
30
35
40
0
90
180
270
360
0:00:00
2:00:00
4:00:00
6:00:00
8:00:00
10:00:00

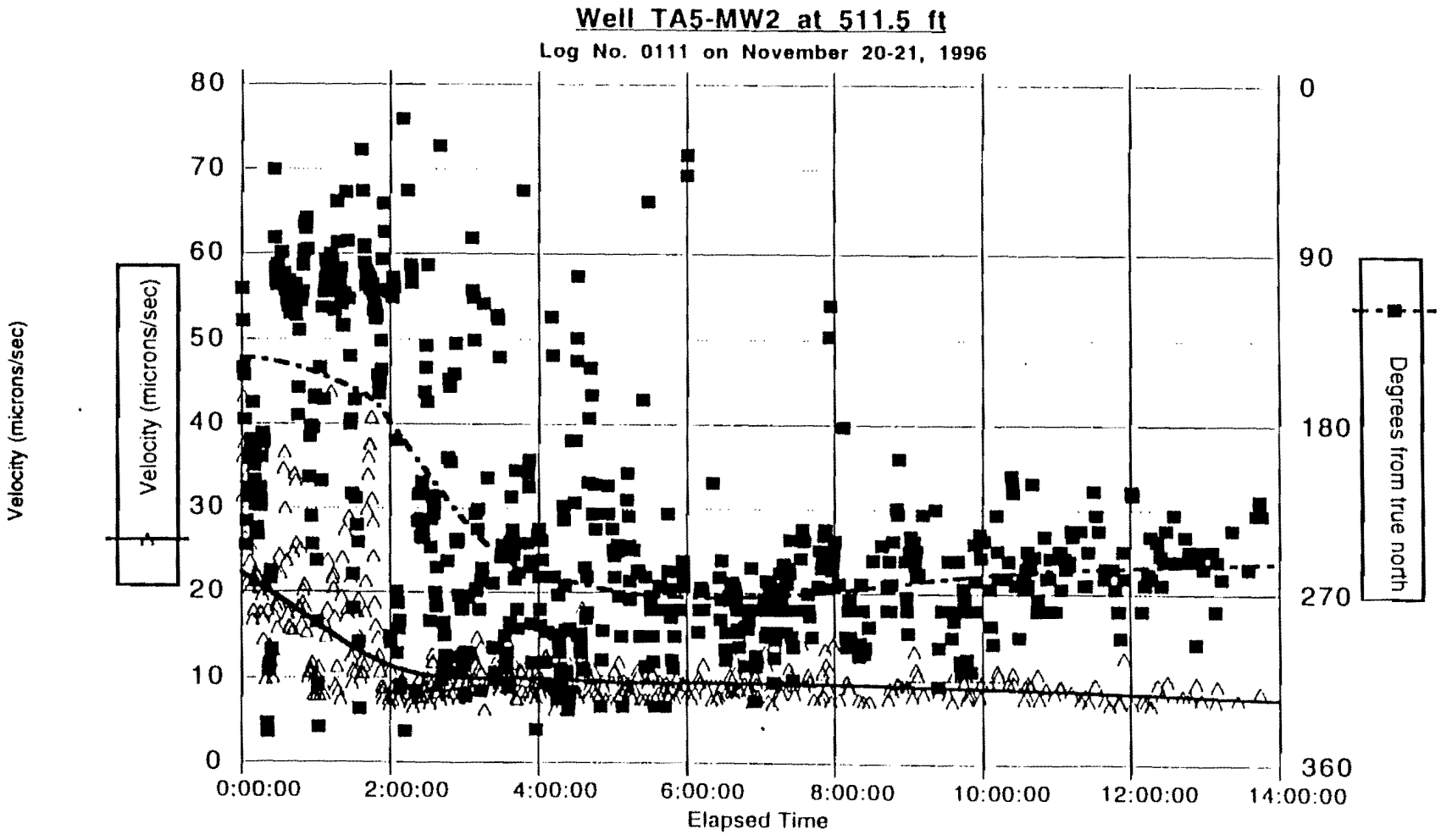
Well LWDS-MW-1 at 512 ft
Log 0104, elapsed time 8:00:00-9:00:00 on November 18-19, 1996



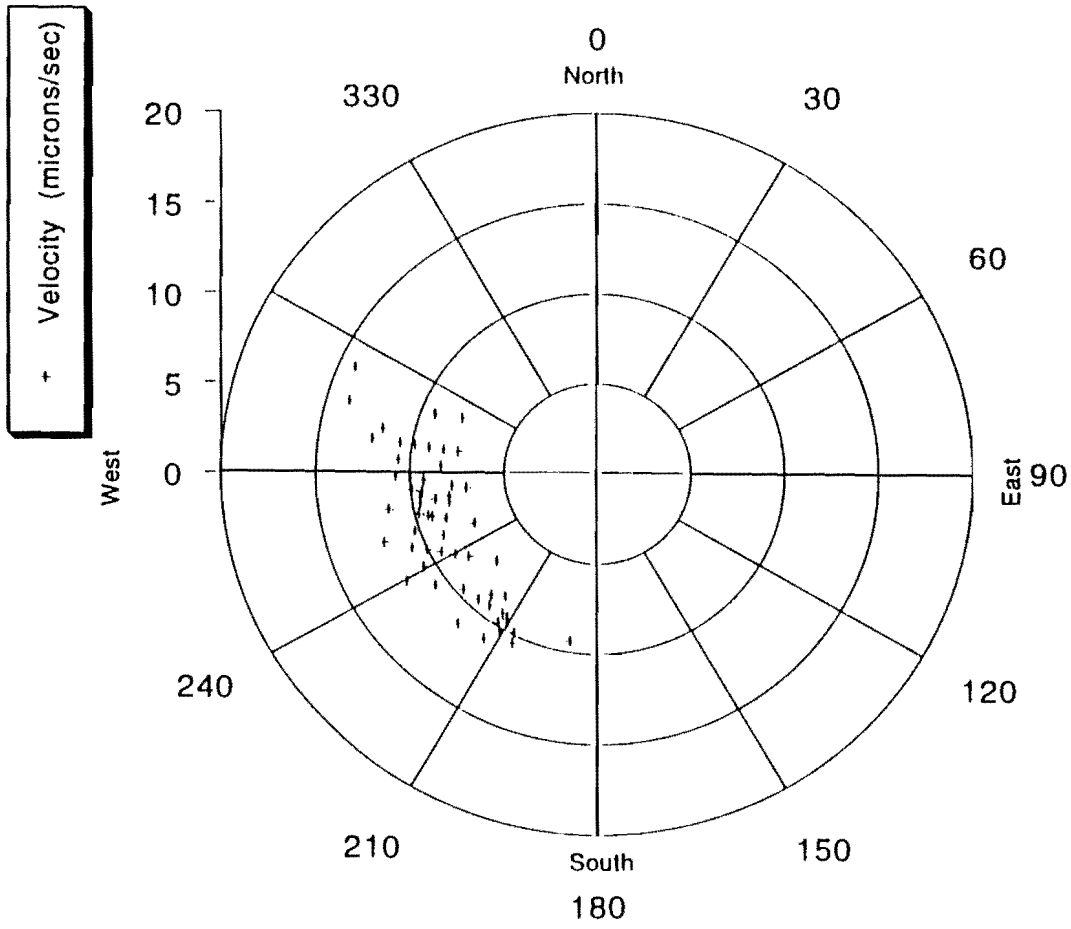

Well LWDS-MW2 at 507 ft
Log No. 0114 on November 21, 1996
Velocity (microns/sec)
120
90
60
30
0
Velocity (microns/sec)
Degrees from true north
0
90
180
270
360
0:00:00
0:30:00
1:00:00
1:30:00
2:00:00
Elapsed Time

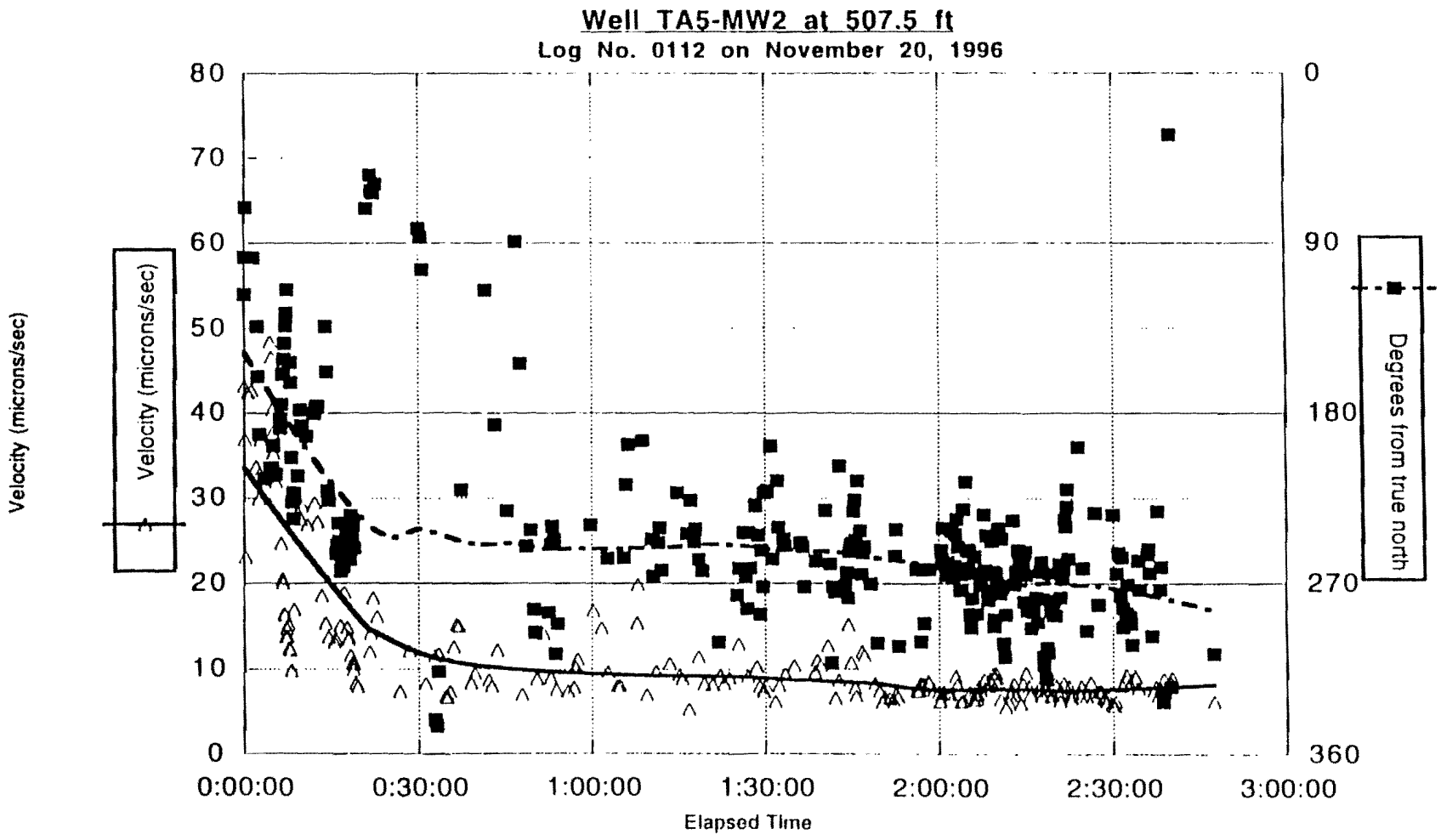
Well LWDS-MW-2 at 507 ft
Log 0114, elapsed time 1:00:00-1:30:00 on November 21, 1996



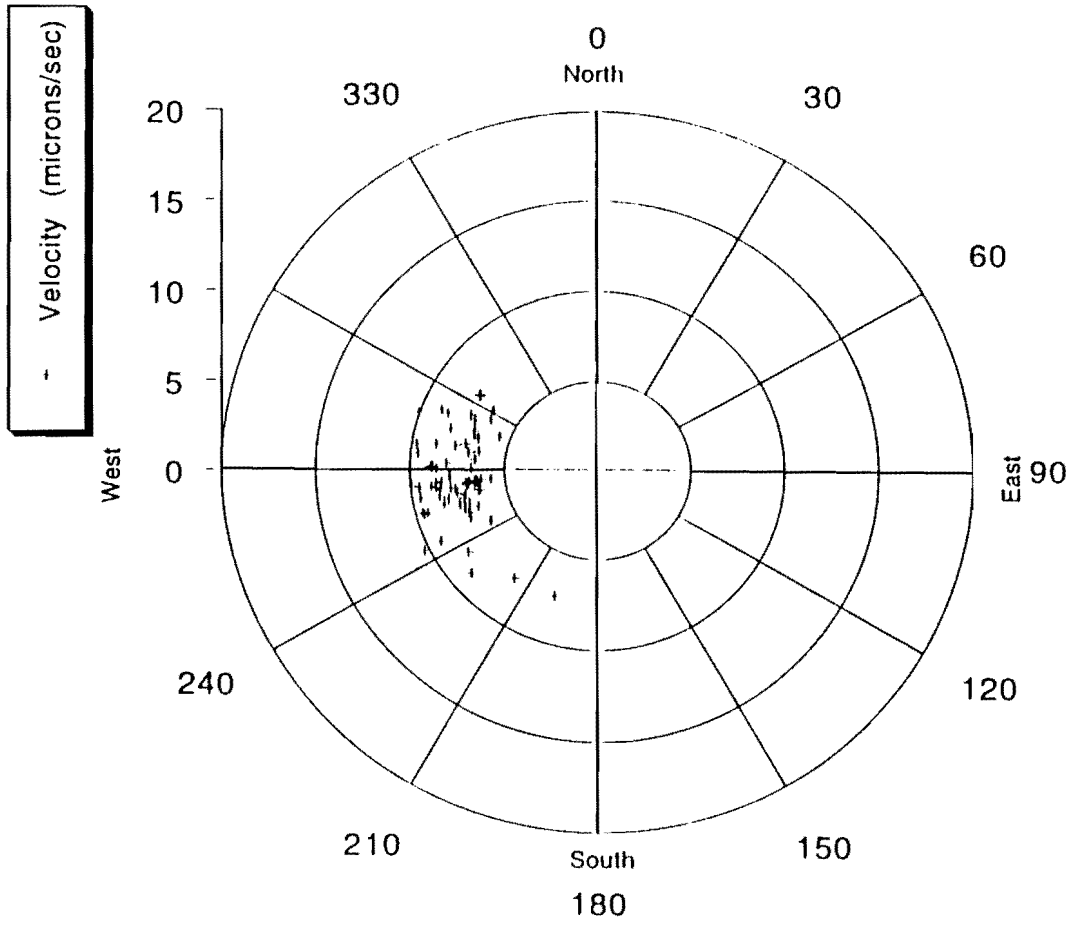

Well TA5-MW2 at 511.5 ft
Log No. 0111 on November 20-21, 1996
Velocity (microns/sec)
Velocity (microns/sec)
80
70
60
50
40
30
20
10
0
0:00:00
2:00:00
4:00:00
6:00:00
8:00:00
10:00:00
12:00:00
14:00:00
Elapsed Time
0
90
180
270
360
Degrees from true north

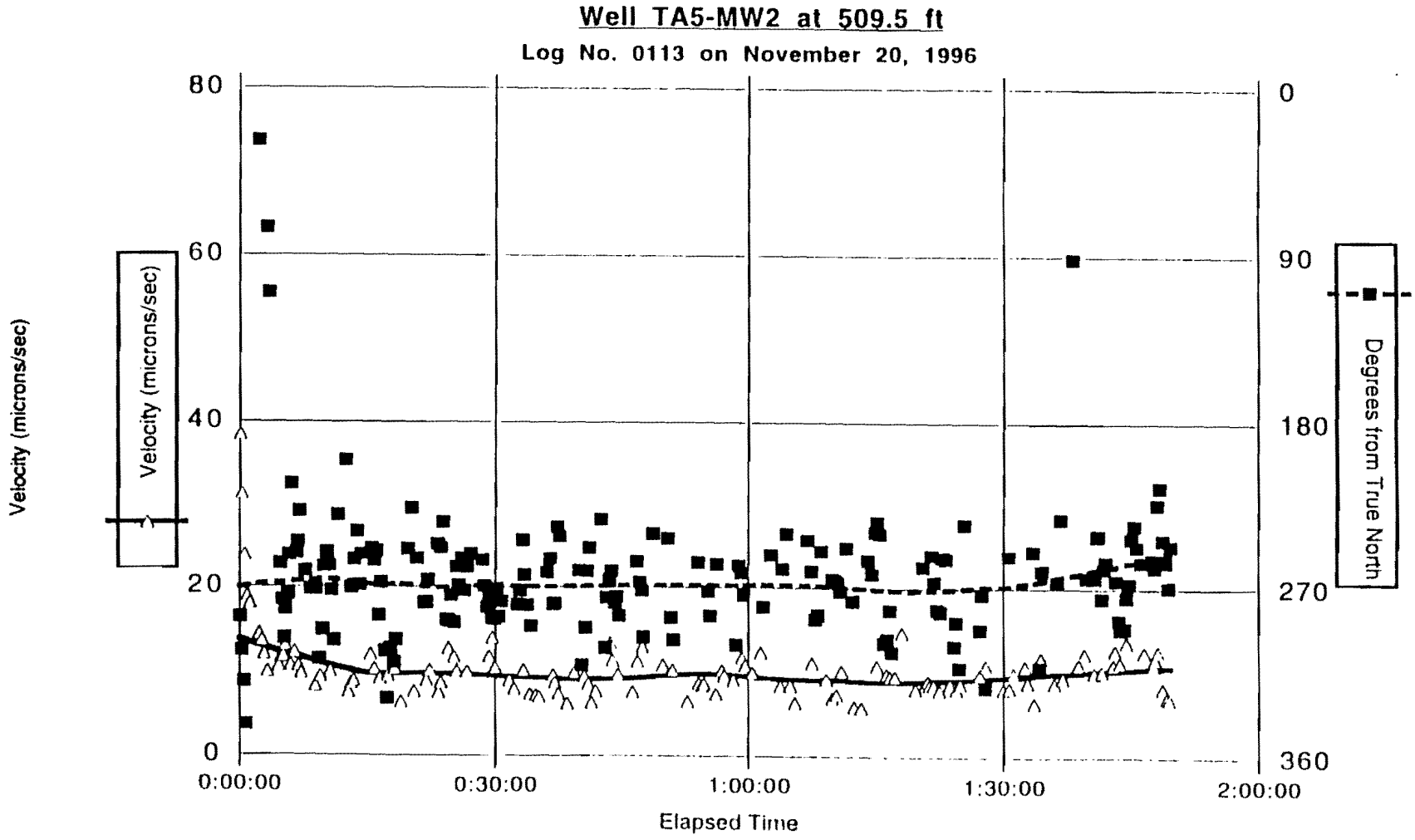
Well TA5-MW2 at 511.5 ft
Log 0111, elapsed time 10:00:00-11:20:00 on November 20-21, 1996



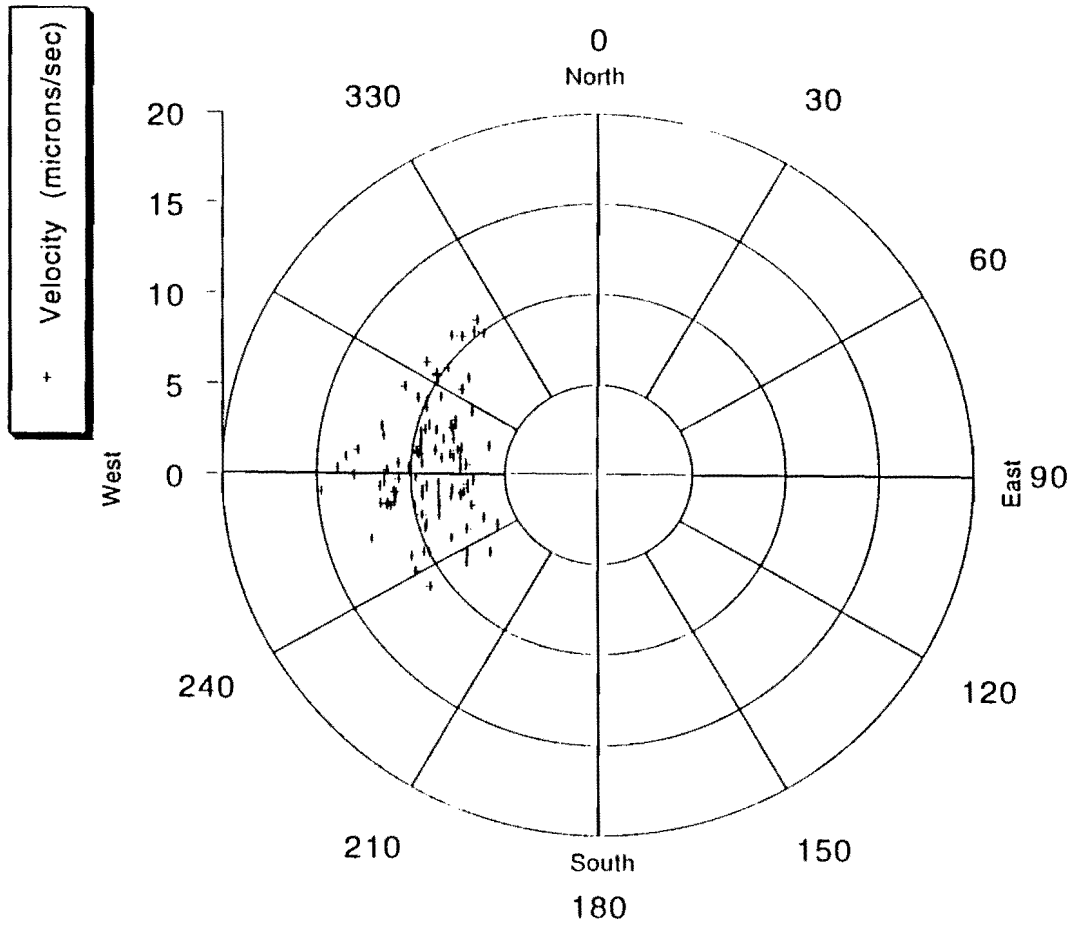

Well TA5-MW2 at 507.5 ft
Log No. 0112 on November 20, 1996
Velocity (microns/sec)
Velocity (microns/sec)
80
70
60
50
40
30
20
10
0
0
90
180
270
360
Degrees from true north
0:00:00
0:30:00
1:00:00
1:30:00
2:00:00
2:30:00
3:00:00
Elapsed Time

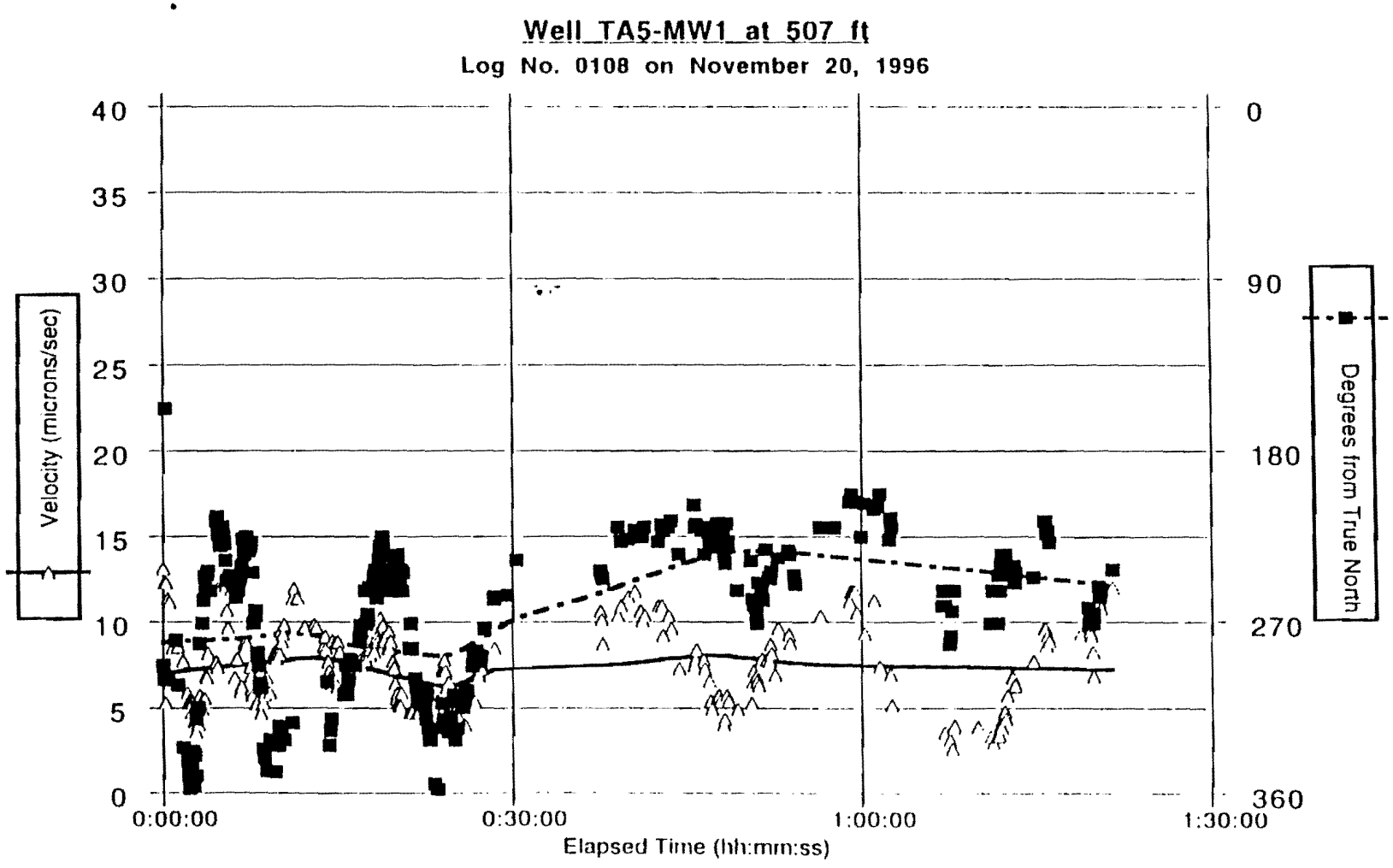
Well TA5-MW2 at 507.5 ft
Log 0112, elapsed time 2:00:00-2:30:00 on November 20, 1996



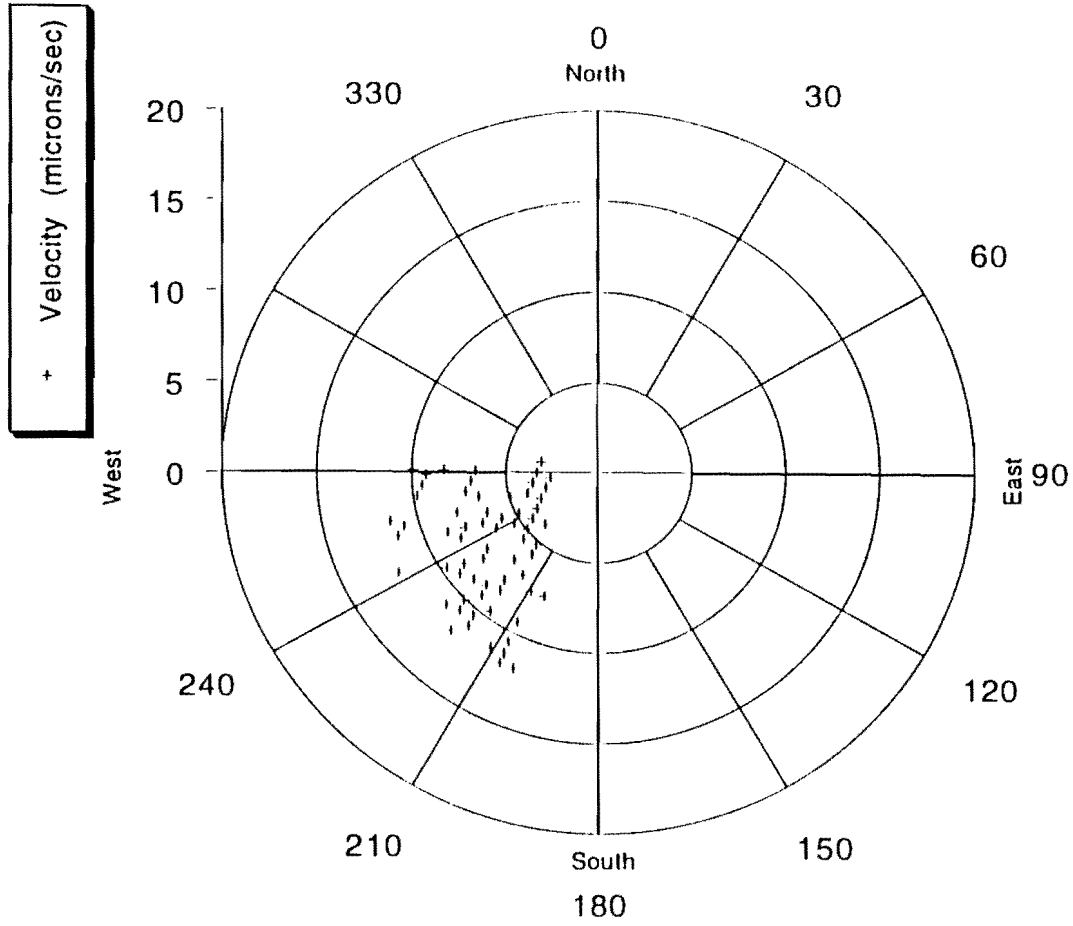

Well TA5-MW2 at 509.5 ft
Log No. 0113 on November 20, 1996
Velocity (microns/sec)
Velocity (microns/sec)
80
60
40
20
0
0:00:00
0:30:00
1:00:00
1:30:00
2:00:00
Elapsed Time
0
90
180
270
360
Degrees from True North

Well TA5-MW2 at 509.5 ft
Log 0113, elapsed time 0:30:00-1:30:00 on November 20, 1996




Well TA5-MW1 at 507 ft
Log No. 0108 on November 20, 1996
Velocity (microns/sec)
40
35
30
25
20
15
10
5
0
0:00:00
0:30:00
1:00:00
1:30:00
Elapsed Time (hh:mm:ss)
0
90
180
270
360
Degrees from True North

Well TA5-MW1 at 507 ft
Log 0108, elapsed time 0:40:00-1:20:00 on November 20, 1996



ATTACHMENT 4

HYDROLOGIC AND GEOTECHNICAL TESTING RESULTS FOR TAV-MW4 AND TAV-MW5 AUGUST 15, 1997

Sandia National Laboratories
Operated for the U.S. Department of Energy by
Sandia Corporation

Albuquerque, New Mexico 87185-1150

date: August 15, 1997

to: Tim Goering, MS 1148 (6685)

from: Craig Roepke, MS 1150 (6684)

subject: Hydrologic and geotechnical testing on TA-V samples TAV-MW4-527.5, TAV-MW4-528.0, TAV-MW5-507.5, and TAV-MW4-508.0

Tim,

Here are the final results for your TA-V samples. All tests were conducted without any significant problems. Results are grouped by test: initial moisture content, total porosity, and dry bulk density; saturated hydraulic conductivity; and sieve, hydrometer, and particle-size graphs.

Saturated hydraulic conductivity tests were performed on foam-encased intact portions of the delivered samples (Figure 1). No disturbance of the samples was observed during preparation for testing. The conductivity test results for TAV-MW5-507.5 appear flawed (see Figure 2 ending the K-sat results grouping), likely because of sample disturbance during the collection process. The sample container was only partially filled and the sample appeared disturbed, though intact. All other samples showed no apparent disturbances, and conductivity test processes and results appear excellent. The empty space in the TAV-MW5-507.5 sample container may have allowed significant evaporation from the sample, resulting in initial moisture content measurements less than *in situ* values.

If you have any questions, please call me.

CSR:6684:csr

Copy to:
MS-1150 Warren Strong

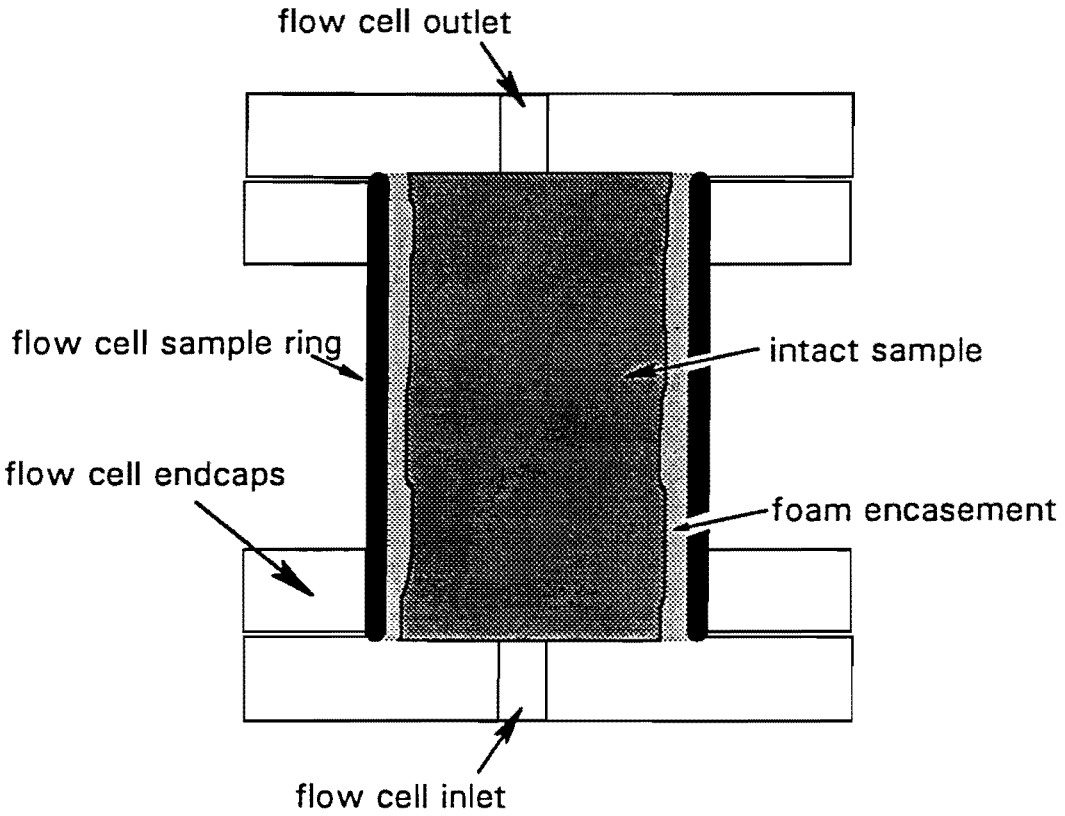


Figure 1. The foam encasement between the sample ring and the sample allows testing of intact samples while sealing the ring/sample unit from flow at the sample and sample ring interface.

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Initial moisture content (θ_i), total porosity, and dry bulk density.

Sample ID	Length (cm)	Diam. (cm)	Volume (cm^3)	Tare (g)	Initial Total mass (g)	Dry 1 Total Mass (g)	Dry 1 Time/ Date	Dry 2 Total Mass (g)	Dry 2 Time/ Date	θ_i (%)	Dry Bulk Dens. (g/cm^3)	Total Porosity (vol/vol)
TAV-MW4-527.5	1.8	6.2	54.34	46.72	168.54	155.78	7/7 11:35	155.74	7/14 8:00	23.6	2.0	0.24
TAV-MW4-528	1.9	6.2	57.36	45.75	173.39	160.24	7/7 11:30	160.20	7/14 8:00	23.0	2.0	0.25
TAV-MW5-508	1.7	6.2	51.32	46.47	143.94	124.47	7/7 11:30	124.38	7/14 8:00	38.2	1.5	0.43
TAV-MW5-507.5	1.7	6.2	51.32	46.87	139.97	133.37	7/7 11:36	133.25	7/14 8:00	13.1	1.7	0.36

Comments:

1. All samples in drying oven at 102 oC. on 9 July, 1997 0817 hrs.
2. Sample TAV-MW5-507.5 filled only approximately 5/8 of the sampling sleeve. Tested initial moisture content (θ_i) may be lower than true *in situ* moisture content.

Saturated Hydraulic Conductivity

Saturated Hydraulic Conductivity by the Falling Head Method

Project: TA-V
Site: Time
Sample ID: TAV-MW5-507.5
Length (cm): 4.3
Width/Dia. (cm): 4.4
Sample Area (cm^2) 18.92
Height (cm): 3.85
Burrette Dia. (cm): 1.5
Burrette Area (cm^2): 1.82
Tech: Craig Roepke

Date: 17-Jul-97

$Ks = (aL/At)*\ln(H_1/H_2)$

Outlet Height (cm): 19.4
H_o (cm): 90.0

t_1	t_2	Δt	V_1	H_1	V_2	H_2	Ks
0:00:00	0:00:00	0	0	70.6	0.0	70.6	-
0:00:00	0:19:05	1145	0	70.6	23.5	57.7	6.5E-05
0:19:05	0:35:11	966	23.5	57.7	39.4	48.9	6.3E-05
0:35:11	0:44:00	529	39.4	48.9	46.9	44.8	6.2E-05
0:44:00	1:00:00	960	46.9	44.8	58.5	38.4	5.9E-05
1:00:00	1:15:00	900	58.5	38.4	67.7	33.4	5.8E-05
1:15:00	1:30:30	930	67.65	33.4	75.4	29.1	5.4E-05
1:30:30	1:45:30	900	75.4	29.1	81.8	25.6	5.3E-05
1:45:30	2:06:30	1260	81.8	25.6	89.0	21.7	4.9E-05
2:06:30	2:30:00	1410	89	21.7	95.2	18.2	4.5E-05

MIN: 4.5E-05
MAX: 6.5E-05
AVERAGE: 5.6E-05
STDEV: 6.7E-06

Comments:
Sample intact, but may be disturbed. Sampling sleeve only ~5/8 filled. Voids visible in sample body, and possible fractures. Saturation begun 7/11/97. Test done on 7/17/97. Decreasing conductivity may be function of macropore or fracture flow and decreasing head. See Figure 2. Sample foamed into flow cell sample ring and trimmed to length.

Saturated Hydraulic Conductivity by the Falling Head Method

Project: TA-V
Site:
Sample ID: TAV-MW5-508
Length (cm): 4.4
Width/Dia. (cm): 4.5
Sample Area (cm^2) 19.8
Height (cm): 3.9
Burrette Dia. (cm): 1.5
Burrette Area (cm^2): 1.82
Tech: Craig Roepke

Date: 17-Jul-97

$Ks = (aL/At)*\ln(H_1/H_2)$

Outlet Height (cm): 22.0
H_o (cm): 90.0

t_1	t_2	Δt	V_1	H_1	V_2	H_2	Ks
0:00:00	0:00:00	0	0.0	68.0	0.0	68.0	-
0:00:00	0:44:30	2670	0.0	68.0	6.8	64.3	7.6E-06
0:44:30	0:59:30	900	6.8	64.3	8.9	63.1	7.2E-06
0:59:30	1:14:30	900	8.9	63.1	11.0	62.0	7.2E-06
1:14:30	1:31:30	1020	11.0	62.0	13.2	60.7	7.1E-06
1:31:30	1:45:00	810	13.2	60.7	15.0	59.8	7.3E-06
1:45:00	2:07:00	1320	15.0	59.8	17.8	58.2	7.1E-06
2:07:00	2:30:30	1410	17.8	58.2	20.7	56.6	7.1E-06
0:00:00	14:23:30	51810	0.0	68.0	74.2	27.2	6.3E-06

MIN: 6.3E-06
MAX: 7.6E-06
AVERAGE: 7.1E-06
STDEV: 3.5E-07

Comments:
Sample intact, appeared undisturbed. Saturation begun 7/11/97. Test done on 7/17/97. Sample foamed into flow cell sample ring and trimmed to length

Saturated Hydraulic Conductivity by the Constant Head Method

Project: TA-V
Site:
Sample ID: TAV-MW4-527.5
Length (cm): 4.4
Width/Dia. (cm): 4.3
Area (cm^2) 18.92
Height (cm): 3.9
Tech: Craig Roepke

Date: 17-Jul-97

Time (hr:min:s)	h_c (cm)	h_o (cm)	mass (g)	tare (g)	Δh (cm)	Δt (s)	Ks (cm/s)
0:00:00	40.1	21.2	-	-	18.90	-	-
0:00:30	40.1	21.2	63.51	59.67	18.90	30	3.28E-02
0:01:00	40.1	21.2	62.54	58.78	18.90	30	3.21E-02
0:01:30	40.1	21.2	63.66	59.90	18.90	30	3.21E-02
0:02:00	40.1	21.2	63.71	59.93	18.90	30	3.23E-02
0:02:30	40.1	21.2	63.40	59.67	18.90	30	3.19E-02
0:03:00	40.1	21.2	62.60	58.78	18.90	30	3.27E-02
0:03:30	40.1	21.2	63.66	59.90	18.90	30	3.21E-02
0:04:00	40.1	21.2	63.74	59.93	18.90	30	3.26E-02
						MIN:	3.19E-02
						MAX:	3.28E-02
						AVG:	3.23E-02
						STDEV:	3.19E-04

Comments: Sample intact. Foamed into flow cell sample ring and trimmed to length.

Saturated Hydraulic Conductivity by the Constant Head Method

Project: TA-V
Site:
Sample ID: TAV-MW4-528
Length (cm): 4.3
Width/Dia. (cm): 4.5
Area (cm^2) 19.35
Height (cm): 3.8
Tech: Craig Roepke

Date: 17-Jul-97

Time (hr:min:s)	h_c (cm)	h_o (cm)	mass (g)	tare (g)	Δh (cm)	Δt (s)	Ks (cm/s)
0:00:00	40.1	20.5	-	-	19.60	-	-
0:00:30	40.1	20.5	60.98	59.67	19.60	30	1.17E-02
0:01:00	40.1	20.5	60.12	58.78	19.60	30	1.19E-02
0:01:30	40.1	20.5	61.14	59.90	19.60	30	1.10E-02
0:02:00	40.1	20.5	61.26	59.93	19.60	30	1.18E-02
0:02:30	40.1	20.5	61.08	59.67	19.60	30	1.25E-02
0:03:00	40.1	20.5	60.12	58.78	19.60	30	1.19E-02
0:03:30	40.1	20.5	61.22	59.90	19.60	30	1.17E-02
0:04:00	40.1	20.5	61.27	59.93	19.60	30	1.19E-02
						MIN:	1.10E-02
						MAX:	1.25E-02
						AVG:	1.18E-02
						STDEV:	4.16E-04

Comments: Sample intact. Foamed into flow cell sample ring and trimmed to length.

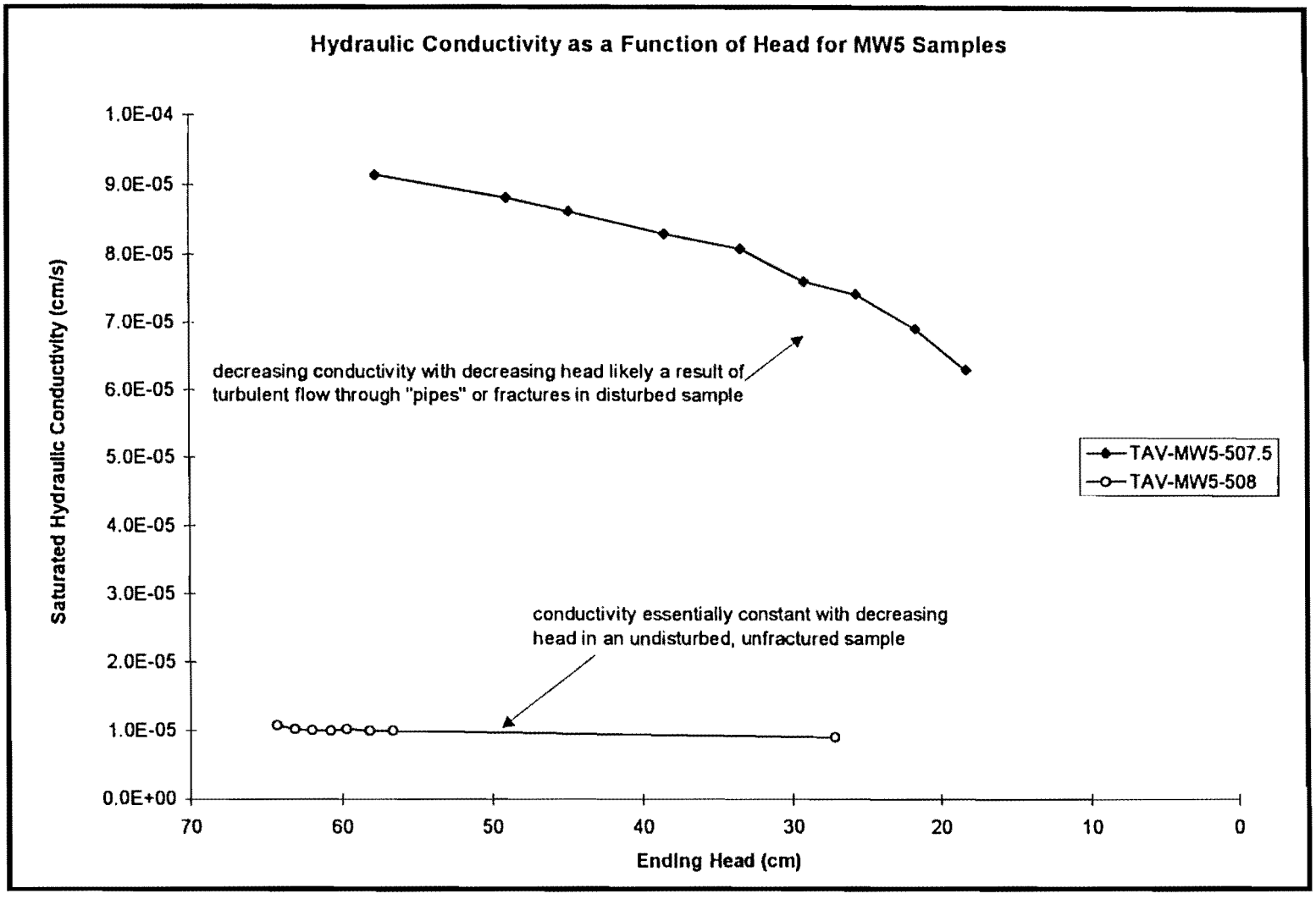


Figure 2. The drop in conductivity with head in sample TAV-MW5-507.5 during K-sat testing by the falling head method may be due to a disturbed sample, fractures, or other macropores.

SANDIA NATIONAL LABORATORY - HYDROLOGIC TESTING LAB

PARTICLE SIZE ANALYSIS BY THE MECHANICAL SIEVE METHOD

PROJECT: TA-V
DEPTH: 527.5 ft.
BORING #: MW4
LAB. TECH: Craig Roepke

SAMPLE #: TAV-MW4-527.5
DATE: 8/8/97

WEIGHT OF SAMPLE+CONTAINER 334.3 (g)
WEIGHT OF CONTAINER 262.89 (g)
WEIGHT OF DRY SAMPLE 71.41 (g)

SIEVE NUMBER	SIEVE DIA. (mm)	SIEVE WT. (g)	TOTAL WT. (g)	RETAINED WT. (g)	RETAINED (%)	PASSING (%)
1	25.000					
3/4	19.000					
3/8	9.500					
1/4	6.300					
4	4.750	750.35	790.65	40.30	56.43	43.75
10	2.000	470.36	479.13	8.77	12.28	31.47
30	0.600	333.59	338.05	4.46	6.25	25.22
40	0.425	568.65	569.63	0.98	1.37	23.85
50	0.300	292.40	293.50	1.10	1.54	22.31
70	0.212	267.24	272.09	4.85	6.79	15.52
80	0.180	497.05	499.10	2.05	2.87	12.65
100	0.150	281.28	282.94	1.66	2.32	10.32
170	0.090	383.57	388.35	4.78	6.69	3.63
200	0.075	259.39	260.81	1.42	1.99	1.64
PAN	___	300.53	301.70	1.17	1.64	0.00
	TOTAL			71.54	100.18	

SANDIA NATIONAL LABORATORY - HYDROLOGIC TESTING LAB

PARTICLE SIZE ANALYSIS BY THE MECHANICAL SIEVE METHOD

PROJECT: TA-V
DEPTH: 528 ft.
BORING #: MW4
LAB. TECH: Craig Roepke

SAMPLE #: TAV-MW4-528.0
DATE: 8/8/97

WEIGHT OF SAMPLE+CONTAINER 555.93 (g)
WEIGHT OF CONTAINER 490.17 (g)
WEIGHT OF DRY SAMPLE 65.76 (g)

SIEVE NUMBER	SIEVE DIA. (mm)	SIEVE WT. (g)	TOTAL WT. (g)	RETAINED WT. (g)	RETAINED (%)	PASSING (%)
1	25.000					
3/4	19.000					
3/8	9.500					
1/4	6.300					
4	4.750	756.86	781.81	24.95	37.94	62.03
10	2.000	381.93	394.94	13.01	19.78	42.24
30	0.600	329.53	339.41	9.88	15.02	27.22
40	0.425	388.80	390.74	1.94	2.95	24.27
50	0.300	294.94	297.23	2.29	3.48	20.79
70	0.212	272.75	276.38	3.63	5.52	15.27
80	0.180	387.25	388.47	1.22	1.86	13.41
100	0.150	286.73	288.19	1.46	2.22	11.19
170	0.090	381.06	386.33	5.27	8.01	3.18
200	0.075	258.71	259.70	0.99	1.51	1.67
PAN	___	297.87	298.97	1.10	1.67	0.00
	TOTAL			65.74	99.97	

Particle Size Distribution by the Hydrometer Method

SANDIA NATIONAL LABORATORY - HYDROLOGIC TESTING LAB

PARTICLE SIZE ANALYSIS BY THE HYDROMETER METHOD

PROJECT: TA-V
SAMPLE DEPTH: 507.5 ft.
BORING No.: MW5
LAB TECH: Craig Roepke

SAMPLE # TAV-MW5-507.5
DATE: 8/6/97

WT. OF SAMPLE FOR HYD. ANALYSIS: 60.73 (g)
SPECIFIC GRAVITY: 2.65 (g/cm^3)
HYDROMETER NUMBER: 43996
DISPERSING AGENT: $(NaPO_3)_x \cdot Na_2O$

ELAPSED TIME (min)	TEMP. (°C)	ACTUAL HYD. READING (mm)	ZERO & MENI. CORR. (mm)	CORR. HYD. READING (mm)	% OF SOIL IN SUSPEN. (%)	DIA. OF PARTICLE (mm)
2.00	20.0	20.5	3.0	17.5	28.82	0.0462
5.00	20.0	18.0	3.0	15.0	24.70	0.0274
15.00	20.0	16.0	3.0	13.0	21.41	0.0149
30.00	20.0	15.5	3.0	12.5	20.58	0.0104
60.00	20.0	14.7	3.0	11.7	19.27	0.0071
250.00	20.0	13.0	3.0	10.0	16.47	0.0033
1440.00	20.0	10.8	3.0	7.8	12.84	0.0013

COMMENTS: η = 0.01124 Poise, particle density estimated at 2.65 g/cm^3.

SANDIA NATIONAL LABORATORY - HYDROLOGIC TESTING LAB

PARTICLE SIZE ANALYSIS BY THE HYDROMETER METHOD

PROJECT: TA-V
SAMPLE DEPTH: 508.0 ft.
BORING No.: MW5
LAB TECH: Craig Roepke

SAMPLE # TAV-MW5-508.0
DATE: 8/6/97

WT. OF SAMPLE FOR HYD. ANALYSIS: 61.82 (g)
SPECIFIC GRAVITY: 2.65 (g/cm^3)
HYDROMETER NUMBER: 43966
DISPERSING AGENT: $(NaPO_3)_x$ Na_2O

ELAPSED TIME (min)	TEMP. (°C)	ACTUAL HYD. READING (mm)	ZERO & MENI. CORR. (mm)	CORR. HYD. READING (mm)	% OF SOIL IN SUSPEN. (%)	DIA. OF PARTICLE (mm)
2.00	20.0	20.0	1.0	19.0	30.73	0.0457
5.00	20.0	16.0	1.0	15.0	24.26	0.0258
15.00	20.0	14.0	1.0	13.0	21.03	0.0140
30.00	20.0	12.7	1.0	11.7	18.93	0.0094
60.00	20.0	11.5	1.0	10.5	16.98	0.0063
250.00	20.0	9.2	1.0	8.2	13.26	0.0028
1440.00	20.0	7.0	1.0	6.0	9.71	0.0010

COMMENTS: η = 0.01124 Poise, particle density estimated at 2.65 g/cm^3.

SANDIA NATIONAL LABORATORY - HYDROLOGIC TESTING LAB

PARTICLE SIZE ANALYSIS BY THE HYDROMETER METHOD

PROJECT: TA-V
SAMPLE DEPTH: 527.5 ft.
BORING No.: MW4
LAB TECH: Craig Roepke

SAMPLE # TAV-MW4-527.5
DATE: 8/6/97

WT. OF SAMPLE FOR HYD. ANALYSIS: 72.96 (g)
SPECIFIC GRAVITY: 2.65 (g/cm^3)
HYDROMETER NUMBER: 43996
DISPERSING AGENT: $(NaPO_3)_x$ Na_2O

ELAPSED TIME (min)	TEMP. (°C)	ACTUAL HYD. READING (mm)	ZERO & MENI. CORR. (mm)	CORR. HYD. READING (mm)	% OF SOIL IN SUSPEN. (%)	DIA. OF PARTICLE (mm)
2.00	20.0	7.0	3.0	4.0	5.48	0.0270
5.00	20.0	7.0	3.0	4.0	5.48	0.0171
15.00	20.0	6.5	3.0	3.5	4.80	0.0095
30.00	20.0	6.0	3.0	3.0	4.11	0.0065
60.00	20.0	5.9	3.0	2.9	3.97	0.0045
250.00	20.0	5.7	3.0	2.7	3.70	0.0022
1440.00	20.0	5.2	3.0	2.2	3.02	0.0009

COMMENTS: η = 0.01124 Poise, particle density estimated at 2.65 g/cm^3.

SANDIA NATIONAL LABORATORY - HYDROLOGIC TESTING LAB

PARTICLE SIZE ANALYSIS BY THE HYDROMETER METHOD

PROJECT: TA-V
SAMPLE DEPTH: 528.0 ft.
BORING No.: MW4
LAB TECH: Craig Roepke

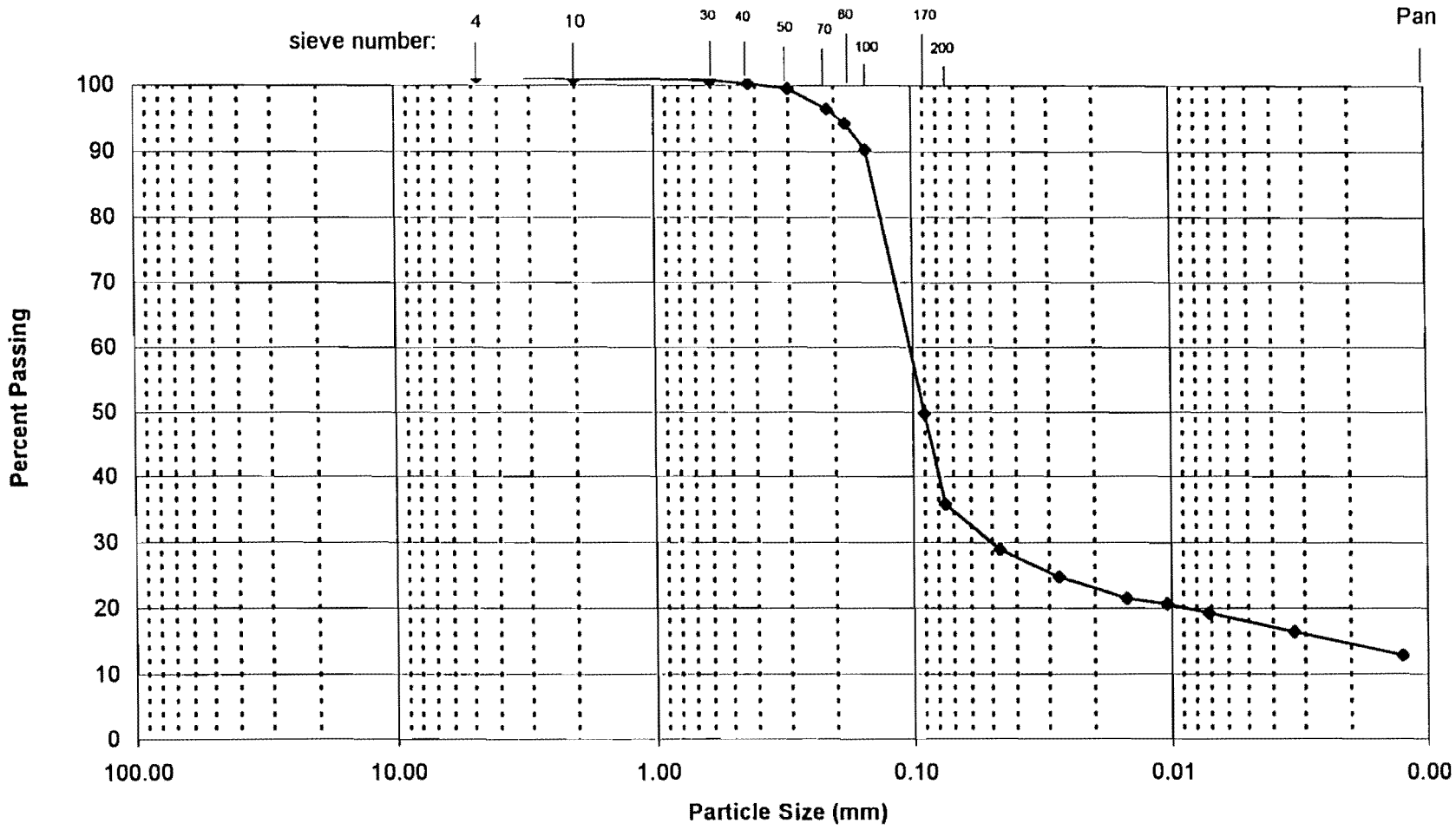
SAMPLE # TAV-MW4-528.0
DATE: 8/6/97

WT. OF SAMPLE FOR HYD. ANALYSIS: 79.73 (g)
SPECIFIC GRAVITY: 2.65 (g/cm^3)
HYDROMETER NUMBER: 43966
DISPERSING AGENT: $(NaPO_3)_x \cdot Na_2O$

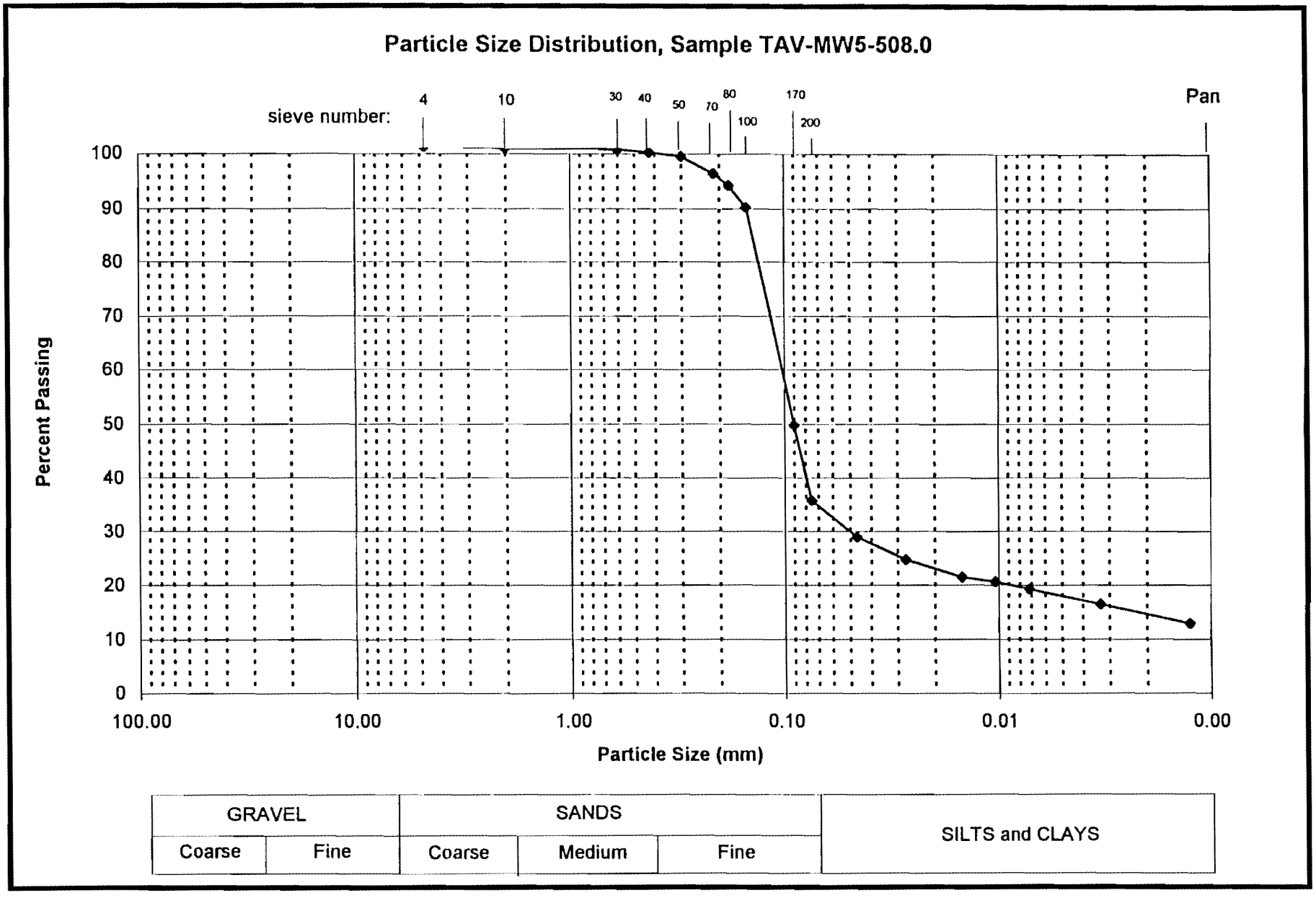
ELAPSED TIME (min)	TEMP. (°C)	ACTUAL HYD. READING (mm)	ZERO & MENI. CORR. (mm)	CORR. HYD. READING (mm)	% OF SOIL IN SUSPEN. (%)	DIA. OF PARTICLE (mm)
2.00	20.0	5.0	1.0	4.0	5.02	0.0228
5.00	20.0	4.0	1.0	3.0	3.76	0.0129
15.00	20.0	3.9	1.0	2.9	3.64	0.0074
30.00	20.0	3.0	1.0	2.0	2.51	0.0046
60.00	20.0	2.7	1.0	1.7	2.13	0.0031
250.00	20.0	2.7	1.0	1.7	2.13	0.0015
1440.00	20.0	2.5	1.0	1.5	1.88	0.0006

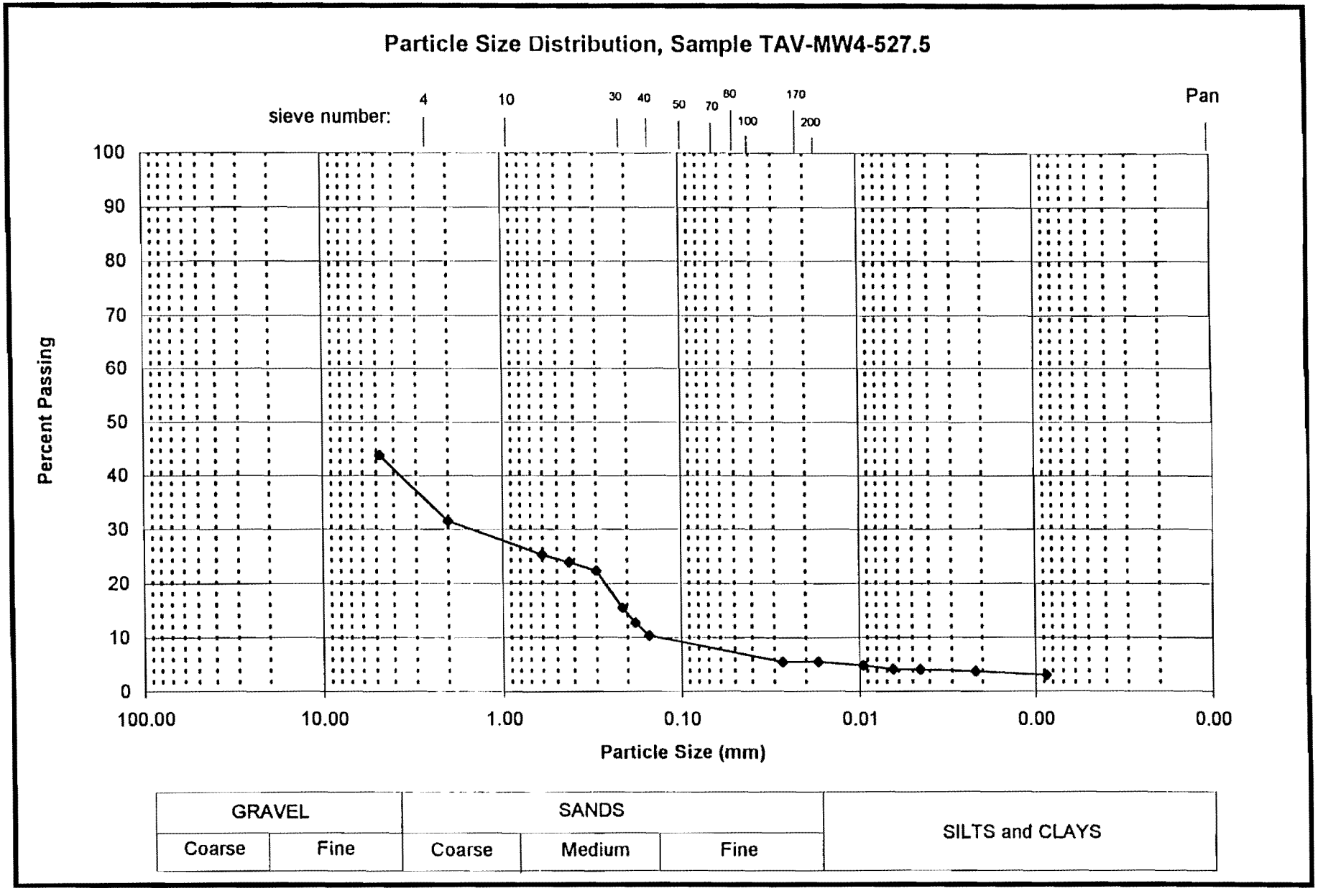
COMMENTS: η = 0.01124 Poise, particle density estimated at 2.65 g/cm^3.

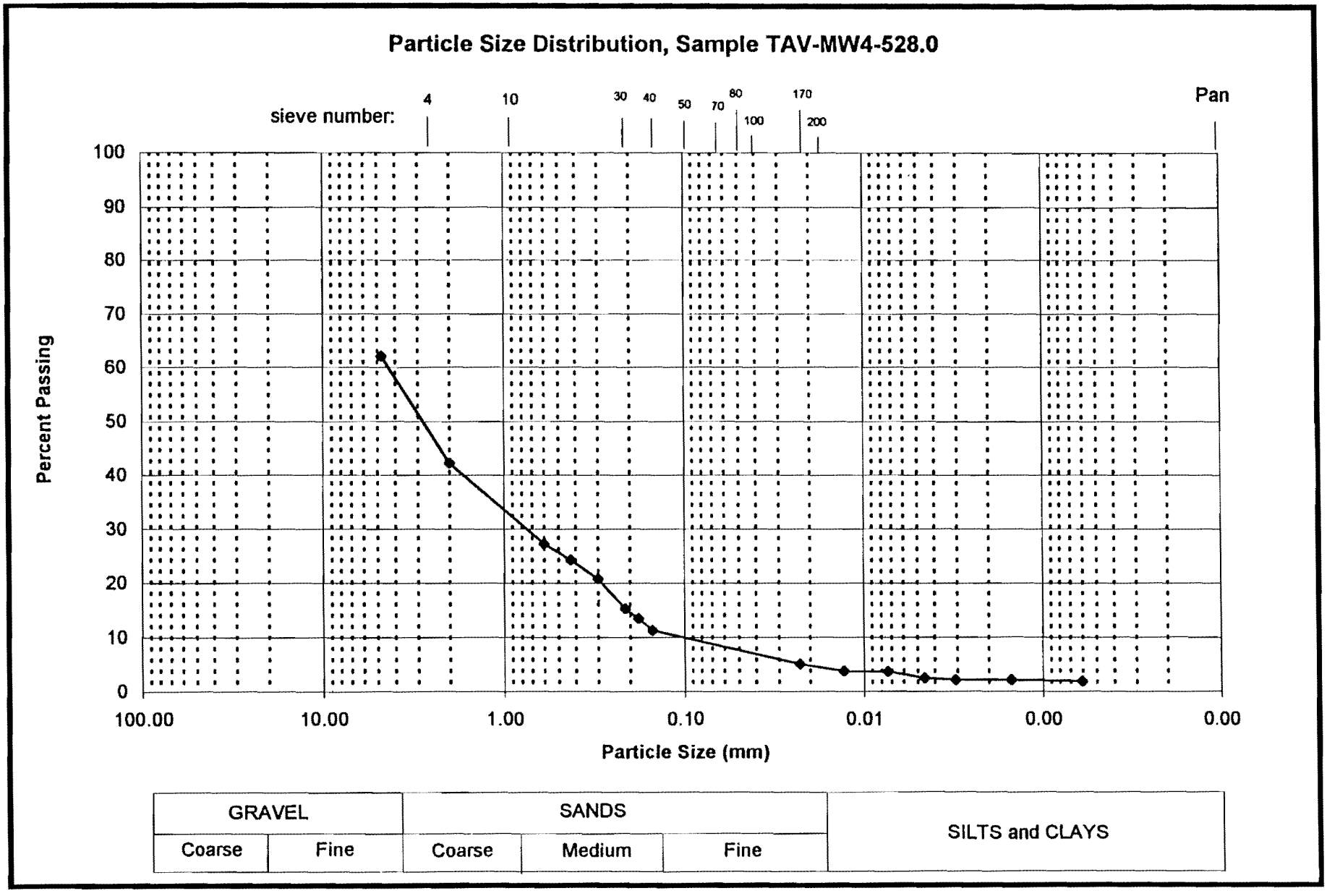
Particle Size Distribution, Sample TAV-MW5-507.5



GRAVE		SANDS			SILTS and
Coars	Fine	Coars	Medium	Fine	


Particle Size Distribution, Sample TAV-MW5-508.0
sieve number:
4
10
30
40
50
70
80
100
170
200
Pan
Percent Passing
100
90
80
70
60
50
40
30
20
10
0
100.00
10.00
1.00
0.10
0.01
0.00
Particle Size (mm)
GRAVEL
Coarse
Fine
SANDS
Coarse
Medium
Fine
SILTS and CLAYS


Particle Size Distribution, Sample TAV-MW4-527.5
sieve number:
4
10
30
40
50
70
80
100
170
200
Pan
Percent Passing
100
90
80
70
60
50
40
30
20
10
0
100.00
10.00
1.00
0.10
0.01
0.00
0.00
Particle Size (mm)
GRAVEL
Coarse
Fine
SANDS
Coarse
Medium
Fine
SILTS and CLAYS


Particle Size Distribution, Sample TAV-MW4-528.0
sieve number:
4
10
30
40
50
70
80
100
170
200
Pan
Percent Passing
100
90
80
70
60
50
40
30
20
10
0
100.00
10.00
1.00
0.10
0.01
0.00
0.00
Particle Size (mm)
GRAVEL
Coarse
Fine
SANDS
Coarse
Medium
Fine
SILTS and CLAYS

ATTACHMENT 5

AQUIFER TEST AT AVN-1 MONITORING WELL
MARCH 1996

SANDIA NATIONAL LABORATORIES

ALBUQUERQUE, NEW MEXICO 87158

date: April 17, 1996

to: Lon Dawson and Mike Wade, MS 1350, (7582)

from: Erik Storms, Aquifer Test Supervisor, MS 1132 (7584)

subject: Aquifer Test at AVN-1 Monitoring Well

An aquifer pumping test was conducted at monitoring well AVN-1 between March 26-28, 1996. AVN-1 was pumped for 48 hours at an average rate of 19.3 gpm. Attached is a calculation set which describes the field activities and the results of the aquifer pumping test conducted in monitoring well AVN-1. Based on the results of the test the following was concluded:

- The calculated transmissivity from drawdown and recovery data is 1509 ft^2/day and 1560 ft^2/day, respectively. The corresponding hydraulic conductivity values from drawdown and recovery data are 0.0262 ft/min and 0.0271 ft/min, respectively, assuming a saturated thickness of 40 ft (the saturated thickness is assumed to be the saturated gravel pack thickness for well AVN-1). The calculated hydraulic conductivities for monitoring well AVN-1 compare closely to the average hydraulic conductivities calculated from pumping test data for wells screened at similar depths in the ancestral Rio Grande Facies of the Santa Fe Group (monitor wells PL-2 and MRN-1).

- No vertical hydraulic communication was observed between the pumping well, AVN-1, and the observation well, AVN-2. AVN-1 is completed at a deeper interval and is located 21 feet away from AVN-2.

- No lateral hydraulic connection was observed between the observation wells LWDS-MW1, LWDS-MW2, TA5-MW1 and TA5-MW2 and the pumping well. These observation wells are located at distances ranging from 1050 ft to 1650 ft away from AVN-1 and are completed in the same interval as AVN-2. The estimation of storativity could not be determined because of the lack of water level response in the observation wells.

- Except for well LWDS- MW1, water levels in the pumping well and the observation wells responded immediately to barometric pressure changes. There was a lag time in water level response to change in barometric pressure in LWDS-MW1. This lag time response suggests that monitor well LWDS-MW1 may have been completed in a manner causing it to be in poor hydraulic communication with the formation or the well is completed in sediments of much lower permeability than the other wells.

- Some TA-5 wells appear to have experienced drawdown during groundwater sampling in March.

If you have any questions, do not hesitate to contact me (284-2589).

Attachments

ES:7584:es

cc: (without attachments)
MS 1132 Dorothy Stermer (7584)
MS 1132 Sue Collins (7584)
MS 1132 Fran Nimick (7582)

PRELIMINARY AQUIFER PUMPING TEST CALCULATION SET
FOR MONITORING WELL AVN-1

A. PURPOSE OF CALCULATION

The specific objectives of the aquifer pumping test were to:

1. estimate aquifer transmissivity and storage coefficient in the uppermost 40 feet of the ancestral Rio Grande Facies of the Santa Fe Group at the AVN-1 location using AVN-2 as an observation well.

2. evaluate the vertical hydraulic connection, if any between AVN-1 and AVN-2.

3. evaluate the degree and extent of the lateral hydraulic connection of the deeper completion interval at the AVN-1 location using LWDS-MW1, LWDS-MW2 and TAV-MW1 as observation wells.

B. METHOD AND PROCEDURES

On March 26, 1996, a 48-hour aquifer pumping test was conducted at monitoring well AVN-1. Monitoring wells AVN-2, LWDS-MW1, LWDS-MW2 , TAV-MW1 and TAV-MW2 were used as the observation wells. Prior to the aquifer test, pressure transducers were installed in the pumping well, AVN-1. and in observation wells AVN-2, LWDS-MW1. LWDS-MW2 and TAV-MW1. Prior to installation, all transducers were calibrated and their precision and accuracy were determined. The location of the pumping well and the observation wells are shown in Figure 1. The pump was installed at a depth of approximately 556 ft bgs. Water from the pumping well was discharged on-site approximately 300 feet from the pumping well. A check-valve was installed in the pump to prevent water from the discharge pipe to flow back into the well after the pump was shut off.

No slug tests were conducted prior to the aquifer test because dedicated sampling pumps in wells AVN-1 and AVN-2 did not allow a slug to be inserted in these wells. Additionally, data obtained during the pump checkout indicated that the maximum yield for monitoring well AVN-1 was above the maximum pumping rate of a 5-hp, 4-inch diameter submersible pump (this is the largest size pump that would fit in well AVN-1), therefore no step drawdown test was conducted. Monitoring well AVN-1 was pumped for 48 hours at an average rate of 19.3 gpm. A total of 55566 gallons were pumped.

Wellbore fluid pressures for each well and atmospheric pressure were monitored just prior to, during, and after the aquifer test. During the drawdown phase of the test, pumping rate and total discharge were monitored using a mechanical flow meter. Wellbore fluid pressures for monitor wells AVN-1 and AVN-2 and atmospheric pressure was recorded and stored in a computer controlled data acquisition system (DAS). Wellbore fluid pressures for observation wells LWDS-MW1, LWDS-MW2 , TAV-MW1 and TAV-MW2 were recorded and stored on Campbell Scientific data loggers. 2000 minutes (approximately 34 hours) after the start of drawdown phase of the test, the DAS experienced a power failure, therefore data recording was

switched from the DAS to a Campbell Scientific data logger. At this time water levels had already stabilized in the pumping well and no critical data loss occurred.

C. MATERIAL PROPERTIES

Aquifer Testing Monitor Well Location Description

The AVN-1 and AVN-2 monitoring/test wells are located approximately 500 feet north of the northeast corner of Technical Area 5 (Figure 1). Both AVN wells are completed in the Rio Grande Facies of the Upper Santa Fe Group. However, AVN-1 is screened in a deeper portion of the regional aquifer. AVN-2 and the other observation wells are screened approximately 75 feet above AVN-1. A well completion schematic for the AVN well locations is shown in Figure 2. Monitor well AVN-1 is screened from 570 to 590 ft bgl with a primary sand pack that extends from 550 to 600 ft bgl and a secondary sand pack that extends from 488 to 550 ft bgl. Monitor well AVN-2 was installed about 21 ft east of the deeper well AVN-1. Well AVN-2 is screened from 495 to 515 ft bgl with a primary sand pack that extends from 467 to 520 ft bgl and a secondary sand pack that extends from 431 to 467 ft bgl.

Monitor well LWDS-MW1 is located approximately 1100 ft west-southwest of the AVN monitor wells. Monitor well LWDS-MW1 is screened from 500 to 515 ft bgl with a primary sand pack is that extends from 495 to 525 ft bgl. A geologic cross-section showing the completion intervals of the LWDS wells relative to the AVN wells is shown in Figure 3. Monitor well LWDS-MW2 is located approximately 1650 ft west of the AVN monitor wells. LWDS-MW2 is screened from 506 to 526 ft bgl with a primary sand pack that extends from 480 to 531 ft bgl. Monitor well TAV-MW1 is located approximately 1050 ft southwest of the AVN monitor wells. Monitor well TAV-MW1 is screened from 489.5 to 509.5 ft bgl with a primary sand that extends from 483.5 to 512 ft. A geologic cross-section showing the completion intervals of the TAV wells relative to the AVN wells is shown in Figure 4. Monitor well TAV-MW2 is located approximately 1500 ft southwest of the AVN monitor wells. Monitor well TAV-MW2 is screened from 497.5 to 517.5 ft bgl with a primary sand pack that extends from 491 to 518 ft bgl.

Attachment 1 contains construction summaries for monitor wells.

D. CALCULATION AND ANALYSIS

Corrections for atmospheric pressure changes

Because changes in atmospheric pressure can produce sizable fluctuations in wells penetrating confined aquifers, the drawdown and residual drawdown data were corrected for changes in atmospheric pressure before being used for analysis. The relationship is inverse; that is, increases in atmospheric pressure produce decreases in observed water levels, and conversely.

The amount of rise in water levels resulting from a decrease in atmospheric pressure and the amount of fall in water levels resulting from an increase in atmospheric pressure is dependent on the barometric efficiency of the aquifer. Barometric efficiency is defined as the rate of change in head with changing atmospheric pressure. For example a barometric efficiency of 50 percent would mean that for every foot change in atmospheric pressure (expressed in feet of water), water levels in wells would change in the opposite direction by 0.50 feet. Most observations yield barometric efficiencies in the range of 0.2 to 0.7 (Todd, 1980). Measurements of water level and atmospheric pressure made prior to pumping and after recovery made it possible to observe atmospheric pressure effects on water levels in all the monitor wells. Comparing the water levels (Figures 5 through 9) with barometric pressure, it can be seen that changes in water levels in all wells are significant due to barometric fluctuations. The transducer installed in monitoring well LWDS-MW2 malfunctioned and the water level data collected from it is not useable. Water levels fluctuations of 0.5 feet or more were observed in all the wells over an eight-hour period due to atmospheric pressure fluctuations. Water level responses to atmospheric pressure changes were immediate in all the wells except LWDS-MW1. Monitor well LWDS-MW1 showed approximately a 3-hour delay in water level response to atmospheric pressure fluctuations (Figure 9).

Determination of transmissivity

The drawdown and recovery data was analyzed using the Cooper and Jacob straight-line method (Cooper and Jacob, 1946). This method is an approximation of the Theis solution and therefore the aquifer must conform to the assumptions of the Theis conceptual model. The assumptions of the Theis conceptual model are:

1) The aquifer is homogenous and isotropic
2) The formation has uniform thickness.
3) The formation receives no recharge from any source (during pumping).
4) The pumped well penetrates and receives water from the full thickness of the water-bearing formation.
5) The aquifer is infinite in areal extent.
6) The water removed from storage is discharged instantaneously with lowering of the head.

Although most aquifers do not conform to all the theoretical conditions assumed by Theis and Jacob, results from the application of these equations and their graphic relationships are satisfactory for the purposes of this hydrogeologic study. Other more laborious methods of analysis were considered, but any additional accuracy that they might provide would not be significant.

Using the straight-line method, aquifer properties can be determined from a semi-log plot of drawdown vs. time. The procedure used is as follows:

1) Plot drawdown (s) vs. log of time
2) Fit a straight line to the data. Points where time is very small are ignored because

method is invalid for very small time values.

3) For the fitted line, compute the change in drawdown for one log cycle.

4) Compute transmissivity T using

$$T = \frac{264Q}{s}$$

where
- T = transmissivity in gallons per day per foot
- Q = discharge rate in gallons per minute
- s = change in drawdown in feet occurring over one log cycle

5) Extend the line to obtain the value of time at zero drawdown, t_o. Compute S using

$$S = \frac{0.3Tt_o}{r^2}$$

where

- S = storativity (dimensionless)
- T = transmissivity in gallons per day per foot
- t_o = the value of time at zero drawdown in days
- r = the distance between the pumping well and observation well in feet

The estimation of storativity depends on water level data collected from at least one observation well during a pumping test and cannot be determined from a single well test.

Table 1 summarizes the aquifer pumping test parameters for the pumping test and includes the depth, saturated thickness, screened interval, and static water levels of the pumped well and the observation wells; the discharge rate and maximum drawdown observed in the pumping well and observation wells.

E. RESULTS

Total drawdown in the pumping well was approximately 3.0 feet (Figure 10). No water level

TABLE 1 - SUMMARY OF AVN-1 AQUIFER PUMPING TEST PARAMETERS

	Pumping Well	Obs. Well No.	Obs. Well No.	Obs. Well No.	Obs. Well No.	Obs. Well No.
	AVN-1	AVN-2	LWDS-MW1	LWDS-MW2	TAV-MW1	TAV-MW1
Screened Interval (feet)	570 - 590	495 - 515	500 - 515	506 - 526	490 - 510	497 - 517
Sand Pack Interval (feet)	550 -600	467 - 520	495 - 525	480 - 531	484 - 512	491 - 518
Saturated Thickness of Gravel Pack above bottom of screen (feet)	40	6.5	20	46	7.5	26
Depth to Static Water Level (feet)	509.62	508.55	488.61	478.32	502.52	491.82
Pumping Duration (minutes)	2880	Not Applic.	Not Applic.	Not Applic.	Not Applic.	Not Applic.
Average Discharge Rate (gal/min)	3.95	Not Applic.	Not Applic.	Not Applic.	Not Applic.	Not Applic.
Maximum Drawdown (feet)	1.2	none observed	none observed	none observed	none observed	none observed
Distance from pumped well to observation well (feet)	Not Applic.	21	1100	1650	1050	1500

responses due to pumping were observed in the observation wells, therefore no analysis of this data was done. Within 24 hours after the pump was shut off, the water level in the pumping well had recovered to 100%.

Using the straight-line method, aquifer transmissivity was determined from a plot of drawdown vs the log of time and residual drawdown for time intervals measured from both the beginning of the pumping test, t, and the beginning of the recovery period, t' (Figures 10 and 11). The calculated transmissivity from drawdown data is 1509 ft^2/day. The hydraulic conductivity is 0.0262 ft/min assuming a saturated thickness of 40 ft (the saturated gravel pack thickness for well AVN-1). The calculated transmissivity from the residual drawdown data was 1560 ft^2/day. The hydraulic conductivity is 0.0271 ft/min. Table 2 presents calculated aquifer parameters for the pumping well. The calculated hydraulic conductivities for monitoring well AVN-1 from the aquifer test data compares closely to the average hydraulic conductivities calculated from pumping test data for wells screened at similar depths in the ancestral Rio Grande Facies of the Santa Fe Group (monitor wells PL-2 and MRN-1).

TABLE 2. Comparison of Average Hydraulic Values from 1995 Pumping Tests with the Average Hydraulic Conductivity Value for AVN-1 .

Monitor Well	Average Transmissivity (sq. ft/day)	Average Hydraulic Conductivity (ft/day)
SANTA FE GROUP ANCESTRAL RIO GRANDE FACIES		
MRN-1	3499	46.7
PL-2	5149	147.1
AVN-1	1535	38.4

F. SUMMARY

The following was conclusions are based on the results of the aquifer test:

- The calculated transmissivity from drawdown and recovery data is 1509 ft^2/day and 1560 ft^2/day, respectively. The corresponding hydraulic conductivity values from drawdown and recovery data are 0.0262 ft/min and 0.0271 ft/min, respectively, assuming a saturated thickness of 40 ft (the saturated gravel pack thickness for well AVN-1). The calculated average hydraulic conductivity for monitoring well AVN-1 from the aquifer test data compares closely to the average hydraulic conductivities calculated from pumping test data for wells screened at similar depths in the ancestral

Rio Grande Facies of the Santa Fe Group (monitor wells PL-2 and MRN-1).

- No vertical hydraulic communication was observed between the pumping well AVN-1 and the observation well AVN-2. AVN-1 is completed at a deeper interval and is located 21 feet away from AVN-2. The estimation of storativity could not be determined because of the lack of water level response from pumping in the observation wells.

- No lateral hydraulic connection was observed between the observation wells LWDS-MW1, LWDS-MW2, TAV-MW1 and TAV-MW2 and the pumping well. These observation wells are located at distances ranging from 1050 ft to 1650 ft away from AVN-1 and are completed in the same interval as AVN-2.

- Water levels in the pumping well and the observation wells (except LWDS- MW1) responded immediately to barometric pressure changes. There was a lag time in water level response to change in barometric pressure in LWDS-MW1. This lag time response suggests that monitor well LWDS-MW1 may have been completed in a manner causing it to be in poor hydraulic communication with the formation.

G. REFERENCES

Cooper, H.H., Jr., and C.E. Jacob, 1946. A generalized graphic method for evaluating formation constants and summarizing well-field history, Transactions, American Geophysical Union, Vol. 27, No. 4, pp. 526-534.

Todd, D.K., *Groundwater Hydrology*, John Wiley and Sons, New York, 1980.

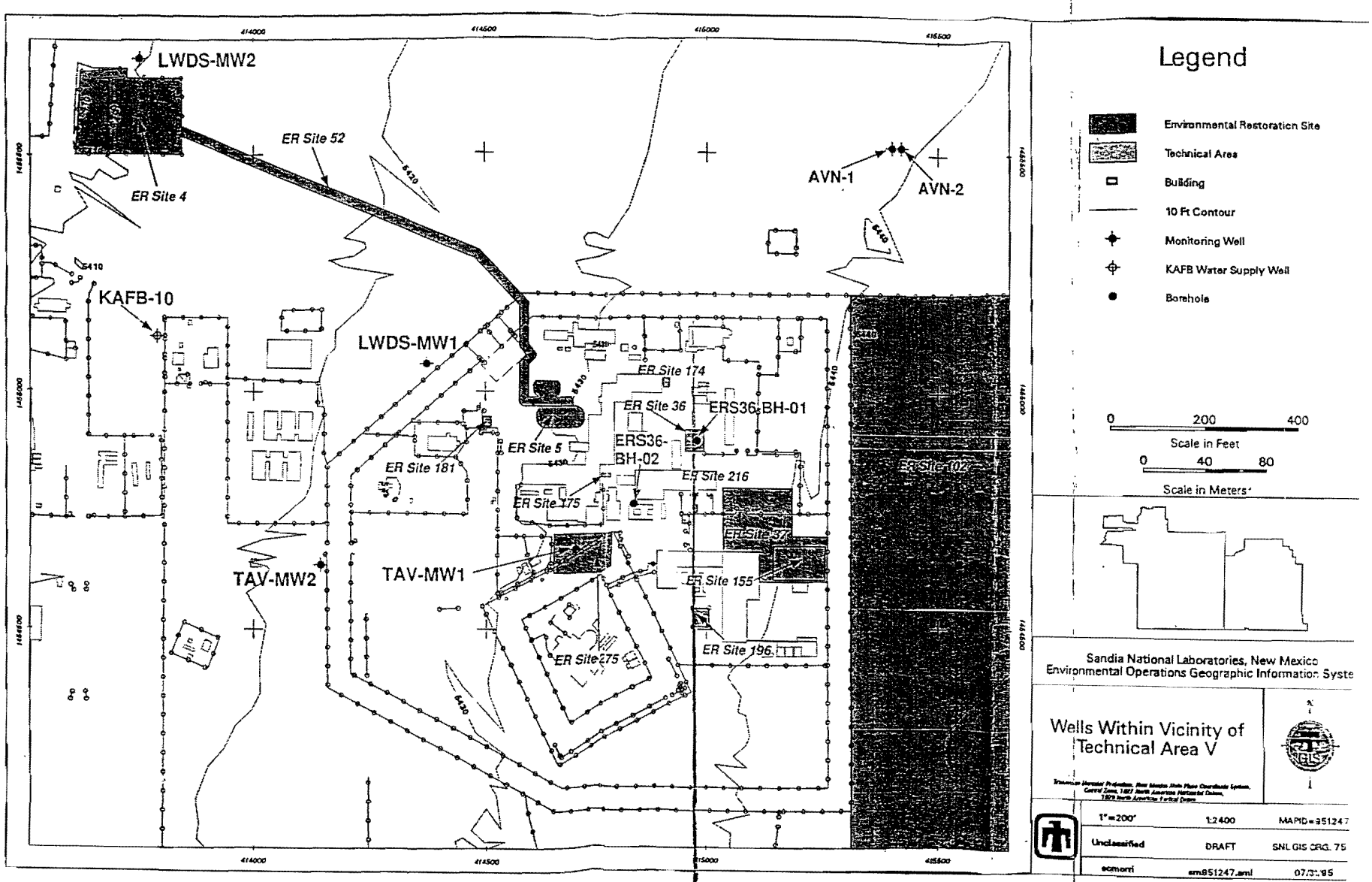


Figure 1 Wells within the vicinity of Technical Area V

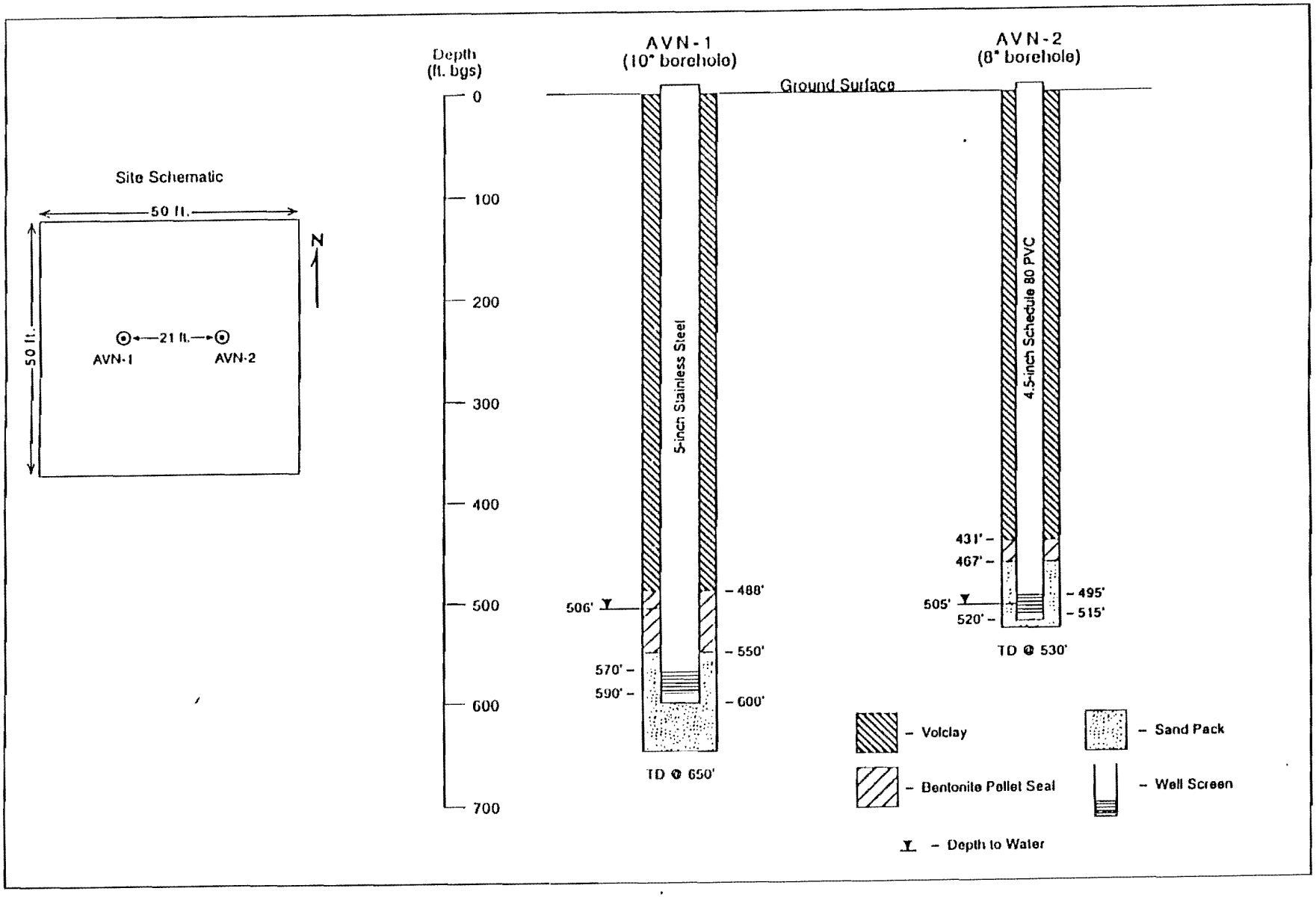


Figure 2 Well completion schematic for the AVN well locations

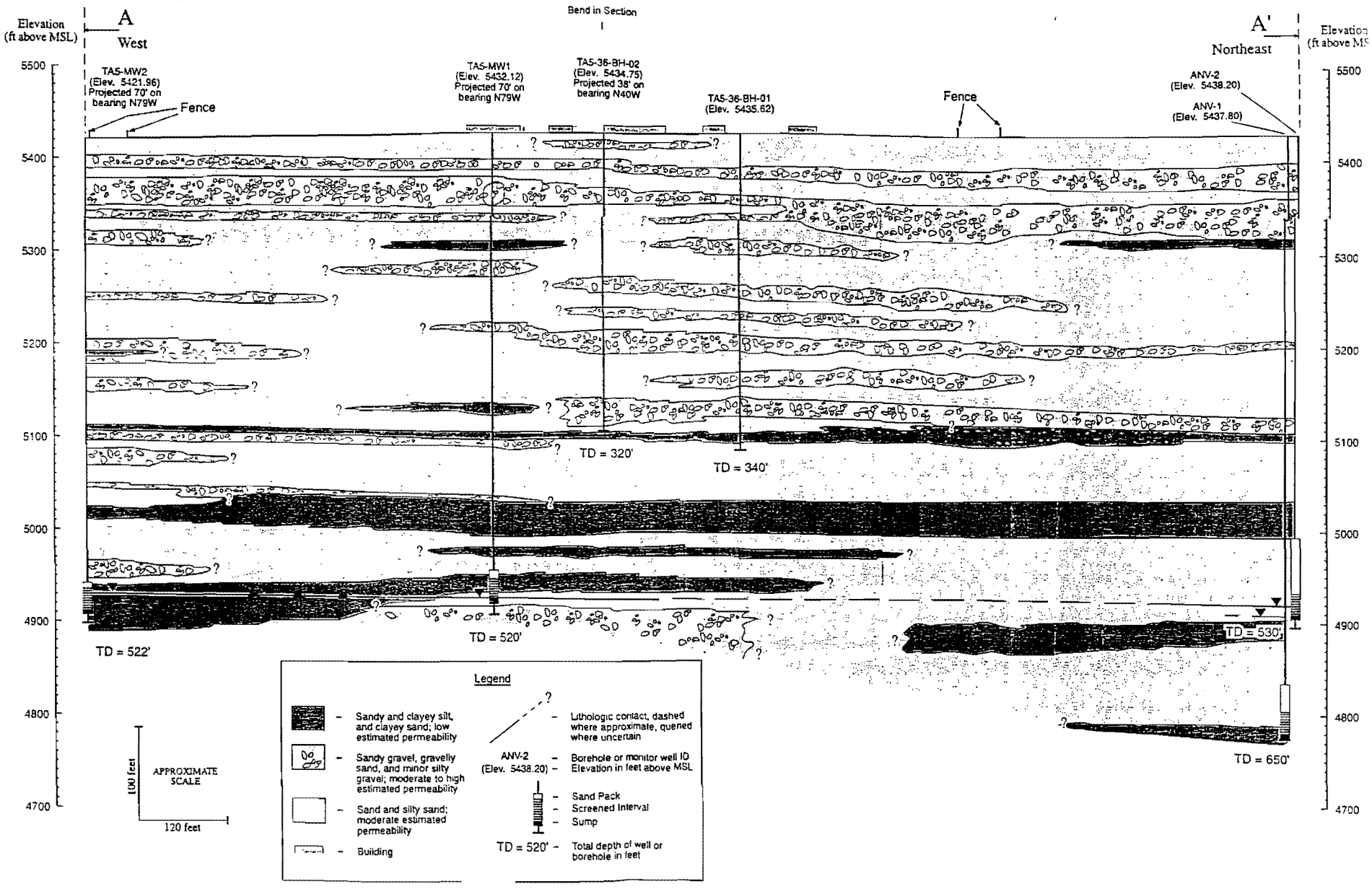


Figure 3 Geologic cross-section showing the completion intervals of the LWDS wells relative to the AVN wells

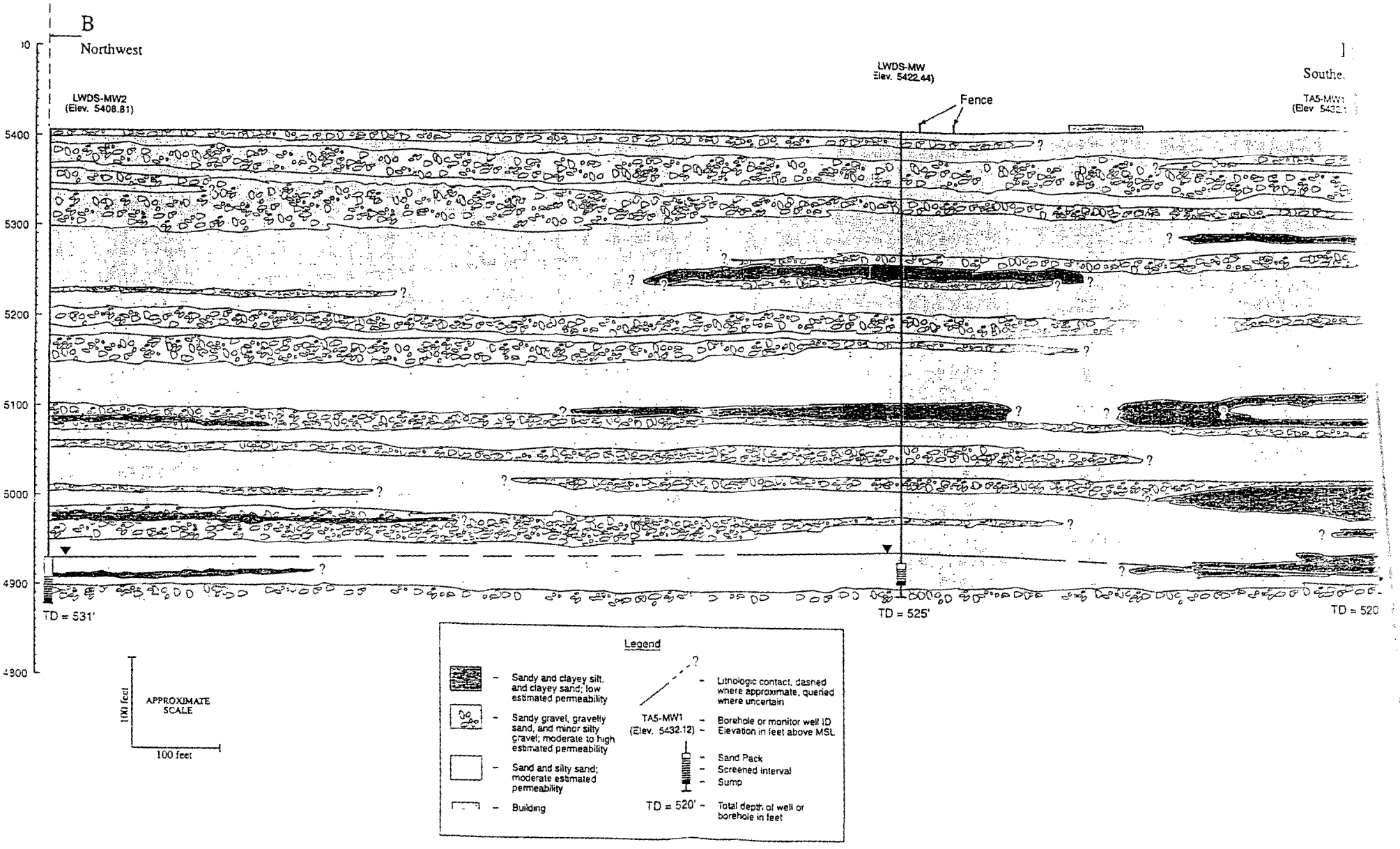


Figure 4 Geologic cross-section showing the completion intervals of the TAV wells relative to the AVN wells

avnbar

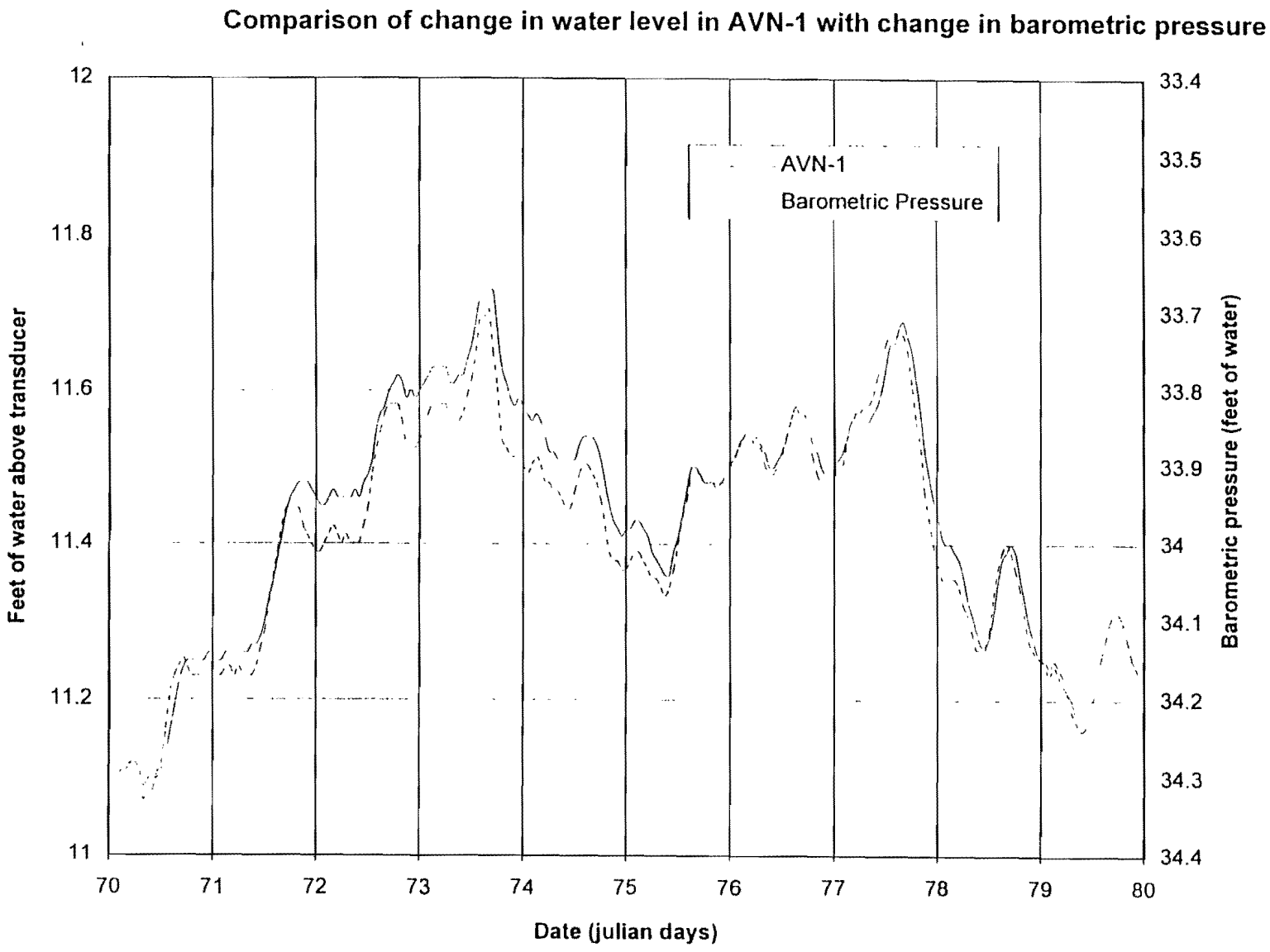


Figure 5

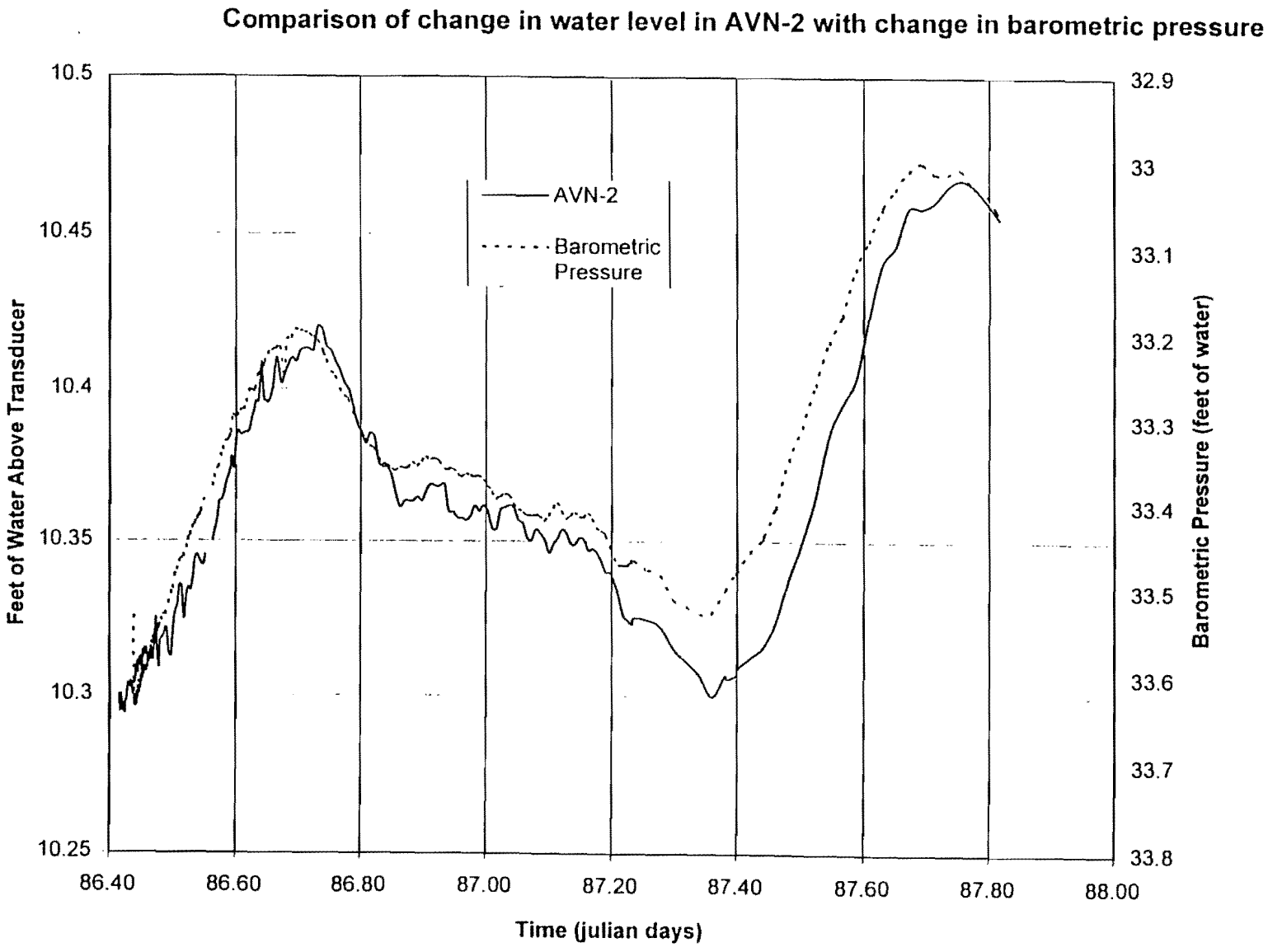

Comparison of change in water level in AVN-2 with change in barometric pressure
AVN-2
Barometric Pressure
Feet of Water Above Transducer
Barometric Pressure (feet of water)
Time (julian days)
10.5
10.45
10.4
10.35
10.3
10.25
32.9
33
33.1
33.2
33.3
33.4
33.5
33.6
33.7
33.8
86.40
86.60
86.80
87.00
87.20
87.40
87.60
87.80
88.00

Figure 6

Comparison of change in water level in TAV-MW1 with change in barometric pressure

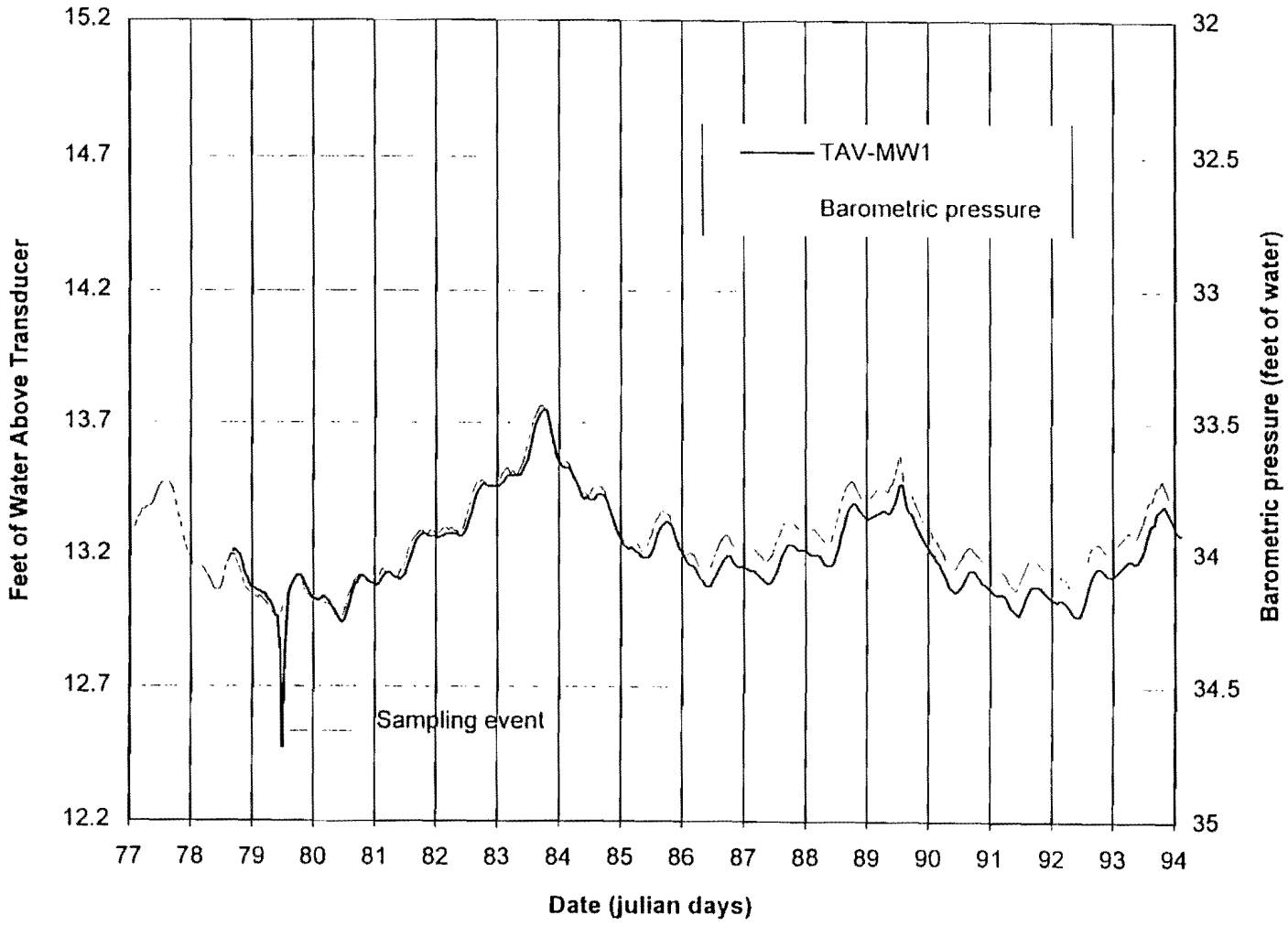


Figure 7

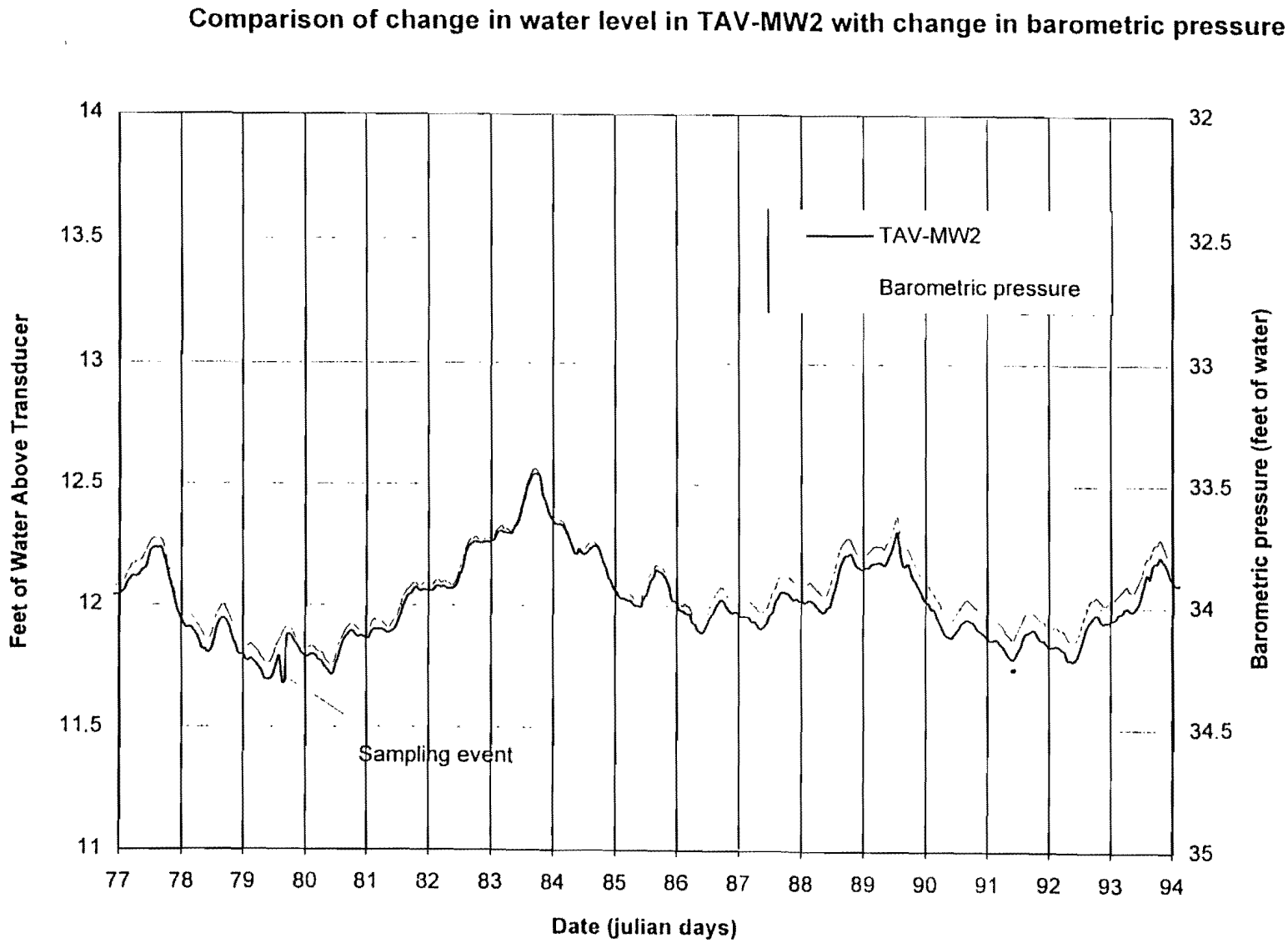

Comparison of change in water level in TAV-MW2 with change in barometric pressure
Feet of Water Above Transducer
14
13.5
13
12.5
12
11.5
11
Barometric pressure (feet of water)
32
32.5
33
33.5
34
34.5
35
TAV-MW2
Barometric pressure
Sampling event
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
Date (julian days)

Figure 8

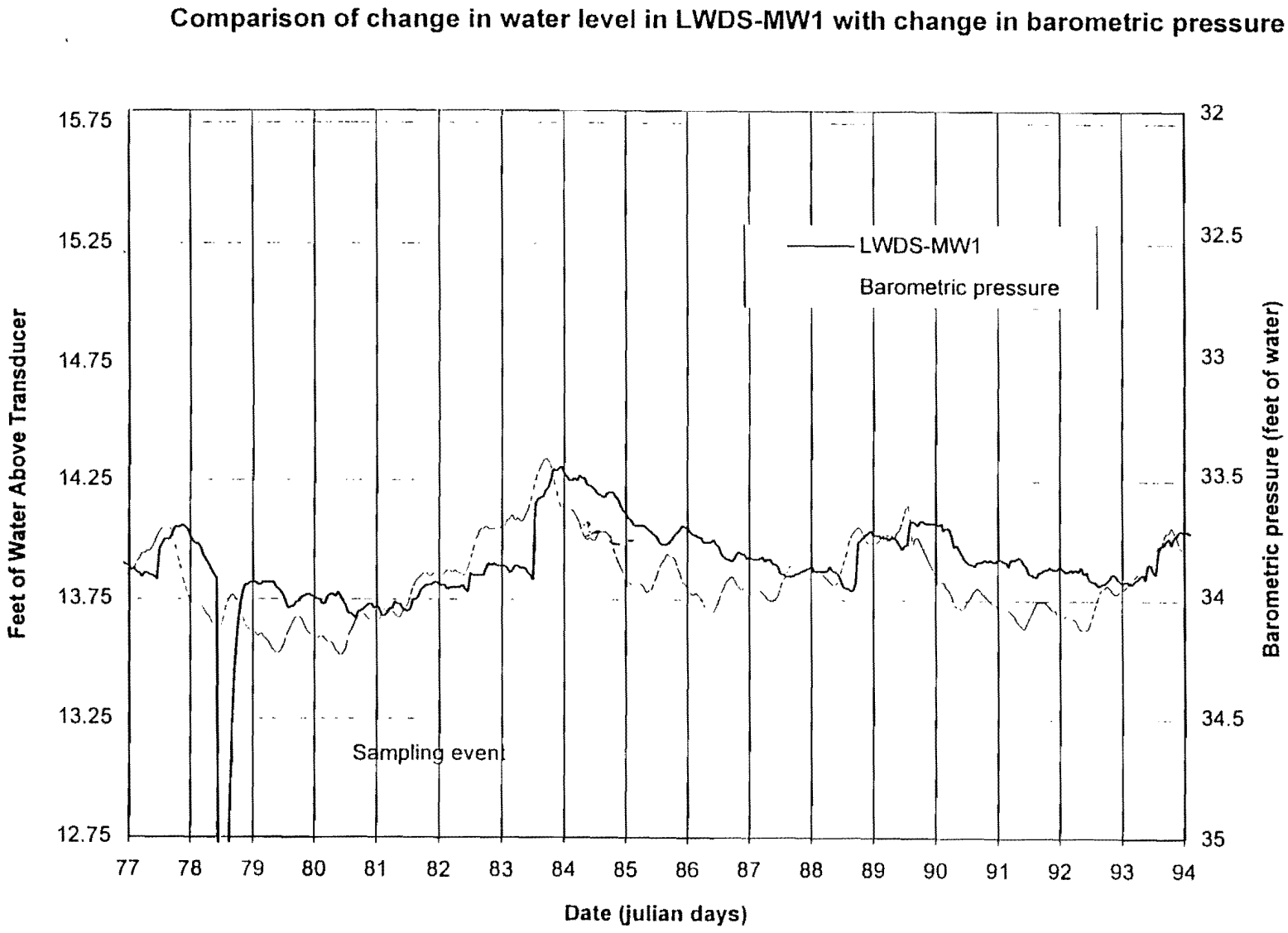

Comparison of change in water level in LWDS-MW1 with change in barometric pressure
15.75
15.25
14.75
14.25
13.75
13.25
12.75
Feet of Water Above Transducer
32
32.5
33
33.5
34
34.5
35
Barometric pressure (feet of water)
LWDS-MW1
Barometric pressure
Sampling event
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
Date (julian days)

Figure 9

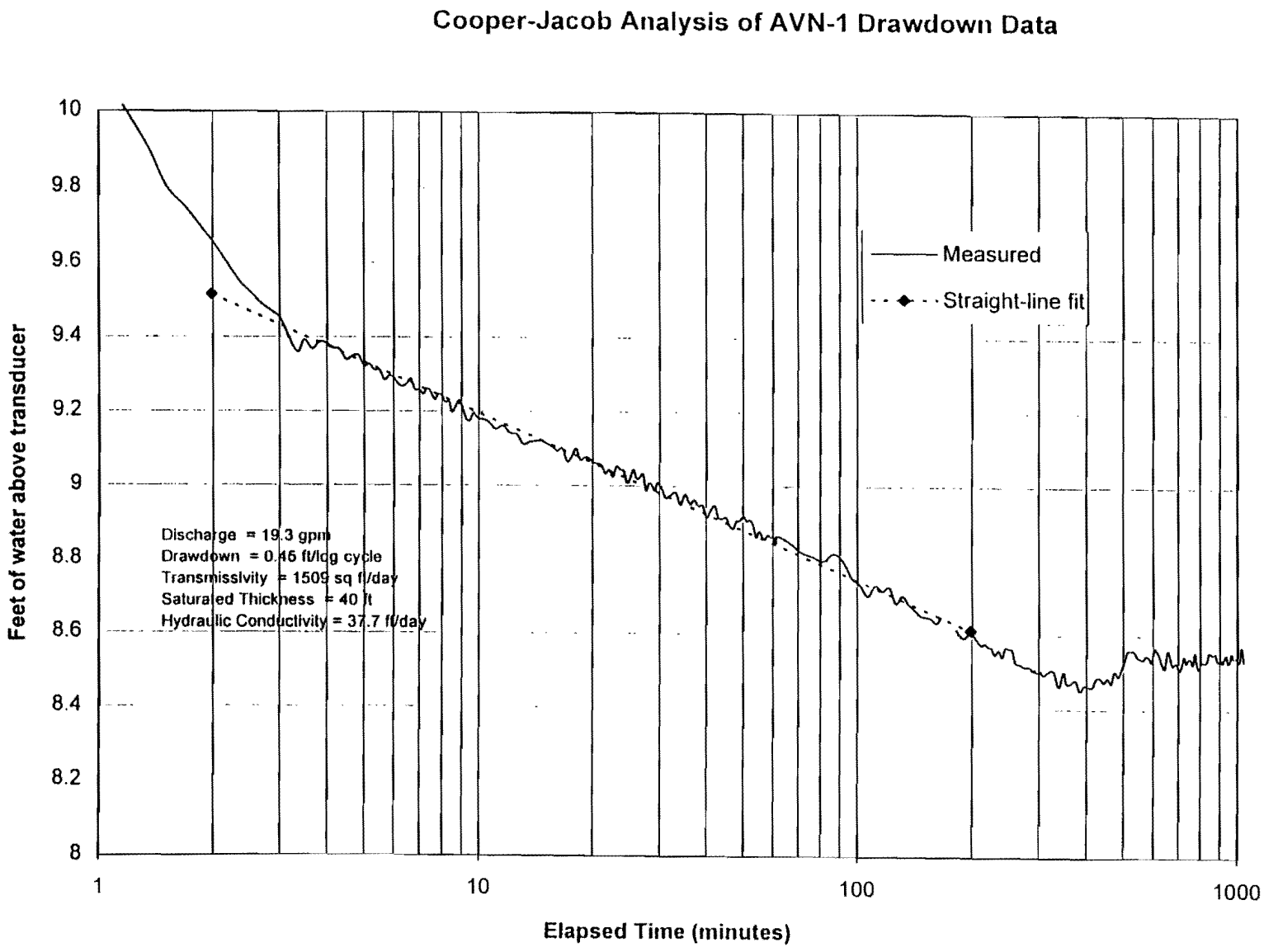

Cooper-Jacob Analysis of AVN-1 Drawdown Data
Feet of water above transducer
10
9.8
9.6
9.4
9.2
9
8.8
8.6
8.4
8.2
8
1
10
100
1000
Elapsed Time (minutes)
Measured
Straight-line fit
Discharge = 19.3 gpm
Drawdown = 0.46 ft/log cycle
Transmissivity = 1509 sq ft/day
Saturated Thickness = 40 ft
Hydraulic Conductivity = 37.7 ft/day

Figure 10

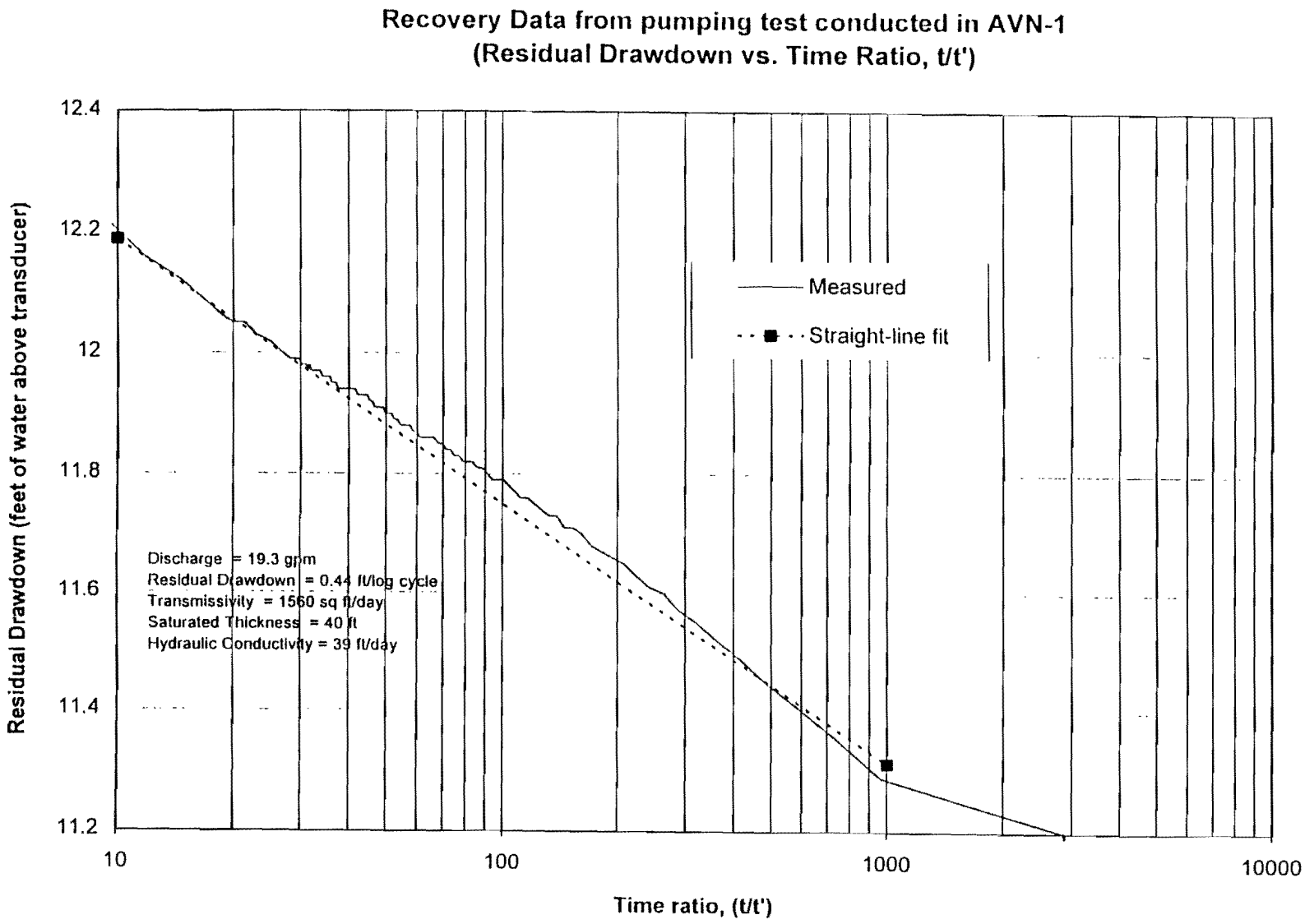

Recovery Data from pumping test conducted in AVN-1
(Residual Drawdown vs. Time Ratio, t/t')
Residual Drawdown (feet of water above transducer)
12.4
12.2
12
11.8
11.6
11.4
11.2
10
100
1000
10000
Time ratio, (t/t')
Measured
Straight-line fit
Discharge = 19.3 gpm
Residual Drawdown = 0.44 ft/log cycle
Transmissivity = 1560 sq ft/day
Saturated Thickness = 40 ft
Hydraulic Conductivity = 39 ft/day

Figure 11

ATTACHMENT 1
WELL CONSTRUCTION SUMMARIES

WELL DATABASE SUMMARY SHEET

Project Name:	TA5 SEEPAGE PITS	Geo Location:	TA5 SEEPAGE PITS
ER ADS #:	1306	Well Completion Date:	28-FEB-95
Well Name:	TAV-MW1	Completion Zone:	SILTY SAND
Owner Name:	SNL/NM	Formation of Completion:	SANTA FE GROUP
Date Drilling Started:	31-JAN-95	Well Comment:	WELL DEVELOPED 4/10/95 - 4/14/95
Drilling Contractor:	STEWART BROTHERS		
Drilling Method:	AIR CASING HAMMER W/CENTER B		
Borehole Depth:	520		
Casing Depth:	509.5		

Survey Data

Survey Date: 13-APR-95

Surveyed By: GREINER INC.

(X) Easting: 414699.928

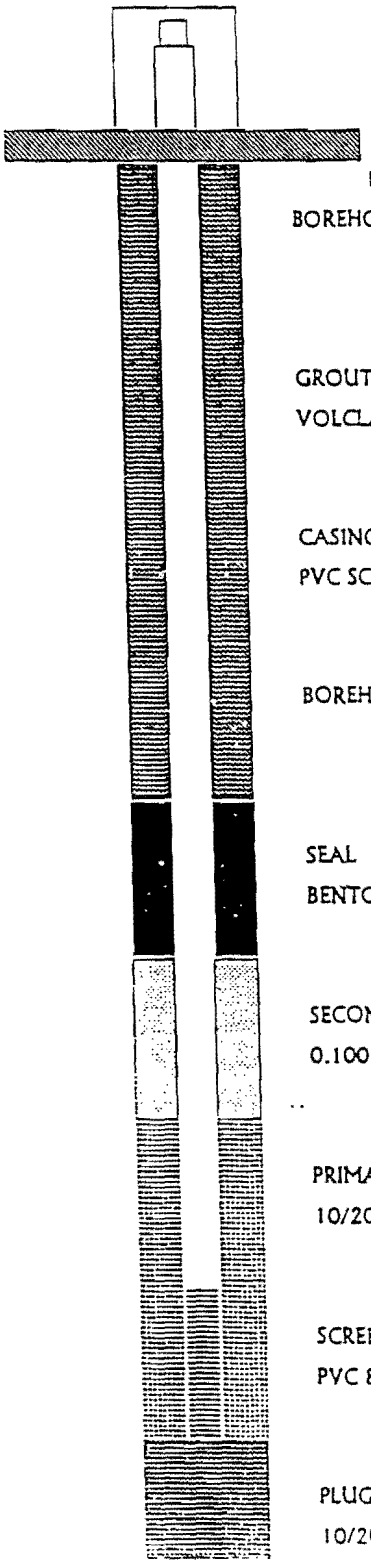
(Y) Northing: 1454667.5

Surveyed Elevations (FAMSL)

Protective Casing:	5436.204
Top of Inner Well Casing:	5435.136
Concrete Pad:	5432.535
Ground Surface:	5435.136

Calculated Depths and Elevations

Initial Water Elevation: (FAMSL)	4935.34
Initial Depth To Water: (FBGS)	499.8
Date Last Updated:	17-JUL-1995 13:46:46
Date Printed:	07-DEC-95



Completion Data Measured Depths (FBGS)

Casing Stickup: 3.7

Interval	Start	Stop	
BOREHOLE	0'	200'	O.D. 11.75"
GROUT/BACKFILL VOLCLAY GROUT	0'	463'	
CASING PVC SCH 80	0'	509.5'	I.D. 5" O.D. 5.2"
BOREHOLE	200'	520'	O.D. 10.5"
SEAL BENTONITE POWDER	463'	474'	
SECONDARY PACK 0.100	474'	483.5'	
PRIMARY PACK 10/20	483.5'	512.5'	
SCREEN PVC 80	489.5'	509.5'	Slot Size .02"
PLUG BACK 10/20 SAND	509.5'	520'	

WELL DATABASE SUMMARY SHEET

Project Name:	TA5 SEEPAGE PITS	Geo Location:	WEST OF TA5 (OUTSIDE FENCE)
ER ADS #:	1306	Well Completion Date:	30-MAR-95
Name:	TAV-MW02	Completion Zone:	SILTY SAND
Owner Name:	SNL/NM	Formation of Completion:	SANTA FE GROUP
Date Drilling Started:	13-MAR-95	Well Comment:	WELL DEVELOPED 4/11/95 - 4/14/95 WITH BAILER
Drilling Contractor:	STEWART BROTHERS		
Drilling Method:	AIR CASING HAMMER W/CENTER B		
Borehole Depth:	522		
Casing Depth:	513.5		

Survey Data

Survey Date: 13-APR-95

Surveyed By: GREINER INC.

(X) Easting: 414145.08

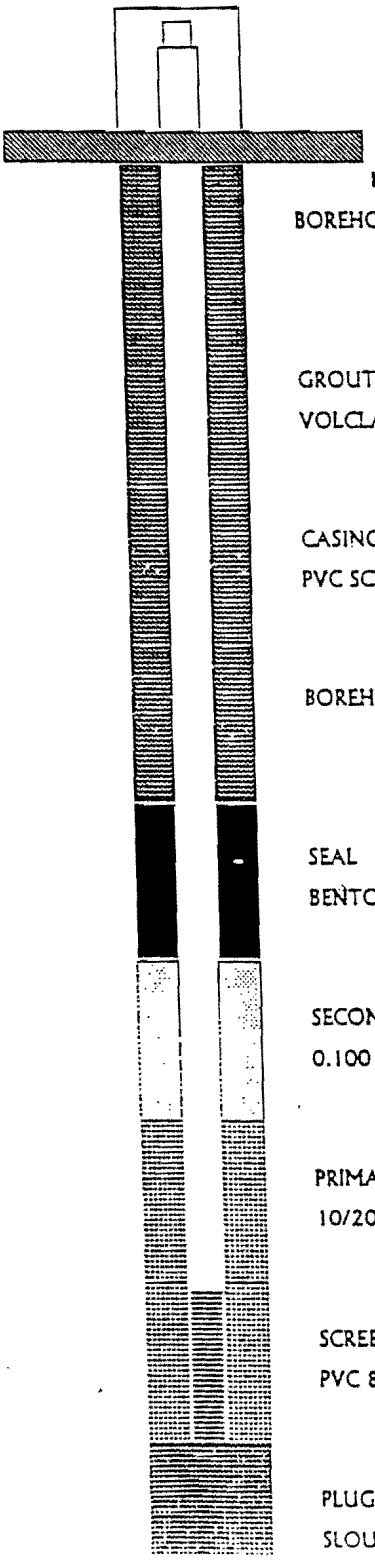
(Y) Northing: 1454634.7

Surveyed Elevations (FAMSL)

Protective Casing:	5425.769
Top of Inner Well Casing:	5424.857
Concrete Pad:	5422.144
Ground Surface:	5421.751

Calculated Depths and Elevations

Initial Water Elevation: (FAMSL)	4930.201
Initial Depth To Water: (FBGS)	494.66
Date Last Updated:	17-JUL-1995 09:53:16
Date Printed:	07-DEC-95



Completion Data Measured Depths (FBGS)

Casing Stickup: 3.11

Interval	Start	Stop
BOREHOLE	0'	150'
O.D. 11.75"		

Interval	Start	Stop
GROUT/BACKFILL	0'	474'
VOLCLAY GROUT		

Interval	Start	Stop
CASING	0'	51[illegible]
PVC SCH 80 I.D. 5" O.D. 5.2"		

Interval	Start	Stop
BOREHOLE	150'	522'
O.D. 10.5"		

Interval	Start	Stop
SEAL	474'	483'
BENTONITE POWDER		

Interval	Start	Stop
SECONDARY PACK	483'	491'
0.100		

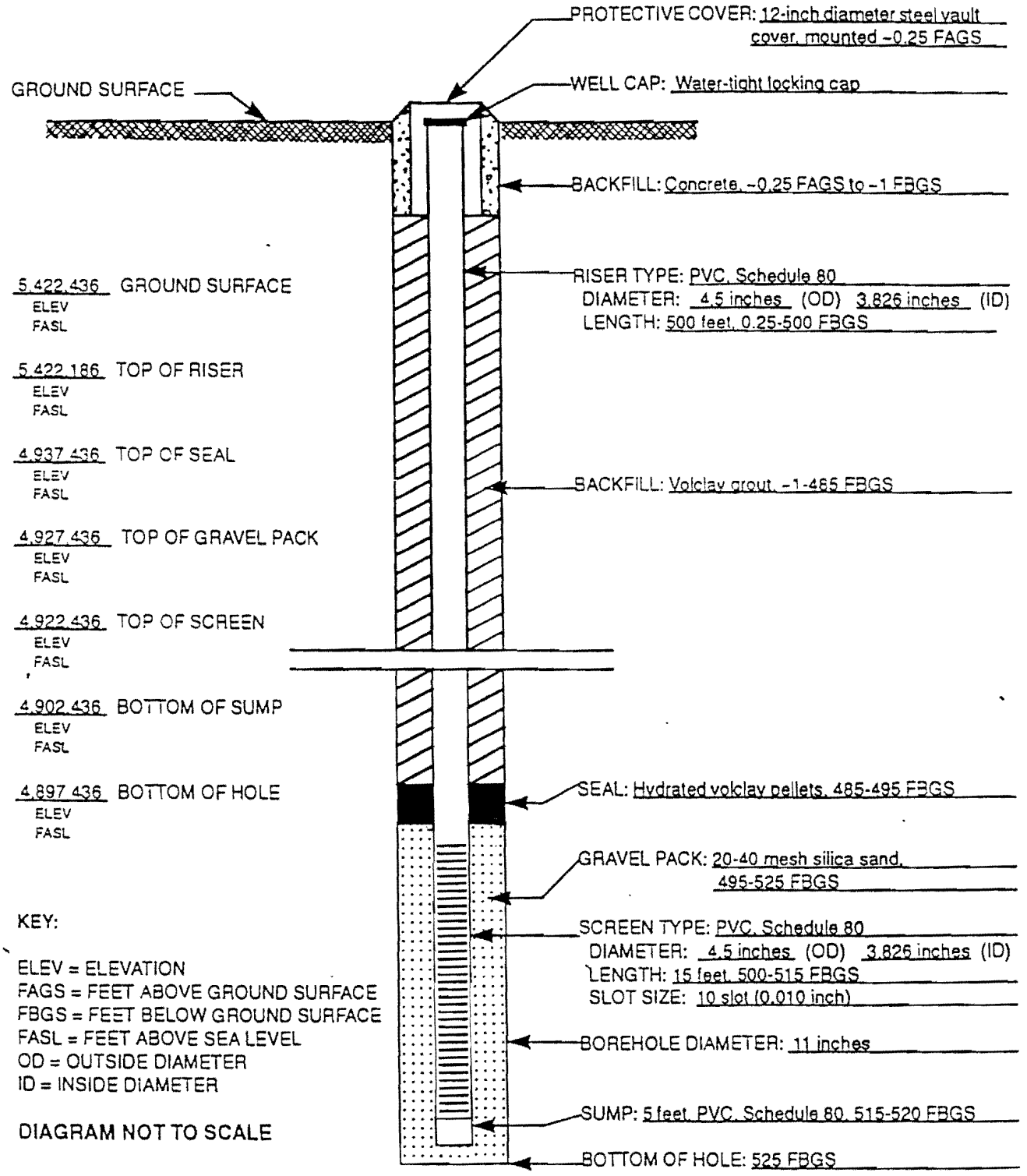
Interval	Start	Stop
PRIMARY PACK	491'	518.3'
10/20		

Interval	Start	Stop
SCREEN	497'	5
PVC 80		
Slot Size .02"		

Interval	Start	Stop
PLUG BACK	513.5'	522'
SLOUGH		

GROUND-WATER MONITOR WELL DATA SHEET

WELL NUMBER: LWDS-MW1
LOCATION: Sandia National Laboratories, Liquid Waste Disposal System, Drain Fields
DATE INSTALLATION COMPLETED: 03MAY93
DATE OF DEVELOPMENT: 14JUL93
DRILL METHOD: Sonic, air rotary, and driven casing



KEY:

ELEV = ELEVATION
FAGS = FEET ABOVE GROUND SURFACE
FBGS = FEET BELOW GROUND SURFACE
FASL = FEET ABOVE SEA LEVEL
OD = OUTSIDE DIAMETER
ID = INSIDE DIAMETER

DIAGRAM NOT TO SCALE

SNL/NM WELL DATA SHEET

Project Name:	LIQ WASTE DISP SYS	Geo Location:	LWDS Surface Impoundments
ER ADS #:	1307	Well Completion Date:	30-OCT-92
Well Name:	LWDS-MW2	Completion Zone:	SAND
Owner Name:	SNL	Formation of Completion:	SANTA FE GROUP
Date Drilling Started:	12-AUG-92	Well Comment:	WATER LEVEL MEASUREMENT FROM DRILLER'S LOG BOOK (22-OCT-92)
Drilling Contractor:			
Drilling Method:	SONIC/AIR ROTARY/DRIVE CAS		
Borehole Depth:	531		
Casing Depth:	531		

Survey Data

Survey Date:

Surveyed By:

State Plane Coordinates

(X) Easting: 413746.96

(Y) Northing: 1455700.191

Surveyed Elevations (FAMSL)

Protective Casing:

Top of Inner Well Casing: 5409.811

Concrete Pad: 5408.721

Ground Surface: 5408.811

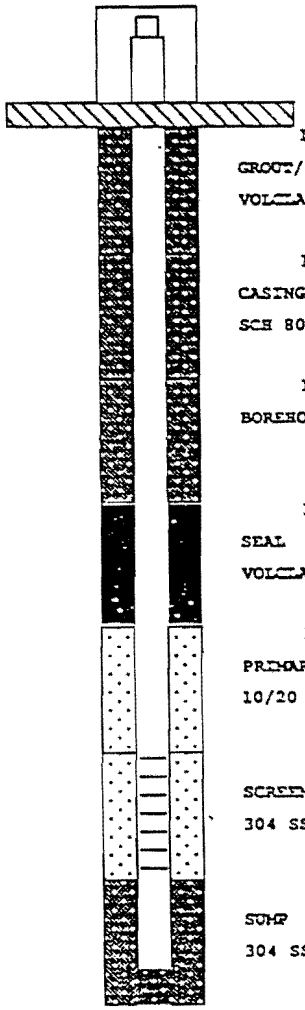
Calculated Depths and Elevations

Initial Water Elevation: (FAMSL) 4929.811

Initial Depth To Water: (FBGS) 480

Date Last Updated:

Date Printed: 15-FEB-95



Completion Data Measured Depths (FBGS)

Casing Stickup: 1

Interval	Start	Stop
GROUT/BACKFILL	0'	474'
VOLCLAY		

Interval	Start	Stop
CASING	0'	531'
SCH 80 PVC	I.D 3.862"	O.D. 4.5"

Interval	Start	Stop
BOREHOLE	0'	531'
	O.D.	11"

Interval	Start	Stop
SEAL	474'	480'
VOLCLAY PELLETS		

Interval	Start	Stop
PRIMARY PACK	480'	531'
10/20 MESH SILICA		

Interval	Start	Stop
SCREEN	506'	526'
304 SS		

Interval	Start	Stop
SUMP	526'	531'
304 SS		

SNL/NM WELL DATA SHEET

Project Name:	LIQ WASTE DISP SYS	Geo Location:	TA-V PARKING LOT
ER ADS #:	1307	Well Completion Date:	03-MAY-93
Well Name:	LWDS-MW1	Completion Zone:	SAND
Owner Name:	SNL/NM	Formation of Completion:	SANTA FE GROUP
Date Drilling Started:		Well Comment:	WATER LEVEL MEASURED ON JULY 14, 1993-FLUSH MOUNT SURFACE COMPLETION
Drilling Contractor:			
Drilling Method:	SONIC/AIR ROTARY/CABLE TOC		
Borehole Depth:	525		
Casing Depth:	520.33		

Survey Data

Survey Date:

Surveyed By:

State Plane Coordinates

(X) Easting: 414375.538

(Y) Northing: 1455058.589

Surveyed Elevations (FAMSL)

Protective Casing:

Top of Inner Well Casing: 5422.186

Concrete Pad:

Ground Surface: 5422.436

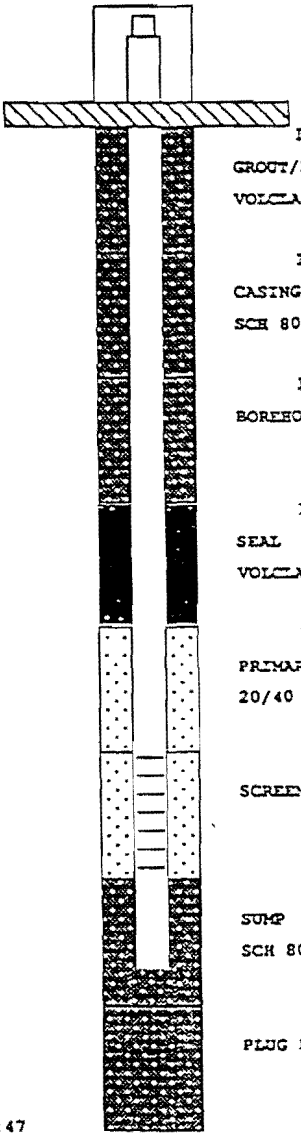
Calculated Depths and Elevations

Initial Water Elevation: (FAMSL) 4914.386

Initial Depth To Water: (FBGS) 497.8

Date Last Updated: 15-FEB-1995 07:16:47

Date Printed: 15-FEB-95



Completion Data Measured Depths (FBGS)

Casing Stickup: -.25

Interval	Start	Stop
GROUT/BACKFILL	0'	485'
VOLCLAY		

Interval	Start	Stop
CASING	0'	520.33'
SCH 80 PVC	I.D 3.862"	O.D. 4.5"

Interval	Start	Stop
BOREHOLE	0'	525'
	O.D.	11"

Interval	Start	Stop
SEAL	485'	495'
VOLCLAY PELLETS		

Interval	Start	Stop
PRIMARY PACK	495'	525'
20/40 SILICA SAND		

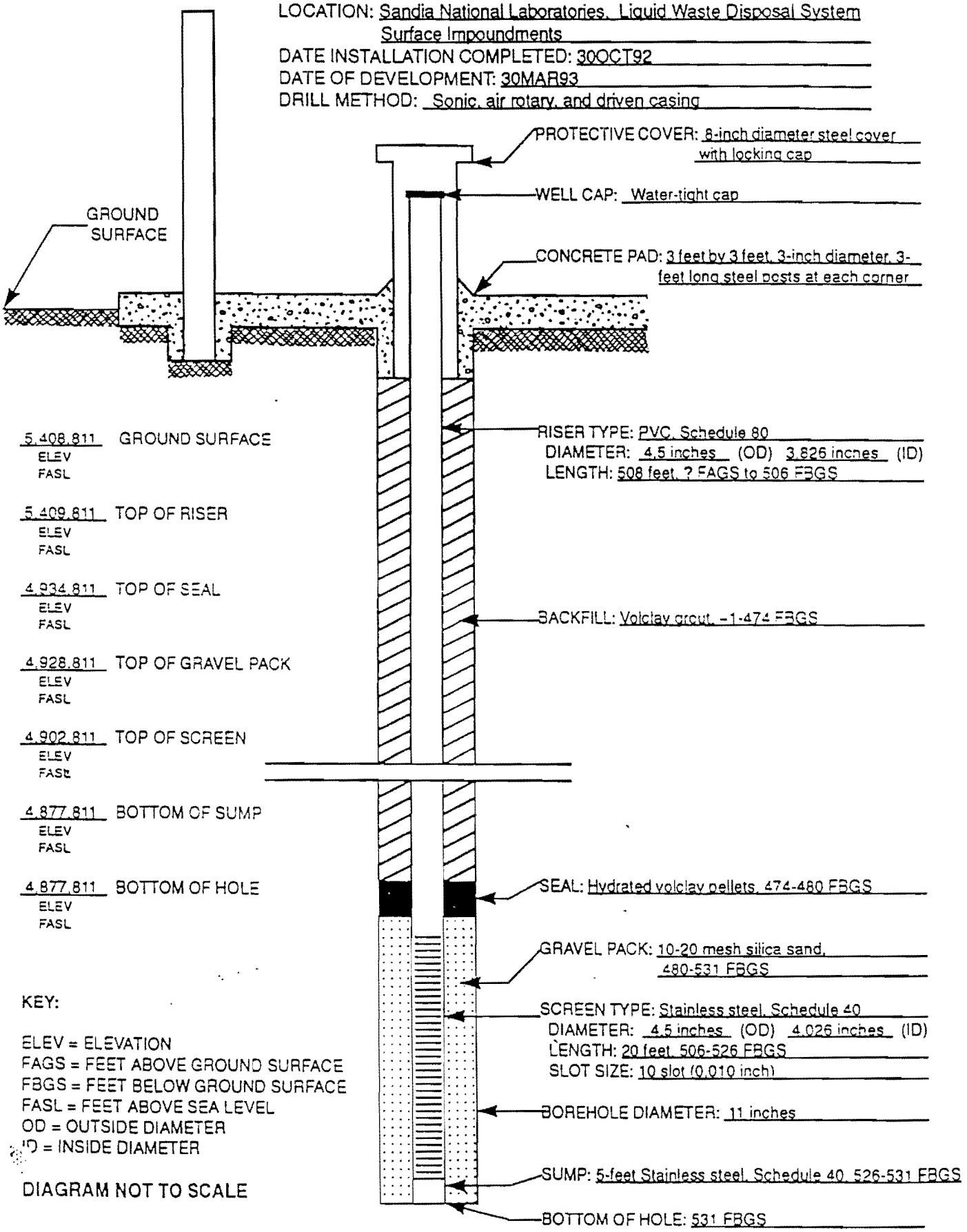
Interval	Start	Stop
SCREEN	500'	515'
	Slot Size	.01"

Interval	Start	Stop
SUMP	515'	520.33'
SCH 80 PVC		

Interval	Start	Stop
PLUG BACK	520.33'	525'

GROUND-WATER MONITOR WELL DATA SHEET

WELL NUMBER: LWDS-MW2
LOCATION: Sandia National Laboratories, Liquid Waste Disposal System Surface Impoundments
DATE INSTALLATION COMPLETED: 30OCT92
DATE OF DEVELOPMENT: 30MAR93
DRILL METHOD: Sonic, air rotary, and driven casing



KEY:

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FASL = FEET ABOVE SEA LEVEL
OD = OUTSIDE DIAMETER
ID = INSIDE DIAMETER

DIAGRAM NOT TO SCALE

ATTACHMENT 6

AQUIFER TEST AT TAV-MW2
JUNE 1996

SANDIA NATIONAL LABORATORIES

ALBUQUERQUE, NEW MEXICO 87158

date: August 1, 1996

to: Lon Dawson and Mike Wade, MS 1350 (7582)

from: Erik Storms, Aquifer Test Supervisor, MS 1132 (7584)

subject: Aquifer Test at TAV-MW2 Monitor Well

An aquifer pumping test was conducted at monitor well TAV-MW2 (Figure 1) from June 13 through June 19, 1996. TAV-MW2 was pumped for more than 6 days at an average rate of 0.35 gpm. Attached is a calculation set which describes the field activities and the results of the aquifer pumping test conducted. The conclusions are as follows:

- The calculated transmissivity from recovery data is 2.39 ft^2/day. The corresponding hydraulic conductivity value is 0.000064 ft/min, assuming a saturated thickness of 26 ft (estimated thickness of the aquifer). The hydraulic conductivity of 0.000064 ft/min calculated from the aquifer test data compared closely to hydraulic conductivity of 0.00008 ft/min calculated from the slug test data.

- No lateral hydraulic connection was observed between observation wells LWDS-MW1 and TAV-MW1 and the pumping well. These observation wells are located 480 and 550 ft from well TAV-MW2, respectively.

If you have any questions, do not hesitate to contact me (284-2589).

Attachments

ES:7584:es

cc: (without attachments)
MS 1132 Dorothy Stermer (7584)
MS 1132 Sue Collins (7584)
MS 1132 Fran Nimick (7582)

PRELIMINARY AQUIFER PUMPING TEST CALCULATION SET FOR MONITOR WELL TAV-MW2, TECHNICAL AREA 5, SNL

Purpose

The specific objectives of the aquifer pumping test were to:

1. Estimate aquifer transmissivity and storage coefficient of the water-bearing zone in the uppermost 26 feet of the Santa Fe Group at the TA5-MW2 location; and

2. Evaluate the degree and extent of the lateral hydraulic connection if any, of the saturated zone monitored by wells TA5-MW2, LWDS-MW1, and TAV-MW1 (wells LWDS-MW1 and TA5-MW1 contain TCE up to 17 ppb).

Aquifer Testing Methods

On June 13, 1996, an aquifer pumping test was conducted at monitor well TA5-MW2; monitor wells LWDS-MW1 and TAV-MW1 were the observation wells (Figure 1). Prior to the aquifer test, pressure transducers were installed in the pumping well and the observation wells. Prior to installation, all transducers were calibrated and their precision and accuracy were determined. The pump was installed at a depth of approximately 512 ft below ground surface (bgs). Water from the pumping well was discharged on-site approximately 300 feet from the pumping well. A check-valve was installed in the pump to prevent water from the discharge pipe to flow back into the well after the pump was shut off. Analysis of slug test data conducted prior to the aquifer test indicated that the maximum yield for monitor well TA5-MW2 was approximately 0.5 gpm. In addition, a series of groundwater samples were collected during the pumping test and analyzed onsite for VOCs by EPA Method 8260.

Wellbore fluid pressures for each well and atmospheric pressure were monitored prior to, during, and after the aquifer test. During the drawdown phase of the test, pumping rate and total discharge were monitored using a electronic flow meter. Wellbore fluid pressures for monitor well TA5-MW2 and atmospheric pressure were recorded and stored in a computer controlled data acquisition system (DAS). Wellbore fluid pressures for observation wells LWDS-MW1 and TAV-MW1 were recorded and stored on data loggers. Because of the long duration of the test, data collection during the test was entirely automated and designed to be run with minimal manual attendance.

Approximately 1800 minutes (approximately 34 hours) after the start of drawdown phase of the test, the DAS experienced a program failure and stopped logging water level and atmospheric and flow rate data. When the failure was noticed a day later, water levels were recorded on a data logger. Approximately 1670 minutes of data was lost. Because the recovery data was used to determine transmissivity, this data loss did not impact the pumping test analysis.

Well Completion Information

Monitor well TAV-MW2 is screened from 497.5 to 517.5 ft bgs with a primary sand pack that extends from 491 to 518 ft bgs. Monitor well LWDS-MW1 is located approximately 480 ft northeast of the TA5-MW2 and is screened from 500 to 515 ft bgs with a primary sand pack is that extends from 495 to 525 ft bgs. Monitor well TAV-MW1 is located approximately 550 ft east of monitor well TA5-MW2 and is screened from 489.5 to 509.5 ft bgs with a primary sand that extends from 483.5 to 512 ft. Monitor wells TA5-MW1, TA5-MW2, and LWDS-MW1 are completed in the Upper Santa Fe Group. Well schematics are presented in Appendix A.

Calculation and analysis

Monitor pumping well TA5-MW2 was pumped for approximately 6.34 days (9124 minutes) at an average rate of 0.35 gpm: approximately 3200 gallons of water were pumped. Maximum observed drawdown in the pumping well was approximately 12 feet (Figure 2). Flow rates fluctuated between 0.2 and 0.5 gpm (Figure 3). It was difficult to maintain a constant flow rate which is expected when pumping at a relatively deep depth (more than 500 feet) with flow rates less than 0.5 gpm. Drawdown in the pumping well was highly sensitive to pumping fluctuations (Figure 3). Because of fluctuations in the flow rates, the drawdown data collected from the pumping well was not suitable for determining transmissivity. Thus, transmissivity was calculated with the recovery data. Water levels in the pumping well recovered to 100 per cent within a few hours after the pump was shutoff.

No water level responses occurred in the observation wells during pumping at well TA5-MW2. The estimation of storativity depends on water level data collected from at least one observation well during an aquifer pumping test. Thus, storativity could not be determined. Water levels in the observation wells did respond however to atmospheric pressure fluctuations which is typical for most of the wells on KAFB (Figure 4).

The recovery data was analyzed using the Cooper and Jacob straight-line method (Cooper and Jacob, 1946). This method is an approximation of the Theis solution and therefore the aquifer must conform to the assumptions of the Theis conceptual model which. The assumptions are:

1) The aquifer is homogenous and isotropic
2) The formation has uniform thickness.
3) The formation receives no recharge from any source.
4) The pumped well penetrates and receives water from the full thickness of the water-bearing formation.
5) The aquifer is infinite in areal extent.
6) The water removed from storage is discharged instantaneously with lowering of the head.

Results

Using the straight-line method, aquifer transmissivity was determined from a plot of residual drawdown for time intervals measured from both the beginning of the pumping test, t, and the beginning of the recovery period, t' (Figure 5). The calculated transmissivity from drawdown data is 2.39 ft^2/day. The hydraulic conductivity is 0.000064 ft/min assuming a saturated thickness of 26 ft (the estimated aquifer thickness). The hydraulic conductivity of 0.000064 ft/min calculated from the aquifer test data compared closely to hydraulic conductivity of 0.00008 ft/min calculated from the slug test data (slug test letter report June 21, 1995).

Conclusions

The following conclusions are based on the results of the aquifer pumping test conducted at monitor well TAV-MW2:

- The calculated transmissivity from recovery data is 2.39 ft^2/day. The corresponding hydraulic conductivity value is 0.000064 ft/min, assuming a saturated thickness of 26 ft. The hydraulic conductivity of 0.000064 closely compares to the hydraulic conductivity of 0.00008 ft/min calculated from slug tests previously conducted at well TAV-MW2.

- No lateral hydraulic connection was observed between observation wells LWDS-MW1 and TAV-MW1 and the pumping well, TAV-MW2. These observation wells are located 480 and 550 ft away from the pumping well, respectively.

References

Cooper, H.H., Jr., and C.E. Jacob, 1946, A generalized graphic method for evaluating formation constants and summarizing well-field history, American Geophysical Union Transactions, Vol. 27, No. 4, pp. 526-534.

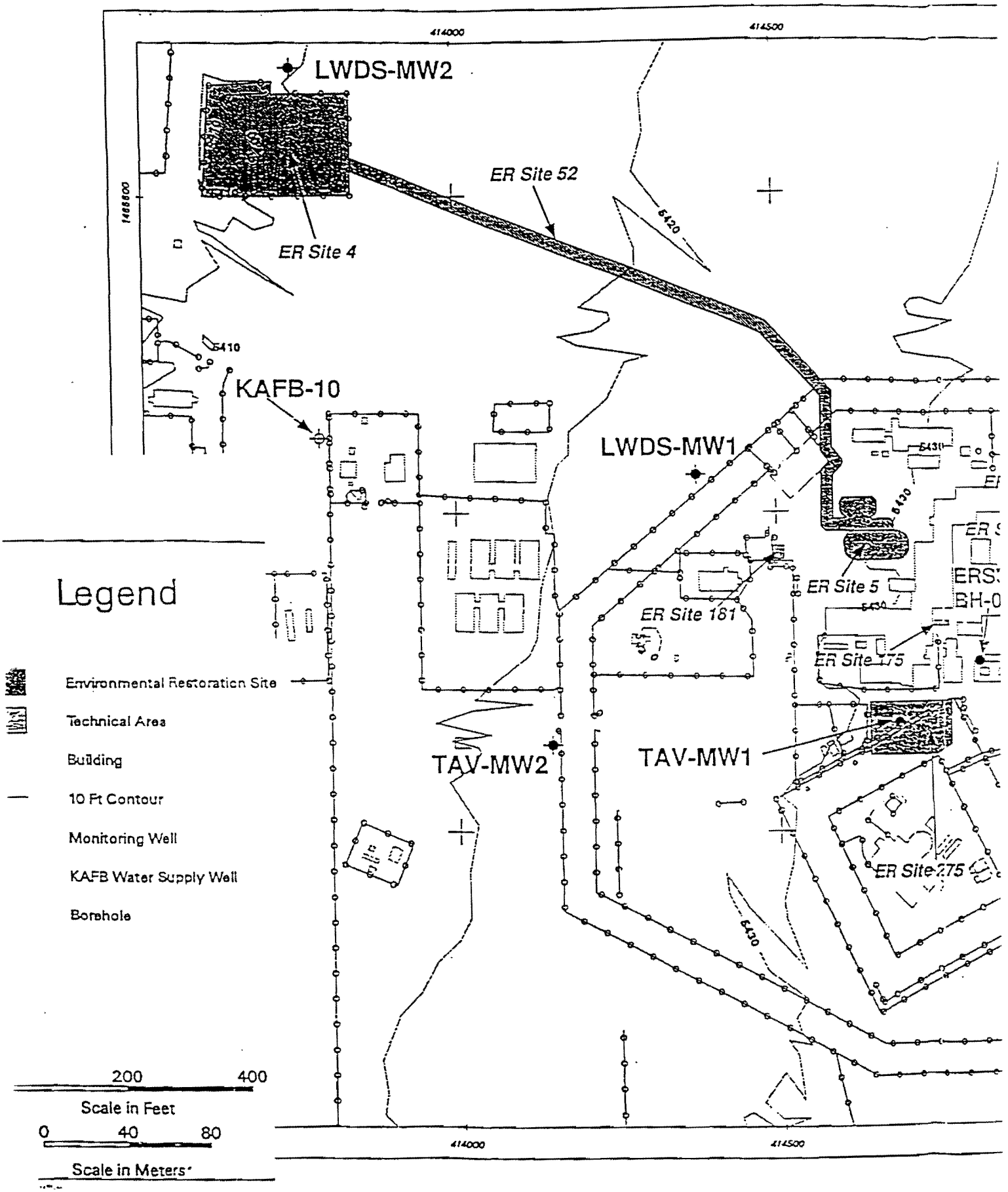


Figure 1 Wells within the vicinity of Technical Area V

Figure 2.
Change in water level with time during aquifer pumping test in well TA5-MW2

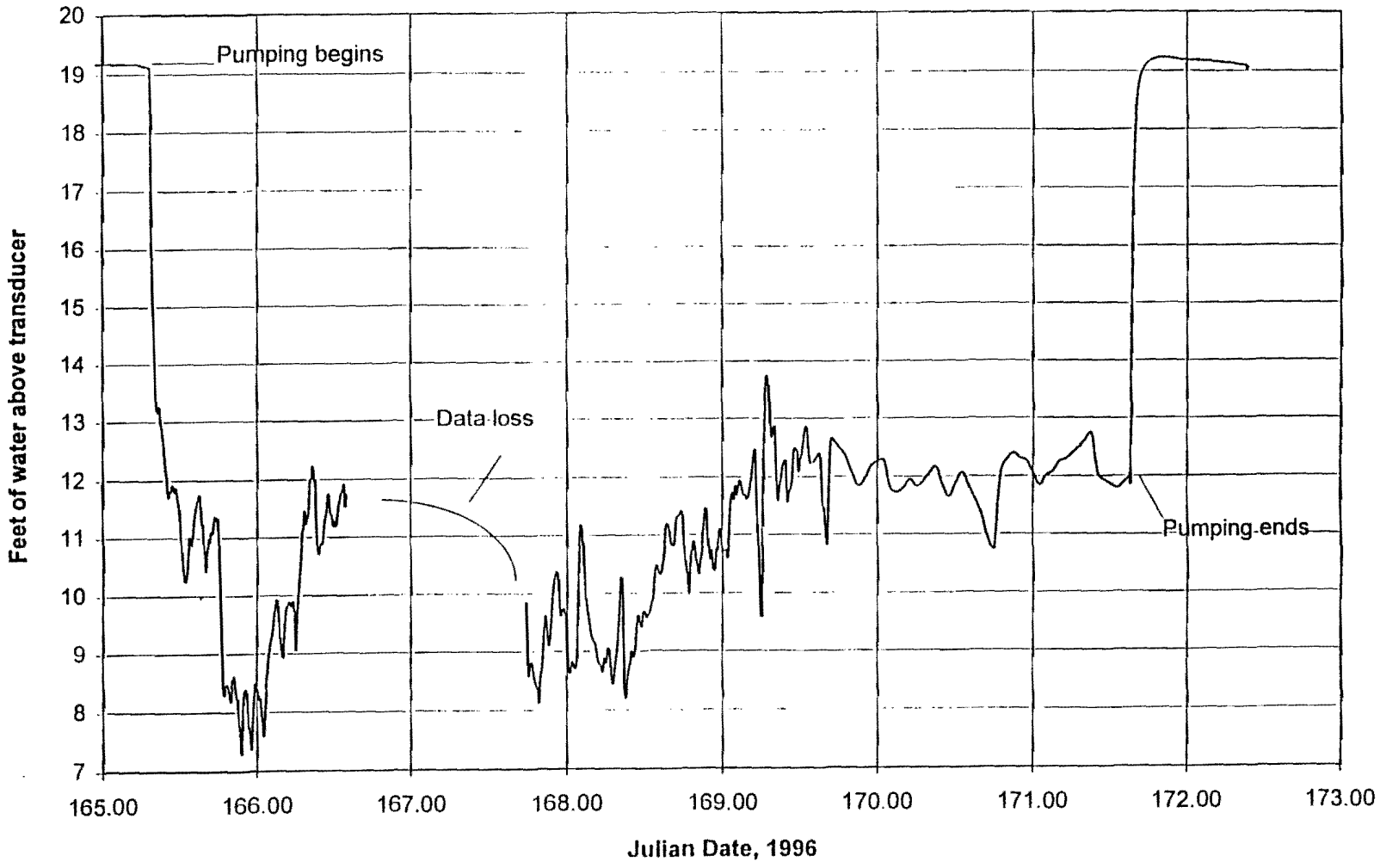


Figure 3.
Comparison of drawdown with pumping rate in well TA5-MW2

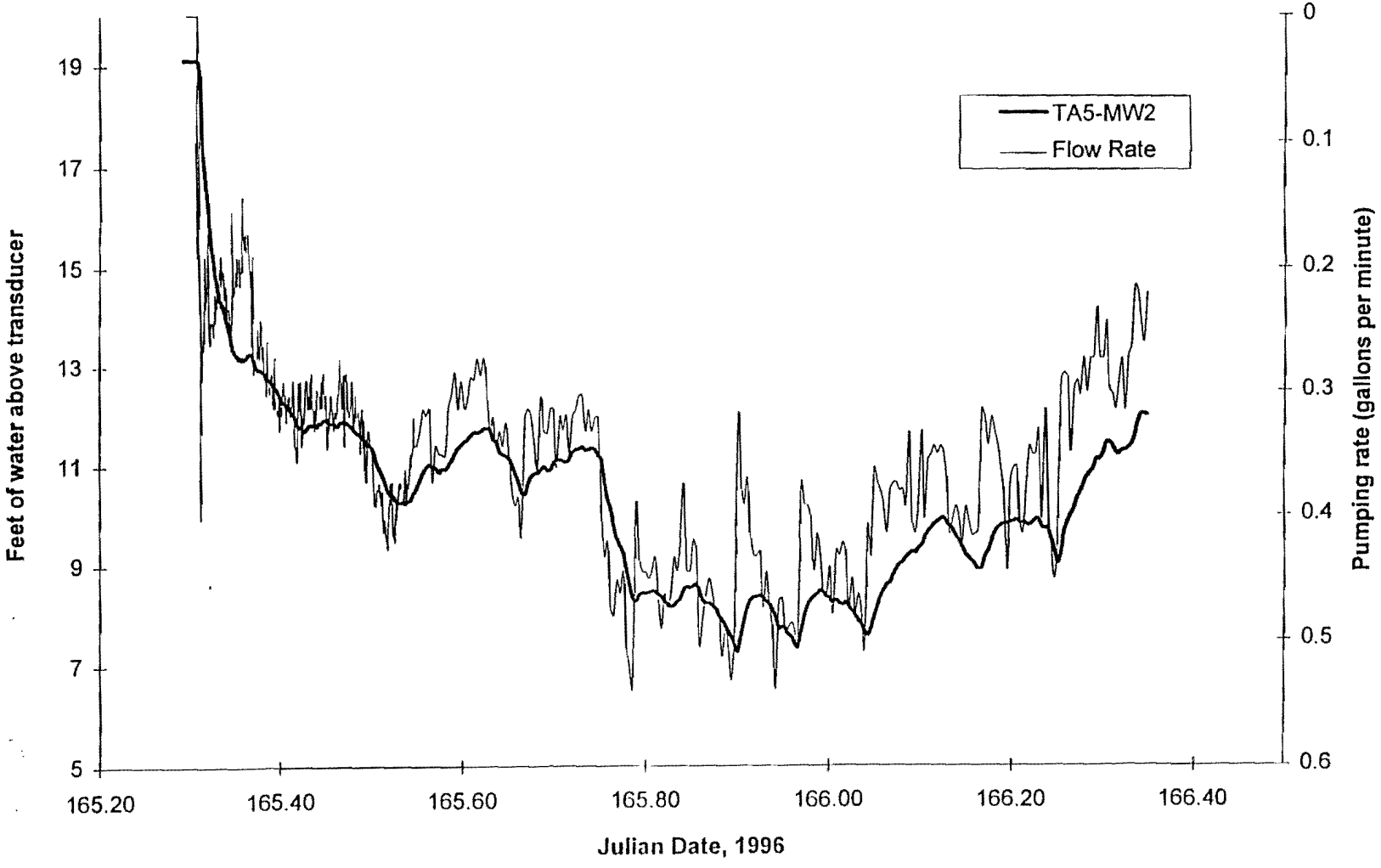


Figure 4.
Water level fluctuations in wells TA5-MW1 and LWDS-MW1
during well TA5-MW2 aquifer pumping test

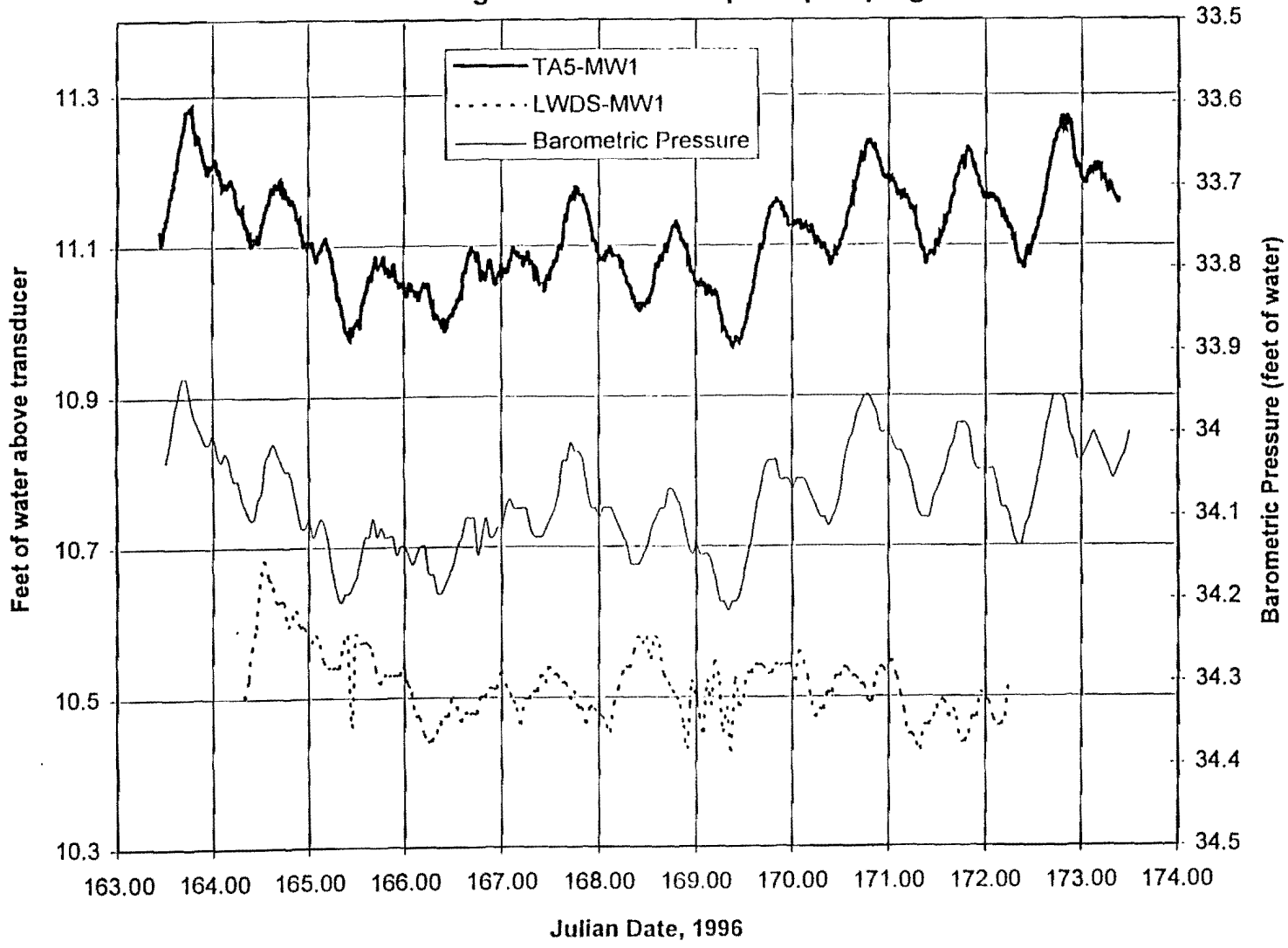
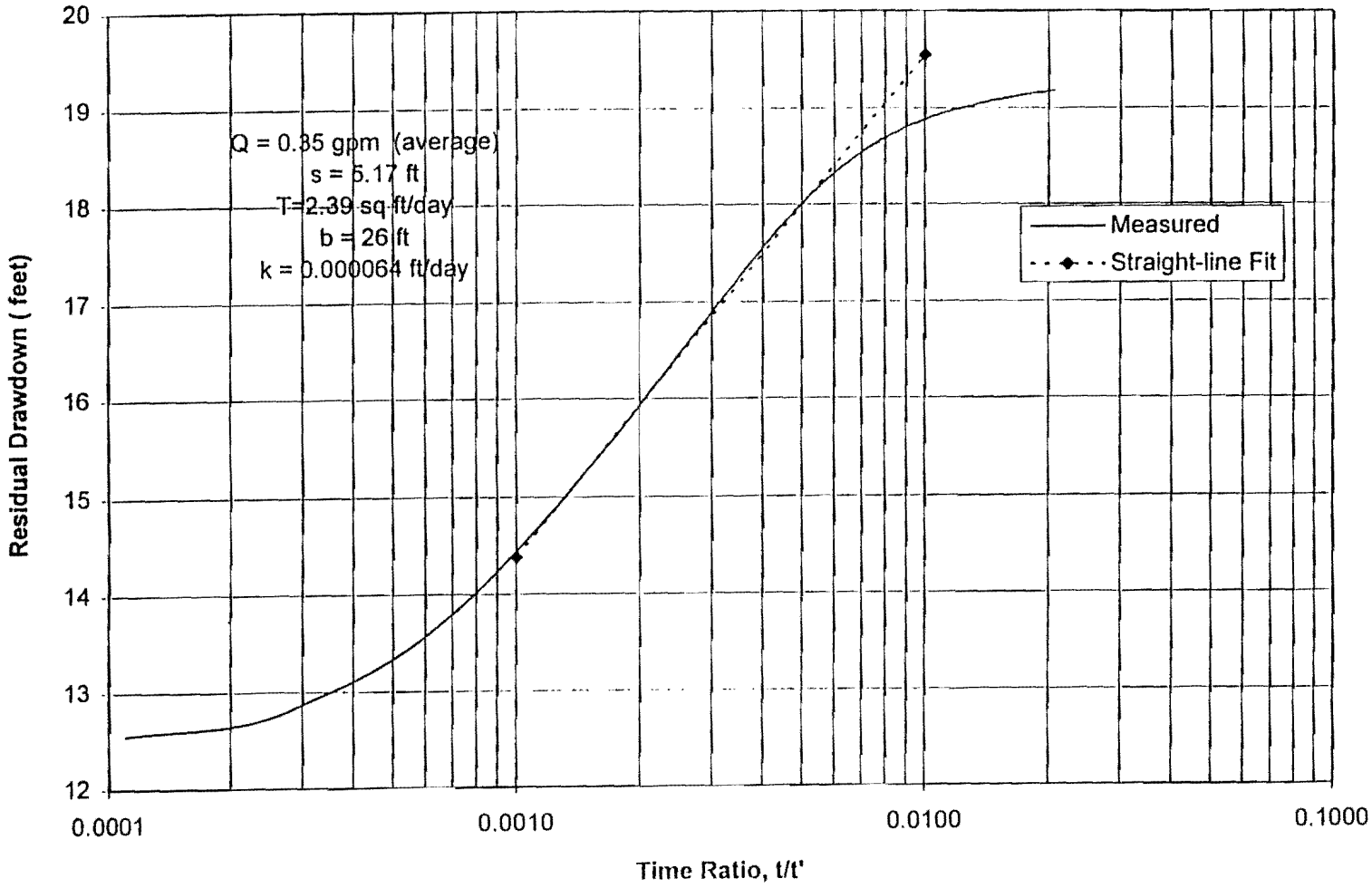


Figure 5.
Residual drawdown vs. time ratio t/t' for well TA2-MW2



APPENDIX A

WELL SCHEMATICS

WELL DATABASE SUMMARY SHEET

oject Name:	TA5 SEEPAGE PITS	Geo Location:	WEST OF TA5 (OUTSIDE FENCE)
R ADS #:	1306	Well Completion Date:	30-MAR-95
Name:	TAV-MW02	Completion Zone:	SILTY SAND
er Name:	SNL/NM	Formation of Completion:	SANTA FE GROUP
ate Drilling Started:	13-MAR-95	Well Comment:	WELL DEVELOPED 4/11/95 - 4/14/95 WITH BAILER
illing Contractor:	STEWART BROTHERS		
illing Method:	AIR CASING HAMMER W/CENTER B		
orehole Depth:	522		
asing Depth:	513.5		

Survey Data

urvey Date: 13-APR-95

urveyed By: GREINER INC.

) Easting: 414145.08

) Northing: 1454634.7

Surveyed Elevations (FAMSL)

otective Casing: 5425.769

f Inner Well Casing: 5424.857

oncrete Pad: 5422.144

ound Surface: 5421.751

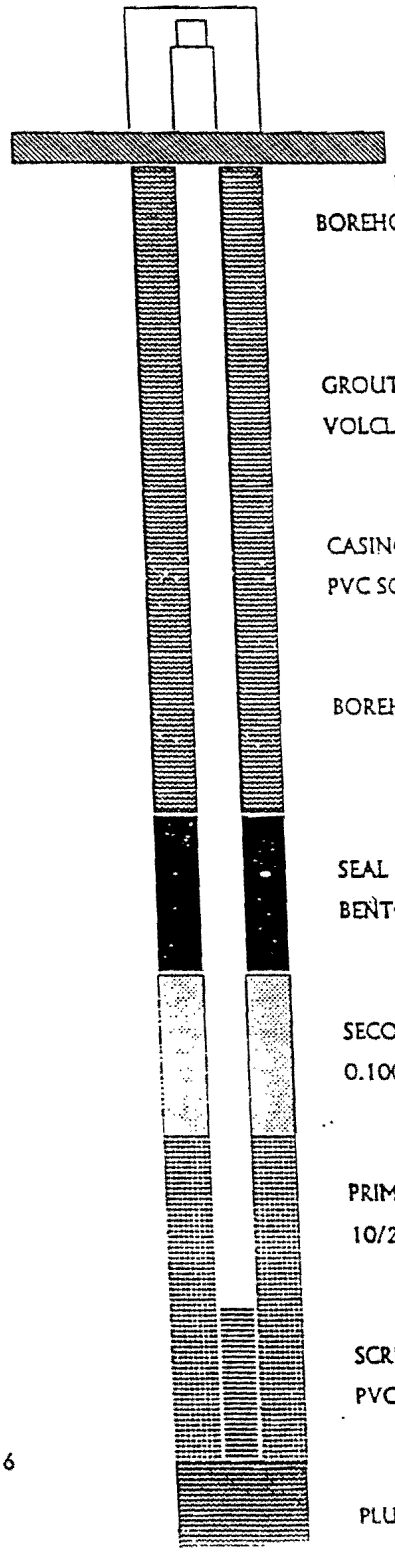
Calculated Depths and Elevations

tial Water Elevation: (FAMSL) 4930.201

Depth To Water: (FBGS) 494.66

te Last Updated: 17-JUL-1995 09:53:16

ate Printed: 07-DEC-95



Completion Data Measured Depths (FBGS)

Casing Stickup: 3.11

Interval	Start	Stop	
BOREHOLE	0'	150'	O.D. 11.75"
GROUT/BACKFILL VOLCLAY GROUT	0'	474'	
CASING PVC SCH 80	0'	513.5'	I.D. 5" O.D. 5.2"
BOREHOLE	150'	522'	O.D. 10.5"
SEAL BENTONITE POWDER	474'	483'	
SECONDARY PACK 0.100	483'	491'	
PRIMARY PACK 10/20	491'	518.3'	
SCREEN PVC 80	497'	517'	Slot Size .02"
PLUG BACK	513.5'	[illegible]	

WELL DATABASE SUMMARY SHEET

'roject Name:	TA5 SEEPAGE PITS	Geo Location:	TA5 SEEPAGE PITS
ER ADS #:	1306	Well Completion Date:	28-FEB-95
' "l Name:	TAV-MW1	Completion Zone:	SILTY SAND
..ier Name:	SNL/NM	Formation of Completion:	SANTA FE GROUP
Date Drilling Started:	31-JAN-95	Well Comment:	WELL DEVELOPED 4/10/95 - 4/14/95
Drilling Contractor:	STEWART BROTHERS		
Drilling Method:	AIR CASING HAMMER W/CENTER B		
Borehole Depth:	520		
Casing Depth:	509.5		

Survey Data

Survey Date:	13-APR-95
Surveyed By:	GREINER INC.

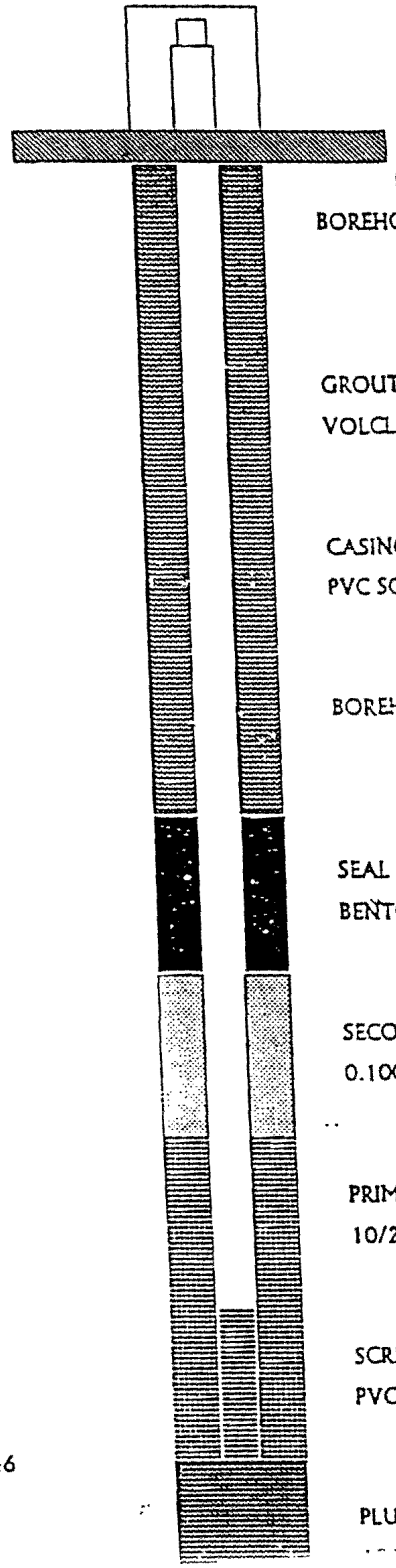
X) Easting:	414699.928
Y) Northing:	1454667.5

Surveyed Elevations (FAMSL)

Protective Casing:	5436.204
o of Inner Well Casing:	5435.136
Concrete Pad:	5432.535
round Surface:	5435.136

Calculated Depths and Elevations

tial Water Elevation: (FAMSL)	4935.34
ial Depth To Water: (FBGS)	499.8
te Last Updated:	17-JUL-1995 13:46:46
te Printed:	07-DEC-95



Completion Data Measured Depths (FBGS)

Casing Stickup: 3.7

Interval	Start	Stop
BOREHOLE	0'	200'
	O.D.	11.75"
Interval	Start	Stop
GROUT/BACKFILL	0'	463'
VOLCLAY GROUT		
Interval	Start	Stop
CASING	0'	509.5'
PVC SCH 80	I.D. 5"	O.D. 5.2"
Interval	Start	Stop
BOREHOLE	200'	520'
	O.D.	10.5"
Interval	Start	Stop
SEAL	463'	474'
BENTONITE POWDER		
Interval	Start	Stop
SECONDARY PACK	474'	483.5'
0.100		
Interval	Start	Stop
PRIMARY PACK	483.5'	512.5'
10/20		
Interval	Start	Stop
SCREEN	489.5'	509.5'
PVC 80		
	Slot Size	.02"
Interval	Start	Stop
PLUG BACK	509.5'	520'

SNL/NM WELL DATA SHEET

Project Name:	LIQ WASTE DISP SYS	Geo Location:	TA-V PARKING LOT
ER ADS #:	1307	Well Completion Date:	03-MAY-93
Well Name:	LWDS-MW1	Completion Zone:	SAND
Owner Name:	SNL/NM	Formation of Completion:	SANTA FE GROUP
Date Drilling Started:		Well Comment:	WATER LEVEL MEASURED ON JULY 14, 1993-FLUSH MOUNT SURFACE COMPLETION
Drilling Contractor:			
Drilling Method:	SONIC/AIR ROTARY/CABLE TOC		
Borehole Depth:	525		
Casing Depth:	520.33		

Survey Data

Survey Date:

Surveyed By:

State Plane Coordinates

(X) Easting: 414375.538

(Y) Northing: 1455058.589

Surveyed Elevations (FAMSL)

Protective Casing:

Top of Inner Well Casing: 5422.186

Concrete Pad:

Ground Surface: 5422.436

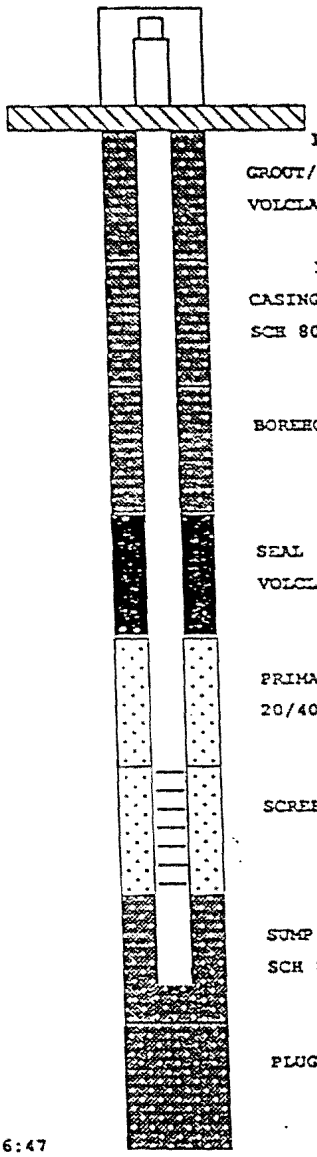
Calculated Depths and Elevations

Initial Water Elevation: (FAMSL) 4914.386

Initial Depth To Water: (FBGS) 497.8

Date Last Updated: 15-FEB-1995 07:16:47

Date Printed: 15-FEB-95



Completion Data Measured Depths (FBGS)

Casing Stickup: -.25

Interval	Start	Stop
GROUT/BACKFILL	0'	485'
VOLCLAY		

Interval	Start	Stop
CASING	0'	520.33'
SCH 80 PVC	I.D 3.862"	O.D. 4.5"

Interval	Start	Stop
BOREHOLE	0'	525'
	O.D.	11"

Interval	Start	Stop
SEAL	485'	495'
VOLCLAY PELLETS		

Interval	Start	Stop
PRIMARY PACK	495'	525'
20/40 SILICA SAND		

Interval	Start	Stop
SCREEN	500'	515'
	Slot Size	.01"

Interval	Start	Stop
SUMP	515'	520.33'
SCH 80 PVC		

Interval	Start	Stop
PLUG BACK	520.33'	525'

ATTACHMENT 7

AQUIFER TESTS AT TAV-MW1, TAV-MW2, LWDS-MW1, LWDS-MW2 MONITORING WELLS
JUNE 1995

Sandia National Laboratories
Albuquerque, New Mexico 87185

Date: June 21, 1995

To: Lon Dawson, MS1347, (7582)

Through: Sue Collins, MS1350, (7582) SSC

From: Erik Storms, (7582) E.S.

Subject: Slug Test Results for Slug Tests conducted on Monitoring Wells TA5-MW01, TA5-MW02, LWDS-MW01, and LWDS-MW02

Attached is a Slug Test Data and Calculation Set for slug tests conducted on monitoring wells TA5-MW01, TA5-MW02, LWDS-MW01, and LWDS-MW02 . The average hydraulic conductivities ranged from 2.62×10^{-5} to 1.65×10^{-3} ft/min (1.33×10^{-5} to 8.36×10^{-4} cm/sec). The table below provides a summary of the calculated hydraulic conductivities from the slug test data analysis.

Monitoring Well	Aquifer Unit	Hydraulic Conductivity			
		slug injection test	slug withdrawal test	average	
		ft/min	ft/min	ft/min	cm/sec
TA5-MW01	Upper Sante Fe	8.52×10^{-4}	1.02×10^{-3}	9.36×10^{-4}	4.75×10^{-4}
TA5-MW02	Upper Sante Fe	8.66×10^{-5}	7.37×10^{-5}	8.02×10^{-5}	4.07×10^{-5}
LWDS-MW01	Upper Sante Fe	2.62×10^{-5}	Not Tested	2.62×10^{-5}	1.33×10^{-5}
LWDS-MW02	Upper Sante Fe	1.43×10^{-3}	1.86×10^{-3}	1.65×10^{-3}	8.36×10^{-4}

AVG.: 3.41×10^{-4} (ALL WELLS)

cc: w/o attachment
Dick Fate (7585)
Franz Lauffer (7584)
John McCord (7582)
Fran Nimick (7585)
Dorothy Stermer (7584)

SLUG TEST DATA AND CALCULATION SET

Slug tests were accomplished in the Technical Area 5 (TA5) monitoring wells TA5-MW01 and TA5-MW02 and Liquid Waste Disposal System (LWDS) monitoring wells LWDS-MW01 and LWDS-MW02 during May, 1995. Slug testing was planned and carried out in accordance the SNL ER Project FOP 94-59, Rev. 0 - "Conducting Slug Tests" (SNL, 1994). All slug tests were performed using a solid aluminum slug bar of known volume to displace water in the well casing. Inserting (slug injection test) and removing (slug withdrawal test) the slug bar causes changes in the water level in the well which then gradually returns to the pre-test equilibrium static level. By monitoring the rate at which the water level returns to the equilibrium static level and knowing the well geometry, data is obtained to estimate the formation hydraulic conductivity. In these slug tests, the water level recovery was recorded using a pressure transducer. Both slug injection and slug withdrawal tests were conducted in each well except for LWDS-MW01. The slow recovery in water level after the injection test in LWDS-MW01 did not allow time for a withdrawal test. Water level recovery could not be monitored overnight in this well because it is located in a parking lot where the data acquisition equipment would obstruct traffic flow. The slug injection data from LWDS-MW01, however, was sufficient to determine hydraulic conductivity at that location. In all monitoring wells that were slug tested, except TA5-MW01, the water level is above the top of the well screen. Where the water level is below the top of the well screen, only analysis of slug withdrawal test data are appropriate.

The accuracy of hydraulic conductivity estimates using slug test data is dependent on well efficiency. Well efficiency is the ratio of the actual rate at which water will enter a well for a given drawdown divided by the maximum theoretical rate for that same drawdown. Since drilling and well completion may lead to the development of a lower permeability region near the borehole wall, well efficiency is typically reduced. Therefore, the hydraulic conductivity estimated from slug test data may be lower than the actual formation hydraulic conductivity.

The analysis of the slug test data to estimate formation hydraulic conductivity is based on the Bouwer and Rice (1976) solution for partially penetrating wells in unconfined aquifers and confined aquifers which receive water from the upper confining layer. This solution uses the Thiem equation for steady-state flow to a well, and an empirically derived equation which relates the effective radius, R_e, the well geometry, and aquifer hydraulic conductivity. A detailed description of this solution is found in Bouwer and Rice (1976), and Bouwer (1989).

The calculation approach used for the evaluation of the slug injection (falling head test) and slug withdrawal (rising head test) test data is that of Dawson and Istok (1991). The equations used for the various calculations are programed into an EXCEL spreadsheet. This spreadsheet includes: (1) an analysis block; (2) a test data block; (3) a data plot of "feet of water above transducer" vs "Time (Julian Days)"; and (4) an analysis plot of "dimensionless head (Hw/Ho)" vs. "elapsed time (minutes)" since the beginning of either injection or withdrawal of the slug. Each element of the spreadsheet is discussed below.

SPREADSHEET ANALYSIS BLOCK

The analysis block extends from row 1 to 11 and includes a title block which identifies the monitoring well and 4 sets of input/calculation columns.

Column 1

l = vertical distance from the static water table to the bottom of the well screen

d = distance from the static water table to the top of the well screen. If the static water table is below the top of the well screen, then d = 0. This is the case for the slug test conducted in well TA5-MW01.

rw = borehole radius.

rc = effective radius of the well casing. When the recovery takes place within the well screen, rc is adjusted to account for the free water surface in both the well and the gravel pack. The equation for this adjustment is $rc_{(adjusted)} = ((1-n)rc^2 + n(rw)^2)^{0.5}$. This adjustment is made for well TA-5-MW01. "n" is the porosity of the gravel pack. The assumed value for "n " is 0.30. For those wells where the water level is above the well screen, rc = rw.

m = assumed aquifer thickness. The aquifer thickness at each well was assumed to be the thickness of the interval from the top of the water table to the bottom of the sand pack.

Ho = instantaneous change in head in the well casing due to the injection or withdrawal of the slug bar at time t = 0.

Column 2

Assumed and calculated values for Column 1 parameters.

Column 3

A and B are dimensionless coefficients from Bouwer and Rice (1976) analog experiments. The dimensionless ratio ln(R/rw) is calculated assuming m > l. For this case, the following equation is used.

$$\ln(R/rw) = [(1.1/(\ln(l/rw))) + (A+B\ln(m-l)/rw)/((l-d)/rw)]^{-1}$$

tL = (t2-t1)/[ln(Hw/Ho)1-ln(Hw/Ho)2] (see Column 5 and column 7 definitions)

Column 4

Assumed and calculated values for Column 3 parameters.

Column 5

t1 and t2 are early time and late time respectively for the selected match line on the dimensionless

head vs elapsed time plot.

Column 6

Selected values for Column 5 parameters.

Column 7

(Hw/Ho)1 and (Hw/Ho)2 are the dimensionless head values for the selected t1 and t2 times.

Ho = the instantaneous change in water level in the well immediately after the injection or withdrawal of the slug bar.

Hw = the change in water level in the well at time t. Hw = Static Head - the Head at time t)

Column 8

Selected values for Column 7 parameters.

The hydraulic conductivity, K, is then calculated using the following equation:

$$K = [(rc)^2 \ln(R/rw)]/[2(l-d)tL]$$

The spreadsheet calculation is Column B14:

$$K = [(B8)^2*(D9)]/[2*(B5-B6)*D8]$$

SPREADSHEET TEST DATA BLOCK

The test data block begins below Row 16 and includes the static head, the maximum head (for a slug injection test) or minimum head (for a slug withdrawal test), test time in fractional Julian day (Columns 1, 2, and 4); the transducer output in feet of water above the transducer (Column 6). In addition, the basic data is used to calculate elapsed time and dimensionless head during water level recovery (Columns 8 and 9).

SPREADSHEET TEST DATA PLOT

The data plot is based on slug injection and/or withdrawal water level recovery data. On this plot water level in feet of water above the transducer is plotted on the y-axis and time in Julian days is plotted on the x-axis.

SPREADSHEET ANALYSIS PLOT

On the analysis plot, ln(Hw/Ho) is plotted on the y-axis and elapsed time in plotted on the x-axis. A match line is then fitted to the data curve. t1, t2, (Hw/Ho)1, and (Hw/Ho)2 are exported from this match line to the Data Analysis Block. In the spreadsheet, the position of the match line can be moved by dragging on the match-line end points.

REFERENCES:

Bouwer, H. And R.C. Rice, 1976, A Slug Test for Determining Hydraulic Conductivity of Unconfined Aquifers with Completely or Partially Penetrating Wells, Water Resources Research, Vol. 12, No. 3, pp 423-426, June 1976

Bouwer, H., 1989, The Bouwer and Rice Slug Test - An Update, Ground Water, Vol. 27, No. 3, pp 304-309, May-June 1989

Dawson, K.J. and J.D. Istok, 1991, Aquifer Testing - Design and Analysis of Pumping and Slug Tests, Chapter 23, Model 18: Slug Tests - Unconfined or Leaky Confined, Incompressible Aquifer, Partial Penetration, pp 307-315, Lewis Publishers, Chelsea, Michigan

Table 1 summarizes monitoring well geometric characteristics that provide input to the hydraulic conductivity calculation. Table 2 provides a summary of the Bouwer and Rice dimensionless coefficients and the match line description used in the analysis of the CWL slug test data. Table 3 provides a summary of the calculated hydraulic conductivities from the slug test data analysis.

Table 1 Monitoring Well Geometric Characteristics Used in the Hydraulic Conductivity Calculations (rounded from spreadsheet values)

Monitoring Well	rc (feet)	rw (feet)	rc (adjusted)[1] (feet)	l (feet)	d (feet)	m (feet)
TA5-MW01	0.159	0.359	0.237	5.40	0	8.40
TA5-MW02	0.159	0.359	Not Applicable	26.09	6.09	27.01
LWDS-MW01	0.159	0.458	Not Applicable	26.73	11.73	36.73
LWDS-MW02	0.159	0.458	Not Applicable	48.20	28.20	53.20

1 - assumes a gravel pack porosity n = 0.30

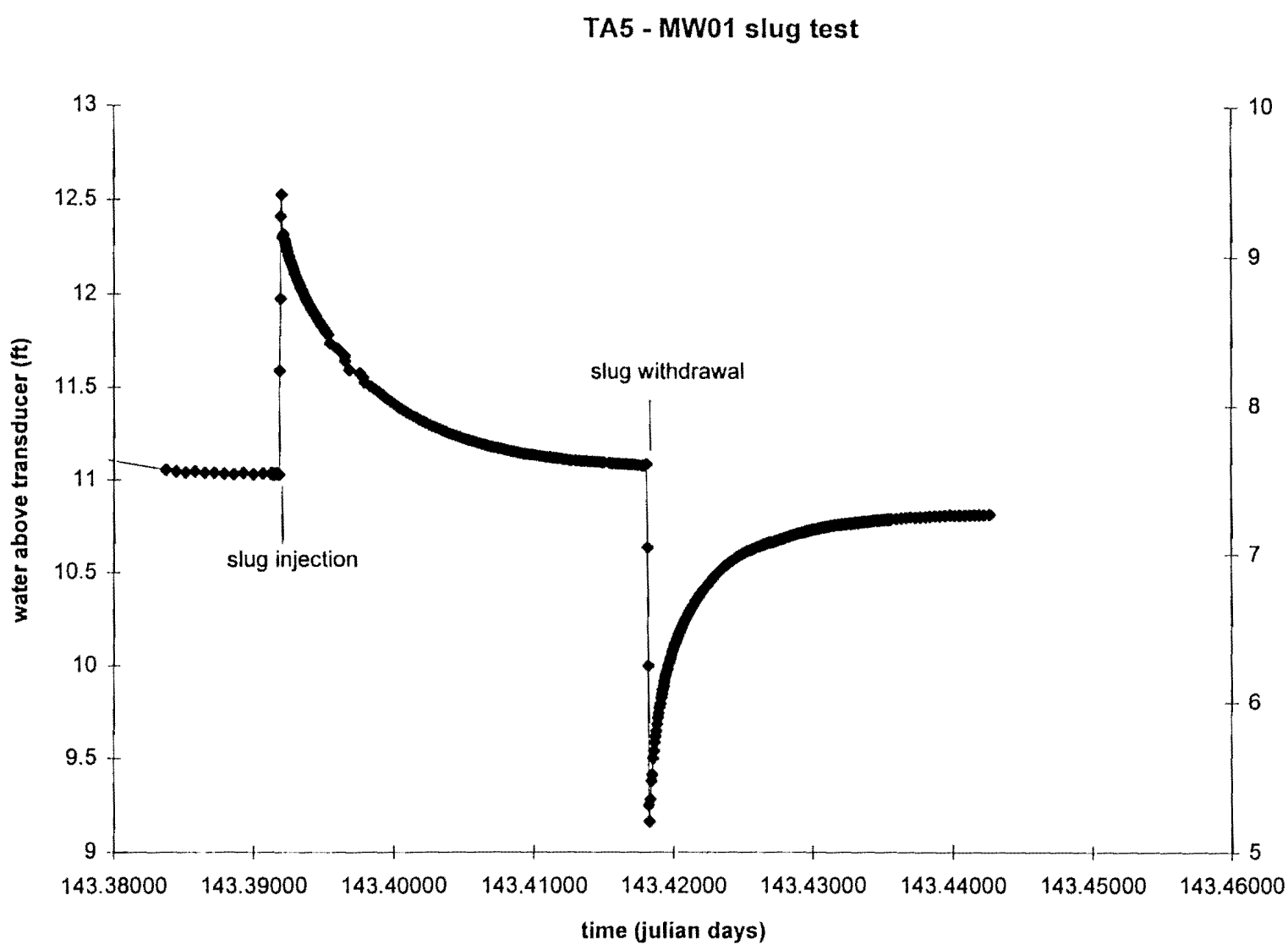
Table 2 Bouwer and Rice Dimensionless Coefficients and Match Line Description Used for the Hydraulic Conductivity Calculation (rounded from spreadsheet values)

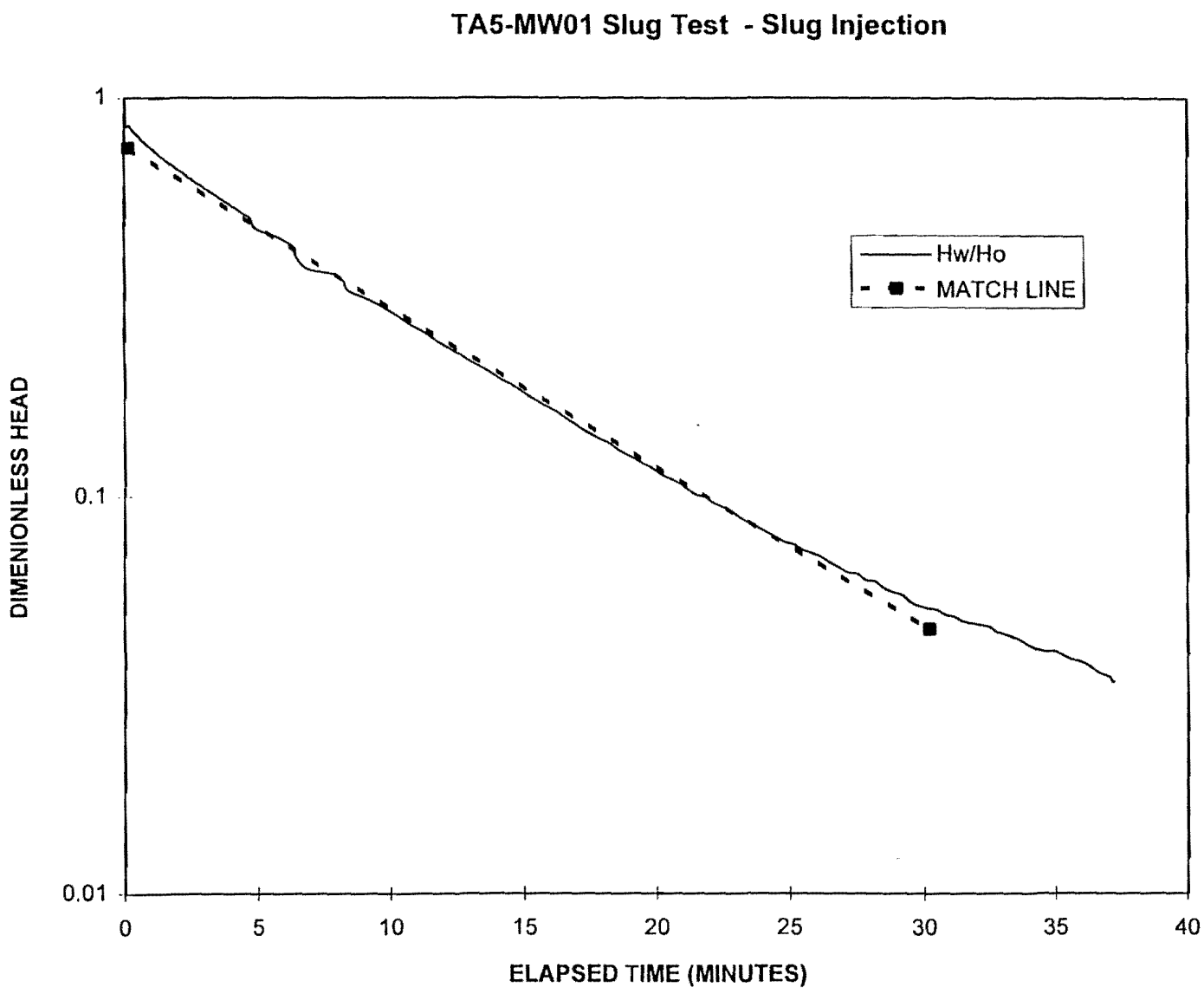
Monitoring Well	A	B	ln(Re/rw)	tL slug injection	tL slug withdrawal
TA5-MW01	1.76	0.32	1.76	10.76	9.00
TA5-MW02	3.39	0.61	3.02	22.26	26.14
LWDS-MW01	2.53	0.47	2.55	82.08	Not Tested
LWDS-MW02	2.97	0.54	2.99	1.32	1.02

Table 3. Summary of Hydraulic Conductivities Calculated from Slug Test Data

Monitoring Well	Aquifer Unit	Hydraulic Conductivity			
		slug injection test	slug withdrawal test	average	
		ft/min	ft/min	ft/min	cm/sec
TA5-MW01	Upper Sante Fe	8.52×10^{-4}	1.02×10^{-3}	9.36×10^{-4}	4.75×10^{-4}
TA5-MW02	Upper Sante Fe	8.66×10^{-5}	7.37×10^{-5}	8.02×10^{-5}	4.07×10^{-5}
LWDS-MW01	Upper Sante Fe	2.62×10^{-5}	Not Tested	2.62×10^{-5}	1.33×10^{-5}
LWDS-MW02	Upper Sante Fe	1.43×10^{-3}	1.86×10^{-3}	1.65×10^{-3}	8.36×10^{-4}

MONITORING WELL TA5-MW01 SLUG TEST SPREADSHEETS


TA5 - MW01 slug test
water above transducer (ft)
13
12.5
12
11.5
11
10.5
10
9.5
9
10
9
8
7
6
5
slug withdrawal
slug injection
143.38000
143.39000
143.40000
143.41000
143.42000
143.43000
143.44000
143.45000
143.46000
time (julian days)


TA5-MW01 Slug Test - Slug Injection
DIMENIONLESS HEAD
1
0.1
0.01
0
5
10
15
20
25
30
35
40
ELAPSED TIME (MINUTES)
Hw/Ho
MATCH LINE

TA5-MW01 slug injection

VALUES USED IN BOUWER AND RICE ANALYSIS OF SLUG TEST DATA

l=	5.4	(l-d)/rw=	15.04178273	t1=	0.143	(Hw/H0)1=	0.7516229
d=	0	A=	1.755516039	t2=	30.21	(Hw/H0)2=	0.0459198
rw=	0.359	B=	0.320122842				
rc=	0.237	tL=	10.75612207				
m=	8.4	ln(R/rw)=	1.761580726				
ln(m-l/rw)=	2.123045						
Ho=	1.49737						

ESTIMATED HYDRAULIC CONDUCTIVITY

k= 0.000852 ft/min = 0.000432697 cm/s

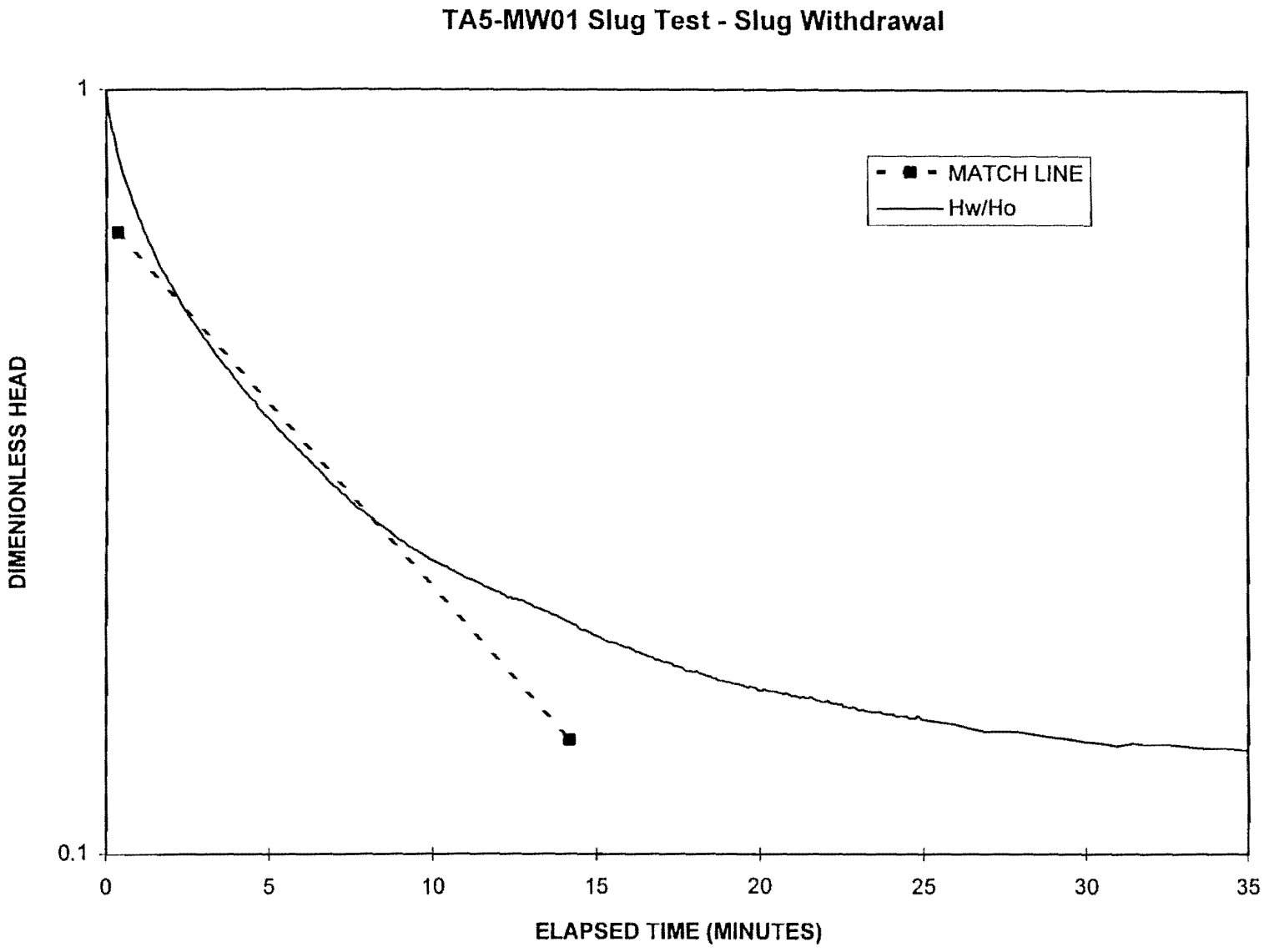
TEST DATA

Static Head	Maximum Head	Fractional Day	Feet of water above transducer	Elapsed Time (min)	Hw/Ho
11.02606	12.52343	143.39179	11.02606		
		143.39184	11.58792		
		143.39191	11.97143		
		143.39196	12.40781		
		143.39202	12.52343	0	1
		143.39207	12.29431	0.072	0.846985
		143.39214	12.31335	0.1728	0.859701
		143.39219	12.28585	0.2448	0.841335
		143.39225	12.27175	0.3312	0.831919
		143.39230	12.25272	0.4032	0.81921
		143.39237	12.23862	0.504	0.809793
		143.39243	12.2224	0.5904	0.798961
		143.39248	12.20125	0.6624	0.784836
		143.39255	12.19209	0.7632	0.778719
		143.39260	12.17305	0.8352	0.766003
		143.39266	12.1646	0.9216	0.76036
		143.39271	12.1505	0.9936	0.750943
		143.39278	12.13992	1.0944	0.743878
		143.39283	12.12723	1.1664	0.735403
		143.39289	12.11525	1.2528	0.727402
		143.39294	12.10115	1.3248	0.717986
		143.39301	12.09198	1.4256	0.711861
		143.39306	12.0807	1.4976	0.704328
		143.39312	12.07013	1.584	0.697269
		143.39318	12.05955	1.6704	0.690203
		143.39324	12.04898	1.7568	0.683144
		143.39330	12.04052	1.8432	0.677495
		143.39335	12.02853	1.9152	0.669487
		143.39341	12.02148	2.0016	0.664779

143.39346	12.01302	2.0736	0.659129
143.39353	12.00527	2.1744	0.653953
143.39358	11.9947	2.2464	0.646894
143.39364	11.98483	2.3328	0.640303
143.39369	11.97496	2.4048	0.633711
143.39376	11.96791	2.5056	0.629003
143.39381	11.95804	2.5776	0.622411
143.39387	11.94958	2.664	0.616761
143.39392	11.94394	2.736	0.612995
143.39399	11.93618	2.8368	0.607812
143.39405	11.92772	2.9232	0.602162
143.39410	11.91785	2.9952	0.595571
143.39417	11.91221	3.096	0.591804
143.39422	11.90446	3.168	0.586629
143.39428	11.89741	3.2544	0.58192
143.39433	11.89036	3.3264	0.577212
143.39440	11.88401	3.4272	0.572971
143.39445	11.87696	3.4992	0.568263
143.39451	11.8678	3.5856	0.562146
143.39456	11.86427	3.6576	0.559788
143.39463	11.85441	3.7584	0.553203
143.39468	11.84877	3.8304	0.549437
143.39474	11.84313	3.9168	0.54567
143.39480	11.83396	4.0032	0.539546
143.39486	11.82762	4.0896	0.535312
143.39492	11.82268	4.176	0.532013
143.39497	11.81845	4.248	0.529188
143.39503	11.80929	4.3344	0.52307
143.39509	11.80224	4.4208	0.518362
143.39515	11.79589	4.5072	0.514121
143.39520	11.79025	4.5792	0.510355
143.39530	11.77968	4.7232	0.503296
143.39545	11.73456	4.9392	0.473163
143.39594	11.70636	5.6448	0.45433
143.39623	11.68521	6.0624	0.440205
143.39646	11.66477	6.3936	0.426555
143.39648	11.63939	6.4224	0.409605
143.39679	11.59074	6.8688	0.377115
143.39752	11.57241	7.92	0.364873
143.39775	11.55197	8.2512	0.351222
143.39788	11.52307	8.4384	0.331922
143.39829	11.50333	9.0288	0.318739
143.39862	11.48711	9.504	0.307907
143.39885	11.47301	9.8352	0.29849
143.39908	11.45962	10.1664	0.289548
143.39931	11.44481	10.4976	0.279657
143.39954	11.43142	10.8288	0.270715
143.39978	11.42014	11.1744	0.263181
143.40001	11.40745	11.5056	0.254707

143.40024	11.39405	11.8368	0.245758
143.40047	11.38348	12.168	0.238699
143.40070	11.37291	12.4992	0.231639
143.40093	11.36163	12.8304	0.224106
143.40116	11.35105	13.1616	0.217041
143.40140	11.34118	13.5072	0.210449
143.40163	11.33202	13.8384	0.204332
143.40186	11.32144	14.1696	0.197266
143.40209	11.31439	14.5008	0.192558
143.40231	11.30523	14.8176	0.18644
143.40255	11.29536	15.1632	0.179849
143.40279	11.2869	15.5088	0.174199
143.40300	11.27985	15.8112	0.169491
143.40325	11.2728	16.1712	0.164782
143.40348	11.26363	16.5024	0.158658
143.40371	11.25588	16.8336	0.153482
143.40394	11.24812	17.1648	0.1483
143.40417	11.24178	17.496	0.144066
143.40440	11.23543	17.8272	0.139825
143.40464	11.2305	18.1728	0.136533
143.40487	11.22345	18.504	0.131824
143.40510	11.21781	18.8352	0.128058
143.40533	11.21288	19.1664	0.124765
143.40556	11.20724	19.4976	0.120999
143.40578	11.20301	19.8144	0.118174
143.40603	11.19596	20.1744	0.113466
143.40626	11.19173	20.5056	0.110641
143.40649	11.1875	20.8368	0.107816
143.40672	11.18186	21.168	0.104049
143.40695	11.17692	21.4992	0.10075
143.40718	11.17481	21.8304	0.099341
143.40741	11.16987	22.1616	0.096042
143.40765	11.16635	22.5072	0.093691
143.40788	11.16282	22.8384	0.091333
143.40811	11.15789	23.1696	0.088041
143.40834	11.15436	23.5008	0.085684
143.40857	11.15084	23.832	0.083333
143.40880	11.14731	24.1632	0.080975
143.40904	11.14379	24.5088	0.078625
143.40927	11.14026	24.84	0.076267
143.40950	11.13885	25.1712	0.075325
143.40973	11.13533	25.5024	0.072975
143.40996	11.13321	25.8336	0.071559
143.41019	11.1311	26.1648	0.07015
143.41042	11.12757	26.496	0.067792
143.41066	11.12475	26.8416	0.065909
143.41089	11.12193	27.1728	0.064026
143.41112	11.12123	27.504	0.063558
143.41135	11.1177	27.8352	0.061201

143.41158	11.117	28.1664	0.060733
143.41181	11.11347	28.4976	0.058376
143.41204	11.11136	28.8288	0.056967
143.41227	11.10995	29.16	0.056025
143.41251	11.10642	29.5056	0.053667
143.41266	11.10501	29.7216	0.052726
143.41297	11.1036	30.168	0.051784
143.41320	11.1029	30.4992	0.051317
143.41343	11.10078	30.8304	0.049901
143.41366	11.10008	31.1616	0.049433
143.41390	11.09796	31.5072	0.048018
143.41413	11.09726	31.8384	0.04755
143.41436	11.09655	32.1696	0.047076
143.41459	11.09585	32.5008	0.046608
143.41480	11.09373	32.8032	0.045193
143.41498	11.09303	33.0624	0.044725
143.41537	11.09091	33.624	0.043309
143.41560	11.0888	33.9552	0.0419
143.41584	11.08739	34.3008	0.040958
143.41606	11.08668	34.6176	0.040484
143.41631	11.08668	34.9776	0.040484
143.41653	11.08527	35.2944	0.039543
143.41676	11.08386	35.6256	0.038601
143.41699	11.08316	35.9568	0.038134
143.41722	11.08175	36.288	0.037192
143.41746	11.07963	36.6336	0.035776
143.41775	11.07822	37.0512	0.034834
143.41782	11.07681	37.152	0.033893
143.41788	11.07681	37.2384	0.033893
143.41793	11.07681	37.3104	0.033893


TA5-MW01 Slug Test - Slug Withdrawal
MATCH LINE
Hw/Ho
DIMENIONLESS HEAD
1
0.1
0
5
10
15
20
25
30
35
ELAPSED TIME (MINUTES)

TA5-MW01 slug withdrawal

VALUES USED IN BOUWER AND RICE ANALYSIS OF SLUG TEST DATA

l=	5.4	(l-d)/rw=	15.04178273	t1=	0.36	(Hw/H0)1=	0.6516284
d=	0	A=	1.755516039	t2=	14.17	(Hw/H0)2=	0.1406048
rw=	0.359	B=	0.320122842				
rc=	0.237	tL=	9.005415608				
m=	8.4	ln(R/rw)=	1.761580726				
ln(m-l/rw)=	2.123045						
Ho=	1.91401						

ESTIMATED HYDRAULIC CONDUCTIVITY

k= 0.001017 ft/min = 0.000516815 cm/s

TEST DATA

Static Head	Minimum Head	Fractional Day	Feet of water above transducer	Elapsed Time (min)	Hw/Ho
11.07681	9.1628				
		143.41799	11.07681		
		143.41805	11.08316		
		143.41811	10.6362		
		143.41817	9.9982		
		143.41822	9.24951		
		143.41828	9.1628	0	1
		143.41833	9.28124	0.072	0.938119
		143.41840	9.37923	0.1728	0.886923
		143.41845	9.41236	0.2448	0.869614
		143.41852	9.49907	0.3456	0.824311
		143.41858	9.53996	0.432	0.802948
		143.41863	9.58438	0.504	0.77974
		143.41869	9.61681	0.5904	0.762796
		143.41874	9.64571	0.6624	0.747697
		143.41881	9.68307	0.7632	0.728178
		143.41886	9.71762	0.8352	0.710127
		143.41892	9.74088	0.9216	0.697974
		143.41897	9.7719	0.9936	0.681768
		143.41904	9.79376	1.0944	0.670347
		143.41909	9.82336	1.1664	0.654882
		143.41915	9.8431	1.2528	0.644568
		143.41920	9.86707	1.3248	0.632045
		143.41927	9.88681	1.4256	0.621731
		143.41932	9.90937	1.4976	0.609945
		143.41938	9.93123	1.584	0.598524
		143.41943	9.94815	1.656	0.589683
		143.41949	9.96648	1.7424	0.580107
		143.41956	9.98057	1.8432	0.572745

143.41961	10.00031	1.9152	0.562432
143.41968	10.01371	2.016	0.555431
143.41973	10.02992	2.088	0.546962
143.41979	10.04332	2.1744	0.539961
143.41984	10.05742	2.2464	0.532594
143.41990	10.07504	2.3328	0.523388
143.41995	10.08562	2.4048	0.51786
143.42002	10.10042	2.5056	0.510128
143.42006	10.111	2.5632	0.5046
143.42013	10.12157	2.664	0.499078
143.42020	10.13496	2.7648	0.492082
143.42025	10.14483	2.8368	0.486925
143.42031	10.15823	2.9232	0.479924
143.42036	10.16951	2.9952	0.474031
143.42043	10.17726	3.096	0.469982
143.42048	10.18784	3.168	0.464454
143.42054	10.19841	3.2544	0.458932
143.42059	10.20899	3.3264	0.453404
143.42066	10.22027	3.4272	0.447511
143.42071	10.22732	3.4992	0.443827
143.42077	10.23789	3.5856	0.438305
143.42082	10.24494	3.6576	0.434622
143.42089	10.25199	3.7584	0.430938
143.42095	10.26186	3.8448	0.425781
143.42100	10.27244	3.9168	0.420254
143.42106	10.27878	4.0032	0.416941
143.42112	10.28935	4.0896	0.411419
143.42118	10.29711	4.176	0.407365
143.42123	10.30486	4.248	0.403316
143.42129	10.3105	4.3344	0.400369
143.42134	10.31896	4.4064	0.395949
143.42141	10.32531	4.5072	0.392631
143.42146	10.32813	4.5792	0.391158
143.42152	10.34364	4.6656	0.383054
143.42159	10.34857	4.7664	0.380479
143.42164	10.35633	4.8384	0.376424
143.42170	10.36126	4.9248	0.373849
143.42175	10.3662	4.9968	0.371268
143.42182	10.37325	5.0976	0.367584
143.42187	10.37889	5.1696	0.364638
143.42193	10.38594	5.256	0.360954
143.42198	10.39228	5.328	0.357642
143.42205	10.39651	5.4288	0.355432
143.42210	10.40356	5.5008	0.351748
143.42216	10.40991	5.5872	0.348431
143.42221	10.41414	5.6592	0.346221
143.42228	10.41907	5.76	0.343645
143.42233	10.42612	5.832	0.339962
143.42239	10.42965	5.9184	0.338117

143.42245	10.4367	6.0048	0.334434
143.42250	10.44163	6.0768	0.331858
143.42257	10.44515	6.1776	0.330019
143.42262	10.4515	6.2496	0.326702
143.42268	10.45643	6.336	0.324126
143.42273	10.46207	6.408	0.321179
143.42280	10.46701	6.5088	0.318598
143.42285	10.47194	6.5808	0.316022
143.42291	10.47688	6.6672	0.313441
143.42296	10.48252	6.7392	0.310495
143.42303	10.48957	6.84	0.306811
143.42308	10.49309	6.912	0.304972
143.42314	10.49803	6.9984	0.302391
143.42321	10.50085	7.0992	0.300918
143.42326	10.50719	7.1712	0.297606
143.42332	10.51142	7.2576	0.295396
143.42337	10.51283	7.3296	0.294659
143.42344	10.51988	7.4304	0.290975
143.42349	10.52482	7.5024	0.288395
143.42355	10.52693	7.5888	0.287292
143.42360	10.53257	7.6608	0.284345
143.42367	10.5361	7.7616	0.282501
143.42372	10.53751	7.8336	0.281764
143.42378	10.54103	7.92	0.279925
143.42383	10.54456	7.992	0.278081
143.42390	10.54808	8.0928	0.276242
143.42396	10.55161	8.1792	0.274398
143.42401	10.55654	8.2512	0.271822
143.42407	10.55866	8.3376	0.270714
143.42412	10.56148	8.4096	0.269241
143.42419	10.565	8.5104	0.267402
143.42424	10.56782	8.5824	0.265929
143.42431	10.57135	8.6832	0.264084
143.42435	10.57417	8.7408	0.262611
143.42442	10.5784	8.8416	0.260401
143.42447	10.58122	8.9136	0.258928
143.42453	10.58474	9	0.257089
143.42460	10.58615	9.1008	0.256352
143.42466	10.58968	9.1872	0.254508
143.42471	10.59391	9.2592	0.252298
143.42478	10.59532	9.36	0.251561
143.42483	10.59884	9.432	0.249722
143.42489	10.59954	9.5184	0.249356
143.42494	10.60236	9.5904	0.247883
143.42501	10.60448	9.6912	0.246775
143.42506	10.6073	9.7632	0.245302
143.42512	10.61012	9.8496	0.243828
143.42518	10.61294	9.936	0.242355
143.42524	10.61364	10.0224	0.241989

143.42530	10.61646	10.1088	0.240516
143.42535	10.61787	10.1808	0.239779
143.42542	10.61999	10.2816	0.238672
143.42547	10.6214	10.3536	0.237935
143.42553	10.6221	10.44	0.237569
143.42558	10.62563	10.512	0.235725
143.42565	10.62774	10.6128	0.234623
143.42569	10.62845	10.6704	0.234252
143.42576	10.63197	10.7712	0.232413
143.42581	10.63268	10.8432	0.232042
143.42588	10.6355	10.944	0.230568
143.42592	10.63761	11.0016	0.229466
143.42599	10.63902	11.1024	0.228729
143.42604	10.63973	11.1744	0.228358
143.42610	10.64114	11.2608	0.227622
143.42617	10.64325	11.3616	0.226519
143.42622	10.64466	11.4336	0.225783
143.42628	10.64678	11.52	0.224675
143.42633	10.6496	11.592	0.223202
143.42640	10.6503	11.6928	0.222836
143.42645	10.65242	11.7648	0.221728
143.42651	10.65383	11.8512	0.220992
143.42656	10.65524	11.9232	0.220255
143.42663	10.65594	12.024	0.219889
143.42668	10.65876	12.096	0.218416
143.42674	10.66017	12.1824	0.217679
143.42680	10.6637	12.2688	0.215835
143.42686	10.66229	12.3552	0.216571
143.42692	10.66581	12.4416	0.214732
143.42697	10.6644	12.5136	0.215469
143.42704	10.66652	12.6144	0.214361
143.42709	10.66652	12.6864	0.214361
143.42715	10.66722	12.7728	0.213996
143.42720	10.67004	12.8448	0.212522
143.42727	10.67075	12.9456	0.212151
143.42731	10.67286	13.0032	0.211049
143.42738	10.67498	13.104	0.209941
143.42744	10.67639	13.1904	0.209205
143.42749	10.67709	13.2624	0.208839
143.42756	10.6785	13.3632	0.208102
143.42761	10.67991	13.4352	0.207366
143.42767	10.68062	13.5216	0.206995
143.42772	10.68344	13.5936	0.205521
143.42779	10.68414	13.6944	0.205156
143.42784	10.68485	13.7664	0.204785
143.42790	10.68696	13.8528	0.203682
143.42795	10.68837	13.9248	0.202946
143.42802	10.69049	14.0256	0.201838
143.42808	10.6919	14.112	0.201101

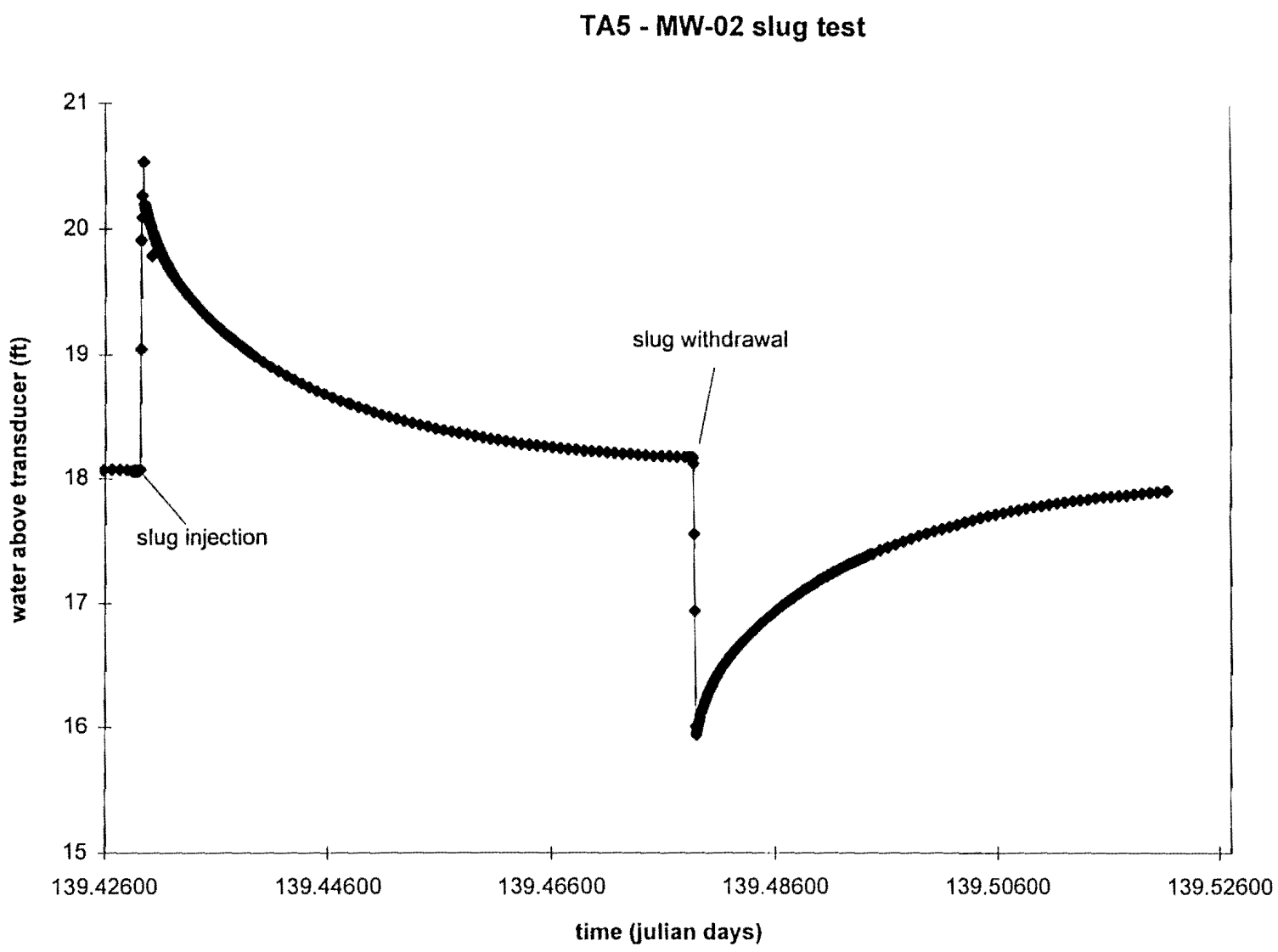
143.42813	10.6926	14.184	0.200736
143.42820	10.69542	14.2848	0.199262
143.42826	10.69542	14.3712	0.199262
143.42831	10.69965	14.4432	0.197052
143.42837	10.70177	14.5296	0.195945
143.42843	10.70177	14.616	0.195945
143.42849	10.70247	14.7024	0.195579
143.42856	10.70459	14.8032	0.194471
143.42862	10.7067	14.8896	0.193369
143.42867	10.70811	14.9616	0.192632
143.42874	10.70882	15.0624	0.192261
143.42879	10.71023	15.1344	0.191525
143.42885	10.71234	15.2208	0.190422
143.42890	10.71375	15.2928	0.189686
143.42897	10.71516	15.3936	0.188949
143.42902	10.71516	15.4656	0.188949
143.42908	10.71587	15.552	0.188578
143.42914	10.71657	15.6384	0.188212
143.42920	10.71869	15.7248	0.187105
143.42926	10.71939	15.8112	0.186739
143.42931	10.7208	15.8832	0.186002
143.42937	10.7208	15.9696	0.186002
143.42943	10.72221	16.056	0.185265
143.42949	10.72362	16.1424	0.184529
143.42954	10.72574	16.2144	0.183421
143.42961	10.72574	16.3152	0.183421
143.42966	10.72785	16.3872	0.182319
143.42972	10.72785	16.4736	0.182319
143.42977	10.72997	16.5456	0.181211
143.42983	10.73067	16.632	0.180845
143.42988	10.73067	16.704	0.180845
143.42995	10.7342	16.8048	0.179001
143.43001	10.73349	16.8912	0.179372
143.43006	10.7349	16.9632	0.178635
143.43013	10.73631	17.064	0.177899
143.43018	10.73631	17.136	0.177899
143.43024	10.73702	17.2224	0.177528
143.43029	10.73772	17.2944	0.177162
143.43036	10.74054	17.3952	0.175689
143.43041	10.74054	17.4672	0.175689
143.43047	10.74125	17.5536	0.175318
143.43052	10.74195	17.6256	0.174952
143.43059	10.74548	17.7264	0.173108
143.43064	10.74548	17.7984	0.173108
143.43070	10.74548	17.8848	0.173108
143.43075	10.74689	17.9568	0.172371
143.43082	10.74548	18.0576	0.173108
143.43088	10.74759	18.144	0.172005
143.43093	10.7483	18.216	0.171634

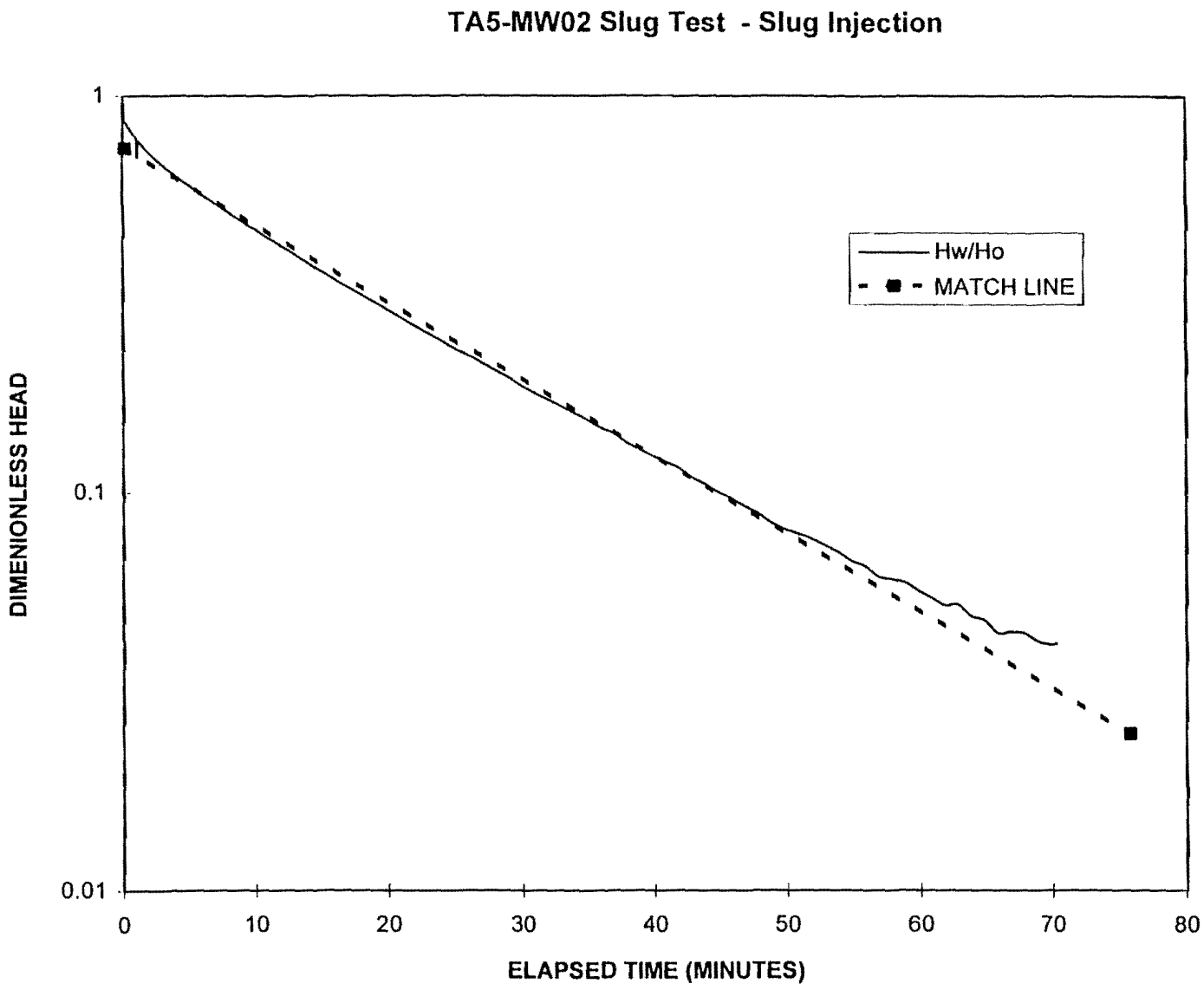
143.43099	10.749	18.3024	0.171269
143.43104	10.75041	18.3744	0.170532
143.43111	10.75041	18.4752	0.170532
143.43116	10.75253	18.5472	0.169424
143.43123	10.75253	18.648	0.169424
143.43127	10.75464	18.7056	0.168322
143.43134	10.75464	18.8064	0.168322
143.43139	10.75535	18.8784	0.167951
143.43145	10.75605	18.9648	0.167585
143.43152	10.75605	19.0656	0.167585
143.43157	10.75746	19.1376	0.166849
143.43163	10.75816	19.224	0.166483
143.43168	10.75816	19.296	0.166483
143.43173	10.75887	19.368	0.166112
143.43180	10.75957	19.4688	0.165746
143.43186	10.76098	19.5552	0.16501
143.43191	10.76169	19.6272	0.164639
143.43198	10.76098	19.728	0.16501
143.43203	10.76169	19.8	0.164639
143.43209	10.76239	19.8864	0.164273
143.43214	10.76451	19.9584	0.163165
143.43221	10.76451	20.0592	0.163165
143.43226	10.7631	20.1312	0.163902
143.43232	10.76451	20.2176	0.163165
143.43237	10.76521	20.2896	0.1628
143.43244	10.76521	20.3904	0.1628
143.43250	10.76521	20.4768	0.1628
143.43255	10.76662	20.5488	0.162063
143.43262	10.76662	20.6496	0.162063
143.43266	10.76803	20.7072	0.161326
143.43273	10.76662	20.808	0.162063
143.43278	10.76803	20.88	0.161326
143.43284	10.76944	20.9664	0.16059
143.43289	10.76944	21.0384	0.16059
143.43296	10.77015	21.1392	0.160219
143.43302	10.77156	21.2256	0.159482
143.43307	10.77015	21.2976	0.160219
143.43314	10.77156	21.3984	0.159482
143.43319	10.77156	21.4704	0.159482
143.43325	10.77015	21.5568	0.160219
143.43330	10.77226	21.6288	0.159116
143.43337	10.77367	21.7296	0.15838
143.43342	10.77367	21.8016	0.15838
143.43348	10.77508	21.888	0.157643
143.43353	10.77508	21.96	0.157643
143.43360	10.77367	22.0608	0.15838
143.43365	10.77579	22.1328	0.157272
143.43371	10.77649	22.2192	0.156906
143.43376	10.77649	22.2912	0.156906

143.43383	10.7772	22.392	0.156535
143.43389	10.77649	22.4784	0.156906
143.43394	10.78002	22.5504	0.155062
143.43400	10.77931	22.6368	0.155433
143.43405	10.78072	22.7088	0.154696
143.43412	10.78002	22.8096	0.155062
143.43417	10.78002	22.8816	0.155062
143.43423	10.78213	22.968	0.153959
143.43428	10.78284	23.04	0.153589
143.43435	10.78213	23.1408	0.153959
143.43440	10.78354	23.2128	0.153223
143.43446	10.78354	23.2992	0.153223
143.43451	10.78425	23.3712	0.152852
143.43458	10.78425	23.472	0.152852
143.43464	10.78425	23.5584	0.152852
143.43469	10.78354	23.6304	0.153223
143.43475	10.78566	23.7168	0.152115
143.43481	10.78566	23.8032	0.152115
143.43487	10.78636	23.8896	0.151749
143.43492	10.78636	23.9616	0.151749
143.43498	10.78636	24.048	0.151749
143.43504	10.78777	24.1344	0.151013
143.43510	10.78777	24.2208	0.151013
143.43515	10.78707	24.2928	0.151379
143.43522	10.78777	24.3936	0.151013
143.43527	10.78777	24.4656	0.151013
143.43533	10.78989	24.552	0.149905
143.43539	10.78918	24.6384	0.150276
143.43545	10.78989	24.7248	0.149905
143.43551	10.78707	24.8112	0.151379
143.43559	10.79059	24.9264	0.149539
143.43594	10.79271	25.4304	0.148432
143.43630	10.79482	25.9488	0.147329
143.43664	10.79835	26.4384	0.145485
143.43698	10.80117	26.928	0.144012
143.43733	10.80046	27.432	0.144383
143.43768	10.80117	27.936	0.144012
143.43803	10.80328	28.44	0.142909
143.43837	10.8054	28.9296	0.141802
143.43872	10.80681	29.4336	0.141065
143.43906	10.80892	29.9232	0.139963
143.43942	10.81033	30.4416	0.139226
143.43977	10.81245	30.9456	0.138118
143.44011	10.81033	31.4352	0.139226
143.44045	10.81174	31.9248	0.138489
143.44081	10.81104	32.4432	0.138855
143.44116	10.81245	32.9472	0.138118
143.44150	10.81386	33.4368	0.137382
143.44184	10.81456	33.9264	0.137016

143.44219	10.81456	34.4304	0.137016
143.44257	10.81597	34.9776	0.136279

MONITORING WELL TA5-MW02 SLUG TEST SPREADSHEETS


TA5 - MW-02 slug test
water above transducer (ft)
21
20
19
18
17
16
15
slug withdrawal
slug injection
139.42600
139.44600
139.46600
139.48600
139.50600
139.52600
time (julian days)


TA5-MW02 Slug Test - Slug Injection
DIMENIONLESS HEAD
1
0.1
0.01
0
10
20
30
40
50
60
70
80
ELAPSED TIME (MINUTES)
Hw/Ho
MATCH LINE

TA5-MW02 slug injection

VALUES USED IN BOUWER AND RICE ANALYSIS OF SLUG TEST DATA

l=	26.09	(l-d)/rw=	55.71030641	t1=	0.143	(Hw/H0)1=	0.7396053
d=	6.09	A=	3.386096456	t2=	75.8	(Hw/H0)2=	0.0247172
rw=	0.359	B=	0.613644362				
rc=	0.159	tL=	22.26112305				
m=	27.01	ln(R/rw)=	3.050673319				
ln(m-l/rw)=	0.941051						
Ho=	2.4646						

ESTIMATED HYDRAULIC CONDUCTIVITY

k= 8.66E-05 ft/min = 4.39994E-05 cm/s

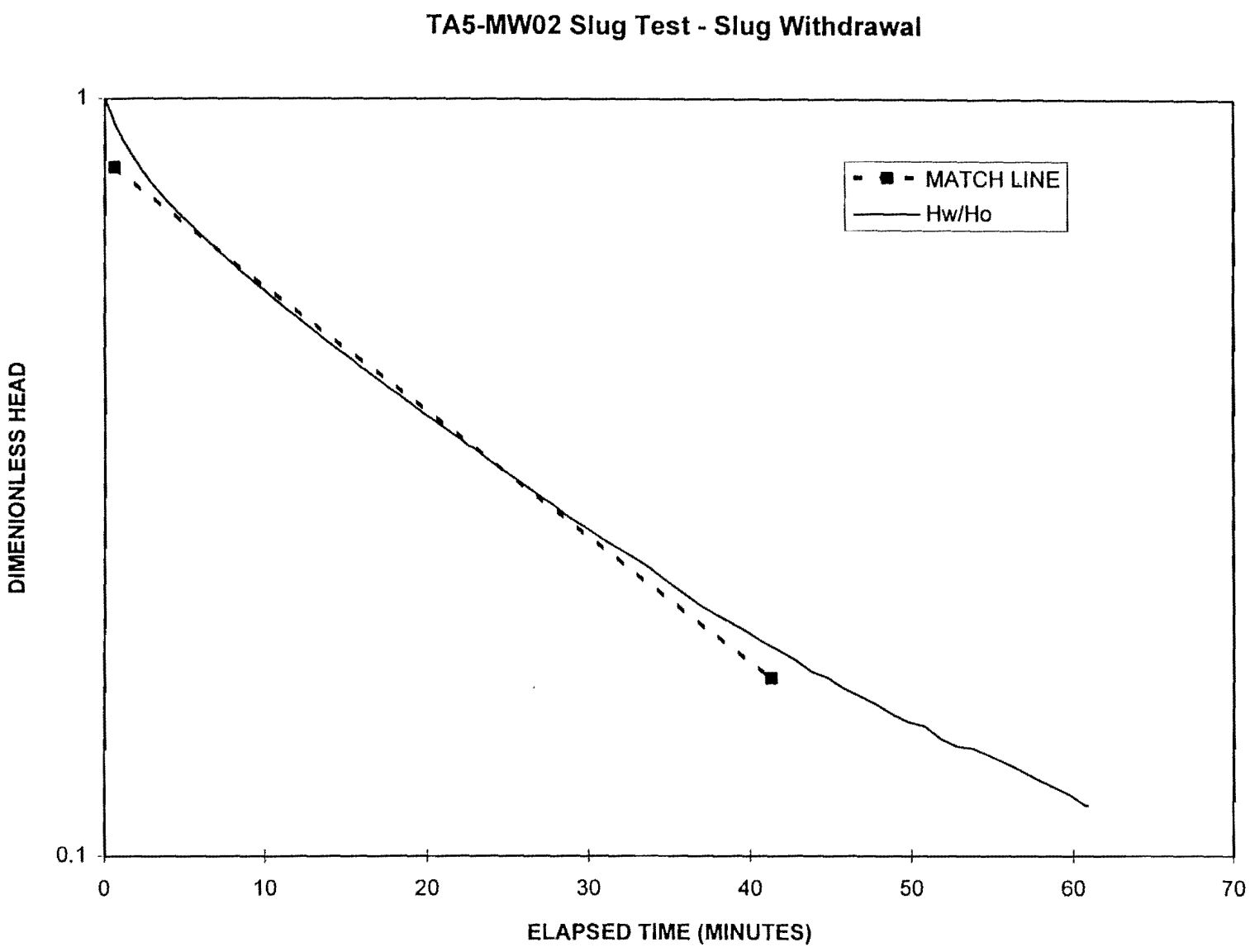
TEST DATA

Static Head	Maximum Head	Fractional Day	Feet of water above transducer	Elapsed Time (min)	Hw/Ho
18.06808	20.53268	139.42911	18.06808		
		139.42917	19.04306		
		139.42922	19.9123		
		139.42929	20.26479		
		139.42934	20.08995		
		139.42940	20.53268	0	1
		139.42947	20.19711	0.1008	0.863844
		139.42952	20.19076	0.1728	0.861268
		139.42958	20.17032	0.2592	0.852974
		139.42963	20.15199	0.3312	0.845537
		139.42970	20.12802	0.432	0.835811
		139.42975	20.1111	0.504	0.828946
		139.42981	20.09136	0.5904	0.820936
		139.42986	20.07444	0.6624	0.814071
		139.42993	20.0547	0.7632	0.806062
		139.42998	20.03567	0.8352	0.798341
		139.43004	20.02087	0.9216	0.792335
		139.43010	20.00677	1.008	0.786614
		139.43016	19.78822	1.0944	0.697939
		139.43021	19.97222	1.1664	0.772596
		139.43028	19.96094	1.2672	0.768019
		139.43033	19.94402	1.3392	0.761154
		139.43039	19.92781	1.4256	0.754577
		139.43044	19.92076	1.4976	0.751716
		139.43051	19.90172	1.5984	0.743991
		139.43055	19.88903	1.656	0.738842
		139.43062	19.87634	1.7568	0.733693
		139.43068	19.86718	1.8432	0.729976
		139.43074	19.85238	1.9296	0.723971

139.43080	19.8418	2.016	0.719679
139.43085	19.83405	2.088	0.716534
139.43091	19.82065	2.1744	0.711097
139.43097	19.80726	2.2608	0.705664
139.43103	19.7988	2.3472	0.702232
139.43108	19.78893	2.4192	0.698227
139.43114	19.77765	2.5056	0.69365
139.43120	19.76566	2.592	0.688785
139.43126	19.7572	2.6784	0.685353
139.43131	19.74945	2.7504	0.682208
139.43138	19.73746	2.8512	0.677343
139.43143	19.72689	2.9232	0.673054
139.43149	19.72195	3.0096	0.67105
139.43154	19.7142	3.0816	0.667906
139.43161	19.7001	3.1824	0.662185
139.43165	19.69305	3.24	0.659324
139.43172	19.68318	3.3408	0.655319
139.43177	19.67613	3.4128	0.652459
139.43184	19.66838	3.5136	0.649314
139.43189	19.65992	3.5856	0.645882
139.43195	19.64864	3.672	0.641305
139.43201	19.64159	3.7584	0.638444
139.43212	19.62467	3.9168	0.631579
139.43236	19.59647	4.2624	0.620137
139.43259	19.56686	4.5936	0.608123
139.43283	19.53937	4.9392	0.596969
139.43307	19.51328	5.2848	0.586383
139.43330	19.48649	5.616	0.575513
139.43353	19.46182	5.9472	0.565504
139.43376	19.43785	6.2784	0.555778
139.43399	19.41599	6.6096	0.546908
139.43422	19.39344	6.9408	0.537759
139.43445	19.37088	7.272	0.528605
139.43468	19.34479	7.6032	0.518019
139.43491	19.32787	7.9344	0.511154
139.43514	19.30531	8.2656	0.502
139.43538	19.28416	8.6112	0.493419
139.43561	19.26513	8.9424	0.485697
139.43584	19.2468	9.2736	0.47826
139.43607	19.22636	9.6048	0.469967
139.43630	19.21085	9.936	0.463674
139.43653	19.19111	10.2672	0.455664
139.43676	19.17348	10.5984	0.448511
139.43699	19.15586	10.9296	0.441362
139.43723	19.13964	11.2752	0.43478
139.43746	19.12272	11.6064	0.427915
139.43770	19.1051	11.952	0.420766
139.43793	19.09029	12.2832	0.414757
139.43816	19.07408	12.6144	0.40818

139.43839	19.05857	12.9456	0.401887
139.43862	19.04095	13.2768	0.394737
139.43885	19.02544	13.608	0.388444
139.43908	19.01063	13.9392	0.382435
139.43948	18.98173	14.5152	0.370709
139.44019	18.94013	15.5376	0.35383
139.44086	18.90066	16.5024	0.337815
139.44157	18.86541	17.5248	0.323513
139.44228	18.83016	18.5472	0.30921
139.44297	18.79632	19.5408	0.29548
139.44366	18.76389	20.5344	0.282322
139.44436	18.73146	21.5424	0.269163
139.44505	18.70326	22.536	0.257721
139.44574	18.67788	23.5296	0.247424
139.44645	18.65039	24.552	0.23627
139.44714	18.62501	25.5456	0.225972
139.44783	18.60245	26.5392	0.216818
139.44804	18.5954	26.8416	0.213958
139.44871	18.57284	27.8064	0.204804
139.44942	18.5524	28.8288	0.196511
139.45011	18.52843	29.8224	0.186785
139.45080	18.50939	30.816	0.179059
139.45150	18.49318	31.824	0.172482
139.45219	18.47767	32.8176	0.166189
139.45288	18.46075	33.8112	0.159324
139.45359	18.44383	34.8336	0.152459
139.45428	18.42832	35.8272	0.146166
139.45497	18.41563	36.8208	0.141017
139.45567	18.39801	37.8288	0.133868
139.45637	18.38532	38.8368	0.128719
139.45704	18.37333	39.8016	0.123854
139.45774	18.36276	40.8096	0.119565
139.45845	18.35218	41.832	0.115272
139.45914	18.33667	42.8256	0.108979
139.45983	18.3268	43.8192	0.104974
139.46053	18.31552	44.8272	0.100398
139.46122	18.30636	45.8208	0.096681
139.46191	18.29579	46.8144	0.092392
139.46260	18.28662	47.808	0.088672
139.46331	18.27464	48.8304	0.083811
139.46400	18.26688	49.824	0.080662
139.46469	18.26195	50.8176	0.078662
139.46539	18.25631	51.8256	0.076373
139.46608	18.24926	52.8192	0.073513
139.46677	18.24221	53.8128	0.070652
139.46747	18.23375	54.8208	0.06722
139.46817	18.22881	55.8288	0.065215
139.46886	18.21965	56.8224	0.061499
139.46956	18.21753	57.8304	0.060639

139.47025	18.21471	58.824	0.059494
139.47094	18.20766	59.8176	0.056634
139.47164	18.20202	60.8256	0.054346
139.47234	18.19638	61.8336	0.052057
139.47303	18.19709	62.8272	0.052345
139.47372	18.18863	63.8208	0.048913
139.47442	18.18581	64.8288	0.047768
139.47511	18.17735	65.8224	0.044336
139.47580	18.17805	66.816	0.04462
139.47650	18.17735	67.824	0.044336
139.47720	18.17241	68.832	0.042331
139.47788	18.1703	69.8112	0.041475
139.47822	18.171	70.3008	0.041759
139.47826	18.16889	70.3584	0.040903
139.47833	18.1703	70.4592	0.041475
139.47839	18.16818	70.5456	0.040615
139.47844	18.16818	70.6176	0.040615
139.47851	18.16818	70.7184	0.040615
139.47856	18.16748	70.7904	0.040331


TA5-MW02 Slug Test - Slug Withdrawal
MATCH LINE
Hw/Ho
DIMENIONLESS HEAD
1
0.1
0
10
20
30
40
50
60
70
ELAPSED TIME (MINUTES)

TA5-MW02 slug withdrawal

VALUES USED IN BOUWER AND RICE ANALYSIS OF SLUG TEST DATA

l=	26.09	(l-d)/rw=	55.71030641	t1=	0.6	(Hw/H0)1=	0.8128305
d=	6.09	A=	3.386096456	t2=	41.3	(Hw/H0)2=	0.1713957
rw=	0.359	B=	0.613644362				
rc=	0.159	tL=	26.14761156				
m=	27.01	ln(R/rw)=	3.050673319				
ln(m-l/rw)=	0.941051						
Ho=	2.22631						

ESTIMATED HYDRAULIC CONDUCTIVITY

k= 7.37E-05 ft/min = 3.74595E-05 cm/s

TEST DATA

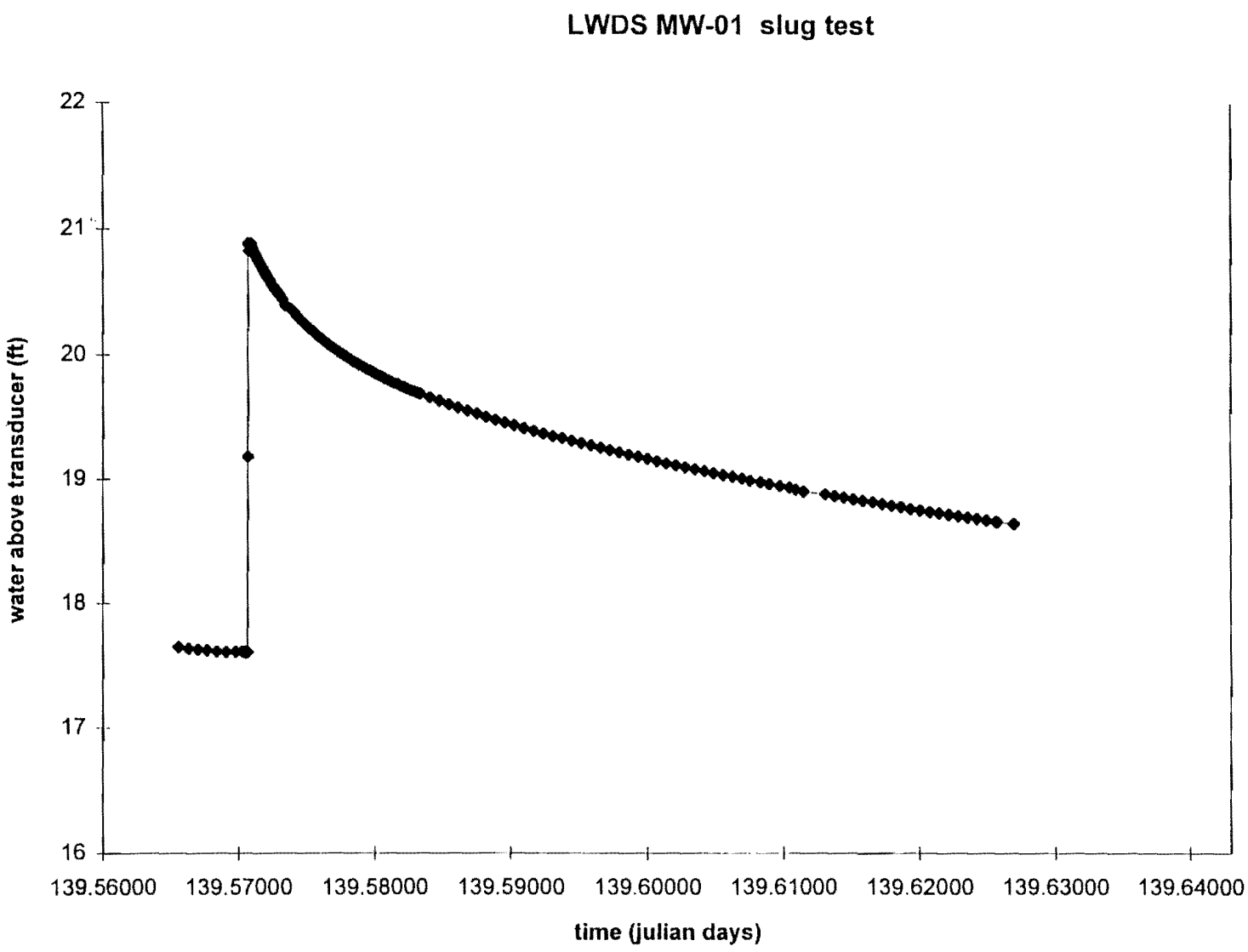
Static Head	Minimum Head	Fractional Day	Feet of water above transducer	Elapsed Time (min)	Hw/Ho
18.16677	15.94046				
		139.47862	18.16677		
		139.47867	18.11884		
		139.47874	17.55485		
		139.47879	16.94011		
		139.47885	16.00461		
		139.47890	15.94046	0	1
		139.47897	15.96936	0.1008	0.987019
		139.47902	15.98487	0.1728	0.980052
		139.47908	16.01377	0.2592	0.967071
		139.47913	16.02928	0.3312	0.960104
		139.47920	16.05255	0.432	0.949652
		139.47926	16.07511	0.5184	0.939519
		139.47931	16.1033	0.5904	0.926857
		139.47937	16.1167	0.6768	0.920838
		139.47943	16.13503	0.7632	0.912604
		139.47949	16.14913	0.8496	0.906271
		139.47954	16.16675	0.9216	0.898356
		139.47961	16.17944	1.0224	0.892656
		139.47966	16.19636	1.0944	0.885056
		139.47972	16.20835	1.1808	0.879671
		139.47977	16.22315	1.2528	0.873023
		139.47984	16.23514	1.3536	0.867637
		139.47989	16.24924	1.4256	0.861304
		139.47995	16.26051	1.512	0.856242
		139.48000	16.27743	1.584	0.848642
		139.48007	16.28871	1.6848	0.843575
		139.48011	16.29365	1.7424	0.841356
		139.48018	16.31127	1.8432	0.833442

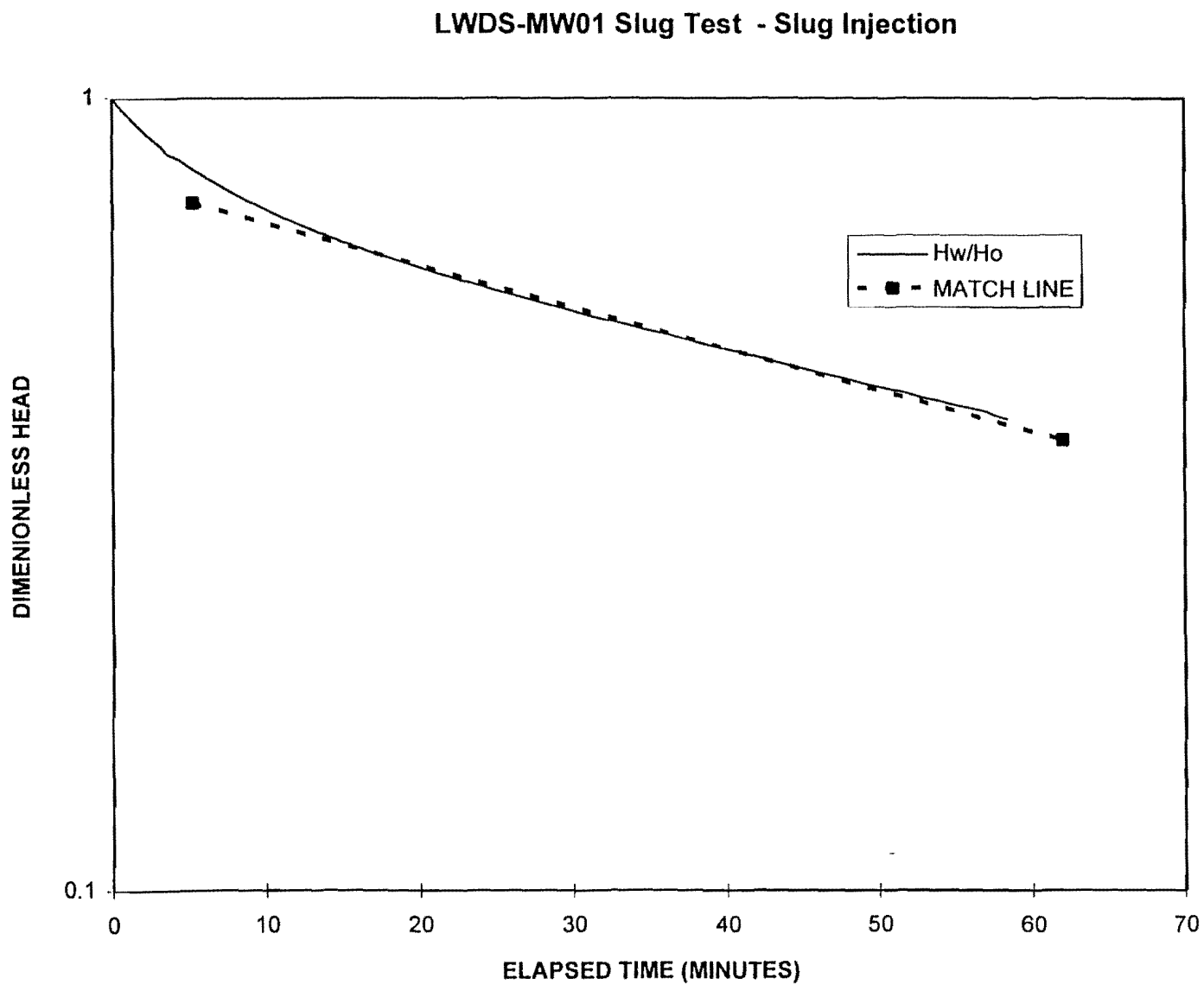
139.48023	16.32114	1.9152	0.829009
139.48030	16.33101	2.016	0.824575
139.48036	16.34229	2.1024	0.819509
139.48041	16.35216	2.1744	0.815075
139.48047	16.36344	2.2608	0.810008
139.48052	16.37472	2.3328	0.804942
139.48059	16.38389	2.4336	0.800823
139.48064	16.39164	2.5056	0.797342
139.48070	16.40222	2.592	0.79259
139.48075	16.41209	2.664	0.788156
139.48082	16.42266	2.7648	0.783408
139.48087	16.43323	2.8368	0.778661
139.48094	16.43817	2.9376	0.776442
139.48098	16.44522	2.9952	0.773275
139.48105	16.45861	3.096	0.767261
139.48110	16.46284	3.168	0.765361
139.48117	16.47553	3.2688	0.759661
139.48122	16.48047	3.3408	0.757442
139.48128	16.48752	3.4272	0.754275
139.48134	16.49598	3.5136	0.750475
139.48140	16.50514	3.6	0.746361
139.48146	16.51149	3.6864	0.743508
139.48151	16.51924	3.7584	0.740027
139.48157	16.52559	3.8448	0.737175
139.48163	16.53475	3.9312	0.733061
139.48169	16.53969	4.0176	0.730842
139.48174	16.54674	4.0896	0.727675
139.48180	16.55379	4.176	0.724508
139.48185	16.55802	4.248	0.722608
139.48192	16.56789	4.3488	0.718175
139.48197	16.57352	4.4208	0.715646
139.48203	16.5848	4.5072	0.710579
139.48208	16.58762	4.5792	0.709313
139.48215	16.59467	4.68	0.706146
139.48220	16.60031	4.752	0.703613
139.48226	16.60877	4.8384	0.699813
139.48232	16.613	4.9248	0.697913
139.48238	16.61794	5.0112	0.695694
139.48244	16.62428	5.0976	0.692846
139.48249	16.63133	5.1696	0.689679
139.48256	16.63486	5.2704	0.688094
139.48261	16.64402	5.3424	0.683979
139.48267	16.64896	5.4288	0.68176
139.48272	16.65248	5.5008	0.680179
139.48279	16.66024	5.6016	0.676694
139.48284	16.66588	5.6736	0.67416
139.48290	16.67081	5.76	0.671946
139.48295	16.67786	5.832	0.668779
139.48302	16.68491	5.9328	0.665613

139.48307	16.69055	6.0048	0.663079
139.48314	16.69549	6.1056	0.66086
139.48318	16.69901	6.1632	0.659279
139.48325	16.70465	6.264	0.656746
139.48330	16.70888	6.336	0.654846
139.48340	16.71946	6.48	0.650094
139.48364	16.74272	6.8256	0.639646
139.48387	16.76246	7.1568	0.630779
139.48410	16.78149	7.488	0.622231
139.48433	16.80123	7.8192	0.613365
139.48456	16.82027	8.1504	0.604812
139.48477	16.84142	8.4528	0.595312
139.48507	16.86116	8.8848	0.586446
139.48530	16.88019	9.216	0.577898
139.48553	16.89922	9.5472	0.56935
139.48576	16.91262	9.8784	0.563331
139.48599	16.93306	10.2096	0.55415
139.48622	16.94928	10.5408	0.546865
139.48645	16.9662	10.872	0.539265
139.48668	16.98312	11.2032	0.531665
139.48691	16.99722	11.5344	0.525331
139.48715	17.01273	11.88	0.518364
139.48738	17.02824	12.2112	0.511398
139.48761	17.04304	12.5424	0.50475
139.48784	17.05784	12.8736	0.498102
139.48807	17.07265	13.2048	0.49145
139.48830	17.08604	13.536	0.485436
139.48853	17.10085	13.8672	0.478783
139.48876	17.11424	14.1984	0.472769
139.48899	17.12764	14.5296	0.46675
139.48923	17.13962	14.8752	0.461369
139.48947	17.15302	15.2208	0.45535
139.48970	17.16641	15.552	0.449335
139.48993	17.18192	15.8832	0.442369
139.49016	17.1925	16.2144	0.437617
139.49039	17.20448	16.5456	0.432235
139.49062	17.21646	16.8768	0.426854
139.49085	17.22915	17.208	0.421154
139.49108	17.24043	17.5392	0.416088
139.49132	17.25101	17.8848	0.411335
139.49155	17.26158	18.216	0.406588
139.49178	17.27286	18.5472	0.401521
139.49201	17.28273	18.8784	0.397088
139.49224	17.29472	19.2096	0.391702
139.49247	17.30459	19.5408	0.387269
139.49270	17.31587	19.872	0.382202
139.49293	17.32503	20.2032	0.378088
139.49316	17.33349	20.5344	0.374287
139.49339	17.34407	20.8656	0.369535

139.49363	17.35394	21.2112	0.365102
139.49386	17.3638	21.5424	0.360673
139.49409	17.37226	21.8736	0.356873
139.49432	17.38213	22.2048	0.35244
139.49455	17.39341	22.536	0.347373
139.49474	17.39623	22.8096	0.346106
139.49542	17.42443	23.7888	0.33344
139.49611	17.44981	24.7824	0.32204
139.49682	17.47378	25.8048	0.311273
139.49751	17.49775	26.7984	0.300506
139.49820	17.5196	27.792	0.290692
139.49890	17.54428	28.8	0.279606
139.49959	17.56261	29.7936	0.271373
139.50028	17.58235	30.7872	0.262506
139.50097	17.59927	31.7808	0.254906
139.50168	17.61548	32.8032	0.247625
139.50237	17.6324	33.7968	0.240025
139.50305	17.65214	34.776	0.231158
139.50376	17.67047	35.7984	0.222925
139.50445	17.68809	36.792	0.21501
139.50514	17.70219	37.7856	0.208677
139.50584	17.71418	38.7936	0.203292
139.50653	17.72687	39.7872	0.197592
139.50722	17.74097	40.7808	0.191258
139.50793	17.75225	41.8032	0.186192
139.50862	17.76353	42.7968	0.181125
139.50931	17.77763	43.7904	0.174791
139.51001	17.78468	44.7984	0.171625
139.51070	17.79666	45.792	0.166244
139.51139	17.80512	46.7856	0.162444
139.51209	17.81429	47.7936	0.158325
139.51279	17.82486	48.8016	0.153577
139.51347	17.83261	49.7808	0.150096
139.51418	17.83684	50.8032	0.148196
139.51487	17.84953	51.7968	0.142496
139.51556	17.85658	52.7904	0.139329
139.51625	17.8587	53.784	0.138377
139.51695	17.86504	54.792	0.135529
139.51764	17.87139	55.7856	0.132677
139.51833	17.87844	56.7792	0.12951
139.51904	17.88619	57.8016	0.126029
139.51973	17.89254	58.7952	0.123177
139.52042	17.89888	59.7888	0.120329
139.52112	17.90734	60.7968	0.116529
139.52123	17.90664	60.9552	0.116844

MONITORING WELL LWDS-MW01 SLUG TEST SPREADSHEETS


LWDS MW-01 slug test
water above transducer (ft)
22
21
20
19
18
17
16
139.56000
139.57000
139.58000
139.59000
139.60000
139.61000
139.62000
139.63000
139.64000
time (julian days)


LWDS-MW01 Slug Test - Slug Injection
1
0.1
DIMENIONLESS HEAD
0
10
20
30
40
50
60
70
ELAPSED TIME (MINUTES)
Hw/Ho
MATCH LINE

LWDS-MW01 slug injection

VALUES USED IN BOUWER AND RICE ANALYSIS OF SLUG TEST DATA

l=	26.73	(l-d)/rw=	32.7510917	t1=	5.3	(Hw/H0)1=	0.7396053
d=	11.73	A=	2.532909425	t2=	62	(Hw/H0)2=	0.3706807
rw=	0.458	B=	0.469180204				
rc=	0.159	tL=	82.08165708				
m=	36.73	ln(R/rw)=	2.551005706				
ln(m-l/rw)=	3.083471						
Ho=	3.27744						

ESTIMATED HYDRAULIC CONDUCTIVITY

k= 2.62E-05 ft/min = 1.33046E-05 cm/s

TEST DATA

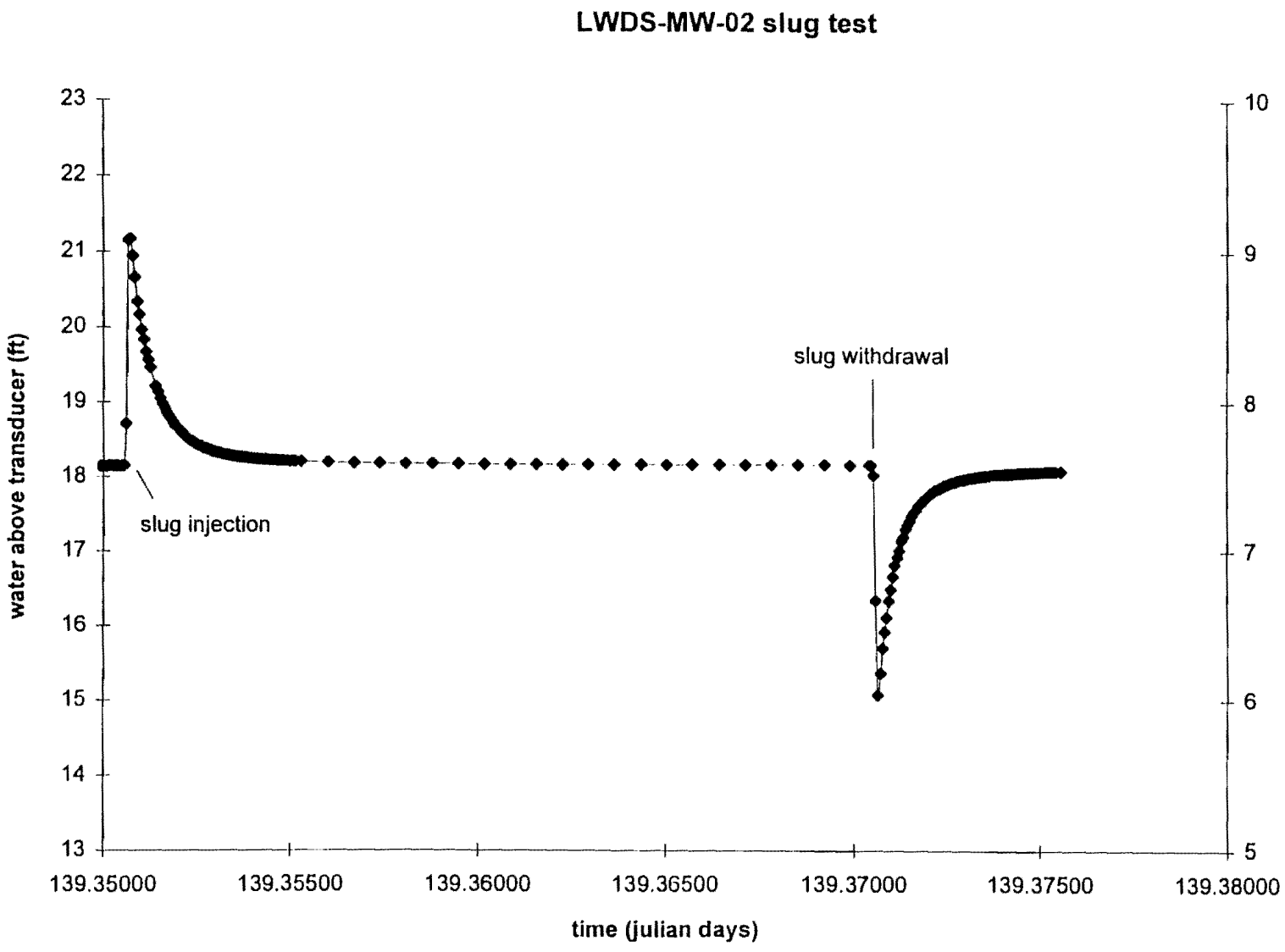
Static Head	Maximum Head	Fractional Day	Feet of water above transducer	Elapsed Time (min)	Hw/Ho
17.60702	20.88446	139.57063	17.60702		
		139.57069	19.17983		
		139.57074	20.88235		
		139.57081	20.82806		
		139.57086	20.88094		
		139.57092	20.88446	0	1
		139.57097	20.86331	0.072	0.993547
		139.57104	20.85415	0.1728	0.990752
		139.57109	20.83582	0.2448	0.985159
		139.57115	20.8196	0.3312	0.98021
		139.57120	20.80762	0.4032	0.976555
		139.57127	20.79705	0.504	0.97333
		139.57132	20.78224	0.576	0.968811
		139.57138	20.76814	0.6624	0.964509
		139.57143	20.75545	0.7344	0.960637
		139.57150	20.74558	0.8352	0.957625
		139.57156	20.73078	0.9216	0.95311
		139.57161	20.72232	0.9936	0.950528
		139.57168	20.70681	1.0944	0.945796
		139.57173	20.69905	1.1664	0.943428
		139.57179	20.68566	1.2528	0.939343
		139.57184	20.67156	1.3248	0.935041
		139.57191	20.66239	1.4256	0.932243
		139.57196	20.65182	1.4976	0.929018
		139.57202	20.64195	1.584	0.926006
		139.57207	20.62856	1.656	0.921921
		139.57214	20.6208	1.7568	0.919553
		139.57219	20.61375	1.8288	0.917402
		139.57226	20.59754	1.9296	0.912456

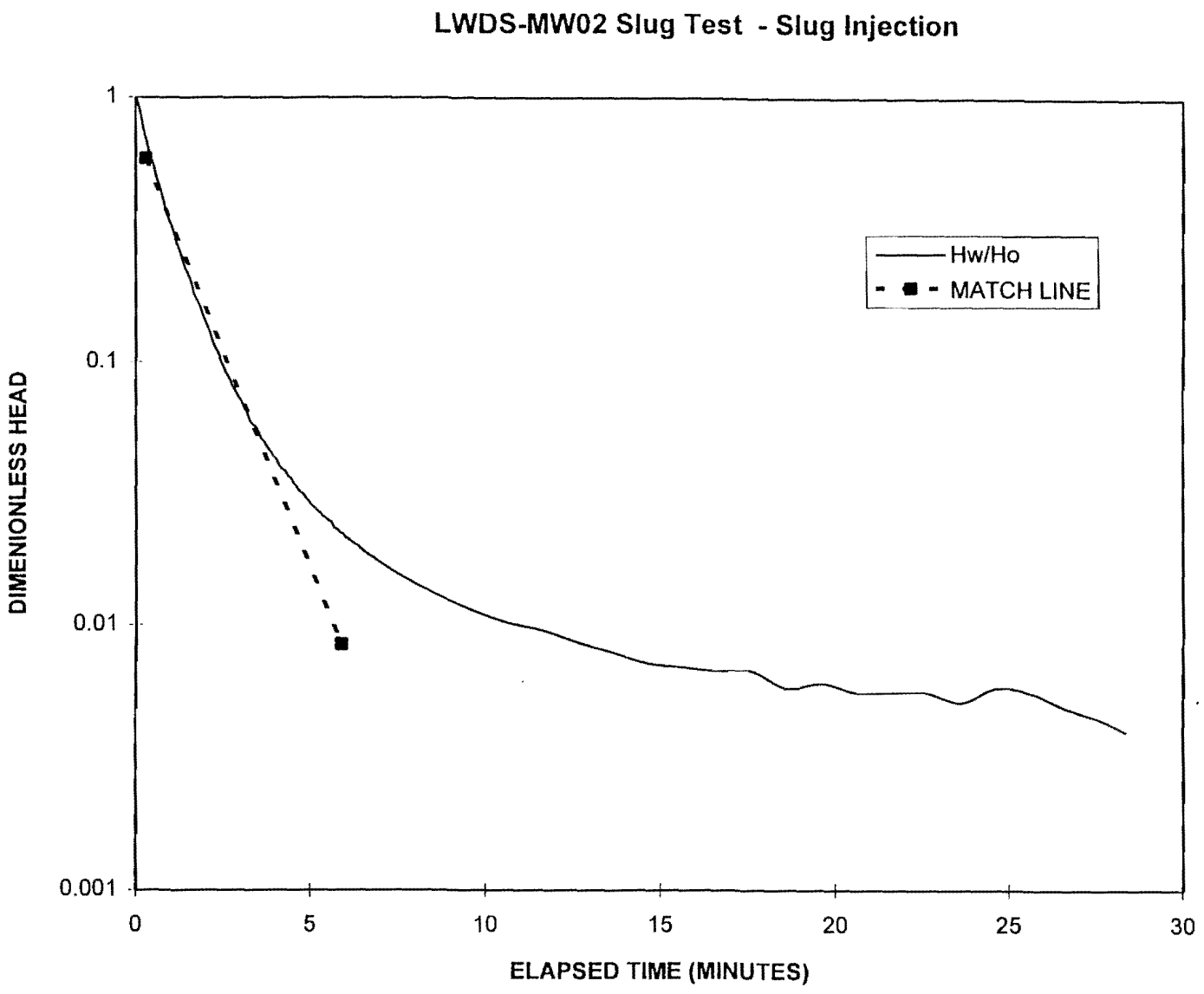
139.57230	20.5926	1.9872	0.910949
139.57249	20.55524	2.2608	0.89955
139.57257	20.54748	2.376	0.897182
139.57262	20.5362	2.448	0.89374
139.57268	20.52915	2.5344	0.891589
139.57273	20.51646	2.6064	0.887717
139.57280	20.51153	2.7072	0.886213
139.57285	20.50236	2.7792	0.883415
139.57291	20.49391	2.8656	0.880837
139.57296	20.48333	2.9376	0.877609
139.57303	20.47769	3.0384	0.875888
139.57309	20.46641	3.1248	0.872446
139.57324	20.44456	3.3408	0.865779
139.57346	20.39591	3.6576	0.850935
139.57383	20.3663	4.1904	0.841901
139.57406	20.34022	4.5216	0.833944
139.57429	20.31132	4.8528	0.825126
139.57454	20.28171	5.2128	0.816091
139.57477	20.25774	5.544	0.808778
139.57500	20.23447	5.8752	0.801678
139.57523	20.20909	6.2064	0.793934
139.57546	20.19006	6.5376	0.788127
139.57569	20.16609	6.8688	0.780814
139.57592	20.14565	7.2	0.774577
139.57615	20.12379	7.5312	0.767907
139.57638	20.10335	7.8624	0.761671
139.57661	20.08431	8.1936	0.755861
139.57685	20.06387	8.5392	0.749625
139.57708	20.04554	8.8704	0.744032
139.57731	20.02862	9.2016	0.738869
139.57755	20.0117	9.5472	0.733707
139.57778	19.99337	9.8784	0.728114
139.57800	19.97857	10.1952	0.723598
139.57824	19.95883	10.5408	0.717575
139.57847	19.94402	10.872	0.713057
139.57870	19.92781	11.2032	0.708111
139.57892	19.91512	11.52	0.704239
139.57916	19.89961	11.8656	0.699506
139.57939	19.88551	12.1968	0.695204
139.57962	19.87282	12.528	0.691332
139.57986	19.85731	12.8736	0.6866
139.58009	19.84462	13.2048	0.682728
139.58032	19.83123	13.536	0.678642
139.58055	19.81995	13.8672	0.675201
139.58078	19.80444	14.1984	0.670468
139.58101	19.79316	14.5296	0.667027
139.58124	19.77976	14.8608	0.662938
139.58147	19.76707	15.192	0.659066
139.58170	19.76073	15.5232	0.657132

139.58193	19.74451	15.8544	0.652183
139.58217	19.73605	16.2	0.649602
139.58239	19.72336	16.5168	0.64573
139.58264	19.71138	16.8768	0.642074
139.58287	19.70363	17.208	0.63971
139.58310	19.69305	17.5392	0.636482
139.58334	19.68248	17.8848	0.633256
139.58405	19.65216	18.9072	0.624005
139.58474	19.62326	19.9008	0.615187
139.58543	19.59576	20.8944	0.606797
139.58613	19.56968	21.9024	0.598839
139.58683	19.5436	22.9104	0.590882
139.58752	19.52033	23.904	0.583782
139.58821	19.49425	24.8976	0.575824
139.58891	19.47169	25.9056	0.568941
139.58960	19.44983	26.8992	0.562271
139.59029	19.42657	27.8928	0.555174
139.59099	19.40401	28.9008	0.548291
139.59169	19.38286	29.9088	0.541838
139.59238	19.3596	30.9024	0.534741
139.59307	19.33915	31.896	0.528501
139.59377	19.32364	32.904	0.523769
139.59446	19.3039	33.8976	0.517746
139.59515	19.28416	34.8912	0.511723
139.59586	19.26724	35.9136	0.50656
139.59655	19.2475	36.9072	0.500537
139.59724	19.22918	37.9008	0.494947
139.59793	19.21085	38.8944	0.489354
139.59863	19.19322	39.9024	0.483975
139.59932	19.17701	40.896	0.479029
139.60001	19.15938	41.8896	0.47365
139.60071	19.14105	42.8976	0.468057
139.60141	19.12343	43.9056	0.462681
139.60210	19.10792	44.8992	0.457949
139.60279	19.091	45.8928	0.452786
139.60349	19.07479	46.9008	0.44784
139.60418	19.06069	47.8944	0.443538
139.60487	19.04236	48.888	0.437945
139.60558	19.02826	49.9104	0.433643
139.60627	19.01416	50.904	0.429341
139.60696	19.00006	51.8976	0.425039
139.60758	18.98314	52.7904	0.419876
139.60835	18.96904	53.8992	0.415574
139.60896	18.95494	54.7776	0.411272
139.60973	18.94084	55.8864	0.40697
139.61044	18.92815	56.9088	0.403098
139.61092	18.91123	57.6	0.397936
139.61151	18.89643	58.4496	0.39342
139.61312	18.87387	60.768	0.386536

139.61381	18.86118	61.7616	0.382665
139.61449	18.84778	62.7408	0.378576
139.61520	18.83509	63.7632	0.374704
139.61589	18.82311	64.7568	0.371049
139.61658	18.81253	65.7504	0.367821
139.61727	18.79773	66.744	0.363305
139.61797	18.78504	67.752	0.359433
139.61866	18.77446	68.7456	0.356205
139.61935	18.75755	69.7392	0.351045
139.62006	18.74627	70.7616	0.347604
139.62075	18.73428	71.7552	0.343945
139.62144	18.72371	72.7488	0.34072
139.62214	18.71172	73.7568	0.337062
139.62283	18.70256	74.7504	0.334267
139.62352	18.69198	75.744	0.331039
139.62421	18.67929	76.7376	0.327167
139.62492	18.66731	77.76	0.323512
139.62561	18.65673	78.7536	0.320284
139.62571	18.65462	78.8976	0.31964
139.62696	18.63911	80.6976	0.314907

MONITORING WELL LWDS-MW02 SLUG TEST SPREADSHEETS


LWDS-MW-02 slug test
water above transducer (ft)
23
22
21
20
19
18
17
16
15
14
13
10
9
8
7
6
5
slug injection
slug withdrawal
139.35000
139.35500
139.36000
139.36500
139.37000
139.37500
139.38000
time (julian days)


LWDS-MW02 Slug Test - Slug Injection
DIMENIONLESS HEAD
1
0.1
0.01
0.001
0
5
10
15
20
25
30
ELAPSED TIME (MINUTES)
Hw/Ho
MATCH LINE

LWDS-MW02 slug injection

VALUES USED IN BOUWER AND RICE ANALYSIS OF SLUG TEST DATA

l=	48.2	(l-d)/rw=	43.66812227	t1=	0.29	(Hw/H0)1=	0.5888437
d=	28.2	A=	2.97087297	t2=	5.9	(Hw/H0)2=	0.0085114
rw=	0.458	B=	0.544495385				
rc=	0.159	tL=	1.324126111				
m=	53.2	ln(R/rw)=	2.993298007				
ln(m-l/rw)=	2.390324						
Ho=	3.01801						

ESTIMATED HYDRAULIC CONDUCTIVITY

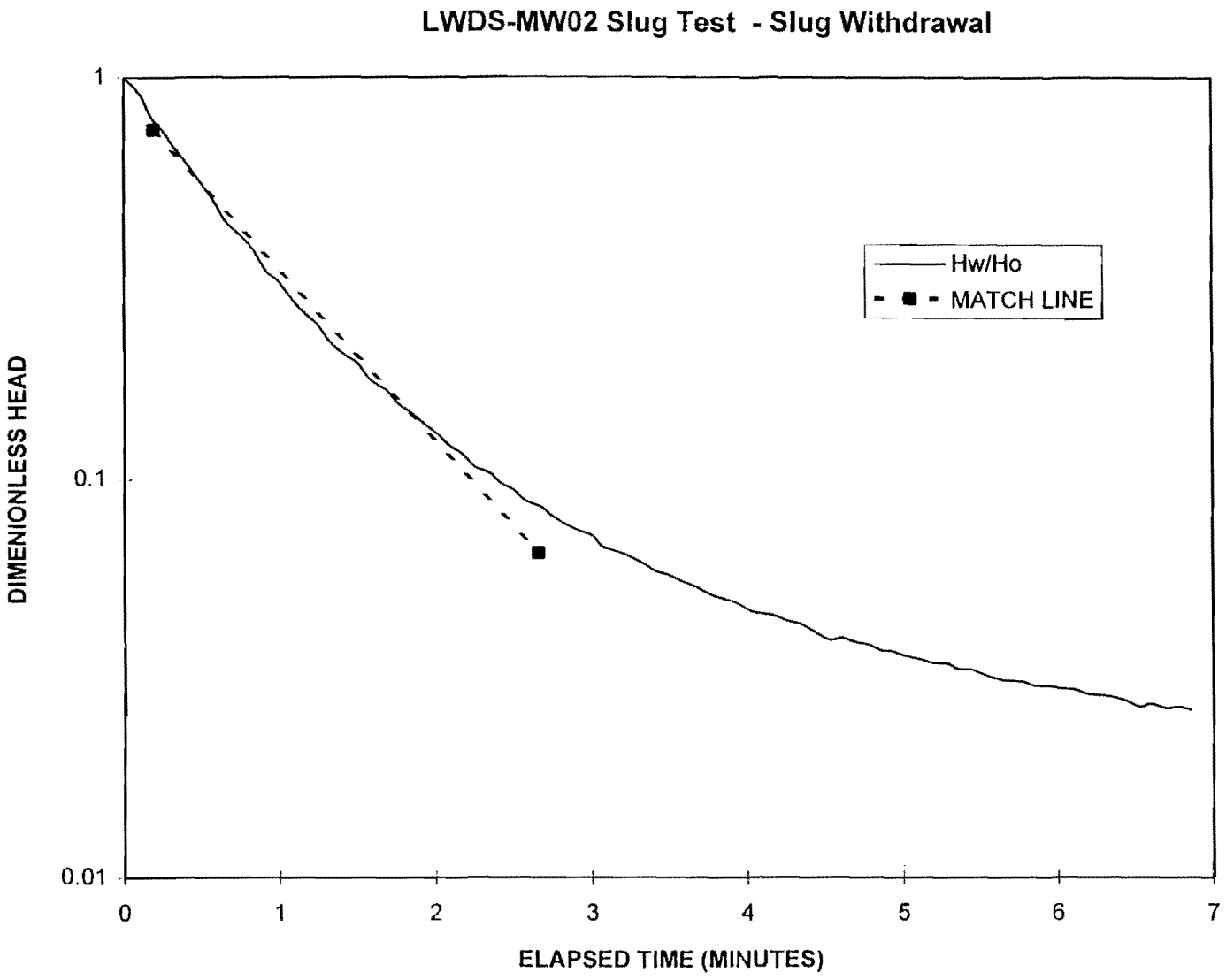
k= 0.001429 ft/min = 0.000725803 cm/s

TEST DATA

Static Head	Maximum Head	Fractional Day	Feet of water above transducer	Elapsed Time (min)	Hw/Ho
18.14633	21.16434	139.35055	18.14633		
		139.35060	18.71031		
		139.35067	21.14601		
		139.35072	21.16434	0	1
		139.35078	20.94086	0.0864	0.925951
		139.35083	20.65957	0.1584	0.832747
		139.35090	20.3367	0.2592	0.725766
		139.35095	20.16609	0.3312	0.669236
		139.35101	19.96588	0.4176	0.602897
		139.35108	19.83123	0.5184	0.558282
		139.35113	19.67049	0.5904	0.505022
		139.35119	19.56263	0.6768	0.469283
		139.35124	19.46182	0.7488	0.43588
		139.35137	19.21155	0.936	0.352954
		139.35144	19.14035	1.0368	0.329363
		139.35150	19.05505	1.1232	0.301099
		139.35156	18.9775	1.2096	0.275403
		139.35162	18.92604	1.296	0.258352
		139.35167	18.86188	1.368	0.237093
		139.35173	18.81888	1.4544	0.222846
		139.35179	18.77728	1.5408	0.209062
		139.35185	18.72723	1.6272	0.192478
		139.35190	18.68352	1.6992	0.177995
		139.35197	18.65391	1.8	0.168184
		139.35202	18.62501	1.872	0.158608
		139.35208	18.59047	1.9584	0.147163
		139.35213	18.56861	2.0304	0.13992
		139.35220	18.53759	2.1312	0.129642
		139.35225	18.5108	2.2032	0.120765

139.35231	18.48754	2.2896	0.113058
139.35236	18.47555	2.3616	0.109085
139.35243	18.44947	2.4624	0.100444
139.35248	18.43608	2.5344	0.096007
139.35254	18.41845	2.6208	0.090165
139.35260	18.40647	2.7072	0.086196
139.35266	18.39025	2.7936	0.080821
139.35272	18.37968	2.88	0.077319
139.35277	18.36981	2.952	0.074049
139.35284	18.35853	3.0528	0.070311
139.35289	18.34654	3.1248	0.066338
139.35295	18.33949	3.2112	0.064002
139.35300	18.3268	3.2832	0.059798
139.35306	18.32046	3.3696	0.057697
139.35312	18.31623	3.456	0.056295
139.35318	18.30777	3.5424	0.053492
139.35323	18.29931	3.6144	0.050689
139.35330	18.29438	3.7152	0.049056
139.35335	18.28803	3.7872	0.046951
139.35341	18.2838	3.8736	0.04555
139.35346	18.27816	3.9456	0.043681
139.35353	18.27464	4.0464	0.042515
139.35357	18.269	4.104	0.040646
139.35364	18.26406	4.2048	0.039009
139.35369	18.26265	4.2768	0.038542
139.35376	18.25701	4.3776	0.036673
139.35382	18.2549	4.464	0.035974
139.35387	18.24996	4.536	0.034337
139.35392	18.24785	4.608	0.033638
139.35399	18.24291	4.7088	0.032001
139.35405	18.2415	4.7952	0.031534
139.35410	18.23868	4.8672	0.0306
139.35417	18.23516	4.968	0.029433
139.35422	18.23234	5.04	0.028499
139.35428	18.23093	5.1264	0.028032
139.35433	18.22881	5.1984	0.027329
139.35440	18.2267	5.2992	0.02663
139.35445	18.22458	5.3712	0.025928
139.35451	18.22317	5.4576	0.02546
139.35456	18.22176	5.5296	0.024993
139.35463	18.22035	5.6304	0.024526
139.35468	18.21683	5.7024	0.02336
139.35474	18.21612	5.7888	0.023125
139.35479	18.21401	5.8608	0.022425
139.35486	18.2133	5.9616	0.02219
139.35491	18.21119	6.0336	0.021491
139.35497	18.21048	6.12	0.021256
139.35502	18.20907	6.192	0.020789
139.35509	18.20766	6.2928	0.020321

139.35514	18.20696	6.3648	0.020089
139.35530	18.20343	6.5952	0.01892
139.35601	18.19286	7.6176	0.015417
139.35671	18.18581	8.6256	0.013081
139.35740	18.18087	9.6192	0.011445
139.35809	18.17735	10.6128	0.010278
139.35880	18.17523	11.6352	0.009576
139.35949	18.17241	12.6288	0.008641
139.36018	18.1703	13.6224	0.007942
139.36087	18.16818	14.616	0.00724
139.36156	18.16748	15.6096	0.007008
139.36226	18.16677	16.6176	0.006773
139.36295	18.16677	17.6112	0.006773
139.36364	18.16395	18.6048	0.005838
139.36435	18.16466	19.6272	0.006074
139.36504	18.16325	20.6208	0.005606
139.36573	18.16325	21.6144	0.005606
139.36643	18.16325	22.6224	0.005606
139.36713	18.16184	23.6304	0.005139
139.36782	18.16395	24.624	0.005838
139.36851	18.16325	25.6176	0.005606
139.36921	18.16113	26.6256	0.004904
139.36990	18.15972	27.6192	0.004437
139.37042	18.15831	28.368	0.00397
139.37046	18.15761	28.4256	0.003738


LWDS-MW02 Slug Test - Slug Withdrawal
DIMENIONLESS HEAD
1
0.1
0.01
0
1
2
3
4
5
6
7
ELAPSED TIME (MINUTES)
Hw/Ho
MATCH LINE

LWDS-MW02 slug withdrawal

VALUES USED IN BOUWER AND RICE ANALYSIS OF SLUG TEST DATA

l=	48.2	(l-d)/rw=	43.66812227	t1=	0.19	(Hw/H0)1=	0.7396053
d=	28.2	A=	2.97087297	t2=	2.66	(Hw/H0)2=	0.0651628
rw=	0.458	B=	0.544495385				
rc=	0.159	tL=	1.016784237				
m=	53.2	ln(R/rw)=	2.993298007				
ln(m-l/rw)=	2.390324						
Ho=	3.08005						

ESTIMATED HYDRAULIC CONDUCTIVITY

k= 0.001861 ft/min = 0.00094519 cm/s

TEST DATA

Static Head	Minimum Head	Fractional Day	Feet of water above transducer	Elapsed Time (min)	Hw/Ho
18.15761	15.07756	139.37046	18.15761		
		139.37053	18.02225		
		139.37058	16.34229		
		139.37064	15.07756	0	1
		139.37071	15.36872	0.1008	0.905469
		139.37076	15.70288	0.1728	0.796977
		139.37082	15.9186	0.2592	0.726939
		139.37087	16.10683	0.3312	0.665827
		139.37094	16.33454	0.432	0.591896
		139.37099	16.48329	0.504	0.543602
		139.37105	16.65671	0.5904	0.487297
		139.37110	16.8104	0.6624	0.437399
		139.37117	16.91755	0.7632	0.40261
		139.37122	17.00497	0.8352	0.374228
		139.37128	17.14103	0.9216	0.330053
		139.37133	17.1925	0.9936	0.313342
		139.37140	17.29965	1.0944	0.278554
		139.37145	17.35605	1.1664	0.260243
		139.37151	17.40963	1.2528	0.242847
		139.37156	17.47378	1.3248	0.222019
		139.37163	17.52877	1.4256	0.204166
		139.37168	17.55344	1.4976	0.196156
		139.37174	17.61125	1.584	0.177387
		139.37181	17.64298	1.6848	0.167085
		139.37186	17.68034	1.7568	0.154955
		139.37192	17.70572	1.8432	0.146715
		139.37197	17.72969	1.9152	0.138933
		139.37204	17.7593	2.016	0.129319
		139.37209	17.78327	2.088	0.121537

139.37215	17.8016	2.1744	0.115586
139.37220	17.82627	2.2464	0.107576
139.37227	17.83896	2.3472	0.103456
139.37232	17.85658	2.4192	0.097735
139.37238	17.86857	2.5056	0.093843
139.37243	17.88549	2.5776	0.088349
139.37250	17.89536	2.6784	0.085145
139.37255	17.90946	2.7504	0.080567
139.37261	17.92074	2.8368	0.076905
139.37266	17.92779	2.9088	0.074616
139.37273	17.93625	3.0096	0.071869
139.37277	17.94894	3.0672	0.067749
139.37284	17.95528	3.168	0.06569
139.37289	17.96022	3.24	0.064087
139.37296	17.96938	3.3408	0.061113
139.37301	17.97643	3.4128	0.058824
139.37307	17.98066	3.4992	0.05745
139.37314	17.98771	3.6	0.055161
139.37319	17.99194	3.672	0.053788
139.37325	17.99899	3.7584	0.051499
139.37330	18.00251	3.8304	0.050356
139.37337	18.00674	3.9312	0.048983
139.37342	18.01238	4.0032	0.047152
139.37348	18.01591	4.0896	0.046006
139.37353	18.01732	4.1616	0.045548
139.37360	18.02225	4.2624	0.043947
139.37365	18.02437	4.3344	0.043259
139.37371	18.03001	4.4208	0.041428
139.37378	18.03635	4.5216	0.039369
139.37384	18.03494	4.608	0.039827
139.37389	18.03776	4.68	0.038912
139.37396	18.03988	4.7808	0.038223
139.37401	18.0434	4.8528	0.037081
139.37406	18.04411	4.9248	0.03685
139.37412	18.04693	5.0112	0.035934
139.37419	18.04904	5.112	0.035249
139.37424	18.05116	5.184	0.034561
139.37431	18.05186	5.2848	0.034334
139.37435	18.05468	5.3424	0.033418
139.37442	18.05539	5.4432	0.033188
139.37447	18.05821	5.5152	0.032272
139.37454	18.06103	5.616	0.031357
139.37458	18.06173	5.6736	0.031129
139.37465	18.06244	5.7744	0.030899
139.37470	18.06455	5.8464	0.030214
139.37476	18.06455	5.9328	0.030214
139.37481	18.06596	6.0048	0.029756
139.37488	18.06667	6.1056	0.029525
139.37493	18.06878	6.1776	0.02884

139.37499	18.06949	6.264	0.02861
139.37504	18.07019	6.336	0.028383
139.37511	18.07231	6.4368	0.027694
139.37517	18.07513	6.5232	0.026779
139.37522	18.07372	6.5952	0.027237
139.37529	18.07583	6.696	0.026552
139.37534	18.07513	6.768	0.026779
139.37540	18.07654	6.8544	0.026321

ATTACHMENT 8

GORE-SORBER™ SCREENING SURVEY
FINAL REPORT TA-V LWDS
DECEMBER 21, 1998

W. L. GORE & ASSOCIATES, INC.

100 CHESAPEAKE BLVD., P.O. BOX 10 • ELKTON, MARYLAND 21922-0010 • PHONE: 410/392-7600
FAX: 410/506-4780

GORE-SORBER® Screening Survey
Final Report

TA-V LWDS-MW1
SNL, NM

December 21, 1998

Gore Production Order No. 093733

Prepared For:
Sandia National Laboratories
6121 Indian School Road NE, Suite 105
Albuquerque, NM 87110

W.L. Gore & Associates, Inc.

Written/Submitted by:
Ray Fenstermacher, P.G., Project Manager

Reviewed/Approved by:
Jay W. Hodny, Ph.D., Project Manager

Analytical Data Reviewed by:
Jim E. Whetzel, Chemist

I:\MAPPING\PROJECTS\093733\981222R

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GORE-SORBER® Screening Survey
Final Report

REPORT DATE: December 21, 1998 **AUTHOR:** RFF

SITE INFORMATION

Site Reference: TA-V LWDS-MW1, SNL, NM
Customer Purchase Order Number: TA-V LWDS-MW1
Gore Production Order Number: 093733 **Gore Site Code:** AVJ

FIELD PROCEDURES

 # Modules shipped: 8 *
Installation Date(s): 11/23/98 **# Modules Installed:** 8
Field work performed by: Sandia National Laboratories

Retrieval date(s): 12/7/98 **Exposure Time:** 14 [days]
 # Modules Retrieved: 7 **# Trip Blanks Returned:** 1
 # Modules Lost in Field: 0 **# Unused Modules Returned:** 0

Date/Time Received by Gore: 12/8/98 @ 1:10 PM **By:** TC
Recorded Cooler/Water Temperature Control Blank temperature: 7.2 [°C]
Chain of Custody Form attached: √
Chain of Custody discrepancies: None
Comments: * The modules used for this project were part of a larger shipment of modules originally intended for use on another project.

GORE-SORBER® Screening Survey
Final Report

ANALYTICAL PROCEDURES

W.L. Gore & Associates' Screening Module Laboratory operates under the guidelines of its Quality Assurance Manual, Operating Procedures and Methods. The quality assurance program is consistent with Good Laboratory Practices (GLP) and ISO Guide 25, "General Requirements for the Competence of Calibration and Testing Laboratories", third edition, 1990. The Laboratory is audited regularly by a quality system design, development and auditing company.

Instrumentation consists of state of the art gas chromatographs equipped with mass selective detectors, coupled with automated thermal desorption units. Sample preparation simply involves cutting the tip off the bottom of the sample module and transferring one or more exposed sorbent containers (sorbers, each containing 40mg of a suitable granular adsorbent) to a thermal desorption tube for analysis. Sorbers remain clean and protected from dirt, soil, and ground water by the insertion/retrieval cord, and require no further sample preparation. Samples remain frozen until analysis and unanalyzed sorbers are archived in the freezer for potential future analysis.

Analytical Method Quality Assurance:
The analytical method employed is a modified EPA method 8260A/8270B. Before each run sequence, two instrument blanks, a sorber containing 5µg BFB (Bromofluorobenzene), and a method blank are analyzed. The BFB mass spectra must meet the criteria set forth in the method before samples can be analyzed. A method blank and a sorber containing BFB is also analyzed after every 30 samples and/or trip blanks. Standards containing the selected target compounds at three calibration levels of 5, 20, and 50µg are analyzed at the beginning of each run. The criterion for each target compound is less than 35% RSD (relative standard deviation). If this criterion is not met for any target compound, the analyst has the option of generating second- or third-order standard curves, as appropriate. A second-source reference standard, at a level of 10µg per target compound, is analyzed after every ten samples and/or trip blanks, and at the end of the run sequence. Positive identification of target compounds is determined by 1) the presence of the target ion and at least two secondary ions; 2) retention time versus reference standard; and, 3) the analyst's judgment.

NOTE: All data have been archived. Any replicate sorbers not used in the initial analysis will be discarded fifteen (15) days from the date of analysis.

Laboratory analysis: thermal desorption, gas chromatography, mass selective detection
Quality Assurance Level: 2 (ANA-4/A1)
Instrument ID: # 3 **Chemist:** JW **Data Subdirectory:** 093733
Compounds/mixtures requested: Gore Standard VOC/SVOC Target Compounds (A1)
Deviations from Standard Method: None
Comments: Soil vapor analytes and abbreviations are tabulated in the Data Table Key (page 6).

GORE-SORBER® Screening Survey
Final Report

DATA TABULATION

 # CONTOUR MAPS ENCLOSED: No maps were generated from these data.

NOTE: All data values presented in Appendix A represent masses of compound(s) desorbed from the GORE-SORBER Screening Modules received and analyzed by W.L. Gore, as identified in the Chain of Custody (Appendix A). The measurement traceability and instrument performance are reproducible and accurate for the measurement process documented. Semi-quantitation of the compound mass is based on either a single-level (QA Level 1) or three-level (QA Level 2) standard calibration.

General Comments:

- This survey reports soil gas mass levels present in the vapor phase. Vapors are subject to a variety of attenuation factors during migration away from the source concentration to the module. Thus, mass levels reported from the module will often be less than concentrations reported in soil and groundwater matrix data. In most instances, the soil gas masses reported on the modules compare favorably with concentrations reported in the soil or groundwater (e.g., where soil gas levels are reported at greater levels relative to other sampled locations on the site, matrix data should reveal the same pattern, and vice versa). However, due to a variety of factors, a perfect comparison between matrix data and soil gas levels can rarely be achieved.
- Soil gas signals reported by this method cannot be identified to soil adsorbed, groundwater, and/or free-product contamination. The soil gas signal reported from each module can evolve from all of these sources. Differentiation between soil and groundwater contamination can only be achieved with prior knowledge of the site history (i.e., the site is known to have groundwater contamination only).
- QA/QC trip blank modules were provided to document contamination occurring that was not part of the soil gas signal of interest (i.e., impact during module shipment, installation and retrieval, and storage). The trip blanks are identically manufactured and packaged soil gas modules to those modules placed in the subsurface. However, the trip blanks remain unopened during all phases of the soil gas survey. Levels reported on the trip blanks may indicate potential impact to modules other than the contaminant source of interest.

GORE-SORBER® Screening Survey
Final Report

- Unresolved peak envelopes (UPEs) are represented as a series of compound peaks clustered together around a central GC elution time in the total ion chromatogram. Typically, UPEs are indicative of complex fluid mixtures that are present in the subsurface. UPEs observed early in the chromatogram are considered to indicate the presence of more volatile fluids, while UPEs observed later in the chromatogram may indicate the presence of less volatile fluids. Multiple UPEs may indicate the presence of multiple complex fluids.

Project Specific Comments:

- Stacked total ion chromatograms (TIC's) are included in Appendix A. The last four digits of each module number are incorporated into the TIC identification (e.g.: AVJ0989TC.D represents module #150989).
- No target compounds were detected on the trip blanks or the method blanks above the MDL except undecane. Therefore target compounds detected on the field-exposed modules in excess of the levels found on any blank sample are likely derived from the field exposure.
- Several target compounds were detected on the field-installed modules at moderate to high levels.

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GORE-SORBER® Screening Survey
Final Report

KEY TO DATA TABLE
TA-V LWDS-MW1, SNL, NM

UNITS

µg	micrograms (per sorber), reported for compounds
MDL	method detection limit
bdl	below detection limit
nd	non-detect

ANALYTES

BTEX	combined masses of benzene, toluene, ethylbenzene and total xylenes (Gasoline Range Aromatics)
BENZ	benzene
TOL	toluene
EtBENZ	ethylbenzene
mpXYL	m-, p-xylene
oXYL	o-xylene
C11,C13&C15	combined masses of undecane, tridecane, and pentadecane (C11+C13+C15) (Diesel Range Alkanes)
UNDEC	undecane
TRIDEC	tridecane
PENTADEC	pentadecane
TMBs	combined masses of 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene
135TMB	1,3,5-trimethylbenzene
124TMB	1,2,4-trimethylbenzene
ct12DCE	cis- & trans-1,2-dichloroethene
t12DCE	trans-1,2-dichloroethene
c12DCE	cis-1,2-dichloroethene
NAPH&2-MN	combined masses of naphthalene and 2-methyl naphthalene
NAPH	naphthalene
2MeNAPH	2-methyl naphthalene
MTBE	methyl t-butyl ether
11DCA	1,1-dichloroethane
$CHCl_3$	chloroform
111TCA	1,1,1-trichloroethane
12DCA	1,2-dichloroethane
CCl_4	carbon tetrachloride
TCE	trichloroethene
OCT	octane
PCE	tetrachloroethene
ClBENZ	chlorobenzene
14DCB	1,4-dichlorobenzene

BLANKS

TBn	unexposed trip blanks, travels with the exposed modules
method blank	QA/QC module, documents analytical conditions during analysis

APPENDIX A:

1. CHAIN OF CUSTODY
2. DATA TABLE
3. STACKED TOTAL ION CHROMATOGRAMS

SF 2001-COC (10-97)

Supersedes (5-97) issue

Internal Lab Batch No.

ANALYSIS REQUEST AND CHAIN OF CUSTODY

SAR/WR No.

Press F1 for instructions for each field.

AR/COC- SNL7219162

Dept. No./Mail Stop: 6133/1147
Project/Task Manager: Anh Lai
Project Name: TA-V Groundwater
Record Center Code:
Logbook Ref. No.:
Service Order No.: NA (charge)

Date Samples Shipped: SMO USE
Carrier/Waybill No.:
Lab Contact: Jay Hodny.
Lab Destination: GORE & Associates
SMO Contact/Phone: NA
Send Report to SMO: NA -

Contract No.: NA
Case No.: 7219.162
SMO Authorization NA
Bill to: Sandia National Laboratories Contact
Supplier Services, Dept. Anh Lai
P.O. Box 5800 MS 0154 284-2476

Location Tech Area TA-V
Building Room

Reference LOV (available at SMO)

Sample No. - Fraction	ER Sample ID or Sample Location Detail	Beginning Depth in Ft.	ER Site No.	Date/Time Collected	Sample Matrix	Container Type	Container Volume	Preservative	Sample Collection Method	Sample Type	Parameter & Method Requested	LAB USE Lab Sample ID
NA -	150989	489.30	5	12/7/98	Water	NA	NA	None		GORES	Chlorinated Solvents	
-	150990	489.70	5		Air			4°C		GORES	and fuel hydrocarbons	
-	150991	475.70	5		Air							
-	150992	440.70	5		Air						Sorbers installed	
-	150993	390.70	5		Air						<1105> 11/23/98	
-	150994	240.70	5		Air							
-	150995	65.70	5		Air							
-	150996 - (trip blank)	—	5		Air							
-	<End>										<End>	
-												

RMMA ☐ Yes ☒ No Ref. No.

Sample Disposal ☐ Return to Client ☒ Disposal by lab

Sample Tracking SMO USE
Date Entered (mm/dd/yy)
Entered by

Special Instructions/QC Requirements
EDD ☐ Yes ☒ No
Raw data package ☒ Yes ☐ No
No maps needed (price break?) vertical into only
Please list as separate report.

Abnormal Condition on Receipt LAB USE

Turnaround Time ☐ Normal ☐ Rush Required Report Date

QC Inits

Sample Team Members	Name	Signature	Init	Company/Organization/Phone
	Stacy Griffith			
	Grace Haggerty	Grace Haggerty	GH	GRAM Inc

1. Relinquished by	Grace M Haggerty	Org. 6133	Date 12/7/98	Time 1600 hrs	4. Relinquished by	Org.	Date
1. Received by	Jay Hodny	Org. 6133	Date 12/7/98	Time 1602 hrs	4. Received by	Org.	Date
2. Relinquished by		Org.	Date	Time	5. Relinquished by	Org.	Date
2. Received by	12/8/98	Org.	Date	Time	5. Received by	Org.	Date
3. Relinquished by		Org.	Date	Time	6. Relinquished by	Org.	Date
3. Received by		Org.	Date	Time	6. Received by	Org.	Date

Original To Accompany Samples, Laboratory Copy (White) **1st Copy** To Accompany Samples, Return to SMO (Blue) **2nd Copy** SMO Suspense Copy (Yellow) **3rd Copy** Field Copy (Pink)

Send results to Grace Haggerty Sandia Natl Labs, PO Box 5800, Albq NM 87185
Refer to memo

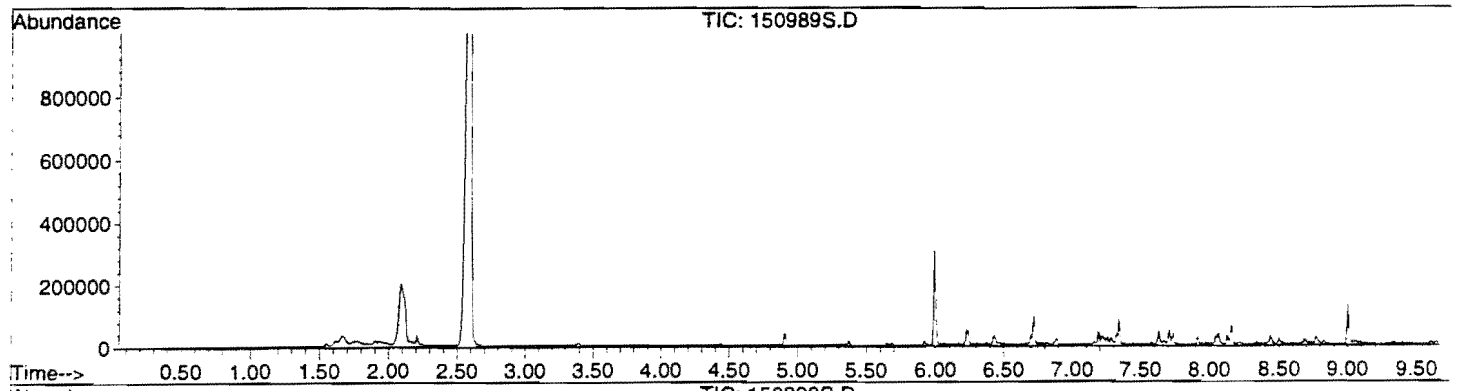
GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
SANDIA NATIONAL LABORATORIES, ALBUQUERQUE, NM
GORE STANDARD TARGET VOCs/SVOCs (A1)
TA-V GROUNDWATER
SITE AVJ - PRODUCTION ORDER #093733

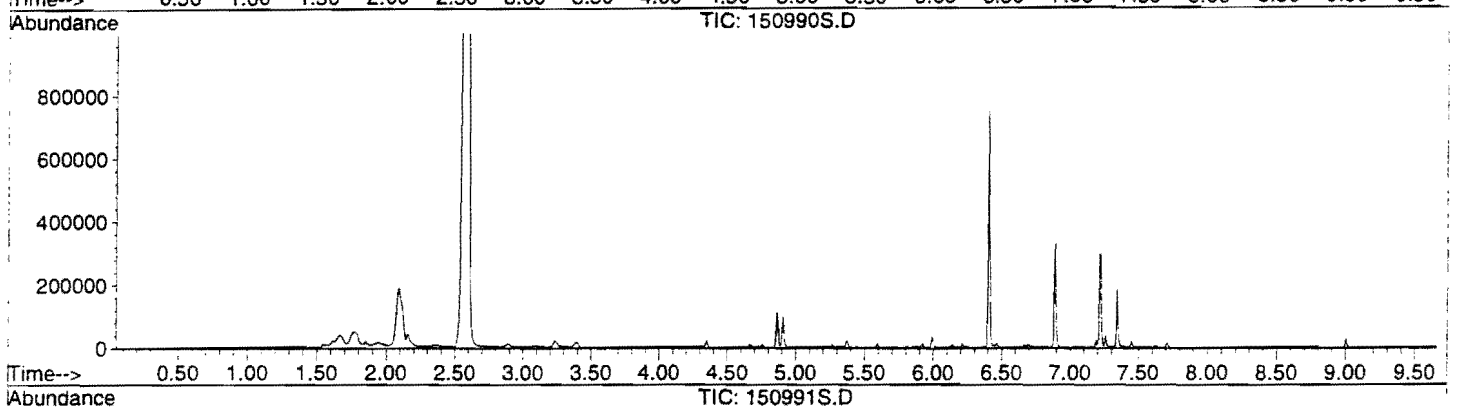
DATE ANALYZED	SAMPLE NAME	BTEX, ug	BENZ, ug	TOL, ug	EtBENZ, ug	mpXYL, ug	oXYL, ug	C11, C13, &C15, ug	UNDEC, ug	TRIDEC, ug	PENTADEC, ug	124TMB, ug	135TMB, ug	ct12DCE, ug
	MDL=	0.02	0.06	0.03	0.02	0.04	0.04	0.05	0.06	0.06	0.05	0.04	0.03	0.02
12/09/98	150989	0.04	bdl	nd	nd	nd	nd	0.08	bdl	bdl	bdl	nd	nd	3.53
12/09/98	150990	0.05	bdl	nd	nd	nd	nd	0.10	bdl	bdl	bdl	nd	nd	3.31
12/09/98	150991	nd	nd	nd	nd	nd	nd	0.34	0.07	0.19	0.09	nd	nd	1.53
12/09/98	150992	nd	nd	nd	nd	nd	nd	0.09	bdl	bdl	bdl	nd	nd	0.42
12/09/98	150993	nd	nd	nd	nd	nd	nd	0.10	bdl	bdl	0.06	nd	nd	nd
12/09/98	150994	nd	nd	nd	nd	nd	nd	0.13	bdl	bdl	0.08	nd	nd	nd
12/09/98	150995	nd	nd	nd	nd	nd	nd	0.14	bdl	bdl	0.10	nd	nd	nd
12/09/98	TB1 - 150996	nd	nd	nd	nd	nd	nd	0.14	0.11	bdl	bdl	bdl	nd	nd
12/09/98	method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
		BTEX, ug	BENZ, ug	TOL, ug	EtBENZ, ug	mpXYL, ug	oXYL, ug	C11, C13, &C15, ug	UNDEC, ug	TRIDEC, ug	PENTADEC, ug	124TMB, ug	135TMB, ug	ct12DCE, ug
	Maximum	0.05	0.05	0.00	0.00	0.00	0.00	0.34	0.07	0.19	0.10	0.00	0.00	3.53
	Standard Dev.	0.02	0.02	0.00	0.00	0.00	0.00	0.09	0.02	0.06	0.03	0.00	0.00	1.58
	Mean	0.01	0.01	0.00	0.00	0.00	0.00	0.14	0.03	0.05	0.06	0.00	0.00	1.26

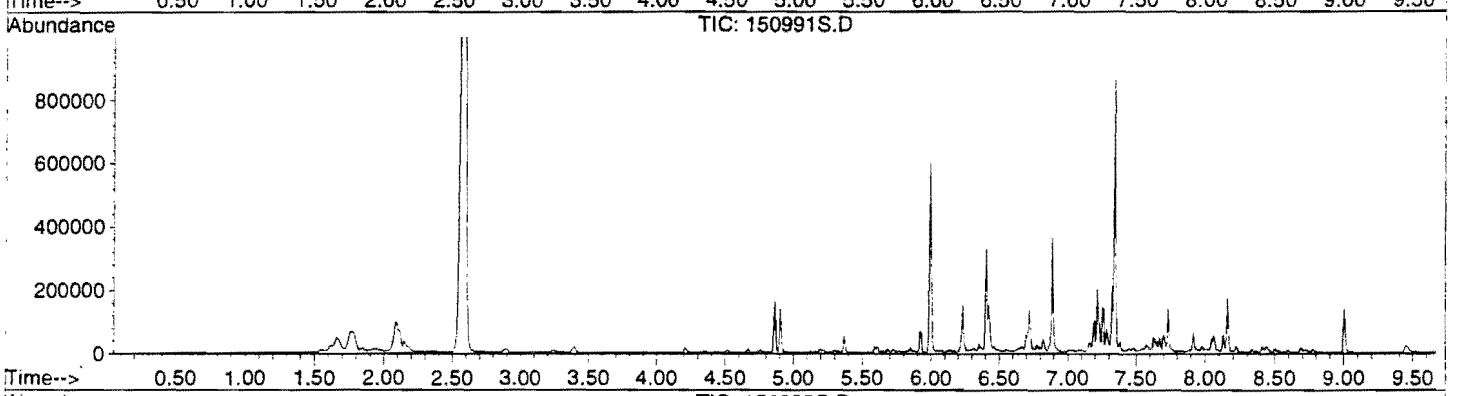
GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
SANDIA NATIONAL LABORATORIES, ALBUQUERQUE, NM
GORE STANDARD TARGET VOCs/SVOCs (A1)
TA-V GROUNDWATER
SITE AVJ - PRODUCTION ORDER #093733

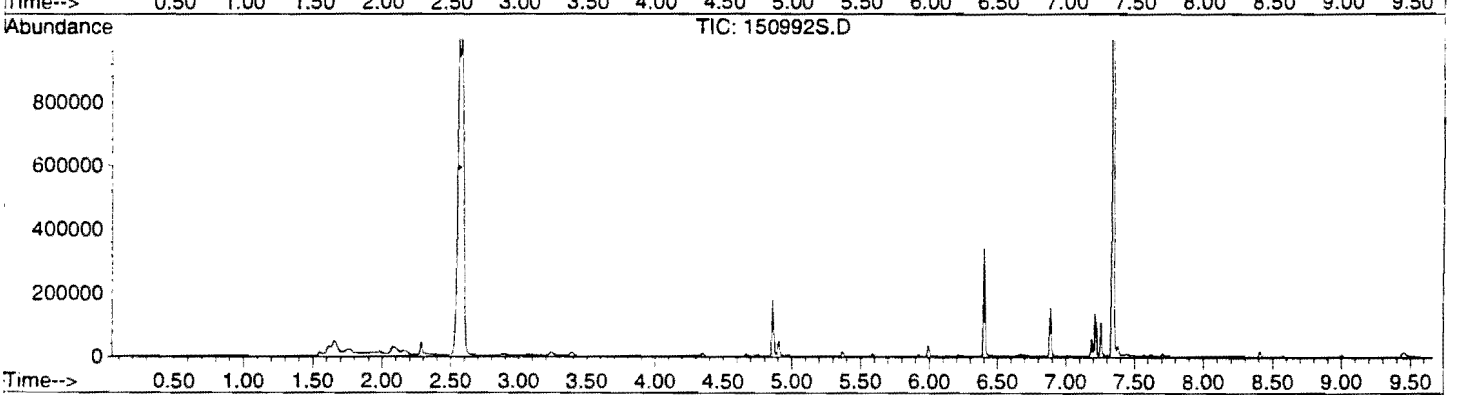
SAMPLE NAME	t12DCE, ug	c12DCE, ug	NAPH, ug	2MeNAPH, ug	MTBE, ug	11DCA, ug	111TCA, ug	12DCA, ug	TCE, ug	OCT, ug	PCE, ug	14DCB, ug	CHCl3, ug	CCl4, ug	ClBENZ, ug
MDL=	0.04	0.02	0.06	0.06	0.16	0.03	0.04	0.04	0.02	0.29	0.04	0.02	0.04	0.04	0.04
150989	bdl	3.50	nd	bdl	nd	nd	nd	nd	27.72	nd	0.09	bdl	0.09	nd	nd
150990	bdl	3.28	bdl	bdl	nd	nd	nd	nd	51.14	nd	0.18	0.34	0.11	nd	nd
150991	bdl	1.52	nd	bdl	nd	nd	nd	nd	30.91	nd	0.19	0.48	0.07	nd	nd
150992	nd	0.42	nd	bdl	nd	nd	nd	nd	17.80	nd	0.14	0.53	0.05	nd	nd
150993	nd	nd	nd	bdl	nd	nd	nd	nd	5.90	nd	0.11	0.41	nd	nd	nd
150994	nd	nd	nd	nd	nd	nd	nd	nd	1.20	bdl	0.08	0.31	nd	nd	nd
150995	nd	nd	nd	nd	nd	nd	nd	nd	0.90	nd	bdl	0.16	nd	nd	nd
TB1 - 150996	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	t12DCE, ug	c12DCE, ug	NAPH, ug	2MeNAPH, ug	MTBE, ug	11DCA, ug	111TCA, ug	12DCA, ug	TCE, ug	OCT, ug	PCE, ug	14DCB, ug	CHCl3, ug	CCl4, ug	ClBENZ, ug
Maximum	0.03	3.50	0.02	0.01	0.00	0.00	0.00	0.00	51.14	0.02	0.19	0.53	0.11	0.00	0.00
Standard Dev.	0.01	1.56	0.01	0.01	0.00	0.00	0.00	0.00	18.56	0.01	0.06	0.18	0.04	0.00	0.00
Mean	0.01	1.25	0.00	0.01	0.00	0.00	0.00	0.00	19.37	0.00	0.12	0.32	0.04	0.00	0.00

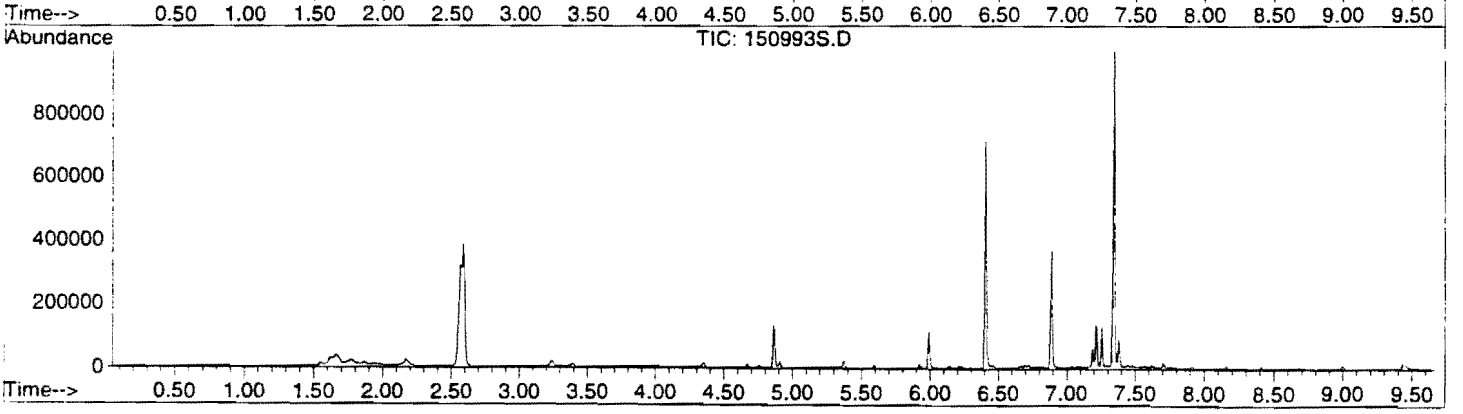
TIC - SITE AVK - PRODUCTION ORDER #98747
In Sequence Order



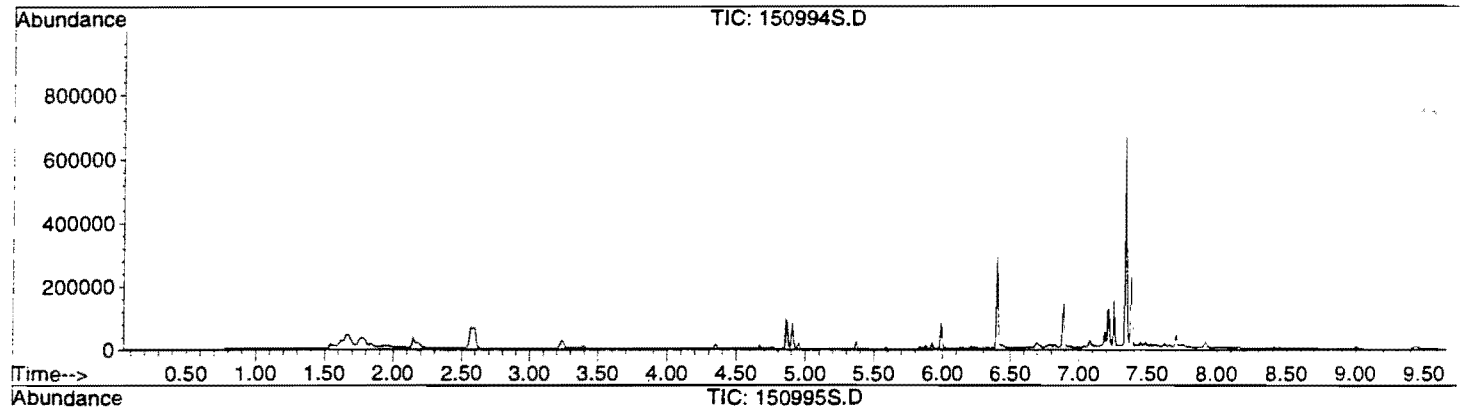


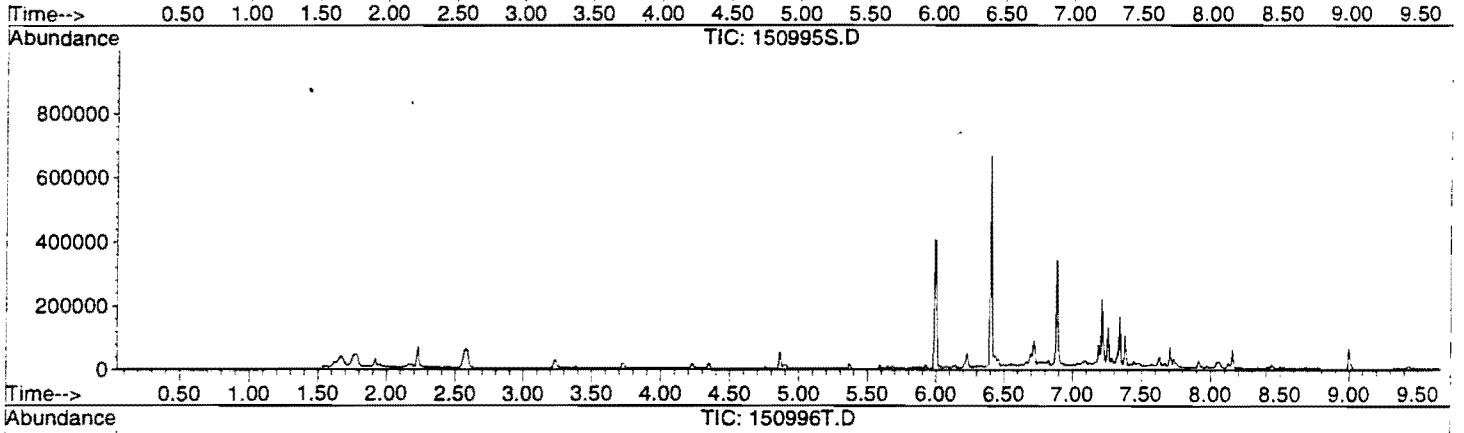


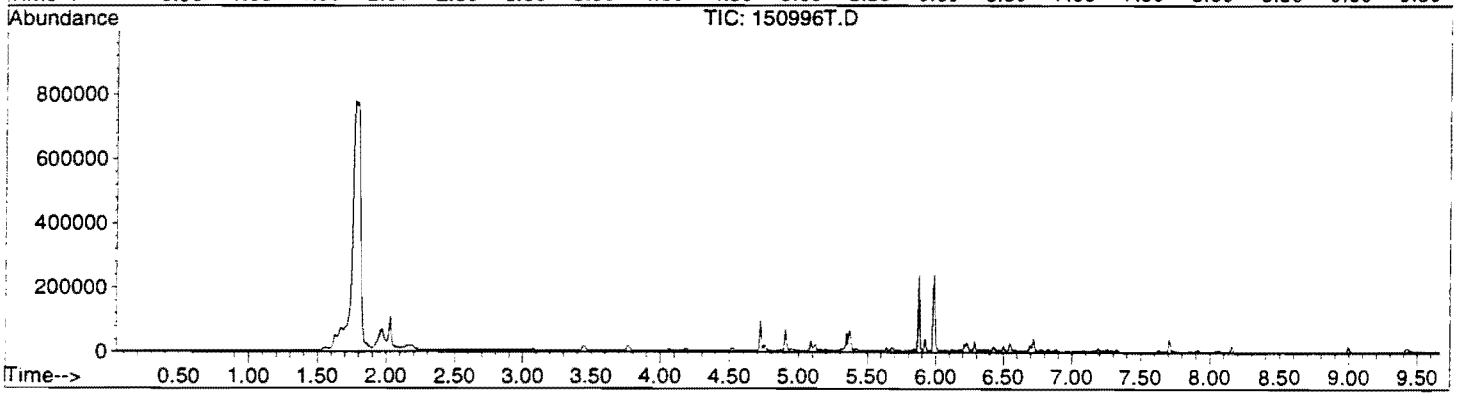




TIC - SITE AVK - PRODUCTION ORDER #98747
In Sequence Order







ATTACHMENT 9

FLOW MODELING OF THE LIQUID WASTE DISPOSAL SYSTEM
TECHNICAL AREA 5
SANDIA NATIONAL LABORATORIES, INTERA, INC.
SEPTEMBER 12, 1991

INFORMATION ONLY

FLOW MODELING OF THE LIQUID WASTE DISPOSAL SYSTEM TECHNICAL AREA 5 SANDIA NATIONAL LABORATORIES

Submitted to:

Sandia National Laboratories
Division 3223

Submitted by:

INTERA Inc.
8100 Mountain Rd. NE
Suite 204
Albuquerque, NM 87110
Telephone: (505) 260-1100
Telecopier: (505) 265-7980

September 12, 1991

Contract 12-0722

Flow Modeling of the Liquid Waste Disposal System Technical Area 5, Sandia National Laboratories

Introduction

A series of variably saturated flow simulations have been conducted to provide scoping estimates of hydraulic head and moisture content distributions below a drainfield comprising part of the Liquid Waste Disposal System (LWDS), Technical Area 5, Sandia National Laboratories. The simulations, which covered a 28-year period beginning in 1963 and extending through 1990, accounted for subsurface water movement within the 500-foot deep vadose zone separating the drainfield from the underlying saturated zone. Disposal water was discharged to the drainfield during the period 1963 through 1967.

The modeling for this investigation was approximate in the sense that no attempt was made to perform model calibration. Rather, the simulations made were based on relatively simple flow systems that were assumed to consist of mostly homogeneous materials. The intent of this approach was to provide rough estimates of hydraulic potentials and moisture contents that will be encountered during drilling and monitoring operations to be conducted at the LWDS site in Fall 1991.

Modeling Approach

At this time, no field data has been collected from the LWDS site. Consequently, the parameters used to represent hydraulic properties of materials underlying the site were estimated mostly using information from nearby sites in Technical Area 3. As previously stated, most of the simulations have been conducted for assumed homogeneous domains; however, some of the model runs have also attempted to account for the effects of relatively extensive sand/gravel layers that have been observed at one of the sites in Technical Area 3.

Several numerical codes capable of simulating variably saturated flow in the vadose zone were considered for this study. On the advice of a committee overseeing this investigation, the USGS flow and transport code VS2DT (Healy et al., 1990) was ultimately selected to perform the modeling. The flow portion of this code was initially developed by Lapalla et al. (1987). VS2DT was chosen for the modeling partly because of its ability to provide efficient and accurate results, and partly because of an effective Newton-Raphson iteration scheme (Lapalla et al., 1987) that is built into the code's equation solver. As part of a code benchmarking study, McCord (1991) discusses the relative benefits provided by VS2DT in comparison to other variably saturated flow codes. VS2DT is designed to solve for flow and transport in either two-dimensional (2-D) planar or axisymmetric cylindral domains. The numerical solution portion of the code is formulated upon finite difference principles. In the case of the LWDS modeling,

VS2DT was used to model 2-D water flow in a vertical cross section that intersects the LWDS drainfield.

Simulation Domain

A schematic representing the simulation domain used in the variably saturated flow modeling is presented in Figure 1. From information provided in the LWDS Phase 1 RFI Work Plan, the drainfield is estimated to be 30 feet deep, 6 feet wide, and 70 feet long. The Phase I RFI Work Plan also indicates that a 36-inch diameter concrete pipe conveying disposal water from the Sandia Engineering Reactor Facility was placed near the base of the drainfield. Characterization work from the Chemical Waste Landfill in Technical Area 3 (Sandia National Laboratories, 1991) indicates that the saturated zone lies between 485 and 495 feet below ground surface. To simulate flow from the drainfield into underlying and adjacent porous media, symmetry was invoked along the drainfield centerline. Thus the variably saturated flow simulations accounted for water movement on only the right side of the drainfield under the assumption that computed hydraulic potential and moisture content distributions would be mirror images of those occurring on the left side.

Selection of Representative Material Properties

Most information used in assuming material properties for the LWDS modeling was taken from data and studies presented for the Technical Area 3 Chemical Waste Landfill (CWL) (McTigue and Stein, 1990; Phelan et al., 1991; Sandia National Laboratories, 1991) and a geologic characterization study of the Technical Area 3 Mixed Waste Landfill (MWL) (Sandia National Laboratories and Ecology and Environment, 1990). Hydraulic parameters for a gravel material incorporated into some of the simulations were taken from information presented in Lapalla et al. (1987) for a clean sand.

Functional relationships between capillary pressure head, volumetric moisture content and unsaturated hydraulic conductivity, as presented by van Genuchten (1978), were used to develop material property input to the VS2DT simulations. The van Genuchten relationship describing moisture-retention data is:

$$\theta = \theta_r + (\theta_s - \theta_r)[1 + (\alpha \mid \psi \mid)^N]^{-(N-1)/N} \qquad (1)$$

where θ is the volumetric moisture content, θ_r is the residual moisture content, θ_s is moisture content at saturation, ψ is capillary pressure head, and α and N are curve-fitting parameters. Based on theory presented by Mualem (1976), the van Genuchten relationship describing unsaturated hydraulic conductivity (K) dependence on moisture content is:

$$K = K_s S_e^{1/2}[1 - (1 - S_e^{N(N-1)})^{(N-1)/N}]^2 \quad (2)$$

where K_s is the saturated hydraulic conductivity and S_e is normalized water saturation ($= [\theta - \theta_r]/[\theta_s - \theta_r]$).

Van Genuchten parameters have been determined for 20 samples collected in six shallow borings (49-75 feet deep) placed in the northern part of the Technical Area 3 Chemical Waste Landfill (CWL). The van Genuchten parameters for 29 soil samples collected from Monitoring Well MW-4 (505 feet deep) at the CWL have also been calculated. Summaries of the computed van Genuchten parameters and other measures of the material parameters are provided in Table 1.

The parameters in Table 1 summarizing saturated hydraulic conductivity data (K_s) are noteworthy in that the reported values appear to be somewhat less than would be expected on the basis of material descriptions for the samples for which K_s was measured. For example, the materials collected in the six shallow boreholes at the CWL are typically described as sand with gravel, fine-grained sand, and medium-grained sand. However, the mean measured hydraulic conductivity of these materials is only 0.85 feet per day. Similarly, MW-4 samples are typically given Unified Soil Classifications of SP, SW, SM, and SC. However, the mean hydraulic conductivity of these latter samples is only 1.78 feet per day. Relatively well-sorted gravels and cobbles are also reported in the soils underlying the CWL, yet the maximum reported K_s values in the six shallow boreholes and in MW-4 are about 8 and 11 feet per day, respectively. One potential reason for such apparently low values of saturated hydraulic conductivity is that, during sampling, the coarser-grained materials were not retrieved as readily as those that were fine-grained. In addition, as has been suggested by Phelan et al. (1991), the K_s values on the sampled materials may be affected by sample repacking, with repacked soils exhibiting dry bulk densities that exceed those normally observed in the field.

Preliminary Model Runs

Prior to conducting large model simulations, several preliminary runs were made with VS2DT to test the code's ability to handle estimated drainfield inflow rates and the unsaturated flow properties of materials expected to be used during the simulations. These preliminary runs also served to estimate the horizontal dimension of the simulation domain (Figure 1) that would be needed for modeling lateral spreading of the drainfield water. Findings from these preliminary runs include:

1. The code showed difficulties in achieving convergence when properties representative of coarse-grained materials were used in areas adjacent to those containing fine-grained materials.

2. The code also failed to converge during many runs in which geometric mean relative permeabilities were used to develop intercell conductance terms. On the

other hand, convergence was frequently achieved using arithmetic mean and full upstream weighting values of intercell conductance. According to Lapalla et al. (1987) geometric mean conductances tend to provide the most accurate predictions of unsaturated flow, followed next by arithmetic mean and upstream weighted values. In the interest of achieving convergent solutions while maintaining acceptable accuracy, the decision was made to use arithmetic mean intercell conductances in all predictive simulations.

3. Only minor improvements in code convergence were achieved by adjusting a relaxation parameter associated with the Strongly Implicit Procedure (SIP) equation solver used in VSD2T.

4. Preliminary model runs suggested that water infiltrating from the drainfield may spread laterally as far as 250 feet or more. Correspondingly, the decision was made to set the simulation domain lateral boundary 400 feet from the drainfield centerline.

5. Slight perturbations were observed in pressure head profiles near wetting fronts. These perturbations were more apparent where wetting fronts encountered larger grid blocks. On the basis of the preliminary simulations, the decision was made to use maximum grid block lengths of 10 feet.

Finite Difference Grid

The finite difference grid was designed such that the smallest grid blocks were located in the vicinity of the drainfield, and blocks became progressively larger with distance from the drainfield. A total of 74 rows and 49 columns were used in the finite difference grid, resulting in a total of 3,626 nodes. The vertical and horizontal block spacings for the grid are listed in Table 2.

Table 1 Material Properties Summary

Property	Six Shallow Borings - CWL (20 samples)	Monitoring Well MW-4 (29 samples)
Mean θ_s	0.388	0.33
Range θ_s	0.290 - 0.582	0.29 - 0.38
Standard Deviation θ_s	0.063	0.016
Coefficient of Variation θ_s	16%	4.8%
Mean θ_r	0.086	0.072
Range θ_r	0.0283 - 0.1761	0.00 - 0.145
Standard Deviation θ_r	0.0405	0.037
Coefficient of Variation θ_r	47%	51%
Mean α (ft^{-1})	0.463	0.716
Range α (ft^{-1})	0.195 - 1.231	0.186 - 3.322
Standard Deviation α (ft^{-1})	0.250	0.602
Coefficient of Variation α	54%	84%
Mean N	1.871	1.646
Range N	1.443 - 2.286	1.24 - 4.15
Standard Deviation N	0.127	0.560
Coefficient of Variation N	7%	34%
Mean K_s (ft/day)	0.85	1.58
Range K_s (ft/day)	0.020 - 7.965	0.01 - 10.77
Standard Deviation K_s (ft/day)	1.778	2.83
Coefficient of Variation K_s	209%	179%

Table 2 Finite Difference Grid Spacing

Vertical Grid Spacing (Feet)

Ground Surface ↓ Base of Drainfield ↓

5, 5, 5, 4, 3, 2, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,

1.5, 2, 2, 2, 2, 3, 4, 6, 7.5, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10,

10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10,

10, 10, 10, 10, 10, 10, 10, 10

Horizontal Grid Spacing (Feet):

Drainfield Centerline ↓ Drainfield Wall ↓

1, 1, 1, 1, 1, 1, 1.5, 2, 3, 4, 6, 8, 9.5, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10,

10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10,

10, 10, 10, 10, 10, 10, 10, 10, 10

Table 3 Annual Drainfield Discharges

Year	Average Rate (ft^3/day)	Rate Per Source Grid Block (ft^3/day)
1963	547.02	1.302
1964	661.67	1.575
1965	334.04	0.795
1966	528.17	1.258
1967	304.74	0.726

Source Term

Table 3 lists the estimated annual water discharges to the LWDS drainfield during the years 1963 through 1967. These flows were accounted for in the model using prescribed fluxes. The average annual discharge per unit length of the drainfield was divided equally between 3 grid blocks located near the base and side of an assumed location for the 36-inch drainfield pipe. The resulting prescribed inflows for each grid block are also listed in Table 3.

Boundary and Initial Conditions

In addition to the prescribed fluxes used to represent inflow from the drainfield, boundary conditions at the base and sides of the model domain were also required. A prescribed capillary pressure head of zero was assigned to the bottom row of model nodes to represent the water table at a depth of 495 feet below ground surface. The left model boundary (i.e., drainfield centerline) and right model boundary were treated as no flow boundaries.

A uniform pressure head of -33 feet was used as the initial condition in all of the homogeneous domain simulations. This value was the same as that assumed in the unsaturated zone portion of the CWL characterization study (Sandia National Laboratories, 1991). No attempt was made to assign prescribed inflows at the ground-surface boundary to account for steady-state downward fluxes occurring as a result of the selected initial pressure condition. Because such background fluxes would be much less than those resulting from drainfield discharges, the effect of ignoring infiltration fluxes at the ground-surface was considered to be minor.

Initial Simulations

Recommendations by the modeling oversight committee called for initial runs to simulate flow in homogeneous media using materials of varying saturated hydraulic conductivity. On the basis of soil properties summarized in Table 1, materials with saturated hydraulic conductivities (K_s) of 0.30, 3.0 and 30 feet per day were selected for the initial simulations. These values, which span two orders of magnitude, were chosen to represent sandy alluvial materials of low to high conductivity. In an effort to develop unsaturated flow parameters characteristic of soils with these three saturated hydraulic conductivities, hydraulic data from samples collected in the six shallow borings at the CWL and Monitoring Well MW-4 were examined for apparent relationships between van Genuchten parameters (θ_s, θ_r, α, N) and associated K_s values. However, no apparent relationship was observed. Consequently it was arbitrarily decided to use mean values of van Genuchten parameters from the 20 samples collected from the six shallow CWL borings with all 3 values of saturated hydraulic conductivity. Parameters from the six shallow borings were assumed to be more representative of average soil properties than were equilavent properties from MW-4 sampling due to the fact that the six borings covered a larger area. Thus, in all of the initial simulations for homogeneous domains, saturated moisture content (θ_r) was 0.086, and parameters α and N were assigned values of 0.463 ft^{-1} and 1.871, respectively.

The above-described procedure for selecting material properties to be used in the initial simulations resulted in a single soil moisture characteristic for all three materials, as shown in Figure 2a. Curves showing unsaturated hydraulic conductivities values corresponding to the three selected saturated conductivity values (K_s = θ.30, 3.0, 30 ft/day) are presented in Figure 2b.

Due to the stratification that is commonly observed in alluvial fill materials like those found at Sandia sites, water flow from the drainfield was also expected to be affected by anisotropy of hydraulic conductivity. To represent such conditions, anisotropy ratios (horizontal hydraulic conductivity divided by vertical hydraulic conductivity) of 10 and 25 were selected for each of the initial model runs using homogeneous media. These latter values were chosen on the basis of calculations with saturated hydraulic conductivity data from Monitoring Well MW-4 samples, which indicated anisotropy ratios ranging from 14 to 32.

Initial Simulation Results
Medium Saturated Hydraulic Conductivity

The first simulations based on a homogeneous domain were conducted using a saturated hydraulic conductivity in the x-direction (K_{sx}) of 3.0 ft/day. The simulations accounted for anisotropy ratios (K_x/K_z) of both 10 and 25. A convergence criterion of 0.0005 ft was used in conjunction with arithmetic mean intercell relative permeabilities. No convergence problems were encountered.

Figures 3a through 3j show computed hydraulic heads and moisture contents for the model run based on a saturated hydraulic conductivity of 3.0 ft/day and an anisotropy ratio of 10. Results are plotted for 1, 5, 10, 20 and 28 years after installation of the LWDS drainfield. Head and moisture content contours at 5 years represent computed results at the end of the drainfield operation in 1967. The 28-year results are considered to be representative of recent conditions (end of 1990).

Figures 3a-3j show that the effects of the pressure pulse created by the drainfield operation are observed at a depth of at least 400 feet and about 170 laterally from the drainfield centerline after 5 years. Moisture contents at this time range from the background value (θ = 0.114) to saturation (θ = 0.388). After 10 years of simulation, the pressure front has reached the water table located at the 495-foot depth. Lateral spreading of the pressure front is limited to about 180 feet, which is only slightly greater than the lateral pressure propagation observed after 5 years. Saturated conditions are no longer observed after 10 years. After 28 years, lateral pressure propagation has reached a horizontal distance of 200 feet, and the greatest concentration of moisture is observed between the 300- and 495-foot depths, directly below the drainfield.

Hydraulic head and moisture content results for the run based on an x-direction saturated hydraulic conductivity of 3.0 ft/day and an anisotropy ratio of 25 are shown in Figures 4a-4j. These plots indicate that the greater degree of anisotropy accounted for in this run slows down

the vertical propagation of the pressure and moisture front in comparison to the vertical movement observed with the same K_s value and an anisotropy ratio of 10. Correspondingly, the lateral movement of pressure is enhanced in the K_x/K_z = 25 run as compared to that observed in the K_x/K_z = 10 run. After 5 years of simulation, the pressure front in this run is about 100 feet shallower than observed during the K_x/K_z = 10 run. After 28 years, the front is located at an approximate depth of 430 feet, still short of the water table. The maximum lateral extent of the pressure pulse at 28 years after drainfield installation is about 250 feet.

Low Saturated Hydraulic Conductivity

The next homogeneous domain simulations were based on the material with a saturated hydraulic conductivity (K_s) of 0.30 ft/day, the lowest of the three K_s values selected for the initial simulations. As in the case of the previous simulations, the runs were based on anisotropy ratios of both 10 and 25. Unfortunately, convergence of the numerical solution was never achieved using this lower K_s value, despite efforts to relax the convergence criterion and use fully upstream-weighted relative hydraulic conductivities. This inability to achieve convergence was attributed to the low value of saturated hydraulic conductivity relative to the drainfield discharge rates listed in Table 3. Application of the per-block source rates given in Table 3 to a medium in which the maximum K value is 0.30 ft/day resulted in very steep pressure gradients and considerable "backing up" of the wetting front. In response to the convergence difficulties, the simulations representative of low hydraulic conductivity conditions were rerun using a saturated K of 1 ft/day. As in the case of previously-described materials, the mean van Genuchten parameters from the six shallow CWL borings were used to develop the soil moisture and hydraulic conductivity characteristics of the material with a K_s of 1 ft/day. Curves showing moisture content and hydraulic conductivity variations with changes in capillary pressure head are shown in Figures 2a and 2b, respectively.

Model runs based on a K_{sx} of 1 ft/day and an anisotropy ratio of 10 were achieved using a convergence criterion of 0.0005 ft and arithmetic mean intercell conductances. The head and moisture content results of these runs are shown in Figures 5a - 5h. As these figures indicate, the low saturated hydraulic conductivity used in these simulations serves to retard vertical movement of the pressure front relative to that observed in comparable model runs based on a K_s of 3.0 ft/day and the same anisotropy ratio (i.e. Figures 3a-3j). In the case of K_s = 1 ft/day, the front arrives at the water table (495 foot-depth) at approximately 20 years after drain installation. In comparison, the pressure front in the simulation based on a K_s of 3.0 ft/day arrives at the water table after a period of only 10 years. Lateral movement of the front is also retarded in the simulations based on the lower K_s value. After 28 years, moisture contents from the simulation based on a K_s of 1 ft/day are considerably higher than those resulting from the model run that employs a K_s of 3 ft/day.

The model run based on a saturated hydraulic conductivity of 1 ft/day and an anisotropy ratio of 25 was difficult to complete due to continual problems with convergence of the numerical solution. To achieve a solution for the full 28-year simulation period, the convergence criterion was relaxed to a value 0.15 feet. As in the case of previous simulations,

an arithmetic mean relative permeability was used to calculate intercell conductances. Although relaxation of the convergence criterion likely affected the accuracy of the simulation, the results of the model run appeared to be reasonable.

Computed hydraulic heads and moisture contents from the model run with K_s = 1 ft/day and an anisotropy ratio of 25 are illustrated in Figures 6a-6j. These results are distinctive in that they show less vertical penetration of the pressure front than occurs in all previous simulations. After 28 years, the front has reached a depth of only 340 feet, compared to a vertical penetration of about 420 feet for the same time from the run based on a K_s of 3 ft/day and an anisotropy ratio of 25. Correspondingly, moisture contents from this run after 28 years remain at much higher values than any of the comparable values computed in earlier runs. If this latest run, which is based on a low overall hydraulic conductivity and a relative large anisotropy ratio, is representative of conditions at the LWDS site, water emanating from the drainfield has yet to reach the water table, and moisture contents below the LWDS site continue to be relatively large.

High Saturated Hydraulic Conductivity

On the basis of recommendations by the committee overseeing the LWDS modeling, a somewhat different approach was taken to simulate flow in a homogeneous domain comprised of the material with a saturated hydraulic conductivity of 30 ft/day. Instead of applying anisotropy ratios of 10 and 25, a separate anisotropy ratio representative of unsaturated conditions was computed and subsequently utilized in this model run based on a high saturated hydraulic conductivity. The procedure used to compute such a ratio utilized the soil properties from the samples collected at the six shallow borings and monitoring well MW-4 at the CWL. Anisotropy ratios at each of several capillary pressure heads were estimated by dividing the computed arithmetic mean hydraulic conductivity at a given pressure by the corresponding harmonic mean hydraulic conductivity. Such calculations were carried out for the full range of pressure heads expected to be observed in the simulations.

Anisotropy calculations with the 20 samples collected at the six shallow CWL borings indicated anisotropy ratios ranging from about 3 to 6. On the other hand, anisotropy ratios for the 29 samples collected from MW-4 ranged from a value of 7 to about 300, and the mean ratio was about 50. The wide variation in ratios for the MW-4 samples was attributed to the relatively large variation of van Genuchten parameters α and N for these materials (see Table 1). The computed α and N values from samples collected in the six shallow boreholes showed considerably less variation. In the interest of simulating conditions more conducive to lateral spreading of water, the decision was made to use the mean anisotropy ratio computed with the MW-4 sample parameters (K_x/K_z = 50) in the model run based on a high value of saturated hydraulic conductivity.

Results from the model run with a saturated hydraulic conductivity in the x-direction (K_{sx}) of 30 ft/day and an anisotropy ratio of 50 are shown in Figures 7a through 7j. These plots indicate that the pressure front created by the drainfield extends laterally at least 400 feet

between 10 and 20 years after the start of drainfield operations. After 28 years, the pressure front is observed at a depth of about 460 feet, slightly above the water table. Due to the ability of the large x-direction hydraulic conductivity to transport water laterally, moisture from the drainfield is not as concentrated in a single area as has occurred in previous simulations. Rather, the moisture is spread more uniformly between the 80-foot and 420-foot depths, and extends laterally to the full width of the simulation domain.

Additional Simulations Based on Continuous Gravel Layers

In addition to the homogeneous domain simulations, several model runs were also performed to account for potential effects of large continuous gravel layers that may exist at the LWDS site. Such gravel layers have been observed at the neighboring Mixed Waste Landfill in Technical Area 3 (Sandia National Laboratories and Ecology and Environment, Inc., 1990). It was initially surmised that high permeability gravel layers at the LWDS site may enhance lateral spreading of moisture in some cases and/or retard vertical penetration of wetting front in others.

Prior to conducting any gravel layer simulations, it was first necessary to select representative properties for such a coarse-grained material. This task was made difficult by complications. First, no samples of coarse gravels in a form sufficient for determination of hydraulic properties have been collected at either the CWL or the MWL in Technical Area 3. Similarly, few to no hydraulic property data exist in the literature for such coarse-grained materials. Thus, it was virtually necessary to estimate properties for the gravel using data from materials that were thought to be most similar to gravels, such as coarse sands. Several references listing unsaturated material properties (e.g. Brooks and Corey, 1964; Clapp and Hornberger, 1978; Mualem, 1976b; Carsel and Parrish, 1988) were examined in search of such a representative sand. Ultimately, the van Genuchten parameters for a material referred to as the Fresno Medium Sand (Lapalla et al., 1987) were selected to represent the gravel. Figure 2a illustrates the soil moisture characteristic for this material and Figure 2b displays its hydraulic conductivity behavior with changing capillary pressure head. In both graphs, the Fresno Medium Sand material is identified by its saturated hydraulic conductivity (K_s) of 1312 ft/day. The soil moisture characteristic and hydraulic conductivity values for this material were computed with Equations 1 and 2 using $\theta_s = 0.375$, $\theta_r = 0.020$, $\alpha = 1.314$ ft^{-1} and N = 3.1

The hydraulic properties of the material used to represent gravel layers in the model runs are distinctive for several reasons:

- The gravel material's saturated hydraulic conductivity of 1312 ft/day is close in magnitude to the mean K_s listed for gravels in McWhorter and Sunada (1984) of 1,142ft/day.

- The materials's volumetric moisture content drops rapidly with increasing capillary pressure head relative to the moisture characteristics of the other soils

used in the simulations (Figure 2a); such behavior is expected of coarse soils (McWhorter and Sunada, 1984).

- Hydraulic conductivity of the gravel material at capillary pressure heads close to atmospheric ($\psi = 0$) is considerably larger than hydraulic conductivities of the other materials used in the simulations (Figure 2b). As capillary pressure head increases, the gravel's hydraulic conductivity becomes progressively less than the hydraulic conductivity of the other materials. Thus, at pressure head close to atmospheric, a gravel layer consisting of this material can be expected to act as a water conduit relative to the other materials. At large values of capillary pressure head, a gravel layer consisting of this material can be expected to act as a water flow barrier.

A uniform initial pressure head of -33 feet was used in all simulations incorporating a gravel layer. Although such initial conditions did not jibe with an equilibrium head profile resulting from a steady downward flux of water, the effect of invoking these initial conditions was felt to be minor. Separate simulations in which initial heads in the gravel layer were set at values close to those expected under equilibrium conditions showed that the assumption of a uniform initial pressure head had little to no effect on simulation results

Results of Additional Simulations

The first simulations based on a continuous gravel layer were performed by inserting a five-foot thick gravel layer at the 35 to 40-foot depth in a domain that otherwise comprised homogeneous material. An anisotropy ratio of 10 was assigned to the gravel layer material and the remaining model area was assigned a saturated hydraulic conductivity of 3 ft/day and an anisotropy ratio of 10. These shallow gravel layer model runs were designed to assess the flow effects of coarse materials located at or near the level at which drainfield water entered the subsurface. Placement of the gravel at such a shallow depth was motivated by the fact that large gravel units have indeed been observed at these depths at the MWL.

Head and moisture content distributions at 5 and 28 years from the first gravel layer simulations are presented in Figures 8a through 8d. The most notable feature of these results is that the gravel layer appears only to have a minor effect on the pressure front movement observed in the homogeneous model run that employed a K_s of 3 ft/day and an anisotropy ratio of 10 (i.e. Figures 3a-3j). At 5 years, the vertical penetration of the pressure front is only slightly less than the vertical penetration observed in the homogeneous domain simulation. At both 5 and 28 years, the hydraulic head profiles from the gravel layer simulation show only mild variations from equivalent head configurations in the homogeneous model run. Computed moisture content distributions from the gravel layer simulation are also very similar to equivalent moisture content distributions from the homogeneous domain model runs. The most notable differences in moisture content occur between depths of 25 and 30 feet, where the gravel material exhibits moisture contents as low as 0.05.

Figures 9a through 9d illustrate simulation results at 5 and 28 years for a model run with the gravel layer at the 25-30 foot depth, and the remaining model area exhibiting a K_s of 3 ft/day and an anisotropy ratio of 25. Thus, this latter simulation differs from the previous shallow gravel layer run only in that the large anisotropy of non-gravel material creates an even greater contrast with the hydraulic conductivity of the gravel. Despite such a large permeability contrast, the gravel layer again appears to have only minor effects on pressure front advancement. Vertical penetration of the front lags slightly behind the vertical penetration computed in the equivalent run without a gravel layer (i.e. Figures 4a-4j). In conjunction with slightly retarded vertical penetration, lateral spreading of the pressure front is slightly enhanced at shallower depths, particularly in the first 50 to 100 feet below the drainfield.

The apparent inability of a shallow gravel layer to radically affect flow patterns and wetting front advancement in domains that are otherwise homogeneous is attributed primarily to strong head gradients in the vertical direction. As a result, the vertical flow component at the interface between the gravel and remaining material remains more prevalent than the lateral flow component within the gravel layer, despite the extremely large saturated hydraulic conductivity of the gravel. Thus, it appears that even stronger contrasts in hydraulic conductivity between the gravel and remaining materials would be required to bring about significantly greater lateral movement of water. To assess the effects of deeper gravel units additional simulations were attempted in which a 5-foot thick gravel layer was placed at a depth of 95-100 feet. This system was selected because some of the most spatially extensive gravel layers at the Mixed Waste Landfill have been observed near a depth of 100 feet (Sandia National Laboratories and Ecology and Environment, Inc., 1990). To accommodate these simulations, the vertical grid disretization listed in Table 2 was revised so that two 2.5-feet thick rows contained the gravel layer. Unfortunately, model convergence was never achieved with any of these latter simulations. Attempts to achieve convergence by refining the grid even further in the gravel layer also failed because the memory capabilities of the computer (16 megabytes) were exceeded. As a consequence, no further efforts were made to simulate the effects of relatively deep gravel layers.

Summary and Conclusions

A series of variably saturated flow simulations have been conducted to provide scoping estimates of hydraulic head and moisture content distributions below a drainfield comprising part of the Liquid Waste Disposal System (LWDS) in Technical Area 5. The simulations are based mostly on assumed homogeneous systems. However, some of the simulations also attempt to account for the effects of extensive gravel layers that have been observed at the neighboring Mixed Waste Landfill in Technical Area 3.

The variably saturated simulations were performed with a model domain that was 500 feet deep and 400 feet wide. A prescribed pressure head boundary condition was assumed at the base of the model domain to represent the water table located at a depth of 495 feet. Prescribed flux boundary conditions were invoked to represent water inflow from the drainfield, which was located in the model's upper left corner. No flow boundary conditions were applied

along the lateral model boundaries. The simulations covered a 28-year period beginning in 1963 and extending through 1990. Disposal water was discharged to the LWDS drainfield during the period 1963 through 1967.

Findings from this modeling investigation are as follows:

1. Simulations conducted with homogeneous materials exhibiting saturated hydraulic conductivities of 3 and 1 ft/day in conjunction with an anisotropy ratio (horizontal hydraulic conductivity divided by vertical hydraulic conductivity) of 10 show that the pressure front resulting from drainfield operations reaches the water table within 10 to 20 years.

2. Simulations performed with homogeneous materials exhibiting saturated hydraulic conductivities of 3 and 1 ft/day in conjunction with an anisotropy ratio of 25 show that the pressure front resulting from drainfield operations does not reach the water table during the 28-year simulation period.

3. A simulation based on homogeneous material with a saturated hydraulic conductivity of 30 ft/day and an anisotropy ratio of 50 shows that the pressure front does not reach the water table during the 28-year simulation period. The lateral extent of the pressure front from this simulation exceeds 400 feet at some depths.

4. Simulations incorporating a high permeability gravel layer near the base of the LWDS drainfield and less permeable homogeneous material elsewhere showed that the gravel had only minor effects on the pressure front movement observed in equivalent homogeneous domains that did not contain the gravel layer.

5. Attempts to simulate the effects of a relatively deep gravel layer located near the 100-foot depth were unsuccessful due to numerical convergence problems and computer memory limitations.

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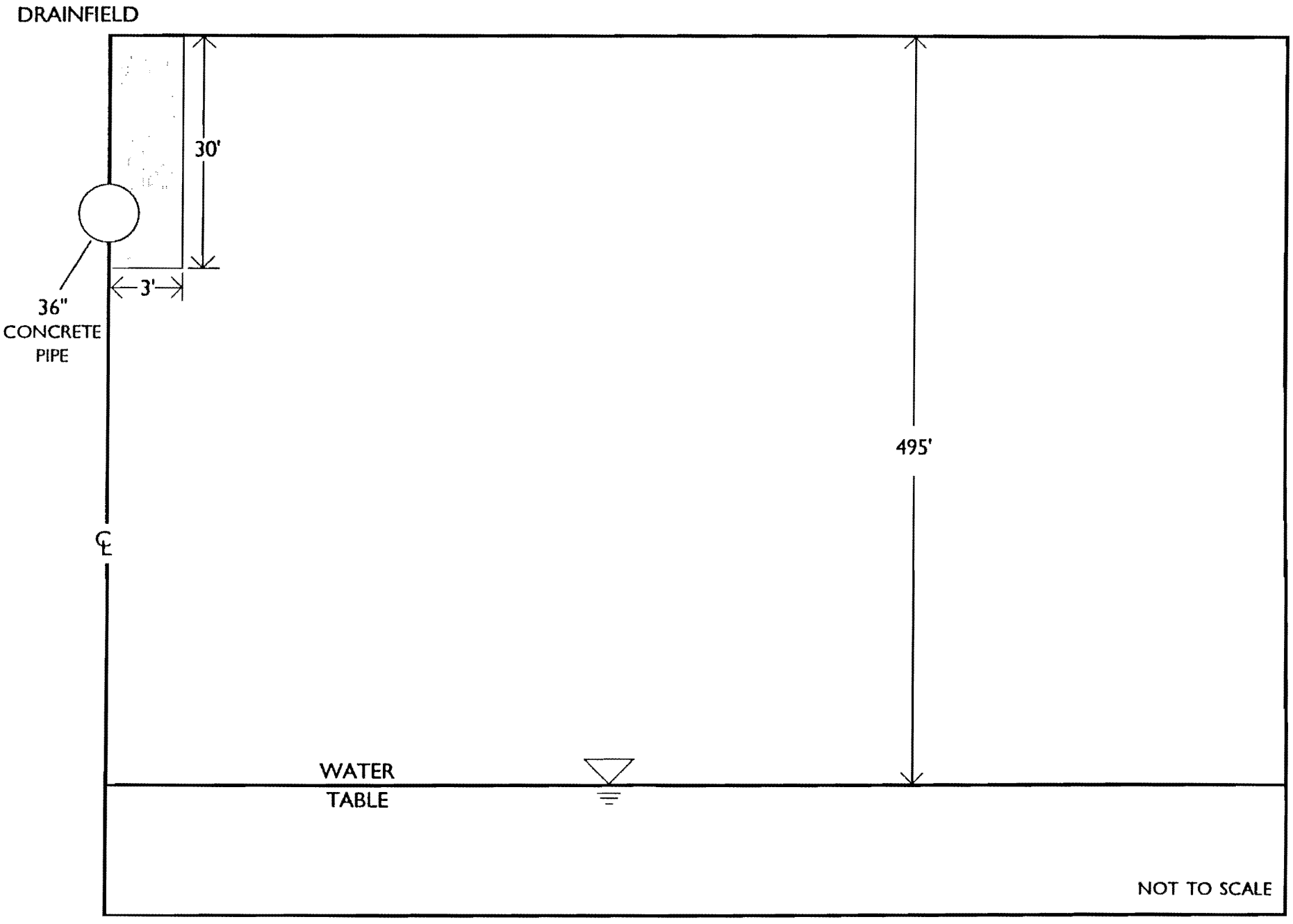


Figure 1 - Simulation Domain

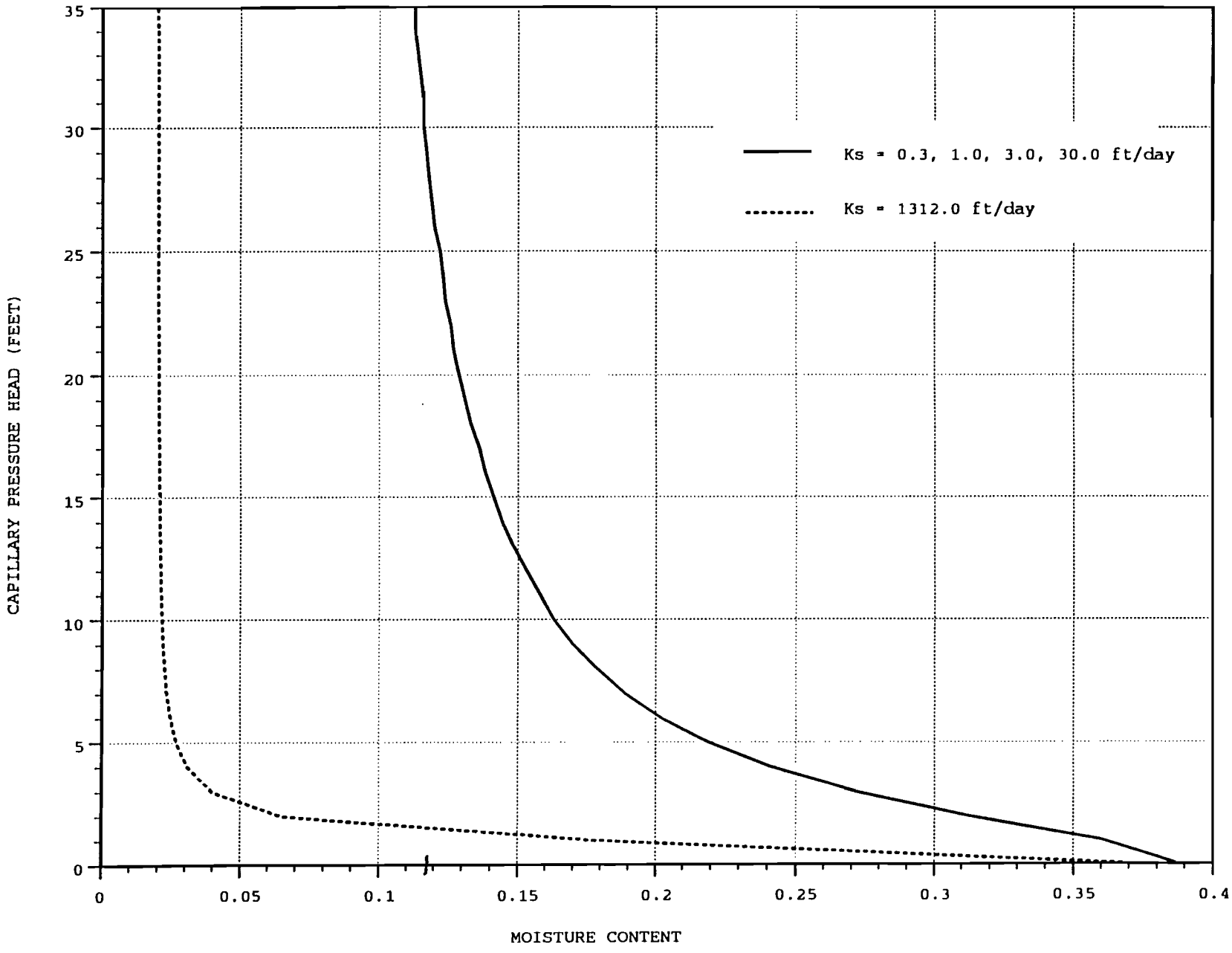


Figure 2a - Soil moisture characteristics.

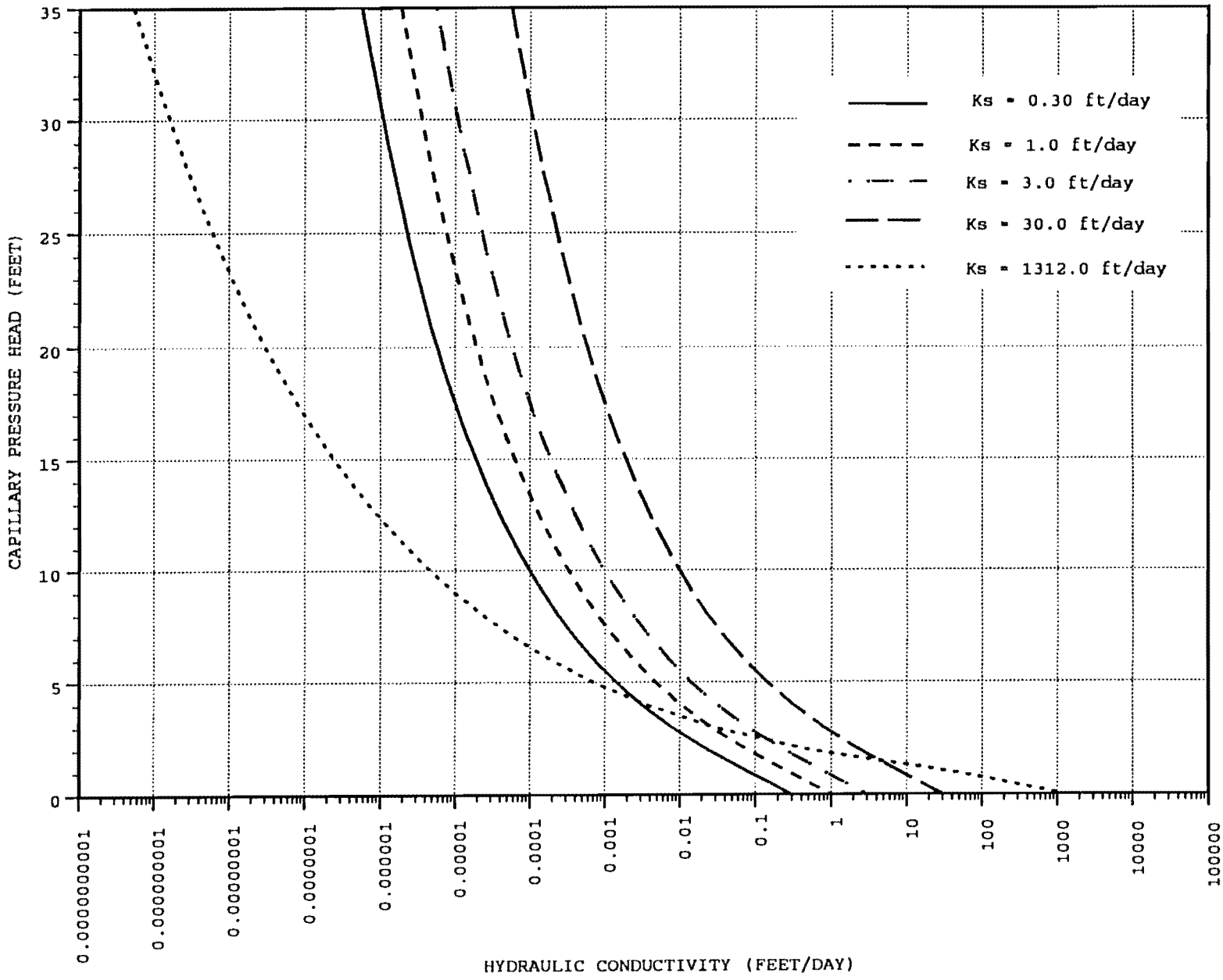


Figure 2b - Unsaturated hydraulic conductivity characteristics.

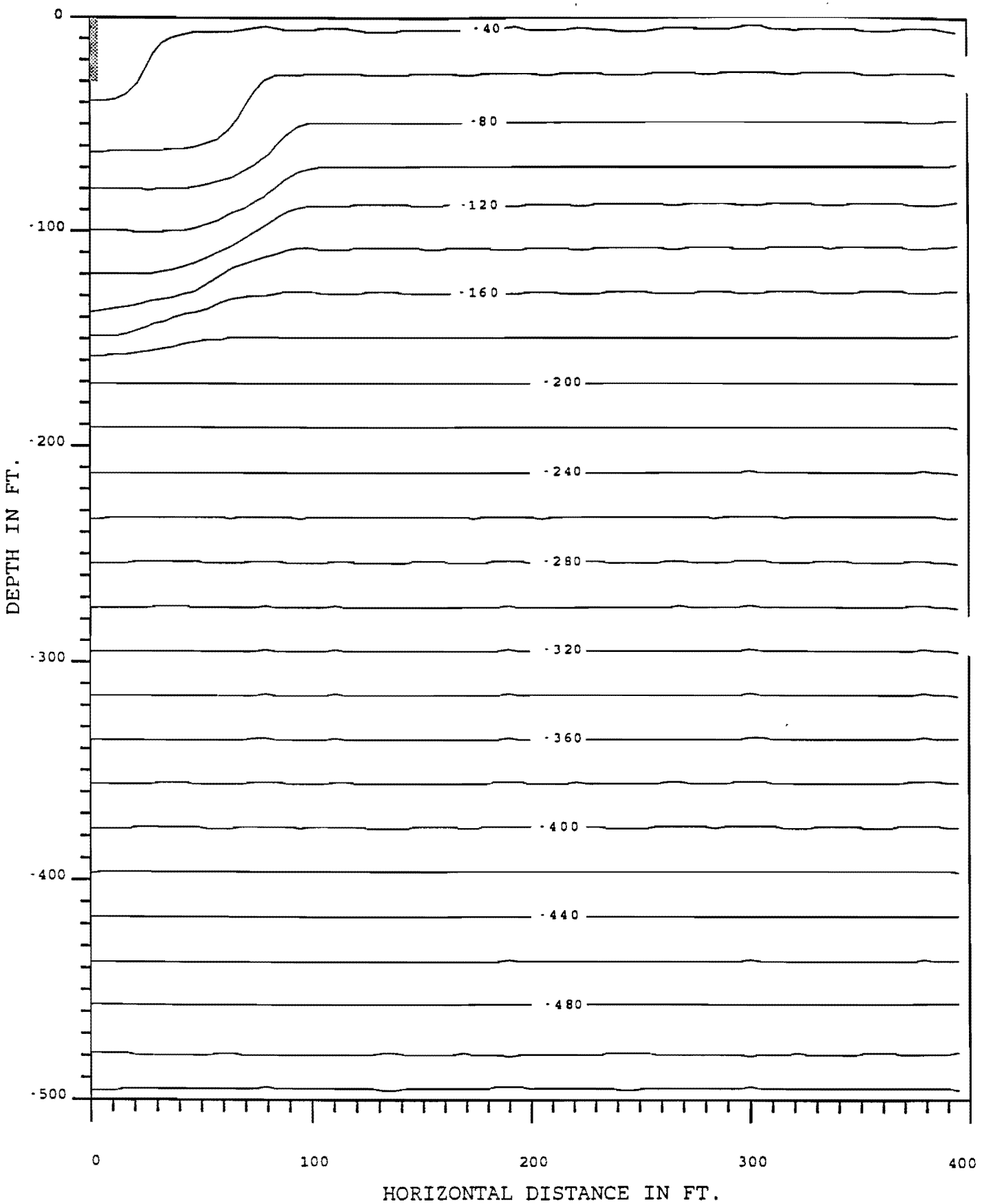


Figure 3a - Hydraulic heads (in feet) at 1 year, homogeneous material, Ksx = 3 ft/day, Kx/Kz = 10.

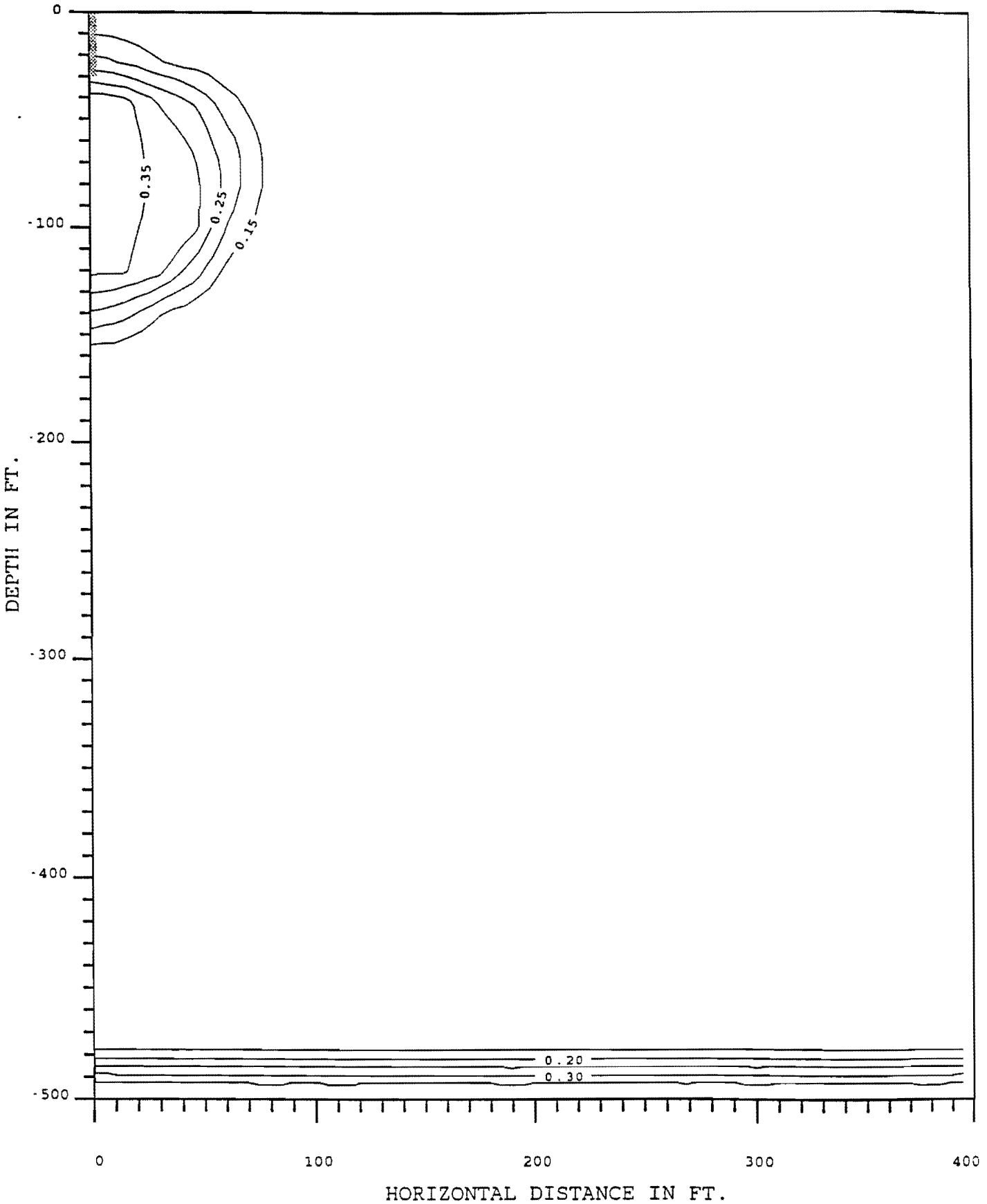


Figure 3b - Volumetric moisture contents at 1 year, homogeneous material, Ksx = 3 ft/day, Kx/Kz = 10.

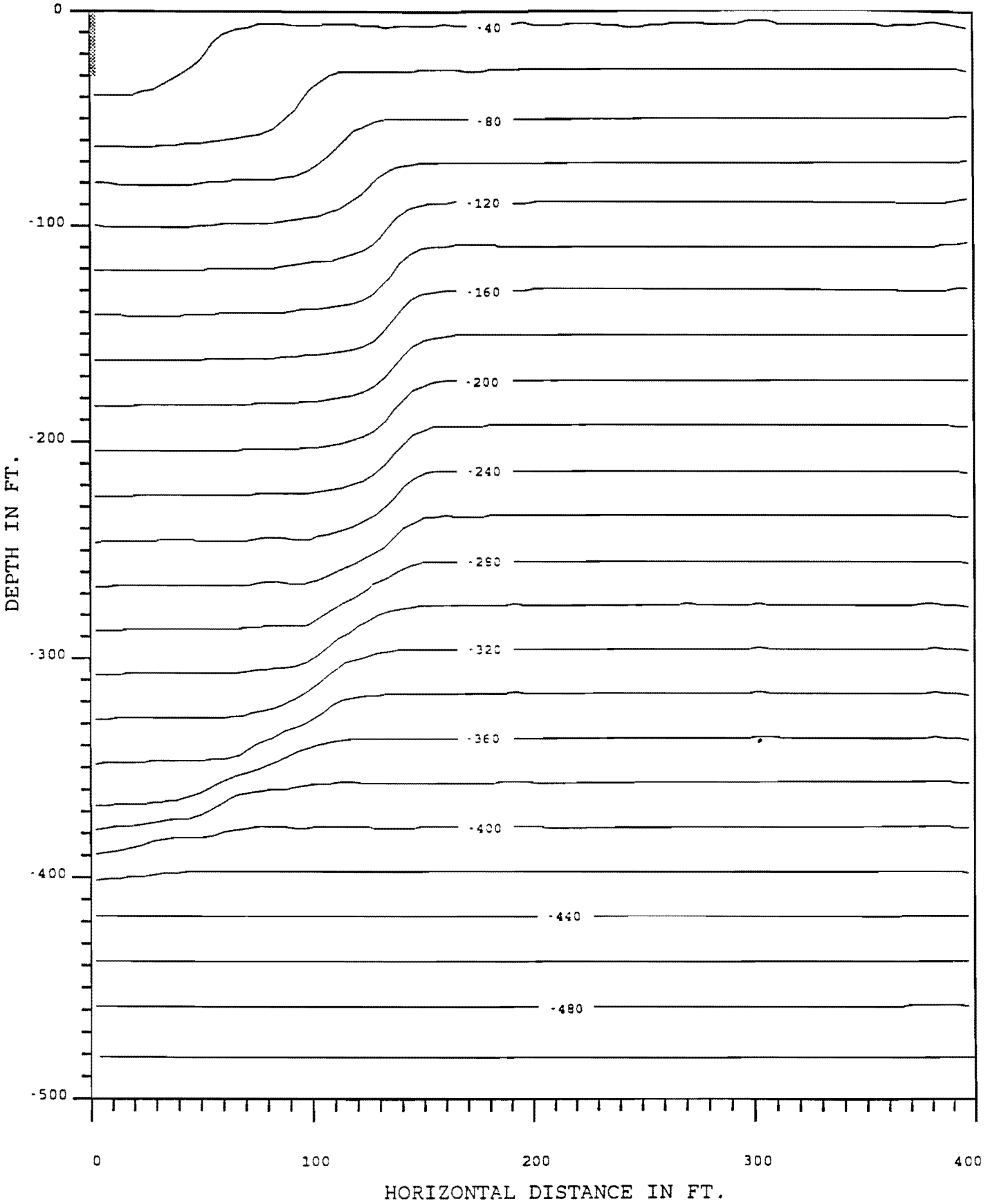
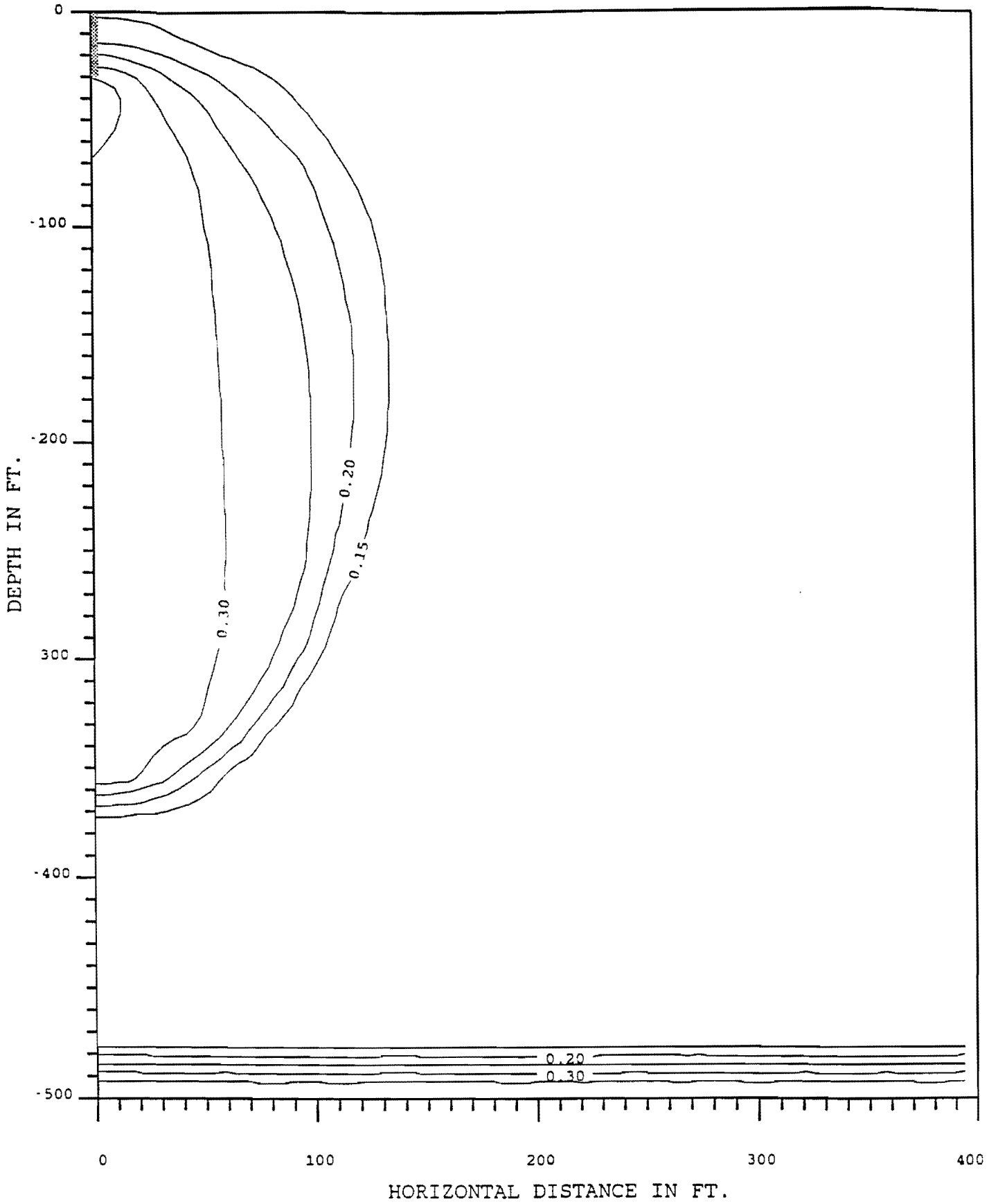


Figure 3c - Hydraulic heads (in feet) at 5 years, homogeneous material, Ksx = 3 ft/day, Kx/Kz = 10.



igure 3d - Volumetric moisture contents at 5 years, homogeneous material, Ksx = 3 ft/day, Kx/Kz = 10.

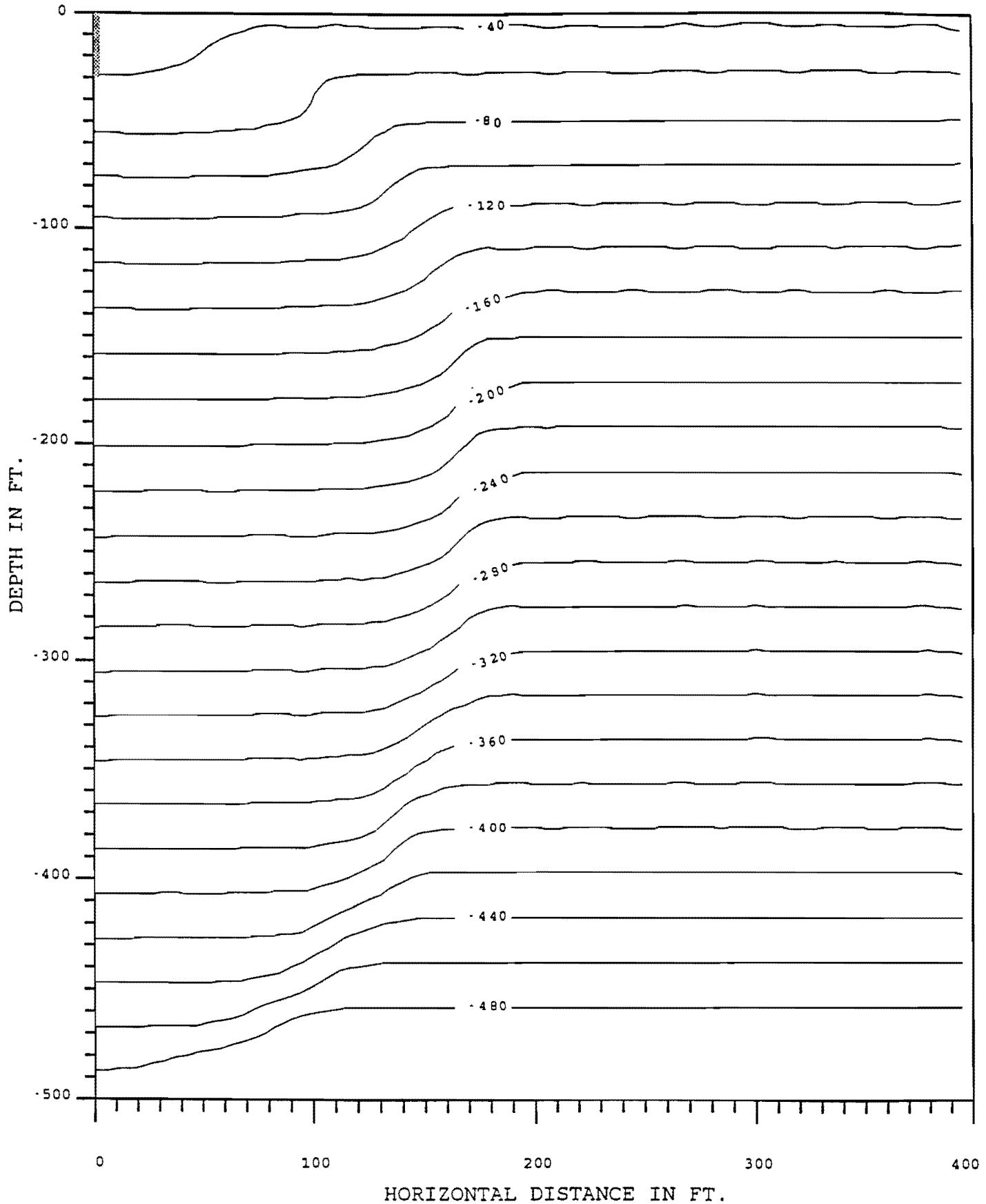


Figure 3e - Hydraulic heads (in feet) at 10 years, homogeneous material, Ksx = 3 ft/day, Kx/Kz = 10.

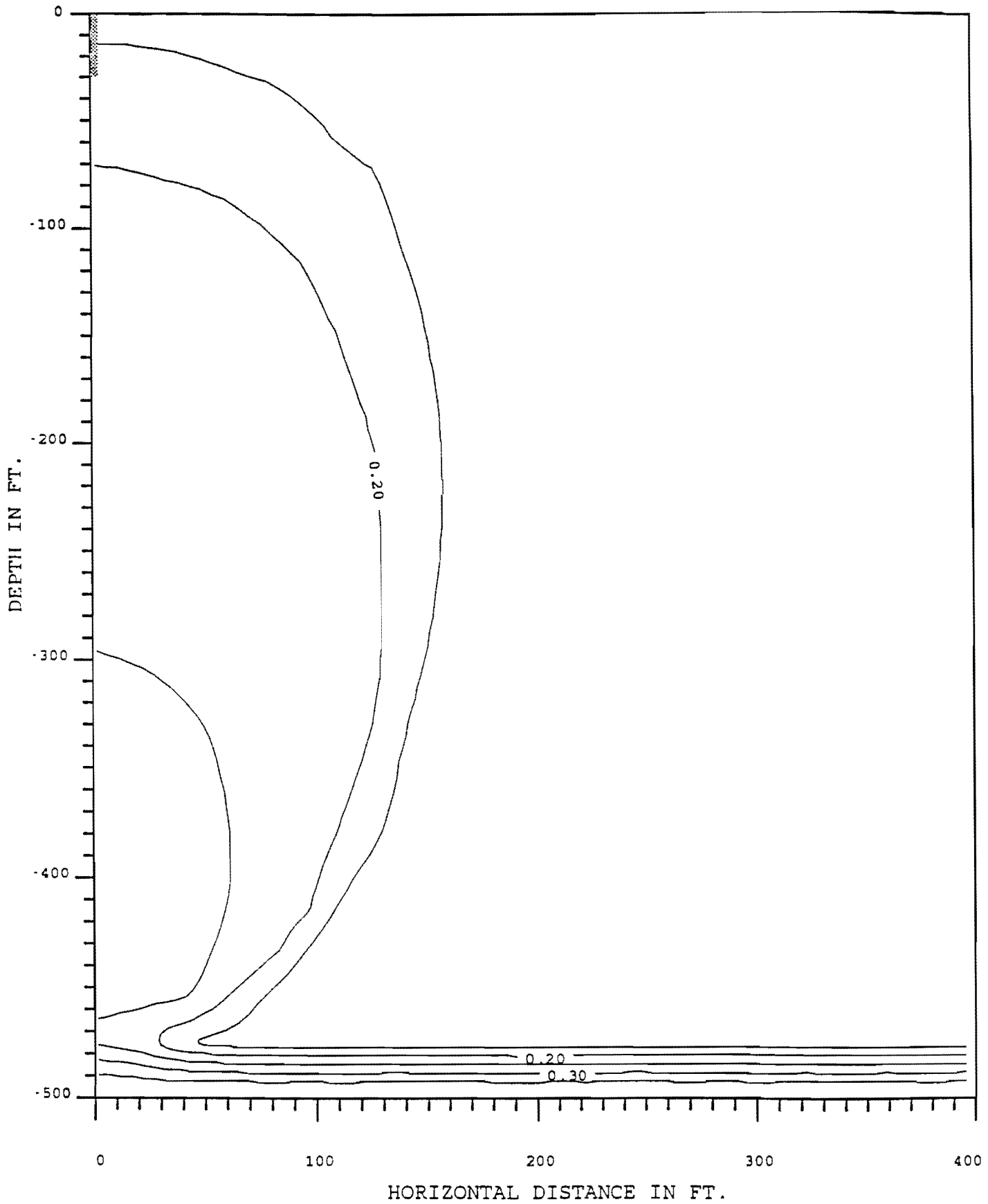


Figure 3f - Volumetric moisture contents at 10 years, homogeneous material, Ksx = 3 ft/day, Kx/Kz = 10.

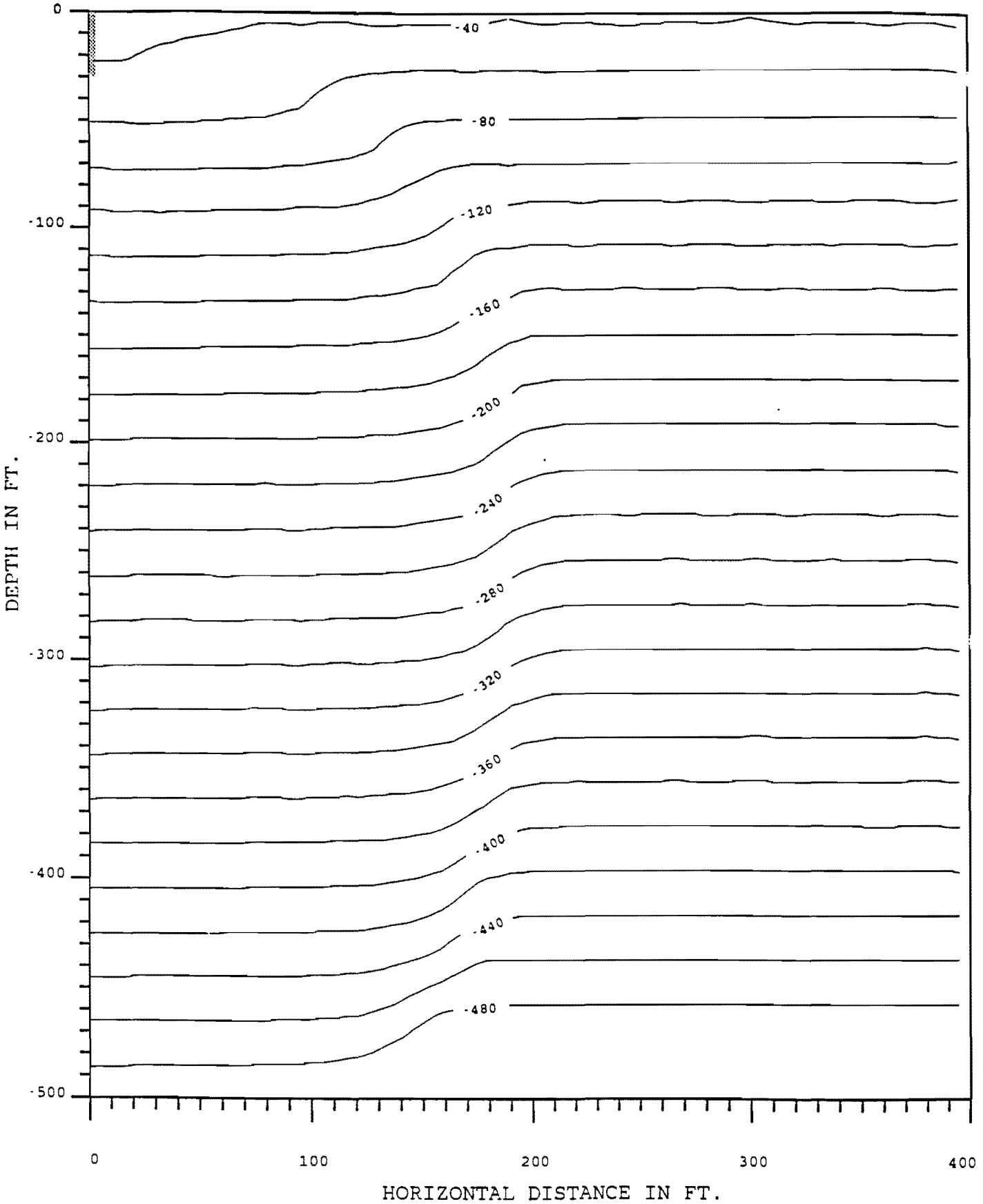


Figure 3g - Hydraulic heads (in feet) at 20 years, homogeneous material, Ksx = 3 ft/day, Kx/Kz = 10.

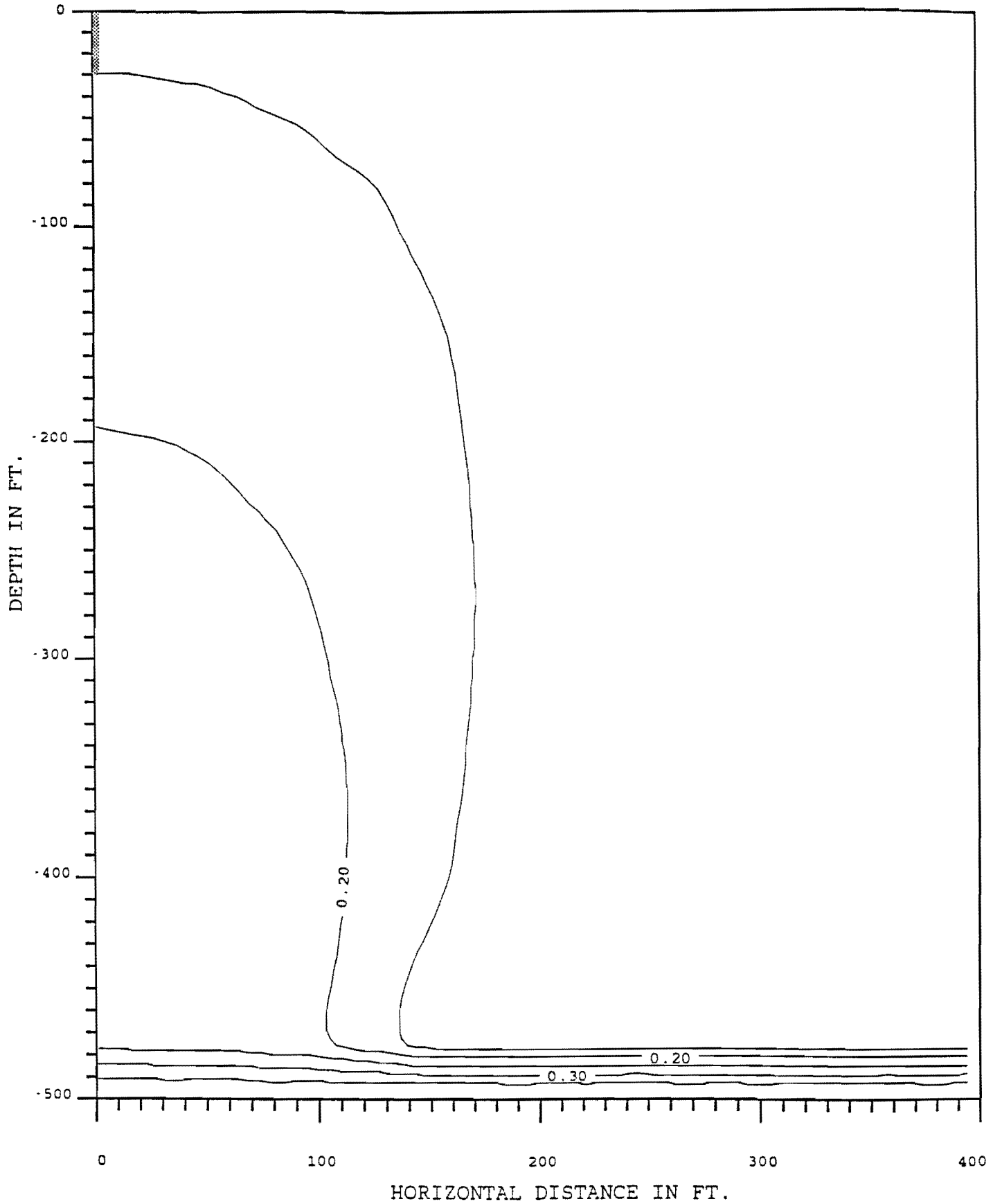


Figure 3h - Volumetric moisture contents at 20 years, homogeneous material, Ksx = 3 ft/day, Kx/Kz = 10.

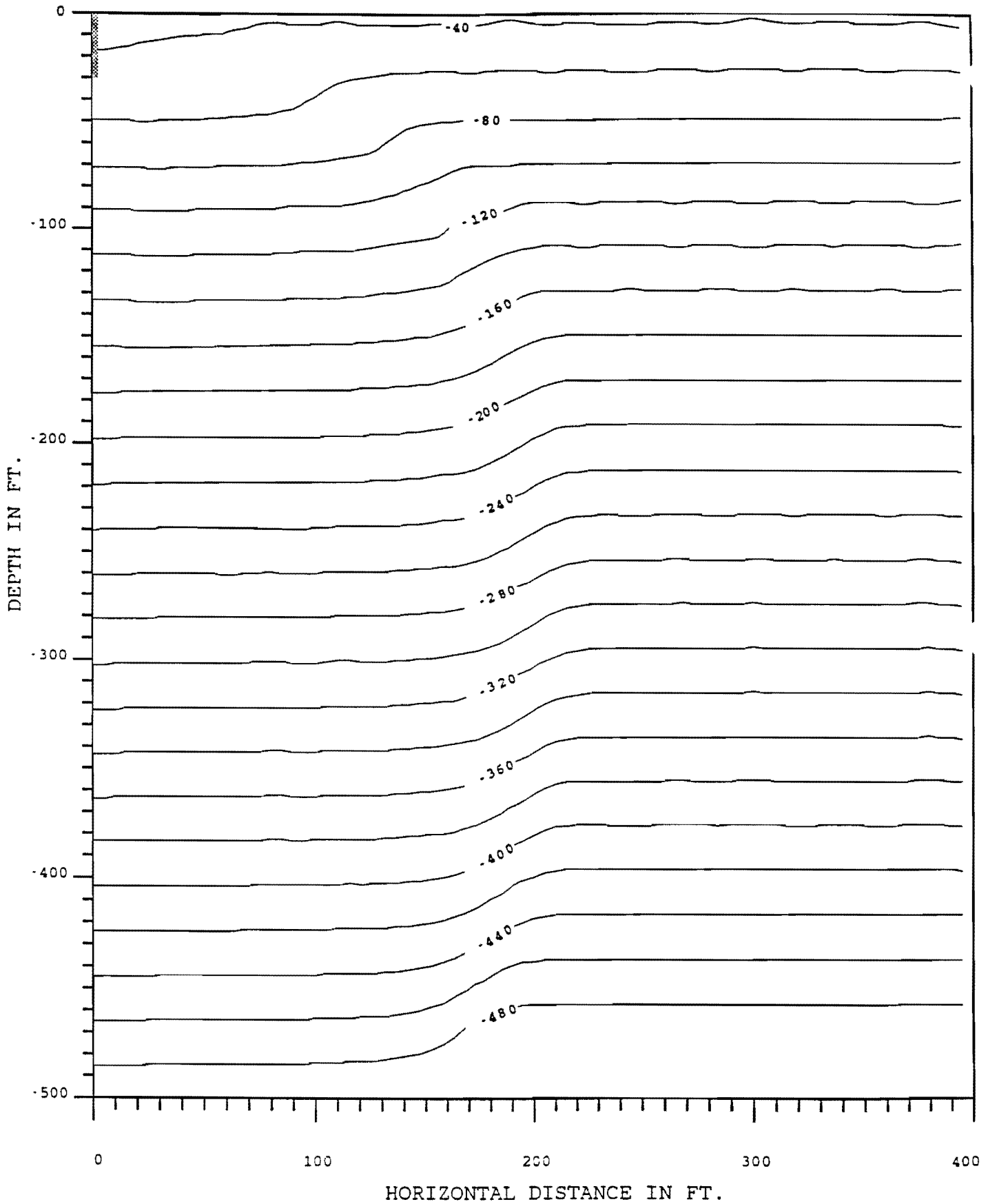


Figure 3i - Hydraulic heads (in feet) at 28 years, homogeneous material, Ksx = 3 ft/day, Kx/Kz = 10.

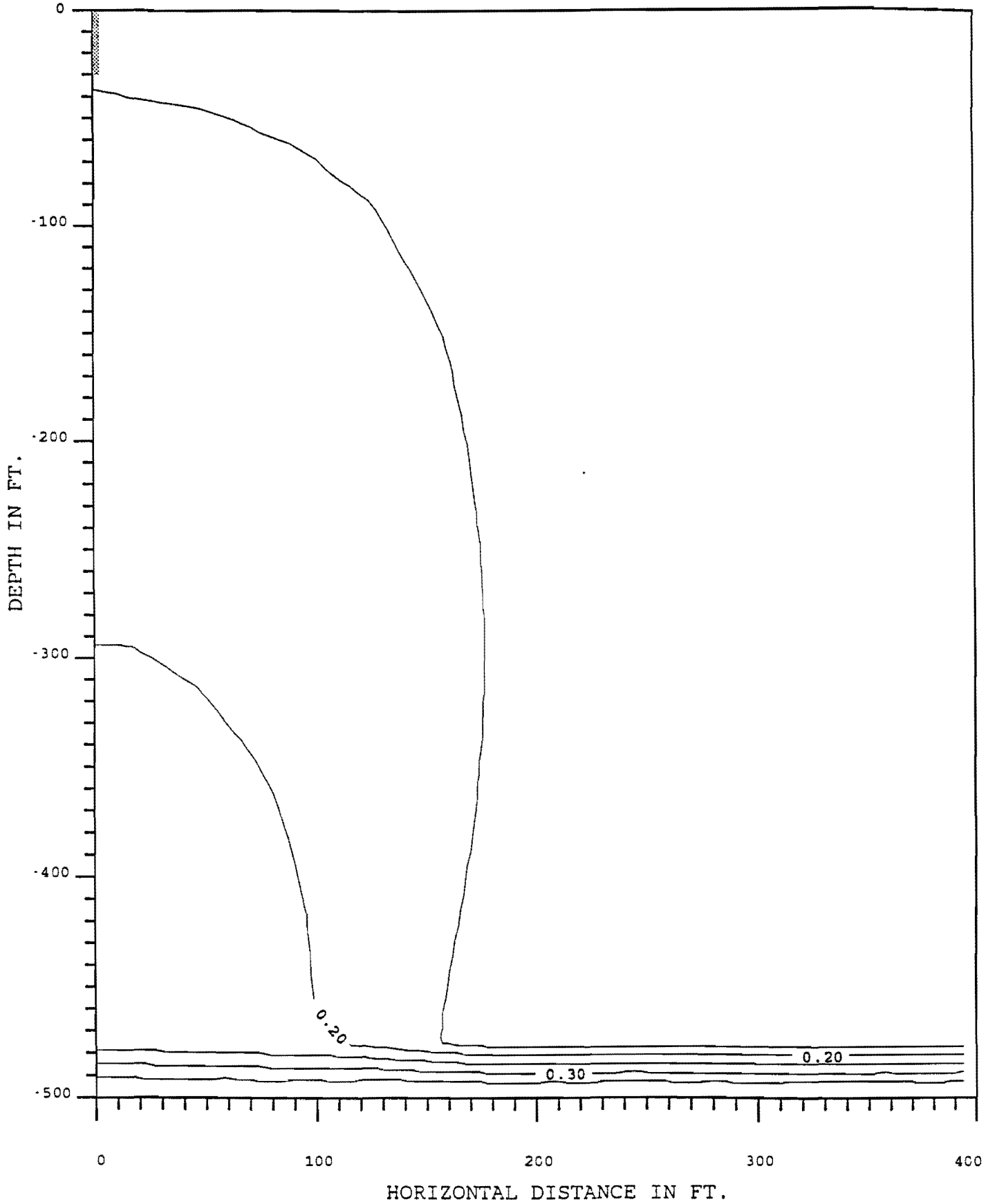


Figure 3j - Volumetric moisture contents at 28 years, homogeneous material, Ksx = 3 ft/day, Kx/Kz = 10.

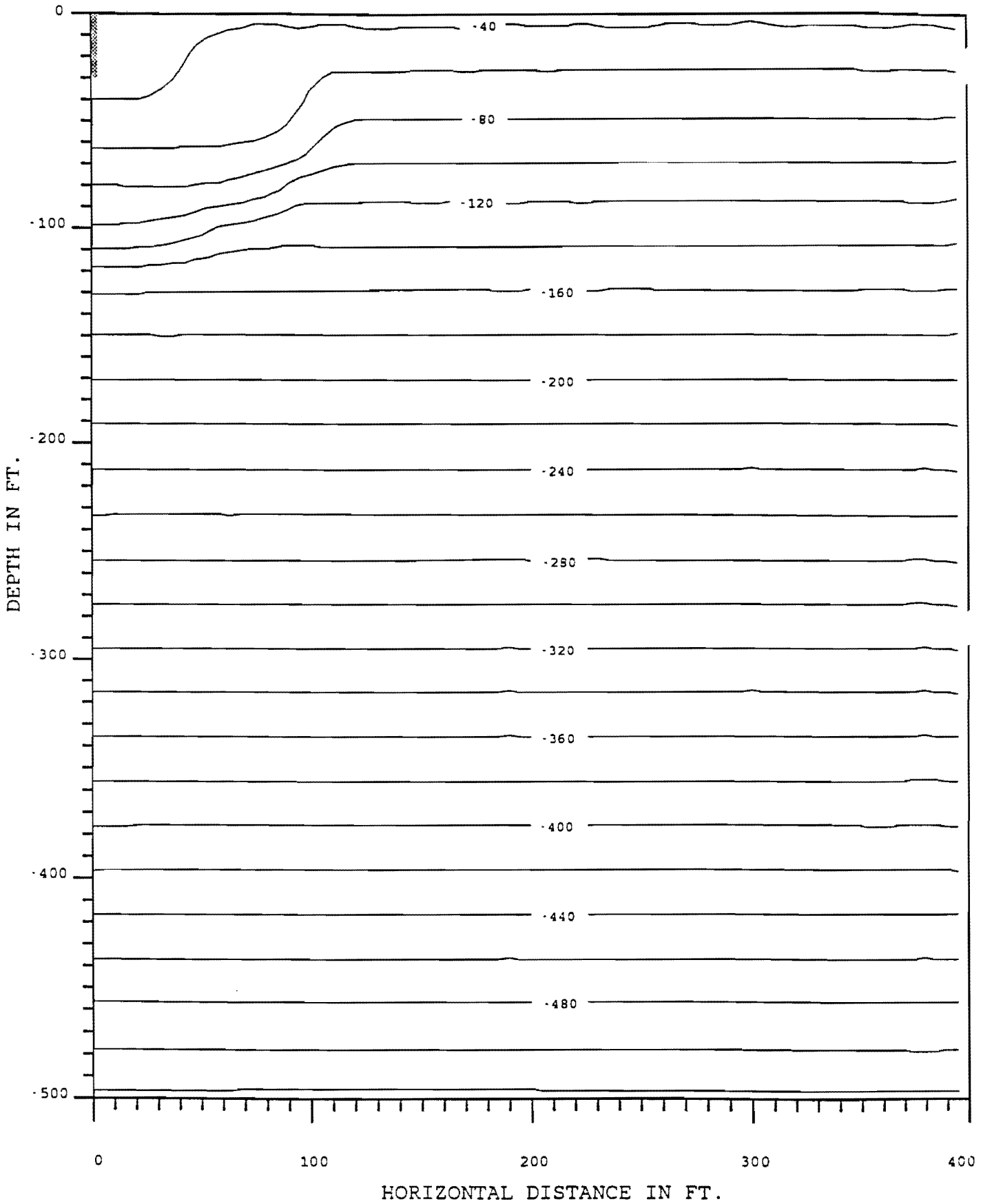


Figure 4a - Hydraulic heads (in feet) at 1 year, homogeneous material, Ksx = 3 ft/day, Kx/Kz = 25.

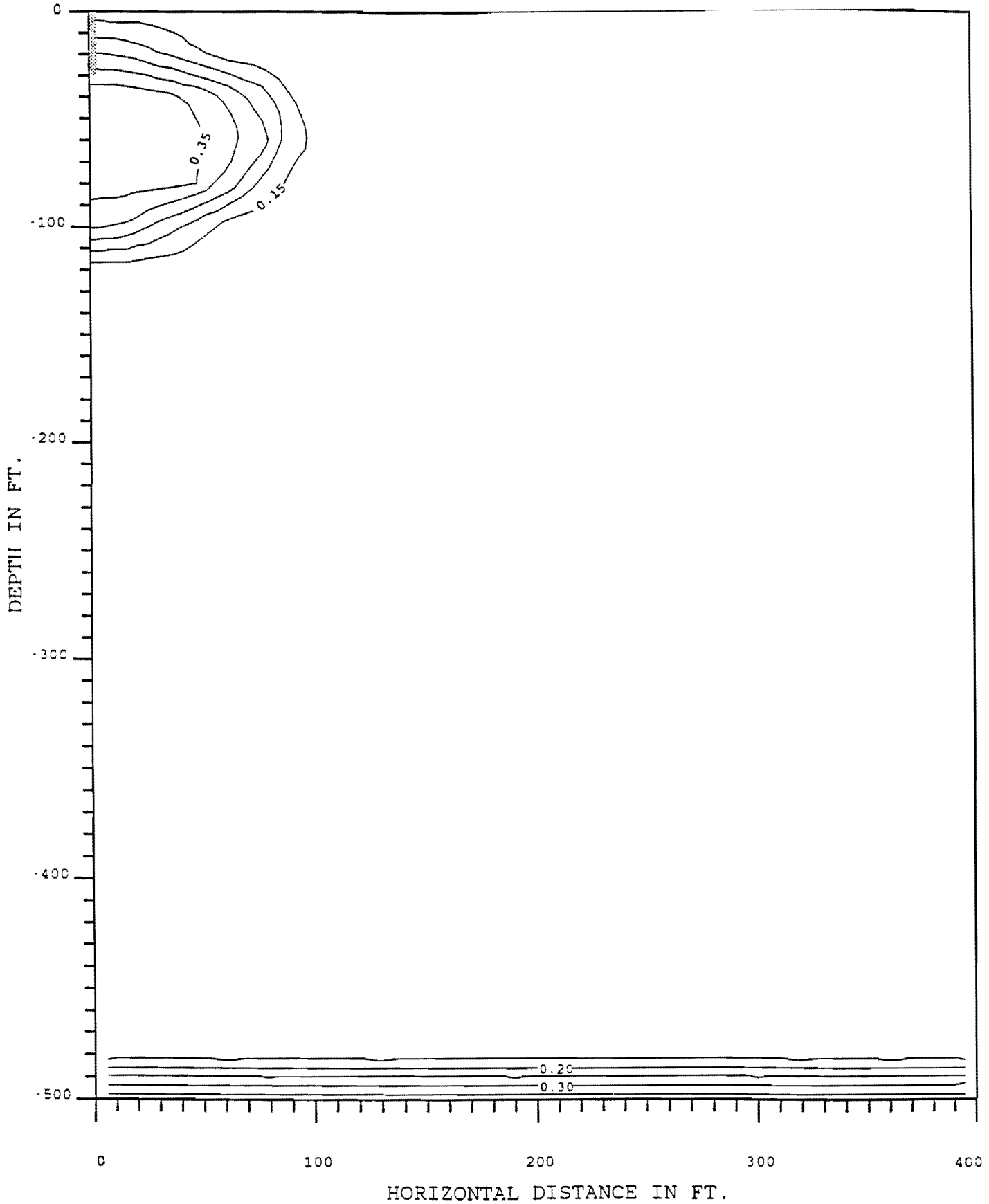


Figure 4b - Volumetric moisture contents at 1 year, homogeneous material, Ksx = 3 ft/day, Kx/Kz = 25.

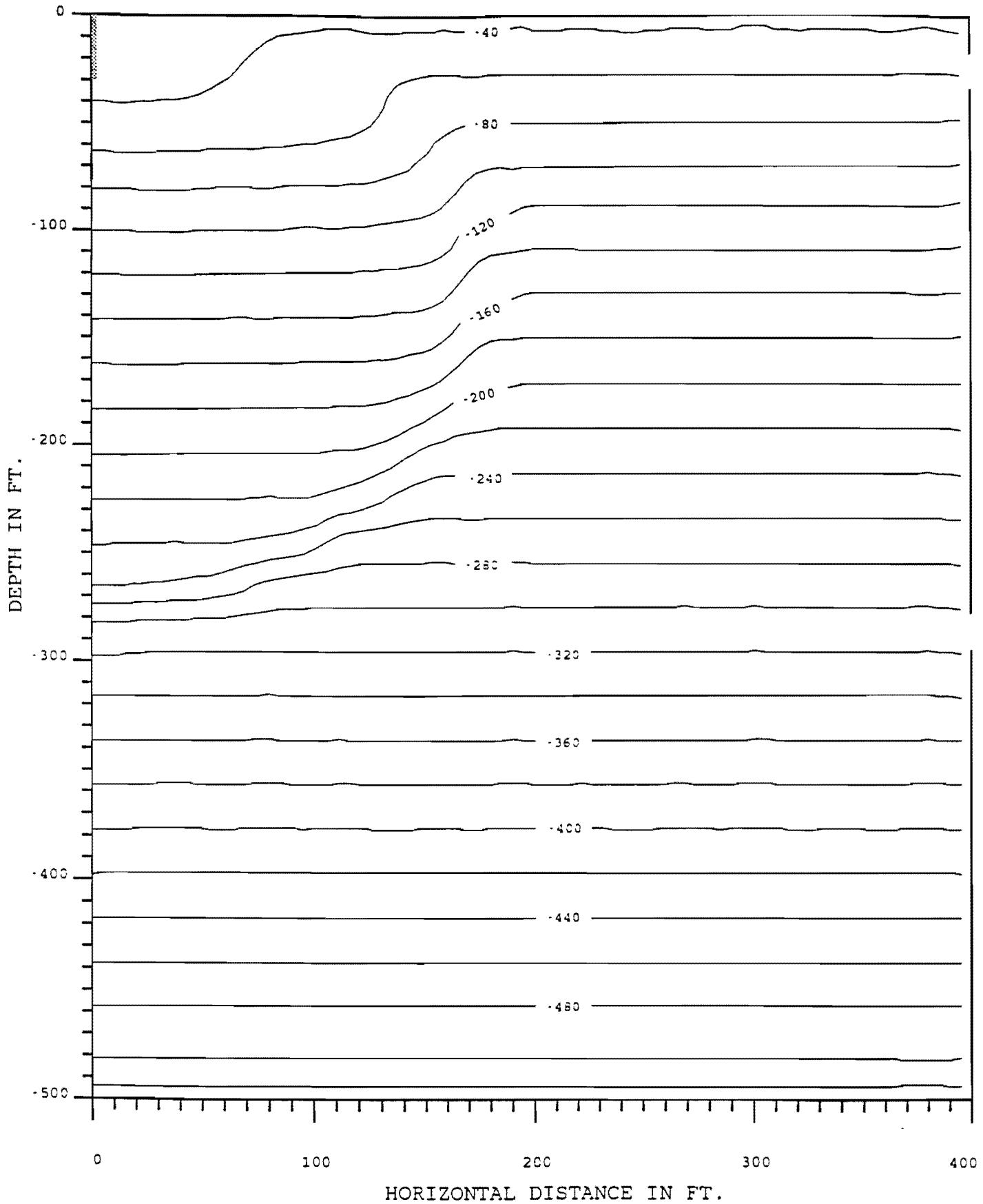


Figure 4c - Hydraulic heads (in feet) at 5 years, homogeneous material, Ksx = 3 ft/day, Kx/Kz = 25.

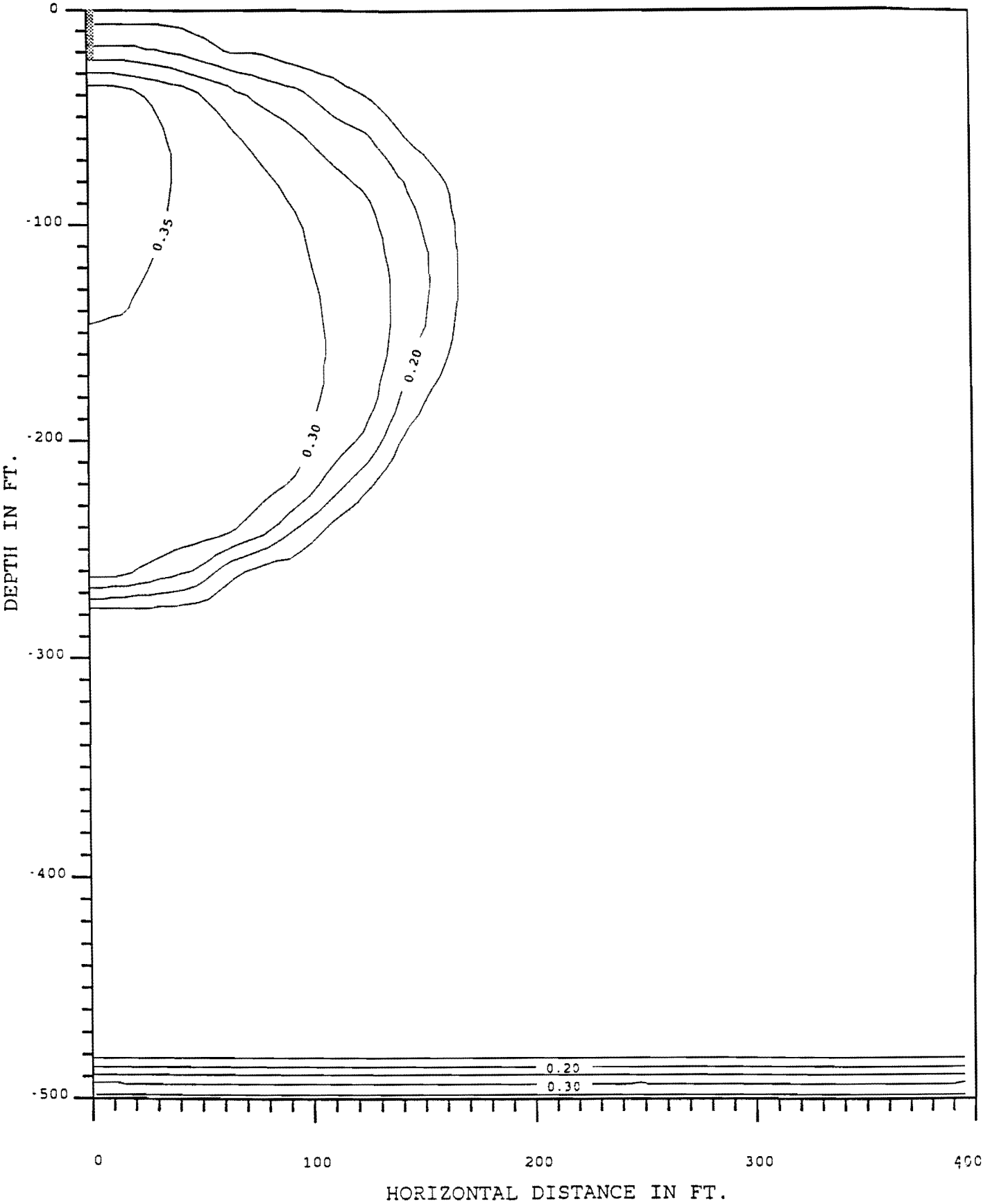


Figure 4d - Volumetric moisture contents at 5 years, homogeneous material, Ksx = 3 ft/day, Kx/Kz = 25.

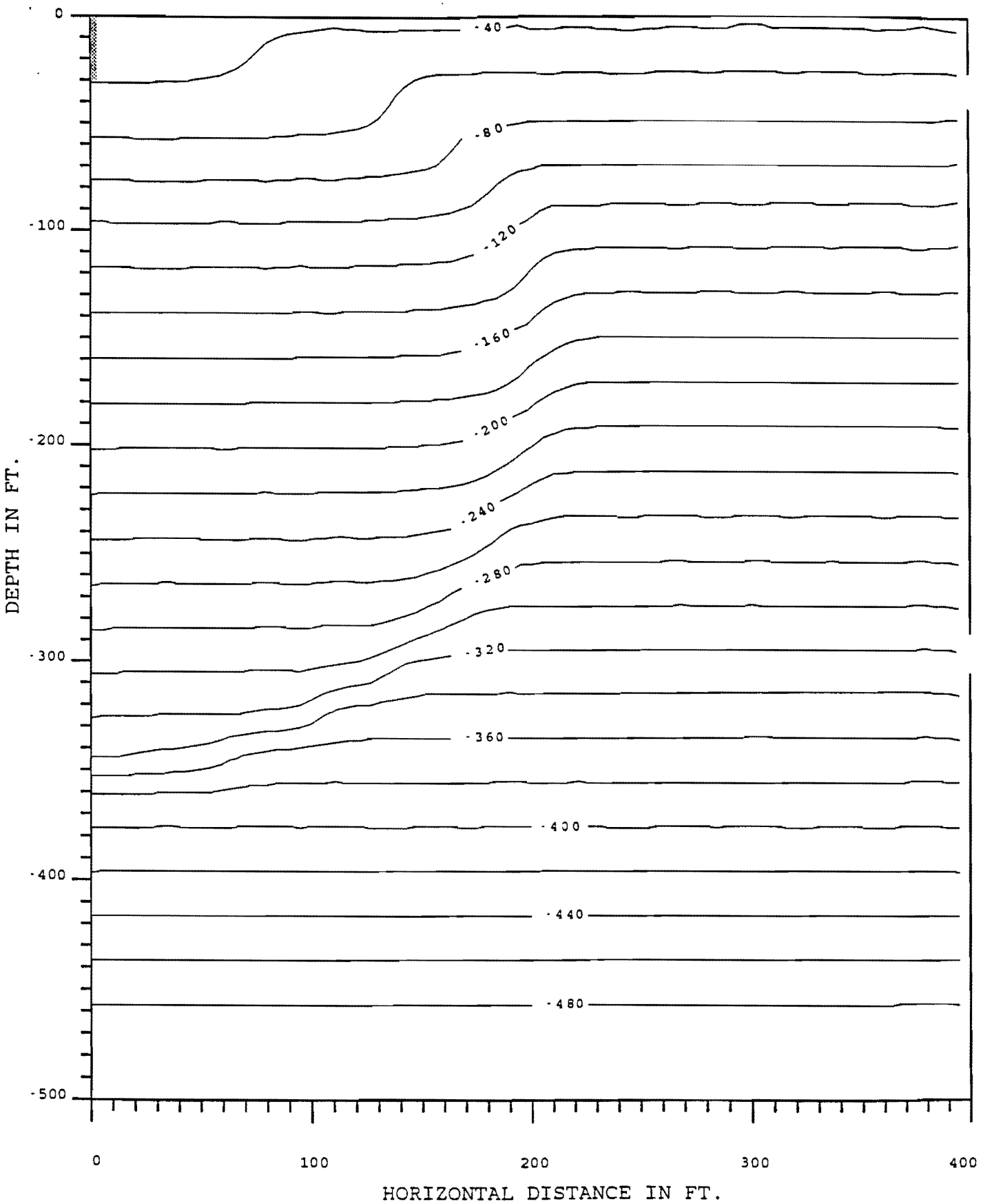


Figure 4e - Hydraulic heads (in feet) at 10 years, homogeneous material, Ksx = 3 ft/day, Kx/Kz = 25.

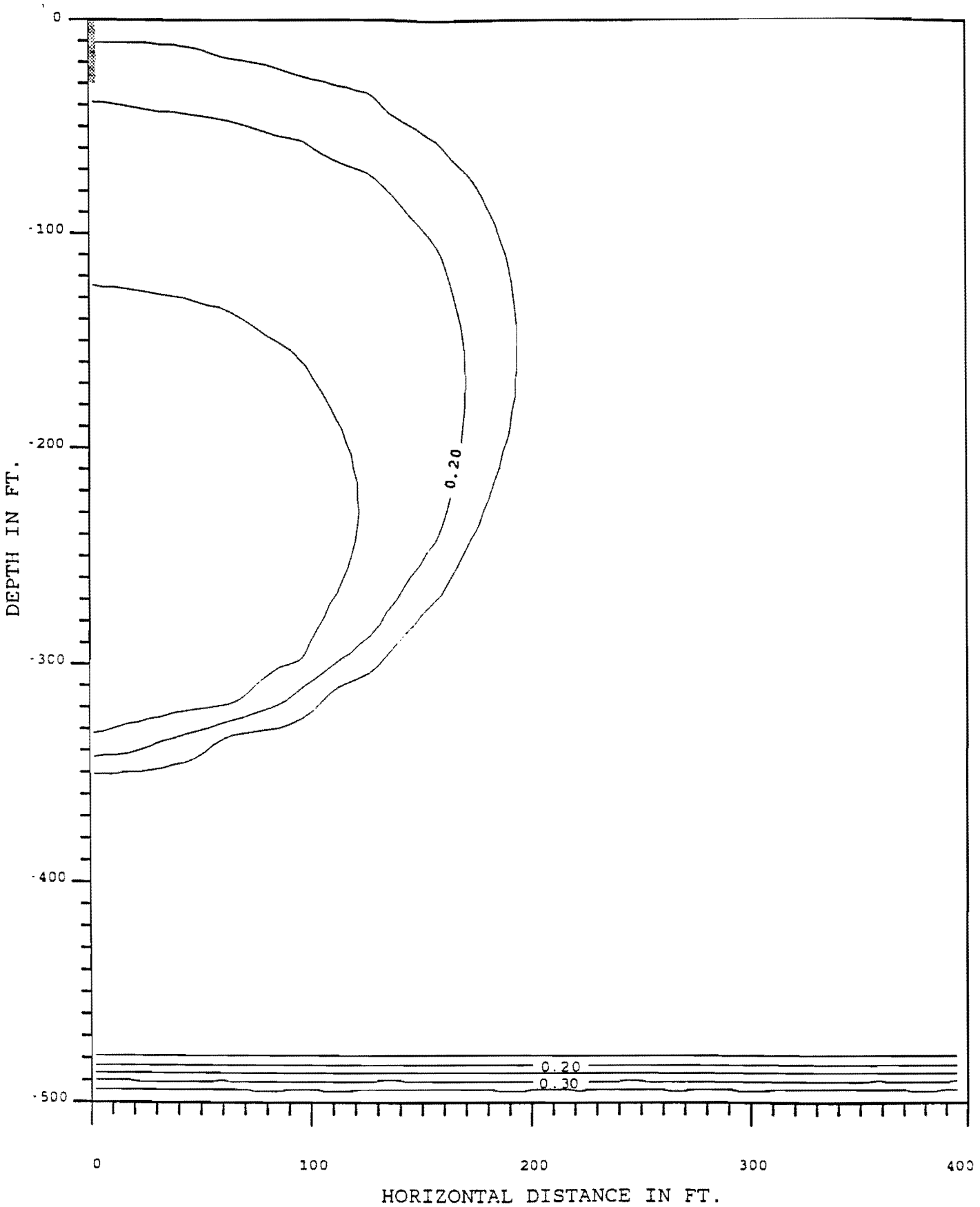


Figure 4f - Volumetric moisture contents at 10 years, homogeneous material, Ksx = 3 ft/day, Kx/Kz = 25.

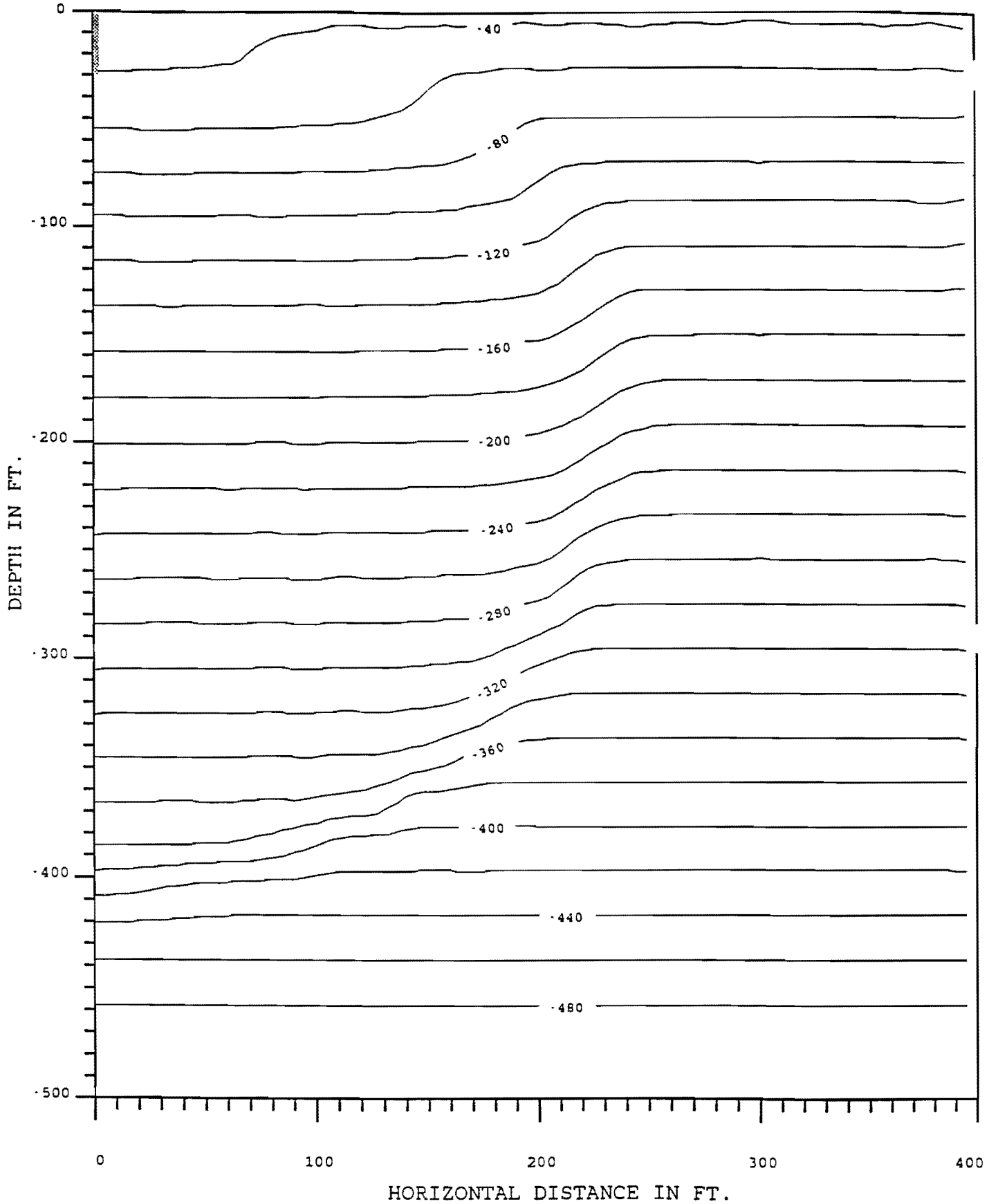


Figure 4g - Hydraulic heads (in feet) at 20 years, homogeneous material, Ksx = 3 ft/day, Kx/Kz = 25.

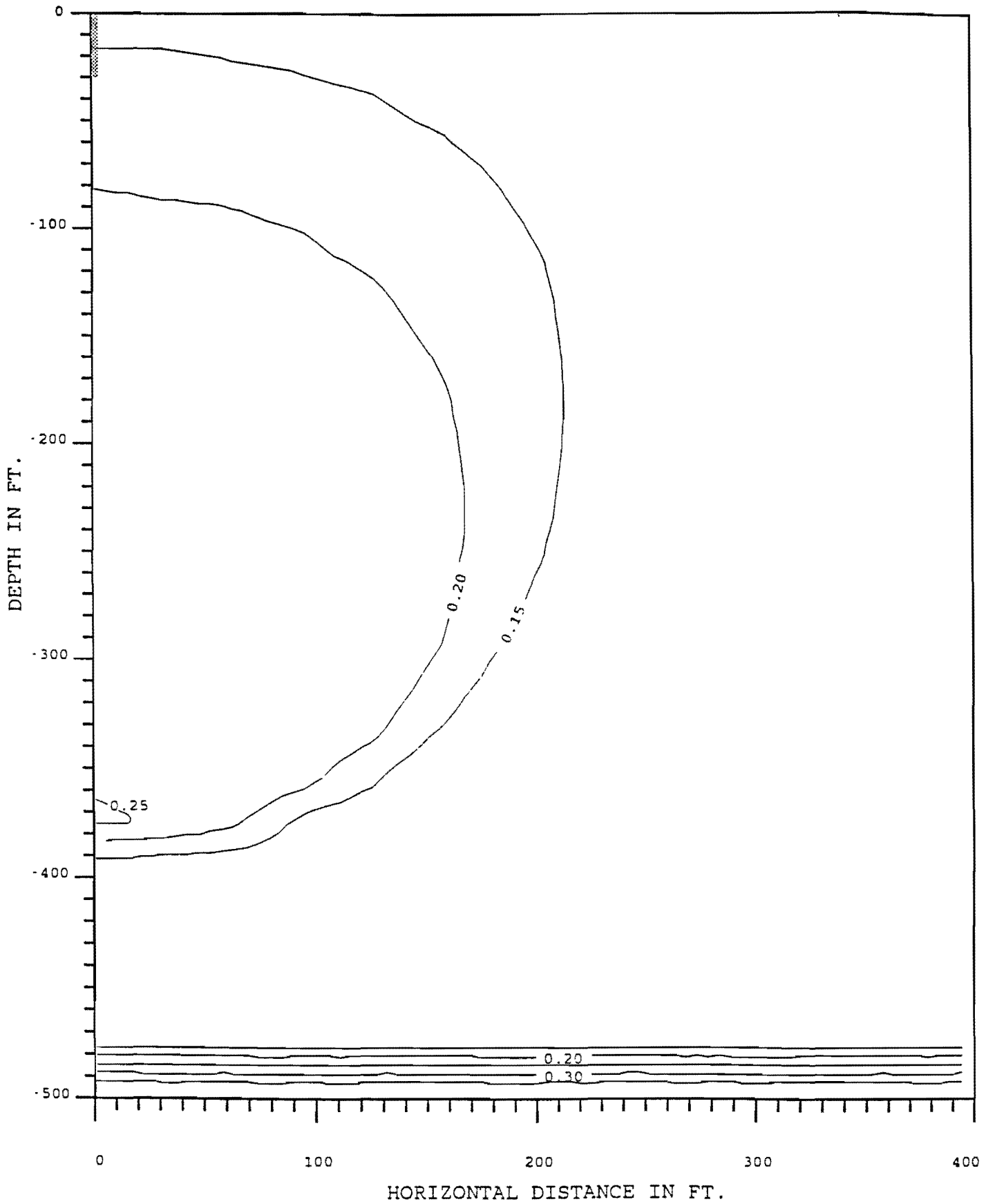


Figure 4h - Volumetric moisture contents at 20 years, homogeneous material, Ksx = 3 ft/day, Kx/Kz = 25.

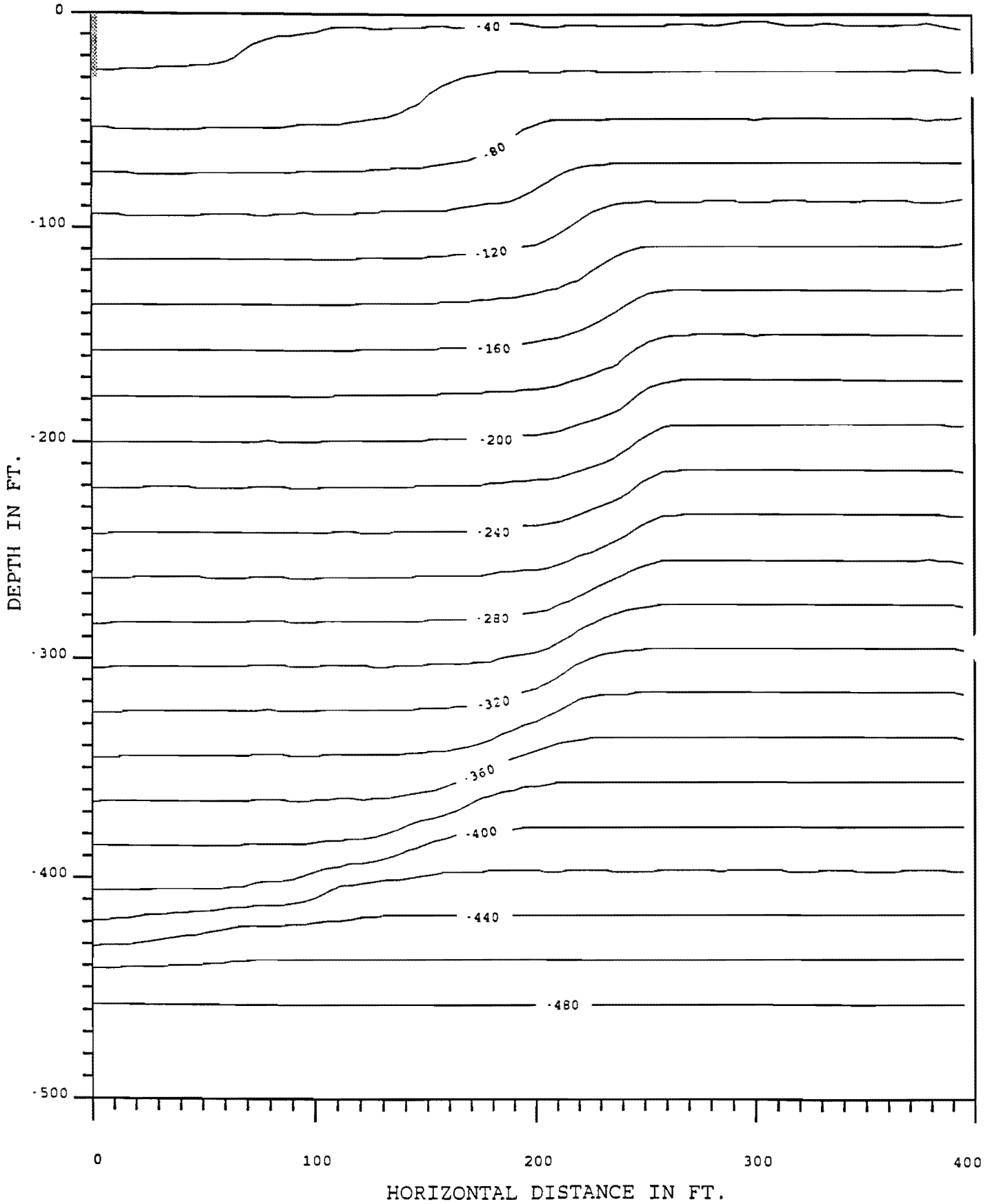


Figure 4i - Hydraulic heads (in feet) at 28 years, homogeneous material, Ksx = 3 ft/day, Kx/Kz = 25.

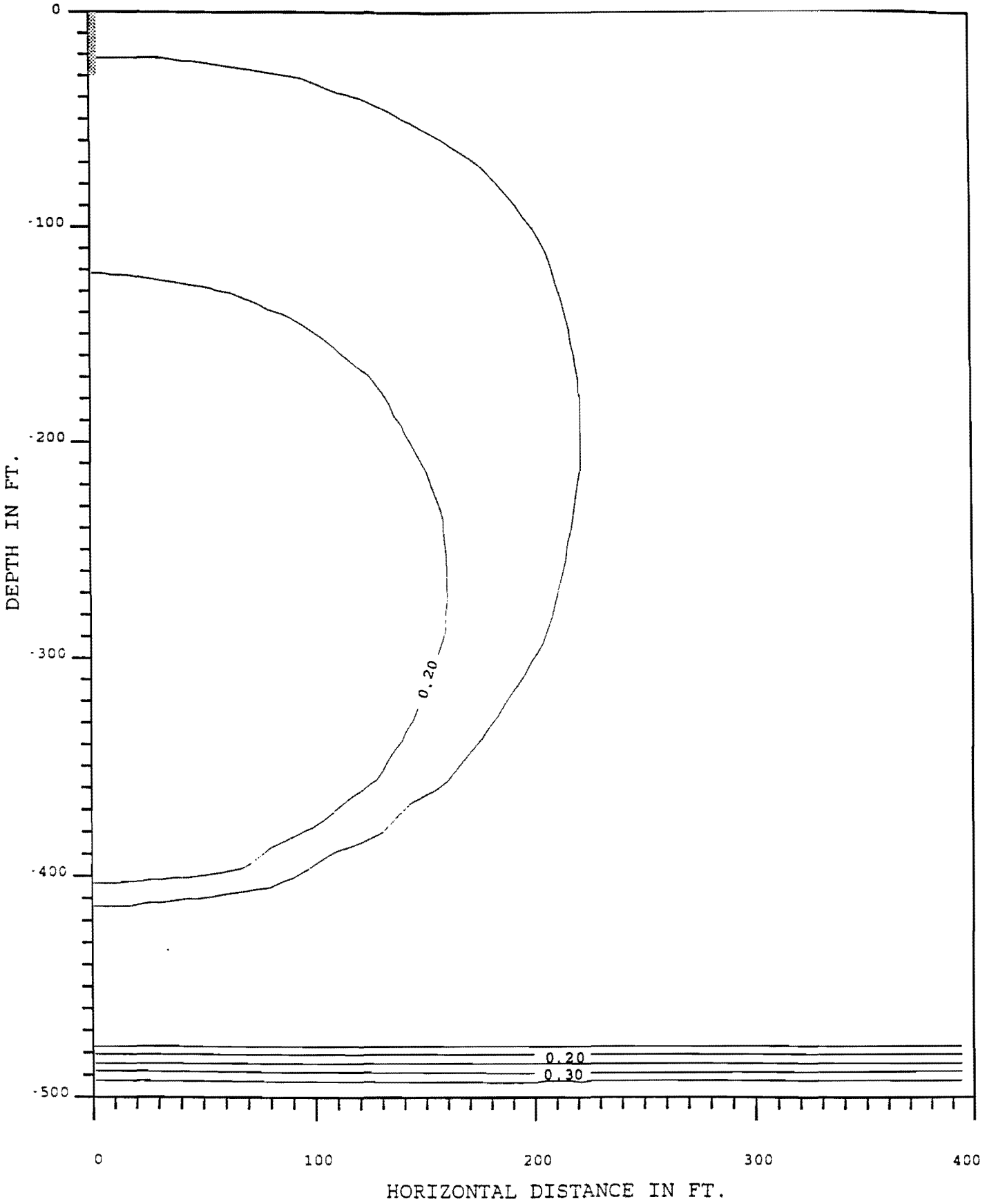


Figure 4j - Volumetric moisture contents at 28 years, homogeneous material, Ksx = 3 ft/day, Kx/Kz = 25.

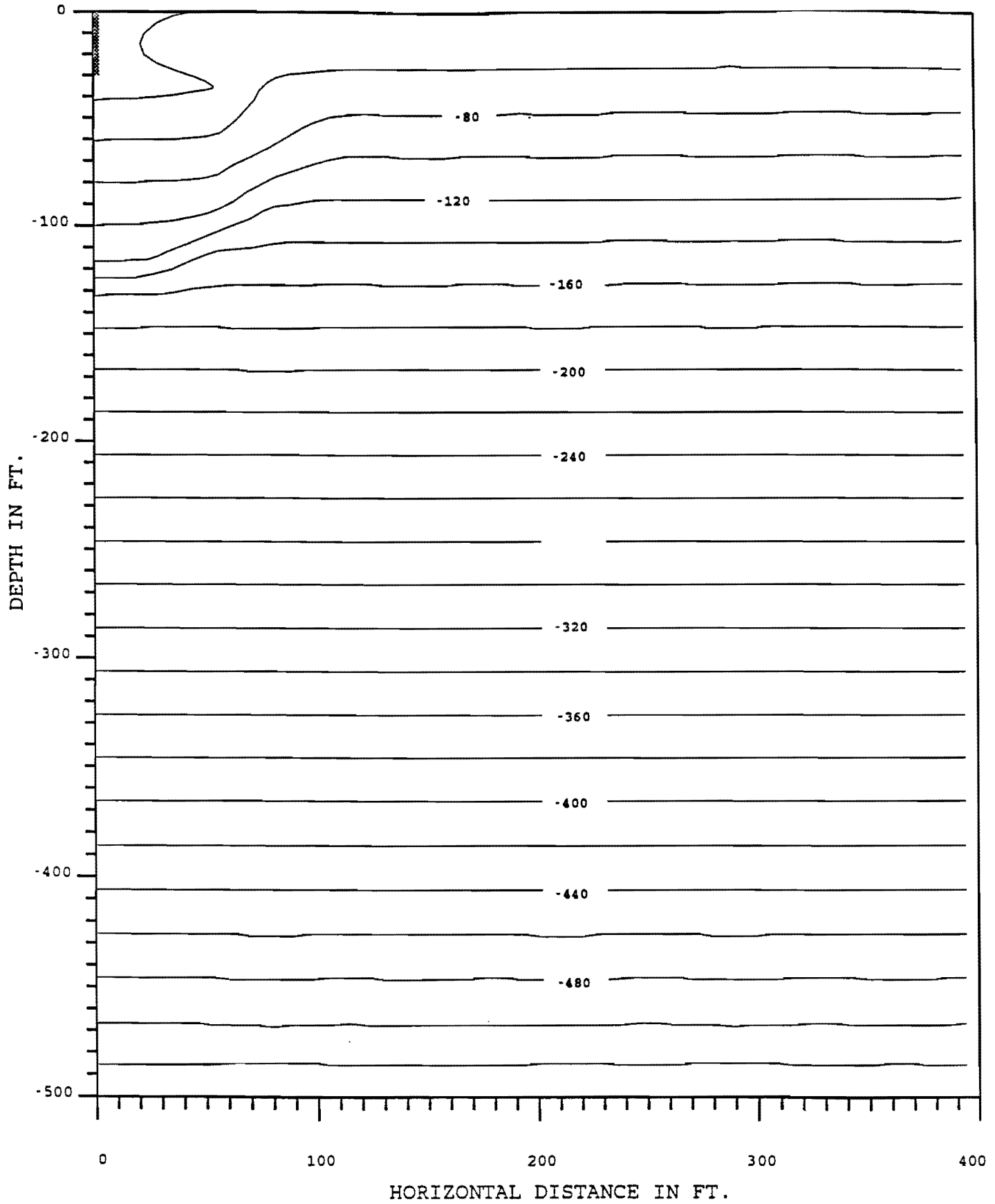


Figure 5a - Hydraulic heads (in feet) at 1 year, homogeneous material, Ksx = 1 ft/day, Kx/Kz =10.

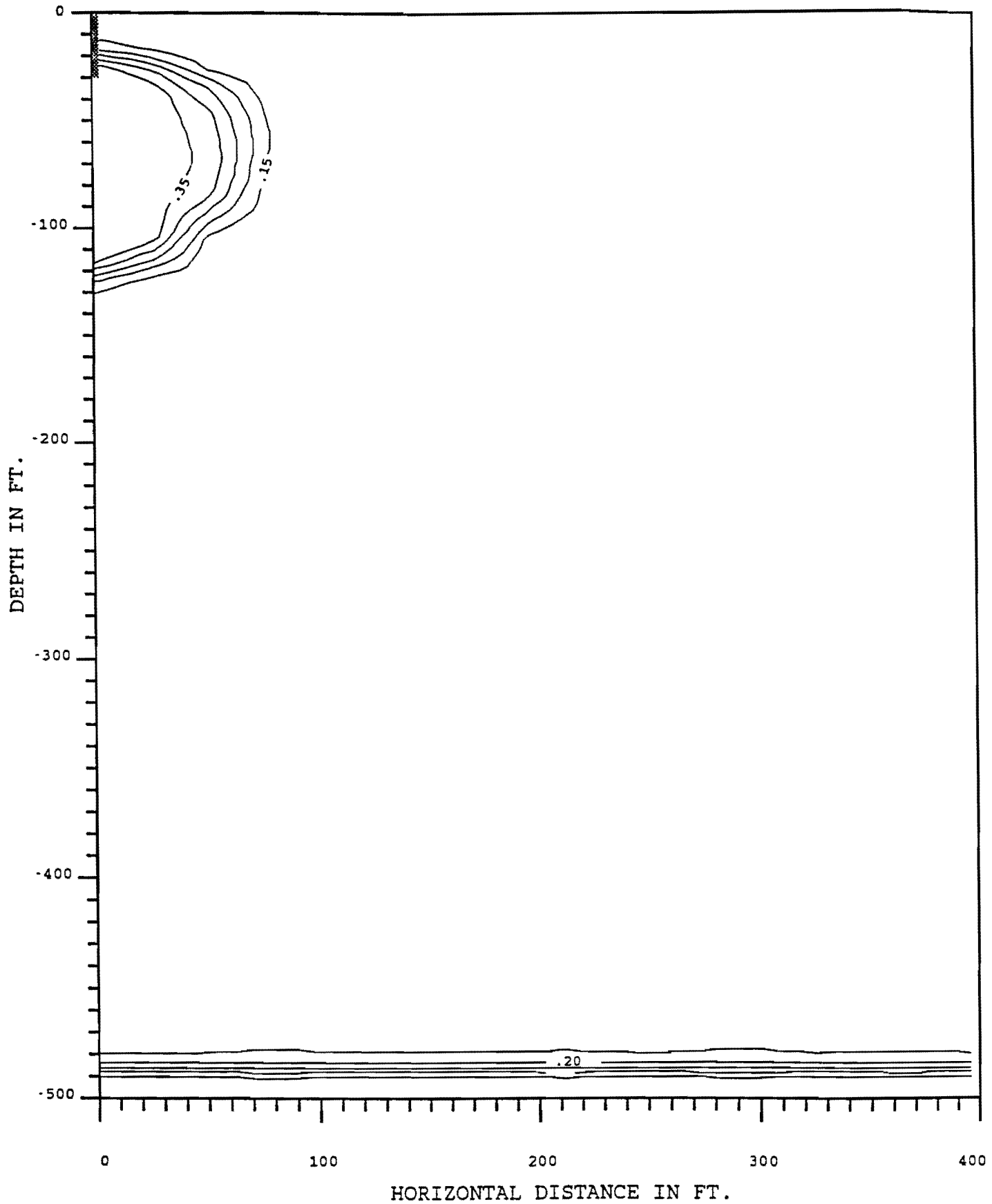


Figure 5b - Volumetric moisture contents at 1 year, homogeneous material, Ksx = 1 ft/day, Kx/Kz = 10.

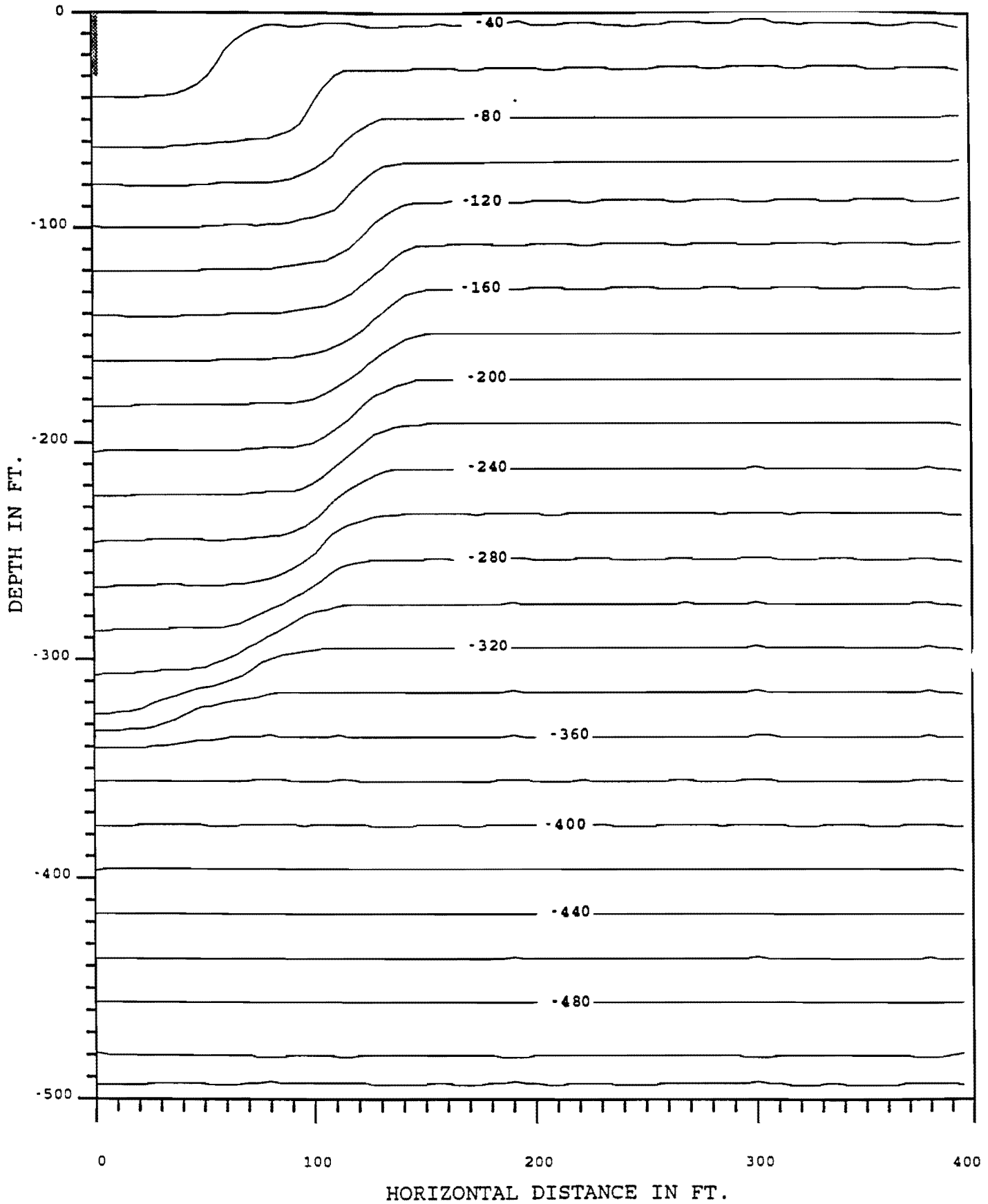


Figure 5c - Hydraulic heads (in feet) at 5 years, homogeneous material, Ksx = 1 ft/day, Kx/Kz = 10.

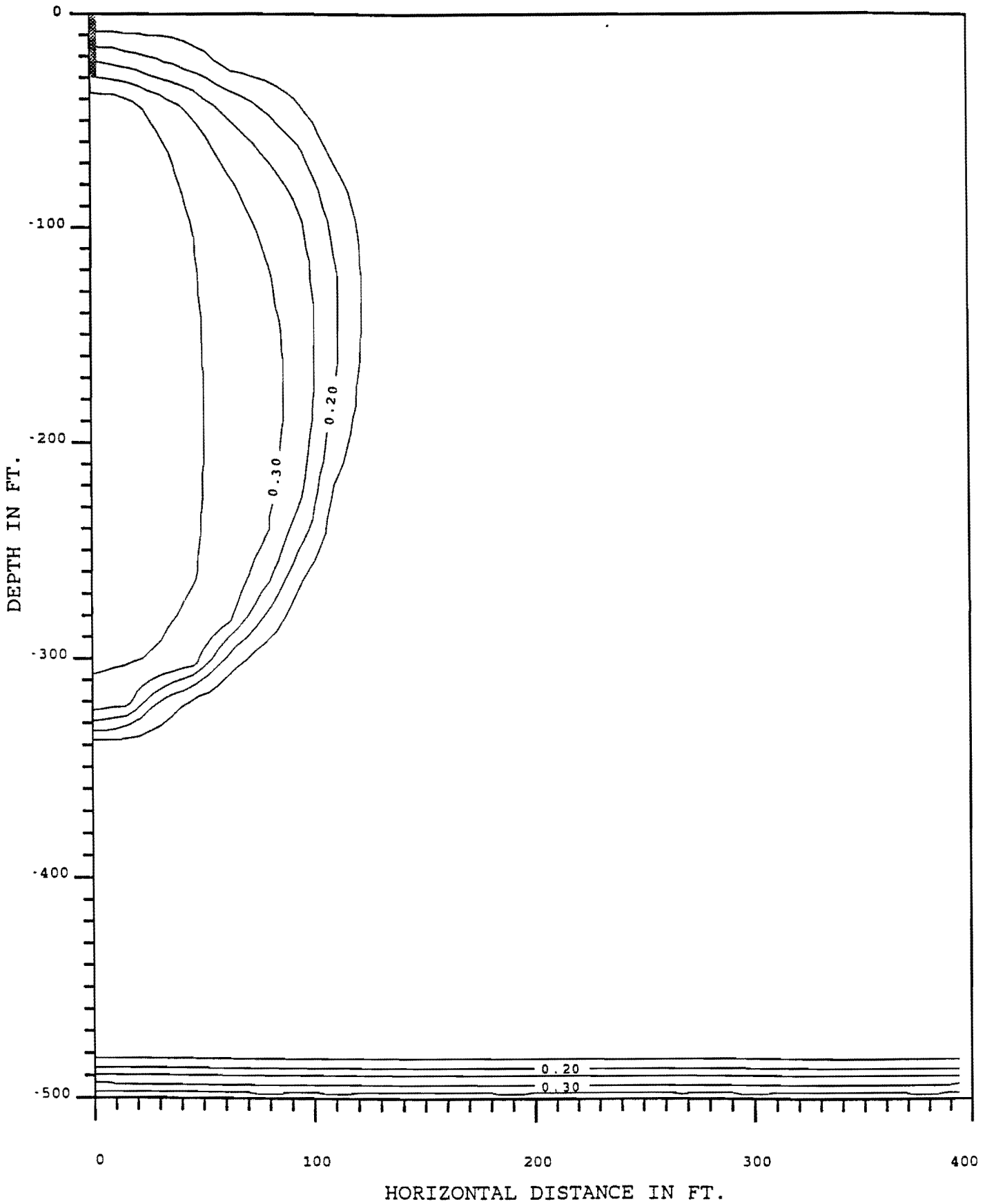


Figure 5d - Volumetric moisture contents at 5 years, homogeneous material, Ksx = 1 ft/day, Kx/Kz = 10.

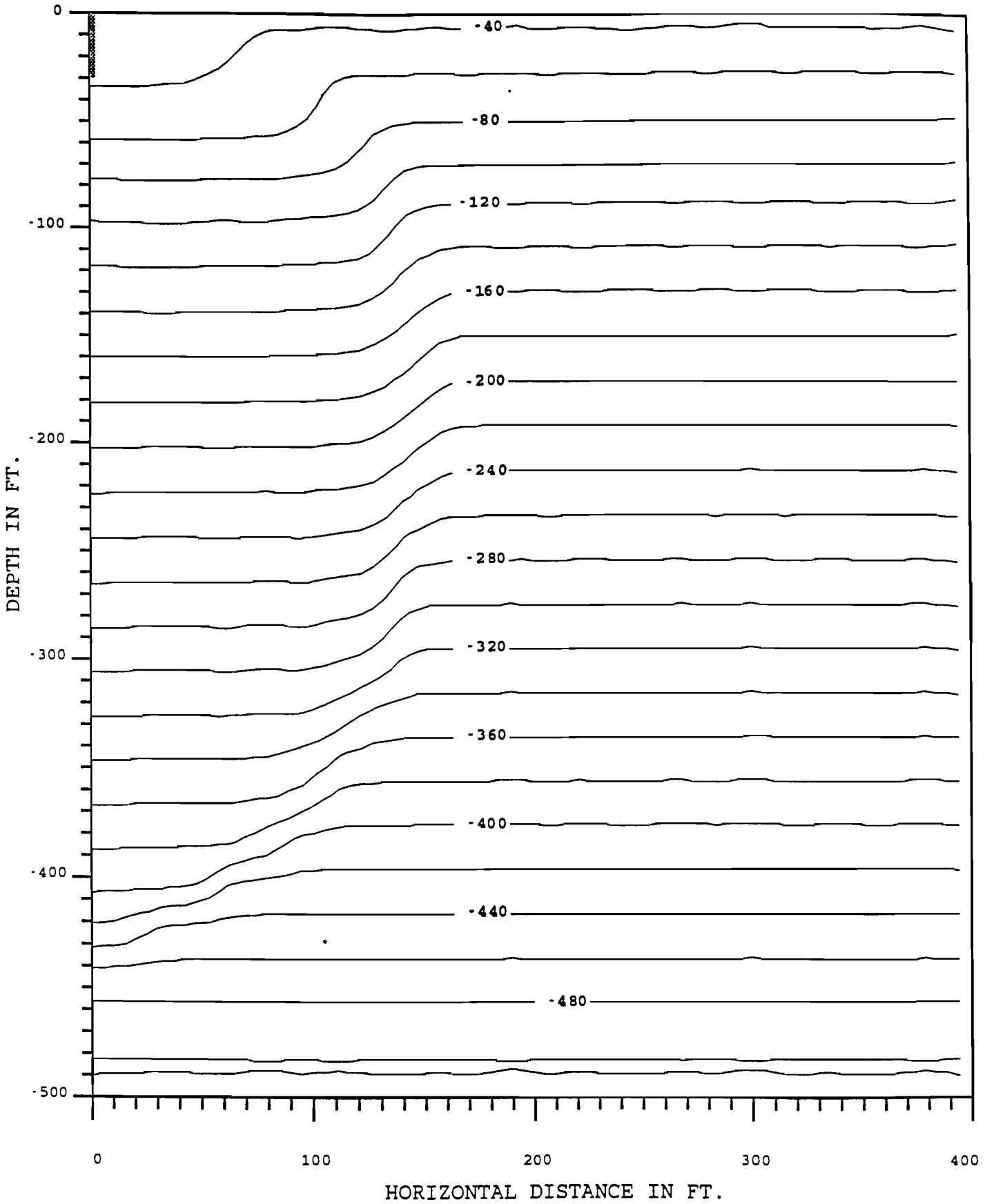


Figure 5e - Hydraulic heads (in feet) at 10 years, homogeneous material, Ksx = 1 ft/day, Kx/Kz = 10.

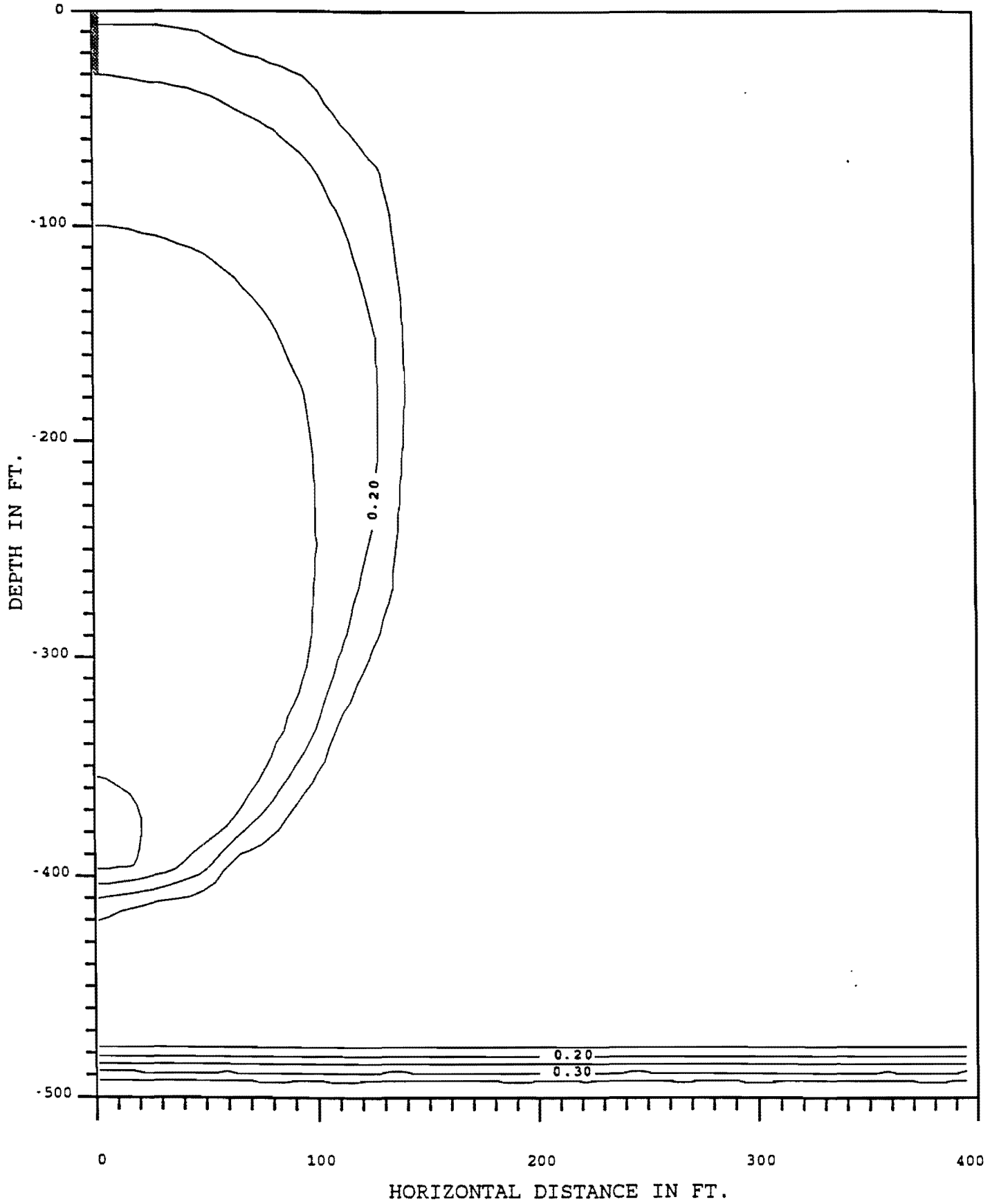


Figure 5f - Volumetric moisture content at 10 years, homogeneous material, Ksx = 1 ft/day, Kx/Kz = 10.

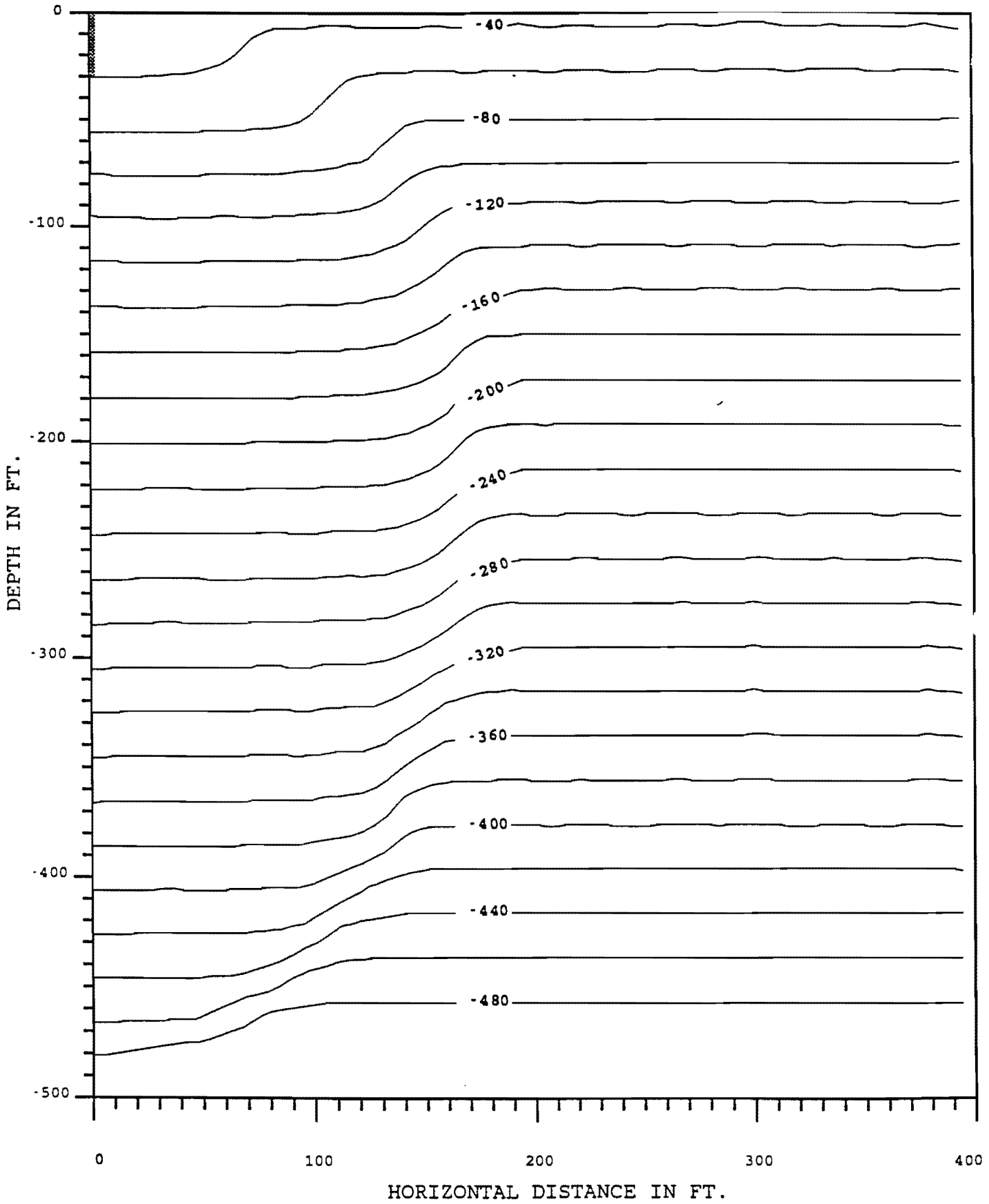


Figure 5g - Hydraulic heads (in feet) at 20 years, homogeneous material, Ksx = 1 ft/day, Kx/Kz = 10.

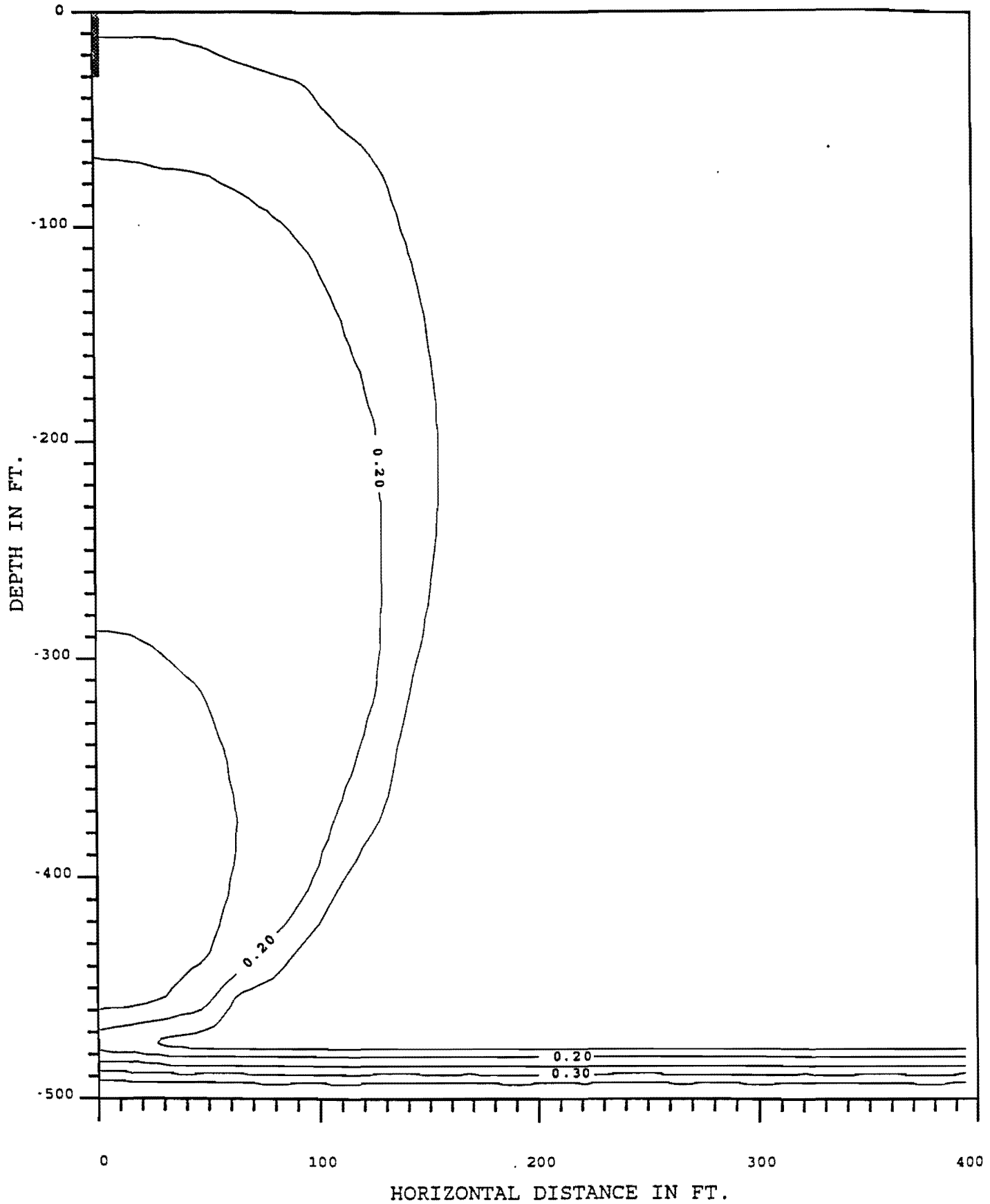


Figure 5h - Volumetric moisture contents at 20 years, homogeneous material, Ksx = 1 ft/day, Kx/Kz = 10.

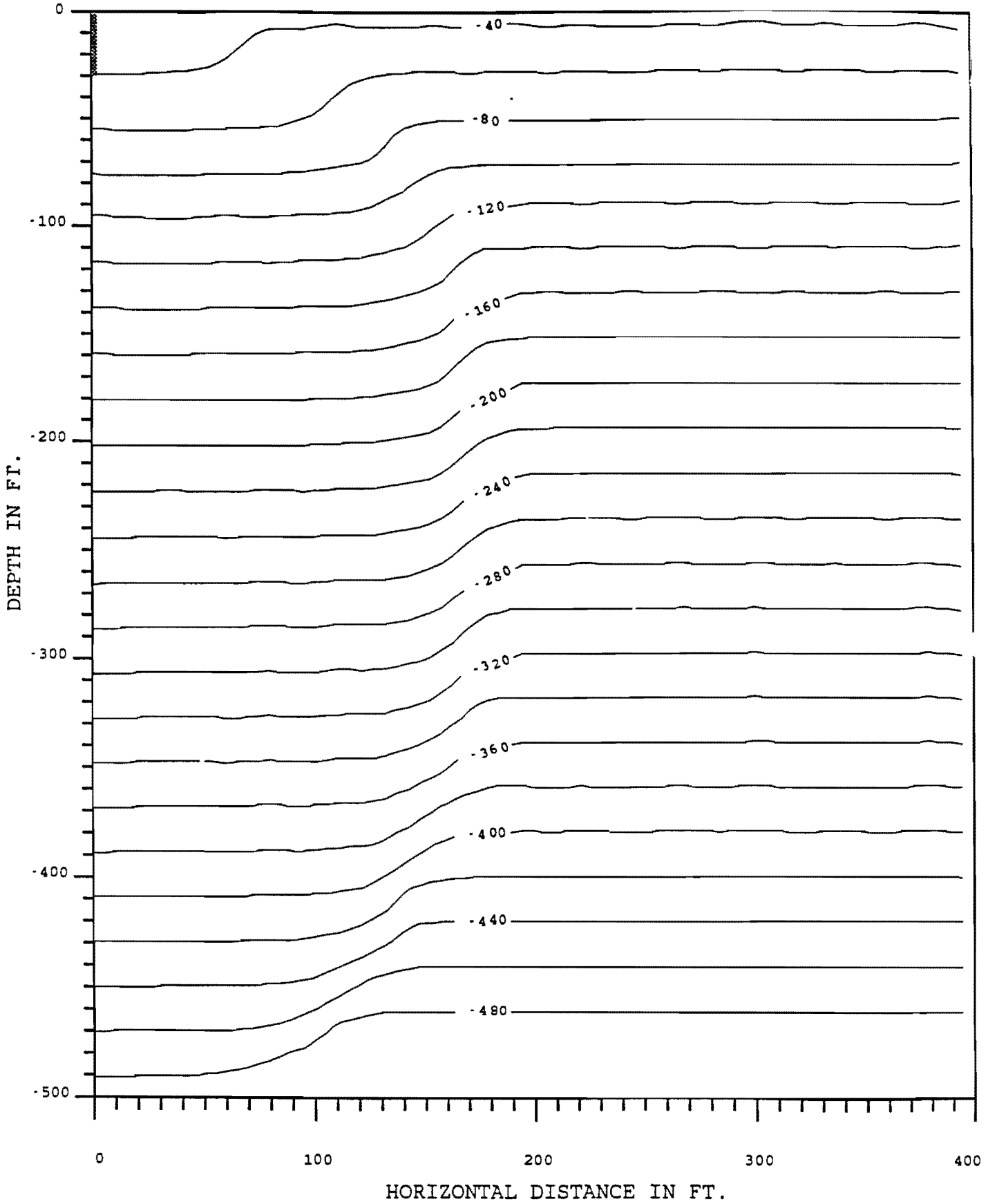


Figure 5i - Hydraulic heads (in feet) at 28 years, homogeneous material, Ksx = 1 ft/day, Kx/Kz = 10.

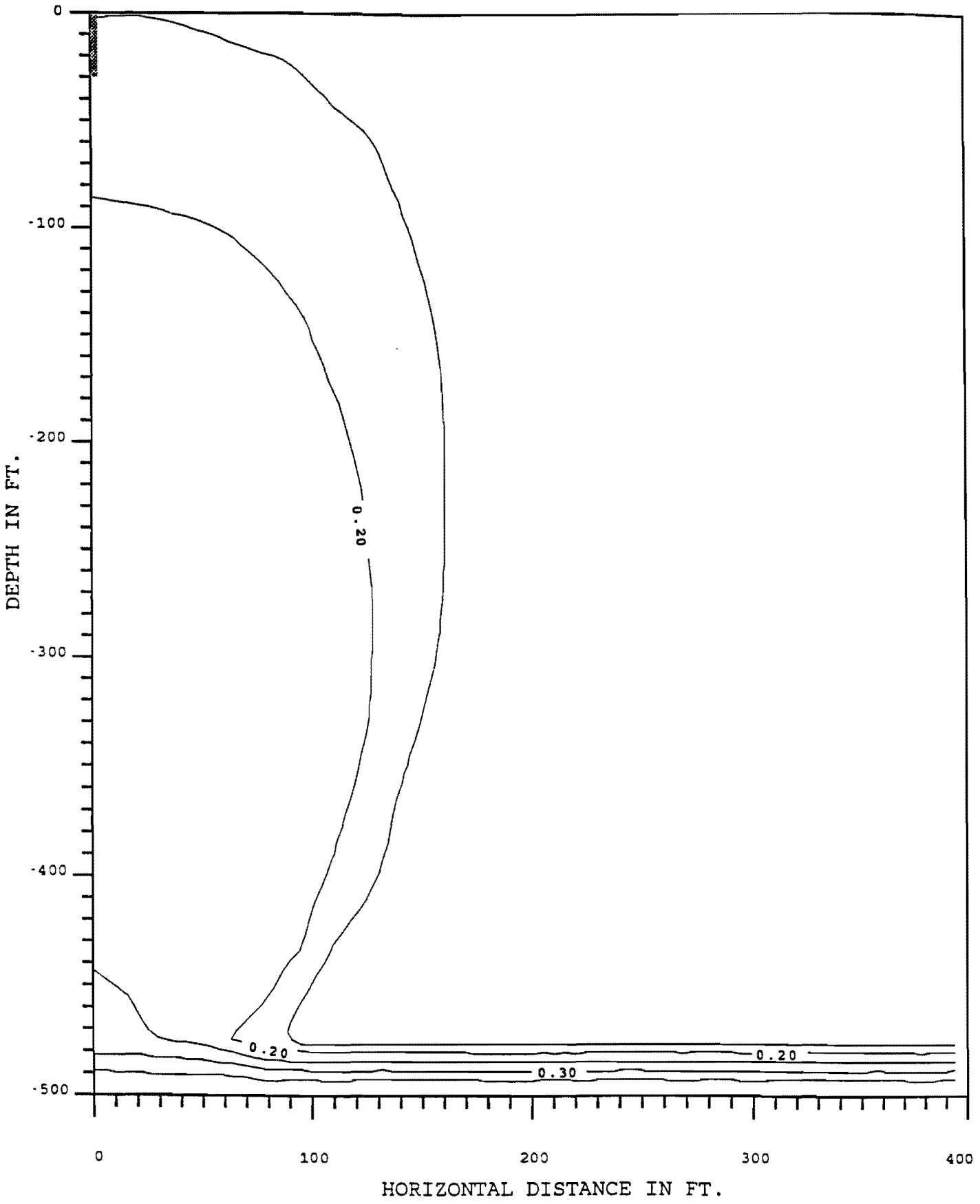


Figure 5j - Volumetric moisture contents at 28 years, homogeneous material, Ksx = 1 ft/day, Kx/Kz = 10.

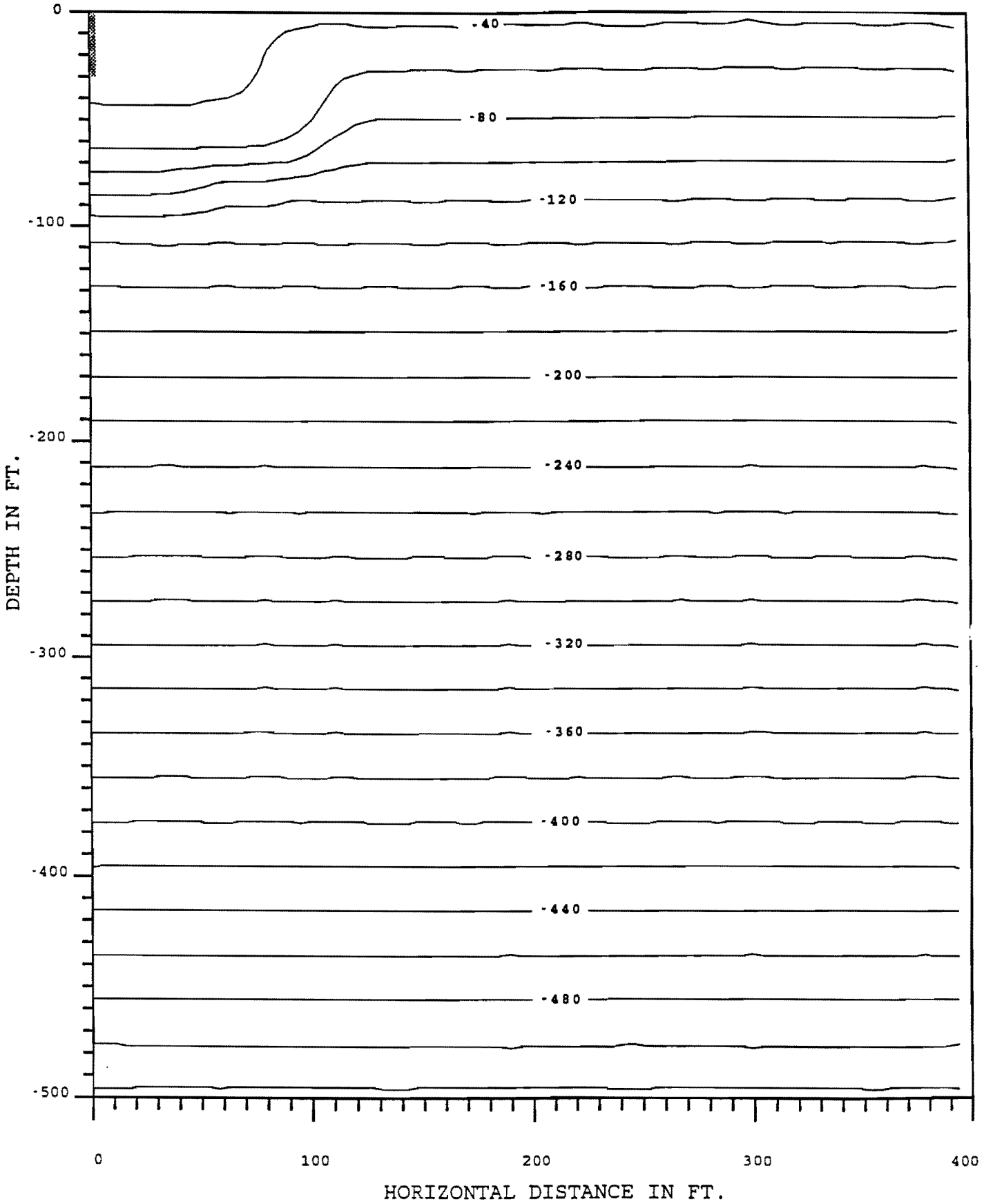


Figure 6a - Hydraulic heads (in feet) at 1 year, homogeneous material, Ksx = 1 ft/day, Kx/Kz = 25.

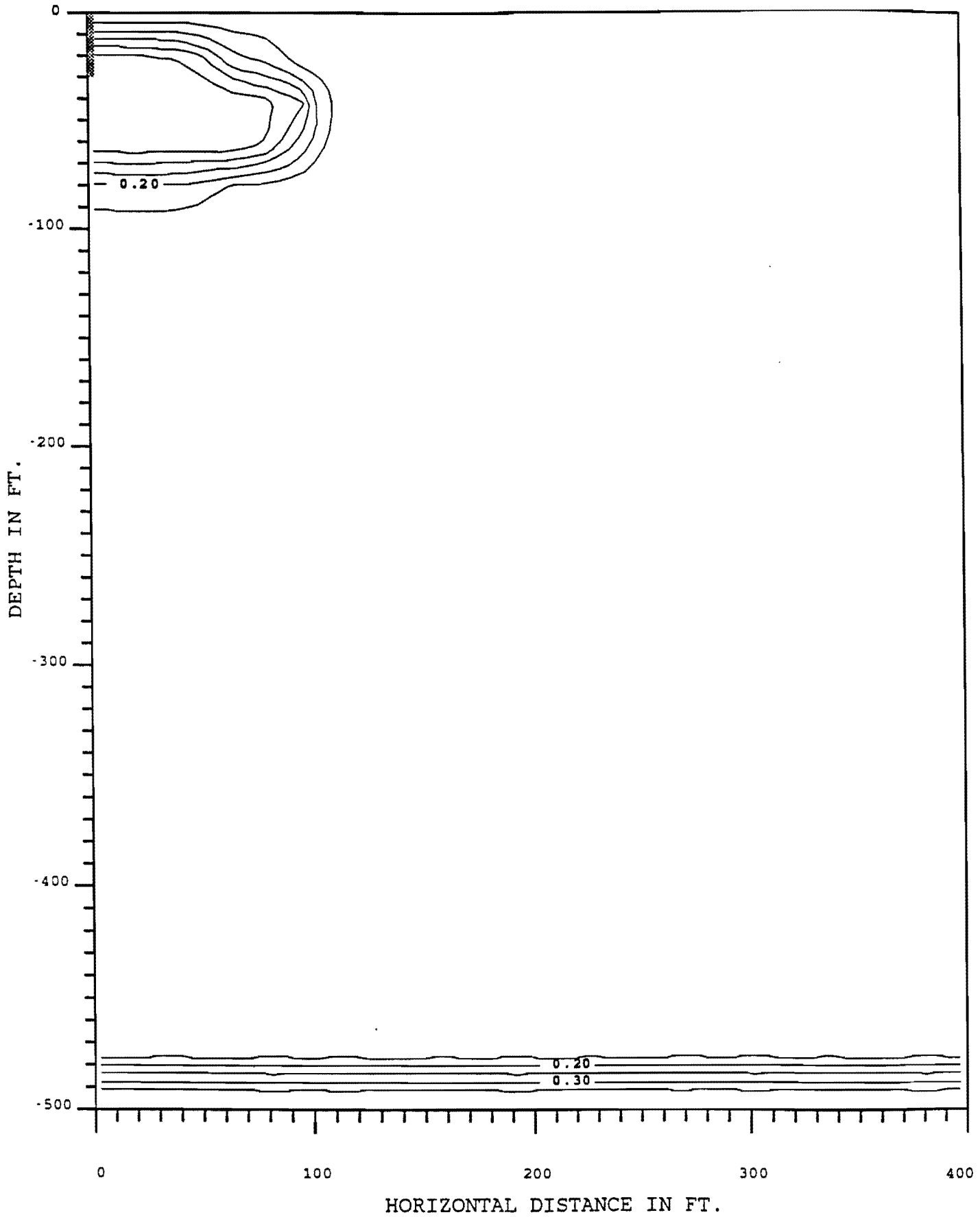


Figure 6b - Volumetric moisture contents at 1 year, homogeneous material, Ksx = 1 ft/day, Kx/Kz = 25.

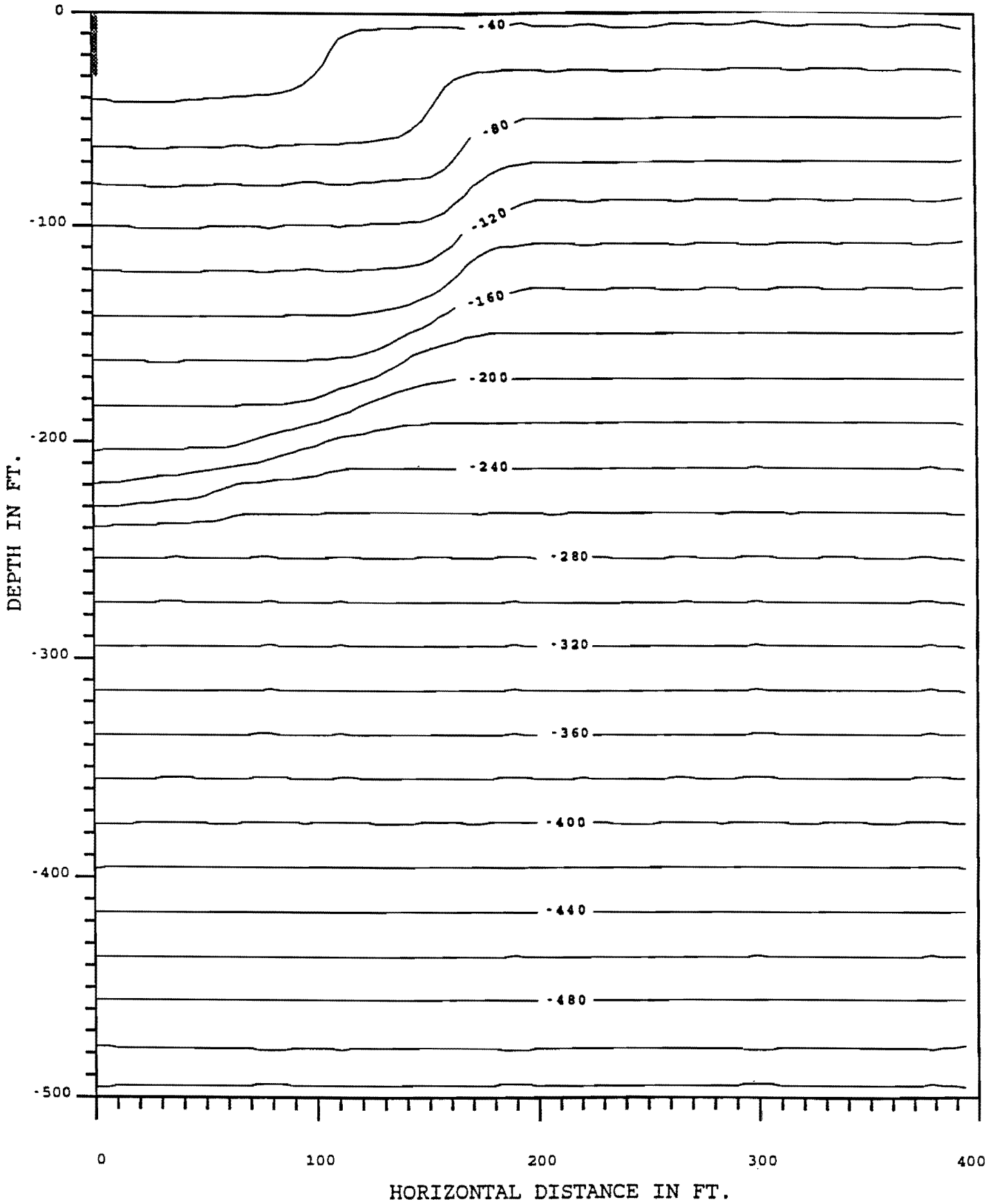


Figure 6c - Hydraulic heads (in feet) at 5 years, homogeneous material, Ksx = 1 ft/day, Kx/Kz = 25.

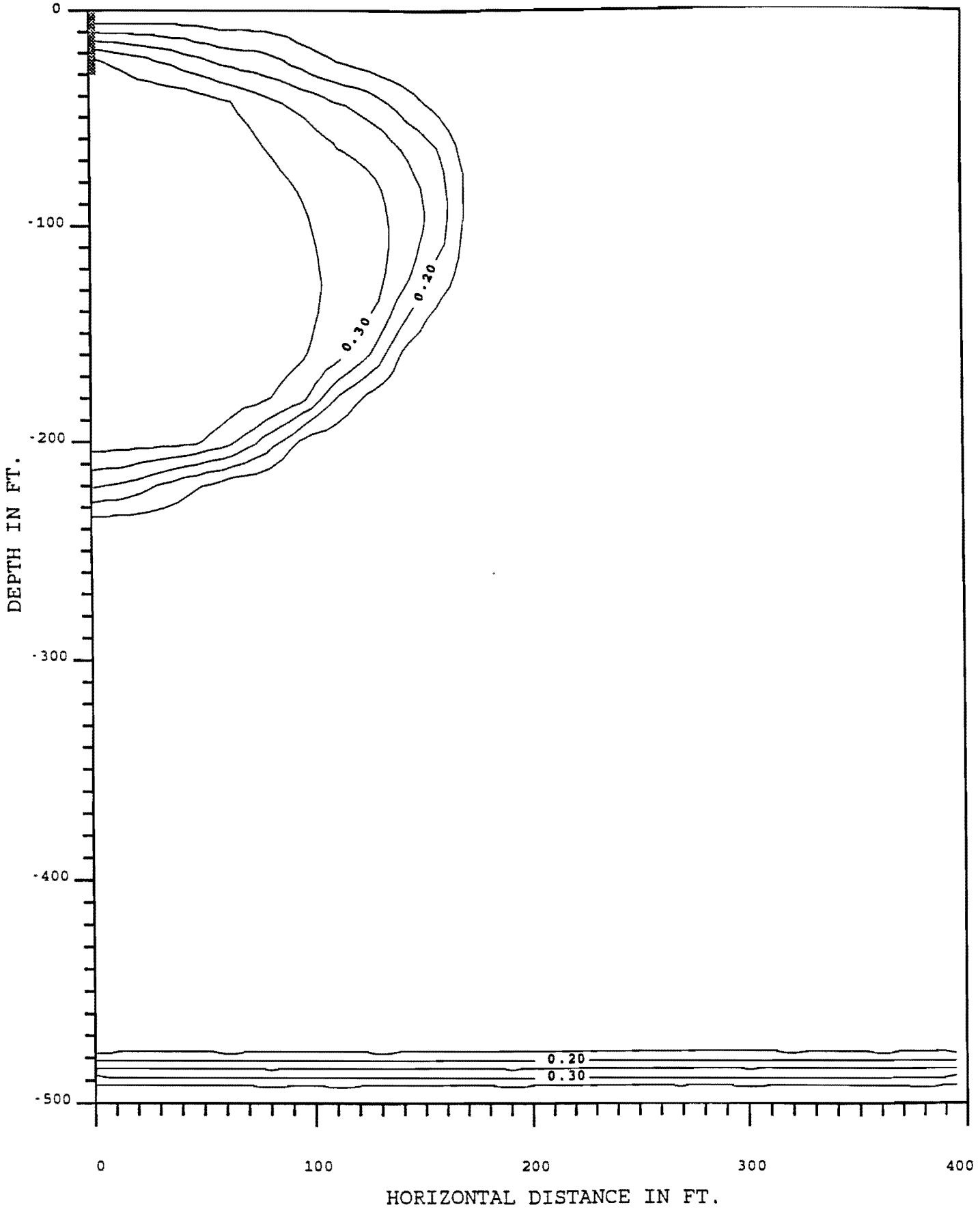


Figure 6d - Volumetric moisture contents at 5 years, homogeneous material, Ksx = 1 ft/day, Kx/Kz = 25.

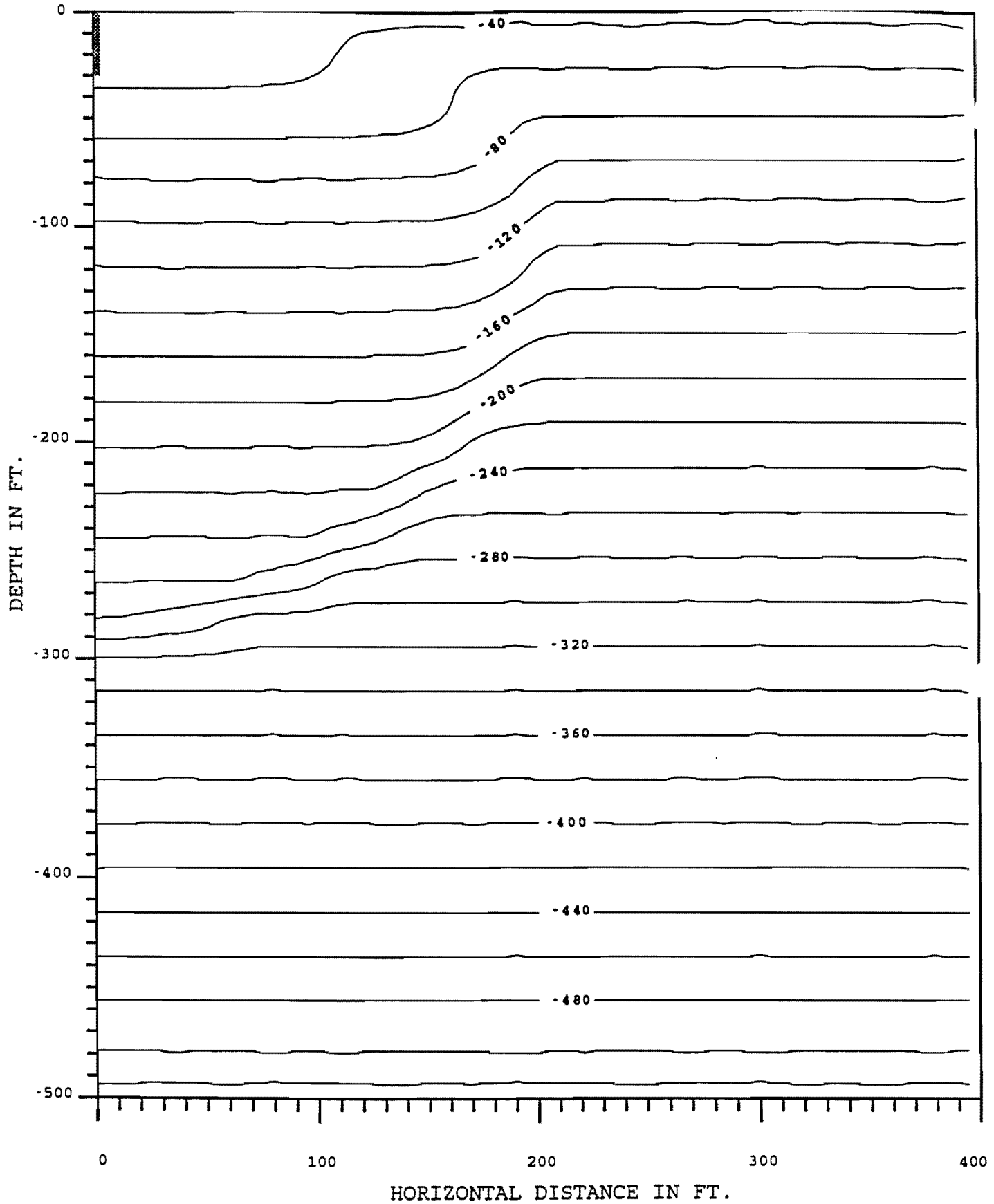


Figure 6e - Hydraulic heads (in feet) at 10 years, homogeneous mater. ,
Ksx = 1 ft/day, Kx/Kz = 25.

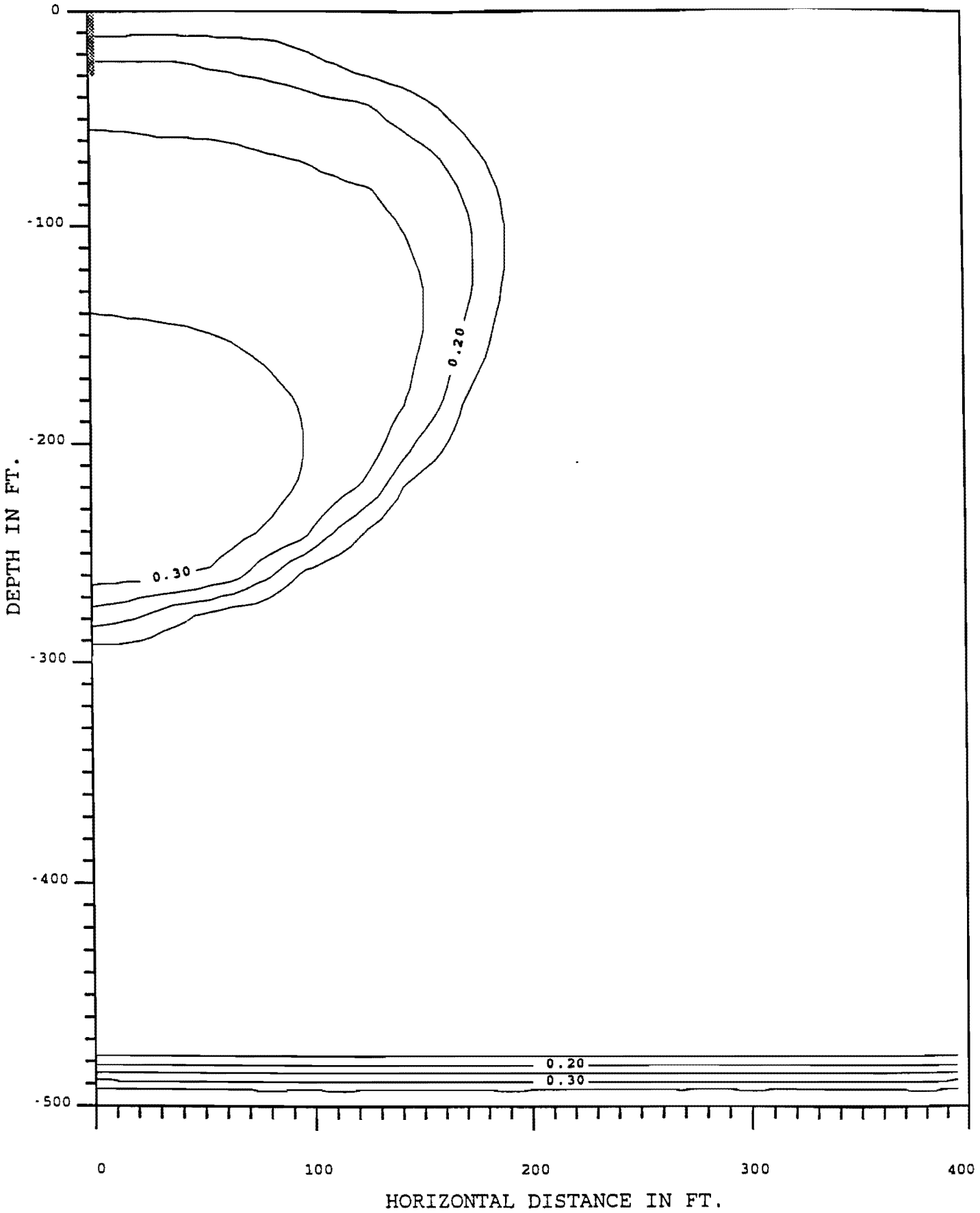


Figure 6f - Volumetric moisture contents at 10 years, homogeneous material, Ksx = 1 ft/day, Kx/Kz = 25.

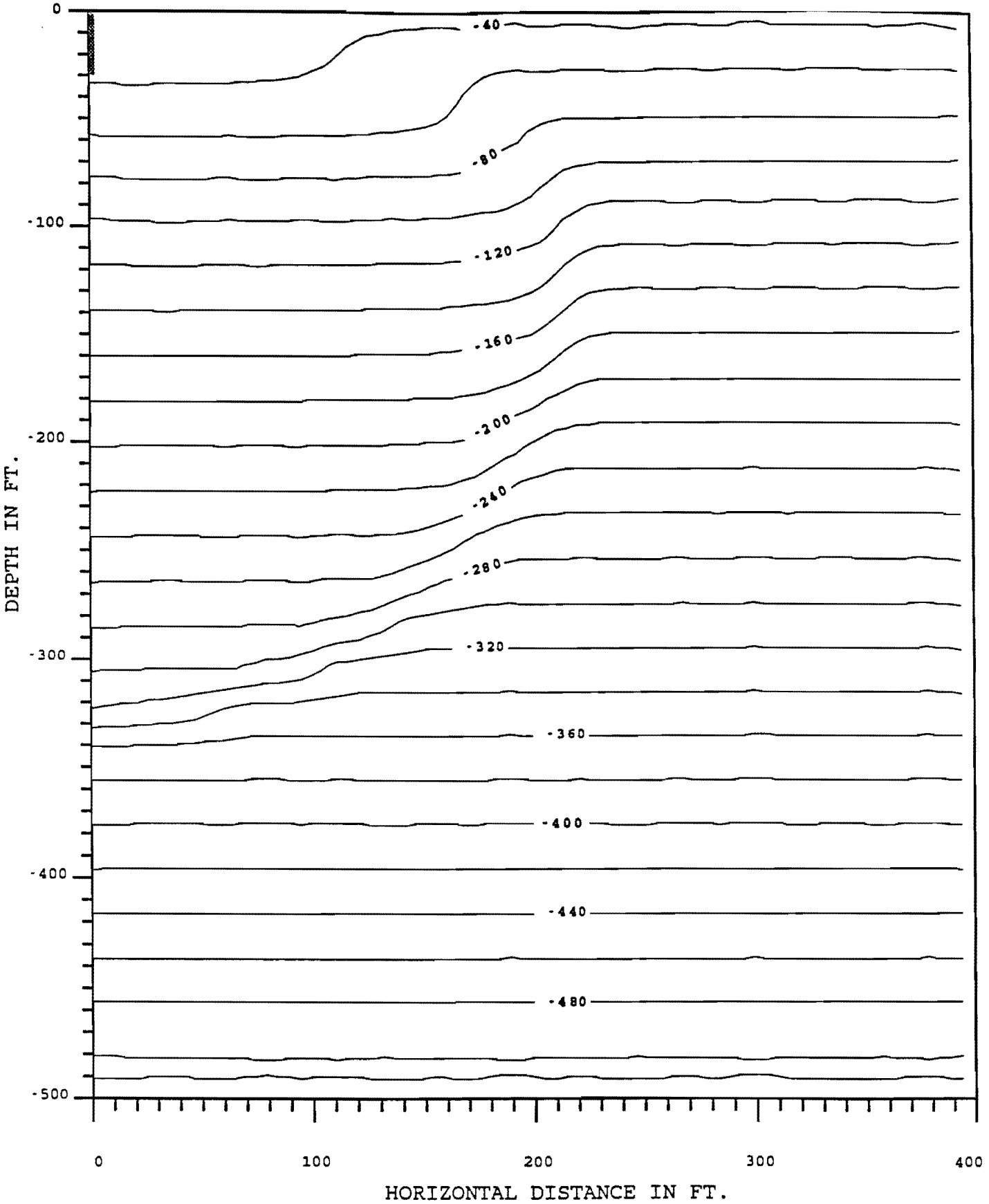


Figure 6g - Hydraulic heads (in feet) at 20 years, homogeneous material, Ksx = 1 ft/day, Kx/Kz = 25.

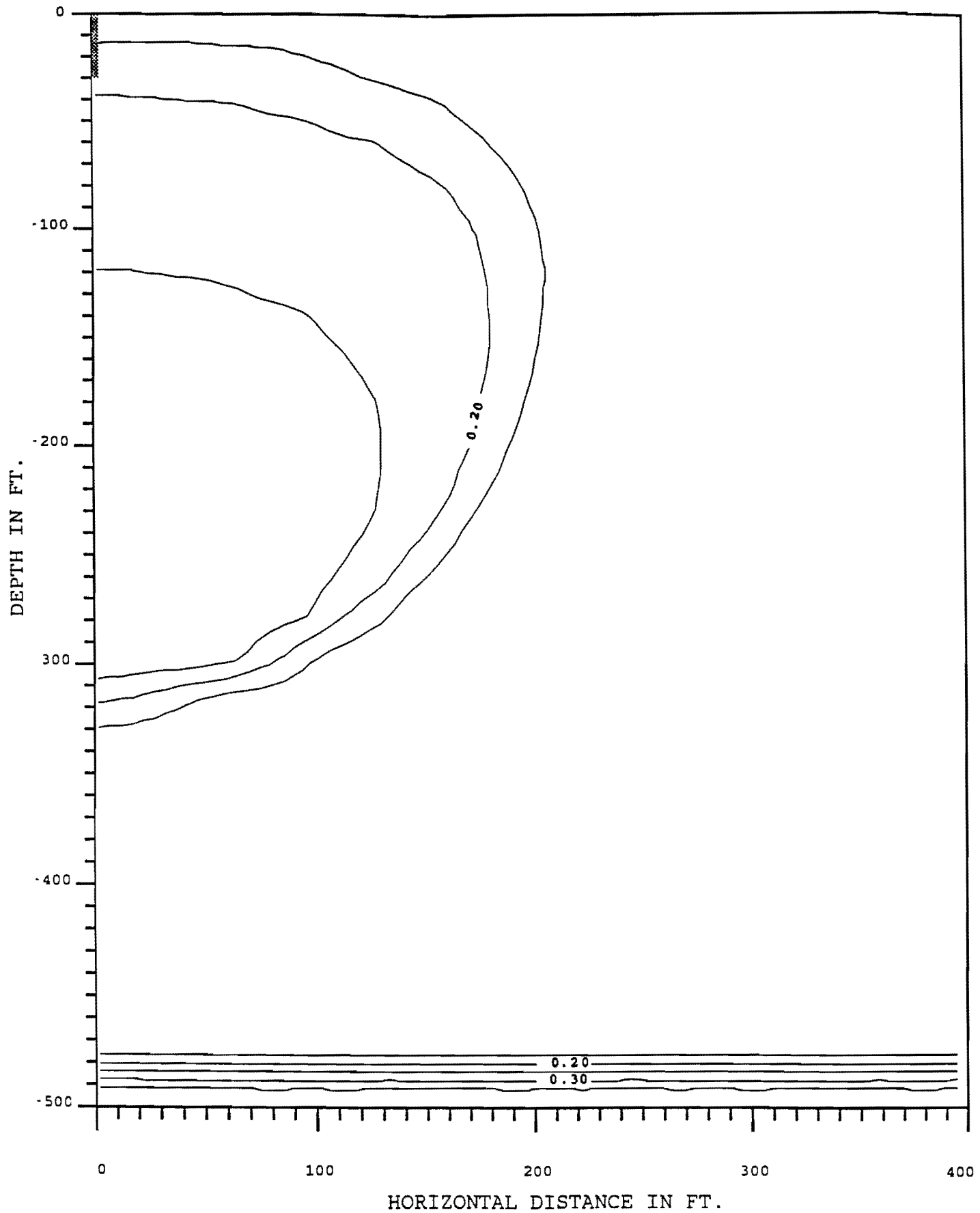


Figure 6h - Volumetric moisture contents at 20 years, homogeneous material, Ksx = 1 ft/day, Kx/Kz = 25.

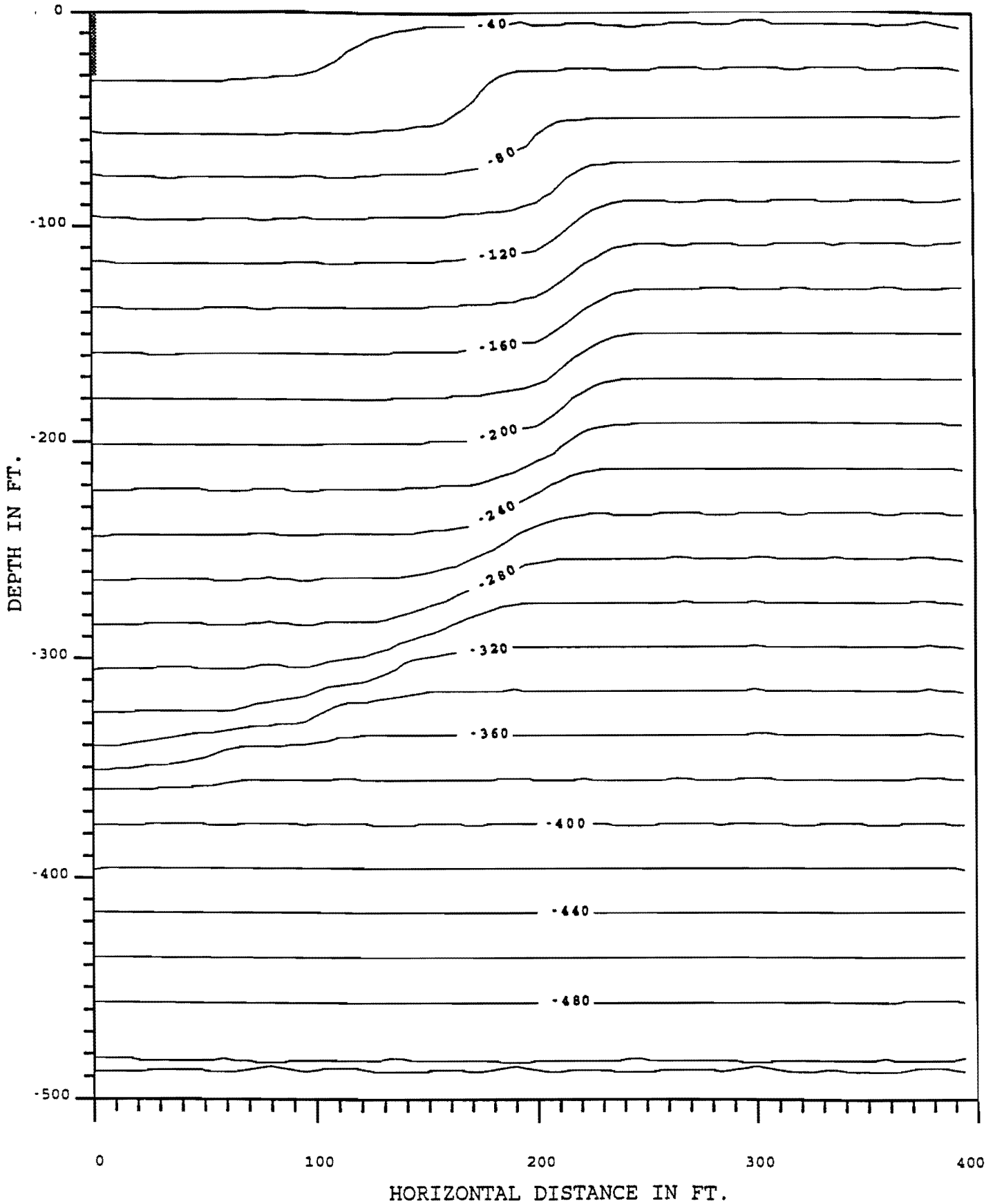


Figure 6i - Hydraulic heads (in feet) at 28 years, homogeneous material, Ksx = 1 ft/day, Kx/Kz = 25.

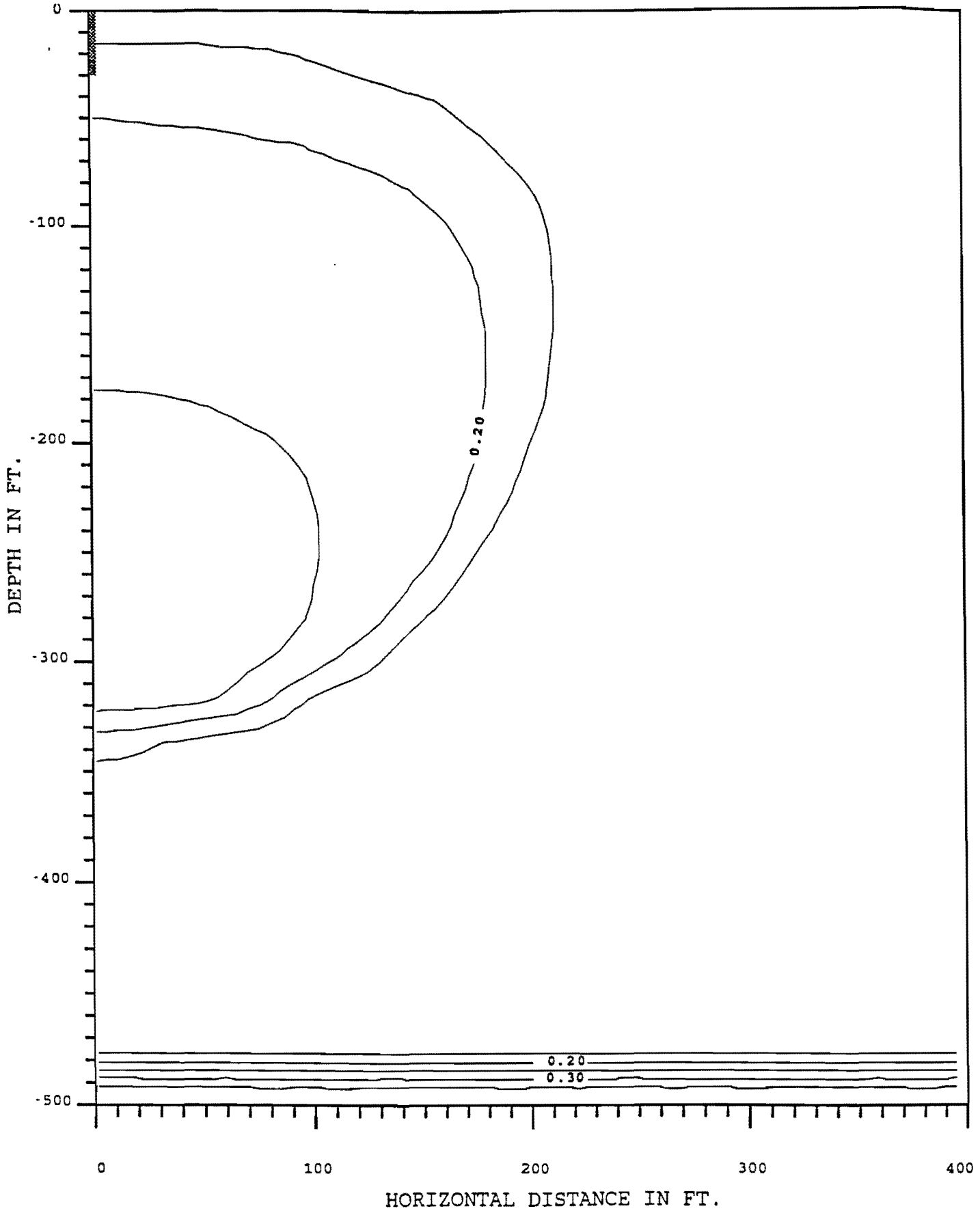


Figure 6j - Volumetric moisture contents at 28 years, homogeneous material, Ksx = 1 ft/day, Kx/Kz = 25.

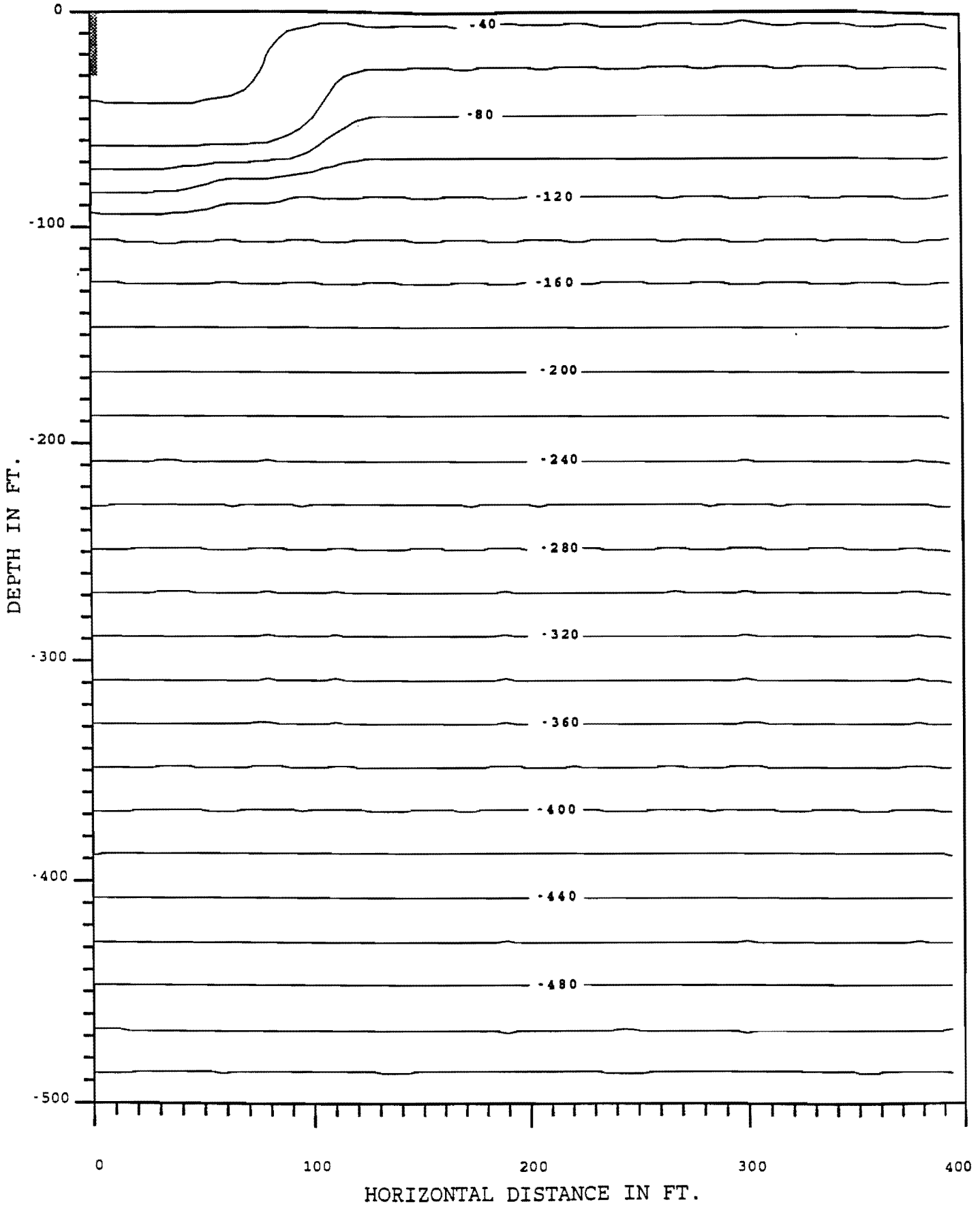


Figure 7a - Hydraulic heads (in feet) at 1 year, homogeneous material, Ksx = 30 ft/day, Kx/Kz = 50.

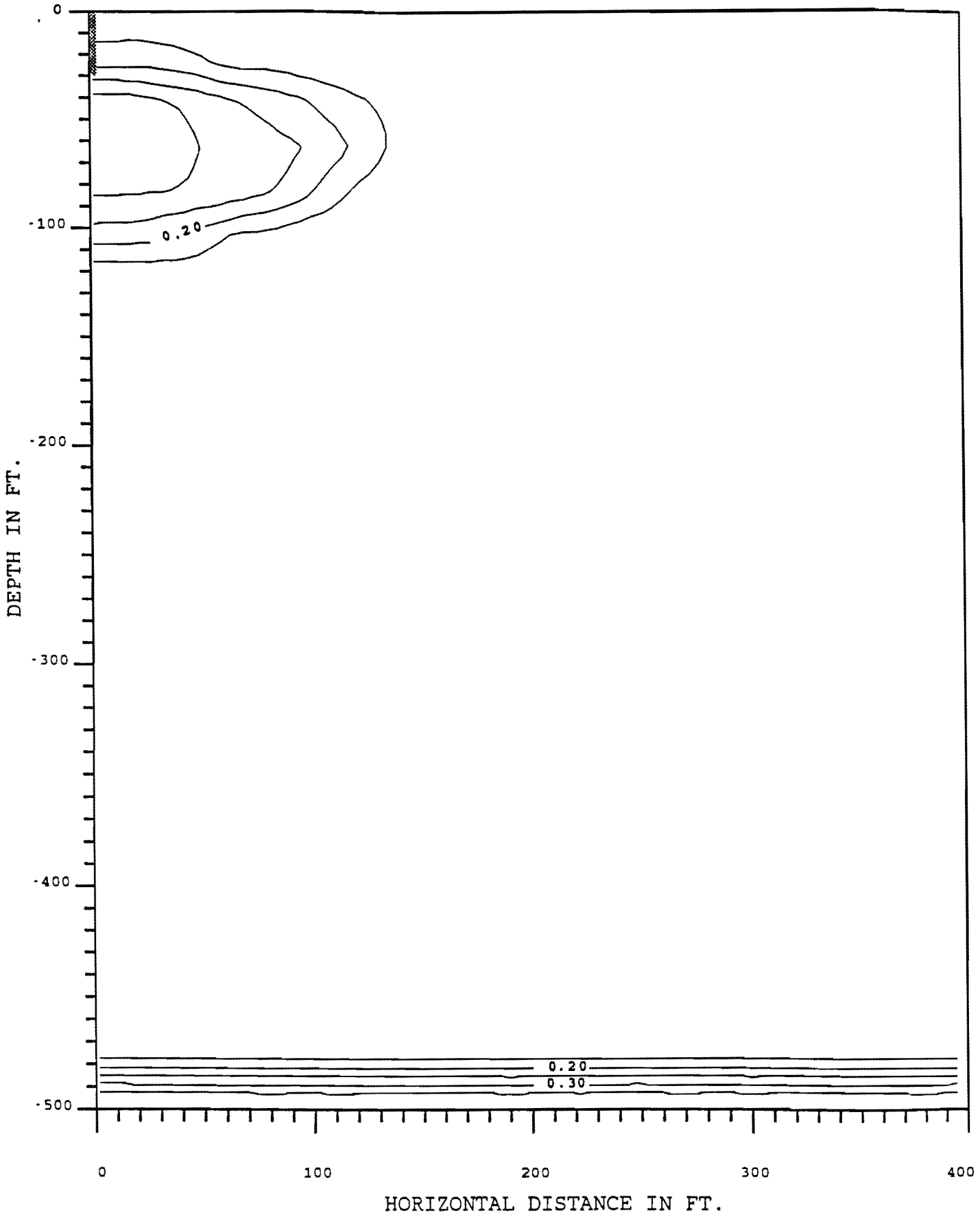


Figure 7b - Volumetric moisture contents at 1 year, homogeneous material, Ksx = 30 ft/day, Kx/Kz = 50.

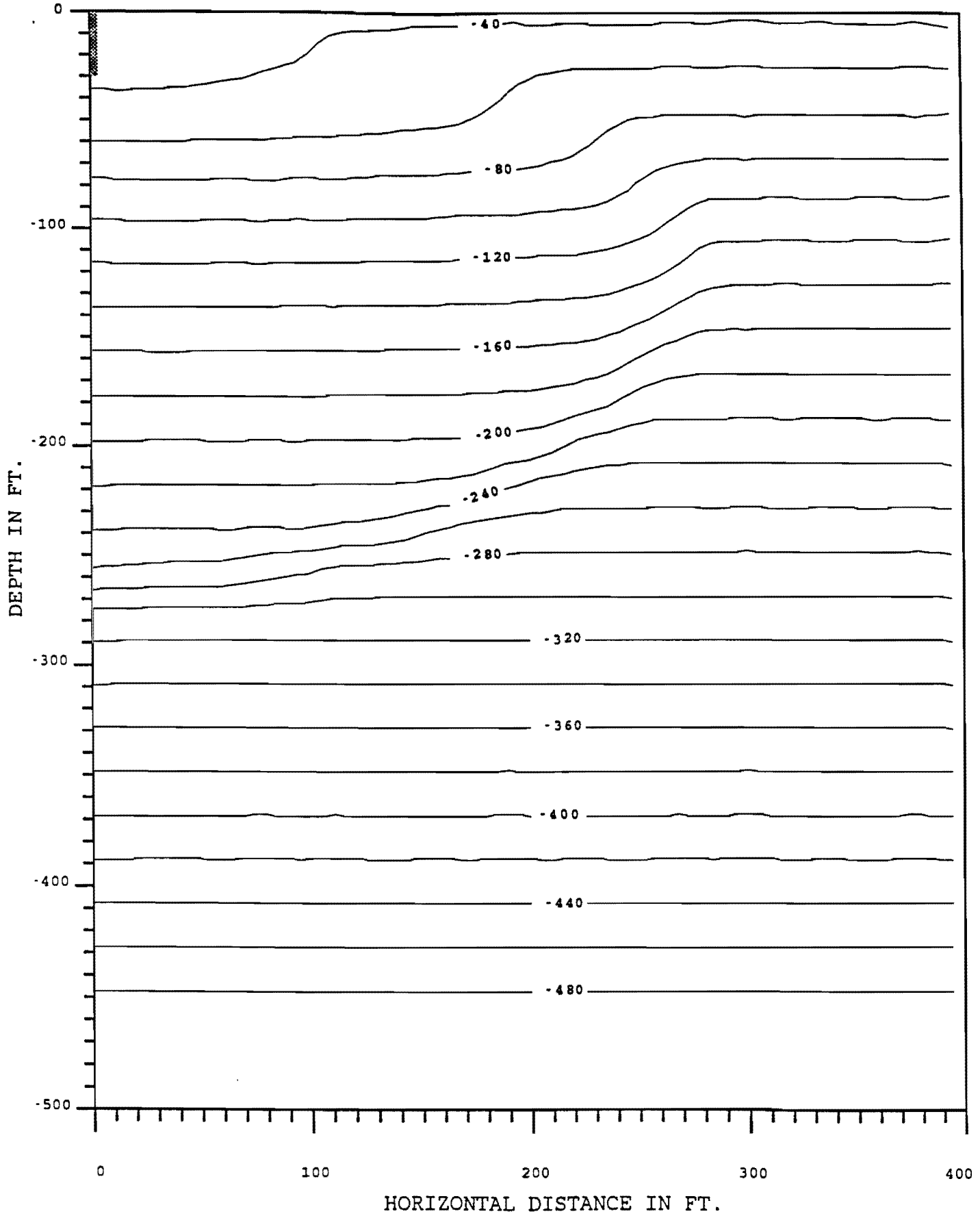


Figure 7c - Hydraulic heads (in feet) at 5 years, homogeneous material, Ksx = 30 ft/day, Kx/Kz = 50.

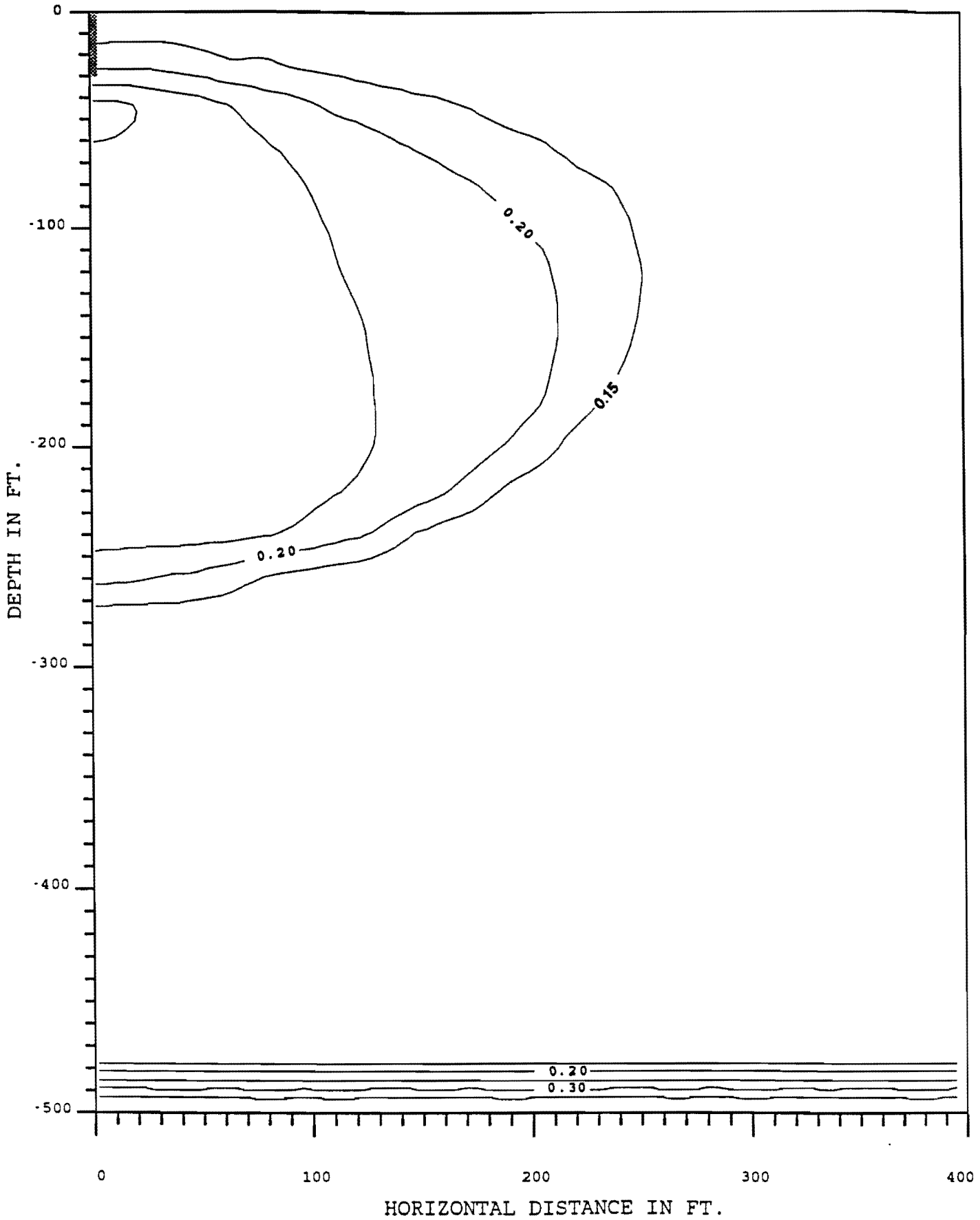


Figure 7d - Volumetric moisture contents at 5 years, homogeneous material, Ksx = 30 ft/day, Kx/Kz = 50.

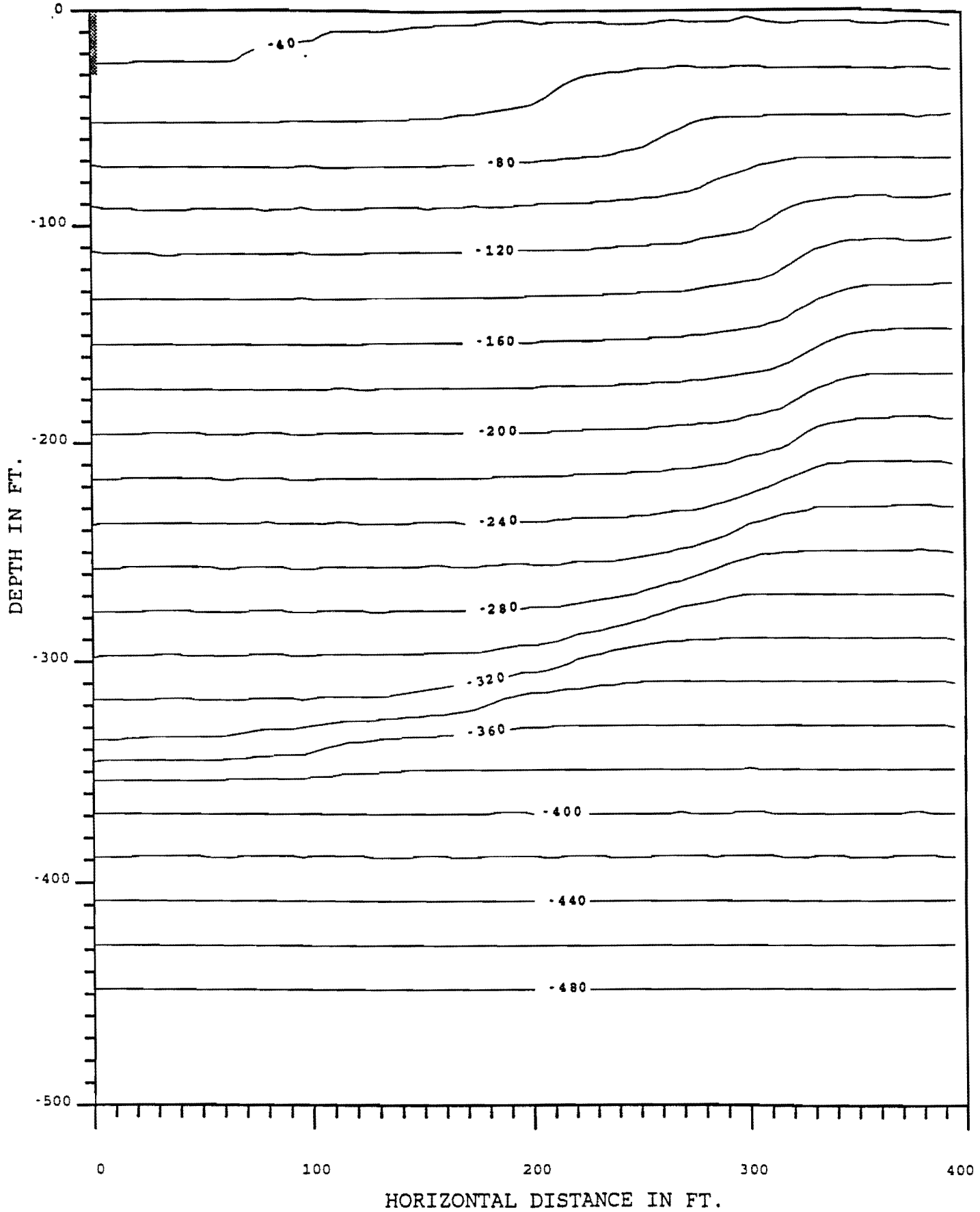


Figure 7e - Hydraulic heads (in feet) at 10 years, homogeneous material, Ksx = 30 ft/day, Kx/Kz = 50.

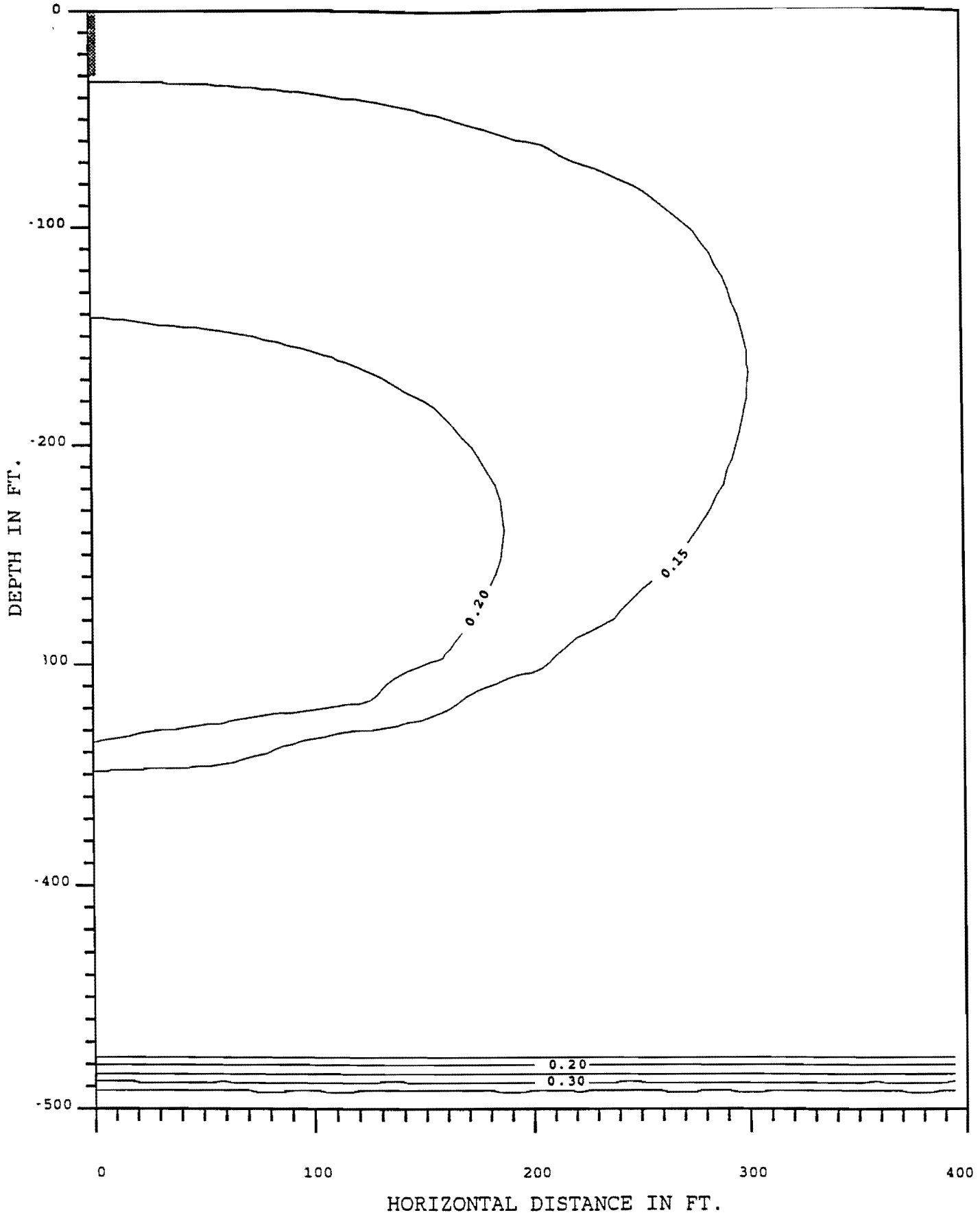


Figure 7f - Volumetric moisture contents at 10 years, homogeneous material, Ksx = 30 ft/day, Kx/Kz = 50.

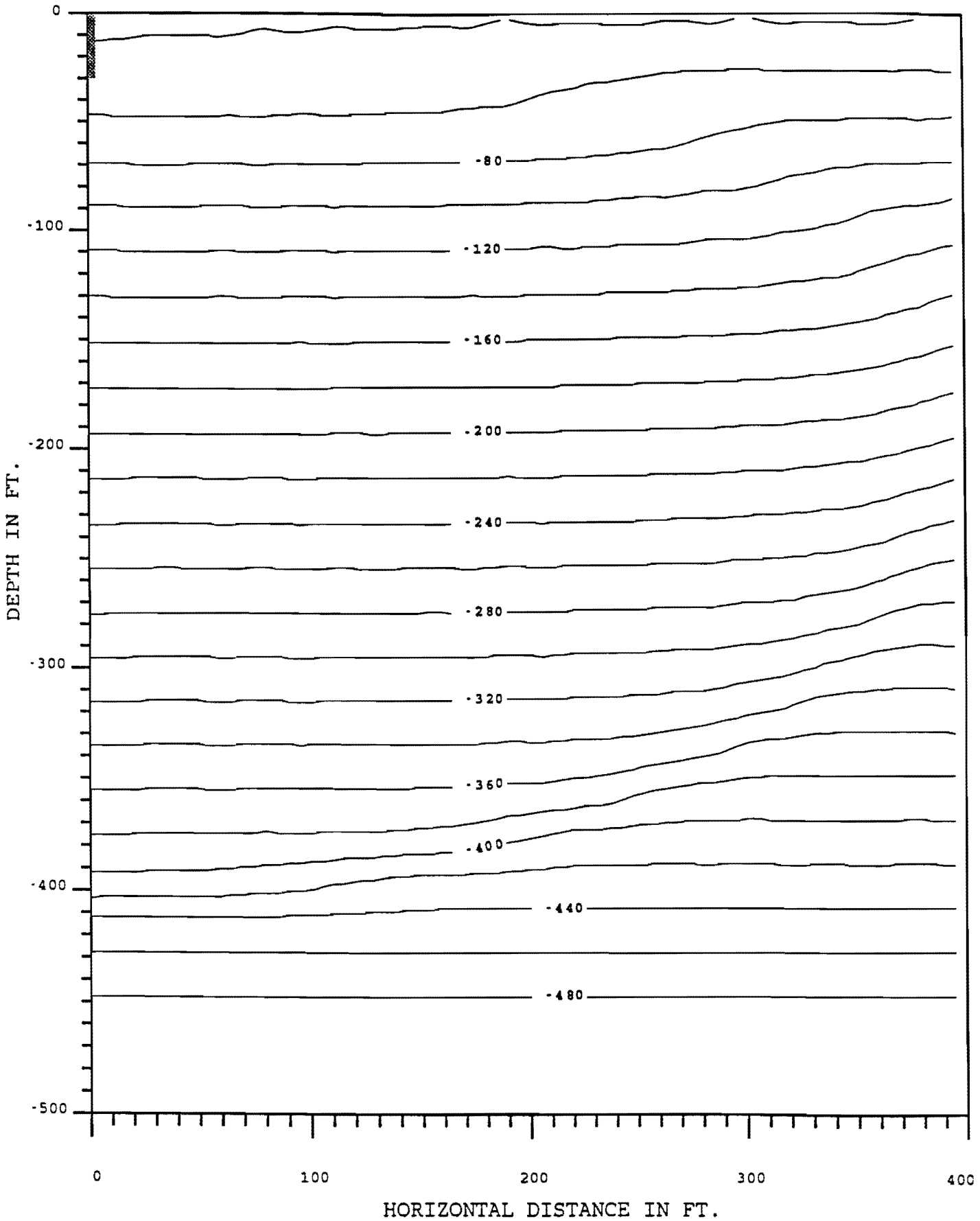


Figure 7g - Hydraulic heads (in feet) at 20 years, homogeneous material, Ksx = 30 ft/day, Kx/Kz = 50.

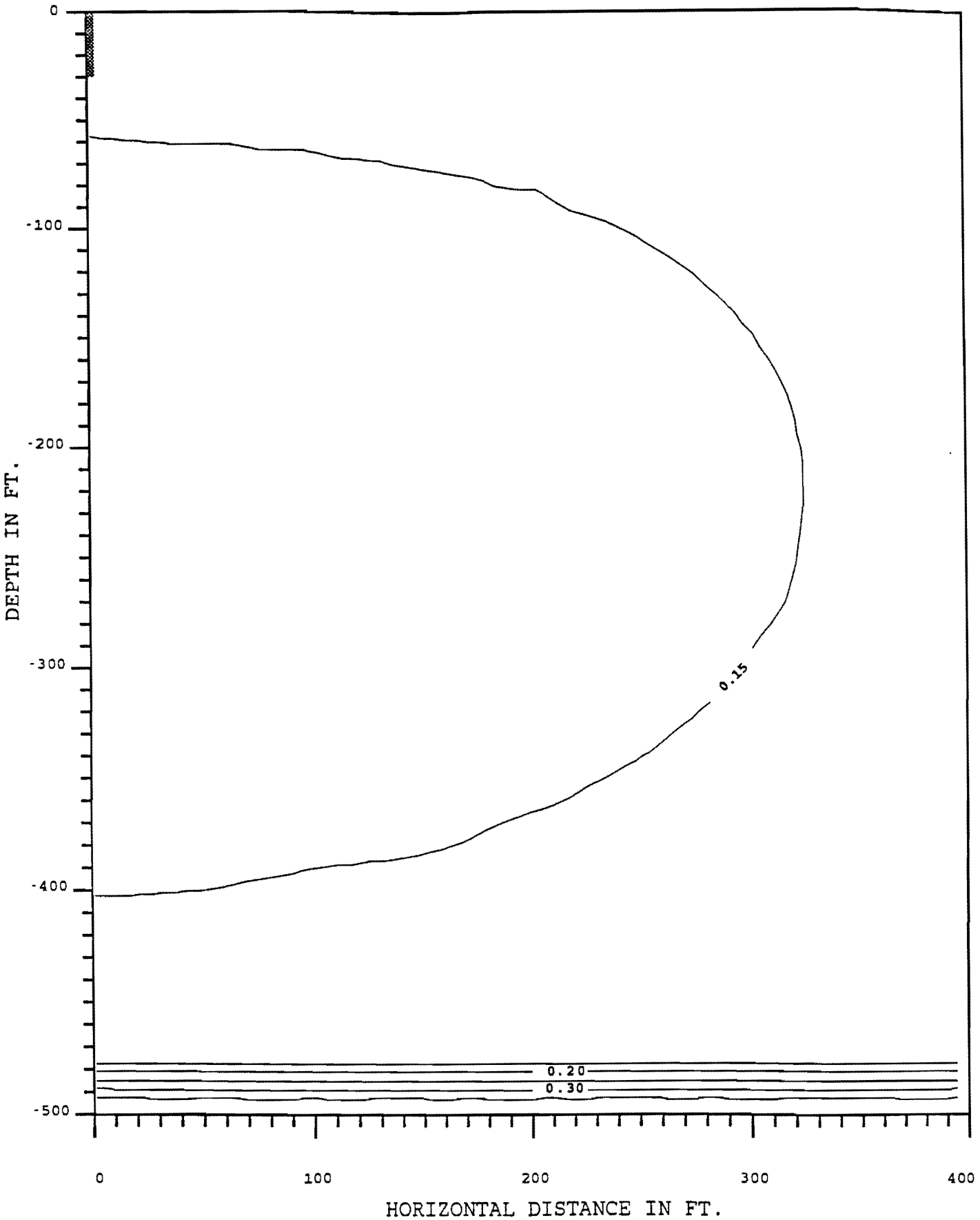


Figure 7h - Volumetric moisture contents at 20 years, homogeneous material, Ksx = 30 ft/day, Kx/Kz = 50.

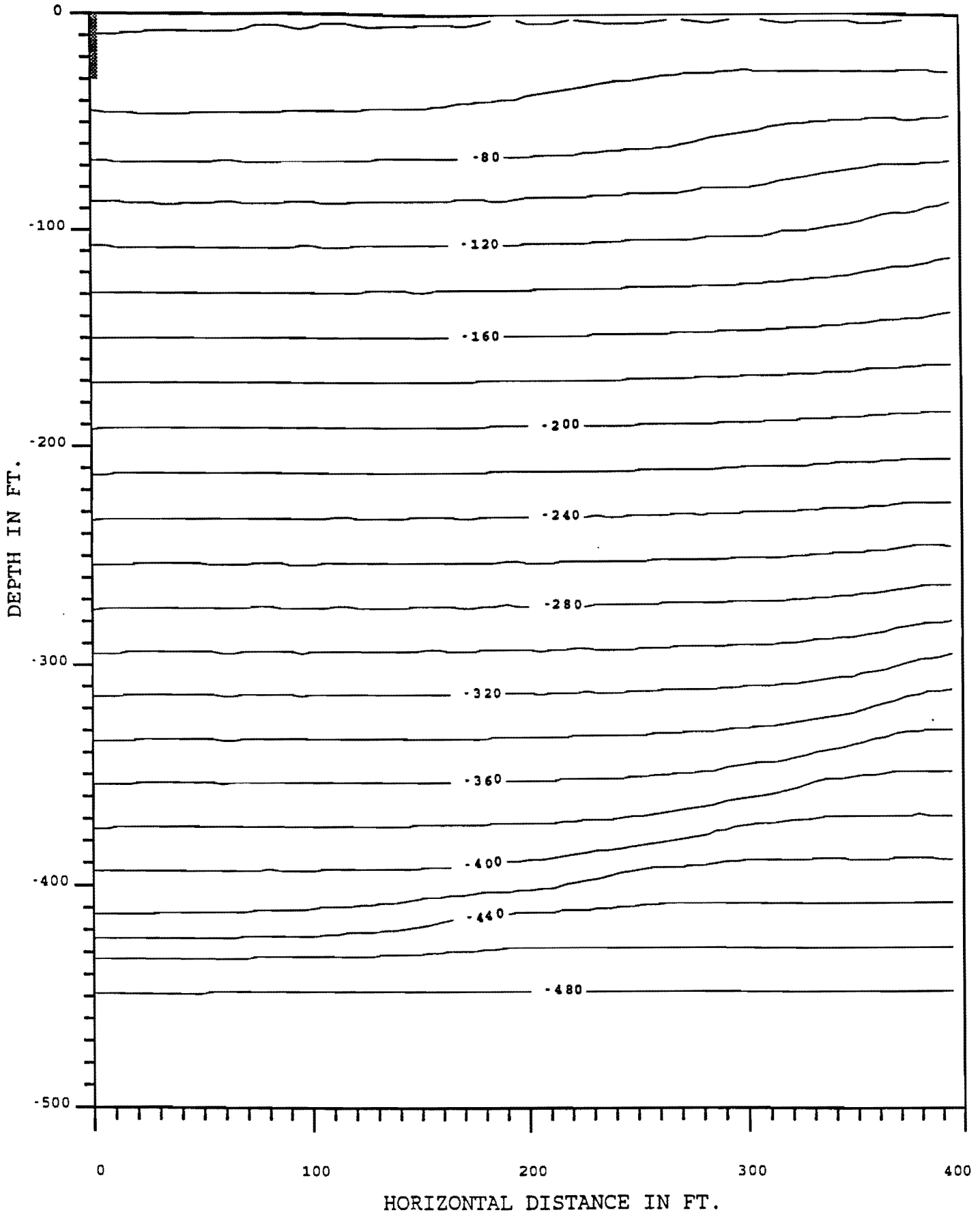


Figure 7i - Hydraulic heads (in feet) at 28 years, homogeneous material, Ksx = 30 ft/day, Kx/Kz = 50.

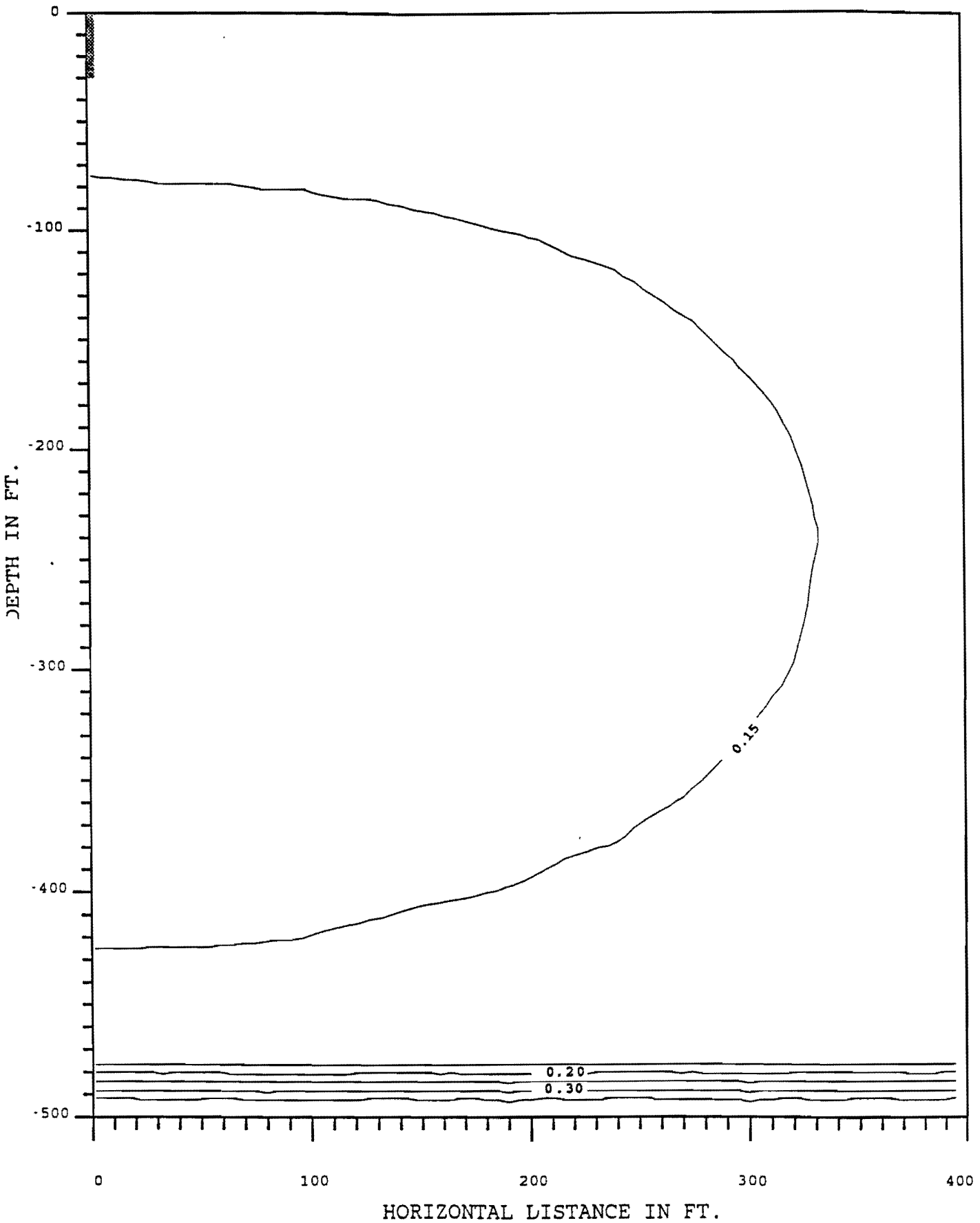


Figure 7j - Volumetric moisture contents at 28 years, homogenous material, Ksx = 30 ft/day, Kx/Kz = 50.

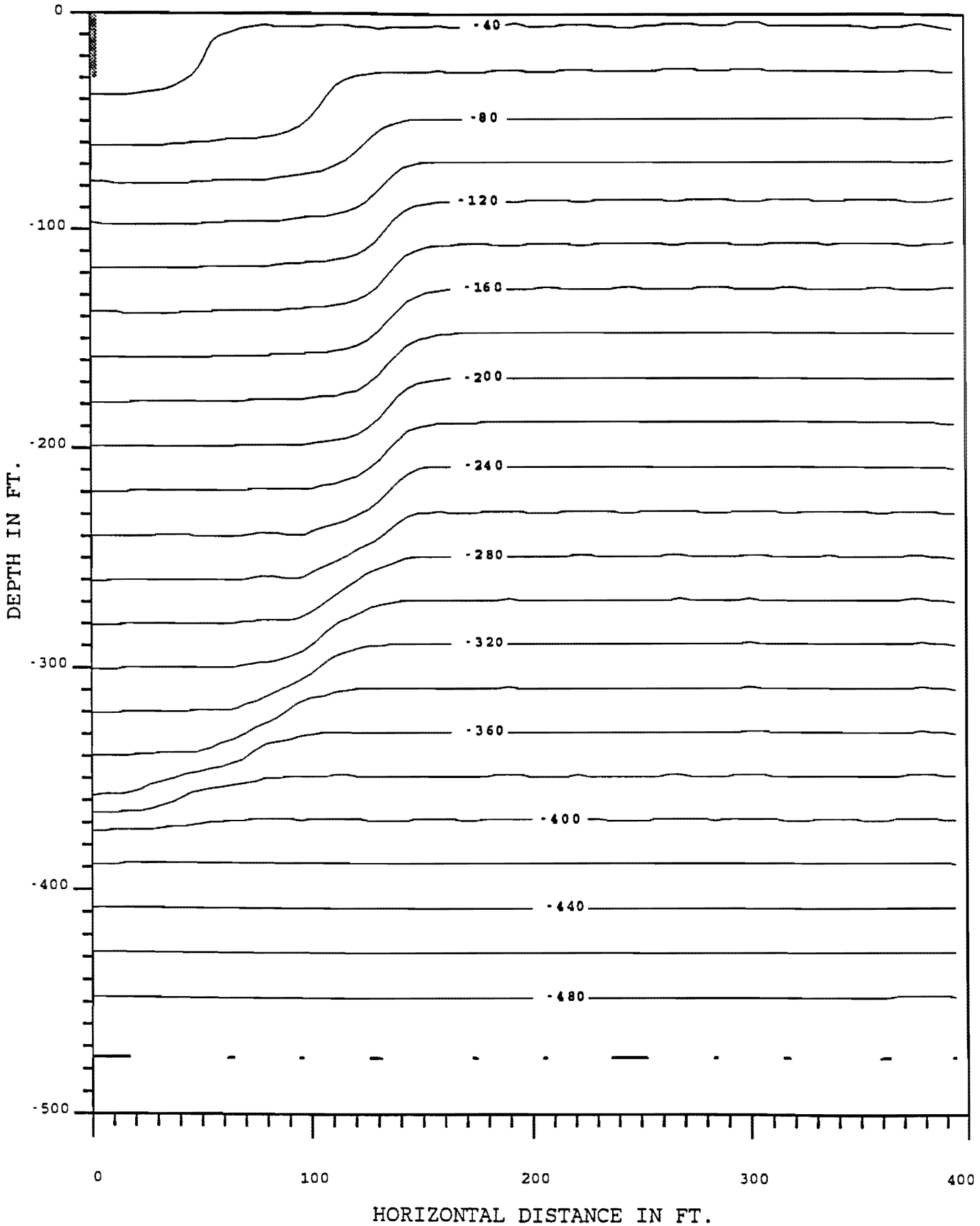


Figure 8a - Hydraulic heads (in feet) at 5 years, gravel layer at 25-30 foot depth; otherwise Ksx = 3 ft/day, Kx/Kz = 10.

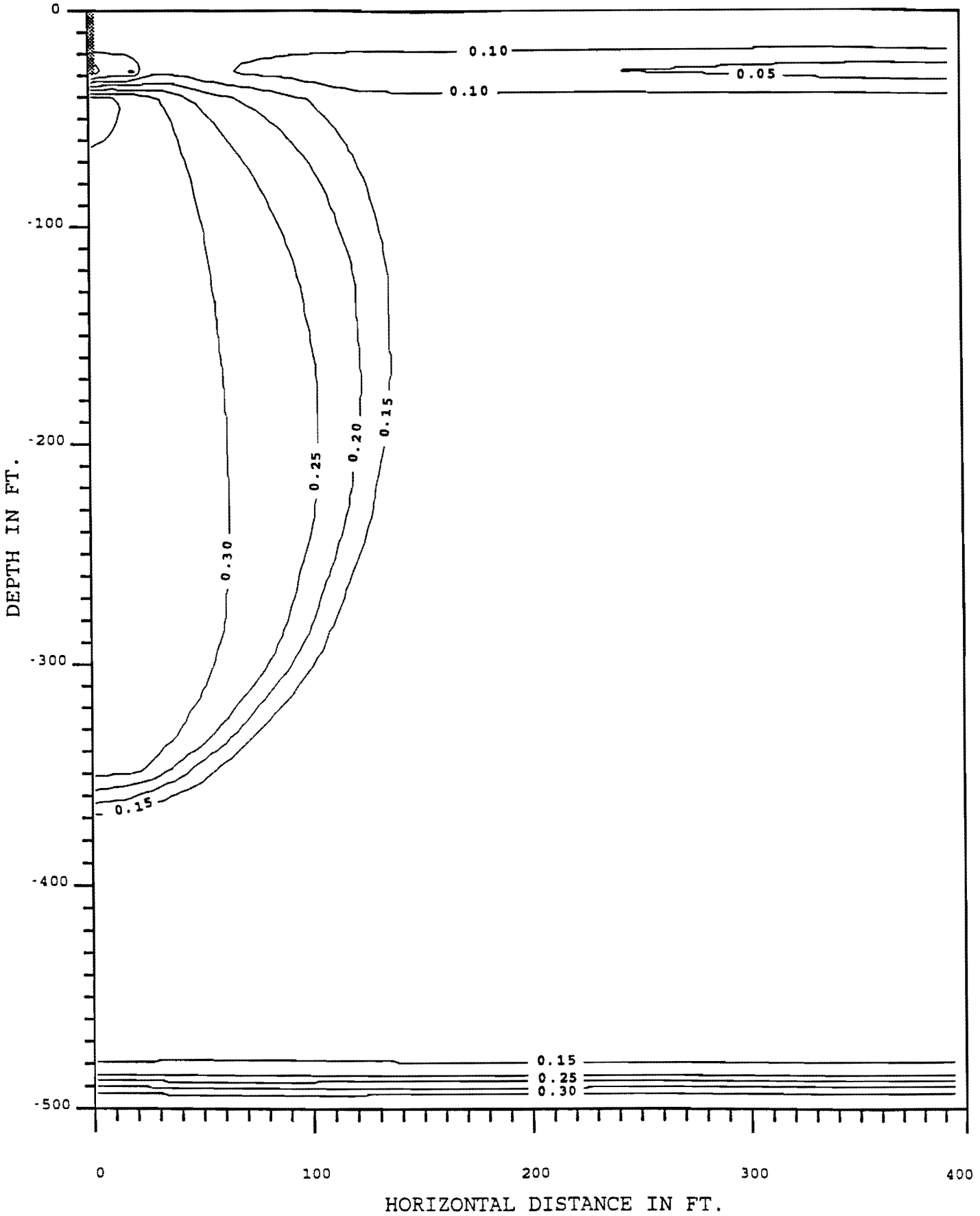


Figure 8b - Volumetric moisture contents at 5 years, gravel layer at 25-30 foot depth; otherwise Ksx = 3 ft/day, Kx/Kz = 10.

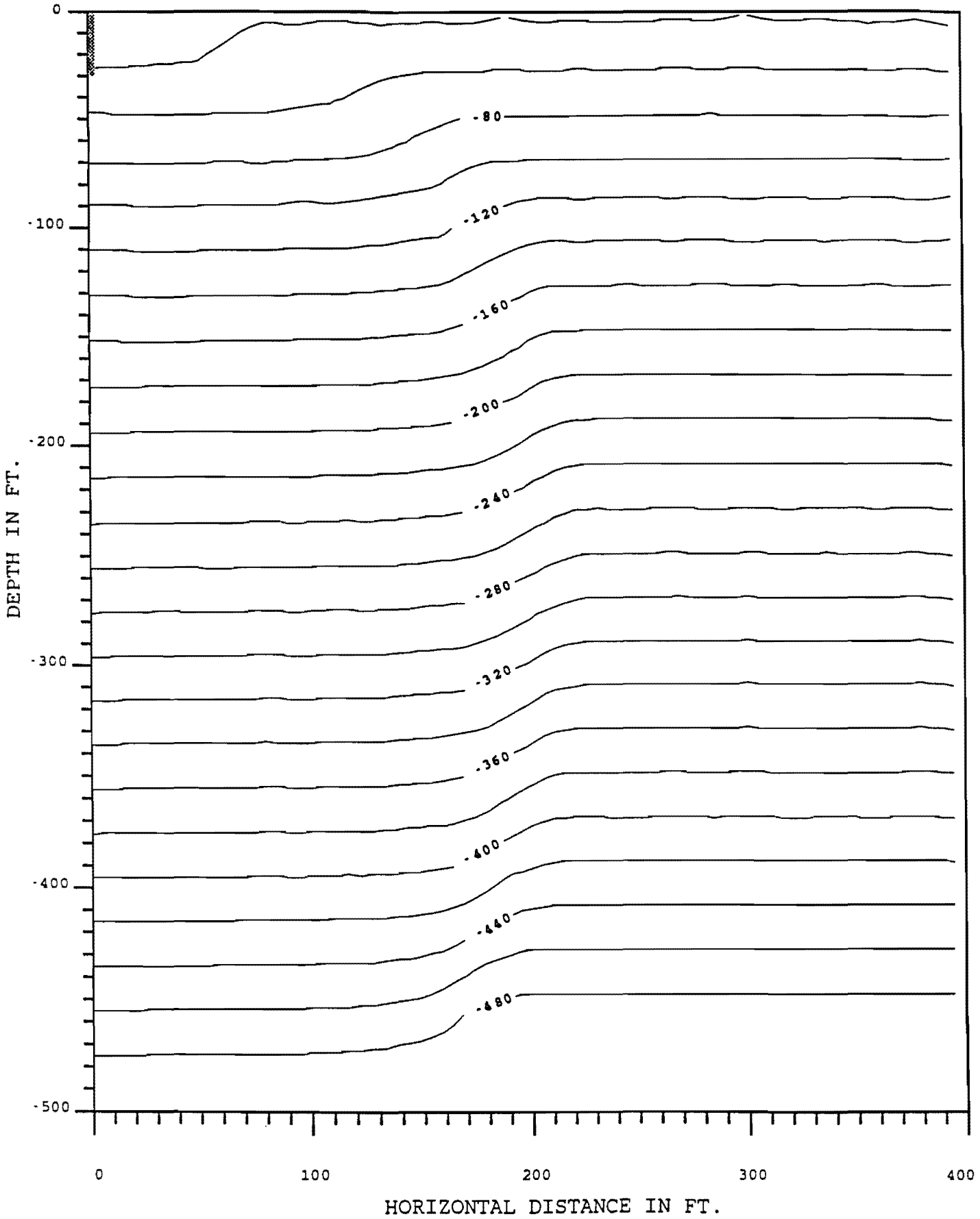


Figure 8c - Hydraulic heads (in feet) at 28 years, gravel layer at 25-30 foot depth; otherwise, Ksx = 3 ft/day, Kx/Kz = 10.

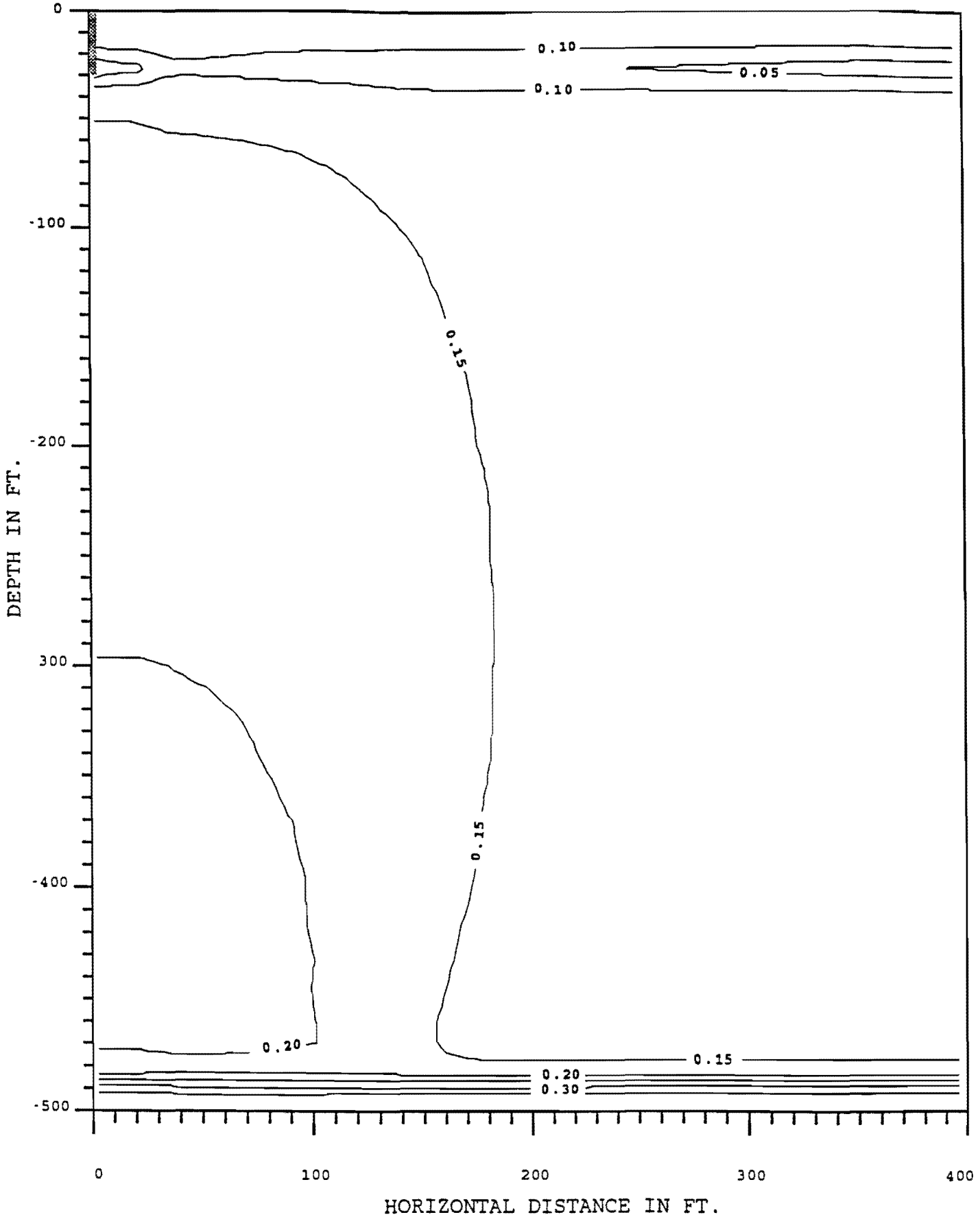


Figure 8d - Volumetric moisture contents at 28 years, gravel layer at 25-30 foot depth; otherwise Ksx = 3 ft/day, Kx/Kz = 10.

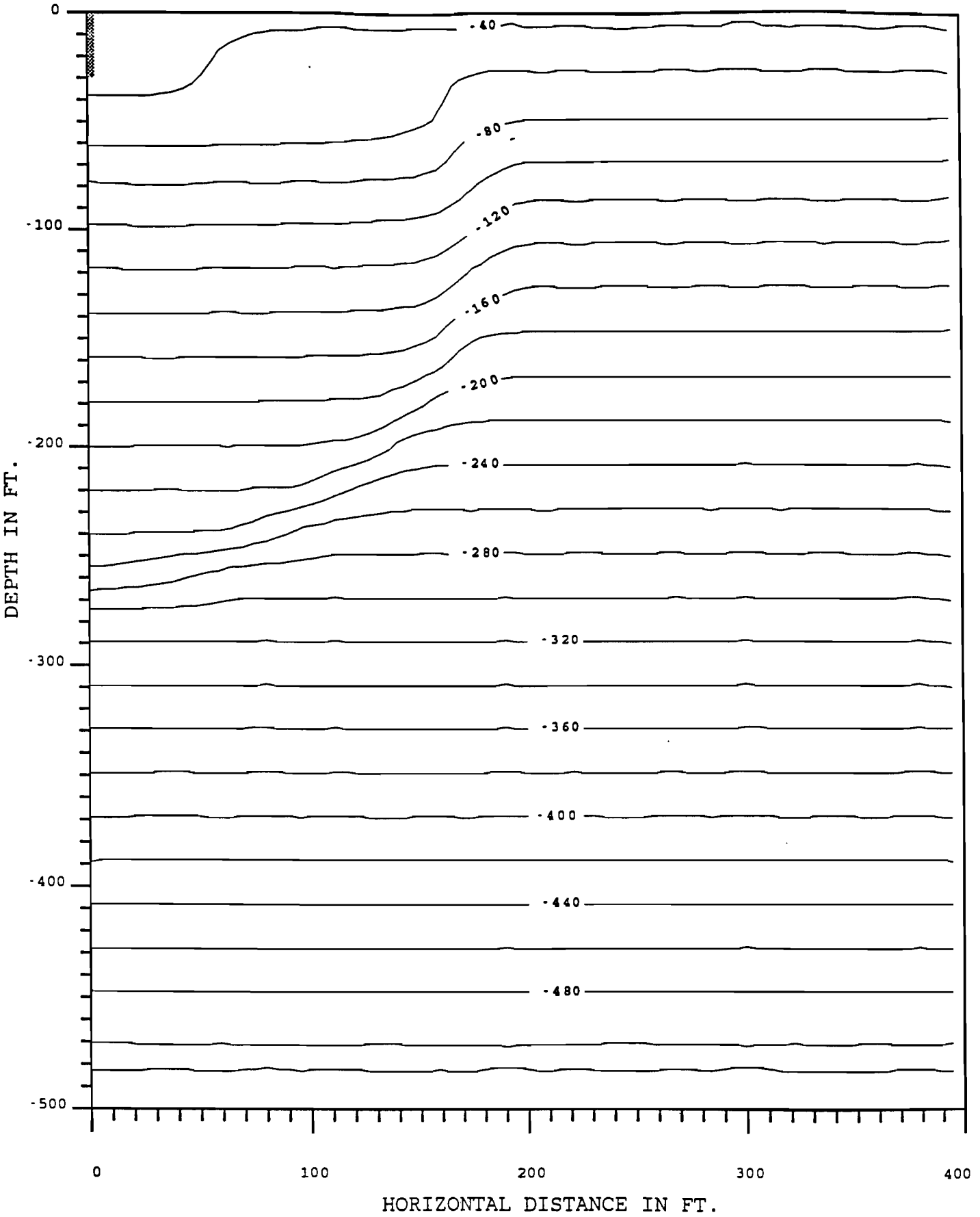


Figure 9a - Hydraulic heads (in feet) at 5 years, gravel layer at 25-30 foot depth; otherwise Ksx = 3 ft/day, Kx/Kz = 25.

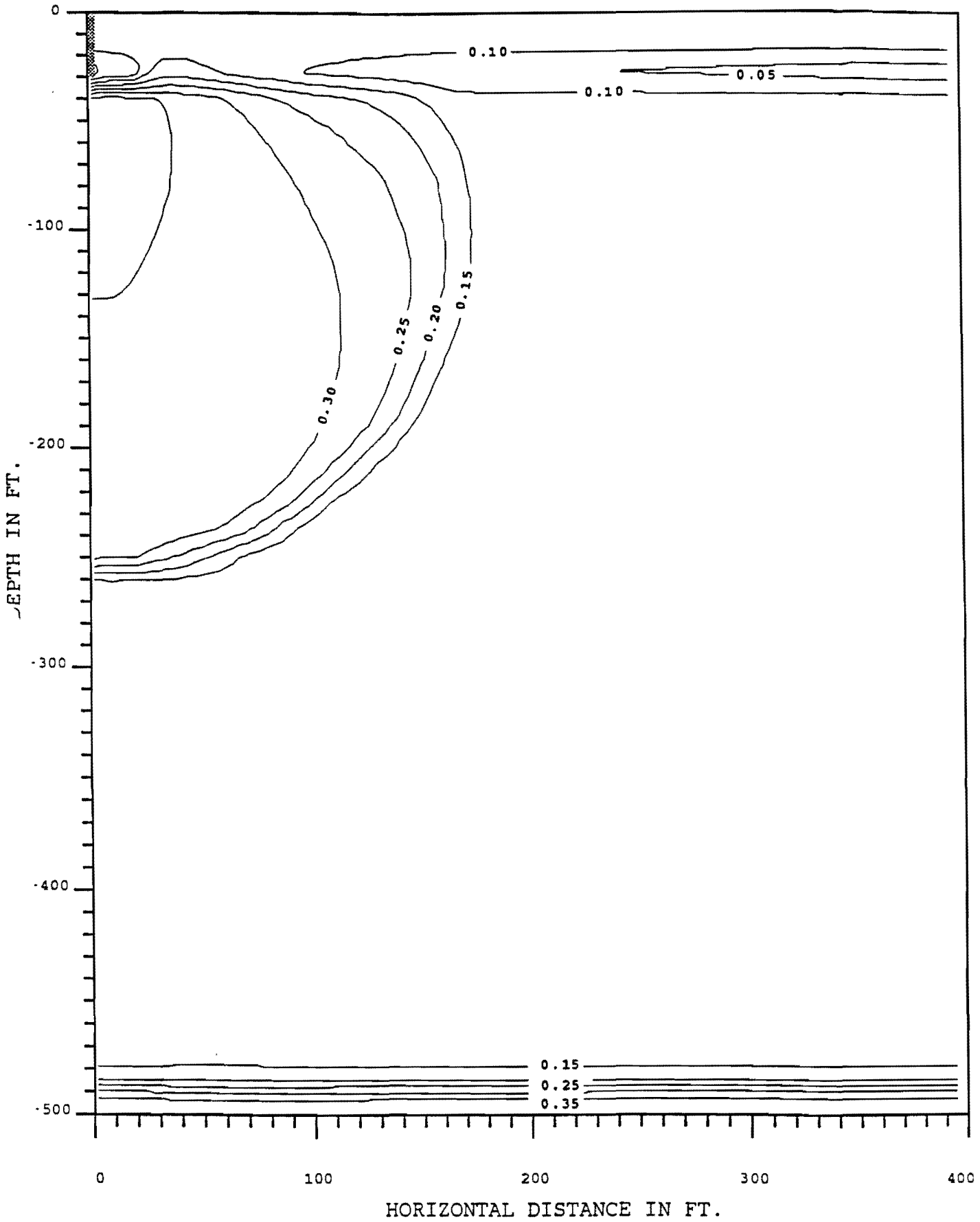


Figure 9b - Volumetric moisture contents at 5 years, gravel layer at 25 - 30 foot depth; otherwise Ksx = 3 ft/day, Kx/Kz = 25.

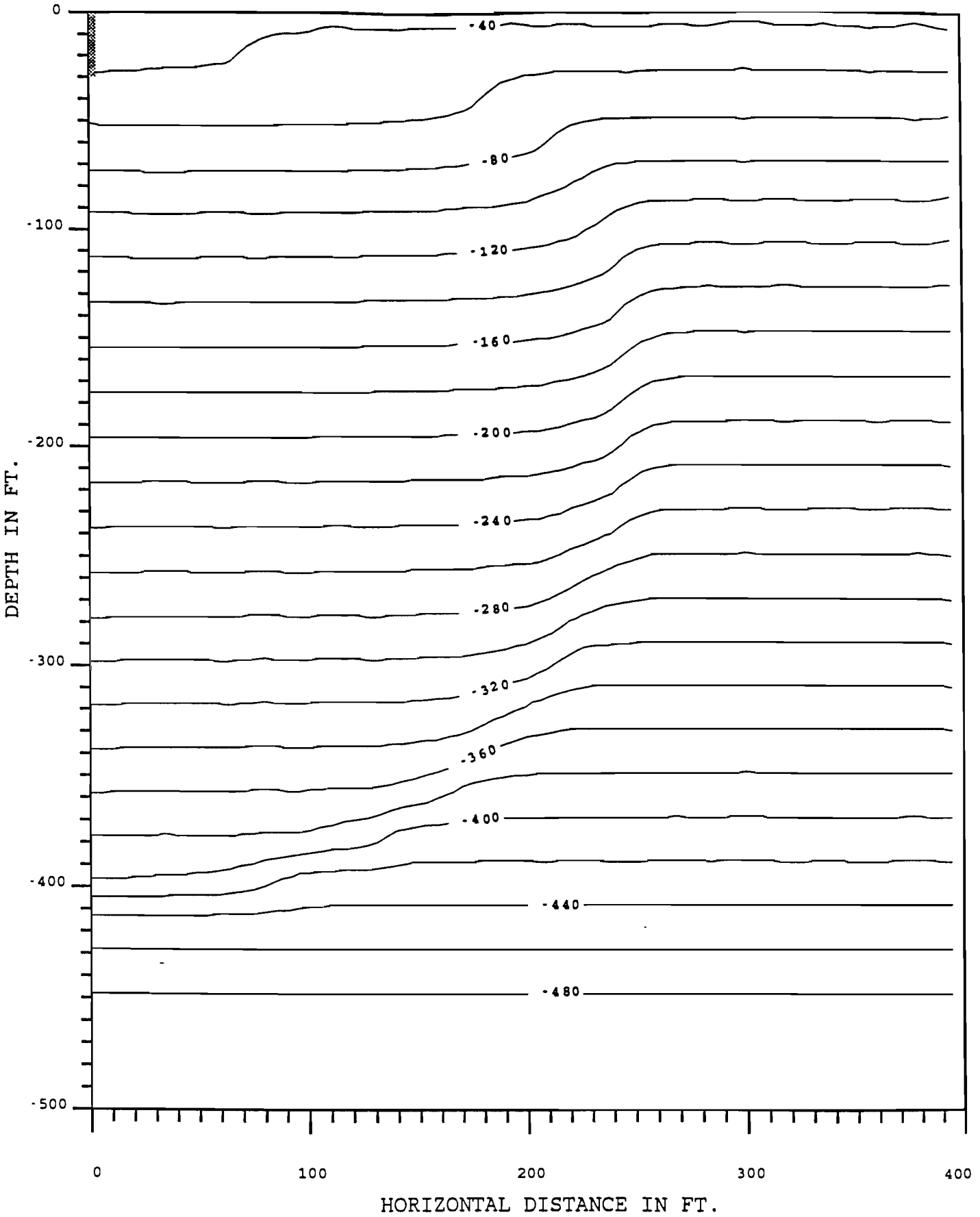


Figure 9c - Hydraulic heads (in feet) at 28 years, gravel layer at 25-30 foot depth; otherwise Ksx = 3 ft/day, Kx/Kz = 25.

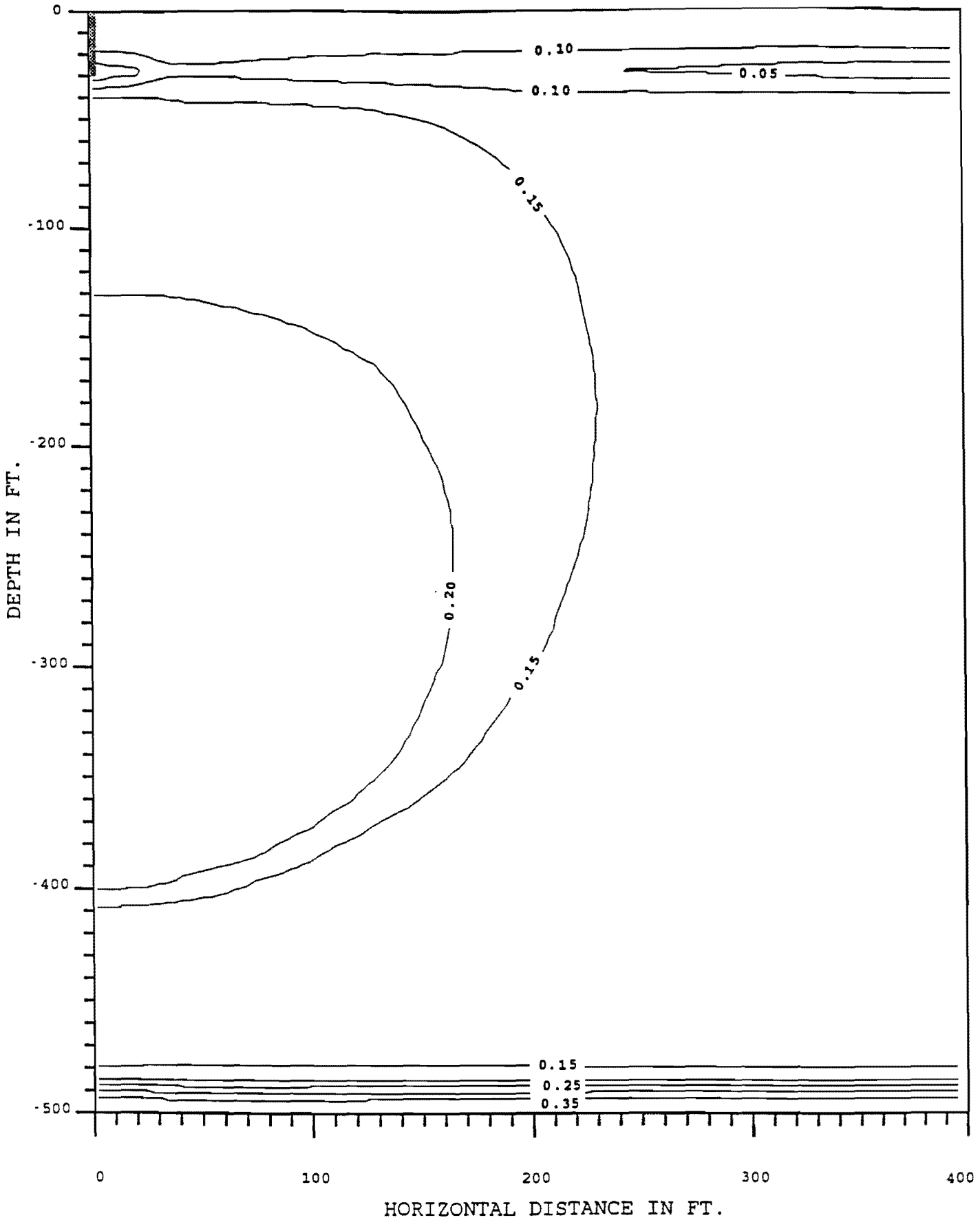


Figure 9d - Volumetric moisture contents at 28 years, gravel layer at 25 - 30 foot depth; otherwise Ksx = 3 ft/day, Kx/Kz = 25.

ATTACHMENT 10

SANDIA NATIONAL LABORATORIES/NEW MEXICO
MEMORANDUM OF TCE DETECTIONS IN GROUNDWATER IN VICINITY OF AREA 5 SEEPAGE PITS
OCTOBER 24, 1994

Sandia National Laboratories

Albuquerque, New Mexico 87185-0727

date: 24 October 1994

to: Lonnie Dawson, 7582 / MS 1348 Doug Reaber, 7584 / MS 1348

from: Jim McCord, 6622 / MS 0727

subject: TCE Detections in Groundwater in Vicinity of Area 5 Seepage Pits

Based on the data which you recently provided to me regading the hydrogeologic setting (both vadose and saturated zones) and as-built configuration / operations of the subject seepage pit, it is quite apparent that the subject TCE detections are due to the seepage pit operation and not the LWDS operations. With this memo, I provide a couple of hydrologic computations to support this conclusion.

Travel Time of Water Through the Vadose Zone

One can obtain a conservative estimate of the time it would take a parcel of water disposed of in the seepage pit to travel to the water table using simple mass balance calculations and/or Green-Ampt (modified Darcy's Law) infiltration calculations.

Mass Balance. Given the deep disposal of the waters (roughly 10 meters / 31 feet) in the seepage pit, one can assume not water is lost by evapotranspiration (or all water travels downward toward the water table). Thus, the travel time to the water table can be computed using the relation:

$$t_{vadose} = \frac{D_{wt}}{v_s} = \frac{D_{wt}}{Q/(nA)} \qquad (1)$$

where D_{wt} is the depth to the water table, v_s is the water seepage velocity beneath the pit, Q is the discharge rate to the seepage pit, n is the porosity of the vadose zone geologic materials, and A is the cross-sectional area through which the water is moving. The depth to the water table is roughly *400 ft.* You indicated that roughly 3 to 5 thousand gallons of water were disposed of daily for nearly a 30 year period; assuming an average of 4,000 gallons per day yields an annual discharge rate $Q=195,187\ ft^3/yr$. The porosity can reasonably be assumed to be 30%, or $n=0.30$. Given the bottom geometry of the seepage pit to be 10 feet x 10 feet, and assuming that capillary forces cause 10 feet of lateral spreading on each side of the infiltration area, we can estimate $A=30*30=900\ ft^2$. This approach yields a vadose zone travel time of 0.55 years.

Green-Ampt Infiltration. The Green-Ampt infiltration equation was developed in the early part of this century, and it essentially represents an application of Darcy's Law to

vertical infiltration scenarios. In this case, the velocity term in (1) above, v_s , can be computed using Darcy's Law:

$$v_s = \frac{Q}{nA} = \frac{KA\frac{\Delta H}{L}}{nA} = \frac{K\frac{\Delta H}{L}}{n} \qquad (2)$$

where v_s , Q, n, and A are as defined above, and K is the saturated hydraulic conductivity of the geologic media, ΔH is the change in total head between the inlet (bottom of the seepage pit) and outlet (water table) points, and L is the length over which the change in head occurs. In this case, noting that permeabilities at the subject site are similar to those tabulated by the Site Wide Hydrogeologic Characterization project for Santa Fe Group deposits located around the base and at the nearby Chemical Waste Landfill (SNL, 1994, Table 4.2.2, p. 4-25; copy attached), we can assume $K=1x10^{-4}$ *cm/s=104 ft/yr*. The change in total head can be estimated by assuming a completely saturated soil column beneath the middle of the seepage pit; thus the pressure head at both the bottom of the pit and at the water table equals atmospheric and the difference in total head is simply the difference in elevation, D_{wt}, or the depth to the water table. The length L is also simply the depth to the water table, D_{wt} . Using these assumptions and estimates, the seepage velocity can be computed: $v_s=K/n=104/0.3=347$ *ft/yr*. Using (1), the travel time is thus estimated to be $t_{vadose}=400/347=1.15$ *years*.

Summary of Vadose Zone Travel Time Estimation. In any case, we can see that the estimated vadose zone travel time is short enough to allow water from the seepage pit to reach the water table very early in its 30 year operation period.

Travel Time of Water Through Saturated Zone

Once infiltrated seepage pit water reaches the water table, it must flow laterally in a west-northwest direction roughly 300 to 400 feet. Again, Darcy's Law can be used to estimate a seepage velocity and associated travel time using equations (1) and (2) above with the depth to the water table, D_{wt} , replaced by the lateral distance. Rather than using an estimate of an ambient hydraulic gradient, $\Delta H/L$, we should note that the the large volume of discharge to the seepage pit probably has resulted in the development of a groundwater mound. The gradient would thus be somewhat higher. In fact, we can estimate the gradient required to permit water to flow a lateral distance of 400 feet in 30 years by combining and rearranging (1) and (2):

$$\frac{q}{n} = \frac{L}{t_{lateral}} = \frac{K}{n}\frac{\Delta H}{L} \qquad (3)$$

Thus an estimate of an average gradient (between the mound and the monitoring well where TCE was detected) can be obtained by:

$$\frac{\Delta H}{L} = \frac{nL}{Kt_{lateral}} \tag{4}$$

In this case, n and K can be estimated as above, and $L=400$ *feet* and $t_{lateral}=30$ *years*, yielding a gradient estimate of $\Delta H/L=0.3*400/(104*30)=0.0385$, which is reasonable for a moderate sized mound.

This gradient estimate can be checked by comparing the annual flux out of a circular mound with this gradient to the estimate of total annual flux out of the seepage pit. The flux out of the mound could be grossly estimated by envisioning it as a cone, and therefore applying Darcy's Law with the cross-sectional area computed as the perimeter of a cylinder times its thickness:

$$Q=K(\frac{\Delta H}{L})*A=K(\frac{\Delta H}{L})*2\pi rz \tag{5}$$

where all parameters are as defined above, and r would be the radius and z the thickness of the mound at r. If we assume the mound's total radius is twice the distance to the monitoring well ($2*400=800$ *feet*), then it's thickness at the monitoring well distance could be estimated $z(r=400)\approx 400*0.0385=15.4$ *feet*. Thus the horizontal flux out of the conical mound at the monitoring well radius computed using (5) would be: $Q=104*0.0385*2*3.14159*400*15.4=154{,}972\ ft^3/yr$, which compares rather favorably with the roughly $195{,}187\ ft^3/yr$ estimated on page 1 of this memo.

<u>Summary</u>

These are intended to be "back of the envelope" calculations to yield gross estimates of travel time through the vadose zone to the water table, and subsequent lateral movement in the saturated zone to the monitoring wells. Despite their simplistic nature, the calculations employ widely accepted principles of groundwater motion, and they show that it is entirely reasonable to suspect that TCE concentrations detected in the monitoring wells originally emanated in waters disposed in the Area 5 seepage pit.

Please call me if you have any questions at 844-5157.

copies:
MS 0727/ Day File 6622
MS 0727/ Margaret Chu, 6622
MS 1350/ Sue Collins, 7584
MS 1350/ Dorothy Stermer, 7584
MS 1348/ Fran Nimick, 7582
MS 1348/ Dick Fate, 7585

Table 4.2.2
Core Unsaturated Hydraulic Property Tests

Investigation	Location	Grain Size	θ_i	ρ_b	K_{sat}	θ-Ψ	K_{unsat}	TOC	P/T	vGP
Persaud and Wierenga (1982)	CWL/MWL	44	37	14				3		
IT Corp (1985)	CWL							24		
McTigue and Stein (1990)	CWL				20	20	20			20
Stephens (1990a&b)	CWL/MW-4	30	30		30	30	30		30	30
IT Corp (1992)	Sanitary Sewer Line	64			63 (K_{sat90}) 45 (K_{sat50})					
Total		138	67	14	113	50	50	27	30	50
Range (Low)		*	0.58	1.60	4e-6	*	*	160	29.06	*
Mean		*	3.90	1.81	4e-4	*	*	539	3.21	*
Range (High)		*	13.14	2.12	10.0	*	*	2200	37.52	*

'umbers = number of samples analyzed
WL = Chemical Waste Landfill
MWL = Mixed Waste Landfill
θ_i = initial (gravimetric) moisture content (%)
ρ_b = bulk density (gm/cm^3)
K_{sat} = saturated hydraulic conductivity (cm/sec)
θ-Ψ = saturation versus pressure relationship
K_{unsat} = unsaturated hydraulic conductivity (cm/sec)
TOC = total organic carbon (mg/kg)
P/T = porosity (%) and texture
vGP = van Genuchten parameters (θ_{sat}, θ_{resid}, α, and N)
* = unable to list meaningful range of values

Calendar Year 1993 Studies

Four studies relevant to the SNL ER project were undertaken in calendar year 1993. First, an instantaneous profile (IP) test was implemented at the Mixed Waste Landfill (SNL 1993). The objectives of the IP test were to determine soil hydraulic characteristics and to evaluate various types of monitoring equipment available to the ER project. The 4.6 m^2 test area was wetted to saturation to a depth of 2 m and allowed to drain. Soil moisture content was monitored using several methods, including neutron probes, time domain reflectometry (TDR), and frequency domain dielectric sensors. Soil water tension was measured with ceramic cup tensiometers and thermocouple psychrometers. The TDR probes and tensiometers were monitored with fully automated data acquisition systems.

ATTACHMENT 11

SANDIA NATIONAL LABORATORIES/NEW MEXICO
MEMORANDUM OF TECHNICAL AREA V
MODELING—UPDATE
APRIL 6, 1997

MEMORANDUM

TO: Sue Collins/SNL

FROM: Greg Ruskauff/INTERA GR

DATE: April 6, 1997

SUBJECT: Technical Area V Modeling - Update

This is a recap of my note of March, 1997 which includes results of VS2DT scoping calculations done by Peter Burck. I left the bulk of the original discussion, and added Peter's results to preserve continuity.

I have reviewed past modeling analyses in the TA-V area, including that done in 1991 by Dr. David Peterson (Flow Modeling of the Liquid Waste Disposal System Technical Area 5 SNL) and Jim Brinkman's 1996 MODFLOW study.

Peterson's analysis was of the unsaturated zone and travel time to the water table for a small leak. The flux he used was about 3 times less than that assumed in Jim McCord's travel-time scoping calculation (memo of 24 October 1994 to Lon Dawson), and he got water arrival at the water table after about 10 years. Jim McCord estimated about 1.5 years from simple scoping calculations. Some of this difference is due to the fact that Peterson's analysis more rigorously incorporated the physics of unsaturated zone flow, as well the difference in flow rates. Peterson did not explicity examine the formation of any mound and its subsequent decay (which was not part of the analysis objectives).

Brinkman's analysis was a simple 2D MODFLOW analysis. Since MODFLOW does not incorporate unsaturated-zone physics, which is an important factor when the depth to water is >400 ft, I do not believe MODFLOW can be used in a meaningful way to discriminate if the source of the "mound" is a leak or heterogeneity. I did a few simulations with Tom Duval's model, and I too could produce the mound using recharge or with heterogeneity; with no other field information this model cannot be used to determine which (if either) representation is correct. Brinkman essentially drew the same conclusions as I did, "These simulations indicate three data needs:

1. The reality of the mound must be proved or disproved;
2. The zone of low hydraulic conductivity must be characterized; and
3. If a leak exists, it must be found and stopped."

Note that he was unable to achieve the stated objective of "... determine (ing) the likelihood of these two (mound or low permeability) explanations." Part of the reason for this is that MODFLOW simply does not incorporate enough of the physical processes (unsaturated zone flow) that would affect development of a mound if, in fact, leakage was the cause. I also noticed that 3D effects (e.g. leakance) were important, which conceptually they should be since we note vertical gradients in the area.

As a person new to the problem, I felt that part of the question seems to be, "Are the water levels at LWDS-MW1 and TAV-MW2 really anomalous?" I performed my own quick analysis using a

bounding solution developed in stochastic hydrology by Naff (1978) for a three-dimensional, statistically anisotropic layered aquifer, and presented by Gelhar (1986) as a tool to assess local fluctuations from unknown heterogeneity. I selected $\sigma^2_f = 6$, gradient = 0.005, and vertical correlation scale of 5 m. For various horizontal correlation scales the local variability of head is tabulated below.

Horizontal Correlation Scale (m)	Head variability (ft)
300	0.97
400	1.12
500	1.26
600	1.38

The input parameters I picked are generally representative of the setting at TA-V. Note that the above values are similar to the deviation noted at TA-V, and represent the amount of deviation that might be expected from mean conditions. From this scoping analysis I would say that hetereogeneity is responsible for what we see. This also seems reasonable since hydraulic testing suggests permeability is lower in the LWDS-MW1 area. The low TCE concentrations also would support this interpretation, since flushing and dilution in the low permeability area would be correspondingly slower than in higher permeability areas; any TCE would tend to "hangup" in the low permeability heterogeneity.

The conclusions of the VS2DT scoping analysis included the following: (1) any mound caused by infiltration would be attenuated very quickly over the distance between the pits and the wells, (2) even if the mound reached the LWDS-MW1 TAV-MW2 area its' water levels would tend to decay quickly, something that we do not observe, and (3) it would be very difficult to distinguish water-level decline from a decaying mound from those occuring in the area from water-supply overpumpage.

Even if data from the new well is anonmalous it still may not prove or disprove the existence of a mound, since the well will only provide information about the saturated zone.

I would point out that reality is seldom as smooth as we would like to draw our maps, and I cannot ever recall working at a site that did not have some anomaly somewhere.

If you have any questions or would like to discuss this further please call me.

Gelhar, L., 1986. Stochastic subsurface hydrology from theory to applications, Water Resources Research (Supplement), v. 22, no. 9, pp. 135S-145S.

Naff, R.L., "A continuum approach to the study and determination of field longitudinal dispersion coefficients", Ph.D. dissertation, New Mexico Institute of Mining and Technology, June, 1978.

ATTACHMENT 12

TECHNICAL AREA 5
SEEPAGE PIT FLOW MODELING
INTERA, INC.
MAY 1997

TECHNICAL AREA 5
SEEPAGE PIT FLOW MODELING

SANDIA NATIONAL LABORATORIES
ALBUQUERQUE, NEW MEXICO

Prepared for:

Sandia National Laboratories
Environmental Restoration Project
Organization 6684

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May 1997

INFORMATION ONLY

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1.0 INTRODUCTION

The purpose of this modeling was to evaluate conceptually whether water disposed of in a 100 square foot underground seepage pit can account for anomalously high groundwater levels identified in wells beneath Technical Area 5 (TA-V) at Sandia National Laboratories in Albuquerque, New Mexico. An average of 4,000 gallons of water per day are reported to have been released from the seepage pit over a nearly 30 year period beginning in the early 1960s. Although to date no satisfactory explanation has been proposed to explain the phenomenon, the water levels observed in TA-V wells are consistently several feet higher than the regional water table. It is important to note that in recent years the regional water table has been dropping between 0.5 and 1.0 foot per year in the vicinity of TA-V. This modeling was performed to assess theoretically whether the seepage pit water can explain the elevated water levels in TA-V wells.

This report describes a computer flow simulation performed to evaluate water levels, saturation values, and pressure heads beneath the TA-V seepage pit. The simulation covered 40 years which was divided into a 30 year water application period followed by a 10 year redistribution period. This length of time was selected to represent a starting time in the early 1960s when the seepage pit operation began and an ending time several years from now.

Because of the scoping nature of this simulation, no rigorous model calibration was performed. However, whenever possible, reasonable values for the various input parameters were used. To simplify this modeling effort, the subsurface geologic materials were assumed to be homogeneous throughout the model domain.

The results of this investigation will provide a basis for Sandia's Environmental Restoration Project personnel when making future decisions regarding characterization and possible remediation activities at TA-V.

2.0 MODELING APPROACH

The computer simulation was performed using VS2DT (Healy, 1990), a two-dimensional variably saturated flow and transport code distributed by the U.S. Geological Survey. This finite difference code was selected because it is widely-used and performs as well as or better than other programs using the same equations for flow and transport (McCord and Goodrich, 1994). The code was run in two-dimensional vertical planar mode.

3.0 SIMULATION DOMAIN

The model was set up to represent a vertical planar area 500 feet deep and 850 feet wide. The 500 foot depth was selected because it included the approximately 480 foot thick vadose zone found in the vicinity of TA-V and the upper 20 feet of the saturated zone. The 850 foot width was selected so that the model area was sufficiently wide to show the entire area wetted by the infiltrating water.

The water table was established at 480 feet below ground surface with a gradient of 0.0045. Over the 850 foot width, this gradient means that the water is 6.325 feet higher on the left side of the model area than it is on the right side. The grid spacing for columns and layers in the model ranged from 1 foot to 10 feet. Details of the model grid spacing for columns and layers are given in Table 1. Note that the first and last column and first and last layer are inactive in the model. Furthermore, the first and last column and first and last layer are used when counting column and layer numbers, but are not included in width and depth calculations.

To simplify the model the subsurface properties were considered homogeneous.

4.0 SELECTION OF REPRESENTATIVE MATERIAL PROPERTIES

In selecting representative input parameters for this modeling, several sources of soils data from nearby sites were reviewed. The sites included the Mixed Waste Landfill (MWL) in Technical Area 3 (TA-III), the Chemical Waste Landfill (CWL) in TA-III, and Building 9960 Septic Systems which is Environmental Restoration (ER) Site 154. The MWL is about 0.75 miles southwest of TA-V, the CWL is about 2 miles south of TA-V, and ER Site 154 is about 1.9 miles southeast of TA-V. The specific data sources included:

- soil samples from Monitoring Well 4 (MW-4) at the MWL (SNL/NM, 1996; Wolford, 1997),
- soil samples from the MWL instantaneous profile (IP) test conducted by Sandia's ER Project (Roepke, et al., 1996),
- soil samples from MW-4 (SNL/NM, 1991) and six shallow borings (McTigue and Stein, 1990) at the CWL, and
- soil samples from ER Site 154 (SNL/NM, 1997).

In general, the input parameters chosen were consistent with the results found in these sources. Model input parameters are summarized in Table 2. Important input parameters include the saturated hydraulic conductivity, porosity, van Genuchten N and alpha' (alpha prime), and the residual moisture content.

VS2DT is capable of employing one of three algebraic equations to represent the moisture-characteristic curve. We selected van Genuchten's (1980) equation because we have van Genuchten parameters available. The van Genuchten N and alpha parameters are curve-fitting parameters that describe the shape of the moisture retention curve. Alpha' is a scaling length in the van Genuchten equation relating saturation to pressure. Alpha' is the negative of the reciprocal of the van Genuchten alpha.

In this simulation we used a hydraulic conductivity of 2 feet/day, a porosity of 0.33, a van Genuchten N of 1.871, a van Genuchten alpha' of -2.158, and a residual moisture content of 0.086. The initial pressure head was set uniformly throughout the model at -33 feet.

5.0 SOURCE TERM

An average of 4,000 gallons per day are believed to have been disposed of in the seepage pit, the bottom of which covers an area approximately 10 feet by 10 feet. In an attempt to match this application scenario as closely as possible in the model, a series of preliminary simulations were performed in which the model domain included a 9.5 foot wide cross-section of unit thickness (1 foot thickness) of this seepage pit. In other words, in the model approximately one tenth of the total amount of water was applied or 400 gallons per day. However, this amount of water appeared to be too large, because the preliminary simulations would not run successfully with reasonable soil parameters.

To make the model run successfully in the simulation presented here, the water application rate was decreased and the width of the water application area was increased. In this simulation, approximately 42 gallons of water per day (5.649 cubic feet per day) were released in the cross-section (or 420 gallons per day over a 10 ft deep profile). The water was input into layer 8 between columns 52 and 61 inclusive. Layer 8 has a depth of 1 foot and is located between 24 to 25 feet below the ground surface. Columns 52 through 61 have a combined width of 16.5 feet and range in width from 1 foot to 4 feet. Column 52 is 1 foot wide and begins at 450 feet from the left side of the model.

6.0 INITIAL AND BOUNDARY CONDITIONS

The initial condition in the model was set in terms of pressure head and was given a value of -33 feet (about 1 atmosphere) in each cell in the model.

The top of the saturated zone (water table) was established in layer 75 in columns 2 and 100. The gradient was set equivalent to 0.0045 (6.325 feet higher on the left than on the right).

Because the water application occurred in layer 8 between 24 to 25 feet below ground surface, no evaporation or evapotranspiration was considered in the model. No other boundary conditions were established.

Five observation points were established to record various parameters including head versus time at selected locations at the water table. All five points were in the uppermost saturated layer, layer 75, and in columns 3, 36, 52, 80, and 99. These columns correspond to distances from the left model boundary of 15, 345, 450.5, 645, and 835 feet, respectively. The 15 and 835 foot observation points were chosen to monitor parameters on the left and right sides of the model, respectively. The 450.5 foot observation point was selected because it is below the seepage pit. The 345 and 645 foot observation points were picked to monitor parameters about 100 feet to the left and 200 feet to the right of the seepage pit, respectively.

Model closure criteria for the iterative solution for head was set at 0.0005 ft. The relaxation parameter or damping factor was set to 0.7. The full upstream weighting option for intercell relative hydraulic conductivity was used.

7.0 SIMULATION RESULTS

Figure 1 is a hydrograph showing the head (water level) versus time at the five observation points in layer 75, the uppermost saturated layer. The observation points are located are at 15, 345, 450.5, 645, and 835 feet from the left side of the model. At early time (about the first four years) the hydrograph shows the water levels rising at the three middle observation points (345, 450.5, and 645 ft) to the levels called for by the gradient imposed on the water table. The large increase in water levels at the three middle observation points occurs slightly after 8 years, indicating that the infiltrating water has begun to reach the water table. In general, the water levels at the three middle observation points continue to increase fairly rapidly for the next 6 years. The water level increases more modestly from about 15 years until about one year after the water application ends at 30 years. Of the observation points monitored, the maximum water level increase is about 15 feet at the 450.5 foot observation point. The maximum water level rise is about 13 feet at the 345 foot observation point and about 11 feet at the 645 foot observation point.

During the final nine years, the water levels decrease rapidly. At the end of the 40 year simulation, they have not returned completely to the pre-infiltration levels, but appear as if they will approach them within the next few years.

Figure 2 is a cross-sectional view of saturation after 25 years of the simulation. Saturation is defined as the volume of water per volume of void space and ranges from 0 when completely dry to 1 when the void space is completely filled with fluid. This figure shows that the area between the seepage pit and the saturated zone is at least 85 % saturated and that the area of increased saturation extends about 250 feet on either side of the seepage pit.

Figure 3 shows a cross-sectional view of pressure head in feet after 25 years. This figure indicates that the area between the seepage pit and the saturated zone has a pressure head between 0 and -5 feet. The area of increased (less negative than the initial condition) pressure head extends about 250 feet on either side of the seepage pit.

Figure 4 is a cross-sectional view of saturation after 40 years of the simulation. This figure indicates that as the remaining water moves downward toward the water table, the saturation values are decreasing. The saturation in the area between the seepage pit and the water table ranges from about 40% near the seepage pit to about 70% near the water table. The area of increased saturation now extends for about 300 feet on either side of the pit.

Figure 5 shows a cross-sectional view of pressure head in feet after 40 years. This figure indicates that as the remaining water moves downward toward the water table, the pressure head values are decreasing. The pressure head in the area between the seepage pit and the water table ranges from about -15 feet near the seepage pit to about 0 ft near the water table. The area of increased pressure head now extends for about 300 feet on either side of the pit.

8.0 DISCUSSION AND CONCLUSIONS

Findings from this simulation include:

- The model would not run successfully when set to release the reported 4,000 gallons of water per day into soil with reasonable properties. To the extent that this simply reflects limits of computational stability of VS2DT or potentially unrealistic infiltration rates is unknown. However, the simulation suggests that the reported water release rate of 4,000 gallons per day into the seepage pit may be an overestimate.

- The hypothetical mound created by simulated pit seepage is attenuated rapidly over the 400 feet or so between the pit and observation wells.

- The regional decline in water levels of 0.5 to 1.0 foot per year observed in wells in the vicinity of TA-V increases the difficulty in discriminating if a mound is decaying or not.

- The 2-to-3 foot displacement (i.e., the increase in the water table level over pre-infiltration level) in the water level below the seepage pit still left after 40 years, coupled with the fact that a 2-dimensional simulation will overestimate the water level rise because the extra dimension is not accounted for, suggests that water infiltrating from the seepage pit could be an explanation for the anomalously high water levels in nearby wells. However, in the model the rapid rate of water level decline following the end of infiltration is not consistent with the stable but seemingly high water levels observed in TA-V wells.

In conclusion, the simulation can account for a 2-to-3 foot rise in the water table in wells near the seepage pit, but fails to explain the stable water levels observed in those wells.

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Table 1. Finite Difference Grid Spacing Used in Model

Column No.	Column Width (ft)	Column No.	Column Width (ft)	Layer No.	Layer Thickness (ft)	Layer No.	Layer Thickness (ft)
1	10	52	1	1	5	52	10
2	10	53	1	2	5	53	10
3	10	54	1	3	5	54	10
4	10	55	1	4	5	55	10
5	10	56	1	5	4	56	10
6	10	57	1	6	3	57	10
7	10	58	1.5	7	2	58	10
8	10	59	2	8	1	59	10
9	10	60	3	9	1	60	10
10	10	61	4	10	1	61	10
11	10	62	6	11	1	62	10
12	10	63	8	12	1	63	10
13	10	64	9.5	13	1	64	10
14	10	65	10	14	1	65	10
15	10	66	10	15	1	66	10
16	10	67	10	16	1	67	10
17	10	68	10	17	1	68	10
18	10	69	10	18	1	69	10
19	10	70	10	19	1	70	10
20	10	71	10	20	1	71	10
21	10	72	10	21	1	72	10
22	10	73	10	22	1	73	5
23	10	74	10	23	1	74	5
24	10	75	10	24	1.5	75	5
25	10	76	10	25	2	76	5
26	10	77	10	26	2	77	5
27	10	78	10	27	2	78	5
28	10	79	10	28	2	79	10
29	10	80	10	29	3		
30	10	81	10	30	4		
31	10	82	10	31	6		
32	10	83	10	32	7.5		
33	10	84	10	33	10		
34	10	85	10	34	10		
35	10	86	10	35	10		
36	10	87	10	36	10		
37	10	88	10	37	10		
38	10	89	10	38	10		
39	10	90	10	39	10		
40	10	91	10	40	10		
41	10	92	10	41	10		
42	5	93	10	42	10		
43	5	94	10	43	10		
44	5	95	10	44	10		
45	5	96	10	45	10		
46	5	97	10	46	10		
47	5	98	10	47	10		
48	5	99	10	48	10		
49	5	100	10	49	10		
50	5	101	10	50	10		
51	5			51	10		

Table 2. Summary of Model Input Parameters

Parameter	Model Input Value
Total Simulation Period	14600 days (40 years)
Number of Columns	101
Number of Layers (Rows)	79
Number of Recharge Periods	2 (30 years of infiltration & 10 years of redistribution)
Ratio of Kz/Kx	0.1
Horizontal Hydraulic Conductivity, Kx	2 ft/d
Specific Storage	0.0
Porosity	0.33
van Genuchten Alpha'	-2.158
Residual Moisture Content	0.086
van Genuchten N	1.871
Gradient	0.0045
Depth to Free Water Surface	480 ft below ground surface
Initial Pressure Head	-33 ft

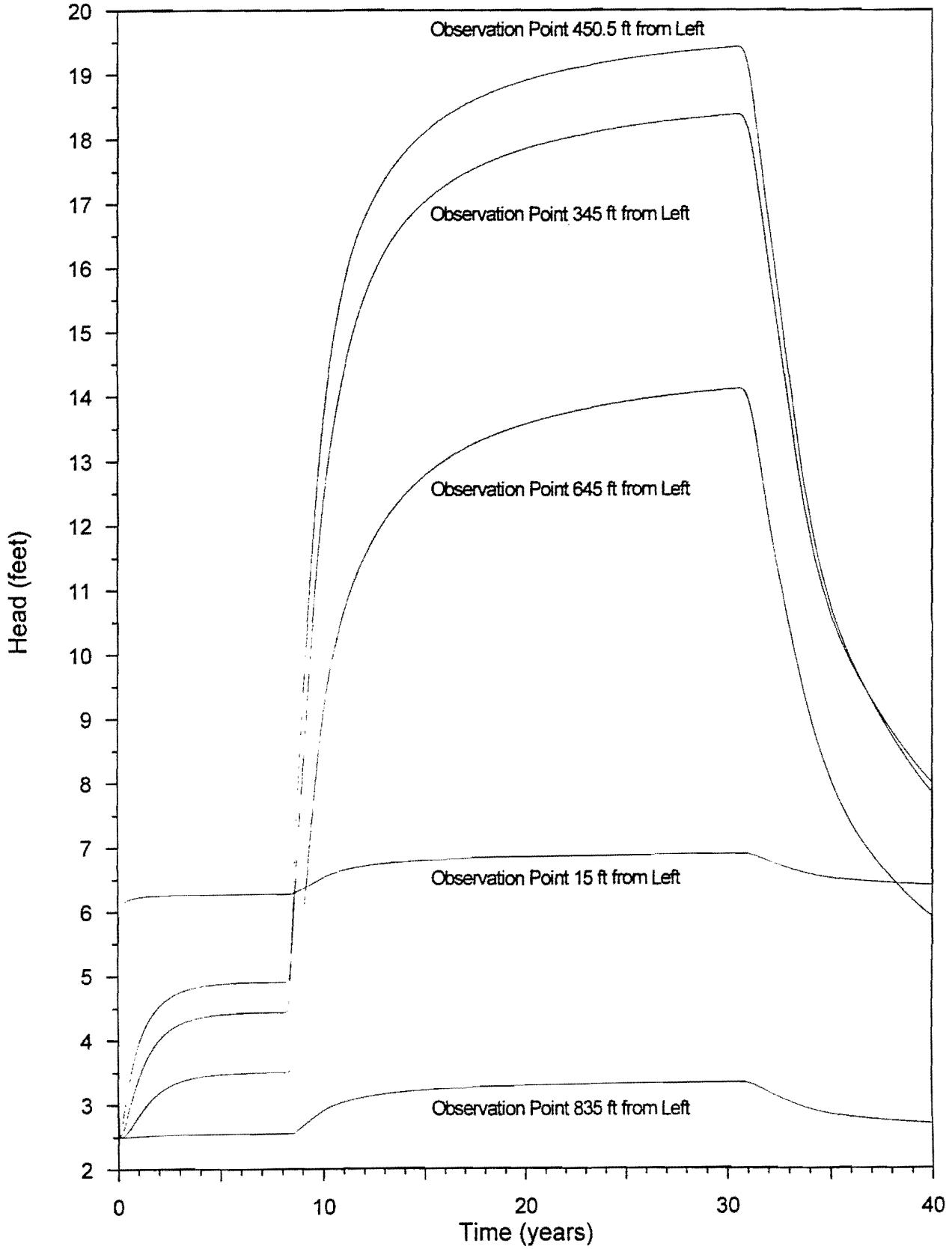

Figure 1: Hydrograph showing Head versus Time at Selected Water Table Observations Points

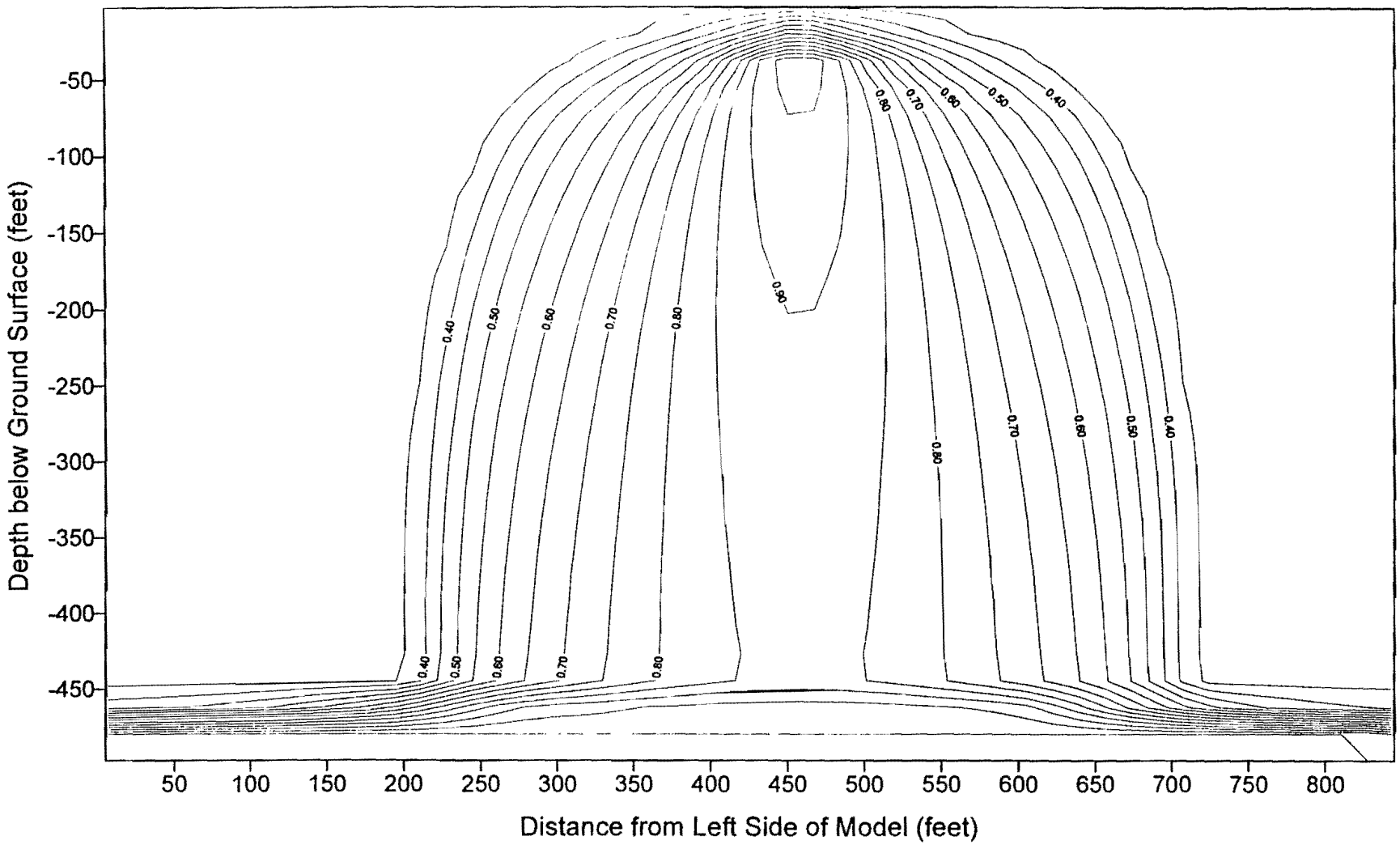

Figure 2: Vertical Planar View of Saturation after 25 years

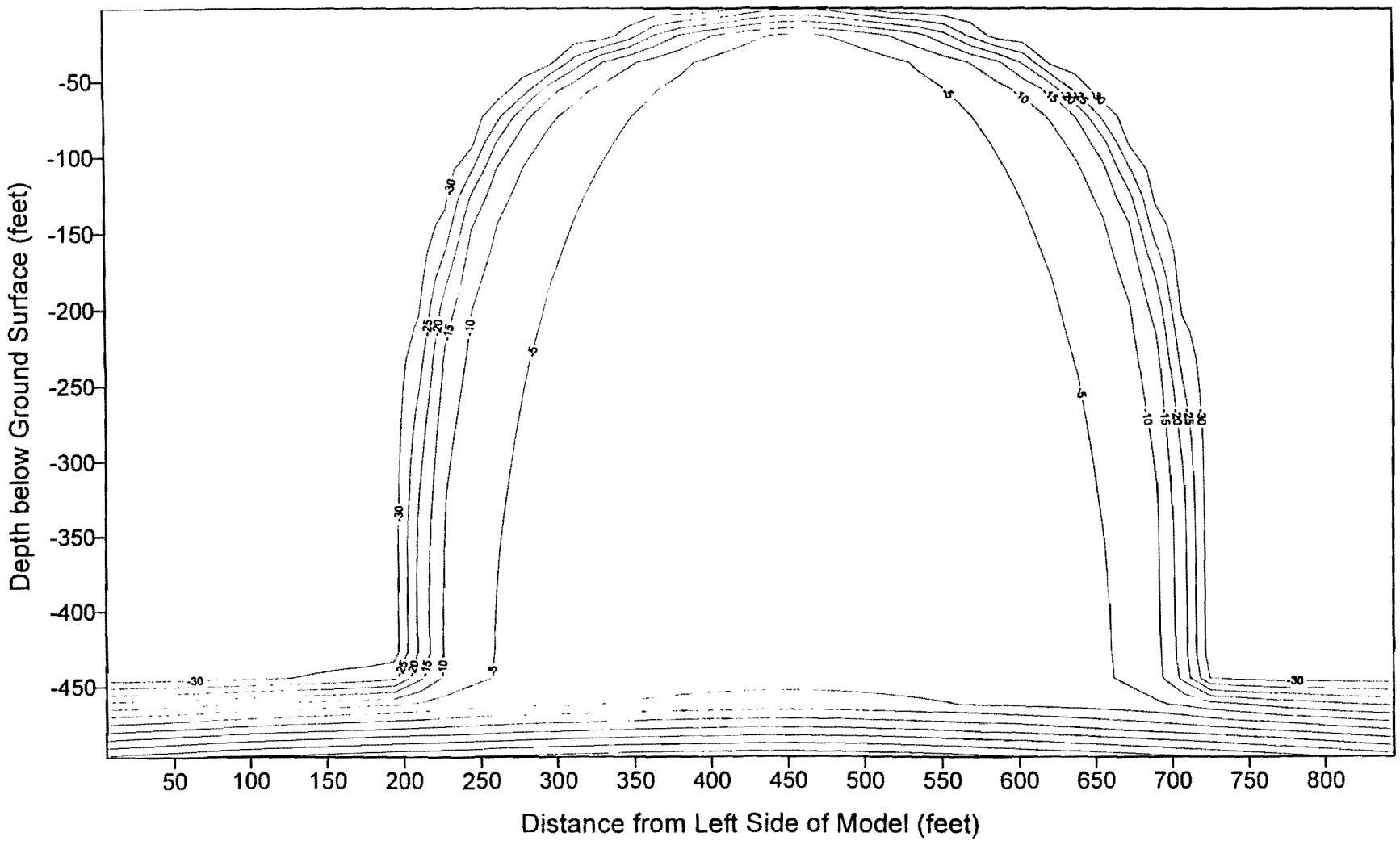

Figure 3: Vertical Planar View of Pressure Head (feet) after 25 years

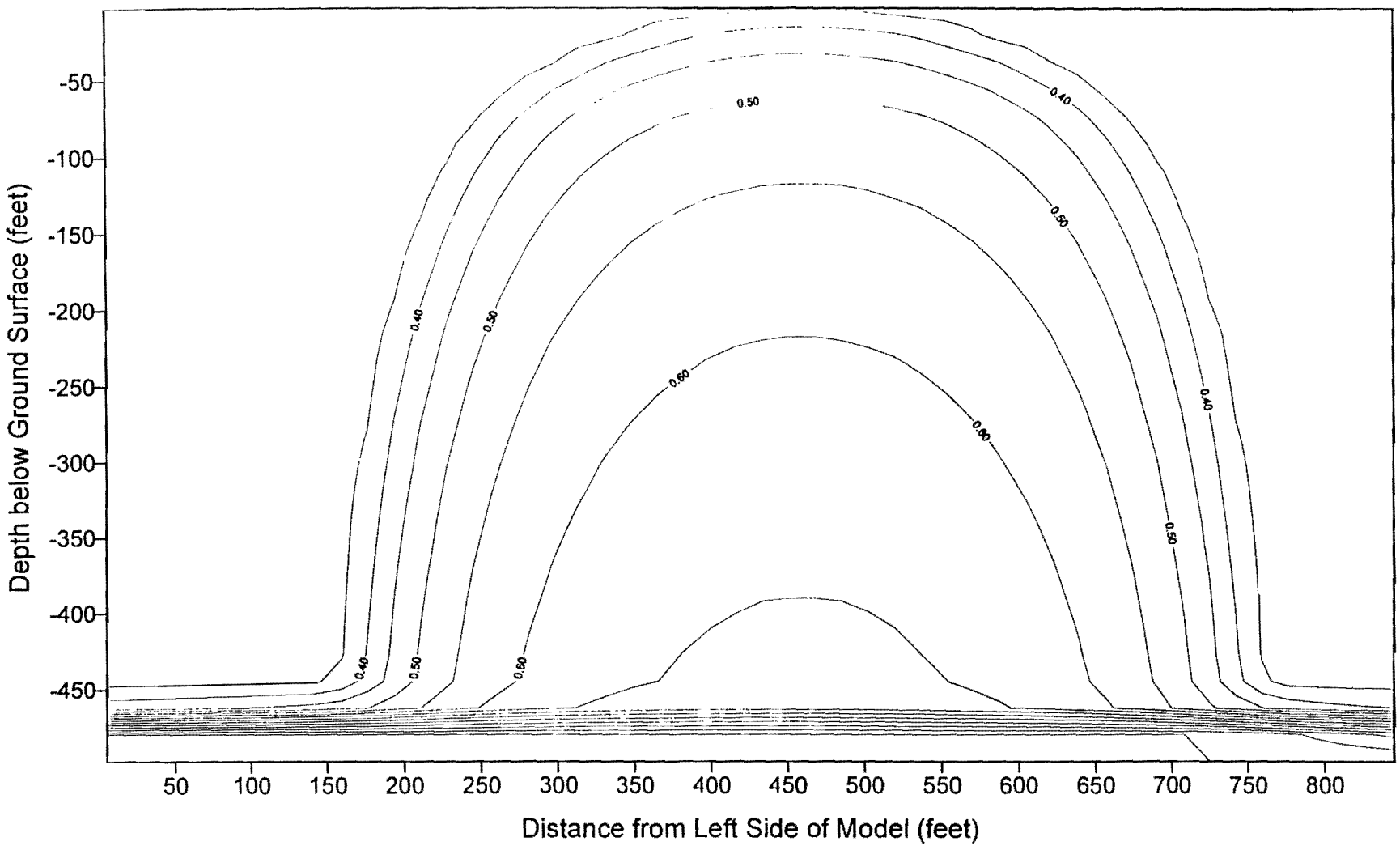

Figure 4: Vertical Planar View of Saturation after 40 years

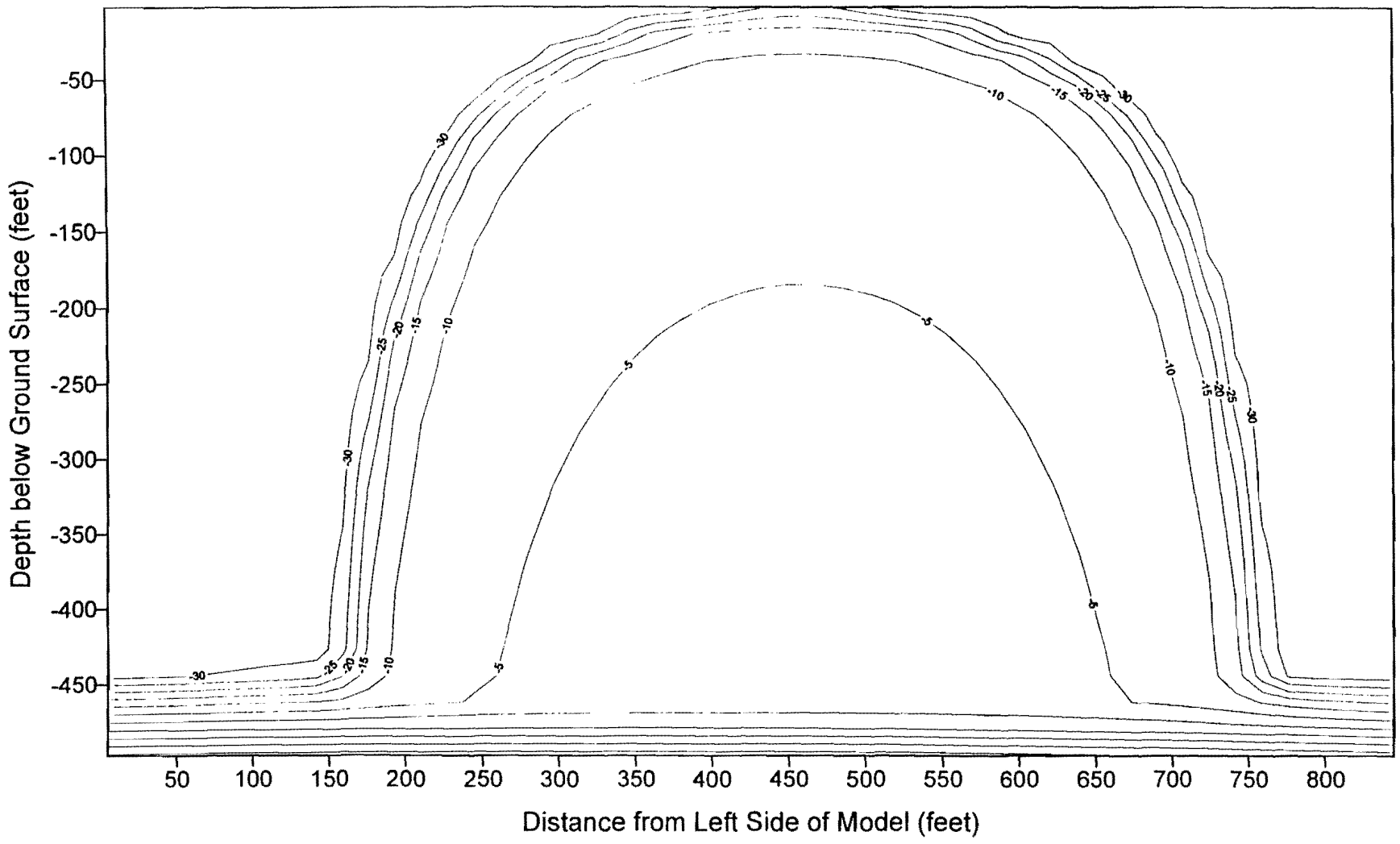

Figure 5: Vertical Planar View of Pressure Head (feet) after 40 years

APPENDIX A

MODEL INPUT FILE

```
TAV SIMULATION - KS = 2.0 F/D, KX/KZ = 10 RUN 24
14600.0  0.0  0.0                    A2--TMAX,STIM,ANG
  FT DAY LBS                         A3--ZUNIT,TUNIT,CUNX
101 79                               A4--NXR,NLY
2 40000                              A5--NRECH,NUMT
F T F                                A6--RAD,ITSTOP,TRANS
T T T T F                            A7--F11P,F7P,F8P,F9P,F6P
F T T T F                            A8--THPT,SPNT,PPNT,HPNT,VPNT
0 1.0                                A9--IFAC,FACX
10. 10. 10. 10. 10. 10. 10. 10.
10. 10. 10. 10. 10. 10. 10. 10.
10. 10. 10. 10. 10. 10. 10. 10.
10. 10. 10. 10. 10. 10. 10. 10.
10. 10. 10. 10. 10. 10. 10. 10.
10. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5.
1. 1. 1. 1. 1. 1. 1.5 2. 3.
4. 6. 8. 9.5 10. 10. 10. 10. 10.
10. 10. 10. 10. 10. 10. 10. 10.
10. 10. 10. 10. 10. 10. 10. 10.
10. 10. 10. 10. 10. 10. 10. 10.
10. 10. 10. 10. 10. 10. 10. 10.      A10--DXR
0 1.0                                A11--JFAC,FACZ
5. 5. 5. 5. 4. 3. 2. 1. 1. 1. 1.
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.
1. 1.5 2. 2. 2. 2. 3. 4. 6. 7.5
10. 10. 10. 10. 10. 10. 10. 10.
10. 10. 10. 10. 10. 10. 10. 10.
10. 10. 10. 10. 10. 10. 10. 10.
10. 10. 10. 10. 10. 10. 10. 10.
10. 10. 10. 10. 10. 10. 10. 10.
5. 5. 5. 5. 5. 5. 10.                A12--DELZ
10                                   A13--NPLT
365. 730. 1825. 3650. 5475. 7300. 9125. 10950. 12775. 14600.
7                                    A15--NOBS
75 2
75 3
75 36
75 52
75 80
75 99
75 100                               A16--J,N
4                                    A17--NMB9
31 33 40 42                          A18--MB9
.0005 .70  1.0                       B1--EPS,HMAX,WUS,EPS1
2   60                               B3--MINIT,ITMAX
T                                    B4--PHRD
1 6                                  B5--NTEX,NPROP,NPROP1
1                                    B6--ITEX
.1 2.0 0. .33 -2.158 .086 1.871      B7--ANIZ,HK
1                                    B8--IROW
1 101  79 1                          B10--IL,IR,JBT,JRD
2  -33.0                             B11--IREAD,FACTOR
480 -33.0                            B12--DWTX,HMIN
F F                                  B14--BCIT,ETSIM
10950.0  .01                         C1--TPER,DELT
1.1  5.0 .005  0.5                   C2--TMLT,DLTMX,DLTMIN,TRED
10. 0.                               C3--DSMAX,STERR
2                                    C4--POND
F                                    C5--PRNT
F F F                                C6--BCIT,ETSIM,SEEP
0                                    C10--IBC
```

```
8 52 6    .343  0  0                C11--JJ,NN,NTX,PFDUM,NTC,CF
8 53 6    .343  0  0
8 54 6    .343  0  0
8 55 6    .343  0  0
8 56 6    .343  0  0
8 57 6    .343  0  0
8 58 6    .514  0  0
8 59 6    .684  0  0
8 60 6   1.025  0  0
8 61 6   1.368  0  0
75 2 1   6.325   0  0              C11--JJ,NN,NTX,PFDUM,NTC,CF
76 2 1   11.325  0  0
77 2 1   16.325   0  0
78 2 1   21.325   0  0
75 100 1   2.5   0  0
76 100 1   7.5   0  0
77 100 1   12.5   0  0
78 100 1   17.5   0  0
999999  /                           C13--END
3650.0  .01                         C1--TPER,DELT
1.1  10.0 .001  0.5                 C2--TMLT,DLTMX,DLTMIN,TRED
10. 0.                              C3--DSMAX,STERR
2.0                                 C4--POND
F                                   C5--PRNT
F F F                               C6--BCIT,ETSIM,SEEP
0                                   C10--IBC
8 52 6    0.  0  0                  C11--JJ,NN,NTX,PFDUM,NTC,CF
8 53 6    0.  0  0
8 54 6    0.  0  0
8 55 6    0.  0  0
8 56 6    0.  0  0
8 57 6    0.  0  0
8 58 6    0.  0  0
8 59 6    0.  0  0
8 60 6    0.  0  0
8 61 6    0.  0  0
75 2 1    6.325  0  0
76 2 1    11.325  0  0
77 2 1    16.325  0  0
78 2 1    21.325   0  0
75 100 1   2.5   0  0
76 100 1   7.5   0  0
77 100 1   12.5   0  0
78 100 1   17.5   0  0
999999  /
999999  /
```

RECEIVED

ATTACHMENT 13

CALCULATION OF PREDICTED GROUNDWATER CONCENTRATIONS AT THE NEAREST DOWNGRADIENT RESIDENTIAL RECEPTOR FROM TA-V

SEPTEMBER 21, 1998

To Tim Goering
From: Tom Tharp

Date: 9/21/1998

Subject: Calculation of Predicted Groundwater Concentrations at the Nearest Downgradient Residential Receptor from TA-V

1. Introduction

Groundwater concentrations at the nearest potential downgradient residential receptor from TA-V were calculated. This analysis accounted for contaminant source dimensions, initial contaminant concentrations, biodegradation of contaminants as applicable, distance from source to receptor, groundwater velocity, and for longitudinal, lateral and vertical dispersivities. The predicted concentrations that were derived from the analyses were then compared to Relevant and Applicable Standards (RASs) and Preliminary Remediation Goals (PRGs).

RASs were taken from the Drinking Water Regulations and Health Advisories (EPA 1996). If the maximum contaminant level goal (MCLG) is non-zero, it is used as the RAS. If the MCLG is zero, the maximum contaminant level (MCL) is used. Neither an MCLG or an MCL exists for 3 of the constituents of concern (COCs) (acetone, 2-butanone, and 1,1-Dichloroethane). The calculated COC concentration is considered acceptable if it is below the associated RAS.

A PRG is defined in this document as a risk-based preliminary action level for an individual compound or constituent, based on exposure pathways consistent with a designated land-use scenario. PRG values are calculated for each potential COC to provide a means for determining if cleanup of a site is needed. Some potential COCs have both carcinogenic and noncarcinogenic concerns; the more limiting concentration value calculated is designated as the PRG value. PRG values are compared with concentration values determined from calculated groundwater concentrations of the COCs at the nearest receptor. PRGs are calculated for individual COCs. To account for multiple COCs, the PRG is conservatively divided by 10 to determine exceedances.

2. Methodology

An analytical dispersion equation (Domenico and Robbins 1985) was used to determine groundwater concentrations at the nearest residential receptor. This equation has been recently adopted by the NMED in the draft version of the New Mexico Underground Storage Tank Bureau Guidelines for Corrective Action document (NMED November 1998). The model assumes: 1) a continuous source (very conservative), 2) that there is a frontal zone of dispersion beyond the advective front caused exclusively by longitudinal dispersion, 3) chemical biodegradation and 4) a zone of mass depletion

exists behind the advective front. At some distance behind the advective front, depending largely on the value of the longitudinal dispersivity, the plume is assumed to be at steady state. Because of transverse spreading, the steady-state concentrations are everywhere less than the source concentration C_o, except at x = 0.

The equation from Domenico and Robbins (1985) for multi-dimensional transport with advection, dispersion (assuming that the plume can spread in one x direction, two y directions and only one z direction), retardation and biodegradation, is:

$$\frac{C(x,y,z,t)}{C_o} = \frac{C_o}{8}\exp\left[\frac{x}{2\alpha_x}\left[1-\sqrt{1+\frac{4\lambda\alpha_x}{\left(\frac{v_w}{Rf}\right)}}\right]\right] \times erfc\left[\frac{(x-\left(\frac{v_w}{Rf}\right)t)1-\sqrt{1+\frac{4\lambda\alpha_x}{\left(\frac{v_w}{Rf}\right)}}}{2(\alpha_x\left(\frac{v_w}{Rf}\right)t)^{1/2}}\right] \times$$

$$\left[erf\left[\frac{y+Y/2}{2(\alpha_y x)^{1/2}}\right]-erf\left[\frac{y-Y/2}{2(\alpha_y x)^{1/2}}\right]\right] \times \left[erf\left[\frac{z+Z}{2(\alpha_z x)^{1/2}}\right]-erf\left[\frac{z-Z}{2(\alpha_z x)^{1/2}}\right]\right]$$

Table 1 provides the definition of the variables and the input parameters used in the calculation of concentrations. If the argument of the complimentary error function has a negative value greater than -2, the plume is at steady state at this point, and the calculated concentration is a maximum value (Dominico and Schwartz 1990).

3. Assumptions

Source concentration

The source is assumed to be continuous over time for this analytical model. This assumption is very conservative. Though the source area has not been fully delineated, it is believed that the contribution to the existing source has been eliminated. Contaminant transport in the saturated zone and natural biological remediation within the vadose zone will aid in the decrease in source area and concentration with time. However, at the present, TCE concentrations are increasing with time in the two wells (TAV-MW1 and LWDS-MW1) (Figure 1). These wells are closest to the LWDS drainfield and TA-V seepage pits (the most likely source of the groundwater contamination). Of the remaining 7 monitoring wells, TCE has been detected only sporadically in three of the wells (LWDS-MW2, TAV-MW2, and TAV-MW4); always below drinking water standards (5 ug/L). TCE has never been detected in the other 4 monitoring wells (TAV-MW3, TAV-MW5, AVN-1, and AVN-2).

The TCE concentration at LWDS-MW1 was conservatively predicted assuming the current upward trend of 3.61 ug/L/year for a 50-year increment. This predicted concentration was used in the analytical model. Modeled concentrations for the other

COCs were recorded maximums at the source wells considering all historic sampling periods. Use of some of these COCs in this analysis may be conservative as they reflect one-time occurrences or possible laboratory contamination.

Distance from source

The distance from the source is modeled as the property boundary between Kirtland Air Force Base (KAFB) and the privately owned Mesa del Sol development. Though no construction has begun at Mesa del Sol, production wells will be installed there. Thus the most conservative assumption is to place the production wells at the KAFB property line. The proposed production well field for Mesa del Sol is actually further to the west, providing additional conservatism in the calculation of distance from source to receptor.

Another level of conservatism is the unrealistic assumption that contaminants originating from TA-V can actually reach Mesa del Sol. Regional potentiometric data indicates that a groundwater trough exists near the western KAFB property line (Figure 2). This trough diverts westward groundwater flow to the north. The closest down gradient receptor considering this scenario is KAFB Well 04, located approximately 22,000 feet from the TA-V source area. The increase in distance will produce even lower concentrations at the receptor due to dispersivity and degradation of the contaminant.

Groundwater velocity

Groundwater velocity was conservatively estimated at a maximum value of 1.93E-6 m/sec. This value was derived using Darcy's Law and assuming a horizontal hydraulic gradient of 0.0005, a maximum hydraulic conductivity of 1.35E-4 (derived from TA-V aquifer hydraulic testing) and a porosity of 0.30. The maximum value is conservative because contaminants will reach the receptor in the least amount of time, reducing degradation.

Retardation

Retardation was not considered in this analysis. This adds a level of conservatism to the calculation as all of the constituents would show some level of retardation from sorbtion to aquifer materials. Accordingly concentrations would decrease because more of the chemical would degrade before it reaches the receptor.

Half-life of chemicals

Half-lives of chemicals were applied when appropriate. The most conservative (maximum half-life) was used when multiple half-lives were presented. Half-lives were acquired from the Handbook of Environmental Degradation Rates (Howard et al. 1991).

Time

The time of each modeled event was adjusted so that the maximum concentration value at the receptor was predicted. This was accomplished by ensuring that the argument of the complimentary error function was less than negative 2 indicating that the plume is in steady state. A steady state plume would result in a maximum value at the receptor.

Dispersivities

Dispersivities were estimated by using default parameters provided by NMED (1998). These default parameters are based on dividing the distance to the receptor by 10, 30, and 200 to estimate the longitudinal, lateral, and transverse dispersivitiy respectively.

Source Size

The source size in the Y direction was estimated from contaminant iso-concentration maps. These maps provided the best information for estimating dimensions of the plume. The source size in the Z direction was estimated. The dimensions of the Z direction source size was varied to provide information on how concentrations at the receptor changed as a function of vertical thickness of the contaminated zone at the source.

4. Results

Results of the predicted concentration analysis are summarized in Table 2 and calculations are included as Attachment 1. There are two general sources of chemical-specific action levels: (1) concentrations based on Risk Assessment (PRGs) and (2) concentrations based on Relevant and Applicable standards (RASs). The predicted concentrations in Table 2 are compared to both types of action levels.

RASs considered for this memorandum include maximum concentrations established by environmental regulation (e.g., non-zero maximum contaminant level goals [MCLGs] or primary drinking water maximum contaminant levels [MCLs]. No compound exceed its associated RAS.

Preliminary Remediation Goals (PRGs) were calculated using predicted concentrations as the source term within the standard SNL/NM equation for the residential water exposure pathway. If both carcinogen and non-carcinogen PRGs existed, the minimum value was used for comparison (most conservative).
PRGs are calculated for single contaminants. Because multiple contaminants exist, the PRGs are conservatively divided by 10 for comparison purposes. No compound exceeded 1/10 the risk-based PRG level.

5. Summary

Maximum contaminant concentrations in groundwater at the nearest potential downgradient receptor from TA-V were predicted using an analytical model developed by Domenico and Robbins (1995). This approach was recently adapted by the New Mexico Environment Department in their draft "New Mexico Underground Storage Tank Bureau Guidelines for Corrective Action", NMED, November 1998. The nearest potential downgradient receptor was assumed to be a hypothetical residence located 3086 meters west (downgradient) of TA-V, at the KAFB boundary.

Contaminants modeled include nitrate and various organic constituents detected in TA-V groundwater samples collected in the past. Some of these organic constituents were probably laboratory contaminants, but were nevertheless modeled in this exercise to be conservative. In each simulation, the maximum concentration of each contaminant in TA-V groundwater was used to predict the resulting concentrations at the downgradient receptor. All contaminant source concentrations were assumed to be continuous over time with the exception of TCE. TCE was assumed to increase at a rate of 3.61 ug/L/year for 50 years to a maximum concentration of 202 ug/L.

To be conservative, contaminant retardation onto the underlying sediments was not accounted for in the model. However, dispersivity of the contaminant plume was included in the analysis. Predicted concentrations were modeled with and without biological degradation of organic contaminants.

The results of this modeling indicate that no contaminant concentrations at the nearest downgradient receptor from TA-V are likely to exceed the Remedial Action Standards or exceed even 10 percent of the Preliminary Remediation Goals. This includes the scenarios with and without biological degradation. Therefore, the predicted groundwater concentrations at the receptor should pose no risk to future residents, and should not threaten human health.

6. References

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Table 1 Variable Definition and Input parameters

Parameter	Definition	Input	Comment
C (x,y,z,t)	Receptor concentration according to spatial coordinates and time		Result of analytical equation.
C_o	Source concentration (mg/L)	See Table 2	C_o is either a recorded maximum concentration at the source wells (for all sampling periods) or in the case of TCE the predicted future maximum concentration for a 50-year increment.
x	Distance from source	3,086 meters	The nearest downgradient receptor is assumed to be 3,086 meters away. This conservative distance marks the boundary of Kirtland Air Force Base.
y	Spatial coordinate	0 meters	The concentration was calculated for the plane of symmetry y=z=0
z	Spatial coordinate	0 meters	The concentration was calculated for the plane of symmetry y=z=0
v_w	Groundwater velocity	1.93E-6 m/sec	The maximum-recorded groundwater flow velocity was determined from hydraulic testing of the lower T upper zone and higher T lower zone.
t	Time	Constituent specific	Using the distance (x) from source, the groundwater velocity (v_w), and the overall first order decay rate (λ), the time of each modeled event was adjusted so that the argument of the complimentary error function would be greater than negative 2. A value of negative 2 indicates that the plume is in steady state and the calculated concentration is a maximum value at the receptor.
R_f	Retardation factor	1	Retardation was not accounted for in the modeled simulations.
λ	Overall first order decay rate	Constituent specific	The overall first order decay rate is constituent dependant, utilizing the constituents predicted half-life from Howard et al. 1991.
α_x	Estimated dispersivity in the x direction	309 meters	The value of α_x is a default from the New Mexico Underground Storage Tank Bureau DRAFT Guidelines for Corrective Action (NMED November 1998). The default value is the distance to the receptor divided by 10.
α_y	Estimated dispersivity in the y direction	103 meters	The value of α_y is a default from the New Mexico Underground Storage Tank Bureau DRAFT Guidelines for Corrective Action (NMED November 1998). The default value is the distance to the receptor divided by 30.
α_z	Estimated dispersivity in the z direction	15.5 meters	The value of α_z is a default from the New Mexico Underground Storage Tank Bureau DRAFT Guidelines for Corrective Action (NMED November 1998). The default value is the distance to the receptor divided by 200.
Y	Source size in Y direction	30.48 meters	Dimensions of the source are estimated from contaminant isoconcentration maps.
Z	Source size in Z direction	6.1 to 30.5 meters	The source is estimated to exist in the range of the upper 6.1 to 30.5 meters of the aquifer.

Table 2. Summary of TA-V Predicted Groundwater Contaminant Concentrations at the Nearest Downgradient Receptor

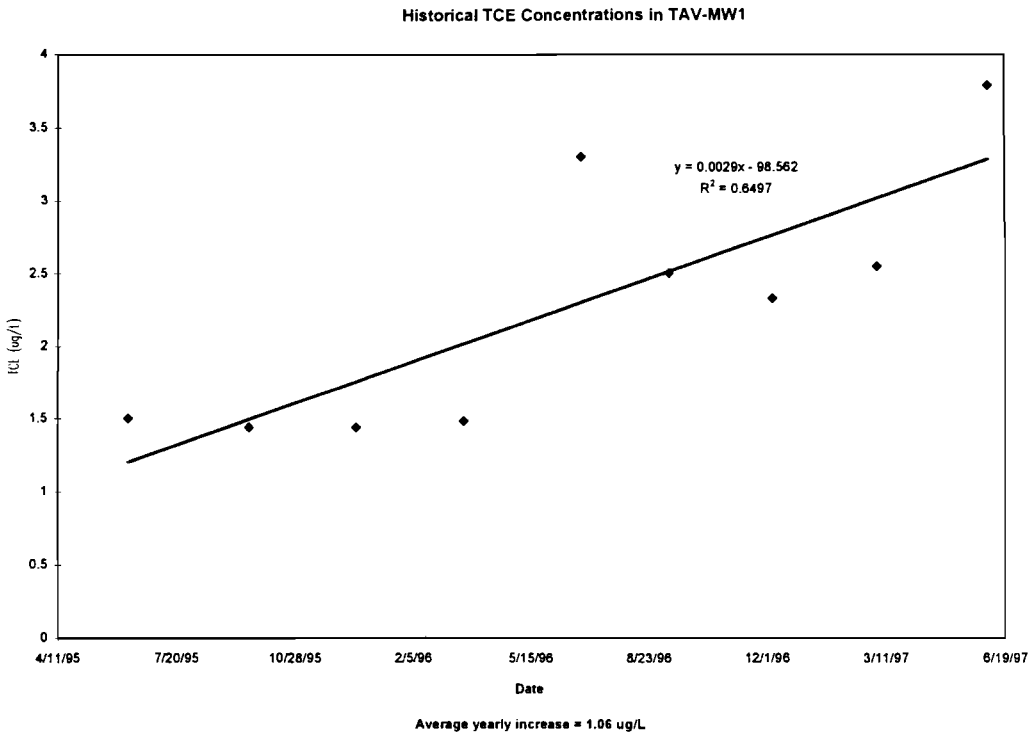
Parameter	Initial Concentration	Vertical Thickness of Source (m)	Overall First Order Decay Rate (1/sec)	Predicted Concentration	Region VI PRG for Residential Receptor[f]	RAS	Is Predicted Concentration Below RAS and 1/10 PRG?
Acetone	28 B µg/L	6.1	5.73E-7	2.5E-42 µg/L	610 µg/L	--	Yes
		6.1	0	0.0067 µg/L			Yes
		30.5	5.73E-7	1.2E-41 µg/L			Yes
		30.5	0	0.033 µg/L			Yes
2-Butanone	6 µg/L	6.1	5.73E-7	5.3E-43 µg/L	1900 µg/L	--	Yes
		6.1	0	0.0014 µg/L			Yes
		30.5	5.73E-7	2.7E-42 µg/L			Yes
		30.5	0	0.0072 µg/L			Yes
Chloroform	0.81 J µg/L	6.1	4.4E-9	1.7E-6 µg/L	0.16 µg/L	100[a]/80[d] µg/L	Yes
		6.1	0	0.00019 µg/L			Yes
		30.5	4.4E-9	8.3E-6 µg/L			Yes
		30.5	0	0.00097 µg/L			Yes
1,1-Dichloroethane	0.18 J µg/L	6.1	5.2E-8	1.3E-15 µg/L	810 µg/L	--	Yes
		6.1	0	4.3E-5 µg/L			Yes
		30.5	5.2E-8	6.3E-15 µg/L			Yes
		30.5	0	0.0002 µg/L			Yes
cis-1,2-Dichloroethene	4.6 µg/L	6.1	2.78E-9	3.9E-5 µg/L	61 µg/L	70[b] µg/L	Yes
		6.1	0	0.0011 µg/L			Yes
		30.5	2.78E-9	0.0002 µg/L			Yes
		30.5	0	0.0055 µg/L			Yes
1,2-Dichloroethene (total)	4.8 µg/L	6.1	2.78E-9	4.1E-5 µg/L	61 µg/L	70[b,e] µg/L	Yes
		6.1	0	0.0011 µg/L			Yes
		30.5	2.78E-9	0.0002 µg/L			Yes
		30.5	0	0.0057 µg/L			Yes
Methylene Chloride	11.7 B µg/L	6.1	1.43E-7	5.6E-22 µg/L	4.3 µg/L	5[a] µg/L	Yes
		6.1	0	0.0028 µg/L			Yes
		30.5	1.43E-7	2.8E-21 µg/L			Yes
		30.5	0	0.014 µg/L			Yes
Nitrate	36 mg/L	6.1	0	0.0086 mg/L	10 mg/L	10[b] mg/L	Yes
		30.5	0	0.043 mg/L			Yes
Toluene	11 µg/L	6.1	2.86E-7	1.4E-30 µg/L	720 µg/L	1,000[b] µg/L	Yes
		6.1	0	0.0026 µg/L			Yes
		30.5	2.86E-7	7.2E-30 µg/L			Yes
		30.5	0	0.013 µg/L			Yes

Table 2. Summary of TA-V Predicted Groundwater Contaminant Concentrations at the Nearest Downgradient Receptor

Parameter	Initial Concentration	Vertical Thickness of Source (m)	Overall First Order Decay Rate (1/sec)	Predicted Concentration	Region VI PRG for Residential Receptor[f]	RAS	Is Predicted Concentration Below RAS and 1/10 PRG?
Trichloroethene	202 μg/L[c]	6.1	4.88E-9	0.00028 μg/L	1.6 μg/L	5[a] μg/L	Yes
		6.1	0	0.048 μg/L			Yes
		30.5	4.88E-9	0.0014 μg/L			Yes
		30.5	0	0.24 μg/L			Yes

[a]ARAR based on Primary Drinking Water Standard MCL (MCLG=0)
[b]ARAR based on MCLG
[c]The predicted future maximum TCE concentration for a 50-year increment based on present increasing trend
[d]1994 proposed rule for Disinfectants and Disinfection By-products: Total for all THMs combined cannot exceed the 80 μg/L level.
[e]Used MCLG for cis-1,2-dichloroethene
[f]Based on minimum concentration between hazard quotient = 1 and applicable excess cancer risk value.
B – Constituent found in blank
J – Estimated concentration
-- Information not available

FIGURE 1
HISTORICAL TCE CONCENTRATIONS IN TAV-MW1 AND LWDS-MW1


Historical TCE Concentrations in TAV-MW1
y = 0.0029x - 98.562
R² = 0.6497
TCE (ug/l)
4
3.5
3
2.5
2
1.5
1
0.5
0
4/11/95
7/20/95
10/28/95
2/5/96
5/15/96
8/23/96
12/1/96
3/11/97
6/19/97
Date
Average yearly increase = 1.06 ug/L

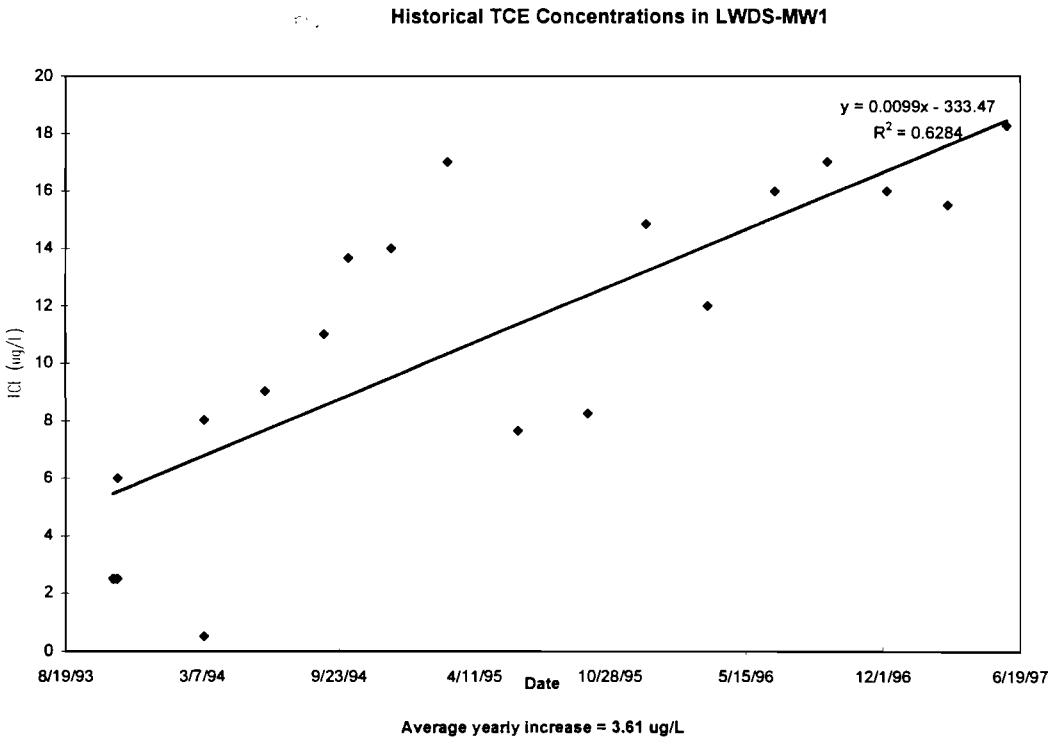

Historical TCE Concentrations in LWDS-MW1
y = 0.0099x - 333.47
R² = 0.6284
TCE (ug/l)
20
18
16
14
12
10
8
6
4
2
0
8/19/93
3/7/94
9/23/94
4/11/95
10/28/95
5/15/96
12/1/96
6/19/97
Date
Average yearly increase = 3.61 ug/L

FIGURE 2
POTENTIOMETRIC SURFACE FOR THE REGIONAL GROUNDWATER SYSTEM AT SNL/KAFB, DECEMBER 1997

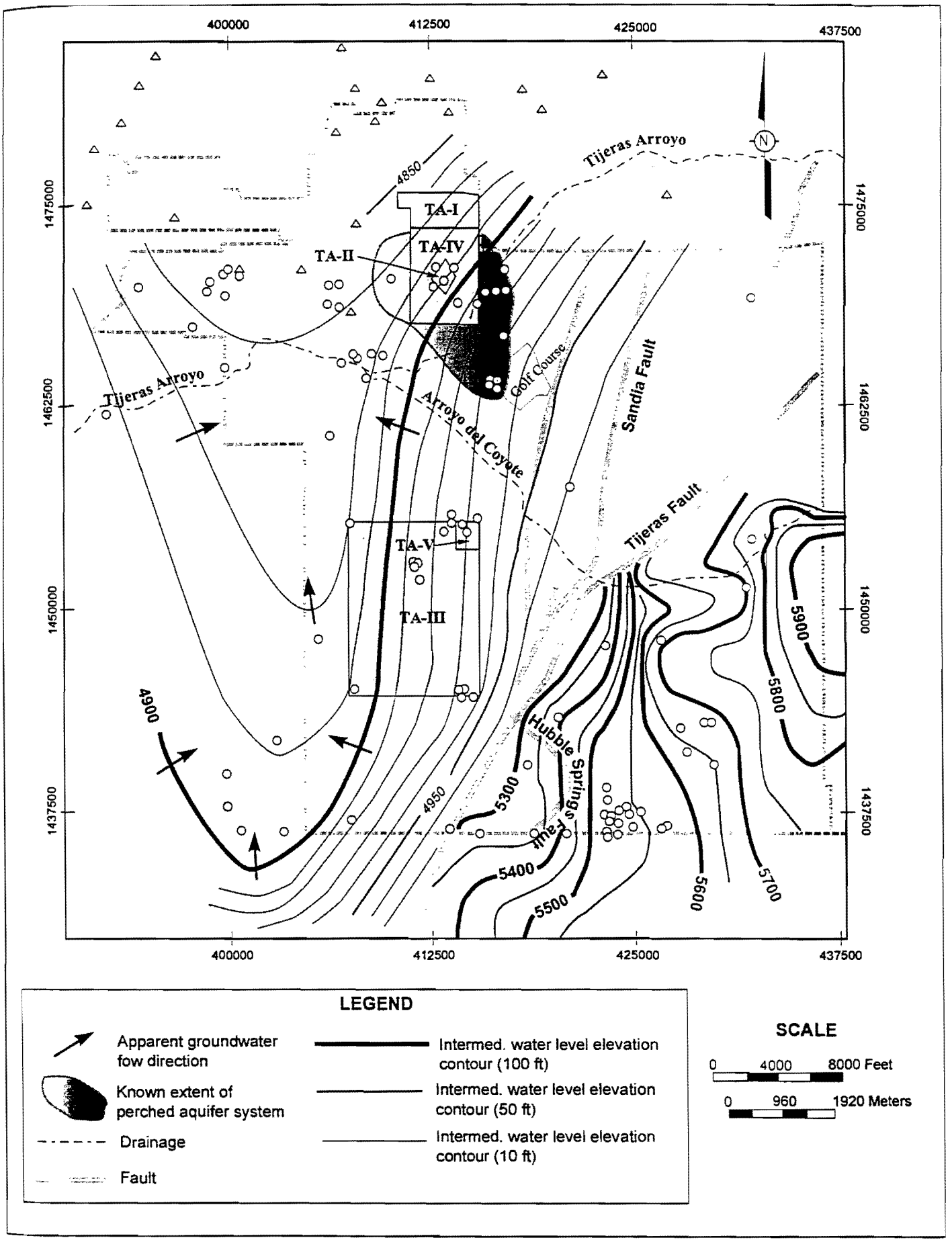


Figure 2. Potentiometric Surface for the Regional Groundwater System at SNL/KAFB, December 1997.

ATTACHMENT 1
INPUT PARAMETERS FOR DOMENICO'S MULTIDIMENSIONAL TRANSPORT MODEL ASSUMING A CONTINUOUS SOURCE TWO DIRECTION SPREADING IN Y, ONE DIRECTION IN Z

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
6.00E+00	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] 2-Butanone
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
5.73E-07	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
1.71E+09	t	= time [sec]
30.5	Y	= source width [m]
6.1	Z	= source vertical thickness [m]
5.31169E-43	**C**	**= dissolved-phase concentration [ug/L]**
-90.79660521		= argument of the EXP
3.69433E-40		= EXP component of eqn
7.50E-01		= concentration divided by eight
-2.035398988		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.996004146		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.031469724		= vertical dispersivity portion of eqn
5.31169E-43		= dissolved phase concentration
5.73E-07	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
3.84E-02		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
6.00E+00	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] 2-Butanone
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
5.73E-07	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
1.71E+09	t	= time [sec]
30.5	Y	= source width [m]
30.5	Z	= source vertical thickness [m]
2.65172E-42	**C**	**= dissolved-phase concentration [ug/L]**
-90.79660521		= argument of the EXP
3.69433E-40		= EXP component of eqn
7.50E-01		= concentration divided by eight
-2.035398988		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.996004146		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.157104166		= vertical dispersivity portion of eqn
2.65172E-42		= dissolved phase concentration
5.73E-07	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
3.84E-02		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
2.80E+01	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] Acetone
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
0.00E+00	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
5.30E+09	t	= time [sec]
30.5	Y	= source width [m]
6.1	Z	= source vertical thickness [m]
0.006708032	**C**	**= dissolved-phase concentration [ug/L]**
0		= argument of the EXP
1		= EXP component of eqn
3.50E+00		= concentration divided by eight
-2.008883841		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.995502638		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.031469724		= vertical dispersivity portion of eqn
0.006708032		= dissolved phase concentration
5.73E-07	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
3.84E-02		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
2.80E+01	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] Acetone
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
0.00E+00	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
5.30E+09	t	= time [sec]
30.5	Y	= source width [m]
30.5	Z	= source vertical thickness [m]
0.033488053	**C**	**= dissolved-phase concentration [ug/L]**
0		= argument of the EXP
1		= EXP component of eqn
3.50E+00		= concentration divided by eight
-2.008883841		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.995502638		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.157104166		= vertical dispersivity portion of eqn
0.033488053		= dissolved phase concentration
5.73E-07	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
3.84E-02		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
6.00E+00	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] 2-Butanone
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
0.00E+00	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
5.50E+09	t	= time [sec]
30.5	Y	= source width [m]
30.5	Z	= source vertical thickness [m]
0.007180365	**C**	**= dissolved-phase concentration [ug/L]**
0		= argument of the EXP
1		= EXP component of eqn
7.50E-01		= concentration divided by eight
-2.07858631		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.996713266		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.157104166		= vertical dispersivity portion of eqn
0.007180365		= dissolved phase concentration
5.73E-07	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
3.84E-02		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
6.00E+00	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] 2-Butanone
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
0.00E+00	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
5.50E+09	t	= time [sec]
30.5	Y	= source width [m]
6.1	Z	= source vertical thickness [m]
0.001438308	**C**	**= dissolved-phase concentration [ug/L]**
0		= argument of the EXP
1		= EXP component of eqn
7.50E-01		= concentration divided by eight
-2.07858631		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.996713266		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.031469724		= vertical dispersivity portion of eqn
0.001438308		= dissolved phase concentration
5.73E-07	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
3.84E-02		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
8.10E-01	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] Chloroform
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
4.40E-09	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
3.10E+09	t	= time [sec]
30.5	Y	= source width [m]
6.1	Z	= source vertical thickness [m]
1.6575E-06	**C**	**= dissolved-phase concentration [ug/L]**
-4.763451915		= argument of the EXP
0.008536093		= EXP component of eqn
1.01E-01		= concentration divided by eight
-2.081554091		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.996757508		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.031469724		= vertical dispersivity portion of eqn
1.6575E-06		= dissolved phase concentration
4.40E-09	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
5.00E+00		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
8.10E-01	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] Chloroform
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
4.40E-09	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
3.10E+09	t	= time [sec]
30.5	Y	= source width [m]
30.5	Z	= source vertical thickness [m]
8.27464E-06	**C**	**= dissolved-phase concentration [ug/L]**
-4.763451915		= argument of the EXP
0.008536093		= EXP component of eqn
1.01E-01		= concentration divided by eight
-2.081554091		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.996757508		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.157104166		= vertical dispersivity portion of eqn
8.27464E-06		= dissolved phase concentration
4.40E-09	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
5.00E+00		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
8.10E-01	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] Chloroform
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
0.00E+00	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
5.50E+09	t	= time [sec]
30.5	Y	= source width [m]
30.5	Z	= source vertical thickness [m]
0.000969349	**C**	**= dissolved-phase concentration [ug/L]**
0		= argument of the EXP
1		= EXP component of eqn
1.01E-01		= concentration divided by eight
-2.07858631		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.996713266		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.157104166		= vertical dispersivity portion of eqn
0.000969349		= dissolved phase concentration
4.40E-09	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
5.00E+00		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
8.10E-01	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] Chloroform
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
0.00E+00	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
5.50E+09	t	= time [sec]
30.5	Y	= source width [m]
6.1	Z	= source vertical thickness [m]
0.000194172	**C**	**= dissolved-phase concentration [ug/L]**
0		= argument of the EXP
1		= EXP component of eqn
1.01E-01		= concentration divided by eight
-2.07858631		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.996713266		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.031469724		= vertical dispersivity portion of eqn
0.000194172		= dissolved phase concentration
4.40E-09	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
5.00E+00		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
1.80E-01	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] 1,1-DCA
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
5.20E-08	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
2.00E+09	t	= time [sec]
30.5	Y	= source width [m]
6.1	Z	= source vertical thickness [m]
1.26564E-15	**C**	**= dissolved-phase concentration [ug/L]**
-24.25232915		= argument of the EXP
2.93324E-11		= EXP component of eqn
2.25E-02		= concentration divided by eight
-2.075367318		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.996664659		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.031469724		= vertical dispersivity portion of eqn
1.26564E-15		= dissolved phase concentration
5.20E-08	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
4.23E-01		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
1.80E-01	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] 1,1-DCA
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
5.20E-08	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
2.00E+09	t	= time [sec]
30.5	Y	= source width [m]
30.5	Z	= source vertical thickness [m]
6.31836E-15	**C**	**= dissolved-phase concentration [ug/L]**
-24.25232915		= argument of the EXP
2.93324E-11		= EXP component of eqn
2.25E-02		= concentration divided by eight
-2.075367318		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.996664659		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.157104166		= vertical dispersivity portion of eqn
6.31836E-15		= dissolved phase concentration
5.20E-08	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
4.23E-01		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
1.80E-01	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] 1,1-DCA
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
0.00E+00	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
5.30E+09	t	= time [sec]
30.5	Y	= source width [m]
30.5	Z	= source vertical thickness [m]
0.00021528	**C**	**= dissolved-phase concentration [ug/L]**
0		= argument of the EXP
1		= EXP component of eqn
2.25E-02		= concentration divided by eight
-2.008883841		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.995502638		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.157104166		= vertical dispersivity portion of eqn
0.00021528		= dissolved phase concentration
5.20E-08	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
4.23E-01		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
1.80E-01	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] 1,1-DCA
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
0.00E+00	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
5.30E+09	t	= time [sec]
30.5	Y	= source width [m]
6.1	Z	= source vertical thickness [m]
4.31231E-05	**C**	**= dissolved-phase concentration [ug/L]**
0		= argument of the EXP
1		= EXP component of eqn
2.25E-02		= concentration divided by eight
-2.008883841		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.995502638		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.031469724		= vertical dispersivity portion of eqn
4.31231E-05		= dissolved phase concentration
5.20E-08	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
4.23E-01		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
4.60E+00	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] cis-1,2-DCE
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
2.78E-09	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
3.40E+09	t	= time [sec]
30.5	Y	= source width [m]
6.1	Z	= source vertical thickness [m]
3.93418E-05	**C**	**= dissolved-phase concentration [ug/L]**
-3.332874277		= argument of the EXP
0.035690373		= EXP component of eqn
5.75E-01		= concentration divided by eight
-2.035177705		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.99600018		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.031469724		= vertical dispersivity portion of eqn
3.93418E-05		= dissolved phase concentration
2.78E-09	**λ**	**= overall first order decay rate [1/sec] = ln(2)/half life**
7.92E+00		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
4.60E+00	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] cis-1,2-DCE
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
2.78E-09	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
3.40E+09	t	= time [sec]
30.5	Y	= source width [m]
30.5	Z	= source vertical thickness [m]
0.000196403	**C**	**= dissolved-phase concentration [ug/L]**
-3.332874277		= argument of the EXP
0.035690373		= EXP component of eqn
5.75E-01		= concentration divided by eight
-2.035177705		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.99600018		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.157104166		= vertical dispersivity portion of eqn
0.000196403		= dissolved phase concentration
2.78E-09	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
7.92E+00		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
4.60E+00	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] cis-1,2-DCE
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
0.00E+00	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
5.30E+09	t	= time [sec]
30.5	Y	= source width [m]
30.5	Z	= source vertical thickness [m]
0.005501609	**C**	**= dissolved-phase concentration [ug/L]**
0		= argument of the EXP
1		= EXP component of eqn
5.75E-01		= concentration divided by eight
-2.008883841		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.995502638		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.157104166		= vertical dispersivity portion of eqn
0.005501609		= dissolved phase concentration
2.78E-09	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
7.92E+00		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
4.60E+00	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] cis-1,2-DCE
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
0.00E+00	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
5.30E+09	t	= time [sec]
30.5	Y	= source width [m]
6.1	Z	= source vertical thickness [m]
0.001102034	**C**	**= dissolved-phase concentration [ug/L]**
0		= argument of the EXP
1		= EXP component of eqn
5.75E-01		= concentration divided by eight
-2.008883841		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.995502638		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.031469724		= vertical dispersivity portion of eqn
0.001102034		= dissolved phase concentration
2.78E-09	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
7.92E+00		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
4.80E+00	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] total-1,2-DCE
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
2.78E-09	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
3.40E+09	t	= time [sec]
30.5	Y	= source width [m]
6.1	Z	= source vertical thickness [m]
4.10523E-05	**C**	**= dissolved-phase concentration [ug/L]**
-3.332874277		= argument of the EXP
0.035690373		= EXP component of eqn
6.00E-01		= concentration divided by eight
-2.035177705		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.99600018		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.031469724		= vertical dispersivity portion of eqn
4.10523E-05		= dissolved phase concentration
2.78E-09	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
7.92E+00		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
4.80E+00	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] total-1,2-DCE
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
2.78E-09	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
3.40E+09	t	= time [sec]
30.5	Y	= source width [m]
30.5	Z	= source vertical thickness [m]
0.000204943	**C**	**= dissolved-phase concentration [ug/L]**
-3.332874277		= argument of the EXP
0.035690373		= EXP component of eqn
6.00E-01		= concentration divided by eight
-2.035177705		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.99600018		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.157104166		= vertical dispersivity portion of eqn
0.000204943		= dissolved phase concentration
2.78E-09	**λ**	**= overall first order decay rate [1/sec] = ln(2)/half life**
7.92E+00		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
4.80E+00	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] total-1,2-DCE
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
0.00E+00	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
5.30E+09	t	= time [sec]
30.5	Y	= source width [m]
30.5	Z	= source vertical thickness [m]
0.005740809	**C**	**= dissolved-phase concentration [ug/L]**
0		= argument of the EXP
1		= EXP component of eqn
6.00E-01		= concentration divided by eight
-2.008883841		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.995502638		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.157104166		= vertical dispersivity portion of eqn
0.005740809		= dissolved phase concentration
2.78E-09	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
7.92E+00		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
4.80E+00	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] total-1,2-DCE
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
0.00E+00	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
5.30E+09	t	= time [sec]
30.5	Y	= source width [m]
6.1	Z	= source vertical thickness [m]
0.001149948	**C**	**= dissolved-phase concentration [ug/L]**
0		= argument of the EXP
1		= EXP component of eqn
6.00E-01		= concentration divided by eight
-2.008883841		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.995502638		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.031469724		= vertical dispersivity portion of eqn
0.001149948		= dissolved phase concentration
2.78E-09	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
7.92E+00		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
1.17E+01	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] Meth chloride
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
1.43E-07	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
1.83E+09	t	= time [sec]
30.5	Y	= source width [m]
6.1	Z	= source vertical thickness [m]
5.62351E-22	**C**	**= dissolved-phase concentration [ug/L]**
-43.05325758		= argument of the EXP
2.00543E-19		= EXP component of eqn
1.46E+00		= concentration divided by eight
-2.053434831		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.996315664		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.031469724		= vertical dispersivity portion of eqn
5.62351E-22		= dissolved phase concentration
1.43E-07	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
1.54E-01		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
1.17E+01	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] Meth chloride
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
1.43E-07	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
1.83E+09	t	= time [sec]
30.5	Y	= source width [m]
30.5	Z	= source vertical thickness [m]
2.80739E-21	**C**	**= dissolved-phase concentration [ug/L]**
-43.05325758		= argument of the EXP
2.00543E-19		= EXP component of eqn
1.46E+00		= concentration divided by eight
-2.053434831		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.996315664		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.157104166		= vertical dispersivity portion of eqn
2.80739E-21		= dissolved phase concentration
1.43E-07	**λ**	**= overall first order decay rate [1/sec] = ln(2)/half life**
1.54E-01		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
1.17E+01	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] Meth chloride
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
0.00E+00	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
5.50E+09	t	= time [sec]
30.5	Y	= source width [m]
30.5	Z	= source vertical thickness [m]
0.014001712	**C**	**= dissolved-phase concentration [ug/L]**
0		= argument of the EXP
1		= EXP component of eqn
1.46E+00		= concentration divided by eight
-2.07858631		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.996713266		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.157104166		= vertical dispersivity portion of eqn
0.014001712		= dissolved phase concentration
1.43E-07	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
1.54E-01		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
1.17E+01	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] Meth chloride
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
0.00E+00	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
5.50E+09	t	= time [sec]
30.5	Y	= source width [m]
6.1	Z	= source vertical thickness [m]
0.0028047	**C**	**= dissolved-phase concentration [ug/L]**
0		= argument of the EXP
1		= EXP component of eqn
1.46E+00		= concentration divided by eight
-2.07858631		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.996713266		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.031469724		= vertical dispersivity portion of eqn
0.0028047		= dissolved phase concentration
1.43E-07	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
1.54E-01		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
3.60E+01	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [mg/L] Nitrate
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
0.00E+00	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
5.50E+09	t	= time [sec]
30.5	Y	= source width [m]
6.1	Z	= source vertical thickness [m]
0.008629845	**C**	**= dissolved-phase concentration [mg/L]**
0		= argument of the EXP
1		= EXP component of eqn
4.50E+00		= concentration divided by eight
-2.07858631		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.996713266		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.031469724		= vertical dispersivity portion of eqn
0.008629845		= dissolved phase concentration
#DIV/0!	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
0.00E+00		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
3.60E+01	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [mg/L] Nitrate
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
0.00E+00	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
5.50E+09	t	= time [sec]
30.5	Y	= source width [m]
30.5	Z	= source vertical thickness [m]
0.04308219	**C**	**= dissolved-phase concentration [mg/L]**
0		= argument of the EXP
1		= EXP component of eqn
4.50E+00		= concentration divided by eight
-2.07858631		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.996713266		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.157104166		= vertical dispersivity portion of eqn
0.04308219		= dissolved phase concentration
#DIV/0!	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
0.00E+00		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
1.10E+01	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] Toluene
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
2.86E-07	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
1.76E+09	t	= time [sec]
30.5	Y	= source width [m]
6.1	Z	= source vertical thickness [m]
1.44497E-30	**C**	**= dissolved-phase concentration [ug/L]**
-62.77115207		= argument of the EXP
5.48069E-28		= EXP component of eqn
1.38E+00		= concentration divided by eight
-2.058414009		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.996397686		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.031469724		= vertical dispersivity portion of eqn
1.44497E-30		= dissolved phase concentration
2.86E-07	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
7.69E-02		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
1.10E+01	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] Toluene
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
2.86E-07	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
1.76E+09	t	= time [sec]
30.5	Y	= source width [m]
30.5	Z	= source vertical thickness [m]
7.21364E-30	**C**	**= dissolved-phase concentration [ug/L]**
-62.77115207		= argument of the EXP
5.48069E-28		= EXP component of eqn
1.38E+00		= concentration divided by eight
-2.058414009		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.996397686		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.157104166		= vertical dispersivity portion of eqn
7.21364E-30		= dissolved phase concentration
2.86E-07	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
7.69E-02		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
1.10E+01	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] Toluene
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
0.00E+00	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
5.50E+09	t	= time [sec]
30.5	Y	= source width [m]
30.5	Z	= source vertical thickness [m]
0.013164002	**C**	**= dissolved-phase concentration [ug/L]**
0		= argument of the EXP
1		= EXP component of eqn
1.38E+00		= concentration divided by eight
-2.07858631		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.996713266		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.157104166		= vertical dispersivity portion of eqn
0.013164002		= dissolved phase concentration
2.86E-07	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
7.69E-02		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
1.10E+01	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] Toluene
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
0.00E+00	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
5.50E+09	t	= time [sec]
30.5	Y	= source width [m]
6.1	Z	= source vertical thickness [m]
0.002636897	**C**	**= dissolved-phase concentration [ug/L]**
0		= argument of the EXP
1		= EXP component of eqn
1.38E+00		= concentration divided by eight
-2.07858631		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.996713266		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.031469724		= vertical dispersivity portion of eqn
0.002636897		= dissolved phase concentration
2.86E-07	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
7.69E-02		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
2.02E+02	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] TCE
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
4.88E-09	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
3.00E+09	t	= time [sec]
30.5	Y	= source width [m]
6.1	Z	= source vertical thickness [m]
0.000281147	**C**	**= dissolved-phase concentration [ug/L]**
-5.148648691		= argument of the EXP
0.005807247		= EXP component of eqn
2.53E+01		= concentration divided by eight
-2.052966557		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.996307863		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.031469724		= vertical dispersivity portion of eqn
0.000281147		= dissolved phase concentration
4.88E-09	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
4.50E+00		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
2.02E+02	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] TCE
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
4.88E-09	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
3.00E+09	t	= time [sec]
30.5	Y	= source width [m]
30.5	Z	= source vertical thickness [m]
0.001403553	**C**	**= dissolved-phase concentration [ug/L]**
-5.148648691		= argument of the EXP
0.005807247		= EXP component of eqn
2.53E+01		= concentration divided by eight
-2.052966557		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.996307863		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.157104166		= vertical dispersivity portion of eqn
0.001403553		= dissolved phase concentration
4.88E-09	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
4.50E+00		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
2.02E+02	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] TCE
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
0.00E+00	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
5.50E+09	t	= time [sec]
30.5	Y	= source width [m]
30.5	Z	= source vertical thickness [m]
0.241738955	**C**	**= dissolved-phase concentration [ug/L]**
0		= argument of the EXP
1		= EXP component of eqn
2.53E+01		= concentration divided by eight
-2.07858631		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.996713266		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.157104166		= vertical dispersivity portion of eqn
0.241738955		= dissolved phase concentration
4.88E-09	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
4.50E+00		= half life [years]
		= Retardation Factor for Organic

Input Parameters for Domenico's Multidimensional Transport Model Assuming a Continuous Source
Two direction spreading in Y, one direction in Z

Input Value	Symbol	Definition
2.02E+02	C_o	= dissolved-phase concentration at the source (at x=y=z=0) [ug/L] TCE
1.93E-06	v_w	= groundwater velocity [m/sec]
1	R_f	= retardation factor
0.00E+00	λ	= overall first order decay rate [1/sec]
309	α_x	= longitudinal dispersivity [m]
103	α_y	= lateral dispersivity [m]
15.5	α_z	= vertical dispersivity [m]
3086	x	= distance along the centerline from the downgradient edge of dissolved-plume source zone or source well [m]
0	y	= spatial coordinates [m]
0	z	= spatial coordinates [m]
5.50E+09	t	= time [sec]
30.5	Y	= source width [m]
6.1	Z	= source vertical thickness [m]
0.04842302	**C**	**= dissolved-phase concentration [ug/L]**
0		= argument of the EXP
1		= EXP component of eqn
2.53E+01		= concentration divided by eight
-2.07858631		**= argument of the ERFC (greater than -2 indicates plume is at steady state and the calculated concentration is a maximum value)**
1.996713266		=complimentary ERFC
0.030519812		= lateral dispersivity portion of eqn
0.031469724		= vertical dispersivity portion of eqn
0.04842302		= dissolved phase concentration
4.88E-09	λ	**= overall first order decay rate [1/sec] = ln(2)/half life**
4.50E+00		= half life [years]
		= Retardation Factor for Organic