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Final Phase II Report: QuickSite® Investigation, Everest, Kansas

Environmental Research Division

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Notation

AGEM	Applied Geosciences and Environmental Management
AMSL	above mean sea level
ASTM	American Society for Testing and Materials
BGL	below ground level
°C	degree(s) Celsius
CAS	Corrective Action Study
CCC	Commodity Credit Corporation
CI	Comprehensive Investigation
CLP	Contract Laboratory Program
COC	chain of custody
DF	dilution factor
DOE	U.S. Department of Energy
ECPT	electronic cone penetrometer
EPA	U.S. Environmental Protection Agency
ESC	Expedited Site Characterization
ft	foot (feet)
GC-ECD	gas chromatograph-electron capture detector
GC-MS	gas chromatograph(y)-mass spectrometer(-metry)
hr	hour(s)
in.	inch(es)
KDHE	Kansas Department of Health and Environment
µg/kg	microgram(s) per kilogram
µg/L	microgram(s) per liter
µS/cm	microsiemen(s) per centimeter
MCL	maximum contaminant level
mg/L	milligram(s) per liter
mi	mile(s)
min	minute(s)
mL	milliliter(s)
NAD	North American Datum
ng	nanogram(s)
NGVD	North Geodetic Vertical Datum
PVC	polyvinyl chloride
QA	quality assurance
QC	quality control

RPD	relative percent difference
SDG	sample delivery group
STL	Severn-Trent Laboratory
TOC	top of casing
TPH	total petroleum hydrocarbons
TU	tritium unit(s)
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
VOC	volatile organic compound
yr	year(s)

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1 Introduction

The Commodity Credit Corporation (CCC), an agency of the U.S. Department of Agriculture (USDA), operated grain storage facilities at two different locations at Everest, Kansas (Figure 1.1). One facility (referred to in this report as the Everest facility) was at the western edge of the city of Everest. The CCC/USDA operated this facility from 1950 until the early 1970s. The second facility (referred to in this report as Everest East) was about 0.5 mi northeast of the town. The CCC/USDA operated this facility from 1954 until the early 1970s. While these two former CCC/USDA grain storage facilities were in operation, commercial grain fumigants containing carbon tetrachloride were in common use by the CCC/USDA and the private grain storage industry to preserve grain.

In 1997, the Kansas Department of Health and Environment (KDHE) sampled several domestic drinking water and nondrinking water wells in the Everest area. The KDHE sampling was part of the CCC/USDA Private Well Sampling Program, which was initiated to determine whether carbon tetrachloride was present in domestic wells near former CCC/USDA grain storage facilities in Kansas. All of the sampled domestic drinking water wells were located outside the Everest city boundaries. As a result of this sampling, carbon tetrachloride contamination was identified at a single domestic drinking water well (the Nigh well; DW06) approximately 3/8 mi northwest of the former Everest CCC/USDA grain storage facility. The CCC/USDA subsequently connected the Nigh residence to the Everest municipal water system. As a result of the detection of carbon tetrachloride in this well, the KDHE conducted preliminary investigations to further evaluate the existence of contamination and its potential effect on public health and the environment. The KDHE concluded that carbon tetrachloride in groundwater at Everest might, in part, be linked to historical use of carbon tetrachloride-based grain fumigants at the former CCC/USDA facilities. For this reason, the CCC/USDA is conducting an environmental site investigation to determine the source(s) and extent of the carbon tetrachloride contamination at Everest and to assess whether the contamination requires remedial action.

The investigation at Everest is being performed by the Environmental Research Division of Argonne National Laboratory. Argonne is a nonprofit, multidisciplinary research center operated by the University of Chicago for the U.S. Department of Energy (DOE). The

CCC/USDA has entered into an interagency agreement with DOE, under which Argonne provides technical assistance to the CCC/USDA with environmental site characterization and remediation at its former grain storage facilities. At these facilities, Argonne is applying its QuickSite® environmental site characterization methodology. This methodology has been applied successfully at a number of former CCC/USDA facilities in Kansas and Nebraska and has been adopted by the American Society for Testing and Materials (ASTM 1998) as standard practice for environmental site characterization.

Phase I of the QuickSite® investigation examined the key geologic, hydrogeologic, and hydrogeochemical relationships that define potential contaminant migration pathways at Everest (Argonne 2001). The principal findings were as follows:

- No groundwater threat is posed by carbon tetrachloride that might have been used at the former Everest East CCC/USDA facility. The presence of subsurface water in the vicinity of the former Everest East facility is controlled by groundwater drainage to a nearby creek; no groundwater was found beneath the property itself during Argonne's investigation, and the only previously reported evidence of contaminated groundwater in this area (KDHE 1998) could not be confirmed.

- The stratigraphic sequence in the Phase I area of investigation (see Figure 1.2) includes, in order of increasing depth from the surface, Holocene and Pleistocene (1) loess, (2) silts and clays, (3) sands and sandy to gravelly clay till, and (4) blue-gray silty clay unconformably overlying Cretaceous limestone bedrock.

- Only one aquifer unit of significance was identified at Everest. This unit consists of a 4- to 20-ft-thick saturated interval near the base of the stratigraphic interval designated by Argonne as unit 3b (see Figure 1.2).

- Unit 3b is lithologically heterogeneous and varies in character across the study area. Beds of glaciofluvial sand and gravel, occasionally cemented by caliche, occur within the clay till and are best developed in a channel-like feature that underlies and opens to the southwest of the former Everest CCC/USDA facility. To the north and northwest of the former Everest facility, coarser-grained deposits within the till are limited to thinner and more discontinuous stringers and lenses.

- Groundwater level relationships indicate that the saturated, more permeable channels, lenses, and stringers in unit 3b form a complex, but hydraulically continuous, network within the till across the study area. Semiradial groundwater flow was identified toward the southwest, west, and northwest from an apparent recharge area near (and to the east of) the former CCC/USDA facility.

- Carbon tetrachloride (727 μg/L) and chloroform (34 μg/L) were detected in groundwater at the top of the aquifer beneath the northwest corner of the former Everest CCC/USDA facility, but the contaminants were absent upgradient to the southeast of the former facility. A groundwater contaminant plume was identified extending at least 500 ft downgradient from the former Everest facility toward the Nigh property (see Figure 1.3).

- An apparent correlation between (1) the lithologies within the saturated zone of unit 3b, (2) variations in the hydraulic gradients across the Phase I study area, (3) groundwater tritium isotope relationships, and (4) the identified presence of carbon tetrachloride in groundwater was interpreted to reflect the areal distribution of relatively more permeable and relatively less permeable groundwater migration pathways within the aquifer. A possible hydrogeologic/permeability barrier separating the former Everest CCC/USDA facility from the Nigh property to its northwest was hypothesized on the basis of these observations.

- In sampling on the Nigh property, carbon tetrachloride was detected in vegetation and near-surface soils associated with the locations of private grain storage structures formerly present there. The results suggested that a local source for the groundwater carbon tetrachloride contamination identified in the Nigh well (DW06) might exist on the Nigh property.

Phase II of the QuickSite® investigation at Everest was undertaken with the primary goal of delineating and improving understanding of the distribution of carbon tetrachloride contamination in groundwater at this site and the potential source area(s) that might have contributed to this contamination. To address this goal, four specific technical objectives were developed to guide the Phase II field studies. These technical objectives are to accomplish the following:

1. Confirm an association of carbon tetrachloride contamination with the former Everest CCC/USDA facility.

2. Characterize the hydrogeologic factors controlling contaminant migration.

3. Delineate the distribution of the carbon tetrachloride plume.

4. Investigate for indications of possible groundwater contamination associated with the former private grain storage facility on the Nigh property.

Sampling of near-surface soils at the former Everest CCC/USDA facility that was originally planned for Phase I had to be postponed until October 2000 because of access restrictions. Viable vegetation was not available for sampling then. This period is termed the first session of Phase II field work at Everest.

The main session of field work for the Phase II QuickSite® investigation of the Everest site began on March 6, 2001. Work was suspended at the site on April 6, 2001, (1) because of access limitations to key properties, located north and west of the former CCC/USDA facility, imposed by the private owners at the onset of the spring planting season and (2) to permit further documentation by Argonne, at the request of the CCC/USDA, of the land use and ownership history of the Nigh property as a precursor to completion of the field work. This period is termed the second session of Phase II field work at Everest.

Investigation of the Nigh property history was prompted by groundwater contamination evidence obtained during the second session of Phase II field activities (discussed in Section 3.7). This evidence suggested the potential for intermingling of carbon tetrachloride plumes associated with contaminant source areas at both the former Everest CCC/USDA facility and the private grain storage structures formerly located on the Nigh property. To address this concern, Argonne conducted a title search for the Nigh property and reported the results to the CCC/USDA in February 2002. Argonne received authorization from the CCC/USDA in May

2002 to continue the Phase II investigation at Everest. Phase II field work resumed at the site on November 4, 2002, and was completed on November 13, 2002. This period is termed the third session of Phase II field work at Everest.

This report documents the findings of all of the Phase II activities at Everest. Section 1 provides a brief history of the site and the QuickSite® process, a summary of the Phase I findings, a brief chronology of the Phase II investigation, and a description of the sections contained in this report. Section 2 describes the investigative methods used during the Phase II investigation. Section 3 presents all of the results obtained during the investigation. Section 4 describes the interpretation of the pertinent data used to meet each of the technical objectives of the study. Section 5 summarizes the conclusions of the investigation relative to the technical objectives. Section 5 also presents technical justification and recommendations for further work at this site. The goal would be to facilitate the evaluation of possible human health and environmental risks, and hence the potential remedial requirements, associated with the documented carbon tetrachloride contamination in groundwater.

To streamline the reporting process, materials from the site-specific *Work Plan* (Argonne 2000) and Phase I report (Argonne 2001), as well as relevant sections of the *Master Work Plan* (Argonne 2002), are not repeated in detail in this report. Consequently, these documents must also be consulted to obtain the complete details of the QuickSite® investigative program for Everest.

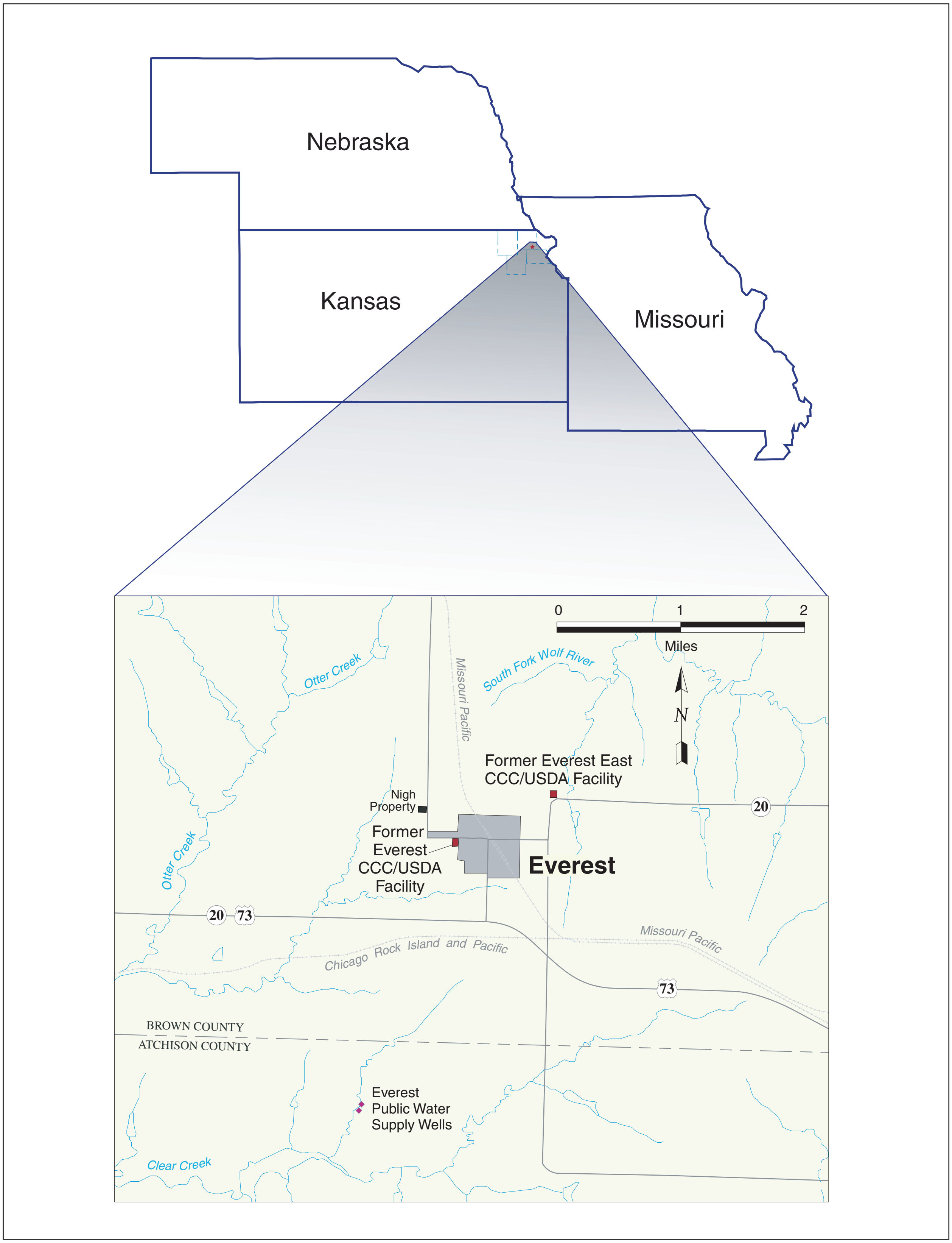

FIGURE 1.1 Locations of Everest, Kansas; the former Everest and Everest East CCC/USDA grain storage facilities; and the nearby Nigh property.

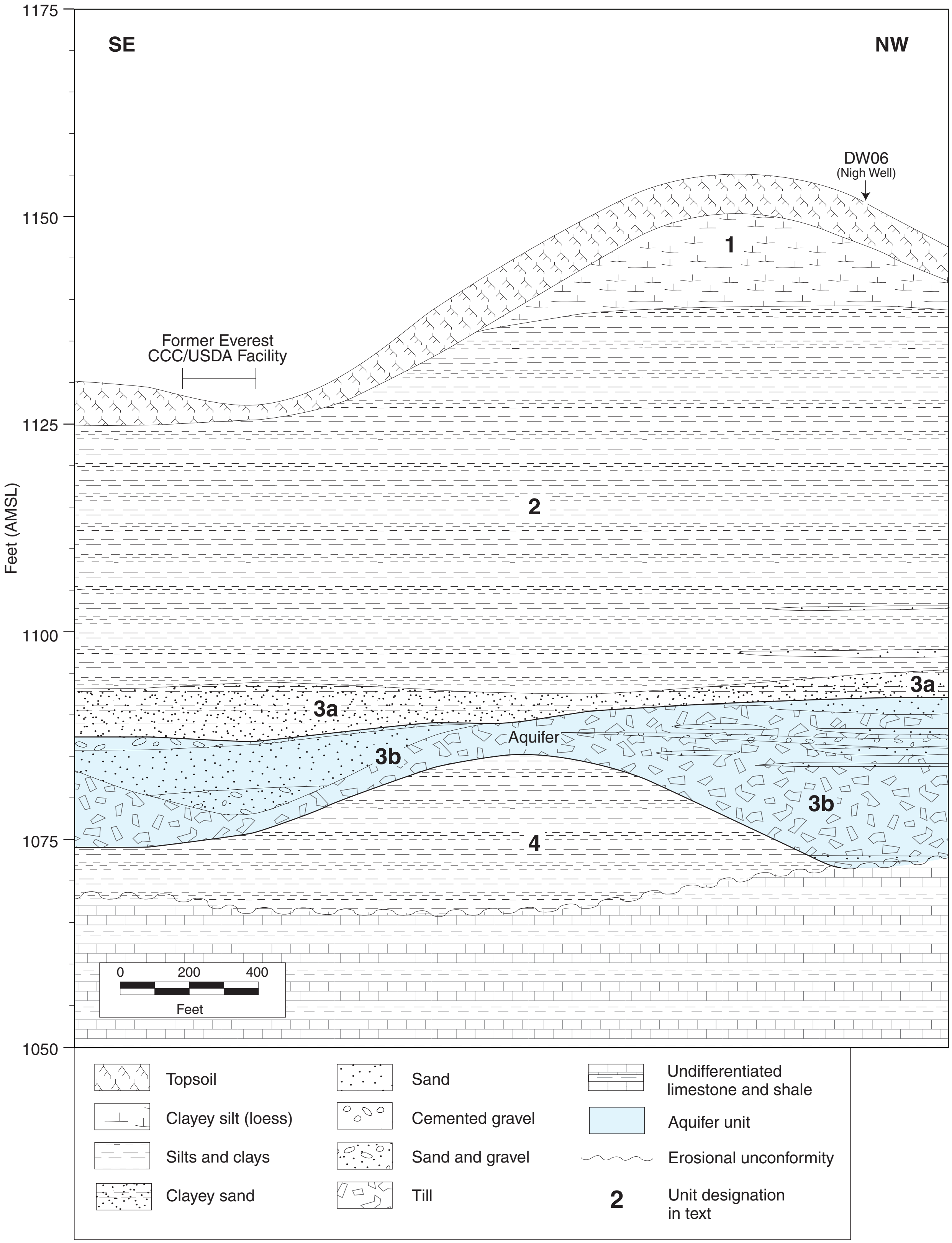

FIGURE 1.2 Schematic stratigraphic sequence (vertically exaggerated), showing the principal lithologic and hydrostratigraphic units identified in the vicinity of Everest.

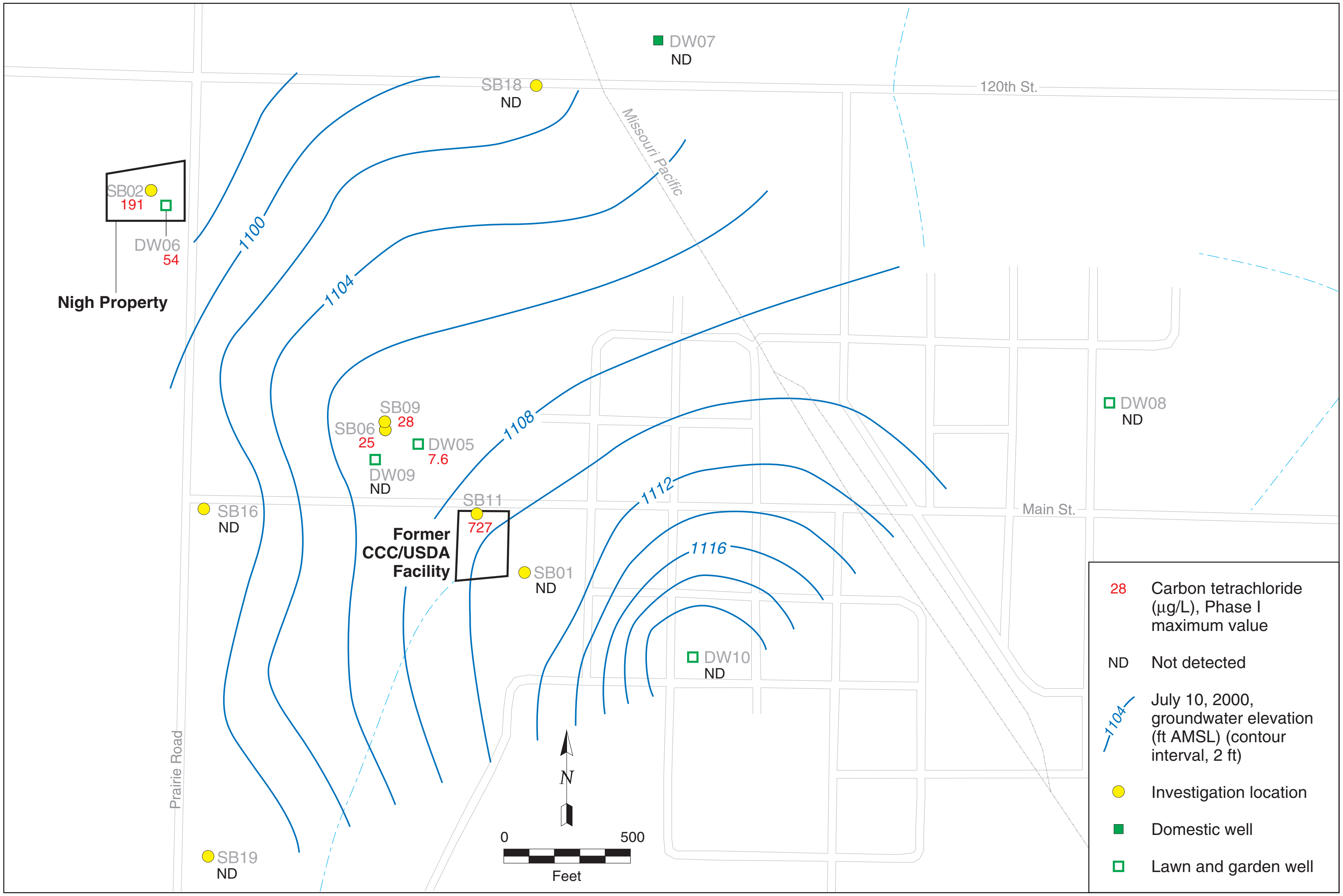

FIGURE 1.3 Distribution of carbon tetrachloride identified in groundwater in Phase I work at Everest, with the local potentiometric surface determined from hand measurements on July 10, 2000.

2 Investigative Methods

The Everest Phase II investigation was performed by using an iterative process of data collection, evaluation, and interpretation during the field program, to ensure that all data necessary to achieve the specific technical objectives defined for the site were obtained. Fundamental to this approach is the use of multiple complementary investigative techniques to acquire data relevant to each of the specific technical objectives, so that the interpretations being developed can be tested independently against multiple lines of evidence. Individual data sets acquired by a particular technique can also be interpreted in multiple ways to yield information addressing more than one specific technical objective. Throughout the field program, a comprehensive quality assurance/quality control (QA/QC) program is implemented to confirm the reliability of all information as it is accumulated. With this procedure, an integrated, technically defensible model of the hydrogeologic environment and the distribution and migration of carbon tetrachloride within this setting is assembled as the specific technical objectives are addressed.

The primary goals of the Phase II studies at Everest and the program of activities outlined to achieve these goals were discussed in Section 6.2 of the Phase I report (Argonne 2001). Specific technical objectives developed to guide the progress of the Phase II field activities are presented in Section 1 of the present report. Procedures for the individual techniques employed by Argonne at this site are in the *Master Work Plan* (Argonne 2002). This section presents a brief summary of the methods used to implement Phase II at Everest, and it identifies certain modifications made to the field program (relative to recommendations in the Phase I report [Argonne 2001]) in response to the new information obtained during the course of the study.

2.1 Method to Confirm an Association of Carbon Tetrachloride Contamination with the Former Everest CCC/USDA Facility

Previous Argonne investigations have demonstrated that analysis of vegetation and near-surface (vadose zone) soils for carbon tetrachloride by the headspace method (a modification of U.S. Environmental Protection Agency [EPA] Method 5021) is a sensitive and positive indicator of potential deeper vadose zone soil contamination. In this application, the headspace data are not used quantitatively but are examined for distribution patterns in order to prioritize areas for additional, follow-up subsurface soil sampling and analysis. In conjunction with the headspace analyses, the near-surface soils are also examined by using purge-and-trap sample preparation with analysis by gas chromatography-mass spectrometry (GC-MS; EPA Methods 5030B and 8260B) as a quantitative basis for the evaluation of potential health risks associated with the near-surface soils.

Argonne experience has also demonstrated that the distribution of carbon tetrachloride concentrations in shallow soils can be affected by differences in soil types across a site, as well as by the history of land use at the site, potentially complicating interpretation of the contaminant analysis results. For this reason, shallow soils are not collected randomly; sample locations are selected only after an evaluation of the past facilities and activities at each site and after characterization of the local soil types.

Sampling of near-surface soils and vegetation at the former Everest CCC/USDA facility was originally planned for Phase I of the Everest investigation (Argonne 2000), but the sampling could not be performed at that time because of access restrictions to this property. These activities were therefore delayed for inclusion as part of the Phase II studies. Targeted sampling of near-surface soils as described above was performed at the former Everest facility in October 2000 to accommodate the requirements of the current land owner. Vegetation sampling was not performed at the former Everest facility, because in October 2000, after the end of the annual growth cycle, viable vegetation was not available. (This period was the first session of Phase II field work at Everest.) The results of the near-surface soil analyses for volatile organic compounds (VOCs) are presented in Section 3.1.1 and discussed in relation to this technical objective in Section 4.1.

Distribution patterns observed in the headspace analysis results for near-surface soils were used to select three locations for additional sampling of soils from the ground surface to the top of the saturated zone, in order to confirm the presence of carbon tetrachloride contamination in the deeper vadose zone. The results of these analyses are summarized in Section 3.1.2 and interpreted in Section 4.1.

2.2 Method to Characterize the Hydrogeologic Factors Controlling Contaminant Migration

Phase I of the Everest investigation indicated that groundwater flow within the Everest aquifer unit occurs via a complex network of relatively permeable channels, lenses, and stringers within less permeable clay till, and that the distribution of the permeable and less permeable zones is expected to have a significant controlling influence on the migration of carbon tetrachloride within the aquifer unit. The purpose of this objective is to refine the site-specific hydrostratigraphic interpretations developed in Phase I and thereby aid the identification of pathway(s) for groundwater flow and contaminant migration.

This task requires (1) the identification of saturated intervals within the stratigraphic sequence that together define the aquifer unit; (2) detailed characterization of the lithology, continuity, and heterogeneity of the sedimentary units within the saturated zone; and (3) determination of the resulting groundwater flow field in the aquifer unit.

The multiple investigative techniques used to determine the spatial distribution and hydrogeologic characteristics of the aquifer unit at Everest included coring performed with the electronic cone penetrometer (ECPT) and the Geoprobe; electronic profiling of soils by using the ECPT; visual description and physical analyses of cored materials; and the evaluation and display of these data in logs, maps, and cross sections to aid in their interpretation. Hydraulic relationships within the aquifer unit were examined by the installation of temporary and permanent piezometers and the measurement of groundwater levels, by the collection of groundwater samples for geochemical and tritium isotope analyses, and by the analysis of groundwater samples for VOCs. The resulting data were integrated, within the context of the regional and local hydrogeologic setting identified in the Everest Phase I *Work Plan* (Argonne 2000) and Phase I report (Argonne 2001), to develop an internally consistent picture (based on multiple lines of evidence) of the factors controlling groundwater flow and contaminant migration at this site.

Technical activities originally planned to address this objective were described in Section 6.2 of the Phase I report (Argonne 2001). Information available at the completion of Phase I suggested that a hydrogeologic/permeability barrier northwest of the former CCC/USDA facility could be impeding carbon tetrachloride migration in groundwater from the vicinity of the former CCC/USDA facility toward the Nigh property. The planned series of Phase II investigation activities relevant to this objective was therefore targeted to test this hypothesis.

The results of the planned studies, performed during the second Phase II field session (March 6-April 6, 2001), demonstrated that contaminant migration along a continuous pathway from the former CCC/USDA facility to the Nigh property was possible. In light of this determination, the areal scope of the investigation was expanded in the third Phase II field session (November 4-13, 2002) to include the evaluation of aquifer characteristics and potential downgradient migration pathways west, northwest, and southwest of the Nigh property.

The results of the analyses relevant to the consideration of this objective are presented in Sections 3.2-3.6 and discussed in Section 4.2.

2.3 Method to Delineate the Distribution of the Carbon Tetrachloride Plume

The investigation of this objective was guided by all of the hydrogeologic results and interpretations described in Section 2.2. Locations for groundwater and surface water sampling for VOC analyses were selected as the hydrogeologic picture of the Everest aquifer and groundwater flow system progressively evolved. Sampling locations were chosen to characterize and bound the plume both vertically and areally within the study area. The results of the water sampling and analyses for VOCs are summarized in Section 3.7. The identified distribution of the carbon tetrachloride contamination in groundwater at Everest is described in Section 4.3.

2.4 Method to Investigate for Indications of Possible Groundwater Contamination Associated with the Former Private Grain Storage Facility on the Nigh Property

Phase I of the QuickSite® investigation at Everest identified carbon tetrachloride contamination in vegetation and near-surface soils on the Nigh farmstead, in association with the locations of several private grain storage structures formerly on this property. In conjunction with the results of groundwater analyses for VOCs and other data on groundwater flow and contaminant migration pathways obtained during the second field session of the Phase II investigation (March 6-April 6, 2001), this Phase I information indicated a potential for intermingling in groundwater of carbon tetrachloride contamination originating from both the former Everest CCC/USDA facility and the private grain storage facility formerly on the Nigh property.

When the Phase II field investigation was suspended in 2001, a title search was performed by Argonne, at the direction of the CCC/USDA, to document the ownership and land use history of the Nigh property. The results of this activity determined that the Nigh property was leased for petroleum exploration in 1938-1943, although no records were discovered to indicate that any petroleum-related activities actually took place.

In light of these concerns, this technical objective was targeted in the third session of Phase II work to identifying potential groundwater contamination associated with the Nigh property that cannot be also linked to the former Everest CCC/USDA facility. The investigation approach used in November 2002 to address this objective included (1) the evaluation of potentially anomalous patterns of carbon tetrachloride distribution in the vicinity of the Nigh farmstead that would indicate a contribution of the contaminant from the Nigh property and (2) analyses of groundwater samples from selected locations for additional organic compounds and heavy metals found in petroleum and/or drilling fluids, which might serve as chemical tracers of groundwater contaminant migration pathways originating from the Nigh property.

Groundwater samples were collected for the purposes of this objective only during the third session of the Phase II field work (November 4-13, 2002). The results of these analyses are summarized in Section 3.8, and the interpretations developed from these results are presented in Section 4.4.

3 Field and Laboratory Data

The investigative methods used in Phase II of the characterization studies at Everest are described in Section 2. In this section, the data obtained in the Phase II field and laboratory studies are summarized. These results, together with the information contained in the Phase I *Work Plan* (Argonne 2000) and the Phase I report (Argonne 2001) for Everest, provide the quality-assured data required to address the specific technical objectives of this study.

The suite of investigative technologies implemented during Phase II of the Everest program was selected to provide multiple independent lines of evidence that could be used to address each of the technical objectives. To meet this goal effectively and efficiently, individual technologies and activities were therefore chosen, whenever possible, that would generate data critical to the consideration of more than one objective. For example, analyses of groundwater samples for VOCs provided useful tracer information for the identification of groundwater migration pathways (objective 2), as well as data needed to delineate the present carbon tetrachloride plume (objective 3).

For organizational simplicity, the data in this section are presented in general categories reflecting the types of media investigated and the activities performed, without detailed references to the technical objectives to which they are applied. The integration of these data and their interpretation in the context of each of the Phase II technical objectives are discussed fully in Section 4.

The detailed results of all analyses are in Appendixes A-G.

3.1 Soils Analysis Data

A program of near-surface and subsurface soil sampling was performed in the first session of Phase II work on the property formerly occupied by the Everest CCC/USDA grain storage facility. The purpose was to determine whether carbon tetrachloride contamination exists in the vadose zone soils beneath this property, and hence to identify the origin(s) of possible contaminant migration pathway(s) associated with the former Everest facility. The near-surface soil sampling was originally planned for Phase I of the field investigation at this site (May 15-June 2, 2000), but the sampling could not be performed at that time because of access restrictions and was deferred until October 2000 for inclusion as the first session of the Phase II activities.

3.1.1 Contaminant Data for Near-Surface Soils

Geographic locations for near-surface soil sampling at the former Everest facility in October 2000 were based on the results of a survey of the current and historical features and land use of this site. The property is now an agricultural field, and no bins from the former CCC/USDA facility remain. Argonne found no evidence to indicate that the property has been used for any purposes other than agriculture and (until the early 1970s) the storage of grain by the CCC/USDA.

The locations of the former CCC/USDA grain bins were determined from historical aerial photos of the facility. On the basis of these images, 38 locations were selected for near-surface soil sampling, as shown in Figure 3.1. Seventy-six near-surface soil samples were collected, in accordance with procedures described in the *Master Work Plan* (Argonne 2002, Section 6.1.1). At each location, an upper sample was taken from organic-rich material immediately below the base of the plow zone. With few exceptions, these samples were composed of black loam topsoil, collected at a depth of 0.9-1.2 ft below ground level (BGL). A deeper sample was obtained at each location, at 5.5-6 ft BGL, consisting of light gray or light brown clay. The soil samples were taken from hand-driven, sleeved cores recovered with an ESP™ sampler. Ten blind duplicate soil samples, plus a background sample from a field 0.5 mi west of the former CCC/USDA facility, were also collected. Descriptions of the soil samples are in Appendix A, Table A.1.

The near-surface soil samples were placed in jars, sealed, preserved on dry ice, and shipped to the Applied Geosciences and Environmental Management (AGEM) Laboratory at Argonne National Laboratory for analysis. The samples were analyzed (Argonne 2002, Section 6.3.1) by (1) a headspace method with a gas chromatograph and electron capture detector (GC-ECD; modified EPA Method 5021) and (2) a purge-and-trap sample preparation method with analysis by GC-MS (EPA Methods 5030B and 8260B).

The headspace analysis was used to achieve the low detection limits required to evaluate possible contaminant distribution patterns, for use in guiding subsurface soil sampling. The results of the headspace analyses for shallow and deeper near-surface soils are presented in

Appendix A, Table A.2, and are summarized in Figure 3.2. Low concentrations of carbon tetrachloride were detected by headspace analysis in soils from both depth intervals across much of the site, most commonly in association with the locations of the former grain storage bins.

The purge-and-trap analysis data were used to support risk assessment calculations for the near-surface soils (Section 4.1.3). The results of the purge-and-trap analyses on these soils are in Appendix A, Table A.2. Neither carbon tetrachloride nor chloroform was detected above a quantitation limit of 10 μg/kg in any of the near-surface soils prepared by the purge-and-trap method and analyzed by GC-MS.

3.1.2 Contaminant Data for Subsurface Soils

Access to the agricultural field formerly occupied by the Everest CCC/USDA facility was denied after April 6, 2001 (during the second session of the Phase II investigation), because of crop planting requirements and deteriorating surface conditions caused by heavy rains during the field session. For this reason, sampling of deeper subsurface vadose zone soils at the former Everest facility for VOC analyses in the second session of Phase II work was limited to only three locations, as shown in Figure 3.2 (SB23, SB24, and SB34). These locations received the highest priority on the basis of the distribution of relatively higher carbon tetrachloride levels observed in headspace analyses of the near-surface soils. Subsurface soil sampling could not be performed to test the areas of relatively higher carbon tetrachloride levels identified in the near-surface soils in the central and southwestern portions of the former facility (Figure 3.2). A total of 68 subsurface soil samples were recovered from cores collected at SB23, SB24, and SB34 by using the ECPT (Argonne 2002, Section 6.1.1). Descriptions of the soils are in Appendix A, Table A.1. The samples were placed in 125-mL jars and immediately preserved on dry ice for shipment to the AGEM Laboratory. The samples were analyzed for VOCs by using the purge-and-trap GC-MS method described in Section 3.1.1 (Argonne 2002, Section 6.3.1).

The results of the subsurface soil analyses (Appendix A, Table A.3) are shown in relation to the lithologic logs for these borings in Figure 3.3. Carbon tetrachloride was detected in 11 of the 68 samples (above the quantitation limit of 10 μg/kg for the purge-and-trap GC-MS method), at concentrations ranging from 10 μg/kg to 66 μg/kg.

3.2 Soil Boring and Cone Penetrometer Sensor Data

Subsurface geologic coring with direct-push technologies and ECPT electronic sensor profiling were used in Phase II of the Everest investigation to confirm the interpretation of local stratigraphic (units 1-4) and hydrostratigraphic relationships identified at the site during Phase I, as well as, more specifically, to examine the internal lithologic and hydrologic characteristics of the saturated sand and sandy to gravelly till interval (within stratigraphic unit 3b) that forms the Everest aquifer unit. Forty-one locations (SB20-SB59, SB61; see Figure 3.4) were investigated in the second and third sessions of Phase II work by using the Argonne 40-ton truck-mounted and 22-ton crawler (tracked) ECPT vehicles and a model 6610 Geoprobe direct-push unit. The operation of these vehicles was in accordance with procedures described in the *Master Work Plan* (Argonne 2002, Section 6).

Logs of ECPT tip and sleeve conductance data were collected at SB20-SB52, SB57-SB59, and SB61. Supplemental conductivity logs were obtained at borings SB49-SB52, SB57-SB59, and SB61, by using ECPT sensing technology acquired by Argonne prior to the third session of the Phase II field work (November 4-13, 2002). This technology was unavailable during the second Phase II field session (March 6-April 6, 2001).

Soil cores were collected by using the 40-ton truck-mounted or the 22-ton crawler ECPT at SB20-SB36, SB38-SB41, SB44, and SB49-SB50. Cores were collected by using the Geoprobe at SB53-SB56. At most of the boring locations, continuous coring was performed across stratigraphic unit 3b to permit detailed description and sampling (see Section 3.4) of the lithologies present. More selective confirmatory coring was performed in the later borings completed during the study. The ECPT sensor logs were used as a guide for the general identification of major stratigraphic units. Intervals to be cored were selected on the basis of qualitative relationships between the ECPT sensor responses across the study area, plus the stratigraphic zonation identified by coring during the Phase I and Phase II investigations. However, subsurface geologic interpretation was based only on the lithologic descriptions of the cored intervals.

All soil coring was conducted by using a 4-ft or 5-ft Geoprobe Macro-Core® sampler. Argonne has adapted the Geoprobe Macro-Core® sampler for use in association with the ECPT vehicles. With this device, both 4- to 5-ft cores were recovered in plastic tube liners. All cores were removed from the liners for study and placed in cardboard core boxes for subsequent archiving at the Argonne storage facility in Lincoln, Nebraska.

The ECPT sensor logs and soil core descriptions are in Appendix B.

Results obtained from the ECPT and Geoprobe boring activities confirmed the heterogeneous lithologic character of the unit 3b sandy clay till complex, by demonstrating rapid changes in the distribution and thickness of coarser-grained and finer-grained intervals within the unit over relatively short vertical and lateral distances. Such changes often precluded the correlation of individual sandy intervals between adjacent borings. An example of these relationships is illustrated in Figure 3.5, which compares the lithologic logs for three borings located along a line northwest of the former CCC/USDA facility and within 500 ft of each other (SB20, SB27, and SB21; see Figure 3.4 for locations). As shown, two distinct sandy intervals were penetrated at SB20, within a relatively thick (approximately 13 ft) portion of the till. In adjacent boring SB27, less than 1 ft of sandy material was identified, and the till sequence was significantly thinned. At SB21 little sand was again present within a thickened till section, and the positions of the observed sandy intervals bore no apparent relationship to those in the nearby borings.

3.3 Coordinates Survey Data

Accurate location information for the activities performed in the field is required to provide horizontal and vertical control for stratigraphic correlation, water level measurement, and hydrogeologic mapping.

All investigative boring locations (SB20-SB64) and two reference points along the intermittent stream at the western edge of the study area were surveyed by professional surveyors, Schwab-Eaton of Manhattan, Kansas. The locations of all surface water sampling points were estimated by Argonne personnel by extrapolation from the surveyed locations and by reference to aerial photography (USGS 1991) and the U.S. Geological Survey topographic map for the study area (USGS 1979). The results of the coordinates survey are in Appendix C.

3.4 Physical Property Data for Soils

During the second and third sessions of Phase II work, 17 soil samples selected from cores collected at 11 locations (see Figure 3.6) were shipped to HWS Consulting Group, Inc., Lincoln, Nebraska, for particle size analysis according to the procedures outlined in ASTM

Standard D422-63 (reapproved in 1990 and 1998), as described in the *Master Work Plan* (Argonne 2002, Section 4.3.1.3). The samples were chosen from a variety of lithologic types, to objectively confirm the lithologic descriptions prepared by the site geologists in the field and as a basis for the preliminary estimation of hydraulic conductivities for these materials (Section 4.2).

The particle size data and soil compositions are in Appendix A, Table A.4 and Table A.5, respectively. Positive verification of almost all of the lithologic descriptions resulted.

3.5 Groundwater Level Data

Groundwater levels were measured in borings completed in the unit 3b aquifer to provide information on the hydraulic continuity of this unit and the patterns of groundwater flow, recharge, and discharge affecting contaminant migration in this aquifer.

Water levels were measured during the second and third sessions of the Phase II investigation, both by hand and with automatic water level recorders (Argonne 2002, Appendix E, Sections E.1 and E.2). Manual measurements were made to the nearest 0.01 ft from a surveyed reference mark with an electronic water level sensor. Automatic measurements were made by installing self-contained water level sensors/recorders that were programmed to collect data once every 4 hr.

Hand measurements of water levels were made at a total of 15 temporary piezometers installed during the second and third sessions of the Phase II field investigation (see Figure 3.7). The results of these measurements are in Appendix D, Table D.1. The temporary piezometers were installed by using a slight modification of the standard procedure for piezometer installation with the ECPT (Argonne 2002, Section 6.4.6). Sand was placed as a filter pack around the screened interval, and bentonite grout was used to seal the remainder of the annulus from the top of the filter pack to the surface, but no permanent surface housing was installed. Instead, a temporary, “stickup” outer casing equipped with a waterproof closure was imbedded in the annular grout seal.

A network of nine temporary piezometers (SB25, SB30, SB35-SB38, SB41-SB42, and SB44) was established during the second session of the Phase II field work (March 6-April 6, 2001) in the portion of the study area east of Prairie Road. A network of six temporary piezometers (SB49t-SB54t) was constructed in the portion of the study area west of Prairie Road during the third Phase II field session (November 4-13, 2002). Construction data for the temporary piezometers in summarized in Table 3.1. At the end of each field session, the respective temporary piezometers were abandoned by removing the polyvinyl chloride (PVC) casings and screens and grouting the boreholes through a tremie pipe.

Eight permanent piezometers (sand point wells) were also constructed, in accordance with Kansas regulations, for the long-term monitoring of water level fluctuations (see Figure 3.8). Piezometers SB22, SB31, and SB34 were installed during the second Phase II field session; SB49, SB60, and SB62-SB64 were installed in the third field session. The sand point wells were completed either aboveground or in flush mounts approved through a variance from the KDHE, in accordance with construction information supplied by the Kansas Bureau of Water (Taylor 2000). Construction diagrams for the piezometers are in Appendix E.

TABLE 3.1 Summary of construction parameters for the Phase II temporary piezometers at Everest.

		Screened Interval	
Boring	Bottom of Hole (depth, ft BGL)	Depth (ft BGL)	Elevation (ft AMSL)
Installed in March-April 2001 (second session), east of Prairie Road			
SB25	51.0	45.0-51.0	1086.4-1080.4
SB30	61.0	59.5-61.0	1090.6-1089.1
SB35	59.0	56.0-59.0	1082.0-1079.0
SB36	54.5	51.5-54.5	1088.8-1085.8
SB37	70.0	65.0-70.0	1089.0-1084.0
SB38	67.5	63.5-67.5	1089.9-1085.9
SB41	72.8	68.0-72.8	1085.0-1080.2
SB42	70.0	65.5-70.0	1085.4-1080.9
SB44	62.0	52.0-57.0	1101.2-1096.2
Installed in November 2002 (third session), west of Prairie Road			
SB49t	60.1	57.1-60.1	1075.8-1072.8
SB50t	54.0	42.5-54.0	1087.6-1076.1
SB51t	64.0	59.0-64.0	1083.1-1078.1
SB52t	61.5	56.5-61.5	1077.9-1072.9
SB53t	26.0	21.0-26.0	1081.4-1076.4
SB54t	27.0	22.0-27.0	1073.8-1068.8

The eight permanent Phase II piezometers, the five sand point wells installed previously during Phase I (SB01, SB09, SB16, SB18, SB19), and the private well (DW06) on the Nigh property were used for periodic hand measurement of water levels and for the installation of long-term water level recorders. A summary of the periods during which automatic water level monitoring took place at each of these locations is in Table 3.2. The results of hand measurements from these locations are in Appendix D, Table D.2. Water level monitoring data from the automatic recorders are in Appendix D, Tables D.3-D.5.

The results of the water level measurements in the temporary and permanent piezometers were consistent with Phase I observations. The results indicated a general pattern of groundwater levels that decrease toward the northwest, west, and southwest from an apparent local high in the vicinity of the former CCC/USDA facility. These results are discussed further in Section 4.2.2.

TABLE 3.2 Summary of automated groundwater level monitoring periods for the permanent piezometers and the Nigh well (DW06) in the western part of Everest.

Boring	July 10, 2000-June 11, 2001[a]	May 8, 2001-June 11, 2001[b]	November 21, 2002-January 17, 2003[c]
DW06	x		
SB01	x		
SB09	x		x
SB16	x		x
SB18	x		
SB19	x		
SB22		x	
SB31		x	
SB34		x	
SB49			x
SB60			x
SB62			x
SB63			x
SB64			x

[a] Data for June 10, 2000, through noon on August 16, 2000, were reported in the Phase I report (Argonne 2001, Table D.1, Appendix D). Subsequent data are in the present report (Table D.3, Appendix D).

[b] Data are in Table D.4, Appendix D, of this report.

[c] Data are in Table D.5, Appendix D, of this report.

3.6 Geochemical Analysis Data for Groundwater and Surface Water Samples

Groundwater samples were collected during the second and third sessions of Phase II for a limited suite of analyses. The analyses were targeted (on the basis of Argonne experience at a number of similar investigation sites in Kansas and Nebraska) to provide multiple lines of geochemical evidence for use in (1) evaluating the hydraulic continuity of the Everest aquifer unit, (2) identifying preferred groundwater flow and hence contaminant migration pathways, and (3) examining groundwater-surface water (recharge-discharge) relationships at this site. Descriptions of the water samples collected are in Appendix F, Table F.1.

Groundwater sampling was performed by using identical procedures for the 40-ton truck-mounted and 22-ton crawler ECPT vehicles and the Geoprobe, as outlined in the *Master Work Plan* (Argonne 2002, Section 6.1.2). Samples were collected by pushing the respective rods with a disposable tip to the target water-bearing zone. The rods were then withdrawn a predetermined distance to expose an internal filter screen section into which groundwater passed. Groundwater was sampled by using a bailer inserted through PVC riser attached to the filter screen.

All groundwater sampling holes were abandoned by grouting with a tremied bentonite slurry.

Surface water samples were collected during the second and third sessions of Phase II work for VOC and tritium analyses. Sampling was according to the procedures outlined in the *Master Work Plan* (Argonne 2002, Section 6.1.3).

3.6.1 Field Measurements for Groundwater Samples

The measurement of selected parameters at the time of sampling provides immediate results that can sometimes aid in the evaluation of groundwater relationships in the field. Groundwater temperature, pH, and conductivity were measured for samples collected at one or more depths at each of 38 Phase II locations, by using a Checkmate field meter system after calibration with the appropriate standard solutions (Argonne 2002, Section 6.3.2.2). Titrimetric techniques in commercial kits manufactured by CHEMetrics, Inc., were used to determine alkalinity and nitrate-nitrogen concentrations for samples collected during the second Phase II field session (March 6-April 6, 2001; SB20-SB48), but these analyses were largely discontinued for the third field session (November 4-13, 2002). The results of the field measurements are in Appendix F, Table F.2.

3.6.2 Nitrate Data for Groundwater Samples

Samples for laboratory analysis of nitrate (Argonne 2002, Section 6.3.2.3) were collected by using the ECPT at 23 locations during the second session of Phase II field work only, as a possible indicator of relatively recent surface water recharge to the portion of the Everest groundwater flow system east of the Nigh property. Concentrations at more than two-thirds of the locations (see Figure 3.9) exceeded the maximum contaminant level (MCL) of 10 mg/L. The analytical results for nitrate are shown in detail in Table F.3 in Appendix F.

3.6.3 Tritium Isotope Data for Groundwater and Surface Water Samples

Tritium is a short-lived isotope of hydrogen with a half-life of 12.43 yr that is produced naturally by solar radiation. However, during the atmospheric testing of thermonuclear weapons in 1951-1980, vastly greater quantities of tritium were released to the atmosphere (Clark and Fritz 1997). As a result, precipitation and therefore recharge to groundwater was enriched in tritium during this period. Low tritium values in groundwater (< 1 TU [tritium unit; 1 TU = 1 atom of tritium per 10^{18} atoms of hydrogen]) suggest that the water originated prior to 1951. Therefore, the presence of elevated tritium in groundwater is an indicator of relatively modern (post-1951) groundwater recharge.

The following water samples were collected at Everest for tritium analyses and are reported in Appendix F: (1) groundwater samples collected at 4 locations during Phase I, for which results were received too late for the Phase I report (Argonne 2001); (2) groundwater samples collected during the second and third sessions of Phase II, at one or more depths at 33 locations; and (3) 1 surface water sample, collected during the third session of Phase II from the intermittent stream at the west edge of the study area. These samples were submitted for analysis at the Tritium Laboratory at the University of Miami in Miami, Florida. The detailed results of these analyses (Appendix F, Table F.4) are summarized in Figure 3.10. Tritium concentrations measured ranged from 0.19 TU to > 17 TU. These results are discussed further in Section 4.2.3.

3.7 Contaminant Data for Groundwater and Surface Water Samples

Groundwater and surface water samples collected for VOC analyses during the second and third sessions of Phase II work were preserved in the field by cooling to 4°C and shipped to the AGEM Laboratory for analysis in accordance with the procedures described in the *Master Work Plan* (Argonne 2002, Sections 6.2 and 6.3.2.1). Replicate groundwater samples were collected for verification analysis with EPA Contract Laboratory Program (CLP) methodology.

The results of the analyses are in Appendix F, Table F.5. Carbon tetrachloride and chloroform were the only VOCs detected. Carbon tetrachloride was found in groundwater at 19 of the 38 locations sampled in Phase II (see Figure 3.11), at concentrations of < 5-919 μg/L, along an irregular trend extending north-northwestward from the vicinity of the former CCC/USDA facility toward the Nigh property, and then westward from the vicinity of the Nigh property. Chloroform was identified in groundwater at 14 of the 38 locations (see Figure 3.12), at concentrations of < 5-61 μg/L. (Values are reported as < 5 μg/L when the compound was detected but could not be quantified.) The highest concentrations of carbon tetrachloride (at SB33) and chloroform (at SB29) in groundwater were found in the area north-northwest of the former CCC/USDA facility and southeast of the Nigh property.

As shown in Figure 3.13, carbon tetrachloride was not detected in 7 surface water samples collected in the vicinity (downgradient) of the former CCC/USDA facility, or in 5 samples collected along the intermittent stream at the western edge of the study area, during the second and third sessions of Phase II work.

3.8 Data for Trace Metals and Semivolatile Hydrocarbons in Groundwater Samples

Selected groundwater samples collected during the third session of Phase II at locations in the area downgradient (to the west) of the Nigh property were submitted for analyses of total (semivolatile) petroleum hydrocarbons (TPH; SB49-SB53) and heavy trace metals (SB49-SB52); see Figure 3.14. Water samples selected for TPH analysis were preserved by adding sulfuric acid at the time of collection. The TPH analysis was conducted at Severn-Trent Laboratory, Colchester, Vermont, with EPA Method 8015B. Analyses for heavy trace metals were also performed at Severn-Trent Laboratory with EPA Methods 3010A/6010B. The results of the TPH and metals analyses are in Appendix F, Tables F.6 and F.7, respectively.

Low concentrations of diesel fuel (approximately < 1 mg/L) and motor oil, possibly associated with the operation of the diesel-powered ECPT and Geoprobe vehicles used for sample collection, were identified in all of the groundwater samples analyzed for these contaminants. Concentrations of barium exceeding the quantitation limit (200 μg/L) for this compound were detected at three locations (SB49, SB51, and SB52); vanadium was not identified at quantifiable levels in any of the groundwater samples analyzed. These results are interpreted in Section 4.4.

3.9 Quality Control Data for Soil, Groundwater, and Surface Water Analyses

The QA/QC procedures for sample collection, handling, and analysis followed during Everest Phase II activities are described in detail in the *Master Work Plan* (Argonne 2002). A detailed evaluation of the sample collection, handling, and analysis procedures and the resulting analytical data is in Appendix G. Evaluation of the analytical data was consistent with EPA guidelines (EPA 1994a,b). Significant results include the following:

- Sample integrity was tracked throughout the collection, shipping, and analysis activities by the documentation of samples as they were collected and the use of custody seals and chain-of-custody (COC) records. Minor discrepancies in sample identifiers for some samples were resolved by comparison of the various records. Such a discrepancy could not be resolved for one sample submitted for tritium analysis. The result for the questionable sample is not reported (Table F.4, Appendix F).

- Groundwater sample EVSB28-W-12815, collected for organic analysis at the AGEM Laboratory, was broken during shipment. The vial for the replicate of that sample, EVSB28-W-12816, contained a bubble. No result is reported for depth interval 62.0-64.9 ft BGL at sample location SB28 (Table F.5, Appendix F).

- Samples for organic analysis were received at the appropriate temperature and were analyzed within the required holding time.

- Rinsates of decontaminated sampling bailers and push rods contained no carbon tetrachloride or chloroform, indicating that decontamination procedures for the reusable sampling equipment were followed properly. Disposable equipment was used during collection of other sample types.

- Trip blanks contained no carbon tetrachloride or chloroform, indicating that the environmental samples collected were not contaminated during collection, handling, and shipment. No designated trip blank was included in 6 of the 33 shipments of water samples sent to the AGEM Laboratory for organic analysis, as specified under the QC plan. The affected shipments are those under COC 1963 on March 15, 2001; COC 502 on March 22, 2001; COC 205 and COC 207 on March 28, 2001; COC 208 on March 30, 2001; COC 1084 on April 3, 2001; and COC 1887 on April 4, 2001. One or more equipment rinsates included in each of these shipments had no carbon tetrachloride contamination detected, and none of these shipments showed a consistent pattern of contamination in the samples. These observations indicate that cross-contamination did not occur during shipment.

- The lack of contamination in laboratory method blanks verified that contamination was not introduced within the laboratory.

- Near-surface soil samples were analyzed at the AGEM Laboratory by using a modification of the protocol in EPA Method 5021 (headspace analysis by GC-ECD). Typical detection limits achieved were 0.10 μg/kg for carbon tetrachloride and 0.750 μg/kg for chloroform. A limitation of the chloroform analysis is the presence of chloroform (at very low concentrations) in the methanol solvent used in standard preparation. An 11-point calibration of the GC system was established on the basis of the mass of known quantities of carbon tetrachloride and chloroform in the concentration range 0.125-4.000 ng. Consistency in the headspace analysis results was evident in dual analyses for 18 near-surface soil sampling locations (i.e., analysis of blind replicate samples or duplicate analyses of samples selected by the laboratory). The analytical data obtained by using this method are acceptable for qualitative determination of contaminant distribution.

- Near-surface and subsurface soil samples were prepared and analyzed for carbon tetrachloride and chloroform at the AGEM Laboratory with EPA Methods 5030B and 8260B (purge-and-trap GC-MS) to achieve a detection limit of 10 μg/kg. To verify the accuracy of the analytical results obtained by the AGEM Laboratory, random soil samples (14% of the samples) were split and prepared for verification analysis at Severn-Trent Laboratory with the same analytical method. Accuracy and precision limits were met for the analyses (described in detail in Appendix G). The soil analysis data obtained by the AGEM Laboratory with the purge-and-trap GC-MS method are acceptable for quantitative determination of contaminant distribution.

- Water samples were analyzed at the AGEM Laboratory by using EPA Method 524.2 (a purge-and-trap method). Analytes were 23 VOCs, including carbon tetrachloride and chloroform. The concentration of each component was calculated by comparison of the MS response for the quantitation ion to the response on corresponding calibration curves, for internal standards, or both. Calibration checks with each sample delivery group were required to be within ±20%. The internal standard recovery limits were 80-120%. In the case of two groundwater samples and one surface water sample for which the minimum recovery of 80% was not achieved, similar results were found for associated replicate samples analyzed within recovery limits, and the data are accepted without qualification. To verify the results obtained by the AGEM Laboratory with the purge-and-trap method, selected samples (28% of the water samples) were also analyzed at the Clayton Laboratory, Novi, Michigan, with EPA CLP methodology. Quality control parameters measuring accuracy and precision were acceptable (Appendix G), and the analytical data from the AGEM Laboratory are accepted for determination of contaminant distribution.

- In the analysis of individual aliquots of some groundwater samples with substantial carbon tetrachloride contamination, variability was apparent in the detected carbon tetrachloride concentrations (as shown in Table G.10 in Appendix G). This variability was especially evident in the sample and replicate collected at a depth of 64.0-68.0 ft BGL at sampling location SB33. The probable primary cause is the heterogeneity of the sampled aquifer. The highest concentration measured at each sample location is reported.

- Groundwater samples collected for nitrate analysis were shipped immediately to Severn-Trent Laboratory for preservation, filtration, and analysis with

EPA Method 300. Four samples were delayed in shipment and were prepared for analysis after the allowable 48-hr holding time. The reported nitrate concentrations for these samples (EVSB20-W-12064, EVSB20-W-12068, EVSB21-W-12072, EVSB21-W-12074) are qualified (Table F.3, Appendix F). The QA/QC procedures followed included initial and continuing instrument calibration through analysis of spiked calibration check standards, analysis of laboratory QC samples with each sample delivery group, and duplicate analyses of selected samples. On the basis of the recovery of nitrate in laboratory control samples (89-97%) and the low relative percent difference (RPD) between duplicate analyses (0-2.3%), the nitrate data from Severn-Trent Laboratory are accepted.

- Selected groundwater samples were analyzed for tritium at the University of Miami Tritium Laboratory, Miami, Florida. Reported tritium concentrations were based on the U.S. National Institute of Science and Technology tritium water standard #4926, as measured on September 3, 1961, and again on September 3, 1978, with a half-life of 12.43 yr. Concentrations were reported in tritium units (TU), equivalent to 3.193 picocuries per kilogram of water. The reported concentrations were corrected for cosmic intensity, gas pressure, and other parameters to account for variances in counter efficiency and background. The isotope data are accepted for age dating of groundwaters.

- Selected groundwater samples were analyzed for TPH extractables at Severn-Trent Laboratory with EPA Method 8015B. Sulfuric acid was added as a preservative to each of the samples at the time of collection. Recovery of surrogate compound *o*-terphenyl was below the QC limit of 60% for samples EVSB50-W-13160, EVSB50-W-13158, and EVSB52-W-13164, and the reported results for those samples are qualified (Table F.6, Appendix F). The surrogate was recovered well in the other samples and in laboratory QC samples. Sample volume was insufficient to reanalyze the affected samples. The TPH data are acceptable for determination of contaminant distribution in groundwater.

- Selected groundwater samples were analyzed for trace metals at Severn-Trent Laboratory with EPA Methods 3010A/6010B. The target analytes were recovered well in the analyses of laboratory QC samples. Matrix interferences specific to the target analytes were not evident in a serial dilution analysis. The data are accepted for determination of contaminant distribution in groundwater.

A detailed QA/QC report addressing activities related to sample collection, handling, and analysis, including the results for replicate groundwater samples analyzed for VOCs with EPA CLP methodology, is in Appendix G.

3.10 Summary

The following are key results of the Phase II investigation at Everest:

- Carbon tetrachloride was detected by headspace GC-ECD analysis (modified EPA Method 5021) at low levels in shallow and deeper near-surface soils across much of the former Everest CCC/USDA facility.

- Carbon tetrachloride was identified at concentrations of 10-66 μg/kg in 11 of 68 subsurface soils prepared by using the purge-and-trap method and analyzed by GC-MS.

- Lithologic data obtained from cores collected with the ECPT and Geoprobe and the results of ECPT sensor logging indicate that the generalized stratigraphic sequence (units 1-4) identified during Phase I of the Everest investigation is applicable to the entire study area.

- Geologic and sediment physical property data obtained in Phase II indicate that the stratigraphic interval (unit 3b) hosting the Everest aquifer is present throughout the area of Argonne's investigation, but that this unit is lithologically heterogeneous.

- Two networks of temporary piezometers (one established during the second session of the Phase II field work and another during the third field session) and eight permanent piezometers were installed in accordance with KDHE regulations to provide information on the occurrence and levels of groundwater in the vicinity of Everest, as well as the apparent patterns of groundwater flow. Measurements of groundwater levels were obtained both manually and by the use of automatic recording devices installed in the permanent piezometers. The results of these measurements are consistent with Phase I observations, indicating a general pattern of decreasing groundwater levels toward the northwest, west, and southwest from an apparent local high in the vicinity of the former CCC/USDA facility.

- Concentrations of nitrate in groundwater exceeded the MCL of 10 mg/L for this compound at most of the 23 locations sampled in the vicinity of the former Everest CCC/USDA facility and the Nigh property.

- Tritium concentrations ranging from 0.19 TU to > 17 TU were identified in groundwater samples collected at 37 locations across the area of investigation in Phase I and Phase II and in 1 surface water sample collected from the intermittent stream at the western edge of the study area.

- Carbon tetrachloride concentrations ranging from < 5 μg/L (meaning that contaminant was detected but could not be quantified) to 919 μg/L were identified in groundwater in an irregular band extending north-northwestward from the vicinity of the former CCC/USDA facility toward the Nigh property, and then westward from the vicinity of the Nigh property. Carbon tetrachloride was not detected in surface water collected in the vicinity of the former CCC/USDA facility or from the intermittent stream at the western edge of the study area.

- Low levels of petroleum hydrocarbons, possibly associated with the operation of the ECPT and Geoprobe vehicles used for groundwater sampling at the site, were identified in groundwater samples from selected locations west of the Nigh property. Barium concentrations exceeding 200 μg/L were also identified in groundwater at several of these locations; however, vanadium was not detected at quantifiable levels.

- The results of QA/QC activities performed during Phase II demonstrated that the analytical data reported by the various laboratories are acceptable for the purposes of this investigation.

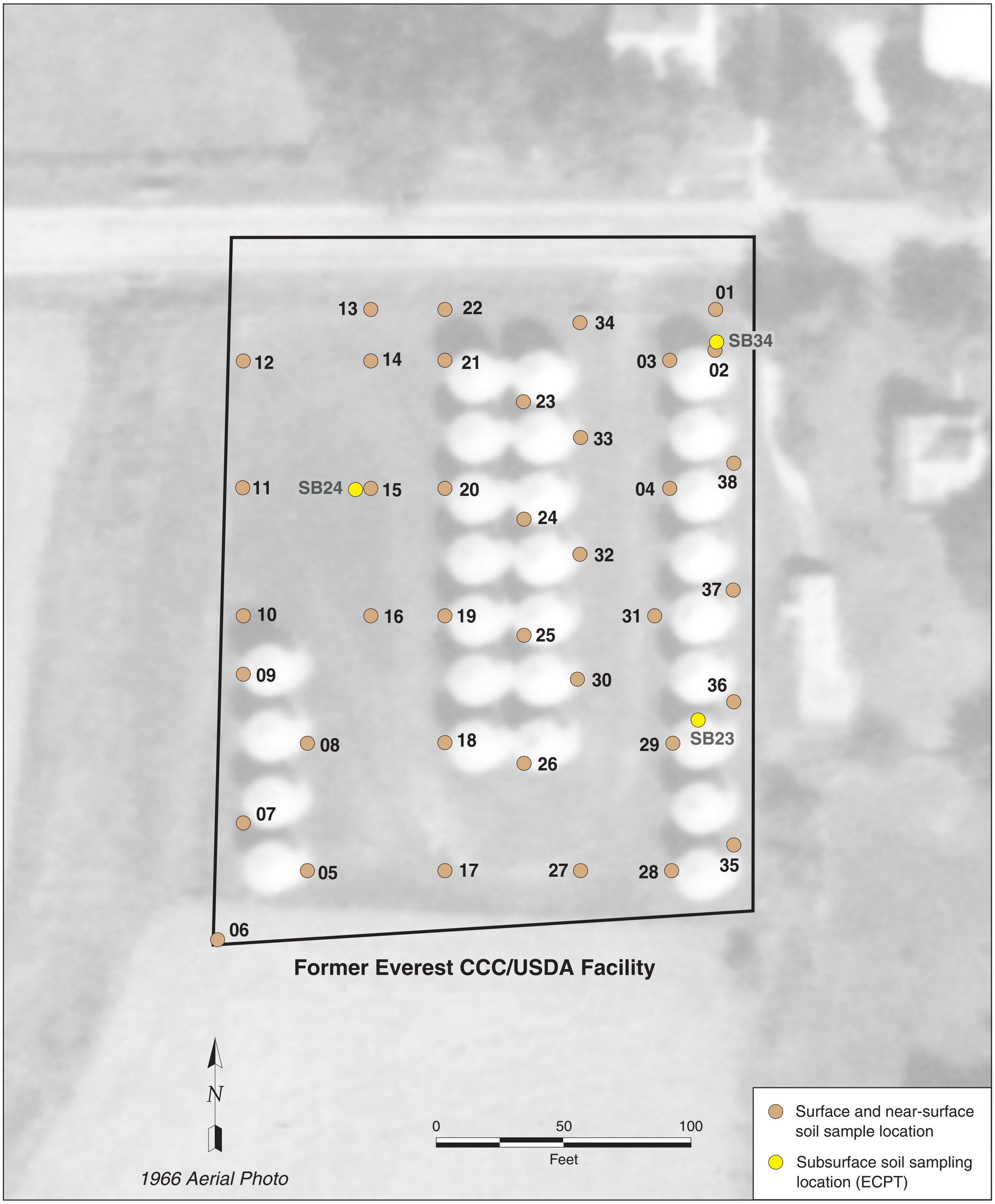

FIGURE 3.1 Locations of grain bins at the former Everest CCC/USDA facility in 1966, Phase II near-surface soil samples collected in the first session of Phase II work, and subsurface soil samples collected in the second session of Phase II work with the electronic cone penetrometer. Numbers indicate the sample code. (Source of aerial photograph: USDA 1966.)

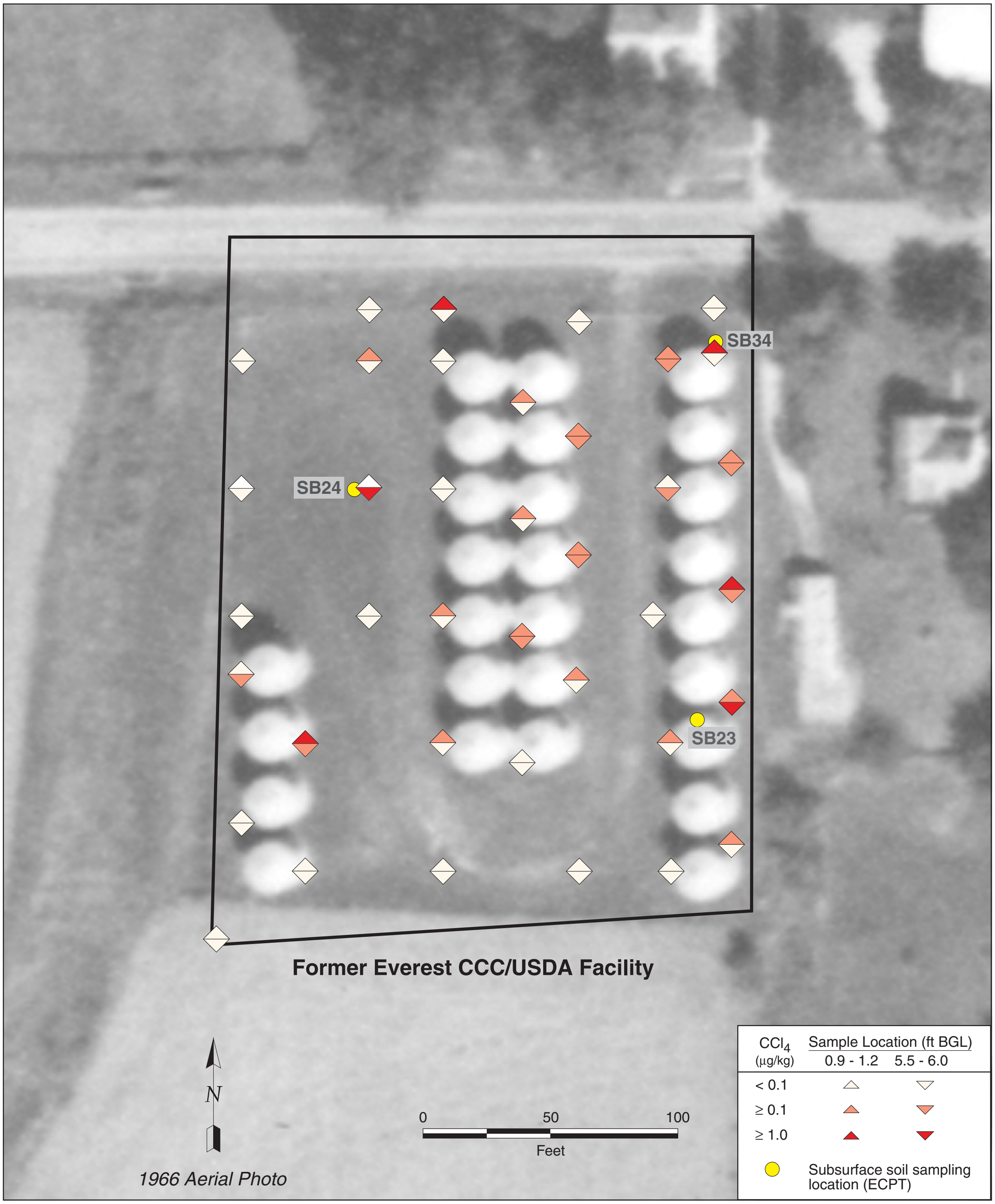

FIGURE 3.2 Locations of grain bins at the former Everest CCC/USDA facility in 1966, Phase II (second session) subsurface soil sampling with the electronic cone penetrometer, and Phase II (first session) near-surface soil samples (0.9-1.2 ft and 5.5-6 ft BGL), with results of headspace analyses of near-surface soils for carbon tetrachloride. (Source of photograph: USDA 1966.)

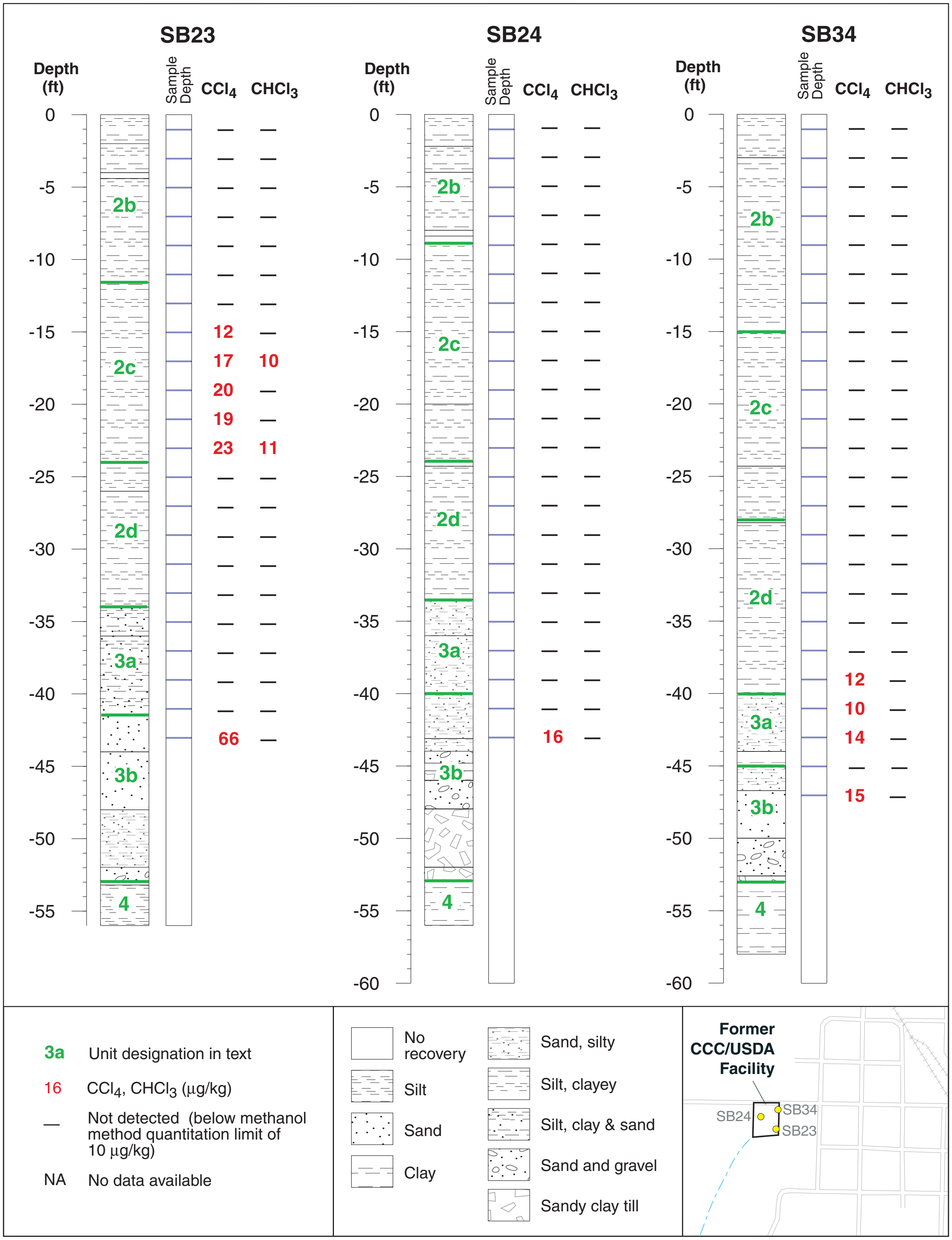

FIGURE 3.3 Collection depths for subsurface soil samples from the former Everest CCC/USDA facility (second session of Phase II work), with results of purge-and-trap analyses of these samples for carbon tetrachloride and chloroform, displayed on lithologic logs of SB23, SB24, and SB34.

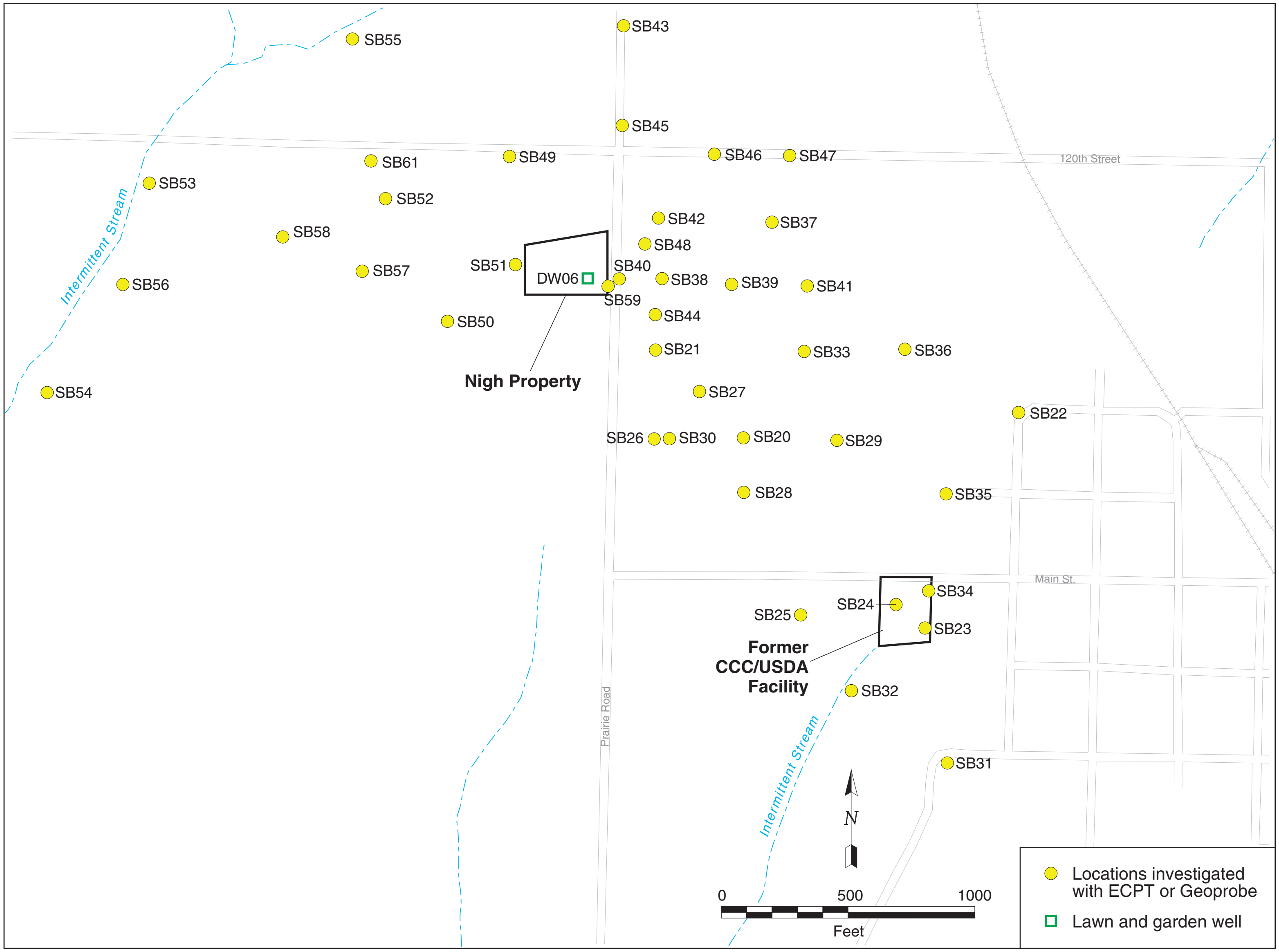

FIGURE 3.4 Locations of the former CCC/USDA facility, the Nigh property, and Phase II (second and third sessions) soil borings made with direct-push technology (electronic cone penetrometer or Geoprobe).

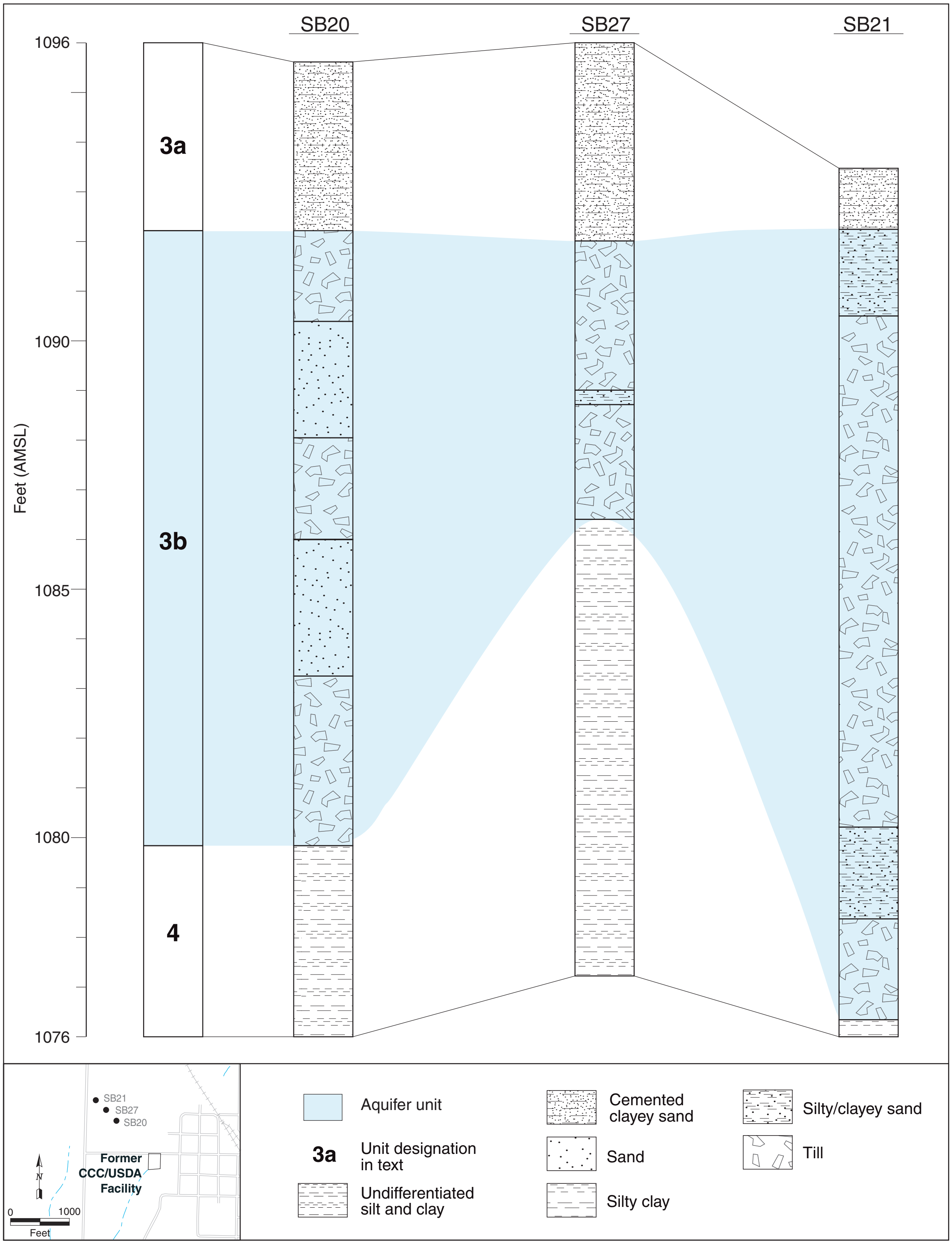

FIGURE 3.5 Comparison of the lithologic logs (vertically exaggerated) for three borings (SB20, SB27, and SB21) located along a line northwest of the former CCC/USDA facility and within 500 ft of each other.

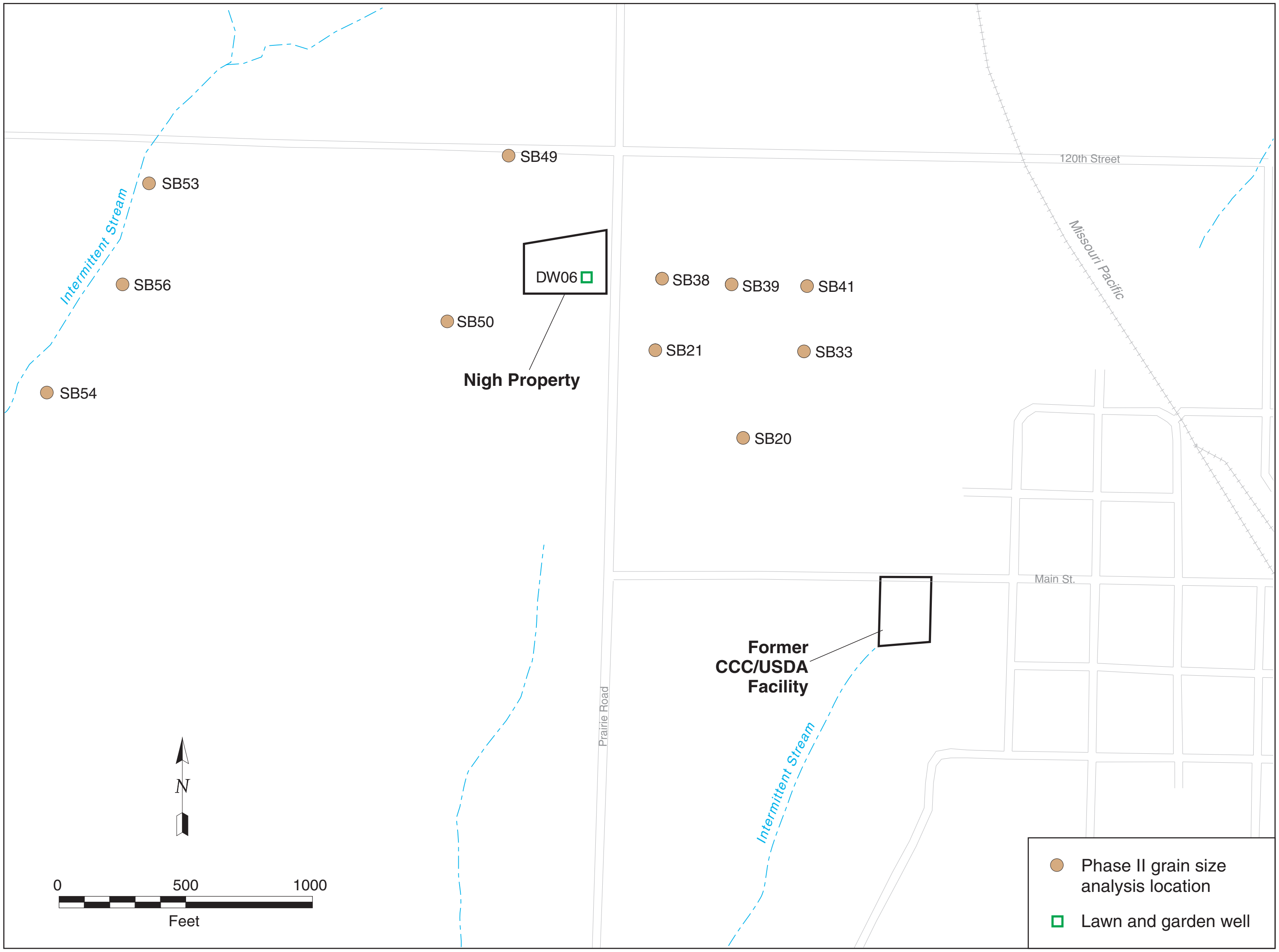

FIGURE 3.6 Locations of soil borings sampled in Phase II (second and third sessions) for grain size analysis.

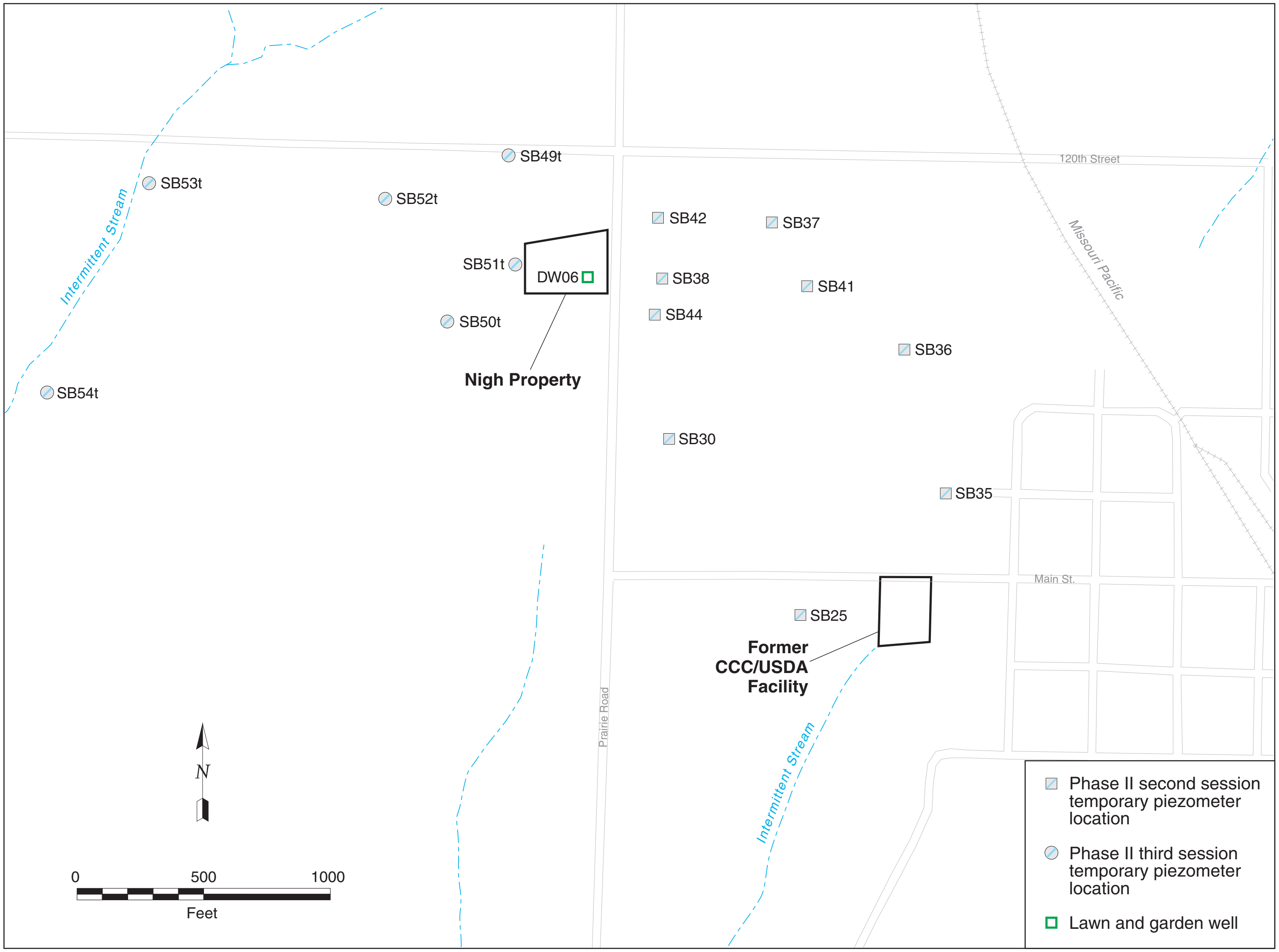

FIGURE 3.7 Locations of the temporary piezometers installed during the second and third sessions of Phase II in the western part of Everest, the former CCC/USDA facility, and the Nigh property. All temporary piezometers were removed, and the soil borings were grouted, within 30 days of installation.

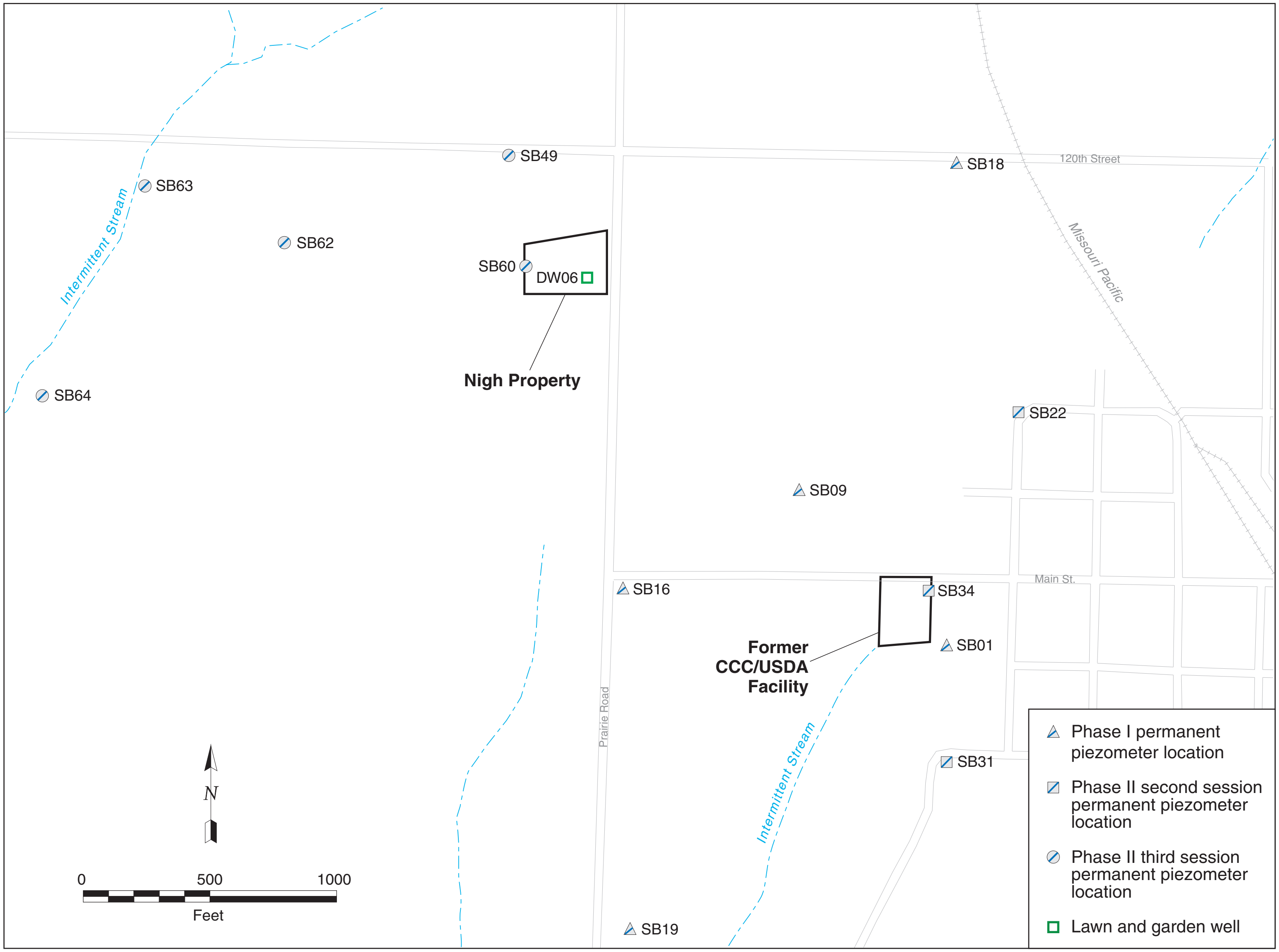

FIGURE 3.8 Locations of the permanent piezometers installed during Phase I and the second and third sessions of Phase II in the western part of Everest, the former CCC/USDA facility, and the Nigh property.

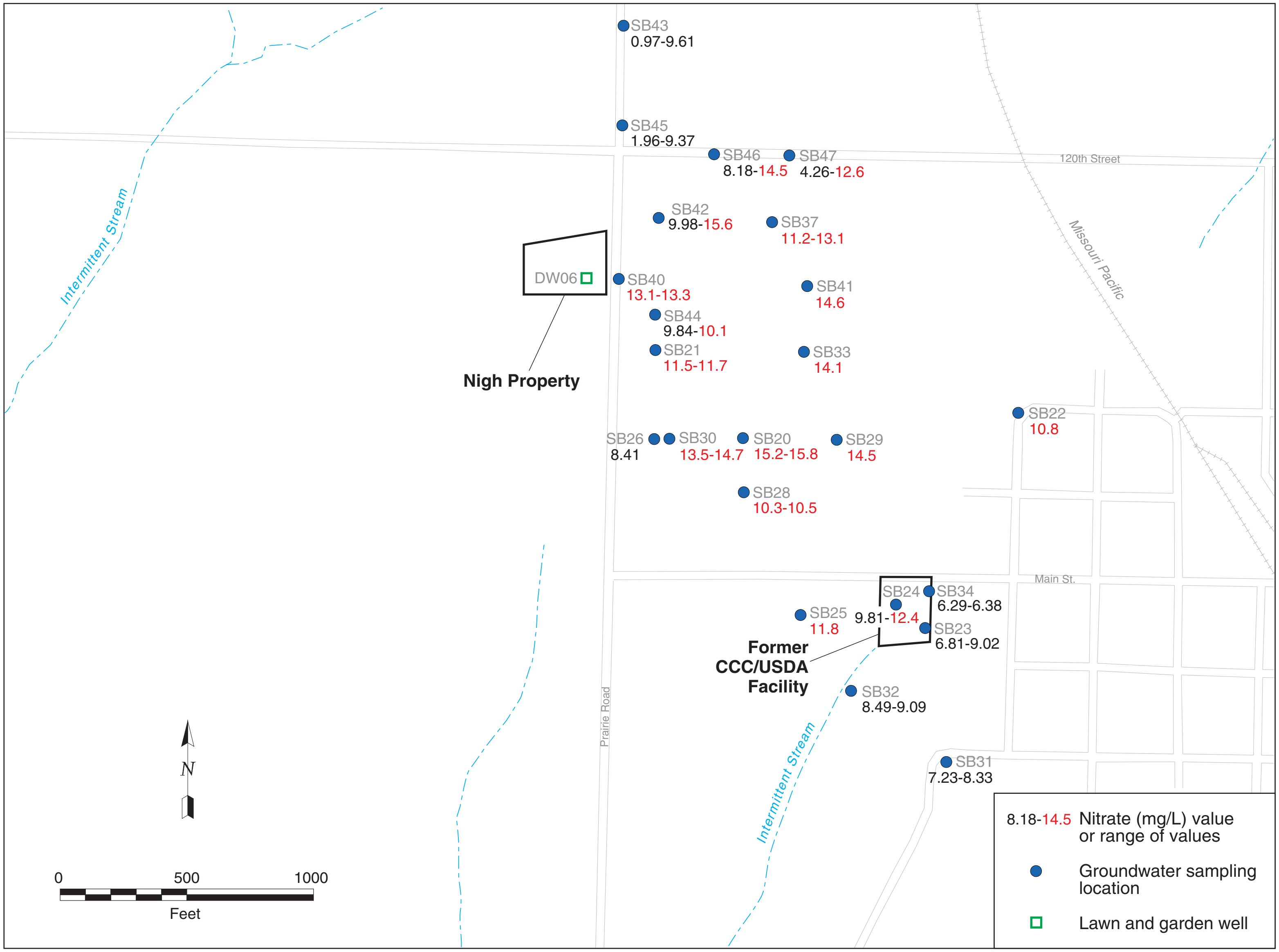

FIGURE 3.9 Results of nitrate analyses on Phase II (second session) groundwater samples from the western part of Everest, with the locations of the samples, the former CCC/USDA facility, and the Nigh property.

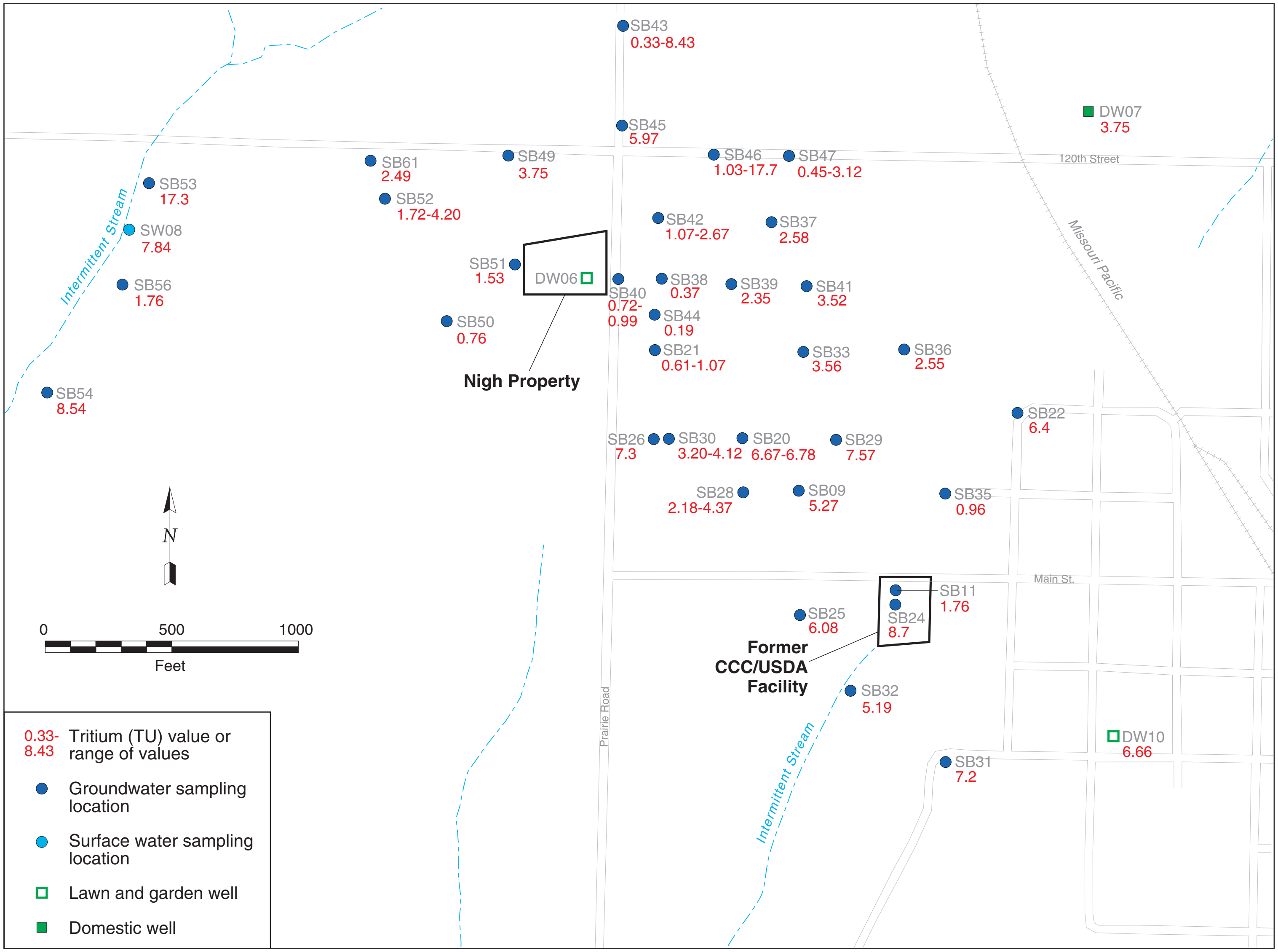

FIGURE 3.10 Results of tritium analyses on groundwater and surface water samples collected during Phase I and the second and third sessions of Phase II in the western part of Everest, with the locations of the samples, the former CCC/USDA facility, and the Nigh property.

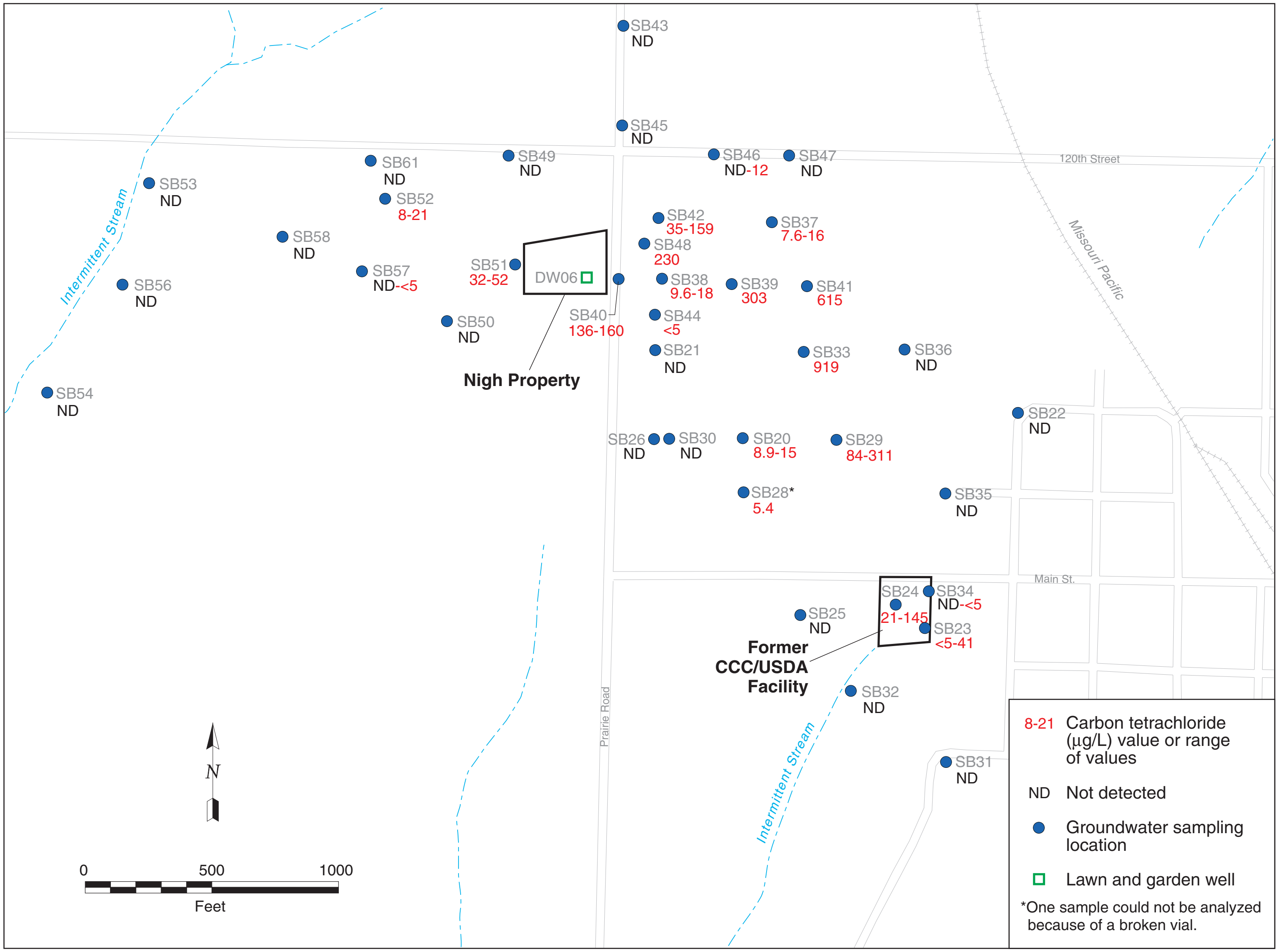

FIGURE 3.11 Results of carbon tetrachloride analyses on groundwater samples collected during the second and third sessions of Phase II in the western part of Everest, with the locations of the samples, the former CCC/USDA facility, and the Nigh property.

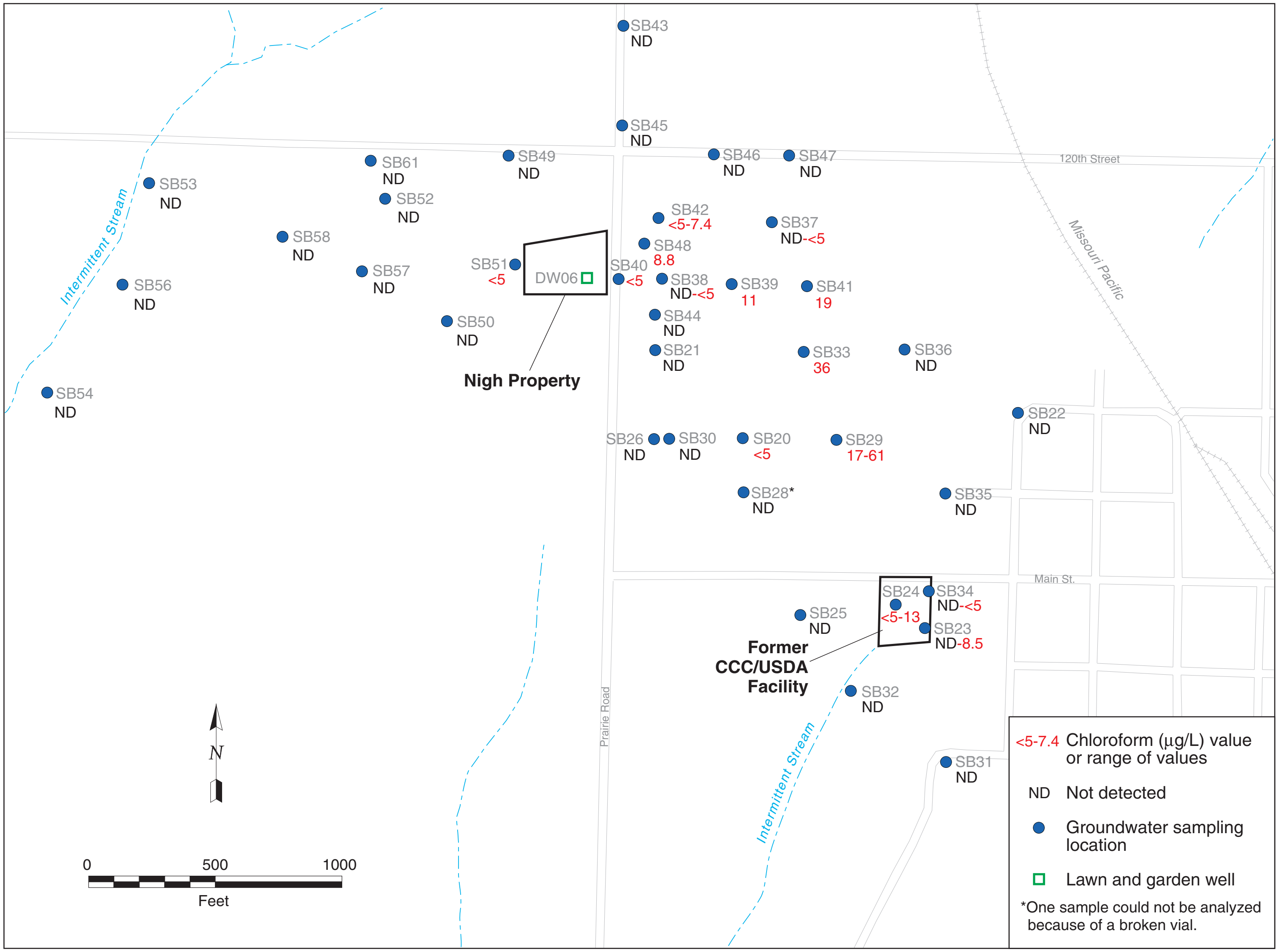

FIGURE 3.12 Results of chloroform analyses on groundwater samples collected during the second and third sessions of Phase II in the western part of Everest, with the locations of the samples, the former CCC/USDA facility, and the Nigh property.

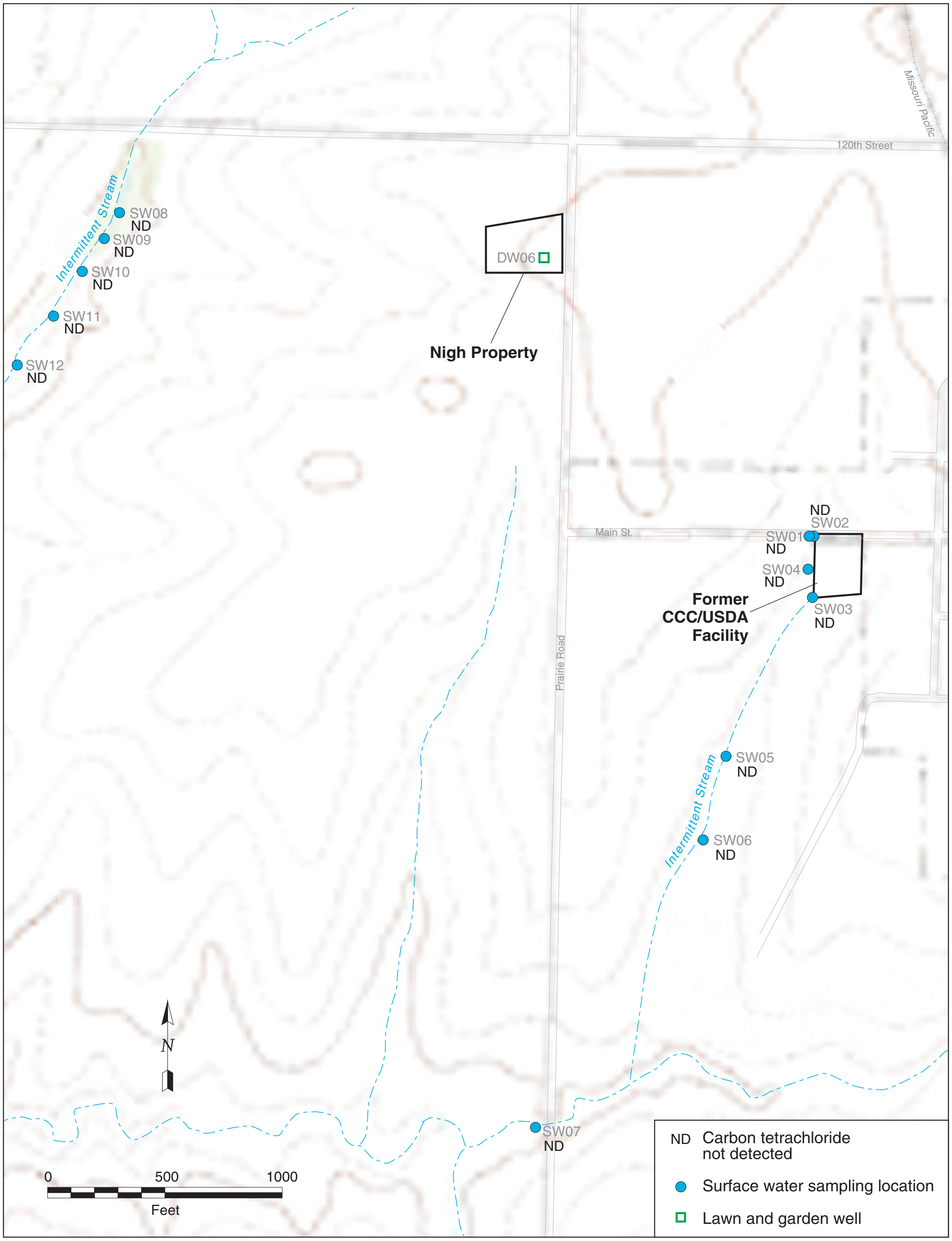

FIGURE 3.13 Results of carbon tetrachloride analyses on surface water samples collected during the second and third sessions of Phase II in the western part of Everest, with the locations of the samples, the former CCC/USDA facility, and the Nigh property.

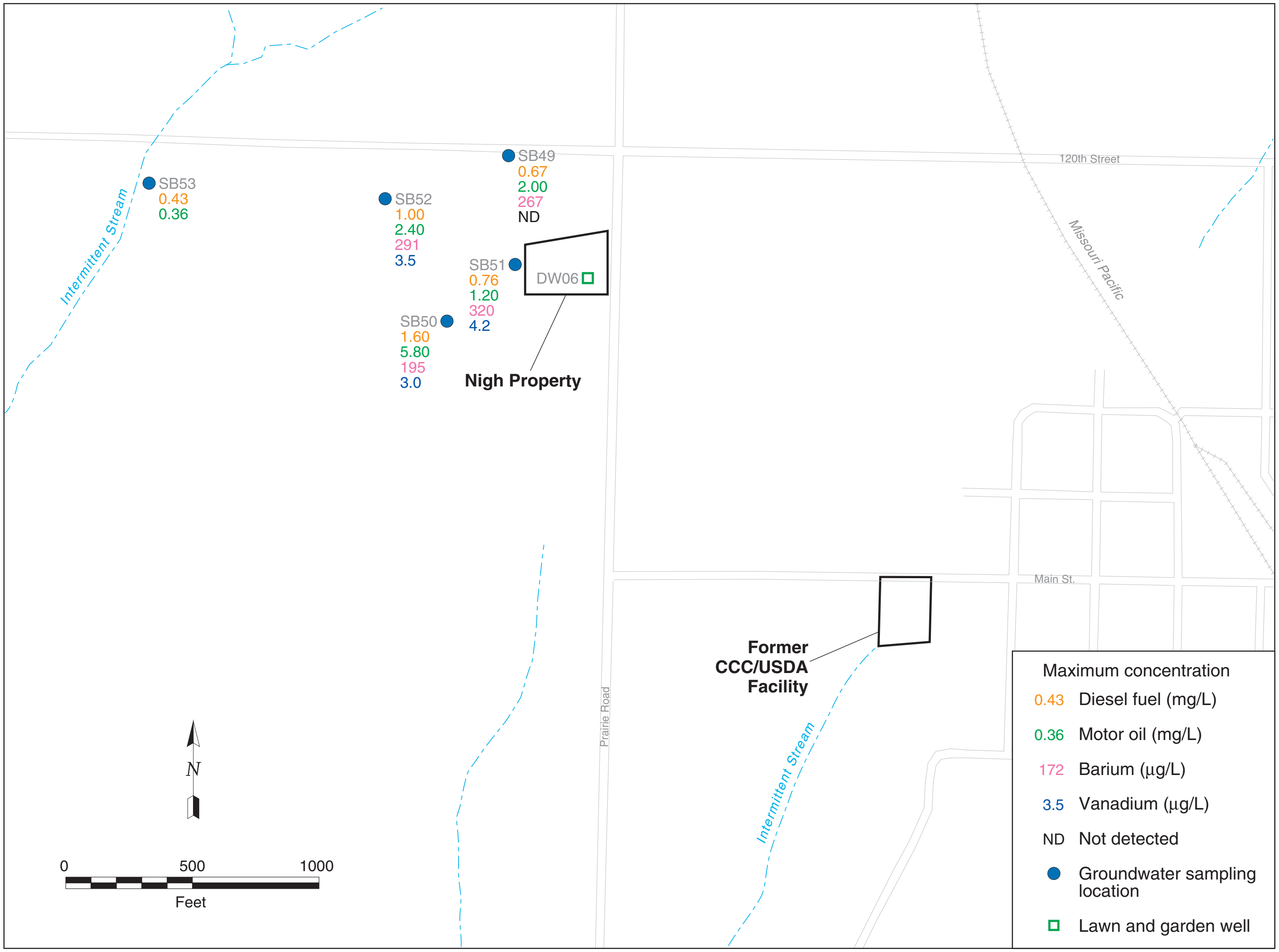

FIGURE 3.14 Results of analyses of groundwater samples collected during the third session of Phase II in the western part of Everest for total petroleum hydrocarbons and trace metals, with the locations of the samples, the former CCC/USDA facility, and the Nigh property.

4 Interpretation of Results

Phase II of the QuickSite® investigation at Everest was undertaken with the primary goal of delineating and further understanding the distribution of carbon tetrachloride in groundwater at the site and its relationship to the potential source area(s) that might have contributed to the contamination. To address this goal, four specific technical objectives were developed to guide the Phase II field studies. These technical objectives are to accomplish the following:

1. Confirm an association of carbon tetrachloride contamination with the former Everest CCC/USDA facility.

2. Characterize the hydrogeologic factors controlling contaminant migration.

3. Delineate the distribution of the carbon tetrachloride plume.

4. Investigate for indications of possible groundwater contamination associated with the former private grain storage facility on the Nigh property.

In this section, the quality-assured data acquired in Phase II are evaluated and discussed in the context of these specific objectives and the hydrogeologic framework established for the site in the Phase I *Work Plan* and the subsequent Phase I field studies (Argonne 2000, 2001). With this investigative approach, an integrated, technically defensible understanding of the hydrogeologic environment at Everest — and the distribution and migration of carbon tetrachloride within this setting — is progressively assembled as the specific technical goals of each phase of the investigation are achieved.

4.1 Confirm an Association of Carbon Tetrachloride Contamination with the Former Everest CCC/USDA Facility

During the Phase I investigation at Everest, concentrations of carbon tetrachloride exceeding 5 μg/L were identified in groundwater sampled from a location (SB11) at the northwestern edge of the former CCC/USDA grain storage facility, as well at additional locations (SB06, SB09) immediately northwest of and downgradient from the former facility. These results suggested an association of the observed groundwater contamination with the property on which the former facility was located.

Argonne experience has demonstrated that the presence of carbon tetrachloride in near-surface soils is often diagnostic of deeper subsurface carbon tetrachloride concentrations that might represent a present or former source of contamination to groundwater. To confirm the inferred association of carbon tetrachloride contamination with the former CCC/USDA facility, targeted sampling of near-surface soils and analysis for VOCs was performed by headspace GC-ECD analysis. Locations for this sampling were chosen through evaluation of past activities and structures on this property. No usage of this land for purposes other than agriculture has been found to precede or follow the period of grain storage operations by the CCC/USDA.

The results of headspace GC-ECD analyses of the near-surface soil samples were used to guide the selection of several locations for additional subsurface soil sampling and analysis. The results of purge-and-trap GC-MS analyses of these samples were used to evaluate potential human health risks that might arise from exposure to the near-surface soils.

4.1.1 Contamination in Near-Surface Soils

Near-surface soils were collected at the former CCC/USDA facility for carbon tetrachloride analysis with a modification of EPA Method 5021 (headspace GC-ECD). As discussed in Section 3.1.1, samples were collected at both *shallow* (typically 0.9-1.2 ft BGL) and *deeper* (5.5-6.0 ft BGL) soil horizons across the former facility, and the spatial distributions of the resulting concentrations at each depth were reviewed and compared.

Figures 4.1 and 4.2 show, respectively, the distributions of the highest relative headspace carbon tetrachloride concentrations in the shallow and deeper near-surface soils. Although the identified distribution patterns are not identical, close similarity is apparent in the patterns of higher concentrations at the two depths at the locations of the former eastern and central lines of grain bins, as well as at the northern portion of the southwestern line of bins. The consistency of these observations is interpreted to indicate the most likely areas for possible contamination of the underlying subsurface soils.

Access to the agricultural field formerly occupied by the Everest CCC/USDA facility was restricted during Phase II because of planting requirements and poor surface conditions caused by heavy rains during the second field session of the investigation. For this reason, sampling of the deeper, subsurface vadose zone soils at the former Everest facility during this phase of the investigation was limited to only three locations, as shown in Figures 4.1 and 4.2 (SB23, SB24, and SB34). The analytical results for the subsurface soils from these three borings are interpreted in Section 4.1.2. Subsurface sampling to investigate the areas of relatively higher carbon tetrachloride levels in near-surface soils associated with the former central and southwestern lines of grain bins could not be completed during Phase II.

4.1.2 Contamination in Subsurface Soils

Soil samples from cores collected in the vadose zone at ECPT borings SB23, SB24, and SB34 were prepared and analyzed by EPA Methods 5030B and 8260B (purge-and-trap GC-MS), as discussed in Section 3.1.2. The distributions of carbon tetrachloride and chloroform in these soils are shown in Figure 4.3 in conjunction with the lithologic logs for SB23, SB24, and SB34. Carbon tetrachloride concentrations exceeding the purge-and-trap GC-MS method detection limit of 10 μg/kg were identified in vadose zone soils from SB23 and SB34 but not in soils from SB24. Carbon tetrachloride concentrations above the method detection limit observed in all three borings at the top of the saturated zone are interpreted to reflect contamination of the groundwater at these depths.

Boring SB23 is at the southern end of the former eastern row of grain bins (Figures 4.1 and 4.2), corresponding with an area of high relative carbon tetrachloride concentrations (headspace analysis) in both the shallow and deeper near-surface soils. Purge-and-trap GC-MS carbon tetrachloride values of 12-23 μg/kg were found at this location at 15-23 ft BGL in dry, dense, silty clays. Chloroform was identified in two of the five samples from this interval, at concentrations of 10 and 11 μg/kg (Figure 4.3). The sample at 43 BGL, at the top of the saturated zone, contained carbon tetrachloride at 66 μg/kg.

Boring SB34 was selected to test the northern end of the eastern line of bins, where relatively high carbon tetrachloride levels had been detected in both shallow near-surface soils and adjacent deeper near-surface soils. Carbon tetrachloride values of 10-14 μg/kg were found at 39-43 ft BGL, in clayey silts and clayey sands immediately above the saturated zone. The highest carbon tetrachloride concentration identified, 15 μg/kg at a depth of 47 ft BGL, occurred in the saturated zone.

Boring SB24 was sampled to test a localized high in the headspace carbon tetrachloride concentrations observed only for the deeper near-surface soils, in the northwestern portion of the former CCC/USDA facility and somewhat removed from the former locations of the grain storage bins. No carbon tetrachloride or chloroform was detected in the vadose zone soil at this location. A carbon tetrachloride concentration of 16 μg/kg was measured for a single sample from the saturated zone at 43 ft BGL.

The identified presence of carbon tetrachloride and chloroform in the vadose zone soils confirms an association of these contaminants with the property formerly occupied by the CCC/USDA grain storage facility. The results indicate that a potential source of groundwater contamination remains in the soils; however, these contaminants will be mobilized only if the low concentrations presently observed can be effectively leached from the vadose zone clays by infiltrating precipitation.

4.1.3 Health Risks Associated with the Contaminated Soils

Levels of soil contamination required to surpass EPA limits for risks due to direct ingestion and inhalation of carbon tetrachloride in shallow soils have been calculated by using parameters defined as reasonable maximum exposures for average Americans (EPA 1989, 1991). The pathways considered were direct ingestion of contaminated soil, inhalation of contaminated dust (indoors and outdoors), and ingestion of vegetables and fruits grown in contaminated soil. Pathways requiring transfer of contaminants from soil to groundwater were not included. The results show that a concentration of 5,800 μg/kg would be required to yield a carcinogenic risk of 10^{-4}, the maximum risk within the acceptable (10^{-4} to 10^{-6}) range (EPA 1990). The concentration of carbon tetrachloride in soil required to yield the maximum allowable hazard index is 2,333 μg/kg. The fact that none of the near-surface soil samples (approximately from the surface to a depth of 6 ft) contained carbon tetrachloride at levels above the detection limit of 10 μg/kg for the purge-and-trap GC-MS method indicates that no human health risk is associated with exposure to the near-surface soils at the former Everest CCC/USDA facility.

Health risks associated with both exposure to contaminated surface soils and the potential soil-to-groundwater contamination pathway are addressed in the KDHE *Risk-Based Standards for Kansas* (*RSK Manual*; KDHE 1999). Section 5.2 of the *RSK Manual* indicates that the maximum concentrations of carbon tetrachloride and chloroform identified in soils at the former CCC/USDA facility must be compared to the KDHE's Tier 2 Risk-Based Summary Table to assess the potential hazard associated with these contaminants. Under the KDHE guidance, if concentrations in excess of the appropriate Tier 2 values are detected, the KDHE may determine that remedial action is warranted. The minimum Tier 2 concentrations listed in the Risk-Based

Summary Table for soil contamination with carbon tetrachloride and chloroform are 200 μg/kg and 1,200 μg/kg, respectively. The concentrations of carbon tetrachloride and chloroform identified in soils at the former CCC/USDA facility in Phase II are well below these specified target levels.

4.2 Characterize the Hydrogeologic Factors Controlling Contaminant Migration

The Phase I investigation at Everest determined the sequence of major Holocene and Pleistocene sedimentary units (here identified as stratigraphic units 1-4) that form the unconsolidated geologic framework overlying Pennsylvanian shale bedrock in the vicinity of the former Everest CCC/USDA facility. The major units identified, in order of increasing depth from the surface to bedrock, consist of (1) windblown loess, (2) silts and clays, (3) sand and sandy to gravelly clay till, and (4) blue-gray silty clay. The more detailed lithologic characteristics of this stratigraphic column and the features used to define laterally persistent subunits within several of the intervals are summarized in Table 4.1. The lithologic information presented in Table 4.1 was initially compiled from the evaluation of logs of ECPT cores collected in Phase I, then confirmed and refined further on the basis of cores obtained from ECPT borings SB20-SB36, SB38-SB41, SB44, and SB49-SB50 during Phase II of the Everest studies. The locations of all cored borings are shown in Figure 4.4; the Phase II core logs are in Appendix B.

Hydrogeologic and preliminary geochemical data obtained during Phase I identified only one lithologic unit of significance as an aquifer at this site: the sandy to gravelly clay till interval defined as stratigraphic unit 3b. The presence of saturated conditions and localized groundwater

TABLE 4.1 Stratigraphy for the area of the Phase II investigation at Everest.

Age	Rock Unit	Thickness (ft)	Physical Characteristics
Holocene	Topsoil	0-4.5	Dark brown-black silty loam to black loamy clay with few medium- to coarse-grained sand erratics, patches of iron oxide staining, abundant roots, and high organic content; noncalcareous.
Holocene/ Pleistocene (Illinoian-Wisconsinan Stage)	Loess (1)	0-11	Tan clayey silt to gray silt with minor iron oxide filaments and coatings throughout, few medium- to coarse-grained sand and pebble-sized erratics, minor iron oxide staining and manganese concretions, and many root and worm holes; noncalcareous.

TABLE 4.1 (Cont.)

Age	Rock Unit	Thickness (ft)	Physical Characteristics
Pleistocene	Dark brown silty clay (2a)	0-5	Chocolate brown and gray silty clay with mottled mixture of dark brown and gray clays, many carbon filaments and coatings, minor iron oxide, and very few sand grains; dense, noncalcareous.
	Gray and brown silty clay to clayey silt (2b)	5-18	Gray and brown silty clay to clayey silt with mottled appearance due to a mixture of gray and brown clays and iron oxide staining, few small limestone pebbles (less than 0.25 in. in diameter), some manganese concretions, few coarse sand grains. Iron oxide in small areas (possibly worm or root casts), some black carbon filaments, scattered sand grains, few black manganese coatings on grains; noncalcareous.
Upper Independence Formation	Gray silty clay (2c)	8-15	Gray clay, silty, massive, with many black carbonized root casts and organic debris, few manganese concretions, minor iron oxide coating on scattered sand erratics; noncalcareous.
	Gray and brown sandy and silty clay (2d)	8-13	Dark gray and brown clayey silt to sandy clay with occasional sand stringers, carbonized plant material, minor iron oxide staining; noncalcareous, dry. Lenses of grayish brown clayey to silty sand that may form transient perched aquifers in northern part of Phase II area.
(Kansan Stage)	Gray-brown to white clayey sand (3a)	3-7	Gray-brown to white clayey sand, medium to coarse grained, cemented by clay and calcium carbonate. Color due to cement (gray-brown clay, white caliche). Caliche-cemented zones are patchy and irregular (up to 4 in. across). Much black carbonized plant material in carbonate cement; calcareous, mostly dry. Cemented caliche gravel common at base of unit.
	Brown to orange-brown sandy to gravelly clay till complex (3b)	6-20	Brown to orange-brown sandy clay till. Calcareous, stained by iron oxides, with metamorphic gravel-sized erratics (up to 1.5 in. in diameter), dry to wet. Thin cemented coarse sand and fine gravel (caliche rubble) lenses near or at the top of the till. Sand is 80-90% cemented by caliche, with hard caliche gravel up to 2 in. in diameter and occasional frosted sand grains. Till contains beds of glaciofluvial sand and gravel in channels, lenses, and stringers, occasionally cemented by caliche. Sand is fine- to coarse-grained, tan to brown, subangular to rounded; mostly noncalcareous, wet. Sand and gravel unit is poorly-sorted, mixed-lithology (predominantly quartz) gravel in rounded to subrounded medium- to coarse-grained sand; wet.
	Blue-gray to olive silty clay (4)	0-23	Blue-gray to olive silty clay, massive, calcareous, dense. Minor fine sand inclusions and occasional shale pebble erratics (up to 0.75 in. in diameter); brittle fracture, dry.
Pennsylvan-ian Waubaunsee Group	Shale and limestone	Unknown	Gray limestone and gray and brown calcareous shale.

contamination were demonstrated in this unit during Phase I. The available data indicated, however, that unit 3b was lithologically heterogeneous and that its vertical and lateral hydraulic continuity to the northwest of the former CCC/USDA facility were questionable. Most specifically, the observed hydrogeologic relationships and preliminary groundwater contamination data obtained in Phase I suggested that lithologically controlled permeability variations might restrict or preclude the migration of groundwater containing carbon tetrachloride from the vicinity of the former CCC/USDA facility northwestward toward the contaminated private well identified on the Nigh property (DW06). To reflect these hydrogeologic complexities, the term *aquifer unit* is invoked in this report to represent the groundwater-bearing sediments present in stratigraphic unit 3b.

The present Phase II specific technical objective is focused on further identification and delineation of the hydrogeologic characteristics of stratigraphic unit 3b that control groundwater flow and contaminant migration pathways in the Everest aquifer unit, both in the downgradient areas between the former CCC/USDA facility and the Nigh property and to the west of the Nigh property.

4.2.1 Lithologic Factors Affecting Migration

Lithology and moisture content data from the core logs were considered in conjunction with qualitative relationships drawn from the comparison of ECPT sensor logs to the core data at selected locations to develop a picture of the three-dimensional geometry and internal lithologic structure of stratigraphic unit 3b and the Everest aquifer unit in the investigation area. To illustrate these features, three hydrogeologic cross sections were constructed and interpreted, at the locations shown in Figure 4.5.

Hydrogeologic cross section A-A′, shown in Figure 4.6, extends from southeast to northwest across the study area and was constructed to depict the geology affecting potential direct groundwater migration between the former CCC/USDA facility and the contaminated well (DW06) previously identified on the Nigh property. All of the borings east of or on the Nigh property and used in the interpretation of this section were continuously cored across unit 3b. The sand and sandy to gravelly clay till (unit 3b) that hosts the aquifer unit along this line of section attains a maximum thickness of 18 ft near the Nigh property, but it thins between the former CCC/USDA facility and the Nigh well to a minimum thickness of < 6 ft at SB27. The predominant lithology of unit 3b consists of calcareous sandy clay till, with metamorphic gravel to cobble-sized erratics up to 1.5 in. in diameter. A thin, cemented zone of coarse sand and fine gravel (caliche rubble) was identifiable at or near the top of the till across much of the study area and is a local stratigraphic marker. Within the caliche rubble zone, the sand is 80-90% cemented by calcium carbonate, with hard calcareous gravel up to 2 in. in diameter. The moisture content of the till within unit 3b varies from wet to dry, depending on the amounts of clay and silt in the matrix and the degree of cementation and compaction.

Beds of glaciofluvial sand and gravel in channels and stringers, occasionally cemented by caliche, are enclosed within the sandy clay till and also fill shallow depressions cut into it. The thickest deposits of sand and sand mixed with gravel are found in a channel-like feature that underlies the area of the former CCC/USDA facility and is interpreted as centered immediately to the west of the property (Figure 4.6). Here the sand is wet, fine- to coarse-grained, and generally noncalcareous. The gravel bed is composed of wet, mixed-lithology gravel (predominantly quartz) in medium- to coarse-grained sand.

In contrast to these relatively well developed coarse-grained deposits, sands to the northwest of the former CCC/USDA facility, from the location of boring SB06 to the vicinity of the Nigh well (DW06), are restricted to randomly distributed, discontinuous lenses enclosed in the sandy clay till. These isolated sandy lenses variably consist of clayey sand, silty sand, and mixtures of fine- to medium-grained sand and gravel. The isolated sandy deposits are mostly wet; however, ECPT sampling at SB27 did not encounter saturated sand. Here the till is dry, and the only sandy interval penetrated consists of a 3-in.-thick mixture of calcareous sand and black silt at a depth of 60 ft BGL, within the clayey till. The lithologies and moisture contents identified in this area therefore support the hypothesis, proposed in Phase I, that a lithologically controlled (unsaturated) zone of reduced permeability impedes direct (line-of-sight) groundwater flow — and hence contaminant migration — from the former CCC/USDA facility toward the Nigh well (DW06).

The general characteristics of unit 3b in the area northwest of SB05 and the Nigh well (DW06) were interpreted on the basis of ECPT sensor log responses for boring SB49t. These responses were corroborated by (1) coring of selected stratigraphic intervals, (2) comparison of these sensor traces to the lithologic descriptions and ECPT sensor responses obtained from continuously cored borings elsewhere in the study area, (3) results of groundwater sampling performed at multiple depth intervals at this location, and (4) continuous coring at SB55 at the northwestern end of this section. In this area, multiple thin sandy lenses were identified in the till matrix. Although several of the lenses are of limited extent, an apparently continuous sandy zone was encountered overlying the till.

Hydrogeologic cross section B-B´ (Figure 4.7) was constructed from west to east across the central portion of the area between the former CCC/USDA facility and the Nigh property. All of the borings used in the interpretation of this section were continuously cored across unit 3b. Along this line of section, unit 3b appears as two relatively thick segments, separated by a thinned interval (projected from the north; see discussion to follow) between borings SB20 and SB29. To the east of SB29, glaciofluvial sediments identified at the base of unit 3b are interpreted to represent the northward extension of the coarse-grained deposits shown at the southern end of section A-A´. Thin, wet sandy lenses are distributed sporadically throughout the sandy clay till along this line of section; however, they occur at various elevations and could not be correlated between adjacent borings, suggesting that they lack lateral continuity.

Figure 4.8 depicts hydrogeologic cross section C-C´, which extends from the intermittent stream at the western margin of the Phase II study area, through the Nigh property, and then eastward across the area directly north of the former CCC/USDA facility. The eastern portion of section C-C´, east of SB05 and the Nigh well (DW06), was interpreted from continuously cored borings. This portion of section C-C´ exhibits many of the same features observed in section B-B´ to the south. Unit 3b is again segmented, as a result of thinning (to approximately 4 ft) at boring SB39. Along this line of section, however, the sediments within the thinned interval consist of sands that thicken slightly and coarsen westward (at SB38) before they thin again to < 1 ft thick near the Nigh well (DW06). To the east of SB39, coarse-grained sediments found in the upper portion of unit 3b are again interpreted to represent a northward extension and a slight shallowing of the glaciofluvial deposits penetrated in the eastern portion of section B-B´ and the southern portion of section A-A´.

The general characteristics of unit 3b in the area west of the Nigh well (DW06) were interpreted on the basis of ECPT sensor log responses that were corroborated by (1) coring of selected stratigraphic intervals, (2) comparison of these sensor traces to the lithologic descriptions and ECPT sensor responses obtained from the continuously cored borings elsewhere in the study area, (3) results of groundwater sampling performed at multiple depth intervals at each location, and (4) continuous coring at SB53 at the western end of this section. The results of these analyses indicate that unit 3b in the area west of the Nigh well (DW06) also contains multiple thin lenses or stringers of wet sandy material within a sandy clay till matrix. The sandy deposits within the till are relatively discontinuous and generally cannot be positively correlated between adjacent borings; however, a sandy zone again identified overlying the till could be traced across the area to the intermittent stream.

Cores obtained from boring SB53, along the bank of the intermittent stream at the western margin of the study area, consisted of dark brown to gray silty clays directly overlying the variably wet to dry silty clayey sands and sandy clay till of unit 3b at an approximate depth of 20 ft BGL. Cores obtained from boring SB54 — approximately 900 ft southwest of SB53 (see Figure 4.5) and at a ground surface elevation approximately 6 ft lower than that of SB53 — also penetrated variably wet to dry sands, gravelly sands, and clay till of unit 3b at approximately 17 ft BGL. These observations, plus topographic relationships observed at the site, suggest that the deeply incised bed of the intermittent stream can be expected to penetrate stratigraphic unit 3b at some distance downstream of the SB54 location.

The interpreted cross sections indicate that the thickness variations of unit 3b are predominantly a result of deposition of the sediments on the irregular surface, illustrated in Figure 4.9, of the underlying blue-gray silty clay interval identified as stratigraphic unit 4. The discussions presented above, however, demonstrate that the distribution of sandy channels, lenses, and stringers within the till complex shows little relationship to the gross thickness of unit 3B and cannot be predicted on this basis.

The results of the Phase II analyses confirm that fairly well developed and relatively continuous deposits of sand and mixed sand and gravel are present in the immediate vicinity of, and to the north of, the former CCC/USDA facility. The distribution of coarser-grained materials northwest of the former CCC/USDA facility, in the vicinity of the Nigh well (DW06), is restricted to fairly thin and discontinuous, silty to sandy lenses and stringers that are randomly distributed within the sandy clay till. A localized area of dry clay till, lacking sandy materials, was confirmed at SB27, along a direct line from the former CCC/USDA facility to the private well (DW06) on the Nigh property. To the west of the Nigh property, multiple discontinuous sandy lenses are also present within the till; however, a thin zone of sandy deposits overlying the till appears to extend across the area to the intermittent stream. These results confirm the hypothesis that a lithologically defined barrier impedes direct groundwater flow from the former CCC/USDA facility toward the Nigh property.

4.2.2 Hydrologic Factors Affecting Migration

Grain size analyses were performed on soil samples collected during both the Phase I and Phase II investigations, representing the lithologies identified in stratigraphic unit 3b. The results used as a basis to estimate the hydraulic conductivity (K_h) of the sediments in unit 3b and hence the heterogeneity of the permeability distribution within it. Hydraulic conductivities were calculated by using the methods of Hazen, Beyer, and Kruger (Vukovic and Soro 1992), which yield optimal results for sandy materials. Porosity values needed for the calculations were approximated by using Istomina's empirical formula (Vukovic and Soro 1992). The results of these calculations are summarized in Table 4.2 and depicted in relation to the local stratigraphy in Figures 4.6-4.8 as an aid to understanding contaminant migration pathways. Estimated maximum K_h values for the sand and gravel channel deposits ranged from 10^1 to 10^2 ft/d, while the conductivities for silty to sandy lenses in the northwestern and western portions of the study area were lower by one to two orders of magnitude, ranging from 10^{-1} to 10^1 ft/d. The K_h of the surrounding compact sandy clay tills was generally less than 10^{-1} ft/d.

Unit 3b is fully saturated only in the eastern portion of the study area, beneath and to the south of the former CCC/USDA facility. An area of dry till, lacking sandy lenses, was identified southeast of the Nigh well (DW06) at boring SB27 (Figures 4.5 and 4.6); however, over the rest of the study area the moisture content of the till varied with the amount of clay and silt in the matrix and the degree of compaction, cementation, and fracturing. The thin, randomly distributed sandy lenses and stringers identified in the northwestern and western portions of the study area were generally water bearing. No discrete interconnecting pathways between these deposits could be recognized at the scale of these investigations; however, multiple lines of evidence indicate that hydraulic communication exists, to varying degrees, between most of these saturated intervals. This hydraulic communication is interpreted to occur via patchy zones of slightly more sandy till — as well as via very thin silty to sandy partings and fractures within the till — and is expected to be less effective in areas where the till is more compact and free of coarser-grained sediments.

Data collected during the Phase I investigation indicate that groundwater levels measured in temporary and permanent piezometers at the site define a smooth, semiradial pattern of levels declining to the west and northwest from a localized high presumed to reflect a local recharge area southeast of the former CCC/USDA facility. This pattern is consistent with the interpretation that hydraulic continuity exists among the more permeable intervals within the Everest aquifer unit.

TABLE 4.2 Results of hydraulic conductivity (K_h) estimations based on grain size data for samples collected from unit 3b at Everest.

Boring	Sample Depth (ft BGL)	D_{10}[a] (mm)	D_{kruger}[b] (mm)	D_{60}[c] (mm)	C_u[d] (D_{60}/D_{10})	*K* (ft/d)	Log *K* (ft/d)	Method[e]
SB01	45.5-46.5	0.2030	0.039	0.4750	2.34	138.23	2.1	B, H
SB01	56.2-56.4	< 0.001	0.007	0.0800	-	< 0.10	< -1.0	f
SB03	44.0-45.0	0.0046	0.023	0.1570	34.13	0.29	-0.5	K
SB03	45.0-46.0	0.0796	0.023	0.2440	3.07	17.77	1.2	B
SB03	47.0-47.5	0.0089	0.020	0.2580	28.99	0.22	-0.7	K
SB03	48.0-49.0	0.0487	0.051	0.7890	16.20	1.62	0.2	K
SB03	49.0-50.0	< 0.001	0.007	0.1520	-	< 0.10	< -1.0	f
SB05	61.8-62.5	< 0.001	0.026	0.3890	-	0.37	-0.4	K
SB05	77.0-77.8	0.1750	0.108	3.2600	18.63	19.72	1.3	B, K
SB06	51.5-53.5	< 0.001	0.005	0.0470	-	< 0.10	< -1.0	f
SB06	53.5-54.5	< 0.001	0.006	0.0326	-	< 0.10	< -1.0	f
SB06	55.5-55.8	< 0.001	0.003	0.0070	-	< 0.10	< -1.0	f
SB11	41.5-42.0	< 0.001	0.021	0.2070	-	0.25	-0.6	K
SB11	42.0-44.0	0.0016	0.015	0.1320	83.63	0.13	-0.9	K
SB11	44.0-45.0	< 0.001	0.007	0.0412	-	< 0.10	< -1.0	f
SB11	45.2-45.5	0.2180	0.041	0.5790	2.66	154.65	2.2	B, H
SB11	45.5-47.0	0.1770	0.039	0.5280	2.98	98.88	2.0	B, H
SB11	47.0-47.4	0.1850	0.056	0.6840	3.70	101.59	2.0	B, H
SB11	47.4-48.0	< 0.001	0.007	0.0980	-	< 0.10	< -1.0	f
SB11	48.0-49.1	0.2530	0.059	0.7790	3.08	200.33	2.3	B, H
SB11	49.6-50.0	0.0013	0.007	0.0418	32.15	< 0.10	< -1.0	f
SB11	50.0-50.4	< 0.001	0.007	0.0849	-	< 0.10	< -1.0	f
SB11	50.6-51.0	< 0.001	0.004	0.0180	-	< 0.10	< -1.0	f
SB11	51.3-51.8	< 0.001	0.003	0.0048	-	< 0.10	< -1.0	f
SB16	54.0-55.0	< 0.001	0.007	0.2090	-	< 0.10	< -1.0	f
SB16	55.5-56.5	< 0.001	0.006	0.0530	-	< 0.10	< -1.0	f
SB16	59.0-60.0	< 0.001	0.006	0.2110	-	< 0.10	< -1.0	f
SB16	62.0-63.6	0.0023	0.023	0.4710	204.78	0.31	-0.5	K
SB16	63.6-64.0	< 0.001	0.025	0.5530	-	0.37	-0.4	K
SB18	65.6-66.2	< 0.001	0.015	0.1910	-	0.14	-0.9	K
SB18	66.2-67.0	< 0.001	0.020	0.2010	-	0.22	-0.7	K
SB18	67.4-68.5	< 0.001	0.008	0.2570	-	< 0.10	< -1.0	f
SB18	69.5-70.3	< 0.001	0.006	0.0760	-	< 0.10	< -1.0	f
SB18	70.3-71.0	< 0.001	0.005	0.0320	-	< 0.10	< -1.0	f

TABLE 4.2 (Cont.)

Boring	Sample Depth (ft BGL)	D_{10}[a] (mm)	D_{kruger}[b] (mm)	D_{60}[c] (mm)	C_u[d] (D_{60}/D_{10})	*K* (ft/d)	Log *K* (ft/d)	Method[e]
SB19	46.0-47.8	< 0.001	0.015	0.2440	-	0.13	-0.9	K
SB19	47.8-50.0	0.0340	0.081	0.2900	8.53	5.19	0.7	K
SB19	50.0-50.6	< 0.001	0.020	0.1490	-	0.22	-0.7	K
SB19	50.6-51.8	< 0.001	0.005	0.0465	-	< 0.10	< -1.0	f
SB19	51.8-52.8	< 0.001	0.008	0.0194	-	< 0.10	< -1.0	f
SB19	52.6-54.3	0.0039	0.019	0.0424	10.87	0.26	-0.6	K
SB19	54.3-54.6	0.0037	0.019	0.1230	33.24	0.21	-0.7	K
SB19	54.6-54.8	0.0095	0.026	3.3000	347.37	0.40	-0.4	K
SB19	54.8-55.0	0.0010	0.007	0.3990	411.50	< 0.10	< -1.0	f
SB19	55.0-56.0	0.0455	0.097	0.6910	15.19	5.92	0.8	K
SB20	56.0-58.0	0.0031	0.016	0.4390	141.61	0.14	-0.9	K
SB20	62.0-63.0	0.0025	0.014	0.4000	160.00	0.11	-1.0	K
SB21	60.0-62.0	<0.001	0.001	0.0194	-	< 0.10	< -1.0	f
SB21	64.0-66.0	<0.001	0.007	0.1940	-	< 0.10	< -1.0	f
SB33	66.0-68.0	0.0013	0.009	0.2880	221.54	< 0.10	< -1.0	K
SB38	55.0-57.0	0.0233	0.036	0.4100	17.60	0.77	-0.1	K
SB38	70.0-72.0	0.0045	0.016	0.5530	122.89	0.15	-0.8	K
SB39	70.0-72.0	0.1040	0.024	0.4760	4.58	4.56	0.7	H, K
SB41	70.0-72.0	0.0474	0.094	0.5970	12.59	5.84	0.8	K
SB49	46.0-47.3	0.0503	0.049	0.3720	7.40	2.06	0.3	K
SB50	49.8-50.8	0.0090	0.030	0.3100	34.44	0.52	-0.3	K
SB50	50.8-51.8	0.0046	0.023	0.1840	40.00	0.29	-0.5	K
SB50	52.3-52.6	< 0.001	0.003	0.0168	-	< 0.10	< -1.0	f
SB53	22.0-23.0	0.0099	0.021	0.0871	8.80	0.35	-0.5	K
SB53	26.0-28.0	< 0.001	0.006	0.0423	-	< 0.10	< -1.0	f
SB54	23.0-25.0	0.0473	0.039	1.2600	26.64	0.89	-0.1	K
SB56	23.0-25.0	0.0329	0.068	0.5580	16.96	2.82	0.4	K

[a] Ten percent of the sample is finer than this grain diameter.
[b] Effective grain diameter defined by Kruger (Vukovic and Soro 1992).
[c] Sixty percent of the sample is finer than this grain diameter.
[d] Uniform coefficient.
[e] Estimation methods: B (Beyer), H (Hazen), K (Kruger); see Vukovic and Soro (1992).
[f] *K* is not estimated when effective diameter < 0.01 (mostly silt and clay) and *K* < 0.1 ft/d because of limitations of the methods.

Additional groundwater level measurements during the Phase II studies corroborated the Phase I findings. Figures 4.10-4.12, respectively, depict mechanically contoured potentiometric surfaces for the Everest aquifer unit as mapped from water level measurements performed on April 1-5, 2001, November 9, 2002, and January 17, 2003. Water levels in the eastern part of the study area have declined by as much as 10 ft during the period of observation, resulting in a decrease in the hydraulic gradient across this region; however, the topology of the potentiometric surfaces has remained consistent, suggesting that groundwater flow from the former CCC/USDA facility is initially to the west-northwest. Figures 4.11 and 4.12 indicate that the apparent direction of groundwater flow west of the Nigh property turns progressively more southwestward with approach to the intermittent stream at the boundary of the study area. Water levels measured at SB53t/SB54t (November 9, 2002; Figure 4.11) and SB63/SB64 (January 17, 2003; Figure 4.12) were similar to the elevation of the base of the stream bed at these respective locations. These observations, in conjunction with the lithologic relationships near the stream channel described in Section 4.2.1, are consistent with the interpretation that groundwater levels in the area west of the Nigh property are locally controlled by discharge to the intermittent stream.

Topographic relationships at the western edge of the study area (Figure 4.5) indicate that the intermittent stream channel forms a local surface drainage divide. The hydrogeologic relationships discussed above further suggest that the channel might also represent a groundwater divide, thus forming a natural hydraulic boundary to westward groundwater flow (and potential contaminant migration) from the former CCC/USDA facility and the Nigh property. Additional investigation (recommended in Section 5.3.2) is required, however, to confirm the continuity of the aquifer unit and the inferred patterns of groundwater flow in the area west of the stream.

Detailed patterns of groundwater fluctuation across the Everest site, recorded during two periods of Phase II monitoring, also support the interpretation that groundwater levels and hydraulic gradients across the study area are driven by local recharge in the area to the southeast of the former CCC/USDA facility. Figure 4.13 presents hydrographs from the network of Phase I and Phase II permanent piezometers installed at the Everest site by the end (April 6, 2001) of the second session of Phase II field work, plus the Nigh private well (DW06). Automatic water level recorders were installed in these piezometers to obtain continuous water level measurements for the period July 10, 2000, to June 11, 2001. The hydrographs in Figure 4.13 are shown in comparison to precipitation data measured at Horton, Kansas, approximately 5 mi west of Everest. Barometric pressure fluctuations monitored during this period, also shown in

Figure 4.13, indicate that the effects of changes in atmospheric pressure on the patterns of water level fluctuation were insignificant.

The degree of groundwater response to precipitation events at each piezometer location is indicative of both (1) the relative impact of local recharge at that location and (2) the relative ease with which nearby changes in water levels can be transmitted, and hence dissipated, through the adjacent portions of the aquifer unit. Piezometers SB01, SB09, and SB19, all in the southeastern portion of the study area, showed distinct, relatively immediate increases in piezometer water levels in fall 2000 (September to mid November) and in spring 2001 (February to June), in response to frequent precipitation events during these periods (most of which were greater than 0.2 in.). The increase in water levels during the spring of 2001 is remarkably large, as much as 10-12 ft in this group of piezometers; however, the more recent measurements presented in Figure 4.12 demonstrate that the levels in this area have subsequently declined, probably due to a lack of precipitation (Figure 4.14). The piezometers at SB22, SB31, and SB34 were installed during the second session of Phase II field work. Hydrographs were recorded at these locations for only about one month (Figure 4.13); however, comparison of these traces to the record for SB01 suggests that these piezometers respond like those at SB01, SB09, and SB19.

The groundwater level responses for these piezometers contrast markedly with the responses for the Nigh well (DW06), northwest of the former CCC/USDA facility. The DW06 hydrograph shows effectively no response to the precipitation events in fall 2000 and only a modest and somewhat delayed increase in response to precipitation in spring 2001. Limited monitoring data are presently available for five piezometers (SB49, SB60, SB62-SB64) installed during the third session of Phase II field work in the portion of the study area west of the Nigh well (DW06). Recorders were also reinstalled at piezometers SB09 and SB16 at this time, to provide a basis for comparison of the responses in the new piezometers to those at the more eastern locations. Although the available records are relatively short (from November 21, 2002, to January 17, 2003; see Figure 4.14), the results to date suggest that water level responses in the piezometers west of the Nigh well are relatively subdued (relative to those of the SB01 group), like those observed at the Nigh well (DW06).

A localized increase in the apparent hydraulic gradient within the Everest aquifer unit is indicated in Figure 4.11 (November 9, 2002) and Figure 4.12 (January 17, 2003). Although this feature is less evident in the data depicted in Figure 4.10 (April 1-5, 2001), it was identified from the measurements obtained during Phase I. The region of higher hydraulic gradient roughly corresponds with the area of dry till and absence of sandy materials identified to the south of the Nigh well (DW06), as well as to the thinning and reduced abundance of sandy lenses and stringers observed in the vicinity of the Nigh property, strongly suggesting that the change in hydraulic gradient reflects a decrease in the net transmissivity (or the effective permeability over the full saturated thickness) of the aquifer unit in this area.

Integration of the geologic and hydrogeologic relationships observed for the Everest aquifer unit leads to the following interpretation:

- Hydraulic communication exists among most of the saturated portions of the aquifer unit, via a complex network of discontinuous sandy channels, stringers, and lenses enclosed within variably permeable and/or fractured sandy clay till.

- Groundwater flow, and hence contaminant migration, within the aquifer unit is driven predominantly by groundwater recharge in the area southeast of the former CCC/USDA facility and by inferred groundwater discharge to the intermittent stream west of the Nigh property.

- Groundwater flow and contaminant migration are relatively less effective in the vicinity of the Nigh property than elsewhere because of an identified zone of dry till southeast of the property and a general reduction in the frequency and thickness of permeable materials within the aquifer unit in this area.

- Variations in groundwater levels and hydraulic gradients in the area to the west of the Nigh property are moderated, showing less dramatic responses to local recharge events than those in the southeastern portion of the study area. These conditions reflect the damping effects of the upgradient zone of more restricted groundwater flow described above, coupled with the inferred influence of groundwater discharge to the nearby intermittent stream at the western boundary of the study area.

To test this interpretation, geochemical data for groundwater samples collected across the investigation site were evaluated as possible indicators of (1) groundwater-surface water interactions and (2) the relative mobility of groundwater within the aquifer unit.

4.2.3 Geochemical Evidence of Migration Patterns

Nitrate concentrations and tritium isotope compositions of groundwater samples collected during Phase II (and Phase I) were determined to evaluate the interpretation of factors affecting groundwater migration outlined in Sections 4.2.1 and 4.2.2. These parameters were selected to serve as potential independent geochemical “tracers” of the origins of groundwater within the Everest aquifer unit and hence to assist in the potential identification of the groundwater flow patterns affecting contaminant migration pathways.

Nitrate is frequently identified as a groundwater contaminant in the rural areas of Kansas and Nebraska because of the widespread application of agricultural fertilizers. Experience has demonstrated, however, that the investigation of nitrate distribution can in some cases be indicative of the relative degree of surface water influx and subsequent migration patterns within the groundwater flow system. The maximum nitrate concentrations identified at all sampled locations at Everest (Appendix F, Table F.3) are shown in Figure 4.15. Nitrate concentrations were elevated at all sampling locations and exceeded the MCL of 10 mg/L for this compound at most of the locations. The concentrations showed no clear trend of variation across the site, indicating that the infiltration of surface water and subsequent migration of groundwater containing nitrate has occurred fairly ubiquitously within the aquifer unit over time. Consideration of the data for locations where groundwater samples were collected at multiple depth intervals (Table F.3, Appendix F) indicates, however, that the distribution of nitrate concentrations within the aquifer unit at any given location is not clearly correlated with increasing depth. This observation is qualitatively consistent with the interpretation that groundwater (and contaminant) migration occurs within the aquifer unit via a complex network of more permeable and less permeable materials that do not generally define discrete, laterally continuous migration pathways.

Tritium is the unstable isotope of hydrogen that has become enriched in precipitation after the years of atmospheric nuclear testing that began in 1951 (Clark and Fritz 1997). Precipitation that formed in the atmosphere prior to nuclear weapons testing and subsequently might have entered groundwater systems is not enriched with tritium and has tritium concentration values typically near zero, while groundwater derived from precipitation in the last 50 yr has elevated tritium values. According to Clark and Fritz (1997), tritium values < 0.8 TU for groundwater in continental regions are indicative of submodern water (recharged prior to 1952), while values from 0.8 TU to about 4 TU represent mixtures of submodern and recent recharge.

The spatial distribution of tritium values for the groundwaters sampled at the Everest site (Appendix F, Table F.4) is shown in Figure 4.16. For locations where groundwater samples were collected at multiple depths, the maximum and minimum tritium concentrations detected have been plotted to provide an indication of the most enriched (and hence isotopically "youngest") and least enriched (isotopically "oldest") groundwater within the aquifer unit at that point in the groundwater flow field. The results of the analyses indicate that, although the variation in the range of tritium values across the site is considerable, elevated levels of tritium (> 5 TU) are most consistently observed in the southeastern portion of the study area (in the vicinity of the former CCC/USDA facility). This distribution, in conjunction with the hydraulic head relationships described in Section 4.2.2, supports the interpretation that significant recharge of the Everest aquifer unit by the infiltration of recent precipitation occurs locally within or near the southeastern portion of the Everest study area.

In contrast, very low tritium concentrations (< 2 TU and frequently < 1 TU) were detected primarily near the Nigh property and in several individual sandy lenses immediately northeast of the Nigh property. These low tritium concentrations generally coincide with the area of reduced sand abundance and increased hydraulic gradient identified within the aquifer unit (Sections 4.2.1 and 4.2.2), again supporting the interpretation that groundwater and contaminant migration are not precluded in this area but are relatively less effective because of a reduction in the net effective transmissivity of the aquifer unit near the Nigh property. In this area particularly, groundwater and contaminant migration are expected to occur via a complex, more sparsely distributed, less interconnected permeability network.

Analyses of groundwater samples for VOCs, which act as indicators of the specific migration pathways for the contaminants associated with the former CCC/USDA facility and the former grain storage facility on the Nigh property, are discussed in Section 4.3. Selected groundwater samples were analyzed for petroleum and drilling-related heavy metals as other possible indicators of contaminant migration pathways uniquely associated with the Nigh property. The interpretation of these results is in Section 4.4.

4.3 Delineate the Distribution of the Carbon Tetrachloride Plume

Groundwater sampling to delineate the extent of the groundwater contamination at Everest was guided by the hydrogeologic interpretation of the aquifer unit and groundwater flow patterns presented in Section 4.2. Groundwater sampling was performed by using the ECPT to collect samples over discrete water-bearing intervals, selected on the basis of the core and ECPT sensor log analyses for each boring, to provide a vertical profile of the contaminant distribution within the till complex at each location. Because the sampling was targeted in this manner, the number of samples collected and the specific depth interval(s) sampled differed at each location. The complete results of the sampling and VOC analyses are in Appendix F, Table F.5.

The spatial distributions of carbon tetrachloride and chloroform in groundwater across the Everest investigation site are mapped in Figures 4.17 and 4.18, respectively. In each case, the lateral margins of the plumes were interpreted on the basis of sampling locations with no detectable contaminant concentrations. The vertical distribution of carbon tetrachloride within the aquifer along section line A-A´ (see Figure 4.5), which intersects the main body of the plume to the southeast at the former CCC/USDA facility and to the northwest near the Nigh property, is shown in Figure 4.19.

Both contaminants define plumes that initially extend north-northwestward from the former CCC/USDA facility, then turn abruptly westward and become narrower in the vicinity of and downgradient from the Nigh property. Although the resulting “dogleg” bend in the carbon tetrachloride (and chloroform) plume appears unusual, the observed distribution corroborates the interpretation of lithologic and hydrologic controls on groundwater and contaminant migration developed in Section 4.2. The diversion of the migration pathways to the north-northwest from the former CCC/USDA facility and the absence of contamination immediately south and southeast of the Nigh property are consistent with (1) the identified region of dry tills and the lack of saturated sandy materials southeast of the Nigh property and (2) the presence of thicker, more permeable channel deposits beneath and to the north of the former CCC/USDA facility (Figure 4.19). The apparent lateral constriction of the plume in the vicinity of the Nigh property and the relatively rapid decrease in concentrations downgradient to the west are similarly in keeping with the interpretation of more restricted groundwater flow and contaminant migration through these areas, as discussed in Section 4.2.

The results of these analyses indicate that groundwater contaminated with carbon tetrachloride and chloroform has not affected the intermittent stream at the western margin of the study area. The hydrogeologic relationships discussed in Section 4.2 demonstrate, however, that this stream represents a probable future location for contaminant discharge to the surface. The VOC analyses of water samples collected from multiple locations having persistent (during the period of Argonne’s Phase II investigations) standing water within the stream bed, as well as from several surface runoff locations identified near and to the southwest of the former

CCC/USDA facility (Figure 3.13), confirmed that the surface waters within the study area are presently free of VOC contamination.

4.4 Investigate for Indications of Possible Groundwater Contamination Associated with the Former Private Grain Storage Facility on the Nigh Property

Phase I of the investigation at Everest identified carbon tetrachloride contamination in vegetation and near-surface soils on the Nigh farmstead, in association with the locations of several private grain storage structures formerly on this property. This information, in conjunction with the results of VOC analyses of groundwater samples collected both on and upgradient of the Nigh property during the second session of Phase II field work, indicates that the potential exists for intermingling of carbon tetrachloride contamination in groundwater that might originate from both the former Everest CCC/USDA facility and the private grain storage facility formerly on the Nigh property. This potential was confirmed by the final delineation of the plume, described in Section 4.3, which was completed during the third Phase II field session. As shown in Figure 4.17, an apparently continuous plume of carbon tetrachloride extends downgradient, to the north-northwest, from the former CCC/USDA facility. This plume passes beneath the contaminated Nigh property and continues downgradient approximately 800 ft to the west of the Nigh property.

The Phase II investigation was suspended in 2001 (after the second field session), and a title search was performed to document the ownership and land use history of the Nigh property. The results of this activity indicate that, in addition to its former use for grain storage, the Nigh property was leased for petroleum exploration in 1938-1943. No records were discovered, however, indicating that any petroleum-related activities actually took place there.

In light of these findings, the following investigations were performed in Phase II to identify possible evidence of groundwater contamination that might be associated with the Nigh property but cannot also be readily linked to the former Everest CCC/USDA facility:

- An examination for potentially anomalous patterns of carbon tetrachloride distribution in the vicinity of the Nigh farmstead, which might indicate a contribution of the contaminant from the Nigh property.

- Analysis of selected groundwater samples for petroleum compounds and heavy trace metals found in drilling fluid additives that might serve as chemical “tracers” of contaminant migration pathways originating from the Nigh property.

The carbon tetrachloride distribution in Figure 4.17 shows no anomalous increases in concentrations and no divergence from the interpretation of migration pathways presented in Section 4.2 that might distinguish groundwater contamination originating from the Nigh property. The carbon tetrachloride concentrations identified show a consistent pattern of fairly rapid decline with distance downgradient from the Nigh property. These observations provide no clear evidence of a carbon tetrachloride contribution to the groundwater from the contaminated soils at the Nigh property; however, such a contribution equally cannot be ruled out on the basis of these data.

The locations of groundwater samples analyzed for petroleum hydrocarbons and heavy trace metals (specifically barium and vanadium) found in drilling fluid additives are shown in Figure 3.14 with the results of the analyses. Low concentrations of diesel fuel (< 1 mg/L) and motor oil, possibly associated with the operation of the diesel-powered ECPT and Geoprobe vehicles used for sample collection, were identified in all of the groundwater samples analyzed for these contaminants (Table F.6, Appendix F). Concentrations of barium exceeding the quantitation limit for this compound (Table F.7, Appendix F) were detected at three locations (SB49, SB51, SB52); vanadium was not identified at quantifiable levels in any of the groundwater samples analyzed. The results of these analyses again provide no definitive evidence of potential groundwater contamination or contaminant migration pathways that can be uniquely associated with an origin on the Nigh property.

4.5 Summary

The Phase II investigation at Everest accomplished the technical objectives established in Section 1, as indicated below:

- *Objective 1.* Confirm an association of carbon tetrachloride contamination with the former Everest CCC/USDA facility.

- Patterns of carbon tetrachloride (determined by headspace analysis) in near-surface soils at the former CCC/USDA facility showed three areas of potential subsurface soil contamination, associated with the three lines of grain storage bins formerly located at the facility.

- Analysis (by purge-and-trap GC-MS) of subsurface soil samples from borings SB23 and SB34, in the southeastern and northeastern portions of the former facility, respectively, confirmed low levels of carbon tetrachloride contamination (10-23 μg/kg) in the vadose zone soils at these locations.

- Calculations indicate that there is no health risk from near-surface soils at the former Everest CCC/USDA facility.

• *Objective 2.* Characterize the hydrogeologic factors controlling contaminant migration.

- Hydraulic communication exists throughout most of the saturated portions of unit 3b, via a complex network of discontinuous sandy channels, stringers, and lenses enclosed within variably permeable and/or fractured sandy clay till.

- Groundwater flow, and hence contaminant migration, within the aquifer unit is driven predominantly by groundwater recharge in the area southeast of the former CCC/USDA facility, as well as by probable groundwater discharge to the intermittent stream west of the Nigh property.

- Hydrogeologic and topographic relationships near the intermittent stream suggest that it represents a surface water and groundwater divide and hence a potential natural hydraulic boundary to westward groundwater flow (and contaminant migration) from the former CCC/USDA facility and the Nigh property.

- Groundwater flow and contaminant migration are relatively less effective in the vicinity of the Nigh property because of an identified zone of dry till southeast of the property, plus a general reduction in the frequency and thickness of permeable materials within the aquifer unit in this area.

- Variations in groundwater levels and hydraulic gradients in the area to the west of the Nigh property are moderated by the coupled damping effects of the upgradient zone of more restricted groundwater flow described above and inferred groundwater discharge to the nearby intermittent stream.

- *Objective 3*. Delineate the distribution of the carbon tetrachloride plume.

  - A continuous plume of carbon tetrachloride extends downgradient to the north-northwest from the former Everest CCC/USDA facility, passes beneath the contaminated Nigh property, and continues downgradient approximately 800 ft to the west of the Nigh property.

  - Although the “dogleg” form of the carbon tetrachloride plume appears unusual, the observed distribution is consistent with the interpretation of lithologic and hydrologic controls on groundwater and contaminant migration developed under objective 2.

  - Carbon tetrachloride contamination has not affected the intermittent stream at the western margin of the study area; however, this stream represents a probable future location for contaminant discharge to the surface.

- *Objective 4.* Investigate for indications of possible groundwater contamination associated with the former private grain storage facility on the Nigh property.

  - Carbon tetrachloride contamination detected in vegetation and near-surface soils on the Nigh farmstead (during Phase I of this investigation) identified this property as a potential source of contamination to groundwater at Everest.

  - The mapped configuration of the groundwater plume is consistent with a potential contribution of carbon tetrachloride from the Nigh property; however, no clear evidence of such a contribution could be distinguished.

  - No conclusive evidence was found for groundwater contamination by petroleum hydrocarbons or trace metals found in drilling fluids that might have been associated with former leasing of the Nigh property for petroleum exploration.

FIGURE 4.1 Locations of grain bins at the former Everest CCC/USDA facility in 1966, with interpreted pattern of carbon tetrachloride from headspace analyses of shallow (0.9-1.2 ft BGL) near-surface soil samples and locations where subsurface soils were collected with the electronic cone penetrometer. (Source of aerial photograph: USDA 1966.)

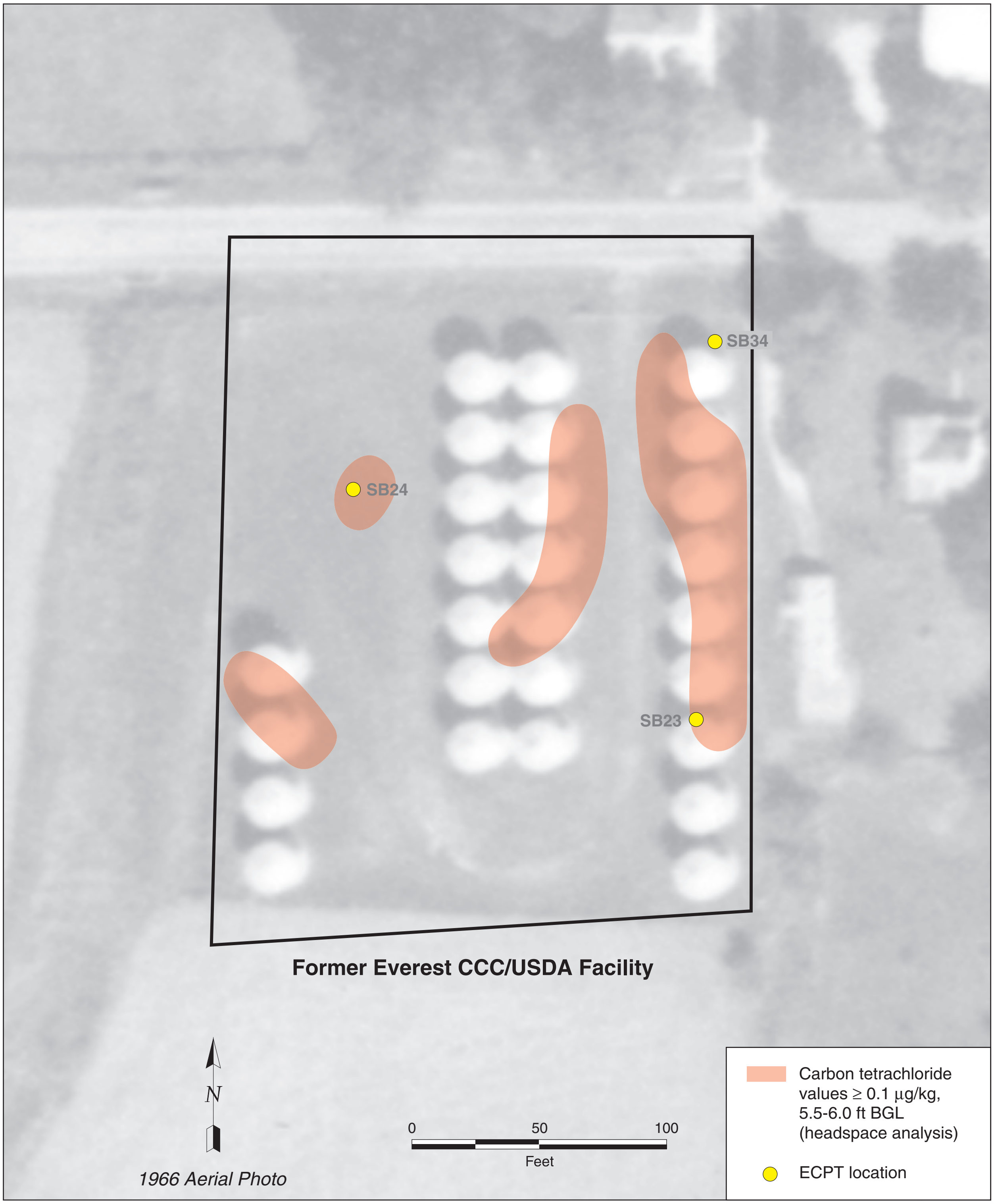

FIGURE 4.2 Locations of grain bins at the former Everest CCC/USDA facility in 1966, with interpreted pattern of carbon tetrachloride from headspace analyses of deeper (5.5-6.0 ft BGL) near-surface soil samples and locations where subsurface soils were collected with the electronic cone penetrometer. (Source of aerial photograph: USDA 1966.)

FIGURE 4.3 Results of purge-and-trap analyses of subsurface soil samples from the former CCC/USDA facility for carbon tetrachloride and chloroform, displayed by depth on lithologic logs for SB23, SB24, and SB34.

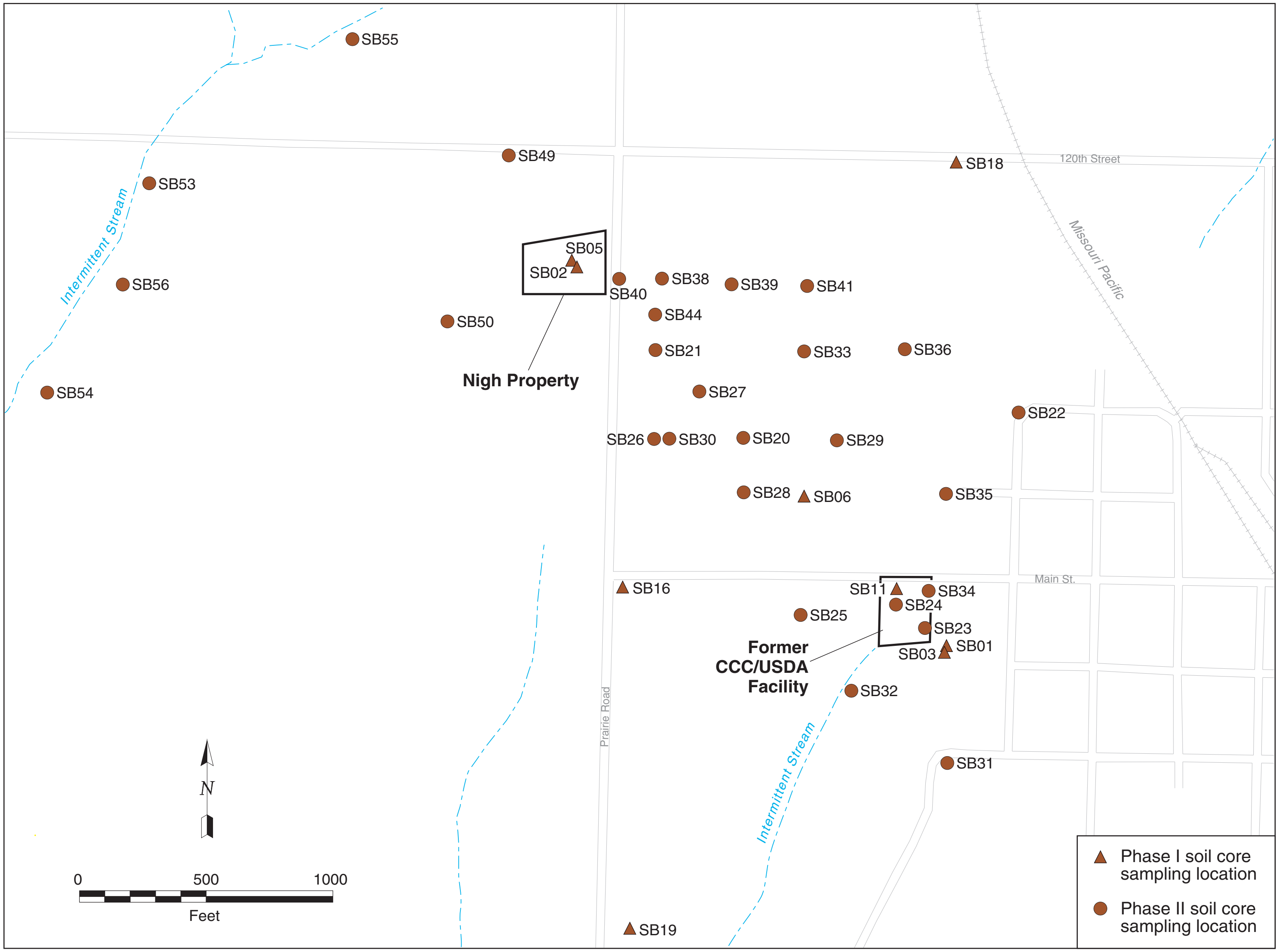

FIGURE 4.4 Locations of all borings in the western part of Everest at which lithologic cores were collected in Phase I and Phase II, with locations of the former CCC/USDA facility and the Nigh property.

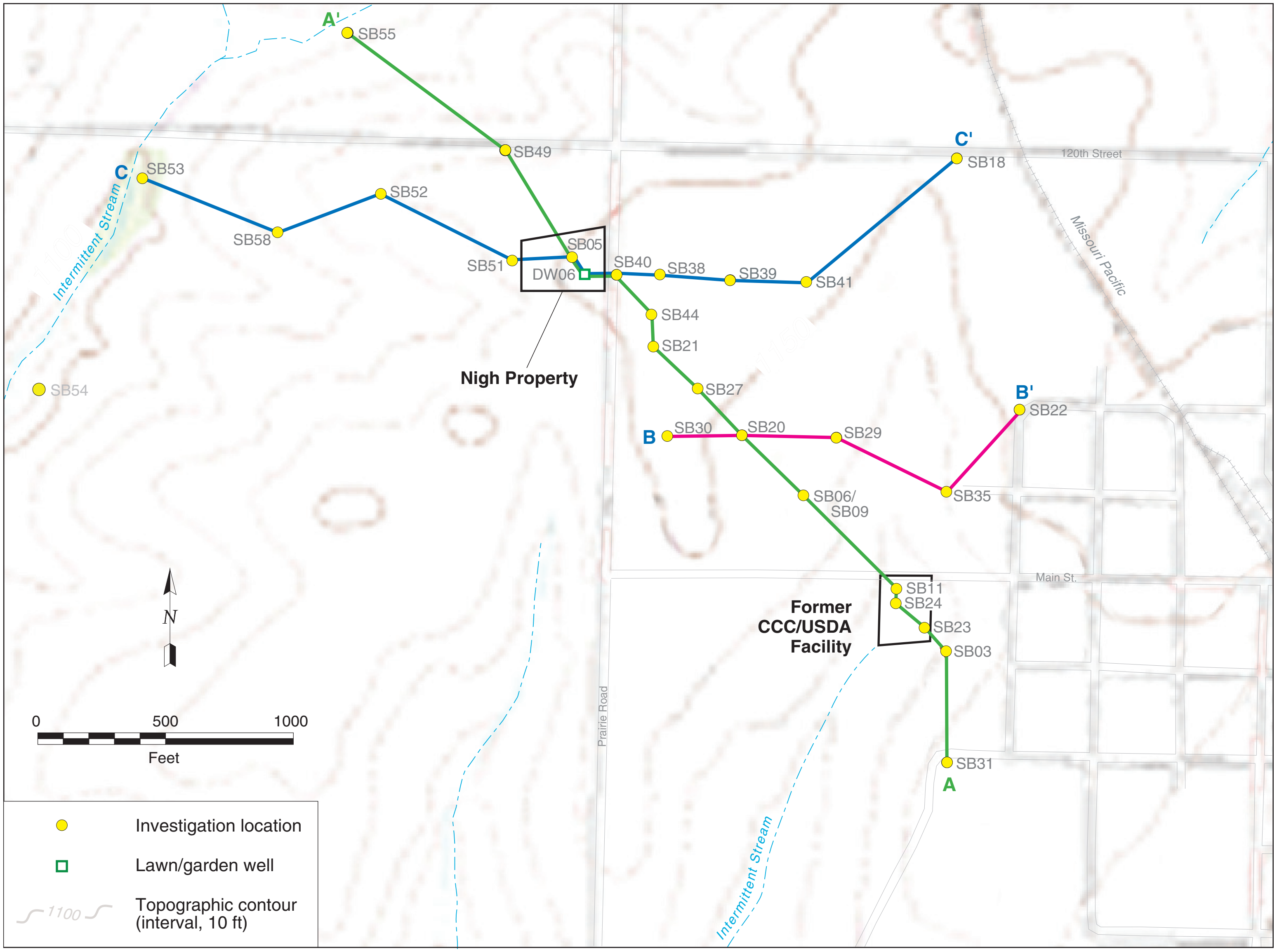

FIGURE 4.5 Locations of selected Phase I and Phase II investigative activities; Phase II vertical hydrogeologic cross sections A-A´, B-B´, and C-C´; the former CCC/USDA facility; and the Nigh property in the western part of Everest.

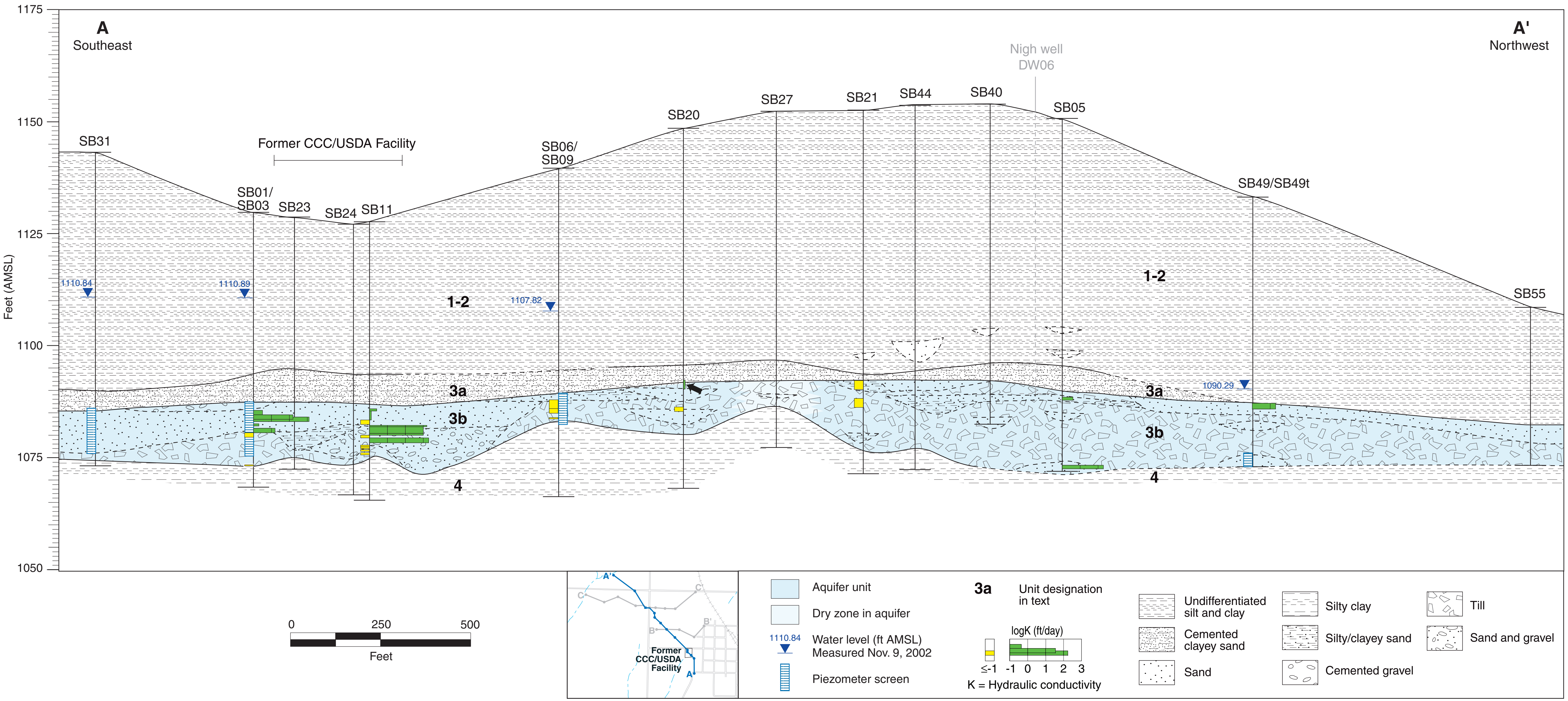

FIGURE 4.6 Aquifer unit and estimates of hydraulic conductivities in the western part of Everest, displayed on interpretive southeast-to-northwest hydrogeologic cross section A-A´ (vertically exaggerated).

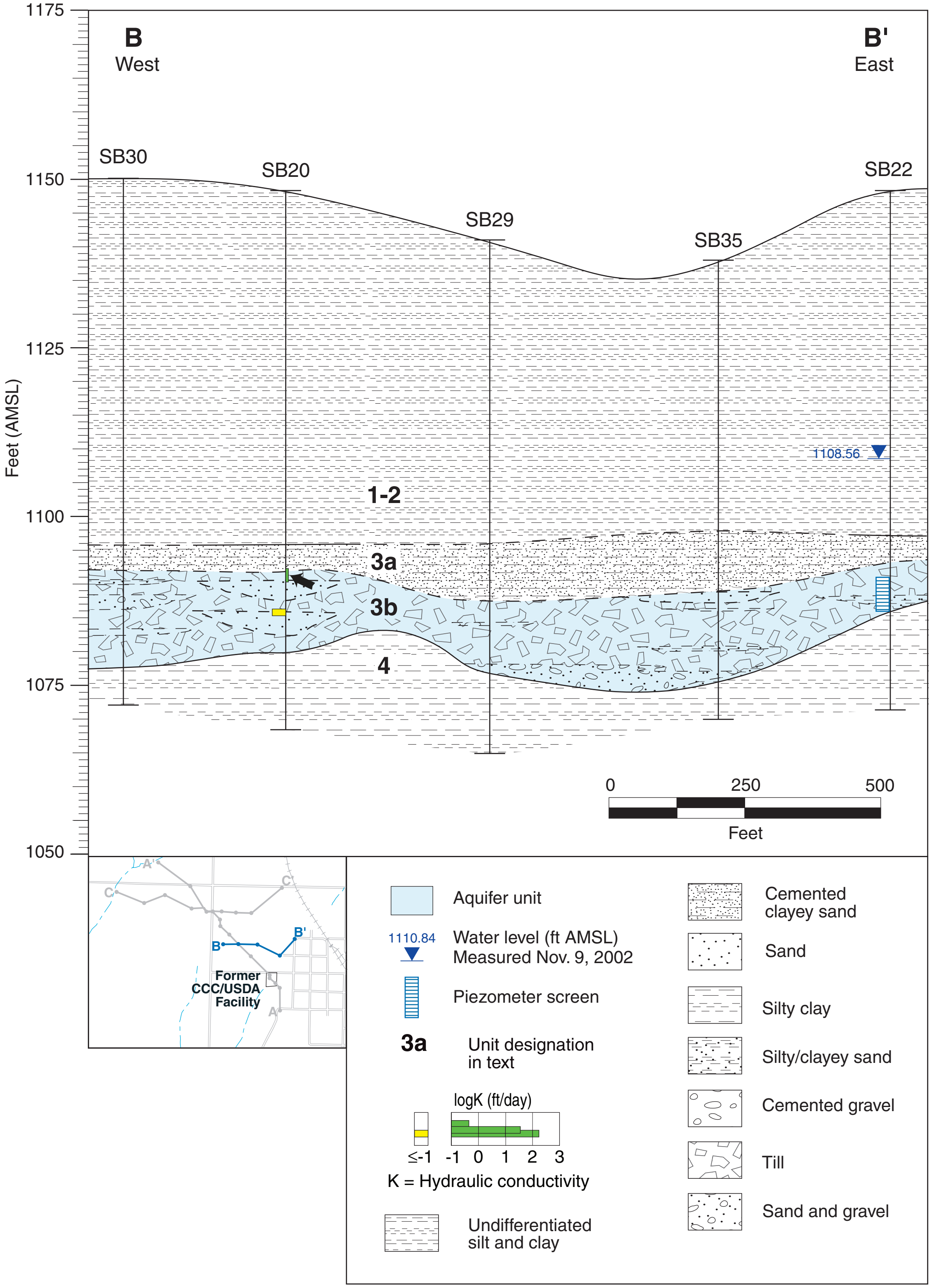

FIGURE 4.7 Aquifer unit and estimates of hydraulic conductivities in the western part of Everest, displayed on interpretive west-to-east hydrogeologic cross section B-B´ (vertically exaggerated).

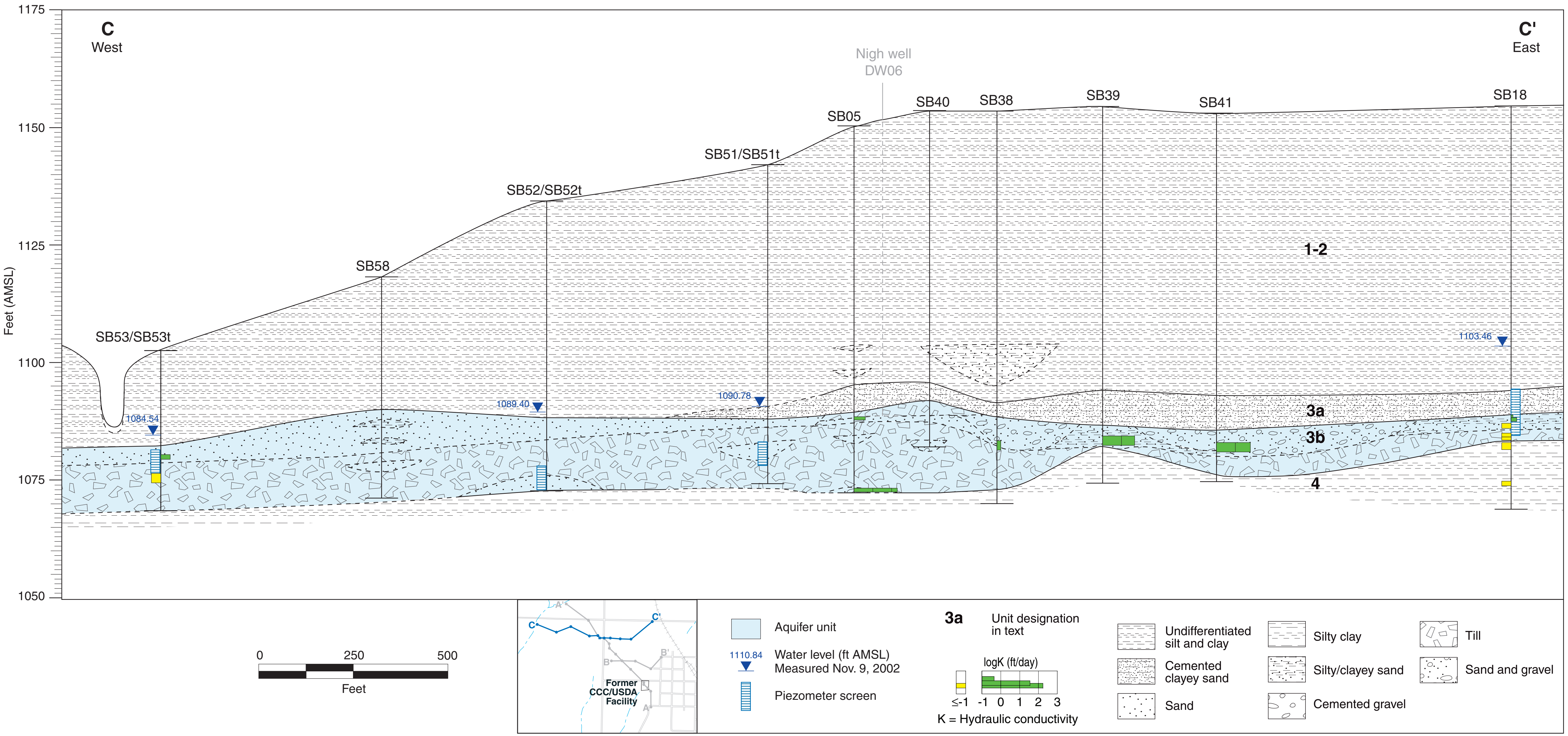

FIGURE 4.8 Aquifer unit and estimates of hydraulic conductivities in the western part of Everest, displayed on interpretive west-to-east hydrogeologic cross section C-C´ (vertically exaggerated).

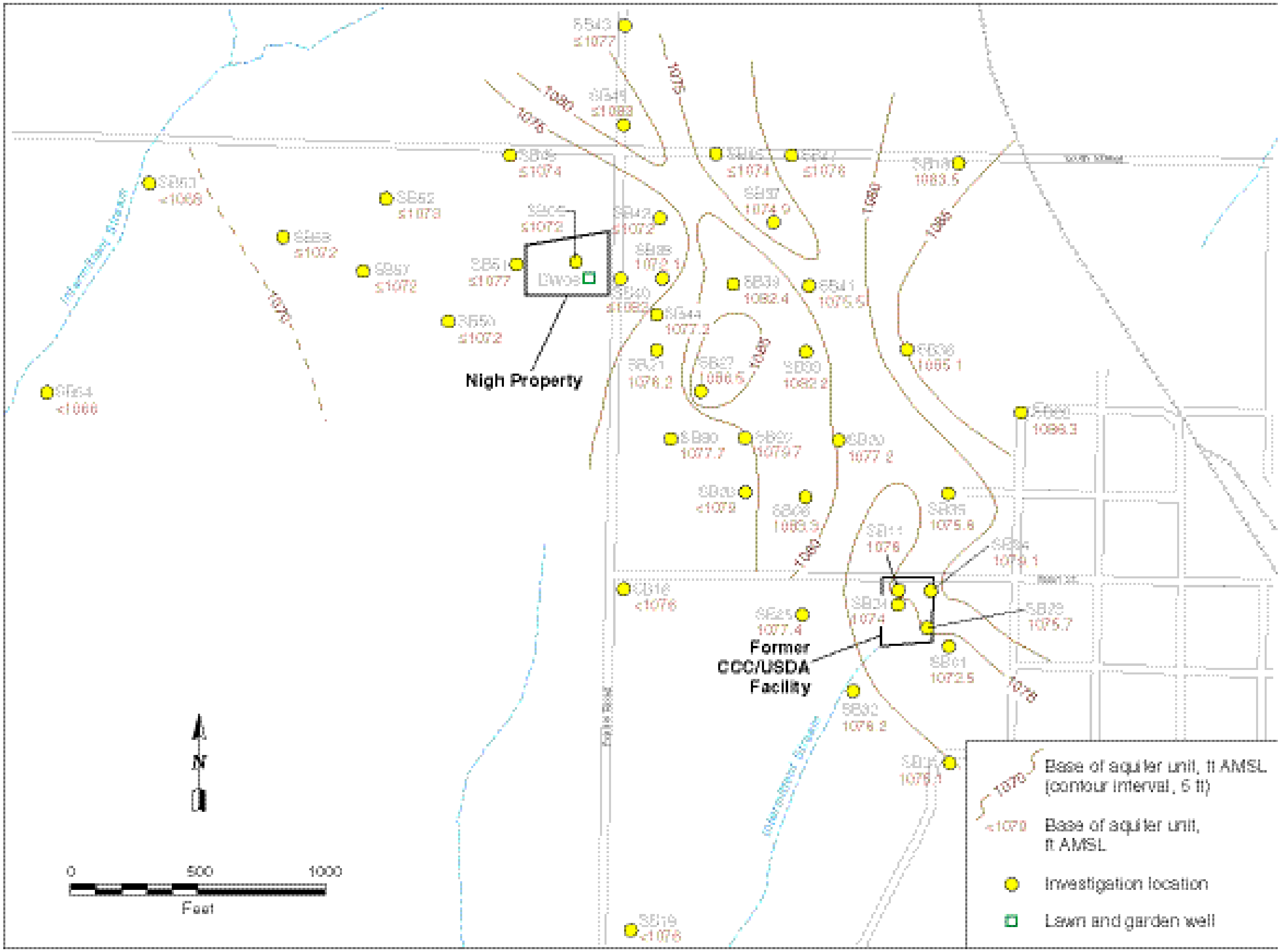

FIGURE 4.9 Interpretive structural contour map at the base of the Everest aquifer unit in the western part of Everest. Values shown as < or ≤ represent depths at which the cone penetrometer met refusal.

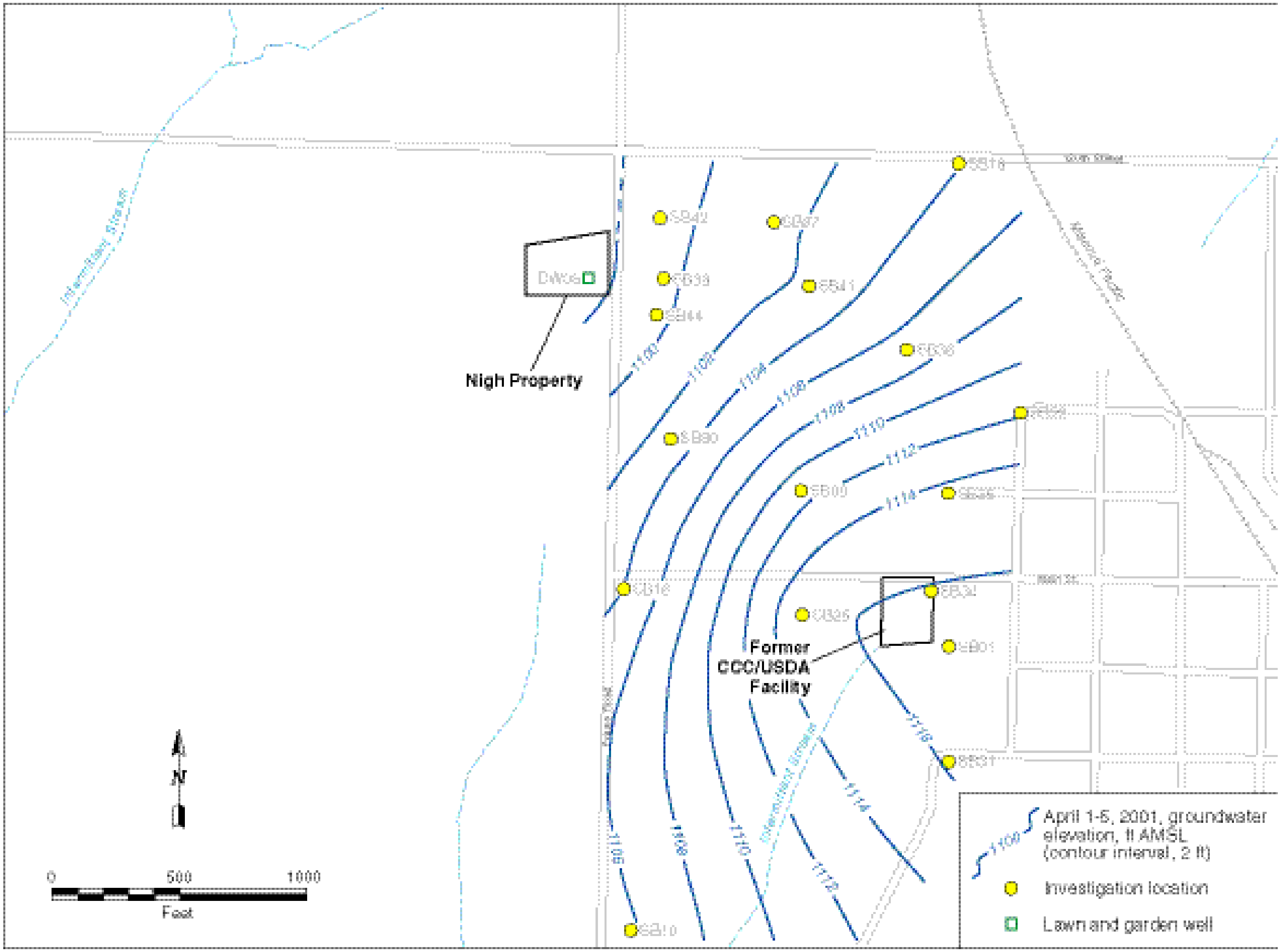

FIGURE 4.10 Potentiometric surface for the aquifer unit in the western part of Everest on April 1-5, 2001, with locations of the former CCC/USDA facility and the Nigh property.

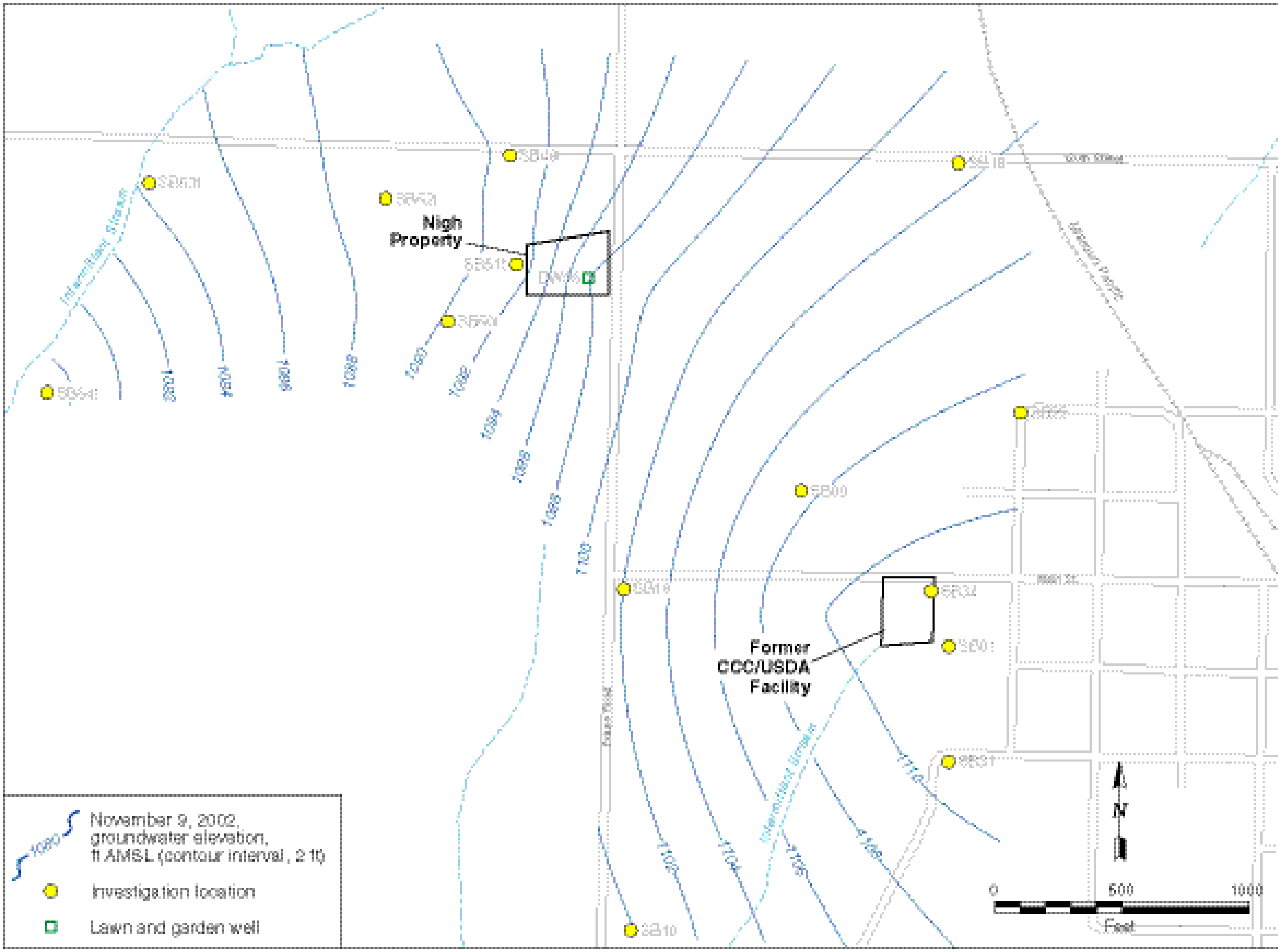

FIGURE 4.11 Potentiometric surface for the aquifer unit in the western part of Everest on November 9, 2002, with locations of the former CCC/USDA facility and the Nigh property.

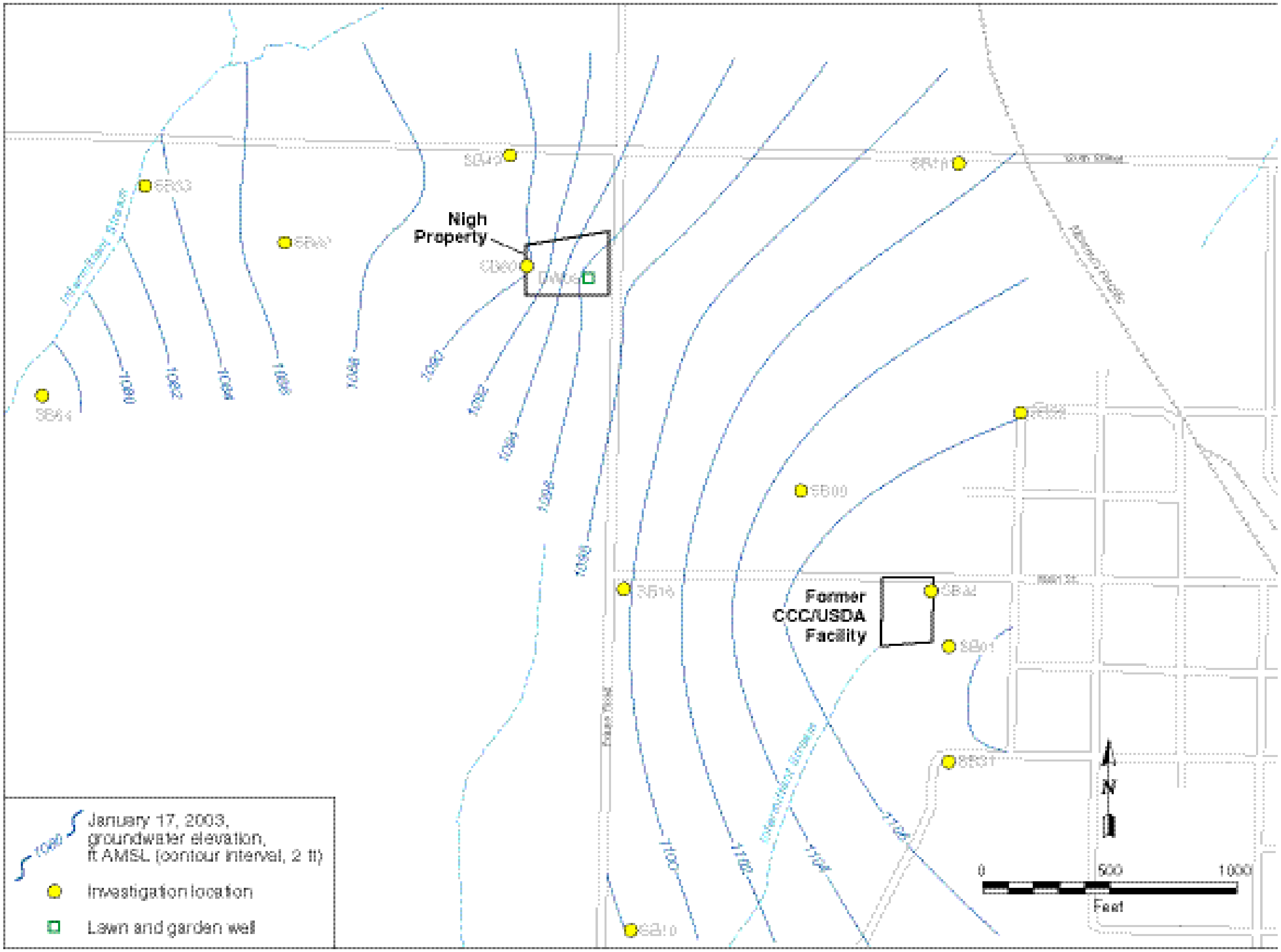

FIGURE 4.12 Potentiometric surface for the aquifer unit in the western part of Everest on January 17, 2003, with locations of the former CCC/USDA facility and the Nigh property.

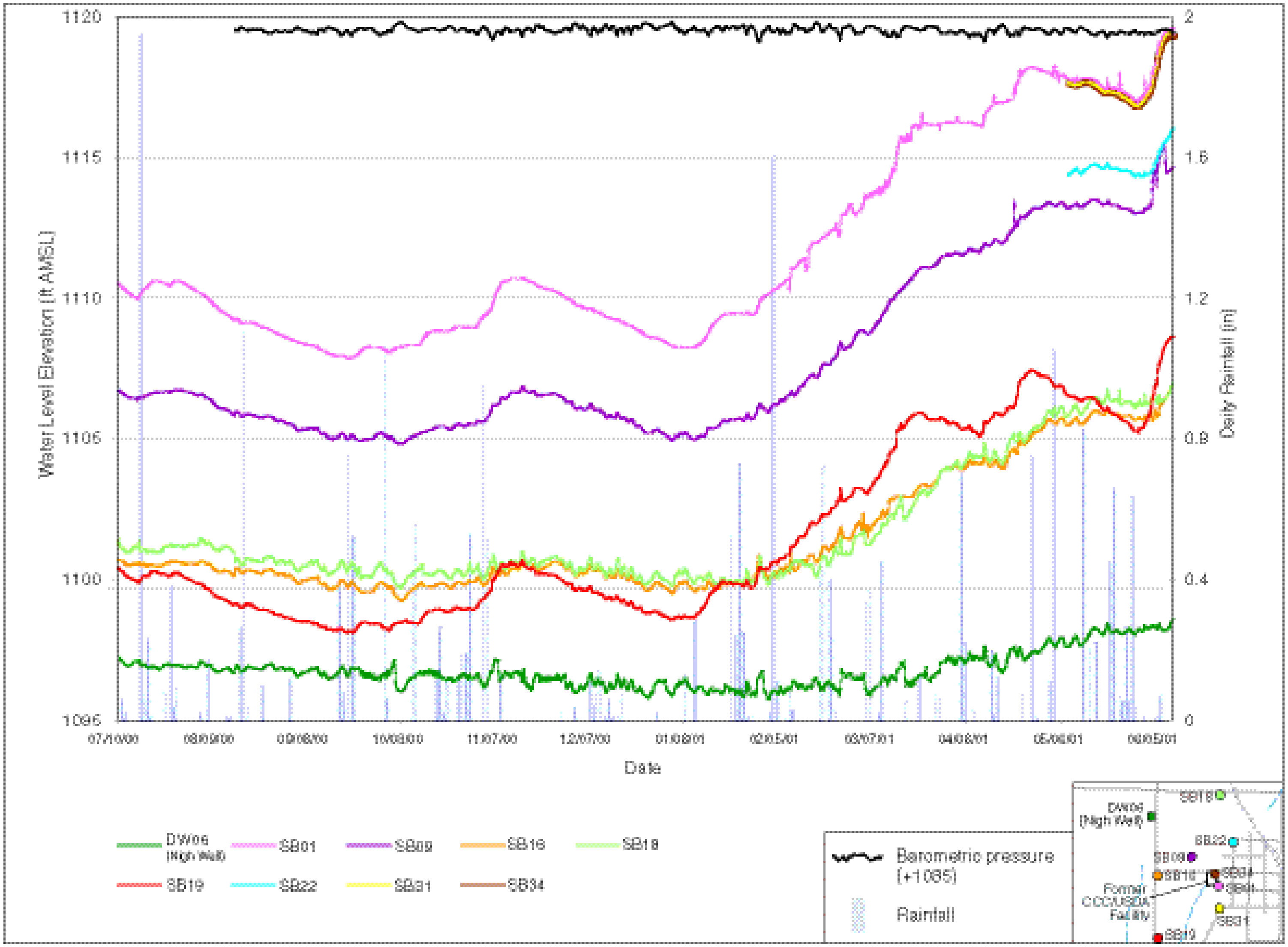

FIGURE 4.13 Hydrographs from the Everest water level monitoring network, with barometric pressure and daily precipitation recorded at Horton, Kansas, from July 10, 2000, to June 11, 2001. (Complete data for July 10, 2000, to August 16, 2000, were reported previously [Argonne 2001]; subsequent data are in Appendix D, Table D.3, of the present report.)

FIGURE 4.14 Hydrographs from the Everest water level monitoring network, with daily precipitation recorded at Horton, Kansas, from November 21, 2002, to January 17, 2003. (Complete data are in Appendix D, Table D.5, of the present report.)

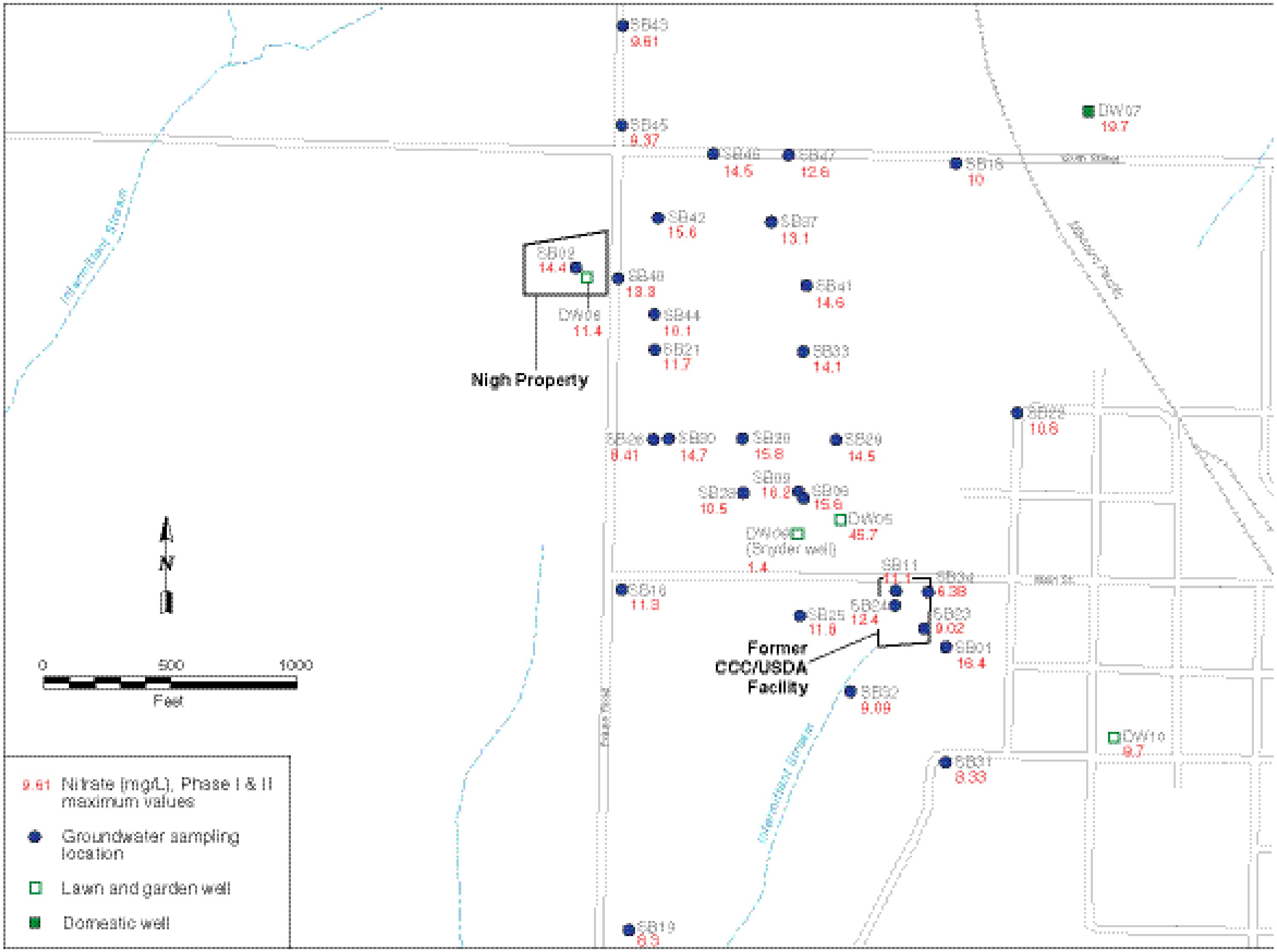

FIGURE 4.15 Locations of groundwater samples collected during Phase I and Phase II in the western part of Everest and results of analyses of these samples for nitrate (highest value recorded at each location), with locations of the former CCC/USDA facility and the Nigh property.

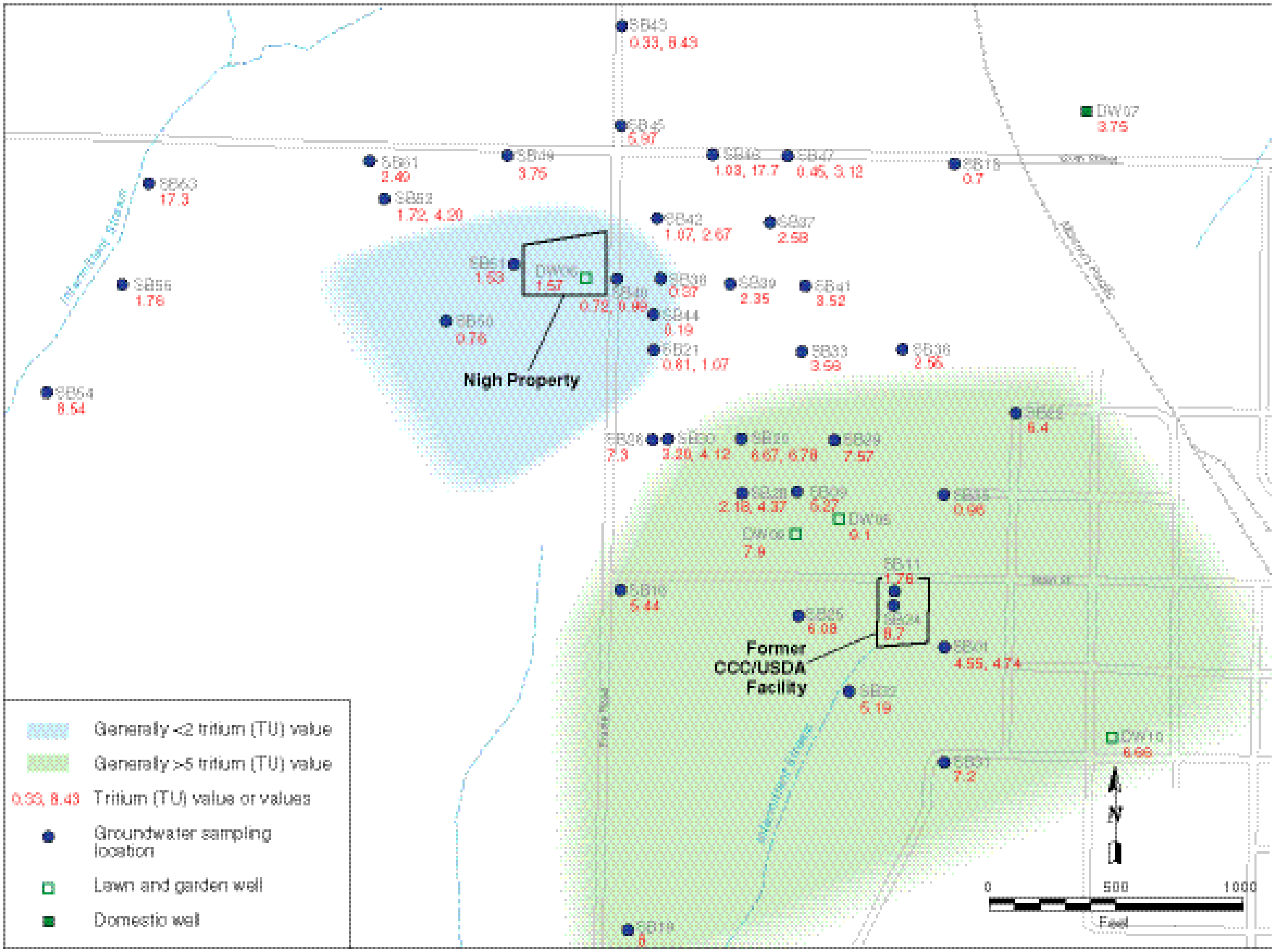

FIGURE 4.16 Locations of selected Phase I and Phase II groundwater samples from the western part of Everest and the results of analyses of these samples for tritium (highest and lowest values recorded at locations with multiple samples), with locations of the former CCC/USDA facility and the Nigh property.

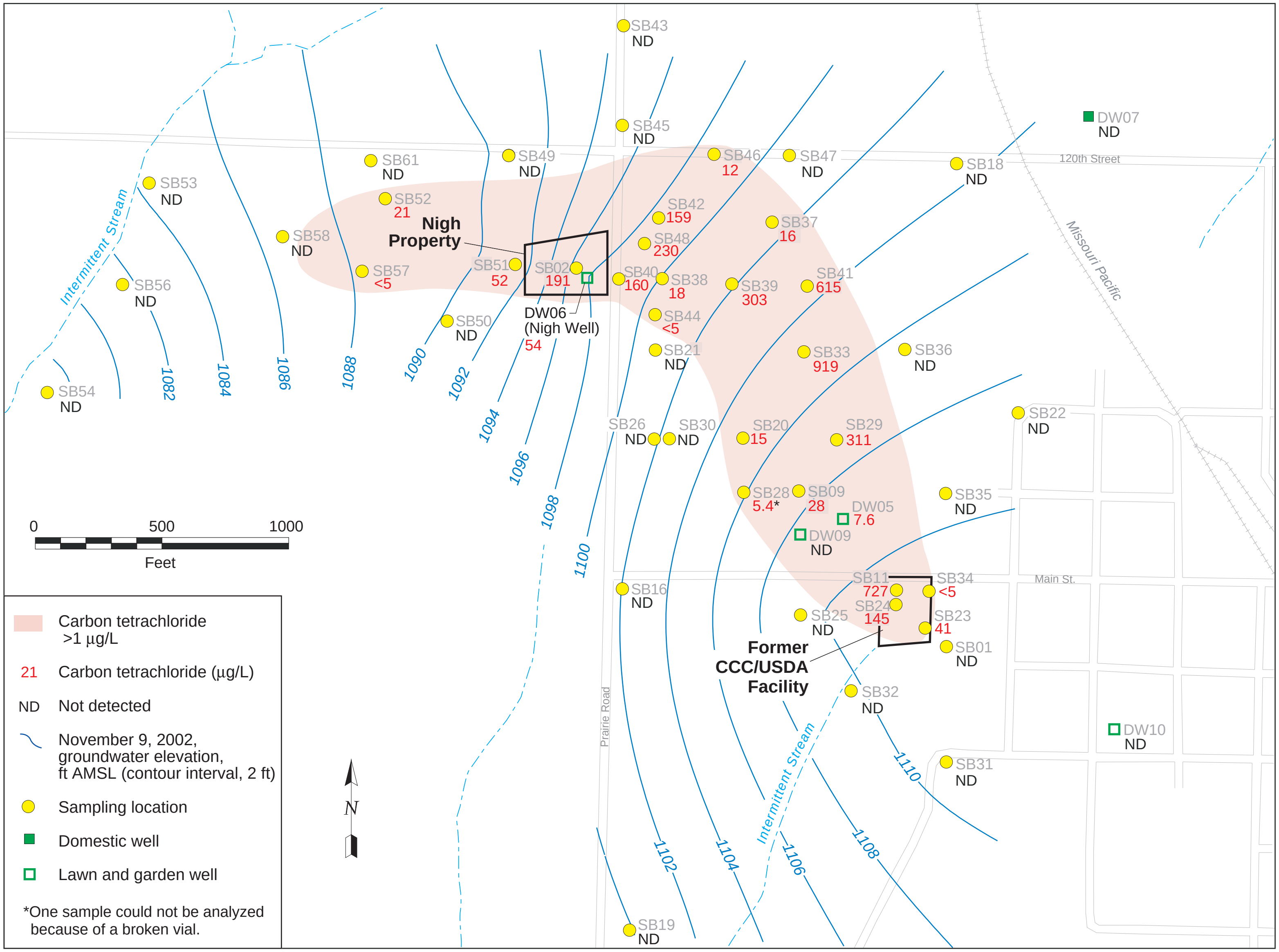

FIGURE 4.17 Locations of Phase I and Phase II groundwater samples from the aquifer unit in the western part of Everest and results of analyses of these samples for carbon tetrachloride (highest value recorded at each location), with locations of the former CCC/USDA facility and the Nigh property and groundwater elevations on November 9, 2002.

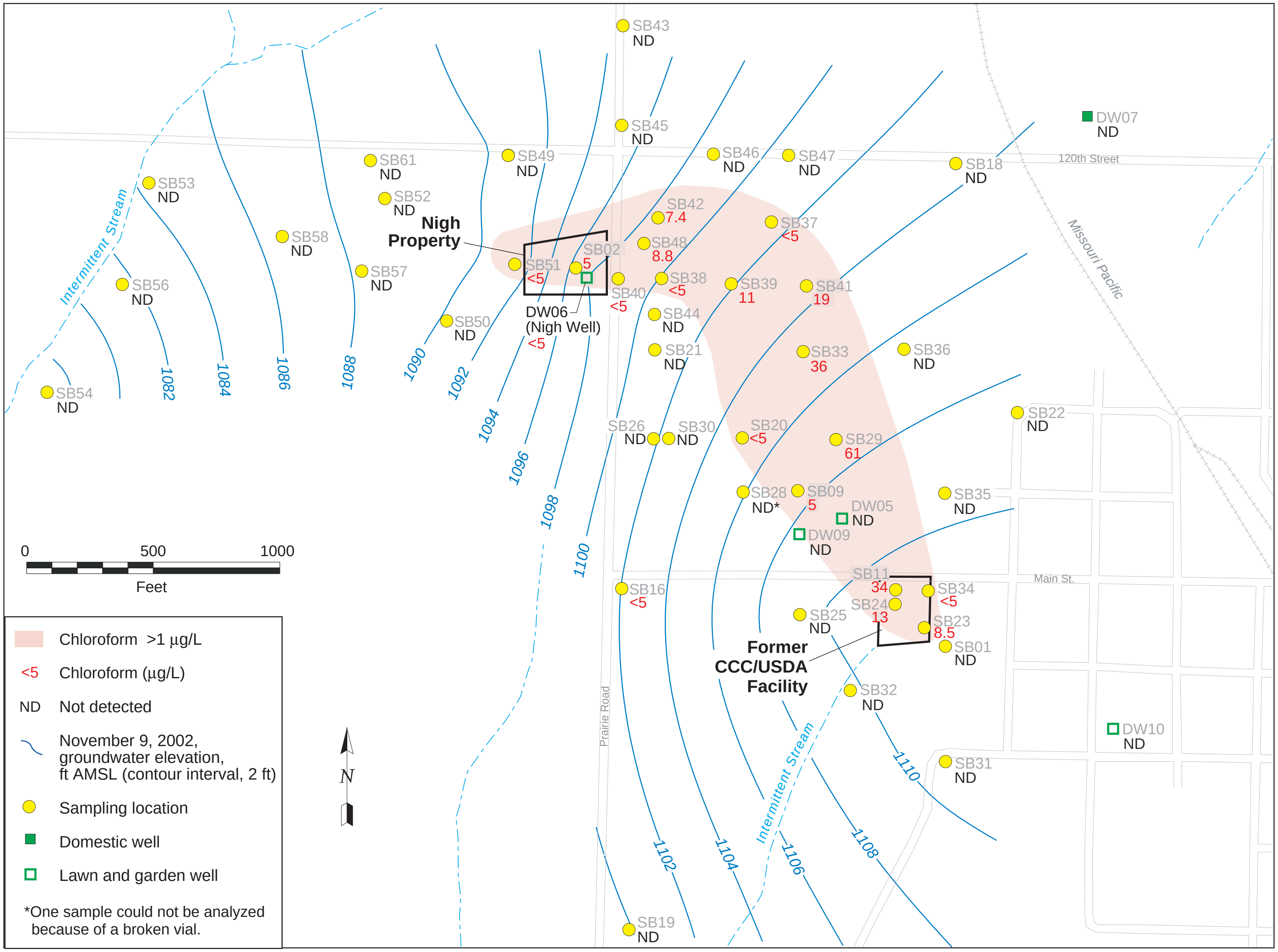

FIGURE 4.18 Locations of Phase I and Phase II groundwater samples from the aquifer unit in the western part of Everest and results of analyses of these samples for chloroform (highest value recorded at each location), with locations of the former CCC/USDA facility and the Nigh property and groundwater elevations on November 9, 2002.

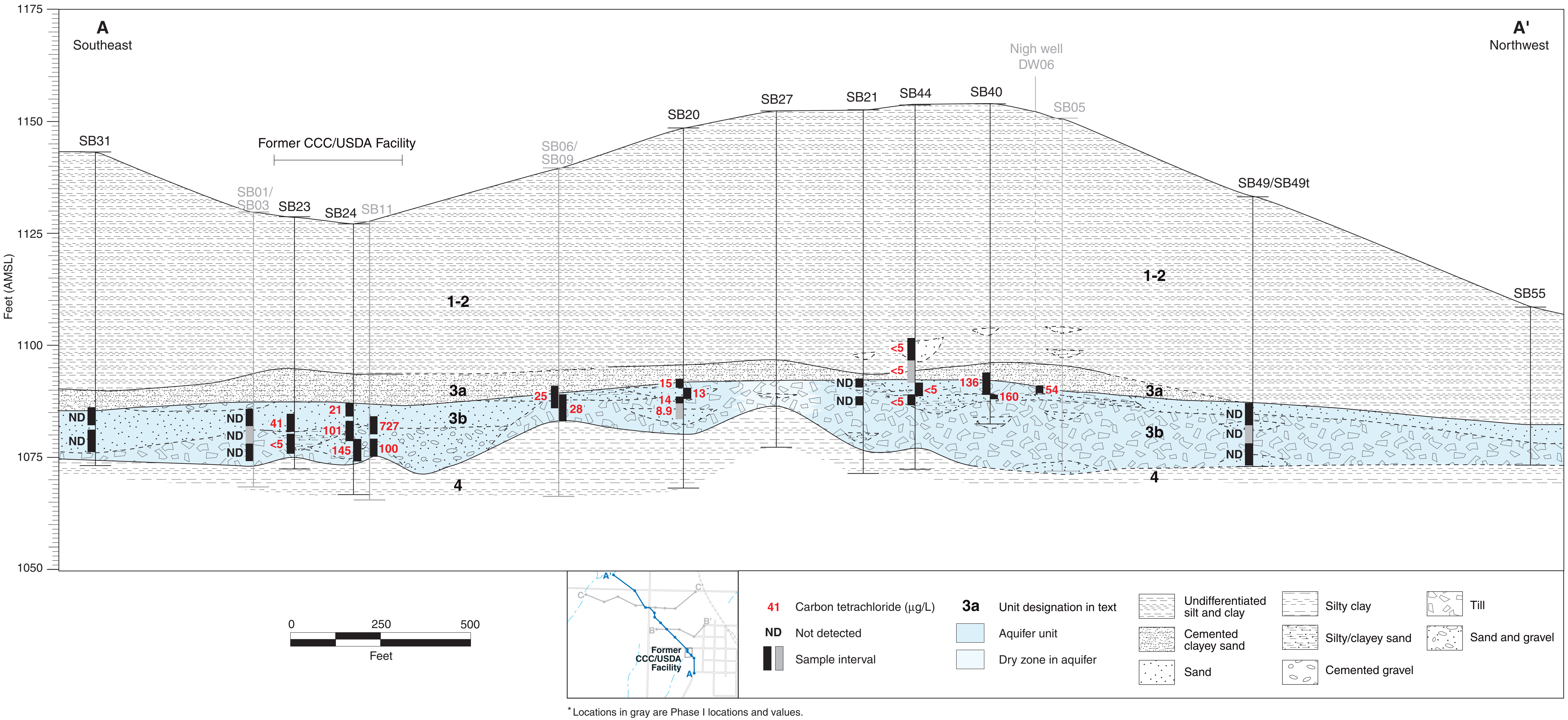

FIGURE 4.19 Distribution of carbon tetrachloride in groundwater in the aquifer unit at Everest during Phase I and Phase II sampling, displayed on southeast-to-northwest cross section A-A´ (vertically exaggerated).

5 Conclusions and Recommendations

5.1 Conclusions

The conclusions for each of the four technical objectives for the Everest Phase II investigation, as described in Section 1 and addressed during the first (October 24-25, 2000), second (March 6-April 6, 2001), and third (November 4-13, 2002) sessions of field work, are as follows:

1. *Confirm an association of carbon tetrachloride contamination with the former Everest CCC/USDA facility*. An association of carbon tetrachloride contamination with the soils at the former Everest CCC/USDA facility has been verified, on the basis of (1) an interpretation of headspace GC-ECD analyses for near-surface soils and (2) the identification of low levels (maximum 10-23 µg/kg) of carbon tetrachloride in subsurface (vadose zone) soils collected from borings SB23 and SB34 and analyzed by the purge-and-trap GC-MS methodology.

   Comparison of the Phase II analyses to the KDHE Tier 2 *Risk-Based Standards for Kansas* values for carbon tetrachloride and chloroform (KDHE 1999) indicates no apparent health risk (1) arising from exposure to the near-surface soils at the former facility or (2) associated with a potential continuing soil source of contamination to groundwater.

2. *Characterize the hydrogeologic factors controlling contaminant migration*. The three-dimensional geometry, hydrostratigraphy, and lithologic heterogeneity of the hydrogeologic framework controlling groundwater flow and contaminant migration at Everest have been characterized.

   Only one hydrostratigraphic unit of significance as an aquifer exists within the area of investigation at Everest. The complex of sand and sandy to gravelly clay till defined as stratigraphic unit 3b (and, locally, the lowermost clayey sands of overlying unit 3a) is the only permanently water-bearing unit. Hydraulic communication exists within the sediments via a complex network of generally saturated, discontinuous sandy channels, stringers, and lenses enclosed within relatively less permeable sandy clay till that is variably saturated. The term *aquifer unit* is invoked in this report to collectively represent the groundwater-bearing and unsaturated sediments within these intervals.

Groundwater flow, and hence contaminant migration, within the aquifer unit is driven by groundwater recharge in the area southeast of the former CCC/USDA facility, as well as by probable groundwater discharge to the intermittent stream at the western edge of the Phase II study area. Groundwater flow and contaminant migration are expected to occur at relatively lower rates in the vicinity of the Nigh farmstead because of an identified zone of dry till upgradient of the property (which causes northward diversion of the migration pathways leading from the former CCC/USDA facility), plus a general reduction in the frequency and thickness of permeable intervals in the aquifer unit in that area.

Groundwater levels and hydraulic gradients are interpreted to respond less dramatically to local recharge events in the area west of the Nigh property than in the southeastern portion of the study area. These conditions reflect the damping effects of the upgradient zone of more restricted groundwater flow described above, coupled with the probable influence of relatively local groundwater discharge to the nearby intermittent stream at the western boundary of the study area.

3. *Delineate the distribution of the carbon tetrachloride plume*. The lateral and vertical extent of the carbon tetrachloride plume at Everest has been documented. The continuous plume of carbon tetrachloride extends downgradient to the north-northwest from the former CCC/USDA facility at Everest, passes beneath and to the north of the contaminated Nigh property, and continues downgradient approximately 800 ft to the west of the Nigh property.

4. *Investigate for indications of possible groundwater contamination associated with the former private grain storage facility on the Nigh property*. The field and interpretive activities selected to address this objective were completed as planned.

Carbon tetrachloride contamination detected in vegetation and near-surface soils on the Nigh farmstead during Phase I of this investigation identified this property as a potential source of contamination to the groundwater at Everest. The groundwater plume that has been mapped, as described under objective 3, passes directly beneath the Nigh property and is therefore consistent with a potential contribution of carbon tetrachloride from these soils.

An analysis of the patterns of concentration distribution within the Everest groundwater plume did not yield conclusive evidence that the groundwater contamination originated from the Nigh property. Similarly, analyses of selected groundwater samples for suspected "tracer" contaminants other than carbon tetrachloride, possibly associated with former petroleum exploration activities on the Nigh property, were inconclusive and gave no indication of the trajectory of possible migration pathways originating from this property.

5.2 Recommendations and Technical Objectives for Further Investigation

The results of the Phase I and Phase II investigations at Everest have documented (1) an association of carbon tetrachloride contamination with the former CCC/USDA facility at the western margin of the town and (2) a plume containing carbon tetrachloride at concentrations exceeding the MCL for this contaminant (5 μg/L), extending downgradient from the former facility. The information obtained during these studies demonstrates that the residual concentrations of carbon tetrachloride identified in near-surface soils at the former facility pose no health threat and that no private wells currently being used for drinking water supply are affected by the existing plume. Argonne's interpretation of the hydrogeologic regime at Everest indicates, however, that continued groundwater flow and downgradient contaminant migration might result in the future discharge of groundwater containing carbon tetrachloride to the surface waters of the intermittent stream west of the city. On the basis of these observations, Argonne believes that further investigation at Everest is necessary to assess the remedial needs of this site.

To address this goal, Argonne recommends a limited third phase of investigation at the Everest site. The proposed investigations are targeted to generate the specific additional technical information required to support a subsequent quantitative analysis of remedial alternatives, as outlined in the KDHE guidance for a Comprehensive Investigation/Corrective Action Study

(CI/CAS) (KDHE 1996). The specific technical objectives of the proposed study are to accomplish the following:

1. Further identify the potential distribution of carbon tetrachloride in subsurface soils at the former CCC/USDA facility and evaluate selected parameters that affect the fate of this contaminant in the vadose zone.

2. Confirm the interpreted patterns of groundwater flow and the potential for groundwater discharge to the surface along the intermittent creek west of Everest.

3. Obtain quantitative *in situ* estimates of hydraulic parameters for the sedimentary materials that compose the Everest aquifer unit.

4. Install monitoring wells; collect and analyze groundwater samples at established monitoring points along the plume migration pathway, as a basis for potential future comparisons.

5. Obtain quantitative data for selected aquifer parameters that affect the migration and fate of carbon tetrachloride in groundwater.

6. Develop and propose an initial list of corrective action alternatives for further consideration and present a work plan for their evaluation.

The recommended investigation, in conjunction with the Everest Phase I *Work Plan* (Argonne 2000), the Phase I report (Argonne 2001), and the present Phase II report, is intended to complete the activities outlined for a KDHE CI. The results of the proposed study will be summarized in a separate work plan that will be submitted for review and mutual approval by the CCC/USDA and the KDHE, as a precursor to an analysis of remedial alternatives per the guidance for a CAS (KDHE 1996).

The investigative activities proposed to achieve the above technical objectives are discussed in Section 5.3. The detailed procedures governing these activities are described in the *Master Work Plan* (Argonne 2002).

5.3 Technical Program for Completion of CI Activities

The investigative program outlined below is based on the current understanding of the Everest site, as described in Sections 4 and 5.1 of this report. The investigative tasks and locations discussed here are intended to address the specific technical objectives proposed in Section 5.2. As new data are acquired during the field program, tasks might be revised to reflect an improved understanding of the site. Modifications might include reduction or expansion of the task activities or the elimination of specific activities judged to be unproductive in addressing the objectives.

5.3.1 Further Identify the Potential Distribution of Carbon Tetrachloride in Subsurface Soils at the Former CCC/USDA Facility and Evaluate Selected Soil Parameters That Affect the Fate of This Contaminant in the Vadose Zone

As described in Section 3.1.2, sampling of the deeper subsurface soils at the former CCC/USDA facility in Phase II was limited to only three locations because of access restrictions imposed by the current property owner. If further access to this property can be obtained, additional subsurface sampling is proposed to complete the investigation of the areas at the former CCC/USDA facility that were prioritized for sampling, on the basis of the results of the Phase II headspace GC-ECD analyses of near-surface soils. Figure 5.1 shows three locations recommended for this sampling that were selected to test areas of relatively high headspace carbon tetrachloride concentrations in shallow soils associated with the central and southwestern groups of grain bins formerly at the facility. A fourth location — shown in the northwestern portion of Figure 5.1 and corresponding to Phase I groundwater sampling location SB11 — is also proposed for soil sampling. This location was chosen to test an isolated area of relatively high headspace concentrations in shallow soils that appear to be associated with the high carbon tetrachloride concentration in groundwater (727 μg/L) previously identified at this location.

The proposed sampling will be performed at each location by using direct-push techniques to obtain core samples from the ground surface to the top of the saturated zone. Soil samples will be taken every 5 ft and/or at changes in lithology. Upon recovery, the soil samples will be placed in jars, sealed, preserved on dry ice in the field (Argonne 2002), and shipped to the AGEM Laboratory for purge-and-trap preparation and GC-MS analysis for carbon tetrachloride and chloroform with EPA Methods 5030B and 8260B (Argonne 2002).

At selected intervals, core sample material may also be taken for measurement of soil properties (to possibly include moisture content, porosity, bulk density, total organic carbon content, and liquid or pneumatic permeabilities) that affect the mobility of carbon tetrachloride in the vadose zone. These measurements would be required either for the quantitative estimation of contaminant migration from the soils to groundwater or for the evaluation of potential alternatives for the treatment of soil contamination, if soil carbon tetrachloride concentrations identified at the former CCC/USDA facility would warrant such analyses as part of the planned CAS.

5.3.2 Confirm the Interpreted Patterns of Groundwater Flow and the Potential for Groundwater Discharge to the Surface along the Intermittent Creek West of Everest

The hydrostratigraphic, groundwater level, and topographic data discussed in Section 4.2 are consistent with the interpretation that groundwater flow and contaminant migration patterns in the Everest study area are controlled in part by probable groundwater discharge to the intermittent stream west of the former CCC/USDA facility and the Nigh property. To confirm this relationship, additional investigation is proposed in the immediate vicinity of the creek. The purpose of these studies is to accomplish the following:

1. Determine the hydraulic continuity of the aquifer unit on the west side of the intermittent stream.

2. Verify the direction(s) of groundwater flow west of the creek and establish whether a groundwater divide is formed that would prevent future groundwater flow and contaminant transport beneath and beyond the creek.

3. Investigate for evidence demonstrating the potential for groundwater discharge to the intermittent creek within or downstream of the Phase II study area.

   To address this objective, a limited series of additional borings will be advanced, by using direct-push techniques, at the estimated locations shown in Figure 5.2. At each location, the hydrogeologic characteristics of the aquifer unit and the vertical extent of the saturated zone will be determined. At selected locations, temporary or permanent piezometers will be installed to permit the measurement of groundwater levels for mapping of the potentiometric surface in the vicinity of the creek bed.

5.3.3 Obtain Quantitative *In Situ* Estimates of Hydraulic Parameters for the Sedimentary Materials That Compose the Everest Aquifer Unit

Quantitative evaluation of the expected patterns of future groundwater flow and contaminant transport at the Everest site, and hence assessment of the potential viability of remedial alternatives, requires quantitative data on the *in situ* hydraulic characteristics of the sediments that compose the Everest aquifer unit. To address this data need, the following activities are proposed:

1. Single-well response (“slug”) tests will be performed on each of the permanent piezometers shown in Figure 5.3. The distribution of these piezometers will provide *in situ* estimates of hydraulic parameters (primarily hydraulic conductivity) for a range of the permeable sediment types identified in the Phase I and Phase II coring activities.

2. The results presented in Section 3 and discussed in Section 4 demonstrate that significant changes in the Everest groundwater flow regime occur in the vicinity of the Nigh property. These changes affect the interpreted migration of carbon tetrachloride originating from the former CCC/USDA facility. The magnitude of the apparent hydraulic gradient increases in this area, and the predominant direction of groundwater flow shifts from north-northwest to west. The present data also suggest that the groundwater carbon tetrachloride plume narrows in this area and that contaminant concentrations in groundwater decrease significantly downgradient from the Nigh property. These observations are interpreted to reflect the relatively sparse distribution of more permeable sediments and the more limited hydraulic communication between these permeable intervals near the Nigh property.

   To further refine this interpretation and permit quantitative evaluation of the hydraulic response of the aquifer unit in this area to potential remedial alternatives, several additional locations, shown in Figure 5.4, will be investigated by using the ECPT. Electronic sensor logging will be performed at each proposed location to guide the selection of possible intervals for limited confirmatory soil coring. On the basis of the results of these activities, one or more locations — and depth intervals at these locations — will be selected for groundwater sampling for VOC analysis, the installation of temporary or permanent piezometers to be used for the measurement of groundwater levels, and slug testing. The purpose of these activities will be to more tightly constrain the relationships among groundwater levels, groundwater flow and contaminant migration pathways, and the heterogeneity of the permeability distribution in this critical area.

3. The results from the slug testing described in (1) and (2) will be analyzed to yield estimates of the hydraulic conductivities for the sediments penetrated at each investigative boring. The results of these analyzes will be interpreted, in the context of the hydrogeologic model discussed in Section 4 and the new data obtained from the limited additional borings described in (2) above, to determine the potential viability of conducting one or more aquifer pumping tests, as deemed necessary, to directly investigate the relative degree of hydraulic continuity within the Everest aquifer unit along the identified plume migration pathway. If pump testing of the Everest aquifer is determined to be both logistically and hydraulically feasible, Argonne will submit recommendations for the proposed test(s) for review and mutual approval by the CCC/USDA and the KDHE before the activities begin.

5.3.4 Install Monitoring Wells; Collect and Analyze Groundwater Samples at Established Monitoring Points along the Plume Migration Pathway as a Basis for Potential Future Comparisons

If access permission can be obtained from the appropriate land owners, three conventional monitoring wells will be installed by auger drilling. The proposed locations of these wells are shown in Figure 5.5. One well (identified in this report as MW1 for discussion purposes), will be located at the northwest (downgradient) corner of the former CCC/USDA grain storage facility, near the origin of the carbon tetrachloride plume. Wells MW2 and MW3 will be installed near the apparent margins of the plume at the abrupt westward bend observed in the vicinity of the Nigh residence.

Upon completion of the piezometer installation activities outlined in Sections 5.3.2 and 5.3.3, groundwater will be sampled from the monitoring wells and from selected permanent piezometers and private wells along the plume migration pathway, for the analysis of VOCs and selected geochemical parameters. These analyses will establish baseline conditions for the comparison of sampling data that might subsequently be obtained at these locations, if necessary for the planned CAS investigations, to document trends in the spatial and geochemical evolution of the contaminated groundwater over time. Such time series sampling would be necessary, for example, to evaluate the potential effects of natural attenuation processes within the Everest aquifer unit.

5.3.5 Obtain Quantitative Data for Selected Aquifer Parameters That Affect the Migration and Fate of Carbon Tetrachloride in Groundwater

From the geologic cores obtained during Phase I and Phase II of the Everest investigation (and possibly from the additional borings proposed in Section 5.3.1), sediment samples will be collected at selected lithologic intervals for the determination of total organic carbon content, porosity, and bulk density. The results of these analyses will provide a quantitative basis for estimating contaminant sorption effects within the Everest aquifer unit, which will be used to estimate the expected retardation of the carbon tetrachloride plume along the groundwater and contaminant migration pathways. Samples from the cores will be chosen to be representative of the range of sediment types encountered in the presently contaminated portions of the aquifer unit, as well as along the probable future contaminant migration pathway.

Samples of aquifer core materials and groundwater may also be collected at selected locations and preserved or analyzed for the determination of additional physical, geochemical, or biological parameters that may be required for the evaluation of remedial alternatives as part of the planned CAS investigation. These analyses may include the measurement of groundwater temperature, pH, redox potential; the measurement of dissolved oxygen, nitrate, and sulfate; and microbial or biological nutrient studies.

5.3.6 Develop and Propose an Initial List of Corrective Action Alternatives for Further Consideration and Present a Work Plan for Their Evaluation

The results of the activities described in Sections 5.3.1-5.3.5 will be evaluated, in the context of the hydrogeologic model of the Everest groundwater flow system described in

Section 4, to conduct a preliminary review of potential aquifer restoration alternatives for the Everest site. This review will be performed in keeping with the KDHE guidance for a CI (KDHE 1996). On the basis of this analysis, the CCC/USDA and Argonne will recommend potential corrective action alternatives, including the no-action alternative, to be considered for further detailed evaluation as part of a subsequent study in keeping with the KDHE guidance for a CAS (KDHE 1996).

A work plan will be presented outlining the intended approach to be used in examining these alternatives, including proposed specifications for any groundwater flow and contaminant transport models that might be recommended as part of the analyses. An assessment of health risks associated with groundwater contamination at the Everest site, identified as an option under the guidance for a CI, will be deferred for inclusion in the subsequent CAS evaluation of the proposed corrective action alternatives

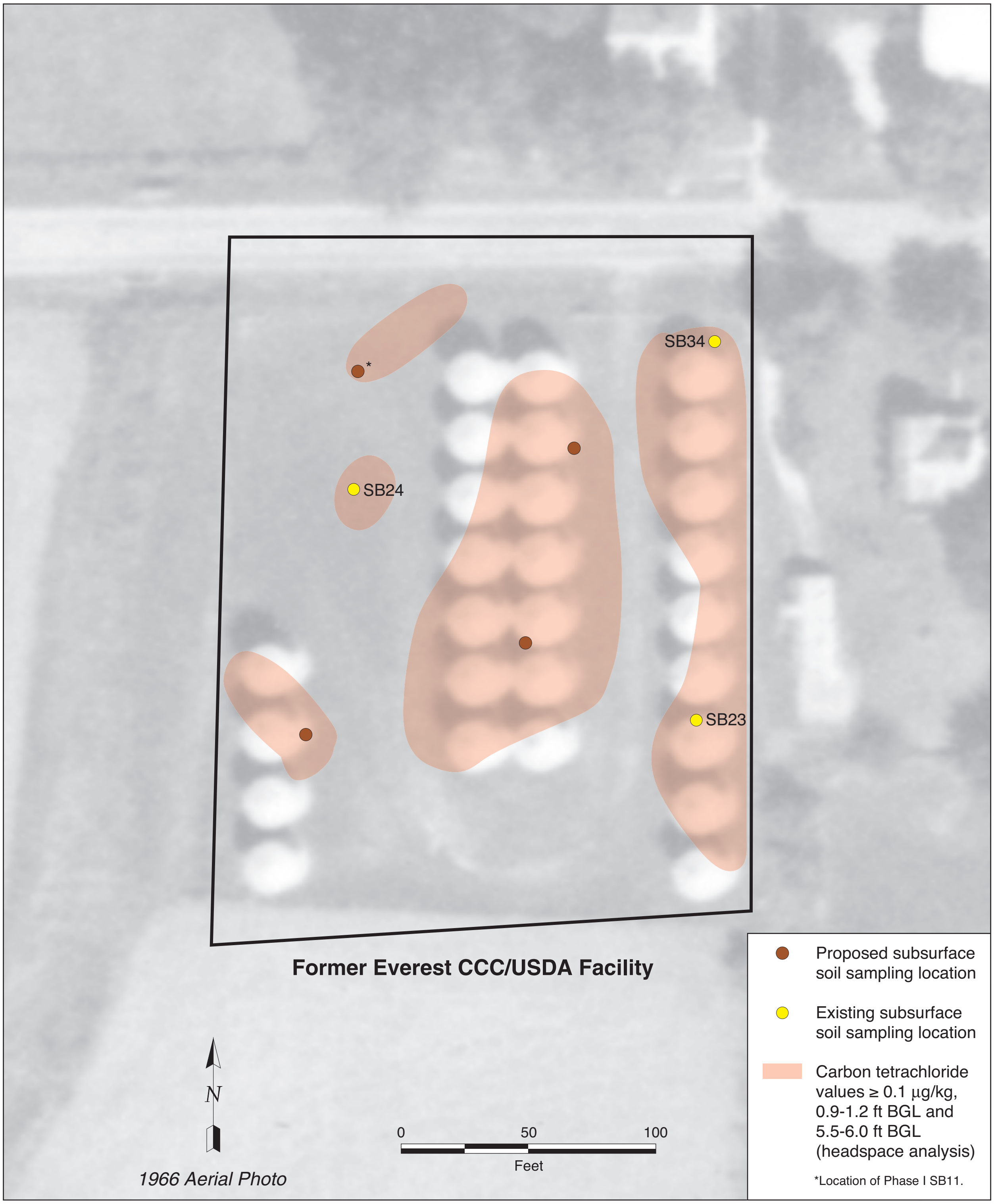

FIGURE 5.1 Proposed locations for additional subsurface soil sampling for the analysis of VOCs.

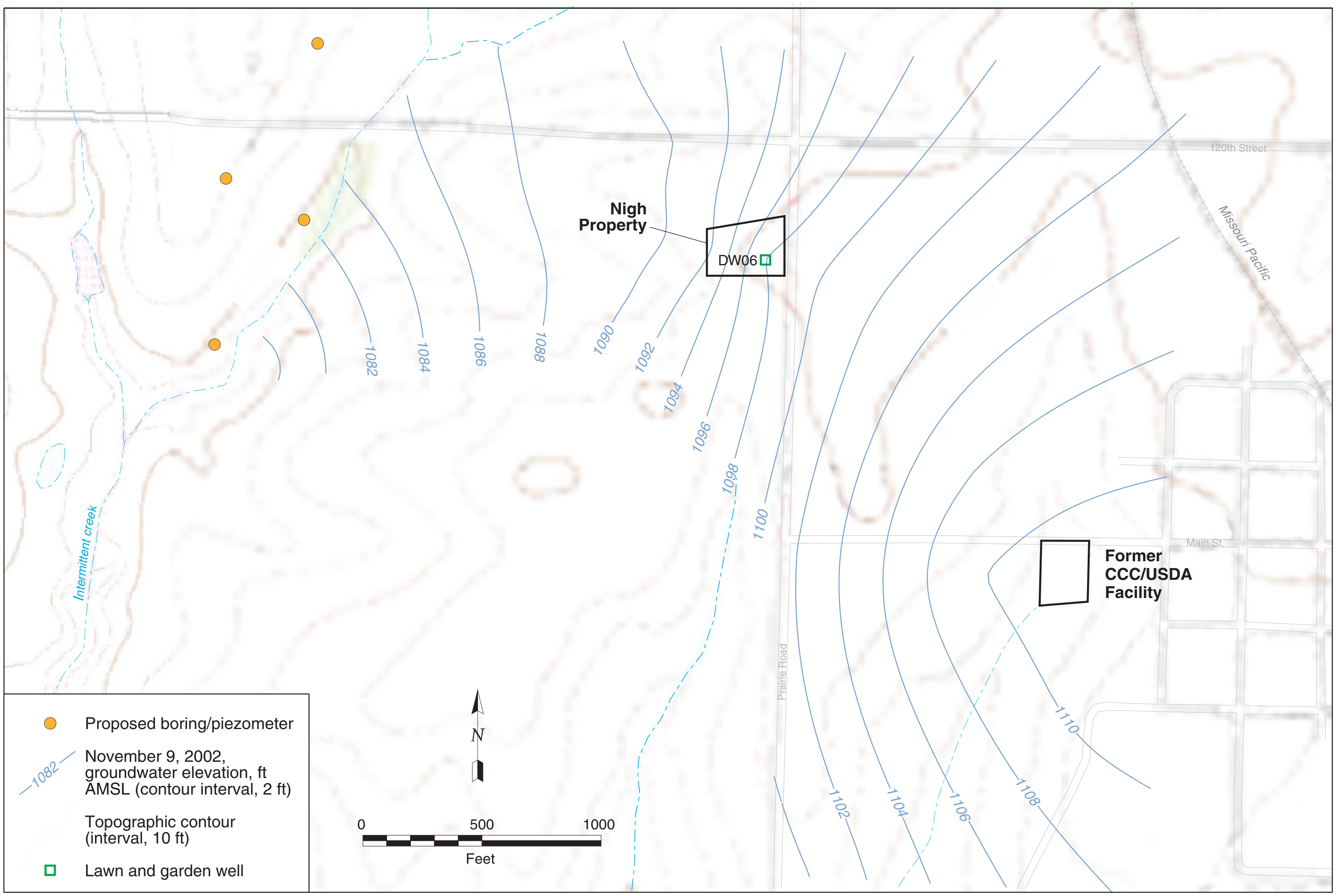

FIGURE 5.2 Proposed locations of additional soil borings and locations for the possible installation of temporary or permanent piezometers to confirm the patterns of groundwater flow and potential groundwater discharge to the surface along the intermittent creek west of the former CCC/USDA facility.

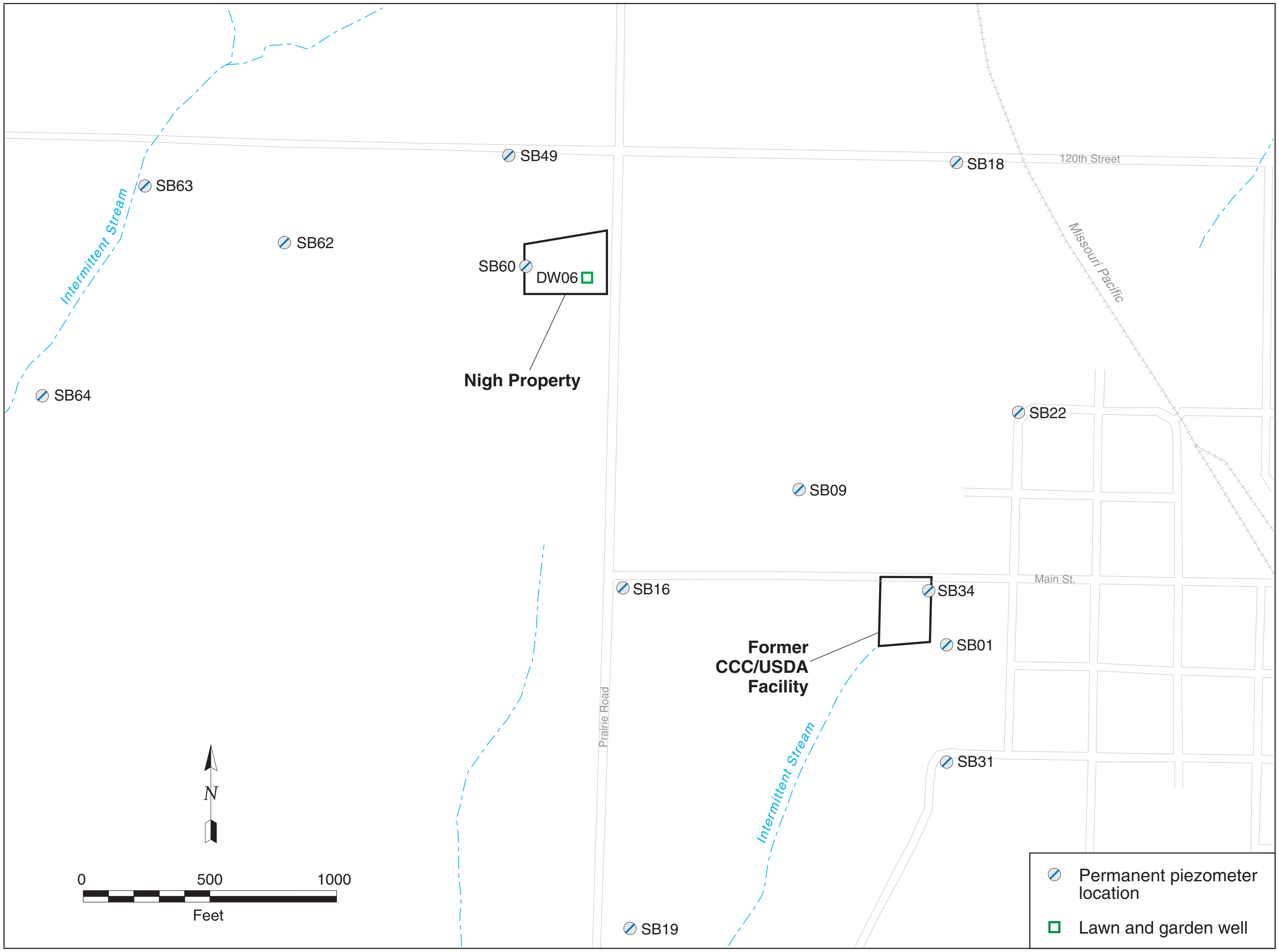

FIGURE 5.3 Locations of permanent piezometers in the western part of Everest proposed for use in aquifer slug testing.

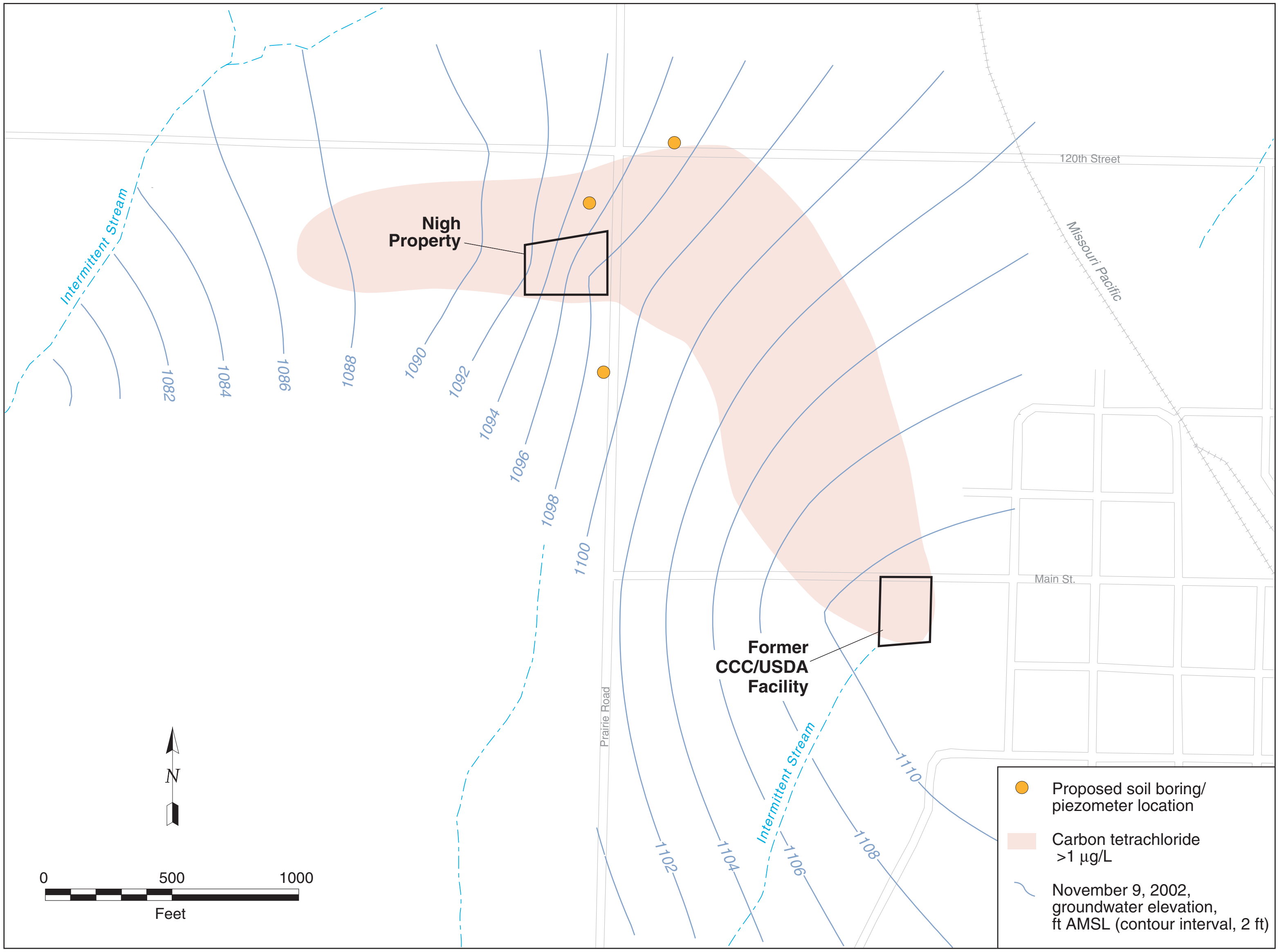

FIGURE 5.4 Proposed locations of additional soil borings to be investigated with the cone penetrometer, as well as for the possible installation of temporary or permanent piezometers and for aquifer slug testing.

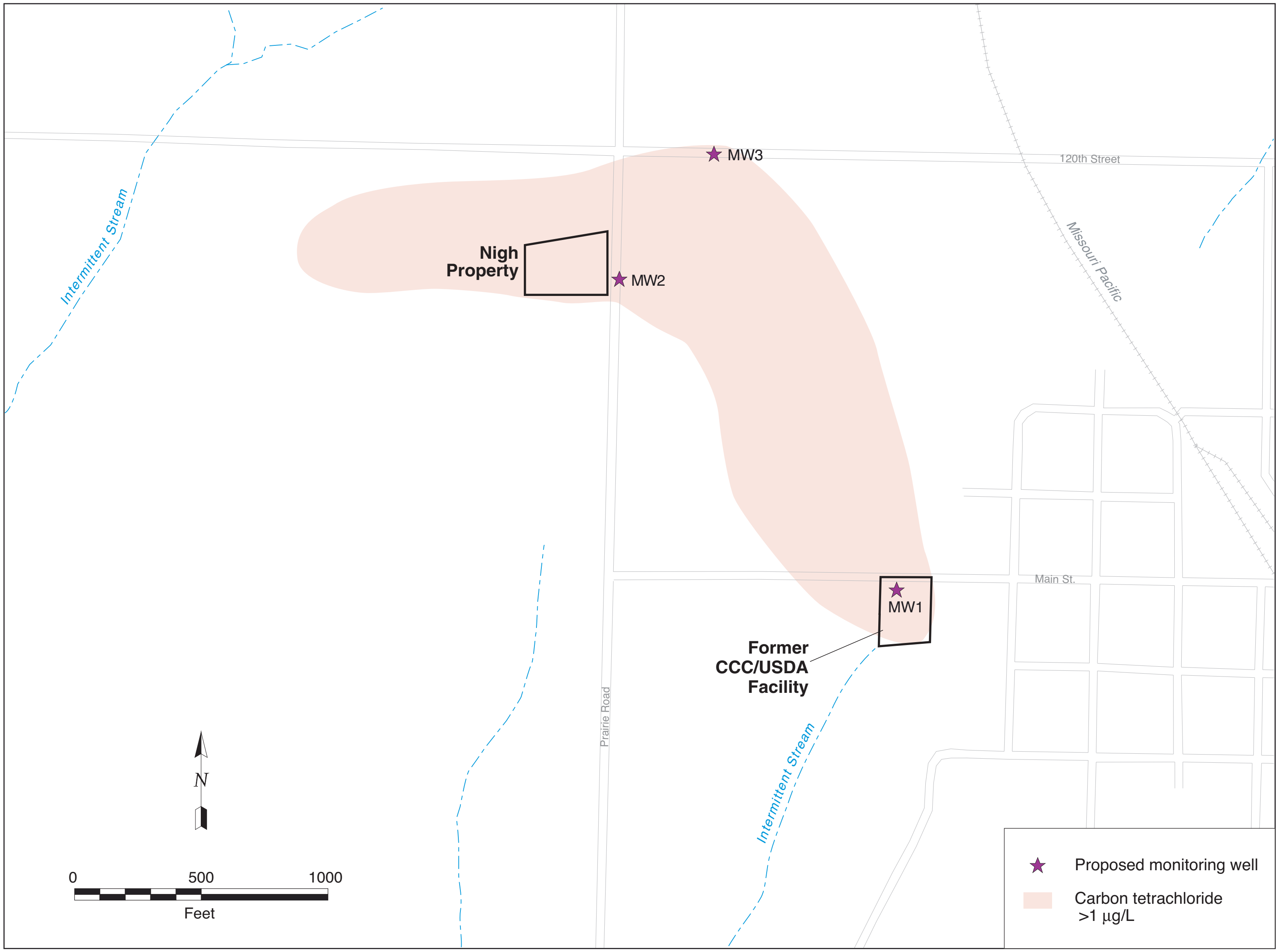

FIGURE 5.5 Proposed locations for monitoring wells for continuing analysis of groundwater for VOCs.

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Appendix A:

Soil Sample Data

TABLE A.1 Soil samples collected at the former CCC/USDA facility for analysis of volatile organic compounds during the Phase II investigation at Everest, Kansas.

Location	Sample	Depth (ft BGL)	Sample Date	Sample Description
Near-surface soil samples collected in October 2000 (first session of Phase II work)				
HC01	EV-HC01-S-11943	0.8-1.2	10/24/00	Location 30S/15W. Black topsoil.
HC01	EV-HC01-S-11944	5.5-6.0	10/24/00	Gray-brown clay with some iron oxides.
HC02	EV-HC02-S-11945	0.8-1.2	10/24/00	Location 46S/15W. Black topsoil.
HC02	EV-HC02-S-11946	5.5-6.0	10/24/00	Gray-brown clay with some iron oxides.
HC03	EV-HC03-S-11947	0.8-1.2	10/24/00	Location 50S/33W. Black topsoil.
HC03	EV-HC03-S-11948	5.5-6.0	10/24/00	Light gray-brown clay with some iron oxides.
HC04	EV-HC04-S-11949	0.8-1.2	10/24/00	Location 100S/33W. Black topsoil.
HC04	EV-HC04-S-11950	5.5-6.0	10/24/00	Light gray-brown clay with some iron oxides.
HC05	EV-HC05-S-11951	1.0-1.3	10/24/00	Location 250S/175W. Black loam topsoil.
HC05	EV-HC05-S-11952	5.5-6.0	10/24/00	Light gray-brown clay with some iron oxides.
HC06	EV-HC06-S-11953	0.9-1.2	10/24/00	Location 277S/210W. Black loam topsoil; sandy loam in sample zone.
HC06	EV-HC06-S-11954	5.5-6.0	10/24/00	Brown clay.
HC07	EV-HC07-S-11955	0.8-1.2	10/24/00	Location 233S/200W. Black loam topsoil.
HC07	EV-HC07-S-11956	5.5-6.0	10/24/00	Light gray-brown clay with some iron oxides.
HC08	EV-HC08-S-11957	0.8-1.2	10/24/00	Location 200S/175W. Black loam topsoil.
HC08	EV-HC08-S-11958	5.5-6.0	10/24/00	Light gray-brown clay with some iron oxides.
HC09	EV-HC09-S-11959	0.8-1.2	10/24/00	Location 173S/200W. Black loam topsoil.
HC09	EV-HC09-S-11960	5.5-6.0	10/24/00	Light gray-brown clay.
HC10	EV-HC10-S-11961	0.9-1.2	10/24/00	Location 150S/200W. Transitional staining in clay.
HC10	EV-HC10-S-11962	5.5-6.0	10/24/00	Light gray-brown clay with some iron oxides.
HC11	EV-HC11-S-11963	0.9-1.2	10/24/00	Location 100S/200W. Black loam topsoil.
HC11	EV-HC11-S-11964	5.5-6.0	10/24/00	Very slight humic stain in gray-brown clay.
HC12	EV-HC12-S-11965	0.9-1.2	10/24/00	Location 50S/200W. Black loam topsoil.
HC12	EV-HC12-S-11966	5.5-6.0	10/24/00	Very slight humic stain in gray-brown clay.
HC13	EV-HC13-S-11967	0.9-1.2	10/24/00	Location 30S/150W. Black loam topsoil.
HC13	EV-HC13-S-11968	5.5-6.0	10/24/00	Light gray-brown clay.
HC14	EV-HC14-S-11969	0.9-1.2	10/24/00	Location 50S/150W. Black loam topsoil.
HC14	EV-HC14-S-11970	5.5-6.0	10/24/00	Light gray-brown clay.
HC15	EV-HC15-S-11971	1.0-1.2	10/24/00	Location 100S/150W. Black topsoil.
HC15	EV-HC15-S-11972	5.5-6.0	10/24/00	Light gray-brown clay.

TABLE A.1 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Sample Description
Near-surface soil samples collected in October 2000 (first session of Phase II work) (Cont.)				
HC16	EV-HC16-S-11973	1.0-1.2	10/24/00	Location 150S/150W. Black topsoil.
HC16	EV-HC16-S-11974	5.5-6.0	10/24/00	Light gray-brown clay.
HC17	EV-HC17-S-11975	0.9-1.2	10/24/00	Location 250S/121W. Black loam topsoil.
HC17	EV-HC17-S-11976	5.5-6.0	10/24/00	Light gray-brown clay.
HC18	EV-HC18-S-11977	0.9-1.2	10/24/00	Location 200S/121W. Black loam topsoil.
HC18	EV-HC18-S-11978	5.5-6.0	10/24/00	Light brown-gray clay; more gray than previous sample.
HC19	EV-HC19-S-11979	0.9-1.2	10/24/00	Location 150S/121W. Black loam topsoil.
HC19	EV-HC19-S-11980	5.5-6.0	10/24/00	Light brown clay; less gray than previous sample.
HC20	EV-HC20-S-11983	0.9-1.2	10/24/00	Location 100S/121W.
HC20	EV-HC20-S-11984	5.5-6.0	10/24/00	No description recorded.
HC21	EV-HC21-S-11993	0.9-1.2	10/25/00	Location 50S/121W. Black loam topsoil.
HC21	EV-HC21-S-11994	5.5-6.0	10/25/00	Light brown clay.
HC22	EV-HC22-S-11995	0.9-1.2	10/25/00	Location 30S/121W. Black loam topsoil.
HC22	EV-HC22-S-11996	5.5-6.0	10/25/00	Light brown clay.
HC23	EV-HC23-S-11997	0.9-1.2	10/25/00	Location 66S/90W. Black loam topsoil.
HC23	EV-HC23-S-11998	5.5-6.0	10/25/00	Light brown clay.
HC24	EV-HC24-S-11999	0.9-1.2	10/25/00	Location 112S/90W. Black loam topsoil.
HC24	EV-HC24-S-12000	5.5-6.0	10/25/00	Light brown clay.
HC25	EV-HC25-S-12001	0.9-1.2	10/25/00	Location 158S/90W. Black loam topsoil.
HC25	EV-HC25-S-12002	5.5-6.0	10/25/00	Gradual color transition, ending with medium dark gray-brown at bottom.
HC26	EV-HC26-S-12003	0.9-1.2	10/25/00	Location 208S/90W. Black loam topsoil.
HC26	EV-HC26-S-12004	5.5-6.0	10/25/00	Gradual transition to light brown clay.
HC27	EV-HC27-S-12005	1.4-1.6	10/25/00	Location 250S/68W. Black loam.
HC27	EV-HC27-S-12006	5.5-6.0	10/25/00	Gray-brown clay.
HC28	EV-HC28-S-12007	0.9-1.2	10/25/00	Location 250S/32W. Black loam topsoil.
HC28	EV-HC28-S-12008	5.5-6.0	10/25/00	Gray-brown clay.
HC29	EV-HC29-S-12009	0.9-1.2	10/25/00	Location 200S/32W. Black loam topsoil.
HC29	EV-HC29-S-12010	5.5-6.0	10/25/00	Light brown-gray clay.
HC30	EV-HC30-S-12013	0.9-1.2	10/25/00	Location 176S/68W. Black loam topsoil.
HC30	EV-HC30-S-12014	5.5-6.0	10/25/00	Light gray-brown clay.
HC31	EV-HC31-S-12015	0.9-1.2	10/25/00	Location 150S/39W. Black loam topsoil.

TABLE A.1 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Sample Description
Near-surface soil samples collected in October 2000 (first session of Phase II work) (Cont.)				
HC31	EV-HC31-S-12016	5.5-6.0	10/25/00	Light brown-gray clay.
HC32	EV-HC32-S-12017	0.9-1.2	10/25/00	Location 126S/68W. Black loam topsoil.
HC32	EV-HC32-S-12018	5.5-6.0	10/25/00	Light brown-gray clay.
HC33	EV-HC33-S-12019	0.9-1.2	10/25/00	Location 80S/68W. Black loam topsoil.
HC33	EV-HC33-S-12020	5.5-6.0	10/25/00	Light brown-gray clay.
HC34	EV-HC34-S-12021	0.9-1.2	10/25/00	Location 35S/68W. Black loam topsoil.
HC34	EV-HC34-S-12022	5.5-6.0	10/25/00	Light brown-gray clay.
HC35	EV-HC35-S-12023	0.9-1.2	10/25/00	Location 240S/08W. Black loam topsoil.
HC35	EV-HC35-S-12024	5.5-6.0	10/25/00	Color transition to medium dark clay.
HC36	EV-HC36-S-12025	0.9-1.2	10/25/00	Location 184S/08W. Black loam topsoil.
HC36	EV-HC36-S-12026	5.5-6.0	10/25/00	Color transition to light brown-gray clay.
HC37	EV-HC37-S-12029	0.9-1.2	10/25/00	Location 140S/08W. Black loam topsoil.
HC37	EV-HC37-S-12030	5.5-6.0	10/25/00	Light gray-brown clay.
HC38	EV-HC38-S-12033	0.8-1.2	10/25/00	Location 90S/08W.
HC38	EV-HC38-S-12034	5.5-6.0	10/25/00	No description recorded.
Subsurface soil samples collected in March-April 2001 (second session of Phase II work)				
SB23	EVSB23-S-12770	1	3/19/01	Very dark brown clayey silt, organic rich. Moisture from surface. (Detailed descriptions of subsurface soil samples are in Appendix B.)
SB23	EVSB23-S-12771	3	3/19/01	Grayish brown to yellowish brown clayey silt. Little moisture.
SB23	EVSB23-S-12772	5	3/19/01	Yellowish brown to light brownish gray clayey silt. Dry.
SB23	EVSB23-S-12773	7	3/19/01	Yellowish brown to light brownish gray clayey silt. Dry.
SB23	EVSB23-S-12774	9	3/19/01	Yellowish brown to light brownish gray clayey silt. Dry.
SB23	EVSB23-S-12775	11	3/19/01	Yellowish brown to light brownish gray clayey silt. Dry.
SB23	EVSB23-S-12776	13	3/19/01	Light brownish gray to grayish brown clayey silt. Dry.
SB23	EVSB23-S-12777	15	3/19/01	Light brownish gray to grayish brown clayey silt. Dry.
SB23	EVSB23-S-12778	17	3/19/01	Light brownish gray to grayish brown clayey silt. Dry.
SB23	EVSB23-S-12779	19	3/19/01	Light brownish gray to grayish brown clayey silt. Dry.
SB23	EVSB23-S-12780	21	3/19/01	Light brownish gray to grayish brown clayey silt. Dry.
SB23	EVSB23-S-12781	23	3/19/01	Light brownish gray to grayish brown clayey silt. Dry.

TABLE A.1 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Sample Description
Subsurface soil samples collected in March-April 2001 (second session of Phase II work) (Cont.)				
SB23	EVSB23-S-12782	25	3/19/01	Brown clayey silt. Dry.
SB23	EVSB23-S-12783	27	3/19/01	Grayish brown clayey silt. Dry.
SB23	EVSB23-S-12784	29	3/19/01	Grayish brown clayey silt. Dry.
SB23	EVSB23-S-12785	31	3/19/01	Grayish brown clayey silt. Dry.
SB23	EVSB23-S-12786	33	3/19/01	Grayish brown clayey silt. Dry.
SB23	EVSB23-S-12787	35	3/19/01	Grayish brown clayey and sandy silt. Slight moisture.
SB23	EVSB23-S-12788	37	3/19/01	Light gray to light brownish gray silt. Dry.
SB23	EVSB23-S-12789	39	3/19/01	Gray to white caliche zone.
SB23	EVSB23-S-12790	41	3/19/01	Gray to white caliche zone.
SB23	EVSB23-S-12791	43	3/19/01	Light yellowish brown, fine to medium grained sand. Moist.
SB24	EVSB24-S-12082	1	3/14/01	Very gray-brown organic clayey silt. Some moisture from surface.
SB24	EVSB24-S-12083	3	3/14/01	Dark grayish brown clayey silt. Slight moisture.
SB24	EVSB24-S-12084	5	3/14/01	Yellow-brown to brown clayey silt. Little moisture.
SB24	EVSB24-S-12085	7	3/14/01	Yellow-brown to brown clayey silt. Little moisture.
SB24	EVSB24-S-12086	9	3/14/01	Light brownish gray to grayish brown clayey silt. Dry.
SB24	EVSB24-S-12087	11	3/14/01	Light brownish gray to grayish brown clayey silt. Dry.
SB24	EVSB24-S-12088	13	3/14/01	Light brownish gray to grayish brown clayey silt. Dry.
SB24	EVSB24-S-12089	15	3/14/01	Light brownish gray to grayish brown clayey silt. Dry.
SB24	EVSB24-S-12090	17	3/14/01	Light brownish gray to grayish brown clayey silt. Dry.
SB24	EVSB24-S-12091	19	3/14/01	Light brownish gray to grayish brown clayey silt. Dry.
SB24	EVSB24-S-12092	21	3/14/01	Light brownish gray to grayish brown clayey silt. Dry. Sample collected from new hole after tip did not release.
SB24	EVSB24-S-12093	23	3/14/01	Light brownish gray to grayish brown clayey silt. Dry.
SB24	EVSB24-S-12094	25	3/14/01	Mottled light brownish gray clayey silt. Dry.
SB24	EVSB24-S-12095	27	3/14/01	Mottled light brownish gray clayey silt. Dry.
SB24	EVSB24-S-12096	29	3/14/01	Mottled light brownish gray clayey silt. Dry.
SB24	EVSB24-S-12097	31	3/14/01	Mottled light brownish gray clayey silt. Dry.
SB24	EVSB24-S-12098	33	3/14/01	Mottled light brownish gray clayey silt. Dry.
SB24	EVSB24-S-12099	35	3/14/01	Light brownish gray sandy silt/clay. Dry.
SB24	EVSB24-S-12100	37	3/14/01	Pale brown to light yellowish brown sandy silt. Dry.
SB24	EVSB24-S-12101	39	3/14/01	Pale brown to light yellowish brown sandy silt. Dry.

TABLE A.1 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Sample Description
Subsurface soil samples collected in March-April 2001 (second session of Phase II work) (Cont.)				
SB24	EVSB24-S-12102	41	3/14/01	Light yellowish brown fine sand with silt. Wet.
SB24	EVSB24-S-12758	43	3/14/01	Sample collected at interface/change of lithology between oxidied wet silty clay and wet, very sandy clay to clayey sand.
SB24	12759 - no sample	45	3/14/01	Sample not recovered.
SB24	12760 - no sample	47	3/14/01	Sample not recovered.
SB34	EVSB34-S-12818	1	3/27/01	Very dark grayish brown silty clay.
SB34	EVSB34-S-12819	3	3/27/01	Grayish brown silty clay.
SB34	EVSB34-S-12820	5	3/27/01	Grayish brown to yellowish brown silty clay.
SB34	EVSB34-S-12821	7	3/27/01	Grayish brown to yellowish brown silty clay.
SB34	EVSB34-S-12822	9	3/27/01	Grayish brown to yellowish brown silty clay.
SB34	EVSB34-S-12823	11	3/27/01	Grayish brown to yellowish brown silty clay.
SB34	EVSB34-S-12824	13	3/27/01	Grayish brown to yellowish brown silty clay.
SB34	EVSB34-S-12825	15	3/27/01	Gray to pale brown silty clay.
SB34	EVSB34-S-12826	17	3/27/01	Gray to pale brown silty clay.
SB34	EVSB34-S-12827	19	3/27/01	Gray to pale brown silty clay.
SB34	EVSB34-S-12828	21	3/27/01	Gray to pale brown silty clay.
SB34	EVSB34-S-12829	23	3/27/01	Gray to pale brown silty clay.
SB34	EVSB34-S-12830	25	3/27/01	Light brown to pinkish gray silty clay.
SB34	EVSB34-S-12831	27	3/27/01	Light brown to pinkish gray silty clay.
SB34	EVSB34-S-12832	29	3/27/01	Light gray to grayish brown silty clay.
SB34	EVSB34-S-12833	31	3/27/01	Light gray to grayish brown silty clay.
SB34	EVSB34-S-12834	33	3/27/01	Light gray to grayish brown silty clay.
SB34	EVSB34-S-12835	35	3/27/01	Light gray to grayish brown silty clay.
SB34	EVSB34-S-12836	37	3/27/01	Light gray to grayish brown silty clay.
SB34	EVSB34-S-12837	39	3/27/01	Light gray to grayish brown silty clay.
SB34	EVSB34-S-12848	41	3/27/01	Pale brown to gray sandy silt.
SB34	EVSB34-S-12849	43	3/27/01	Pale brown to gray sandy silt.
SB34	EVSB34-S-12850	45	3/27/01	Collected at interface of dark grayish brown clay and light yellowish brown silty sand.
SB34	EVSB34-S-12851	47	3/27/01	Light yellowish brown fine to medium sand.

TABLE A.2 Results of organic analyses by the headspace and purge-and-trap methods on near-surface soil samples collected at the former CCC/USDA facility during the first session of the Phase II investigation at Everest, Kansas.

			Concentration (μg/kg)			
			Headspace Results		Purge-and-Trap Results	
Location	Sample	Depth (ft BGL)	Carbon Tetrachloride	Chloroform	Carbon Tetrachloride	Chloroform
HC01	EV-HC01-S-11943	0.8-1.2	ND[a]	ND	ND	ND
HC01	EV-HC01-S-11944	5.5-6.0	ND	ND	ND	ND
HC02	EV-HC02-S-11945	0.8-1.2	1.34	ND	ND	ND
HC02	EV-HC02-S-11946	5.5-6.0	ND	ND	ND	ND
HC03	EV-HC03-S-11947	0.8-1.2	0.14	ND	ND	ND
HC03	EV-HC03-S-11948	5.5-6.0	0.13	ND	ND	ND
HC04	EV-HC04-S-11949	0.8-1.2	ND	ND	ND	ND
HC04	EV-HC04-S-11950	5.5-6.0	0.1	ND	ND	ND
HC05	EV-HC05-S-11951	1.0-1.3	ND	ND	ND	ND
HC05	EV-HC05-S-11952	5.5-6.0	ND	ND	ND	ND
HC06	EV-HC06-S-11953	0.9-1.2	ND	ND	ND	ND
HC06	EV-HC06-S-11954	5.5-6.0	ND	ND	ND	ND
HC07	EV-HC07-S-11955	0.8-1.2	ND	ND	ND	ND
HC07	EV-HC07-S-11956	5.5-6.0	ND	ND	ND	ND
HC08	EV-HC08-S-11957	0.8-1.2	1.38	1.57	ND	ND
HC08	EV-HC08-S-11958	5.5-6.0	0.71	ND	ND	ND
HC09	EV-HC09-S-11959	0.8-1.2	ND	ND	ND	ND
HC09	EV-HC09-S-11960	5.5-6.0	0.68	ND	ND	ND
HC10	EV-HC10-S-11961	0.9-1.2	ND	ND	ND	ND
HC10	EV-HC10-S-11962	5.5-6.0	ND	ND	ND	ND
HC11	EV-HC11-S-11963	0.9-1.2	ND	ND	ND	ND
HC11	EV-HC11-S-11964	5.5-6.0	ND	ND	ND	ND
HC12	EV-HC12-S-11965	0.9-1.2	ND	ND	ND	ND
HC12	EV-HC12-S-11966	5.5-6.0	ND	ND	ND	ND
HC13	EV-HC13-S-11967	0.9-1.2	ND	ND	ND	ND
HC13	EV-HC13-S-11968	5.5-6.0	ND	ND	ND	ND
HC14	EV-HC14-S-11969	0.9-1.2	0.24	ND	ND	ND
HC14	EV-HC14-S-11970	5.5-6.0	ND	ND	ND	ND

TABLE A.2 (Cont.)

			Concentration (μg/kg)			
			Headspace Results		Purge-and-Trap Results	
Location	Sample	Depth (ft BGL)	Carbon Tetrachloride	Chloroform	Carbon Tetrachloride	Chloroform
HC15	EV-HC15-S-11971	1.0-1.2	ND	ND	ND	ND
HC15	EV-HC15-S-11972	5.5-6.0	1.75	ND	ND	ND
HC16	EV-HC16-S-11973	1.0-1.2	ND	ND	ND	ND
HC16	EV-HC16-S-11974	5.5-6.0	ND	ND	ND	ND
HC17	EV-HC17-S-11975	0.9-1.2	ND	ND	ND	ND
HC17	EV-HC17-S-11976	5.5-6.0	ND	ND	ND	ND
HC18	EV-HC18-S-11977	0.9-1.2	0.11	ND	ND	ND
HC18	EV-HC18-S-11978	5.5-6.0	ND	ND	ND	ND
HC19	EV-HC19-S-11979	0.9-1.2	0.37	ND	ND	ND
HC19	EV-HC19-S-11980	5.5-6.0	ND	ND	ND	ND
HC20	EV-HC20-S-11983	0.9-1.2	ND	ND	ND	ND
HC20	EV-HC20-S-11984	5.5-6.0	ND	ND	ND	ND
HC21	EV-HC21-S-11993	0.9-1.2	ND	ND	ND	ND
HC21	EV-HC21-S-11994	5.5-6.0	ND	ND	ND	ND
HC22	EV-HC22-S-11995	0.9-1.2	2.1	ND	ND	ND
HC22	EV-HC22-S-11996	5.5-6.0	ND	ND	ND	ND
HC23	EV-HC23-S-11997	0.9-1.2	0.22	ND	ND	ND
HC23	EV-HC23-S-11998	5.5-6.0	ND	ND	ND	ND
HC24	EV-HC24-S-11999	0.9-1.2	0.28	ND	ND	ND
HC24	EV-HC24-S-12000	5.5-6.0	ND	ND	NA[b]	NA
HC25	EV-HC25-S-12001	0.9-1.2	0.1	ND	ND	ND
HC25	EV-HC25-S-12002	5.5-6.0	0.17	ND	ND	ND
HC26	EV-HC26-S-12003	0.9-1.2	ND	ND	ND	ND
HC26	EV-HC26-S-12004	5.5-6.0	ND	ND	ND	ND
HC27	EV-HC27-S-12005	1.4-1.6	ND	ND	ND	ND
HC27	EV-HC27-S-12006	5.5-6.0	ND	ND	ND	ND
HC28	EV-HC28-S-12007	0.9-1.2	ND	ND	ND	ND
HC28	EV-HC28-S-12008	5.5-6.0	ND	ND	ND	ND

TABLE A.2 (Cont.)

			Concentration (μg/kg)			
			Headspace Results		Purge-and-Trap Results	
Location	Sample	Depth (ft BGL)	Carbon Tetrachloride	Chloroform	Carbon Tetrachloride	Chloroform
HC29	EV-HC29-S-12009	0.9-1.2	0.33	ND	ND	ND
HC29	EV-HC29-S-12010	5.5-6.0	ND	ND	ND	ND
HC30	EV-HC30-S-12013	0.9-1.2	0.11	ND	ND	ND
HC30	EV-HC30-S-12014	5.5-6.0	ND	ND	ND	ND
HC31	EV-HC31-S-12015	0.9-1.2	ND	ND	ND	ND
HC31	EV-HC31-S-12016	5.5-6.0	ND	ND	ND	ND
HC32	EV-HC32-S-12017	0.9-1.2	0.25	ND	ND	ND
HC32	EV-HC32-S-12018	5.5-6.0	0.13	ND	ND	ND
HC33	EV-HC33-S-12019	0.9-1.2	0.71	ND	ND	ND
HC33	EV-HC33-S-12020	5.5-6.0	0.42	ND	ND	ND
HC34	EV-HC34-S-12021	0.9-1.2	ND	ND	ND	ND
HC34	EV-HC34-S-12022	5.5-6.0	ND	ND	ND	ND
HC35	EV-HC35-S-12023	0.9-1.2	0.46	ND	ND	ND
HC35	EV-HC35-S-12024	5.5-6.0	ND	ND	ND	ND
HC36	EV-HC36-S-12025	0.9-1.2	0.25	ND	ND	ND
HC36	EV-HC36-S-12026	5.5-6.0	1.36	ND	ND	ND
HC37	EV-HC37-S-12029	0.9-1.2	2.19	ND	ND	ND
HC37	EV-HC37-S-12030	5.5-6.0	0.14	ND	ND	ND
HC38	EV-HC38-S-12033	0.8-1.2	0.67	ND	ND	ND
HC38	EV-HC38-S-12034	5.5-6.0	0.2	ND	ND	ND

[a] ND, contaminant not detected.

[b] NA, sample not analyzed by the purge-and-trap method.

TABLE A.3 Results of organic analyses by the purge-and-trap method on subsurface soil samples collected at the former CCC/USDA facility during the second session of the Phase II investigation at Everest, Kansas.

			Concentration (μg/kg)	
Location	Sample	Depth (ft BGL)	Carbon Tetrachloride	Chloroform
SB23	EVSB23-S-12770	1	ND[a]	< 10 (3.9 J[b])
SB23	EVSB23-S-12771	3	ND	ND
SB23	EVSB23-S-12772[c]	5	ND	ND
SB23	EVSB23-S-12773	7	ND	< 10 (3.2 J)
SB23	EVSB23-S-12774	9	ND	< 10 (4 J)
SB23	EVSB23-S-12775	11	ND	ND
SB23	EVSB23-S-12776	13	< 10 (4.8 J)	< 10 (2.9 J)
SB23	EVSB23-S-12777	15	12	< 10 (5.4 J)
SB23	EVSB23-S-12778	17	17	10
SB23	EVSB23-S-12779	19	20	< 10 (5.4 J)
SB23	EVSB23-S-12780	21	19	< 10 (5.9 J)
SB23	EVSB23-S-12781	23	23	11
SB23	EVSB23-S-12782	25	< 10 (8.2 J)	< 10 (6.8 J)
SB23	EVSB23-S-12783	27	< 10 (5 J)	< 10 (3.1 J)
SB23	EVSB23-S-12784	29	ND	< 10 (2.1 J)
SB23	EVSB23-S-12785	31	< 10 (3.4 J)	< 10 (2.8 J)
SB23	EVSB23-S-12786	33	< 10 (4.3 J)	< 10 (6 J)
SB23	EVSB23-S-12787	35	< 10 (3.8 J)	< 10 (3.3 J)
SB23	EVSB23-S-12788	37	< 10 (5.1 J)	< 10 (6.6 J)
SB23	EVSB23-S-12789	39	< 10 (6.4 J)	< 10 (6.5 J)
SB23	EVSB23-S-12790	41	< 10 (6.3 J)	< 10 (2.1 J)
SB23	EVSB23-S-12791	43	66	< 10 (8.1 J)
SB24	EVSB24-S-12082	1	ND	ND
SB24	EVSB24-S-12083	3	ND	ND
SB24	EVSB24-S-12084	5	ND	ND
SB24	EVSB24-S-12085	7	ND	ND
SB24	EVSB24-S-12086	9	ND	ND
SB24	EVSB24-S-12087	11	ND	ND
SB24	EVSB24-S-12088	13	ND	ND
SB24	EVSB24-S-12089	15	ND	ND
SB24	EVSB24-S-12090	17	ND	ND
SB24	EVSB24-S-12091	19	ND	ND
SB24	EVSB24-S-12092	21	ND	ND
SB24	EVSB24-S-12093	23	ND	ND
SB24	EVSB24-S-12094	25	ND	ND
SB24	EVSB24-S-12095	27	ND	ND
SB24	EVSB24-S-12096	29	ND	ND
SB24	EVSB24-S-12097	31	ND	ND
SB24	EVSB24-S-12098	33	ND	ND
SB24	EVSB24-S-12099	35	ND	ND
SB24	EVSB24-S-12100	37	ND	ND

TABLE A.3 (Cont.)

Location	Sample	Depth (ft BGL)	Concentration (μg/kg) Carbon Tetrachloride	Chloroform
SB24	EVSB24-S-12101	39	ND	ND
SB24	EVSB24-S-12102	41	ND	ND
SB24	EVSB24-S-12758	43	16	< 10 (3.8 J)
SB34	EVSB34-S-12818	1	ND	ND
SB34	EVSB34-S-12819	3	ND	ND
SB34	EVSB34-S-12820	5	ND	ND
SB34	EVSB34-S-12821	7	ND	< 10 (2.9 J)
SB34	EVSB34-S-12822	9	ND	ND
SB34	EVSB34-S-12823	11	ND	< 10 (2.5 J)
SB34	EVSB34-S-12824	13	ND	ND
SB34	EVSB34-S-12825	15	ND	< 10 (2.9 J)
SB34	EVSB34-S-12826	17	ND	ND
SB34	EVSB34-S-12827	19	ND	ND
SB34	EVSB34-S-12828	21	ND	ND
SB34	EVSB34-S-12829	23	ND	ND
SB34	EVSB34-S-12830	25	ND	< 10 (1.9 J)
SB34	EVSB34-S-12831	27	ND	ND
SB34	EVSB34-S-12832	29	ND	ND
SB34	EVSB34-S-12833	31	ND	ND
SB34	EVSB34-S-12834	33	ND	ND
SB34	EVSB34-S-12835	35	< 10 (3.8 J)	ND
SB34	EVSB34-S-12836	37	< 10 (7.6 J)	< 10 (2.6 J)
SB34	EVSB34-S-12837	39	12	< 10 (3.1 J)
SB34	EVSB34-S-12848	41	10	< 10 (2.5 J)
SB34	EVSB34-S-12849	43	14	< 10 (2.8 J)
SB34	EVSB34-S-12850	45	ND	ND
SB34	EVSB34-S-12851	47	15	< 10 (3.5 J)

[a] ND, contaminant not detected.

[b] J, estimated concentration below quantitation limit of 10 μg/kg.

[c] Surrogate recovery outside quality control range of 80-120%.

TABLE A.4 Results of soil particle size analyses on subsurface soils collected during the second and third sessions of the Phase II field investigation at Everest, Kansas.

Location	Depth (ft BGL)	Particles Passing through Sieve Size (%)																
		3/4 in.[a]	1/2 in.	3/8 in.	#4	#10	#18	#20[a]	#35	#40	#50[a]	#60	#100	#120[b]	#140	#200	#230[b]	#270
SB20	56-58	100	96.1	95.5	91.5	83.8	75.2	73.4	64	58.9	47.7	42.7	31.7		28.2	26.3		24.9
SB20	62-63			100	98.9	96.4	90	87.9	71.7	63.8	49.4	44.2	33.4		30.2	28.2		26.3
SB21	60-62			100	99.4	98.5	95.8	94.9	90.9	89	84.8	82.9	77.6		75.9	74.8		74.2
SB21	64-66	100	92.1	92.1	91.5	90	87.1	86	79.5	76	68.4	64.9	55.6		51.7	49		46.8
SB33	66-68			100	99.3	97.6	93.2	91.5	80.2	74.1	61.5	54.2	34.8		30.6	28.5		27.4
SB38	55-57			100	98.8	96.7	90	87.7	71.7	62.1	43.9	35.4	20.3		15.9	13.9		12.7
SB38	70-72		100	98.3	94.5	86.8	71.4	68.7	57.7	53.9	44.9	40.4	28.2		24.3	22.2		20.9
SB39	70-72	100	98.2	98.2	97.5	95	87.2	83.9	63.4	51.9	31.4	24	12.7		10.1	9.1		8.9
SB41	70-72		100	99.3	92.7	80.9	67.6	65.4	52.4	41.7	28.4	25.3	15.7		12.6	11.1		10.4
SB49	46-47.3		100	100	99.7	98.8	96.7		79.9	69.5		32.7	15.3	13.7	12.5	11.1	10.7	10.2
SB50	49.8-50.8		95.7	94.2	92.3	89.1	85.9		77.2	71.8		51.7	36	32.7	29.2	24.3	22.6	20.8
SB50	50.8-51.8		100	98.5	96.2	92.1	89.1		85.2	83.3		72	53.8	50.8	47.1	41.3	39.1	36.8
SB50	52.3-52.6		100	100	99.7	99.1	97.4		95.6	95		92.5	89.5	88.4	87.2	85	84	82.6
SB53	22-23		100	100	100	99.8	99.6		98.3	97		87.7	75.2	71.3	65.7	56.1	50.7	43.6
SB53	26-28		98.1	98.1	96.7	95.4	93.6		91.9	89.2		83	75.3	73.4	71.3	67.3	65.5	63.3
SB54	23-25		98.3	94	89.8	75.2	51.2		24.8	20.5		13.7	11.7	11.5	11.2	10.8	10.6	10.3
SB56	23-25		100	98.1	93.2	86.1	73.8		56.7	51.4		36.9	25.7	23.4	20.8	17.2	15.8	14.4

[a] Sieve size used for March-April 2001 samples only (second session).

[b] Sieve size used for November 2002 samples only (third session).

TABLE A.5 Compositions of soil samples collected during the second and third sessions of the Phase II field investigation at Everest, Kansas.

Location	Depth (ft BGL)	Composition (%) Gravel	Sand	Silt	Clay
SB20	56-58	8.5	65.2	17.6	8.7
SB20	62-63	1.1	70.7	18.5	9.7
SB21	60-62	0.6	24.6	42.4	32.4
SB21	64-66	8.5	42.5	30.7	18.3
SB33	66-68	0.7	70.8	16.9	11.6
SB38	55-57	1.2	84.9	6.2	7.7
SB38	70-72	5.5	72.3	15	7.2
SB39	70-72	2.5	88.4	3.9	5.2
SB41	70-72	7.3	81.6	7.6	3.5
SB49	46-47.3	0.3	88.6	5.4	5.7
SB50	49.8-50.8	7.7	68	18	6.3
SB50	50.8-51.8	3.8	54.9	30.6	10.7
SB50	52.3-52.6	0.3	14.7	41.7	43.3
SB53	22-23	0	43.9	48.5	7.6
SB53	26-28	3.3	29.4	38.6	28.7
SB54	23-25	10.2	79	3.7	7.1
SB56	23-25	6.8	76	12.6	4.6

Appendix B:

Core Logs and Cone Penetrometer Traces

Argonne National Laboratory

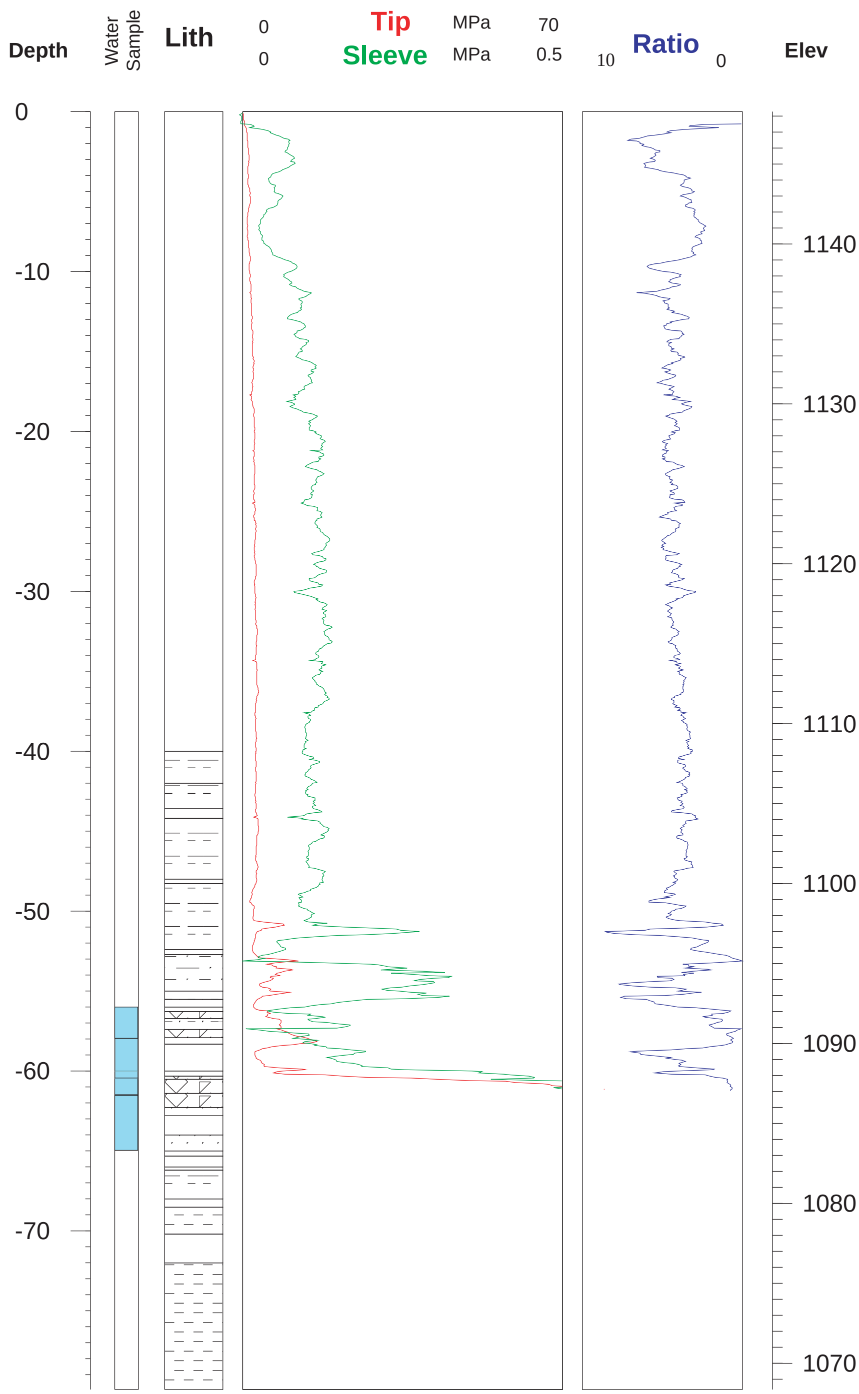
Project: Everest, KS

Boring ID: SB20

Elevation: 1148.25 ft
Depth: 79.9 ft
Geologist: LaFreniere/Barrett
Location: 2035021.63, 500291.45

Log Date: 3/06/01
Plot Date: 5/09/01

Rig: CPT
Driller: K. Spokas
Company: Argonne



Argonne National Laboratory

Project: **Everest, KS** **Boring ID:** **SB20**

Elevation: 1148.25 ft
Depth: 79.9 ft
Geologist: LaFreniere/Barrett
Location: 2035021.63, 500291.45
Log Date: 3/06/01
Plot Date: 5/09/01
Rig: **CPT**
Driller: K. Spokas
Company: Argonne

Depth	Water Sample	Lithology	Elev.
		NO SAMPLE: (no Sample from 0 -40 ft)	
-40		CLAY, SILTY: minor scattered sand. Pinkish gray to gray, slightly mottled with evidence of scattered Mn. Inclusions with concentrations of sand and some associated porosity; non-calcareous, moderately stiff and dry.	
		CLAY, SILTY: clay to silty clay, minor sand. Pinkish-gray to brown, generally lighter in color than above. Oxidation associated with minor scattered Mn; dry.	1105
		CLAY: minor silt; marked undulatory contact with overlying unit; dark brown, moderately plastic, non-calcareous; dry.	
-45		CLAY, SILTY: scattered sands throughout, sand content increasing with depth. Lt. brownish-gray, v. slightly plastic, scattered black Mn grains, minor evidence of oxidation associated with areas of Mn concentration; trace cemented sand inclusions; dry.	
		CLAY, SILTY: slightly silty; dark brown, froming sharp contact with overlying unit; non-calcareous, plastic, dry.	1100
-50		CLAY, SILTY: scattered sand; lt brownish-gray; black Mn grains scattered throughout; mottled appearance; slightly plastic, non-calcareous, dry.	

SB20 p. 2

Depth W.S. **Lithology** Elev.

CLAY, SILT AND SAND: with weathered light gray to white calcareous cemented sandy inslusions; dry.

1095

CLAY, SILT AND SAND: light brownish-gray, non-calcareous with porous zones associated with sandy lenses; lenses are cemented clayey sand to sandy clay in a calcareous clay matrix.

-55

CLAY, SILT AND SAND: Light brownish gray, calcareous, slightly plastic, generally dry.

CLAY AND SAND: sandy clay to clayey sand, very pale brown; as above with marked increase in sand content; highly calcareous; disaggregated sand from 55.75' -56'; dry.

CLAY, SILTY: abrupt contact with overlying zone; dark brown, calcareous, highly plastic, wet.

CLAY, SAND AND GRAVEL: small gravel; very poorly sorted, well-developed porosity and permeability; subrounded to angular predominately quartz grains; highly oxidized, highly calcareous, saturated.

CLAY AND SAND: sandy clay to clayey sand with higher clay content than above; highly oxidized, highly calcareous, saturated.

1090

CLAY, SAND AND GRAVEL: coarse sand to sandy clay with small gravel, granular gravels to 18mm in length; highly calcareous, saturated.

SAND AND GRAVEL: unconsolidated, very poorly sorted sand, granular gravels to 20mm; sands medium to coarse grained, trace calcareous clay matrix; highly oxidized.

-60

NO RECOVERY

SAND: loose, highly oxidized, saturated.

CLAY, SAND AND GRAVEL: high percentage of sand; highly oxidized, calcareous, wet to saturated.

CLAY, SAND AND GRAVEL: very sandy with granular gravels; highly oxidized and calcareous.

CLAY, SAND AND GRAVEL: highly oxidized with intercalated lenses of very poorly sorted, saturated, loose quartz sand, grain sizes ranging from fine to very coarse, minor granular gravels; highly calcareous, wet.

SAND: medium to coarse; highly oxidized. loose, highly calcareous, wet.

1085

NO RECOVERY: (presumed to be sand)

SAND: Sand to sandy clay. Highly oxidized, saturated, unconsolidated, slightly calcareous. Sand is poorly sorted; predominately medium to coarse grained quartz with varying clay content to pure sand.

-65

CLAY, SILT AND SAND: Very silty clay with abundant scattered fine to medium grained sand. Clay is highly calcareous, highly oxidized and wet.

CLAY, SILT AND SAND: Very sandy silty clay, minor angular granular gravels. Highly calcareous with minute lenses with high sand and gravel content. Highly oxidized and wet.

SB20 p. 3

Depth W.S. **Lithology** Elev.

CLAY, SILT AND SAND: Highly calcareous and oxidized, very sandy, silty clay. Marked increase in the lenses of light gray to white very fine to fine grained sand as above. Highly calcareous minor clay matrix. Sands becoming coarser grained with depth with some granular gravels present locally. Clays are fairly stiff, oxidized, yellowish-brown in color and damp to dry in moisture content.

CLAY, SILTY: to silt, clayey with sand. Highly oxidized with very localized evidence of sand. Highly calcareous with minor evidence of granular gravels to 30 mm in length. Silt content increases with depth. Minor, scattered manganese inclusions throughout. Yellowish-brown, fairly stiff clay. Till sequence. Damp to dry.

1080

CLAY, SANDY: Probable slough. Wet.

SILT: Olive, dense, hard, friable. Calcareous and waxy in appearance. Top of Unit 4.

-70

NO RECOVERY

SILT: Olive, dense, hard, friable. Calcareous and waxy in appearance. Refusal at 79.9 ft. bgl.

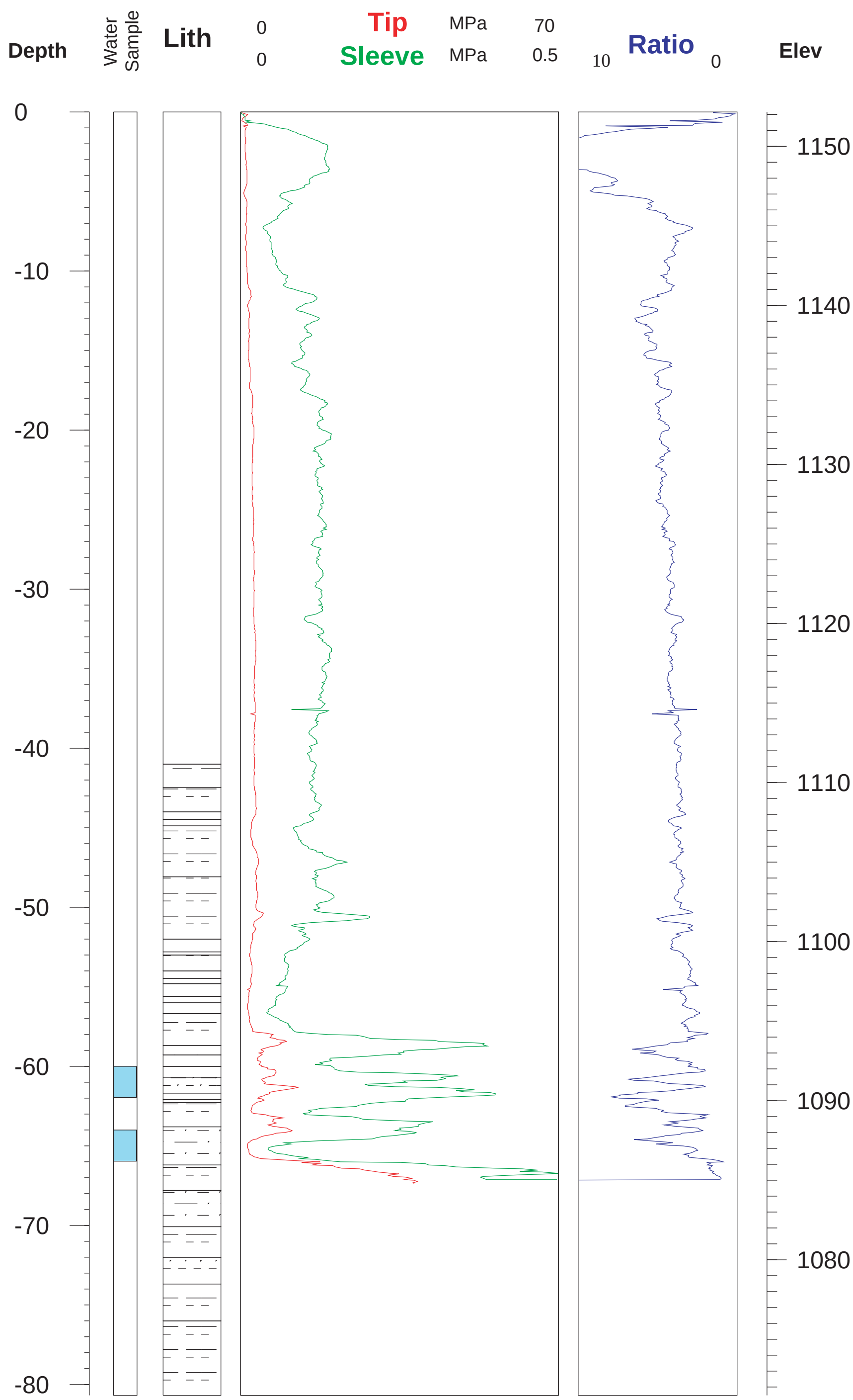
1075

-75

1070

Argonne National Laboratory

Project: Everest, KS
Boring ID: SB21
Elevation: 1152.18 ft
Depth: 80.7 ft
Geologist: LaFreniere/Barrett
Location: 2034651.18, 500625.54
Log Date: 3/08/01
Plot Date: 4/19/01
Rig: CPT
Driller: K. Spokas
Company: Argonne



Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB21

Elevation: 1152.18 ft
Depth: 80.7 ft
Geologist: LaFreniere/Barrett
Location: 2034651.18, 500625.54
Log Date: 3/08/01
Plot Date: 4/19/01
Rig: CPT
Driller: K. Spokas
Company: Argonne

Depth	Lithology	Elev.
-40	NO SAMPLE: (No sample recovery from 0 to -41 ft).	
	CLAY: Dark brown; with trace of fe-oxide; medium hardness, somewhat moist.	1110
	CLAY, SILTY: Medium gray to brownish gray with minor silt, trace Fe-oxide; hard, indurated, dry; subrounded fine pebble at 43.6’. laminated.	
	CLAY: Dark brown similar to 41.0-42.5’ interval; medium hardness, moist.	
-45	CLAY: Mixture of mostly very dark brown clay (nearly black) with organic material; medium hardness, moist.	
	CLAY, SILTY: Oxidized to brownish gray, minor Fe-oxide and very minor dark brown (probably organic) material; hard, dry, laminated.	1105
-50	CLAY, SILTY: Medium yellowish - gray clay, silt content increasing with depth, trace Fe-oxide and organics (black); very fine sand (up to 20% - also increases with depth), dry.	
	CLAY: Dark brown with very dark brown (nearly black) organic containing clay; medium hardness (moist); trace Fe-oxide; wood & plant material (52.5 - 52.8’) surrounded by very dark brown clay. (Note: plant material is just above a sandy layer at 52.8 - 52.9’).	1100

SB21 p. 2

Depth W.S. **Lithology** Elev.

CLAY, SANDY: Some silt; amount of fine sand varies (20% to 75%); fairly hard (little moisture); medium yellowish-gray.

CLAY, SILTY: Medium brownish gray with minor fine sand; trace Fe-oxide; hard (very little moisture).

CLAY, SILT AND SAND: Grayish brown; sand content (fine to medium grained) varies considerably through the unit; slightly moist

-55

SAND, CLAYEY: As above with a marked increase in sand and sandy clay, very poorly sorted, somewhat friable sand; dry.

CLAY, SILTY: Lt grayish-brown with trace fine to very fine sand. Minor oxidation associated with minute manganese nodules. Abrupt contact with unit below; moist

CLAY, SANDY: Grayish-brown clay as above with marked increase in sand content; very poorly sorted, very fine to fine with trace medium, grains.

CLAY: Dark brown similar to 44.0 - 44.5 ft; trace organic material at base; moist — 1095

CLAY, SILTY: Medium brownish gray with minor fine sand; trace Fe-oxide; few rounded to subrounded fine pebbles, moist

CLAY, SILTY: Medium brownish gray, some calcareous material (caliche); trace Fe-oxide, dry.

CALICHE: White, highly calcareous caliche zone; 20% of zone is silty clay similar to 58.7 - 59.3 interval. Contains some hard white pieces (caliche) and a few fine pebbles (subrounded); caliche partly altered to white clay, dry.

-60

NO RECOVERY: No recovery (Note: 60.0 - 62.0' could have water).

CLAY AND SAND: Medium and dark brown organic clay with light gray sand zones (containing silt); very moist and soft, calcareous

CLAY: Medium gray with zones of hard white caliche; highly calcareous; traces Fe-oxide, moderate moisture. — 1090

CALICHE: White, hard caliche; calcareous, very dry, oxidized.

CLAY, SILTY: Medium gray with sandy zones (62.9 - 63.0 ft); some caliche assoc. with sand; calcareous, oxidized, fairly dry.

CLAY, SILT AND SAND: Oxidized, with a few fine pebbles (largest at 64.2 ft - 1 3/8 in. in size); amount of sand varies averaging 40-50%, calcareous, minor gravel, fairly moist.

-65

CLAY, SILTY: Oxidized gray silty clay with caliche zones (containing nodules) at 66.7- 66.8 ft and 67.5 - 67.6 ft; moderate Fe-oxide, 10-20% sand, calcareous.

— 1085

SB21 p. 3

Depth W.S. **Lithology** Elev.

CLAY, SILT AND SAND: Oxidized, similar to 63.8 to 66.2 interval; minor gravel; moderately calcareous; minor caliche, some moisture.

-70

CLAY, SILTY: Oxidized, gray with some caliche; similar to interval 66.2 to 67.8 ft; 10-20% sand; quite dry/hard; calcareous.

SAND, SILTY: Oxidized, gray, very moist and soft. Sand fine-grained, much silt. Slightly calcareous, wet. 1080

CLAY, SILTY: Oxidized, gray, similar to interval 63.8 - 66.2 ft, but drier; contains 40-50% sand, calcareous, minor gravel.

-75

CLAY, SILTY: Medium brownish to greenish gray, very silty. Hard, indurated and dry; moderately calcareous; partial recovery. Total Depth: 80.7’ bgl in hard, indurated greenish-gray, very silty clay.

1075

-80

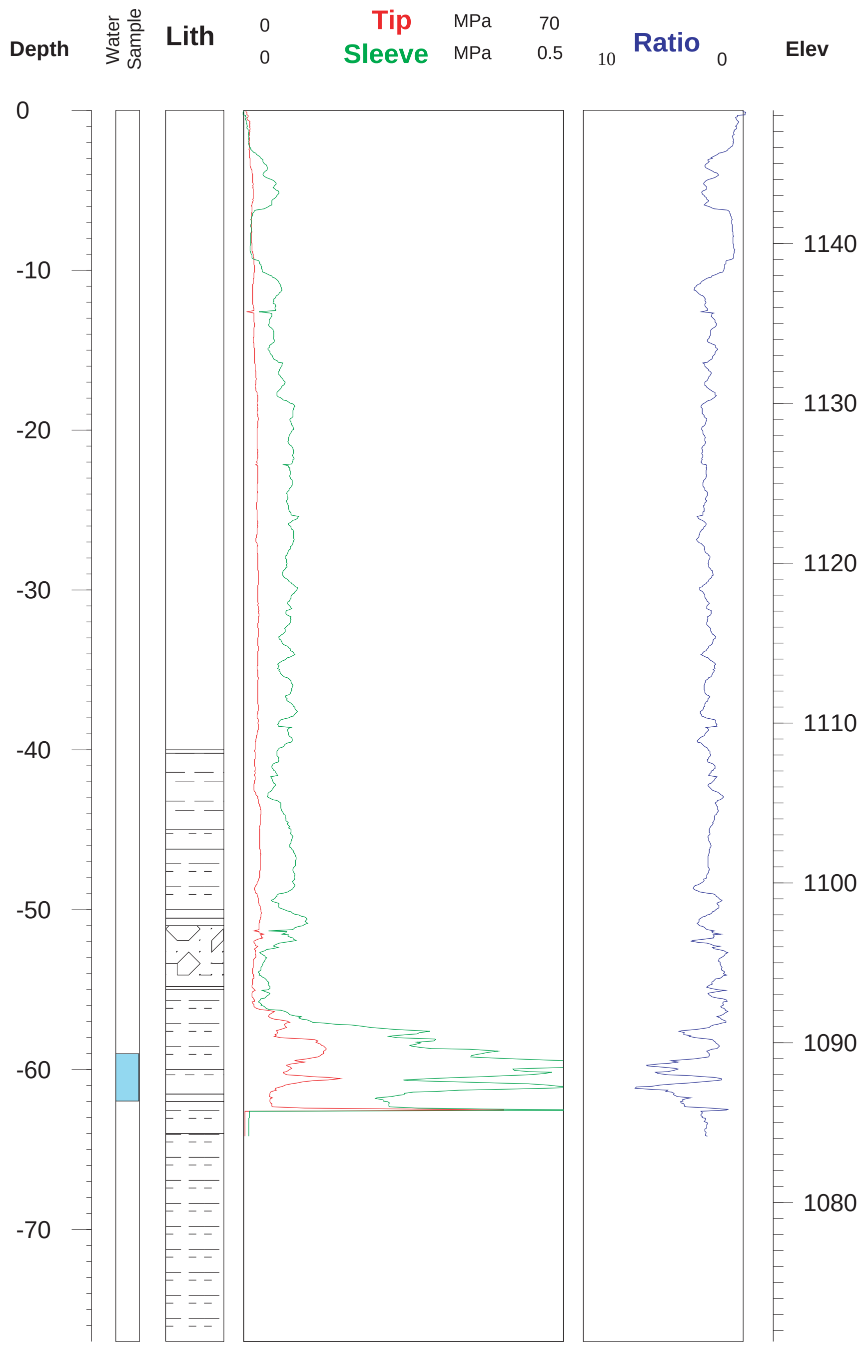
Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB22

Elevation: 1148.32 ft
Depth: 77 ft
Geologist: LaFreniere/Barrett
Location: 2036116.87, 500456.09

Log Date: 3/06/01
Plot Date: 4/19/01

Rig: CPT
Driller: K. Spokas
Company: Argonne



Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB22

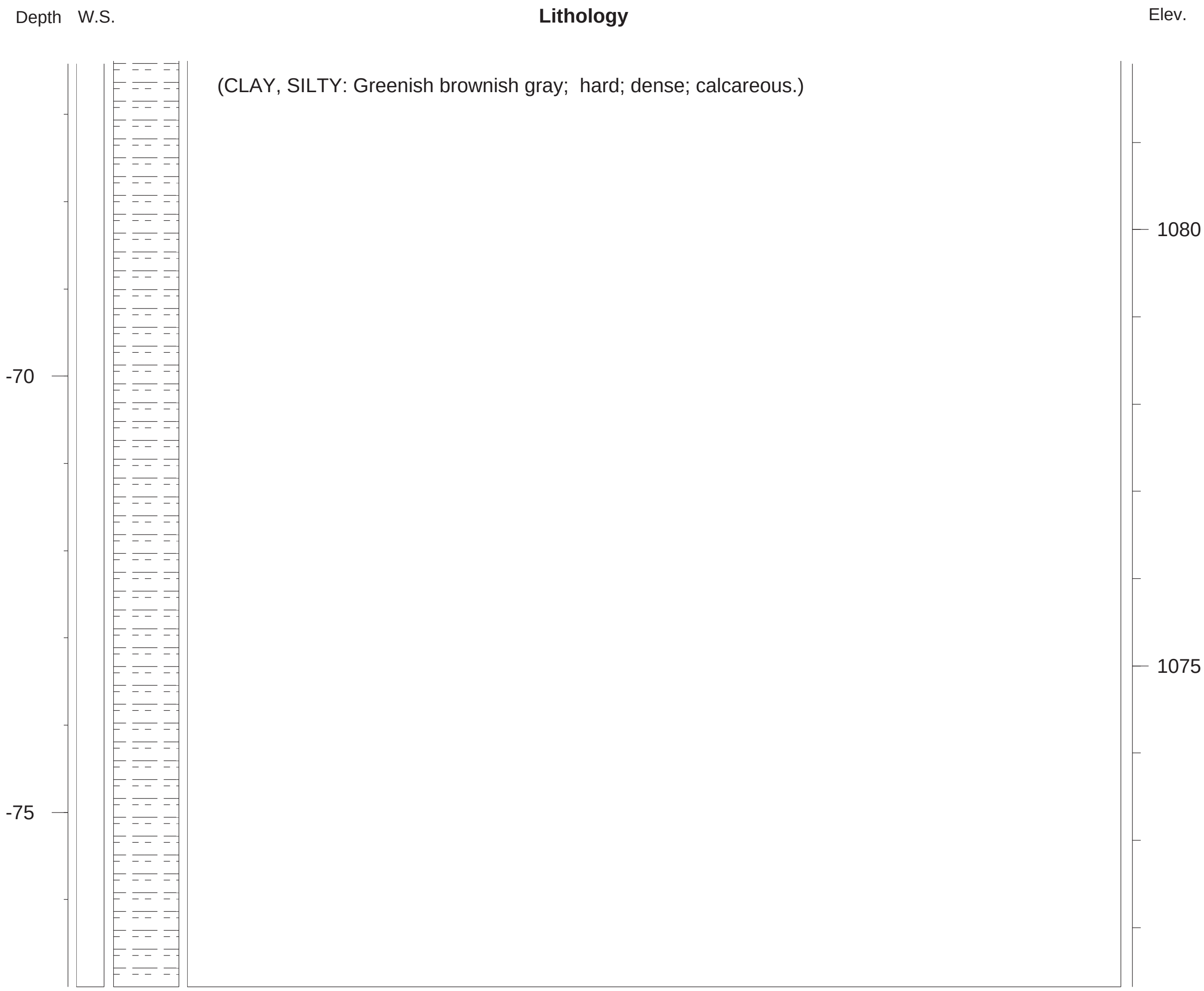
Elevation: 1148.32 ft
Depth: 77 ft
Geologist: LaFreniere/Barrett
Location: 2036116.87, 500456.09
Log Date: 3/06/01
Plot Date: 4/19/01
Rig: CPT
Driller: K. Spokas
Company: Argonne

Depth	Water Sample	Lithology	Elev.
		NO SAMPLE: (No Sample from 0 -40 ft)	
-40		NO RECOVERY: No samples taken.	
		CLAY: Medium gray to brownish gray with minor fe-oxide staining, non-calcareous, trace white clay at 44 ft; low moisture, laminated, prob. Mn-oxide throughout, increasing below 44.4 ft. Minor silt content.	1105
-45		CLAY, SILTY: Dark brown with moderate moisture; soft, minor fe-oxide, minor organics.	
		CLAY, SILTY: Medium gray with trace fe-oxide; minor black laminations; prob. Mn-oxide throughout; minor silt. Low moisture; hard.	1100
-50		CLAY, SILTY: Medium to dark brown with trace fe-oxide; minor laminations - probably Mn-oxide throughout; minor silt. Low moisture; hard.	
		CLAY, SILTY: Medium gray silty clay w/trace of fe-oxide; minor laminations - probably Mn-oxide throughout; minor silt. Low moisture; hard.	

SB22 p. 2

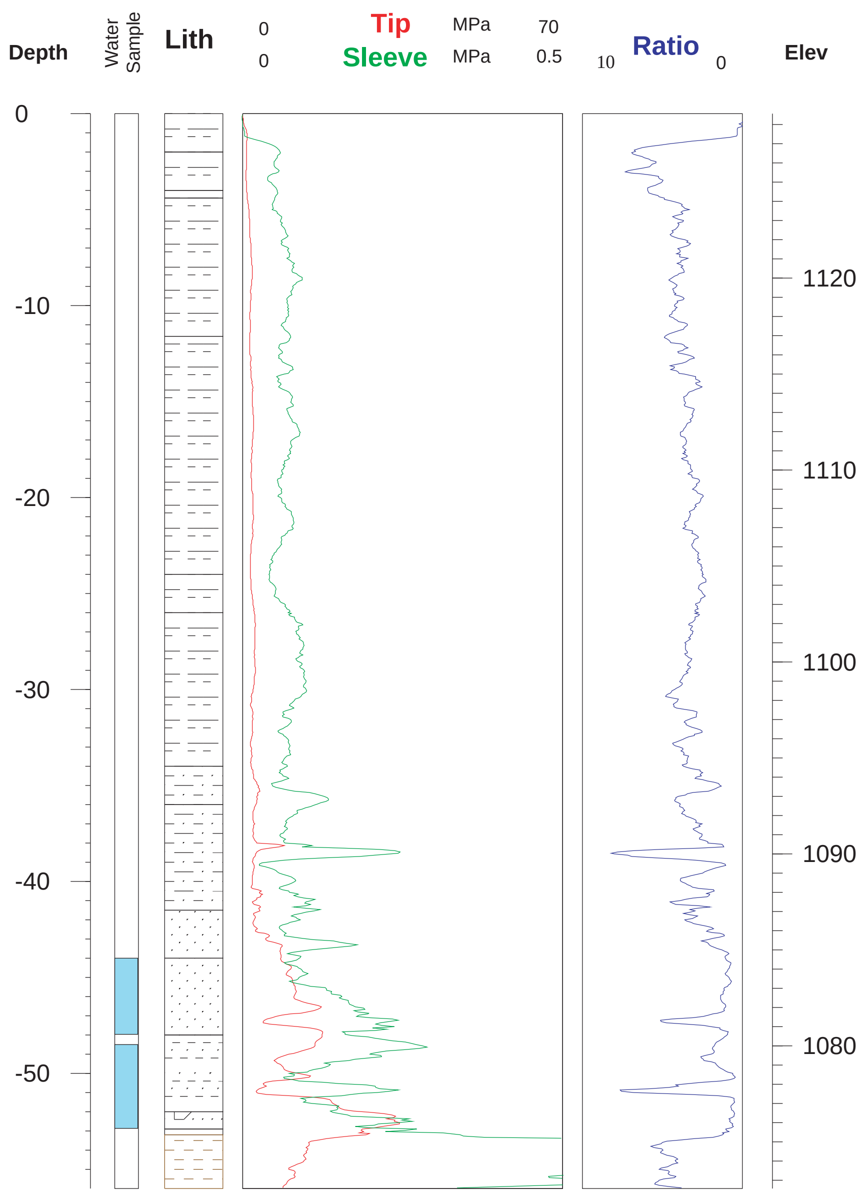
Depth	W.S.	Lithology	Elev.
		CLAY, SILT AND GRAVEL: Weathered rock pieces, (very fine grained, probably rhyolite); clay moisture low but increases slightly w/depth; few rounded to angular "fine pebbles"; moderate fe-oxide calcareous.	1095
-55		CLAY, SILTY: Light gray, dry crumbly and hard, variable moisture, calcareous.	
		CLAY, SILTY: Oxidized gray, trace fine pebbles (rounded to angular); moist 55.0-55.4 low moisture below 55.4 ft; silt and minor sand below 59.5 ft; much fe-oxide staining throughout; local dark brown and light gray clay. calcareous.	1090
-60		SILT, SANDY: Oxidized brown sandy silt; sand content 40-50%, fine to med grained; wet. White pebble (.7 in size) at 60.3 ft. Contains minor clay and few fine pebbles, non-calcareous.	
		CLAY, SILTY: Oxidized brown silty clay; some indurated light gray clay included; decrease in moisture from previous interval; calcareous.	
		CLAY, SILTY: Medium greenish gray silty clay with traces of fe-oxide. Very compact and dry; calcareous.	1085
-65		CLAY, SILTY: Greenish brownish gray; hard; dense; calcareous.	

SB22 p. 3


Depth
W.S.
Lithology
Elev.
(CLAY, SILTY: Greenish brownish gray; hard; dense; calcareous.)
-70
-75
1080
1075

Argonne National Laboratory

Project: Everest, KS
Boring ID: SB23
Elevation: 1128.55 ft
Depth: 56 ft
Geologist: LaFreniere/Barrett
Location: 2035803.12, 499573.58
Log Date: 3/19/01
Plot Date: 4/23/01
Rig: CPT
Driller: K. Spokas
Company: Argonne



Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB23

Elevation: 1128.55 ft
Depth: 56 ft
Geologist: LaFreniere/Barrett
Location: 2035803.12, 499573.58
Log Date: 3/19/01
Plot Date: 4/23/01
Rig: CPT
Driller: K. Spokas
Company: Argonne

Depth	Water Sample	Lithology	Elev.
0		SILT, CLAYEY: Very dark brown clayey silt, organic rich; most plant material 0.0-0.1 ft; moisture from surface (damp).	
		SILT, CLAYEY: Grayish brown to yellowish brown clayey silt; minor fe-oxide and minor organics; little moisture.	1125
-5		SILT, CLAYEY: Slump very dark brown clayey silt; damp	
		SILT, CLAYEY: Yellowish brown to light brownish gray clayey silt, oxidized (w/Fe-oxide) and manganese oxide (black); dry.	1120
-10			
		SILT, CLAYEY: Light brownish gray to grayish brown clayey silt (similar to above interval, but lighter color and reduced oxidation); dry; traces of Fe-oxide nodules up to 5/32"; high clay content. Note: slump from 16.0-16.4 ft and 20.0-20.2 ft.	1115
-15			
			1110
-20			
			1105
-25		SILT, CLAYEY: Brown; similar to 11.6-24.0 interval except minor color change; dry.	

SB23 p. 2

Depth	W.S.	**Lithology**	Elev.
		SILT, CLAYEY: Grayish brown clayey silt similar to 11.6-24.0 ft; dry. Note: Possible slough - zone of	1100
-30			1095
-35		SILT, CLAY, AND SAND: Grayish brown clayey and sandy silt - contains up to 10% fine sand; caliche (35.8-36.0 ft) calcareous; slight moisture; only traces of Fe-oxide.	
		SILT, CLAY, AND SAND: Light gray to light brownish gray, very calcareous silt; traces of Fe-oxide; caliche zones (41.0-41.5 ft and 39.0-39.3 ft, gray to white). Sand content varies up to 10%; traces of Mn-oxide; dry and crumbly.	1090
-40			
		SAND: Light yellowish brown; mostly fine grained w/fine to medium grained; well sorted; Fe-oxide occurring as a nodules w/caliche (41.8-42.0 ft); moist.	1085
-45		SAND: Light yellowish brown fine grained sand; well sorted; <10% is black sand; wet to saturated.	
		SAND, SILTY: Yellowish brown very fine grained sand mixed w/silt; wet-saturated; oxidized.	1080
-50			
		SAND AND GRAVEL: Yellowish brown to light yellowish brown medium grained, sand and gravel. Matrix clayey silt that is moderate calcareous; damp.	
		SILT, CLAYEY: Olive brown to olive yellow dry; moderate calcareous; contains Fe-oxide; transition zone.	1075
-55		SILT: Olive brown mostly mixed with very dark grayish brown silt; crumbly and dry; moderate calcareous; Note: Missing portion, probably from 55.2-56.0 ft.	

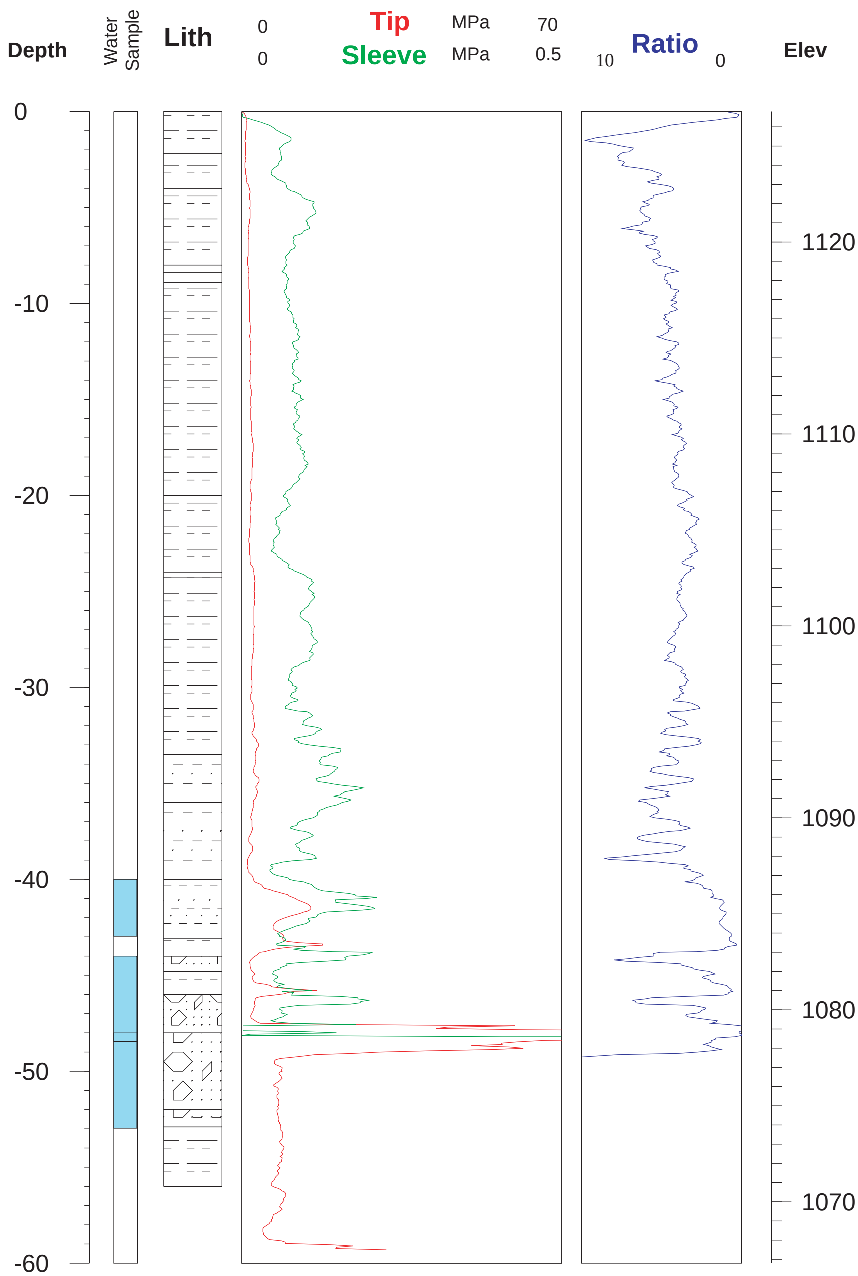
Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB24

Elevation: 1126.83 ft
Depth: 56 ft
Geologist: LaFreniere/Barrett
Location: 2035667.88, 499661.97

Log Date: 3/14/01
Plot Date: 4/23/01

Rig: CPT
Driller: K. Spokas
Company: Argonne



Argonne National Laboratory

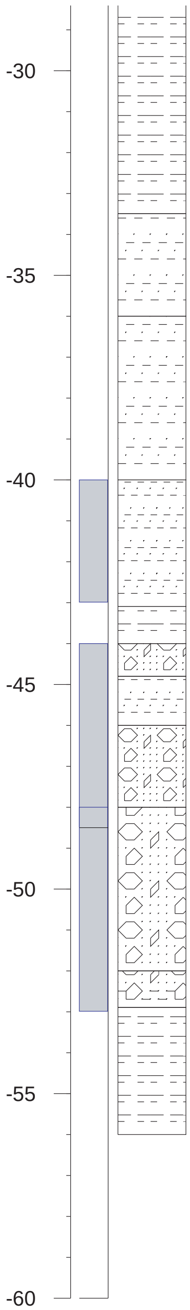
Project: Everest, KS **Boring ID:** SB24

Elevation: 1126.83 ft
Depth: 56 ft
Geologist: LaFreniere/Barrett
Location: 2035667.88, 499661.97
Log Date: 3/14/01
Plot Date: 4/23/01
Rig: CPT
Driller: K. Spokas
Company: Argonne

Depth	Water Sample	Lithology	Elev.
0		SILT, CLAYEY: Very dark brown, organic rich, plant material 0.0-0.7', some moisture from surface.	1125
		SILT, CLAYEY: Dark grayish brown (upper part) to dark brown, trace of oxidation; minor organic material. Slight moisture.	
-5		SILT, CLAYEY: yellow-brown to brown with some minor black organics and minor Fe-Oxide, laminated, little moisture.	1120
		NO RECOVERY: Slump from 8.0-8.2' interval.	
		NO DESCRIPTION: Missing core above where sample was taken.	
-10		SILT, CLAYEY: Light brownish gray to grayish brown with minor organics and Fe-oxides. Increased oxidation from 18-20'; dry.	1115
-15			1110
-20		SILT, CLAYEY: (Tip did not release. Pushed new hole for the 20.0-24.0 ft interval.) Light brownish gray to grayish brown with minor organics and Fe-oxides; similar to interval 8.9-20.0 (see above); dry.	1105
		SILT, CLAYEY: Brown, very little moisture.	
-25		SILT, CLAYEY: Light brownish gray with gray mottling; locally light gray 29.0-30 ft with minor Fe-oxide, dry. Slump from 28.0 - 28.5 ft. Slump from 32.0 - 32.5 ft.	1100

SB24 p. 2

Depth W.S. **Lithology** Elev.



SILT, SANDY: Light brownish gray, some clay; sand is fine and varies from 10% to 50%; minor Fe-oxide; dry.

SILT, SANDY: Pale brown to light yellowish brown, some clay, minor Fe-oxide; sand is 50%, mostly fine; dry.

SAND, SILTY: Light yellowish brown fine sand with silt; wet 41.0-43.1 - moist 40.0-41.0’; some silty clay 40.0-41’ may be slump.

CLAY, SILTY: Yellowish brown to brownish yellow; oxidized, well-sorted; moist.

SAND, GRAVELLY: Yellowish brown (fine to medium grained), gravel 5-10%, with silt; wet.

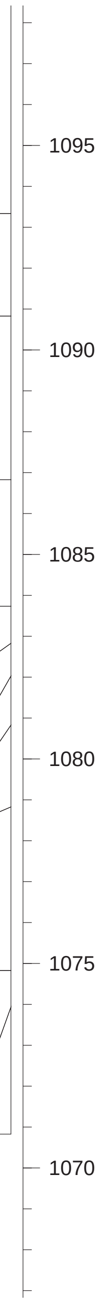
SAND, SILTY: Yellowish brown; fine, well-sorted; wet; very fine sand 44.8-45.3’.

SAND, GRAVELLY: Yellowish brown sand (fine to coarse) with 10-15% gravel, contains silt; pebbles (0.9") of cemented sand and gravel; wet.

SAND AND GRAVEL: Yellowish brown with some silt and clay 50-51 ft; well sorted mostly fine sand 48-50’; poorly sorted 50-52’ w/fine and medium pebbles; (approx. 51 ft). Very wet/saturated with round to subrounded pebbles.

SILT/CLAY/SAND/GRAVEL: Gray clayey silt with sand (fine) and gravel; sand and gravel 10-20%, gravel (fine to medium pebbles) 52.8-52.9’; moderately calcareous, moist.

SILT, CLAYEY: Dark gray; very hard and very dry; minor Fe-oxide; moderately calcareous.



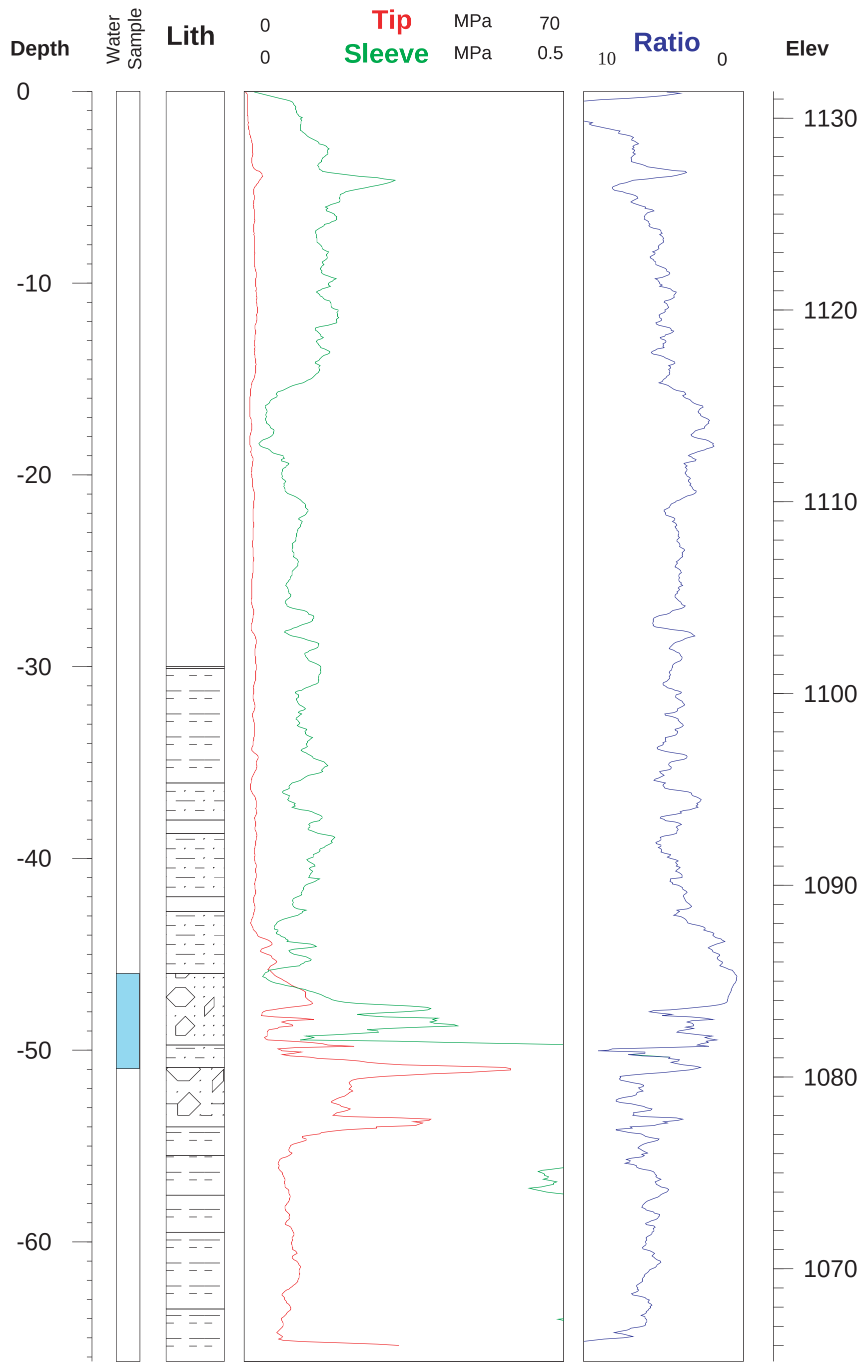
Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB25

Elevation: 1131.42 ft
Depth: 66.25 ft
Geologist: LaFreniere/Barrett
Location: 2035288.37, 499599.31

Log Date: 3/12/01
Plot Date: 4/23/01

Rig: CPT
Driller: K. Spokas
Company: Argonne



Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB25

Elevation: 1131.42 ft
Depth: 66.25 ft
Geologist: LaFreniere/Barrett
Location: 2035288.37, 499599.31
Log Date: 3/12/01
Plot Date: 4/23/01
Rig: CPT
Driller: K. Spokas
Company: Argonne

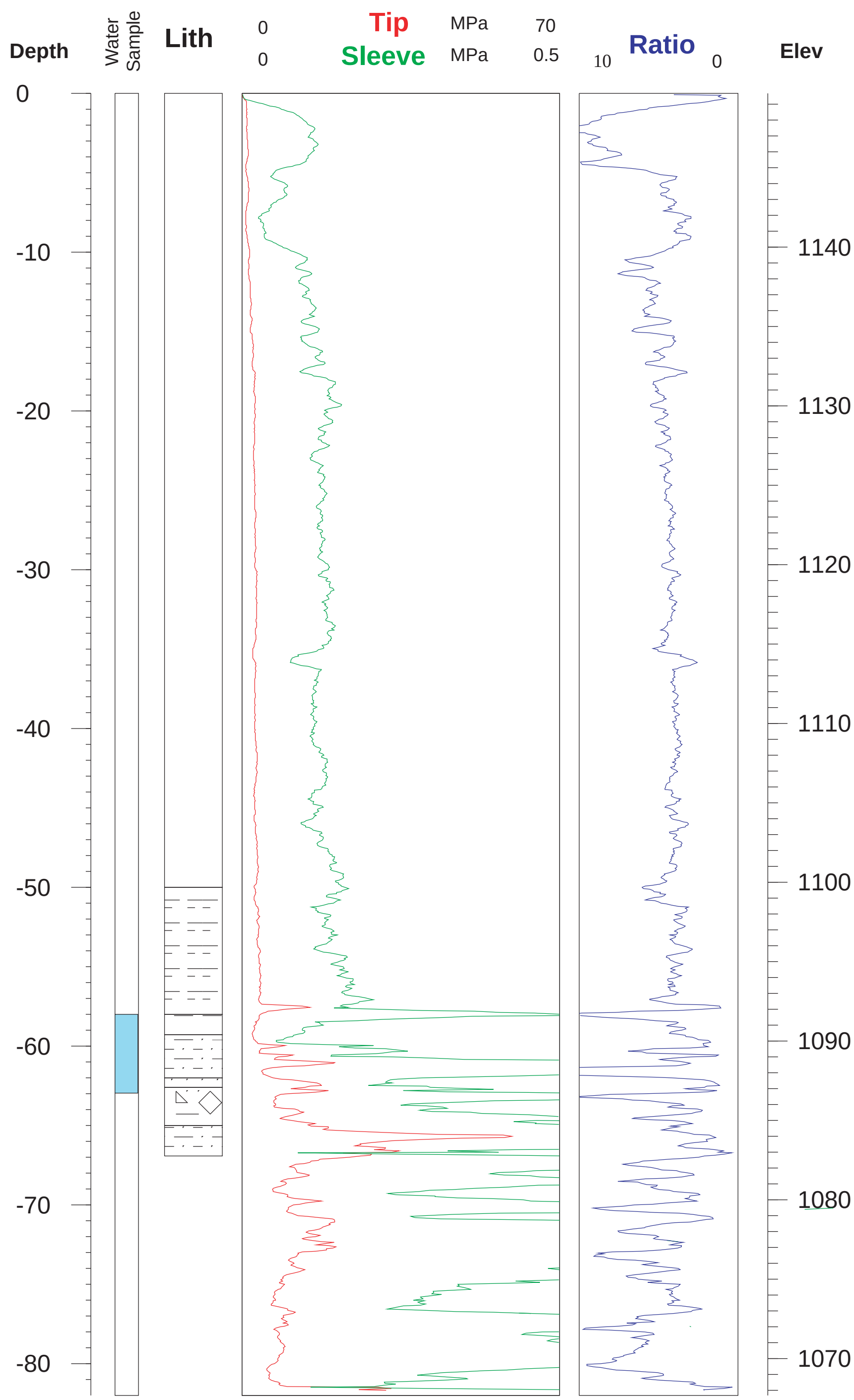
Depth	Water Sample	Lithology	Elev.
		NO SAMPLE: (No sample from 0 -30 ft)	
-30		CLAY: Dark yellowish brown w/minor very dark brown (prob organic) clay; little moisture.	
		CLAY, SILTY: Medium gray with minor Fe-oxide which increases with depth (32.0 to 36.1'); minor black blebs/lines (probably organic); dry and hard.	1100
-35			
		CLAY, SANDY: Yellowish to grayish brown sandy clay; poorly sorted w/ 30-40% sand (20-30% is fine sand, 10% medium sand); trace Fe-oxide as nodules 1/4" in size; dry and hard.	1095
		CLAY: Mottled medium brown clay with darker brown areas; some moisture.	
-40		CLAY, SANDY: Pale brown, sandy clay with silt; poorly sorted w/30-40% fine sand, trace medium to coarse sand; oxidized below 39.4'; dry and hard.	1090
		CLAY: Medium brown; slightly moist.	
-45		CLAY, SANDY: Pale brown, sandy clay with silt; poorly sorted w/40-50% fine sand, trace medium sand; some visible moisture (moist).	
		SAND AND GRAVEL: Light brownish gray sand; gravel (as fine pebbles up to .08') at 46.0-46.4' saturated.	1085
-50		CLAY, SANDY: Yellowish brown sandy clay with 40%-50% sand; poorly sorted w/traces of gravel; moist; calcareous.	
		CLAY, SILT AND GRAVEL: Light yellowish brown to light brownish gray; gravel increases w/depth, limestone granules are up to .1"; very calcareous; cemented sand and gravel "pebble" to .11" in size at 51.4'; very dry and hard. Very hard below 53.4 ft.	1080
-55		CLAY, SILTY: Grayish brown to dark grayish brown with a greenish hue; calcareous; trace Fe-oxide; very dry and hard.	
		CLAY, SILTY: Partial recovery (only .8'). Same as interval 54.0-55.5'; also contains sand slough. See description above.	1075

SB25 p. 2

Depth	W.S.	Lithology	Elev.
		CLAY, SILTY: Olive to olive gray, very silty clay; very calcareous; hard/indurated and dry; slight oxidation.	
-60		CLAY, SILTY: Olive gray to dark gray very silty clay; very calcareous. Similar to above interval except darker in color; hard/indurated & dry; minor Fe-oxide. Extremely calcareous, light olive gray to white zone at 59.5-59.6'.	1070
-65		CLAY, SILTY: Dark olive gray very silty; very dense and hard, moderately calcareous; dry.	

Argonne National Laboratory

Project: Everest, KS
Boring ID: SB26
Elevation: 1149.7 ft
Depth: 66.9 ft
Geologist: LaFreniere/Barrett
Location: 2034664.67, 500266.54
Log Date: 3/20/01
Plot Date: 4/23/01
Rig: CPT
Driller: K. Spokas
Company: Argonne



Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB26

Elevation: 1149.7 ft
Depth: 66.9 ft
Geologist: LaFreniere/Barrett
Location: 2034664.67, 500266.54

Log Date: 3/20/01
Plot Date: 4/23/01

Rig: CPT
Driller: K. Spokas
Company: Argonne

Depth | Water Sample | **Lithology** | **Elev.**

NO SAMPLE: (No sample recovered from 0 -50 ft)

-50 | 1100

CLAY, SILTY: Grayish brown to dark grayish brown with 10-15% fine sand; traces of Fe & Mn-oxides; caliche @ 52.0-54.0'; calcareous @ 50.0-54.0'; very dry.

-55 | 1095

CLAY: Brown, trace Fe-oxide; moist.

-60 | 1090

CLAY, SANDY: Pale brown to yellowish brown; caliche; highly oxidized with Fe-oxide; gravel 5%; largest pebble 1.2" @ 60.15'; extremely calcareous; contains 10-20% fine sand, trace medium sand; moist.

SAND: Yellowish brown with minor clay; calcareous, oxidized, poorly sorted, wet.

SAND, GRAVEL AND CLAY: Yellowish brown with caliche; highly calcareous; contains gravel consisting of fine pebbles; slightly moist; increase in sand 64.7-65.0' ; oxidized at 64.9', calcareous pebble .15" in length.

-65 | 1085

SAND, CLAYEY: Yellowish brown, with fine to medium sized gravel (10%) ; poorly sorted; oxidized (w/Fe-oxide); highly calcareous with clay clasts; slightly moist to dry.

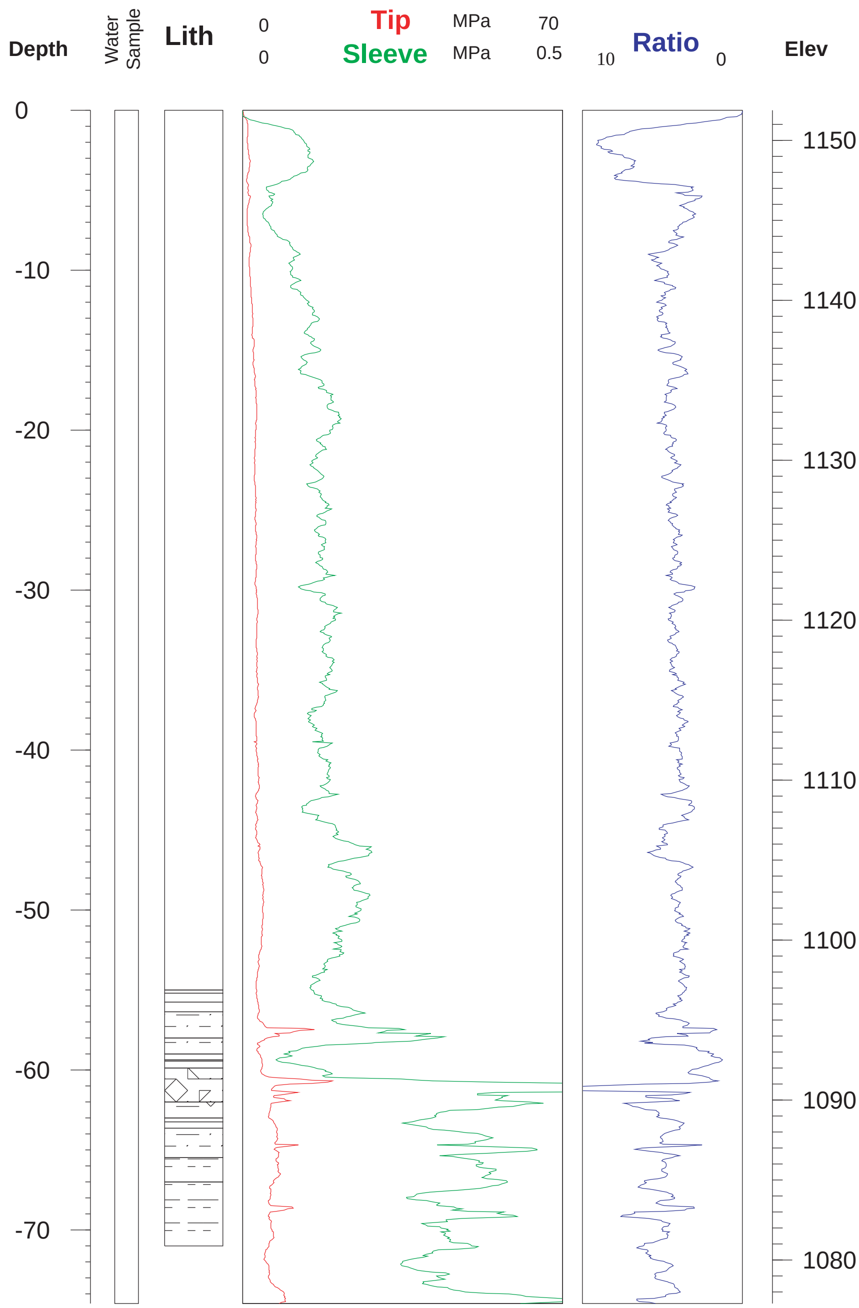
Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB27

Elevation: 1151.88 ft
Depth: 74.60 ft
Geologist: LaFreniere
Location: 2034834.08, 500468.24

Log Date: 3/26/01
Plot Date: 6/06/01

Rig: CPT
Driller: K. Spokas
Company: Argonne



Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB27

Elevation: 1151.88 ft
Depth: 74.60 ft
Geologist: LaFreniere
Location: 2034834.08, 500468.24
Log Date: 3/26/01
Plot Date: 6/06/01
Rig: CPT
Driller: K. Spokas
Company: Argonne

Depth	Water Sample	Lithology	Elev.
		NO RECOVERY: No recovery from 0 -55 ft	
-55		CLAY, SILTY: Dark brown, plastic, non-calcareous, very slightly moist.	
		CLAY, SILT AND SAND: Brownish-yellow, calcareous with limited plasticity. Inclusions of highly calcareous, white, fine sand. Dry.	
		CLAY, SILT AND SAND: As above with increase in sand content and calcareous white sand inclusions. Dry.	
		CLAY, SILT AND SAND: Brownish-yellow, oxidized, calcareous clay. Increase in calcareous content from unit described above. Manganese disseminated throughout. Minor calcareous sand inclusions. Dry.	1095
		CLAY, SILT AND SAND: to sandy clay. Increase in manganese content and slightly darker in color than above.	
		CLAY, SANDY: Calcareous, oxidized, yellowish-brown, very slighty plastic clay, dry.	
		CLAY, SANDY: As above with color change to very dark brown to black due to concentrations of manganese, dry.	
-60		CLAY, SILT AND SAND: Calcareous, with light yellowish-brown oxidation associated with the occurrence of manganese, dry.	
		CLAY, SAND AND GRAVEL: Oxidized, brownish-yellow with minor granular gravels to 1/2 inch in diameter. Sand is poorly sorted. Damp to moist.	
		CLAY,SILT,SAND & GRAVEL: Oxidized, brownish-yellow, fairly plastic with cobbles to 1 inch in length. Till sequence. Slightly damp to dry.	1090
		SAND AND SILT: Concentration of white, calcareous sand and black calcareous silt.	
		CLAY, SILTY: Oxidized, brownish-yellow, fairly plastic. As above with marked reduction in granular gravels (sligthly calcareous). Moist. Till sequence.	
		CLAY, SILT AND SAND: Oxidized, fairly plastic with minor small granular gravels. Increasingly calcareous with depth. Moist.	

SB27 p. 2

Depth	W.S.	**Lithology**	Elev.
-65			
		CLAY, SILTY: Dry, hard, olive brown in color and waxy in appearance. Highly calcareous. Top of Unit 4.	
		CLAY, SILTY: As described above becoming increasingly calcareous with depth.	1085
-70			

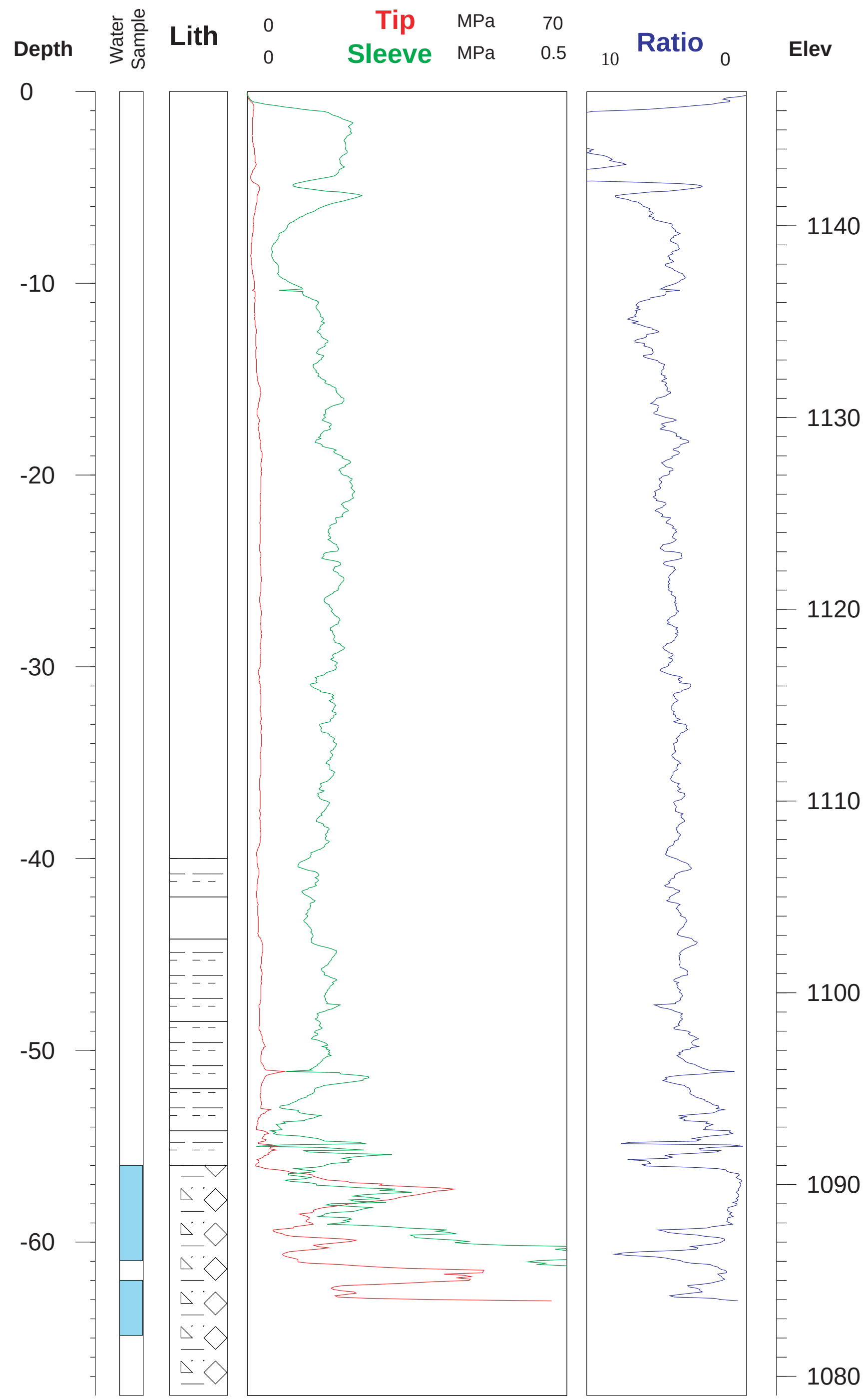
Argonne National Laboratory

Project: Everest, KS
Boring ID: SB28

Elevation: 1147.01 ft
Depth: 68 ft
Geologist: LaFreniere/Barrett
Location: 2035033.58, 500073.67

Log Date: 3/22/01
Plot Date: 4/24/01

Rig: CPT
Driller: K. Spokas
Company: Argonne



Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB28

Elevation: 1147.01 ft
Depth: 68 ft
Geologist: LaFreniere/Barrett
Location: 2035033.58, 500073.67
Log Date: 3/22/01
Plot Date: 4/24/01
Rig: CPT
Driller: K. Spokas
Company: Argonne

Depth	Soil Sample	Lithology	Elev.
		NO SAMPLE: (No sample recovery from 0 -40 ft)	
-40		CLAY, SILTY: Pale brown with traces of Fe-oxides and minor Mn-oxide, trace sand; damp.	
		NO SAMPLE: Slump from above, brown clay.	1105
-45		CLAY, SILTY: Light brownish gray silty clay with 5-10% fine sand; minor Mn-oxide; trace Fe-oxide, trace white clay; dry.	1100
-50		CLAY, SILTY: Light brownish gray to grayish brown with gray mottling (increasing with depth), 5-10% fine sand; abundant caliche; trace Fe-oxide and minor Mn-oxide, .07" pebble at 49.1', calcareous from 49.0'; dry.	
		CLAY, SILTY: Very pale brown to pale brown with 10% fine sand; highly calcareous; minor Fe-oxide; abundant white caliche; fine pebbles, 1" pebble at 53.7'; dry.	1095
-55		CLAY, SILTY: Very pale brown with 10% fine sand; similar to above interval but oxidized and lighter in color; highly calcareous with caliche; Fe-oxide; slightly damp.	
-60, -65	Sampled 56–61 ft, 62–65 ft	SAND, SILT, CLAY AND GRAVEL: Yellowish brown to brownish yellow, poorly sorted mixture of silty and clayey sand and gravel; abundant fine grained sand, light gray; highly oxidized (Fe-oxide), moderately calcareous; gravel mostly fine, some medium; mostly sand with some clay from 62.0-63.5'; pebbles range up to 1.0"; slightly damp - possibly wet from 63.0-66.7'.	1090, 1085, 1080

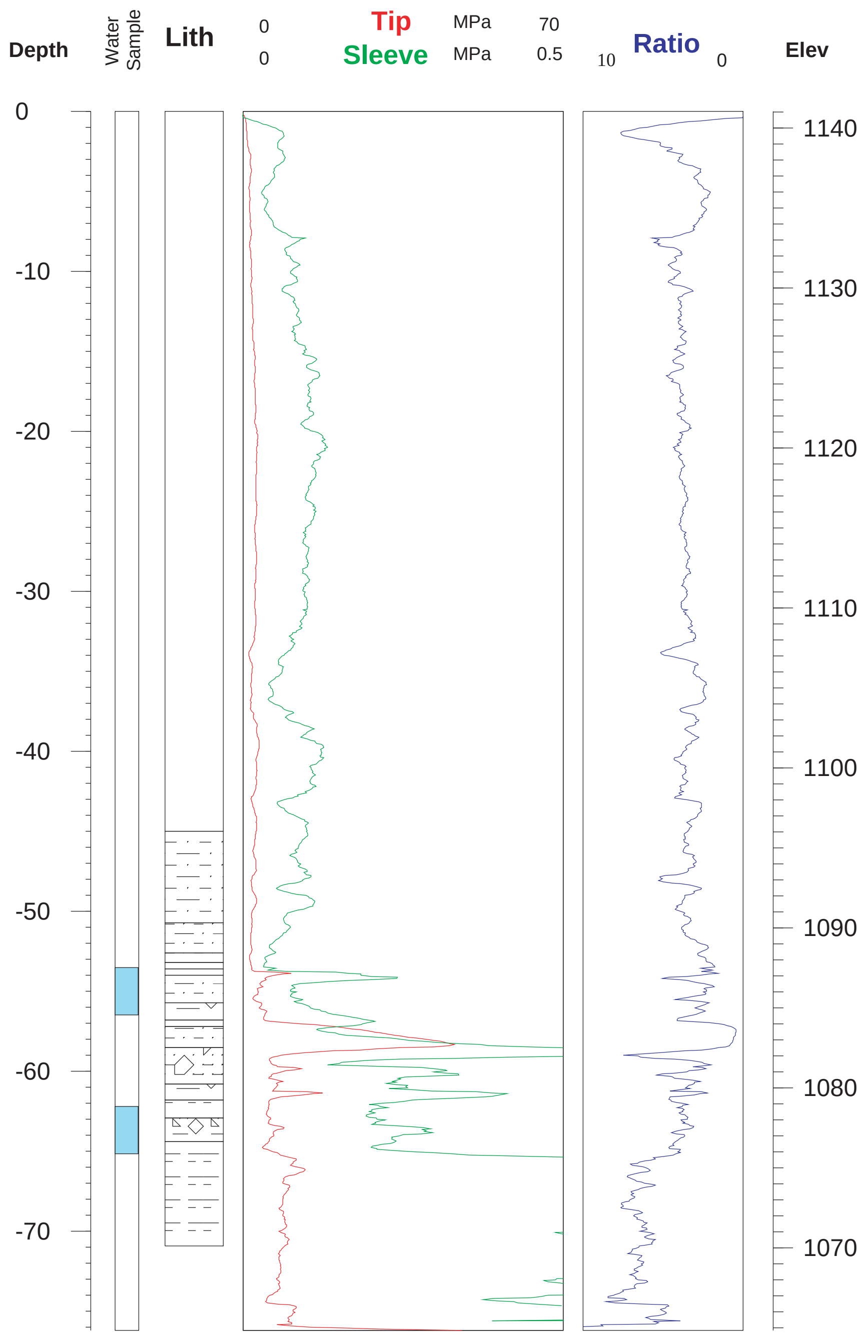
Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB29

Elevation: 1141.04 ft
Depth: 70.9 ft
Geologist: LaFreniere/Barrett
Location: 2035397.08, 500309.4

Log Date: NA
Plot Date: 4/19/01

Rig: CPT
Driller: K. Spokas
Company: Argonne



Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB29

Elevation: 1141.04 ft
Depth: 70.9 ft
Geologist: LaFreniere/Barrett
Location: 2035397.08, 500309.4
Log Date: NA
Plot Date: 4/19/01
Rig: CPT
Driller: K. Spokas
Company: Argonne

Depth	Water Sample	Lithology	Elev.
		NO SAMPLE: (No sample from 0 -45 ft)	
-45		CLAY, SILT AND SAND: Pale brown to grayish-brown, mottled. Sand comprises 15% to 20% fine grained with traces of medium to coarse grained in a highly calcareous clay matrix with caliche. Traces of Fe and Mn oxide. Dry	1095
-50		CLAY, SANDY: Very pale brown with 40% to 50% fine sand with some medium grained. Moderately calcareous with traces of Fe and Mn oxide. Dry	1090
		SAND, CLAYEY: Yellowish-brown clayey sand with 60% to 70% sand in a silty clay. Moderately calcareous and oxidized with nodules of caliche up to .04' in length; appears "clayey". Slightly moist.	
		CALICHE: Light gray caliche with 10% to 20% clay. Oxidized and highly calcareous. Dry.	
		CLAY, SANDY: Yellowish-brown with 10% very fine sand. Highly oxidized, calcareous with some evidence of caliche. Moist	
-55		SILT, CLAY, AND SAND: Yellowish-brown clayey silt with 10% to 20% very fine sand. Non-calcareous, highly oxidized and wet	
		CLAY,SILT,SAND & GRAVEL: Yellowish-brown, very calcareous with 15% to 25% sand. Sand occurs in lenses of light gray fine sand. Minor gravel with pebbles to .04 feet in length. Dry.	1085
		SAND, SILT, AND GRAVEL: Yellowish-brown, fine to medium sand, oxidized and very calcareous. Moist.	
		SILT, CLAY, AND SAND: Yellowish-brown clayey silt with sand lenses, moderately calcareous, and oxidized. Damp.	

SB29 p. 2

Depth	Lithology	Elev.
	SILT, SAND, CLAY & GRAVEL: Minor gravel with pebbles to .07' in length. Moderately calcareous, oxidized, trace of Mn oxide below 60.0'; damp.	
-60		
	SILT AND GRAVEL: Brownish-yellow, fine gravel. Oxidized, moderately calcareous and dry.	1080
	SILT, CLAYEY: Olive, with minor FE oxide, moderately calcareous; very dry.	
	SAND, SILT, AND GRAVEL: Olive-yellow with gravels to 1" in length. Weak to moderately calcareous, oxidized and wet to saturated.	
	SILT, CLAYEY: Olive gray to dark gray, friable, moderately calcareous with minor Fe oxide. Very dry.	
-65		
		1075
-70		
		1070

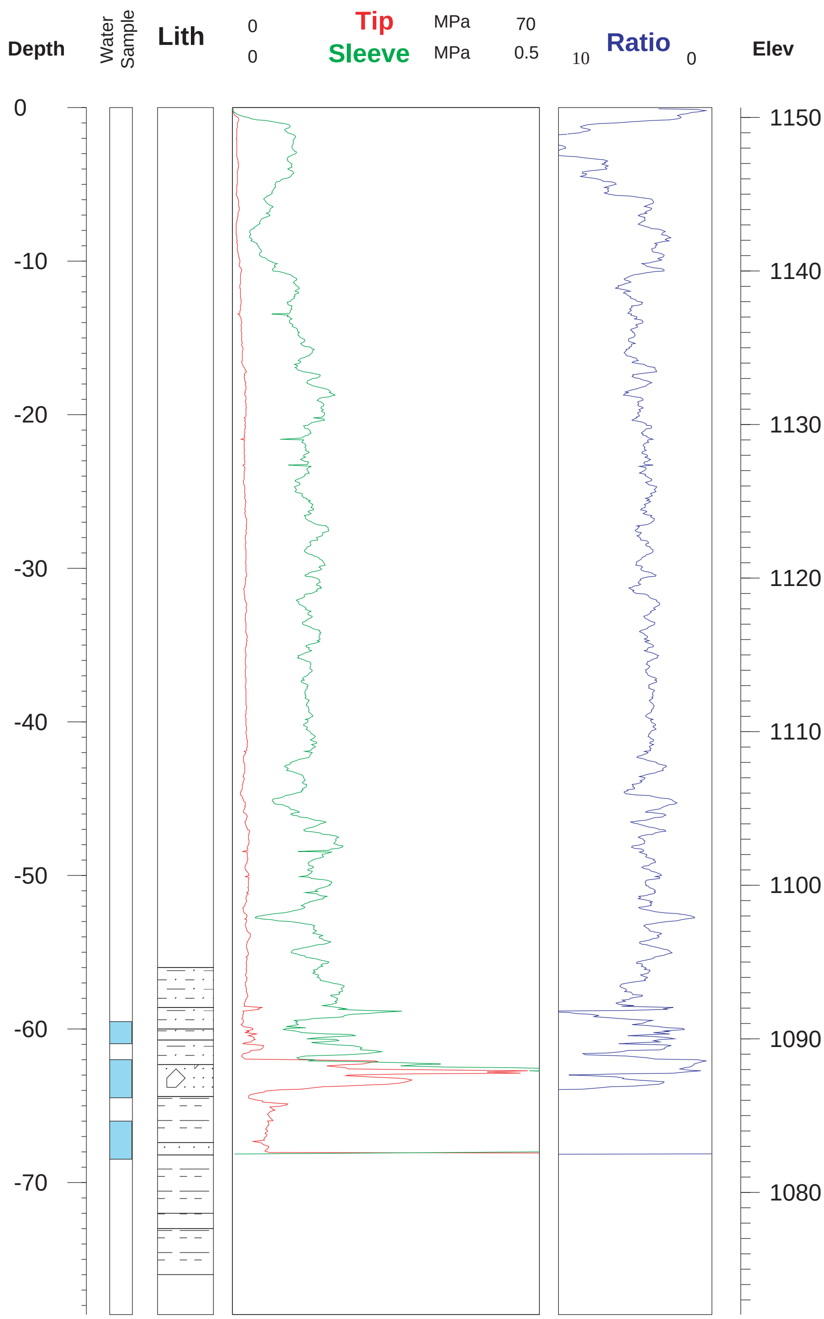
Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB30

Elevation: 1150.1 ft
Depth: 78.6 ft
Geologist: LaFreniere/Barrett
Location: 2034725.0, 500269.64

Log Date: 3/21/01
Plot Date: 4/24/01

Rig: CPT
Driller: K. Spokas
Company: Argonne



Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB30

Elevation: 1150.1 ft
Depth: 78.6 ft
Geologist: LaFreniere/Barrett
Location: 2034725.0, 500269.64
Log Date: 3/21/01
Plot Date: 4/24/01
Rig: CPT
Driller: K. Spokas
Company: Argonne

Depth	Water Sample	Lithology	Elev.
-55		NO SAMPLE: (No sample recovered from 0-56 ft)	1095
		CLAY, SANDY: Pale brown with silt; trace Fe and Mn oxide; fine sand 15-25%; damp; few pebbles (largest .8") at 58.5'.	
		CLAY, SANDY: Pale brown to very pale brown with silt; Fe oxide (highly oxidized), moderately calcareous, few fine pebbles (<.5"); micaceous-looking mineral associated with Fe-oxide; (could be incompletely altered biotite or pyrite); not well sorted; sand 15-25% fine-grained; damp.	
-60		SAND, CLAYEY: Light yellowish brown, non-calcareous; pebble at 60.2' is .08" otherwise fairly well sorted; wet.	1090
		CLAY, SANDY: Pale brown (25-50% sand-mostly fine, some medium); poorly sorted with fine pebbles (largest at 61.0' is .15"), moderately calcareous; damp.	
		SAND AND GRAVEL: Yellowish brown with 10% clay clasts; moderately calcareous, poorly sorted, pebbles up to .08", mostly sand (fine and medium grained) with 10-20% gravel; oxidized; damp.	
-65		CLAY, SILTY: Light brownish gray with gravel (<10%) and sand (<10%); poorly sorted, moderately calcareous, oxidized, trace Mn oxide; dry.	1085
		SAND: Minor gravels. Yellowish brown, oxidized; moderately calcareous; damp.	
		CLAY, SILTY: Light brownish gray with light gray fine sand lenses and minor gravel; sand <10%; very similar to interval 64.4 to 67.4'; moderately calcareous; some Fe oxide; poorly sorted; dry.	

SB30 p. 2

Depth W.S. **Lithology** Elev.

Depth	Lithology	Elev.
-70		1080
	CLAY, SILTY: Light olive brown, slightly calcareous; moist.	
	SILT, CLAYEY: Olive brown with dark gray mottling, moderately calcareous; slight Fe-oxide; dry.	
-75		1075
	NO DESCRIPTION: Slough; T.D. 78.6' bgl. Refusal.	

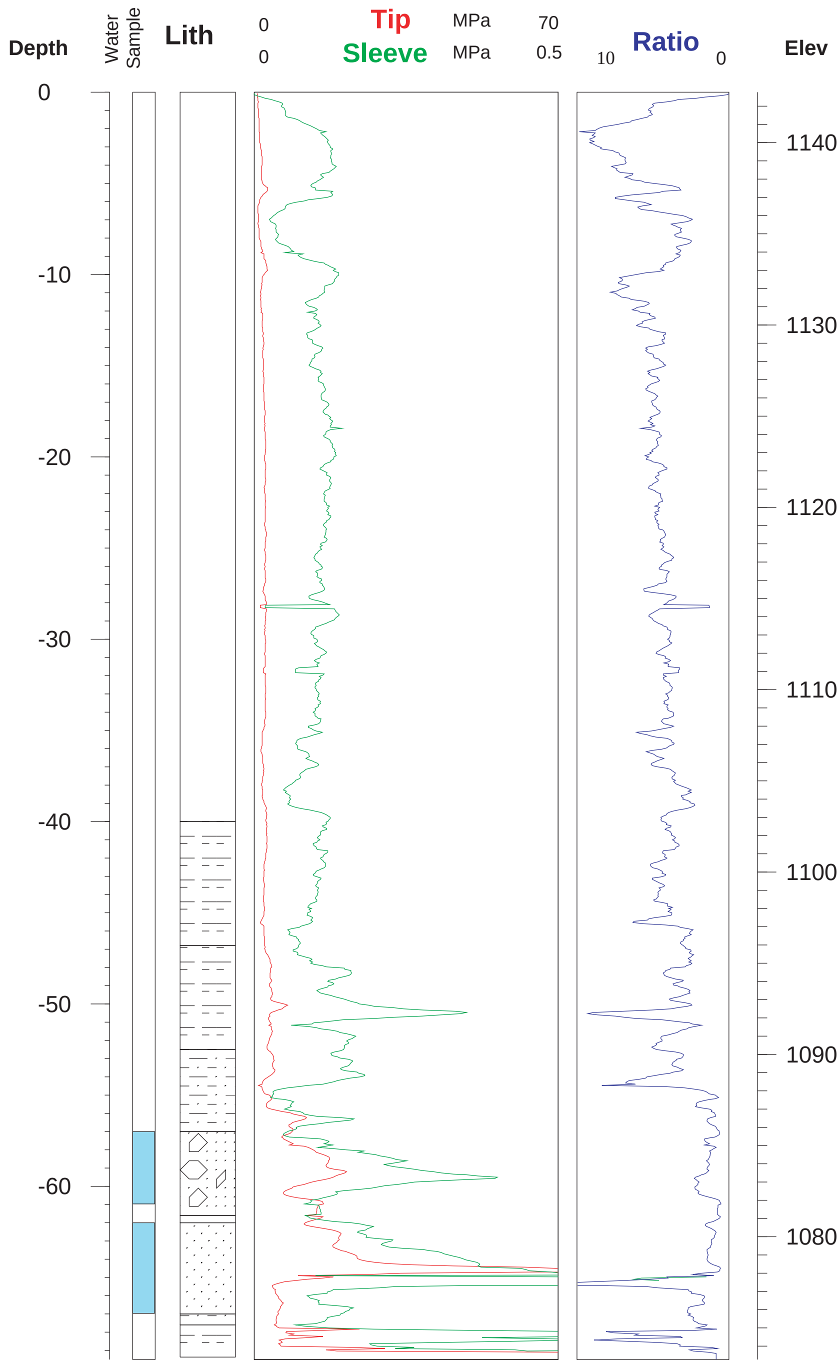
Argonne National Laboratory

Project: Everest, KS
Boring ID: SB31

Elevation: 1142.76 ft
Depth: 69.38 ft
Geologist: LaFreniere/Barrett
Location: 2035907.34, 499045.2

Log Date: 3/23/01
Plot Date: 4/27/01

Rig: CPT
Driller: K. Spokas
Company: Argonne



Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB31

Elevation: 1142.76 ft
Depth: 69.38 ft
Geologist: LaFreniere/Barrett
Location: 2035907.34, 499045.2
Log Date: 3/23/01
Plot Date: 4/27/01
Rig: CPT
Driller: K. Spokas
Company: Argonne

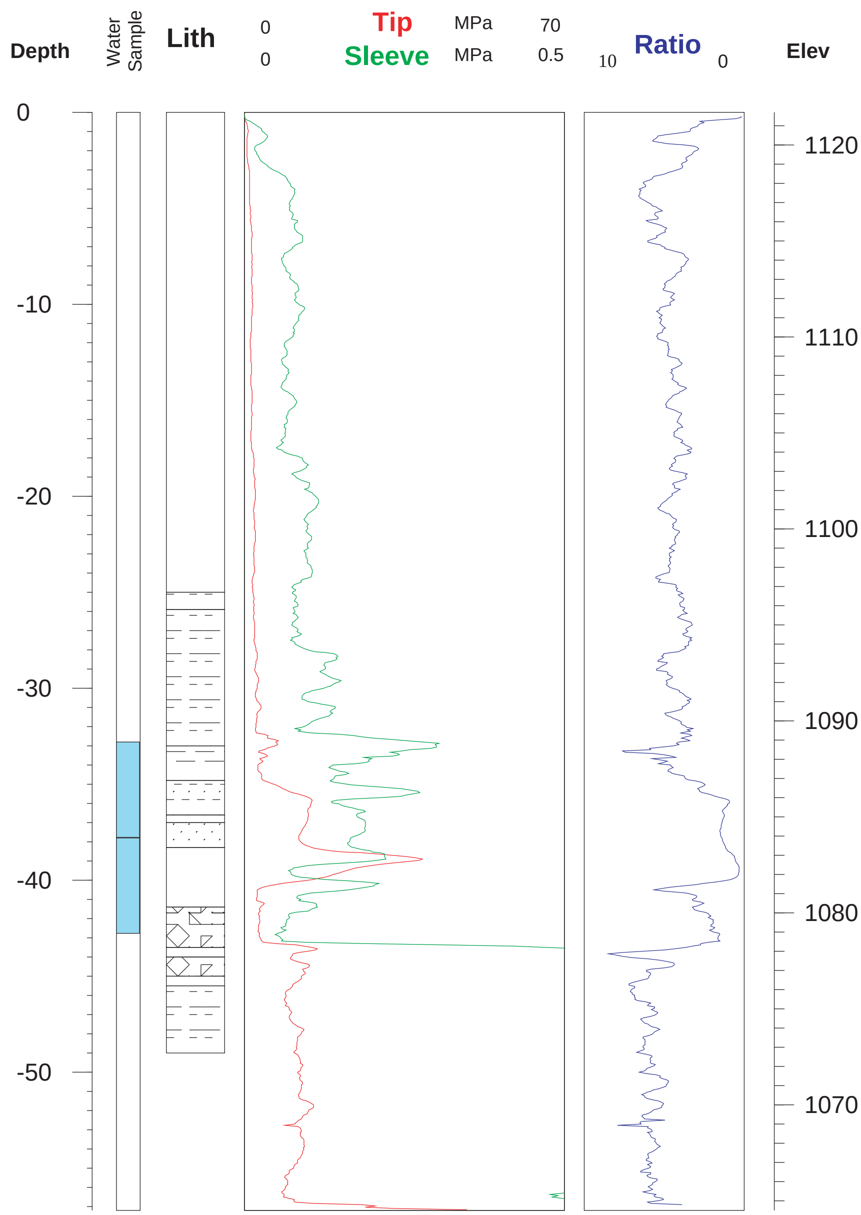
Depth	Lithology	Elev.
-40	NO SAMPLE: (No samples recovered from 0 -40 ft).	
	SILT, CLAYEY: Pale brown with gray mottling, very clayey; trace Mn oxide (black) and Fe oxide; caliche at 46.8'; calcareous; dry.	1100
-45	SILT, CLAYEY: Pale brown with gray mottling; white caliche throughout - abundant @ 48.0-48.3' and 51.0-51.1', calcareous, trace Fe-oxide; dry.	1095
-50	SAND, CLAYEY: Pale yellowish gray; caliche zone (calcareous) from 54.5-55.3'; clay content possibly 30%; traces of Fe and Mn oxides; sand fine grained; slightly moist.	1090
-55	SAND AND GRAVEL: Light gray, mostly fine to medium with some coarse grained, fine gravel zones @ 59.0-59.7' and 60.5-61.6'; showing gradations in texture (saturated).	1085
-60	SAND AND SILT: Pale gray, extremely fine grained sand and silt layered with yellowish brown, very fine grained sandy silt; moderately calcareous; wet.	1080
-65	SAND: Light yellowish brown fine and very fine grained; silt content <10%; oxidized with Fe-oxide; trace medium and coarse sand; moderately calcareous; saturated.	
	SAND, CLAYEY: Transitional zone. Light yellowish brown with fine to medium pebbles (up to 1.0") highly calcareous; clay content 40%-50%; gravel 10%; moist.	1075
	CLAY, SILTY: Medium greenish gray, trace fine sand, some Fe-oxide, moderately calcareous; contains a few pebbles (up to .9"), moist .	

Argonne National Laboratory

Project: Everest, KS
Elevation: 1121.71 ft
Depth: 49 ft
Geologist: LaFreniere/Barrett
Location: 2035507.69, 499309.65

Boring ID: SB32
Log Date: 3/28/01
Plot Date: 4/19/01

Rig: CPT
Driller: K. Spokas
Company: Argonne



Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB32

Elevation: 1121.71 ft
Depth: 49 ft
Geologist: LaFreniere/Barrett
Location: 2035507.69, 499309.65

Log Date: 3/28/01
Plot Date: 4/19/01

Rig: CPT
Driller: K. Spokas
Company: Argonne

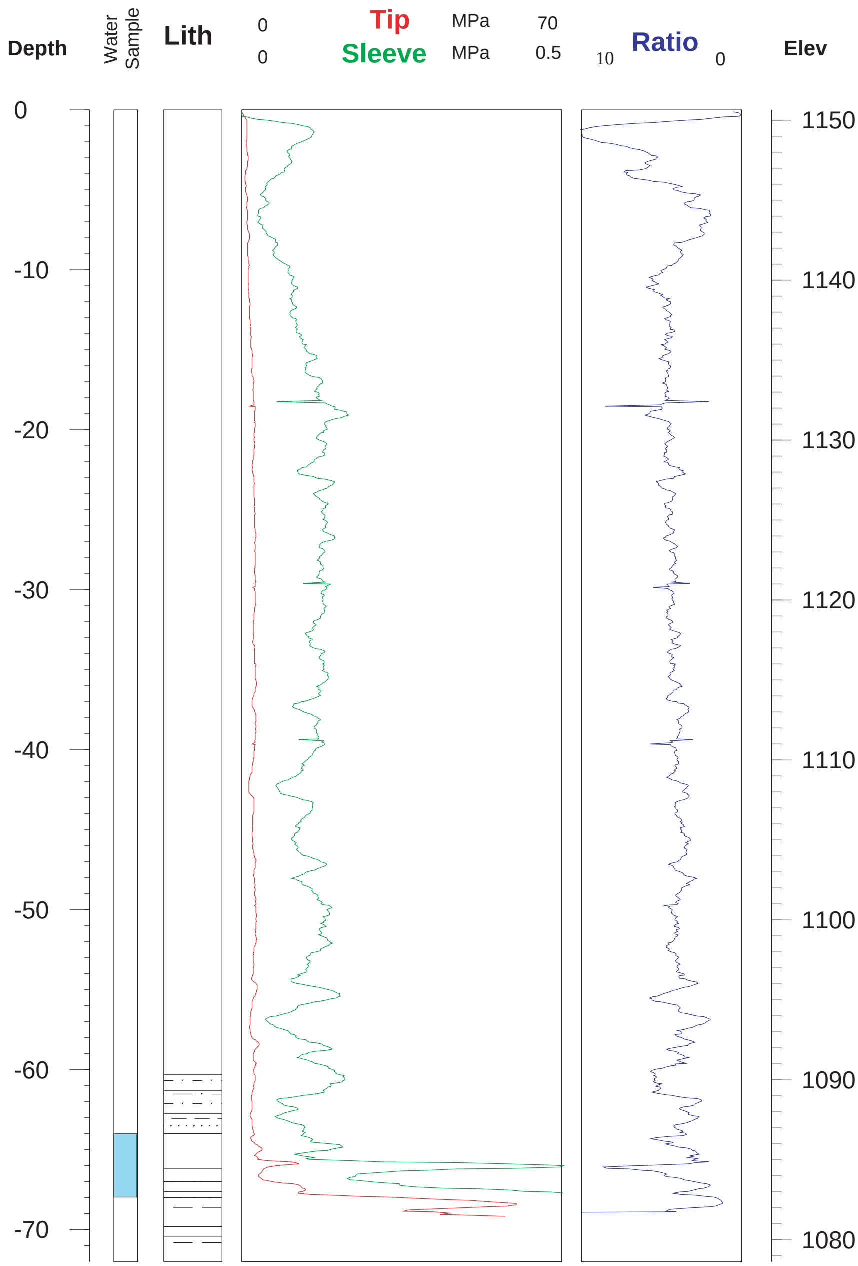
Depth	Water	Sample	Lithology	Elev.
			NO SAMPLE: (No sample recovered from 0 -25 ft)	
-25			CLAY, SILTY: Pale brown (with brownish gray motling) with up to 10% fine sand; slightly calcareous; dry.	
			CLAY, SILTY: Pale brown with <5% fine sand; moderately calcareous with highly calcareous caliche zones (white) and caliche throughout; minor Fe and Manganese oxide; slightly damp.	1095
-30				1090
			CLAY: Brown clay grading to dark brown below 34.2'; trace of Mn oxide; damp.	
-35			SAND, SILTY: Light yellowish brown with approximately 25% silt; slightly calcareous with minor caliche (possibly from above); moist.	
			SAND: Light yellowish brown with <10% silt; non-calcareous; moist.	1085
			SAND: Light brown very fine grained sand with minor silt; saturated.	
-40			NO SAMPLE: Missing core; Sample ran out of tube - only a bit of very fine sand was recovered the run was saturated (much water)	
			CLAY, SAND AND GRAVEL: yellowish-brown, contains 30-50% sand, mostly fine and medium, 10% gravel - large .11" pebble at -42.8'; oxidized, moderately calcareous, wet.	1080
			SILT, SANDY: Minor clay and fine gravel; pale brown, oxidized with Fe-oxide, moderately calcareous; transitional zone from sandy clay to silt; poorly sorted; damp.	
-45			SILT, GRAVEL AND CLAY: Olive with clay and gravel; caliche (calcareous), hard, indurated, dry.	
			SILT, SAND, CLAY & GRAVEL: Very pale brown, friable sand and gravel with silt matrix. Poorly sorted with very fine to coarse grained sand, and gravel to .5" in length. Calcareous and dry. (Transitional unit to underlying Unit 4)	1075
			SILT, CLAYEY: Olive-gray with minor evidence of fine laminations resulting from alternating clayey silt, and very thin layers of oxidized very fine sand to silt; dry. (Unit 4)	

Argonne National Laboratory

Project: **Everest, KS**
Elevation: 1150.64 ft
Depth: 72 ft
Geologist: LaFreniere/Barrett
Location: 2035241.91, 500652.01

Boring ID: **SB33**
Log Date: 3/29/01
Plot Date: 4/27/01

Rig: **CPT**
Driller: K. Spokas
Company: Argonne



Argonne National Laboratory

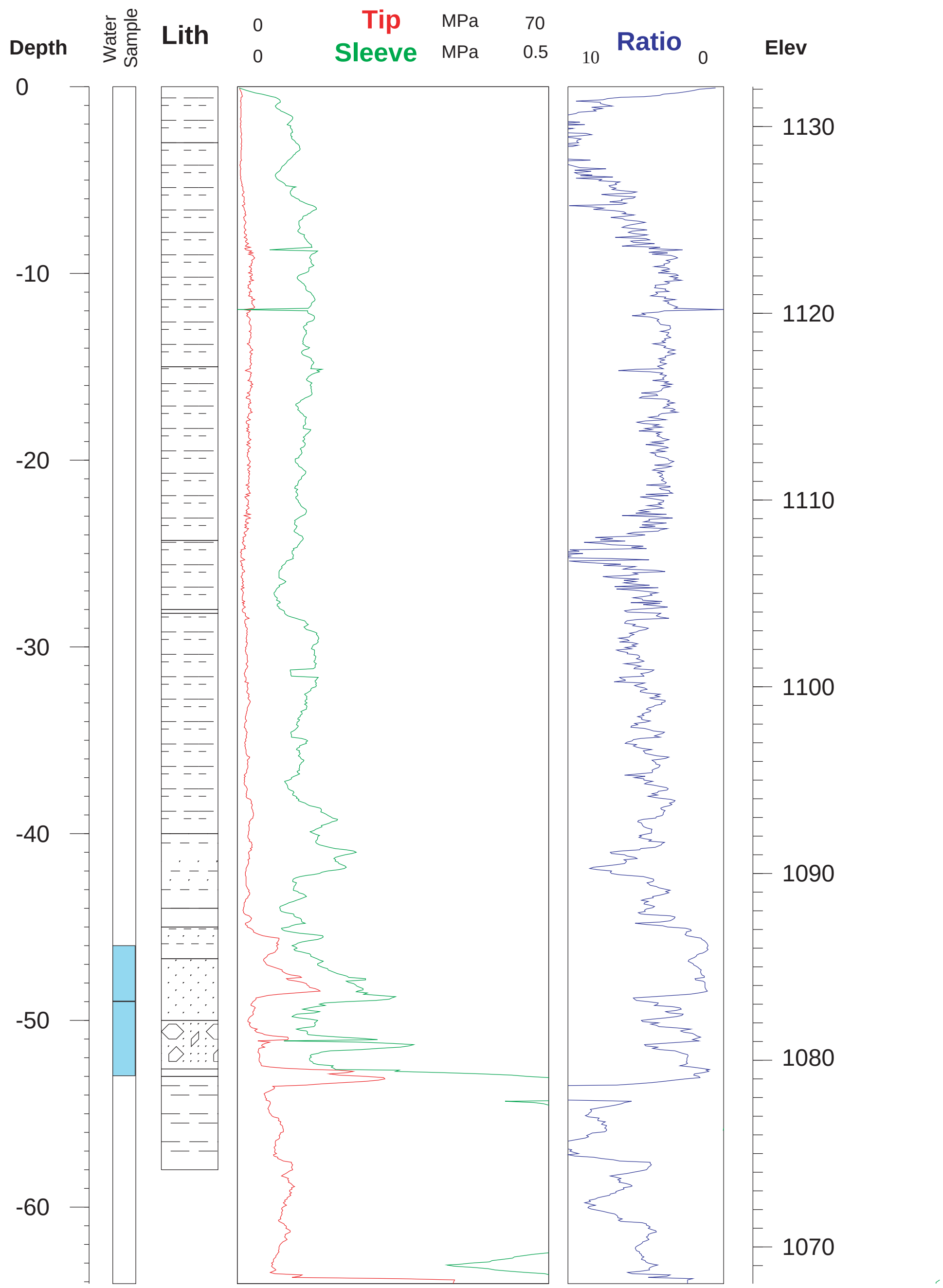
Project: Everest, KS **Boring ID:** SB33

Elevation: 1150.64 ft
Depth: 72 ft
Geologist: LaFreniere/Barrett
Location: 2035241.91, 500652.01
Log Date: 3/29/01
Plot Date: 4/27/01
Rig: CPT
Driller: K. Spokas
Company: Argonne

Depth	Water	Sample	Lithology	Elev.
			NO SAMPLE: (No sample recovered from 0 -60.3 ft).	
-60			SAND, CLAYEY: Light brownish gray, 30-40% fine sand; Fe oxide @ 61.2-61.3'; slightly moist/damp.	1090
			SAND, CLAYEY: Light yellowish brown to yellowish brown, highly oxidized, medium to slightly calcareous; sand is fine grained; wet.	
			SAND AND CLAY: Light brownish gray fine sand with a clay matrix; clay content decreases with depth (30-10%); non-calcareous; moist.	
-65			NO RECOVERY: No recovery, probably light yellowish brown fine and medium sand.	1085
			SAND, SILTY: Light yellowish brown, silty, fine sand; contains .08" angular pebble at 66.5'; saturated.	
			SAND, CLAYEY: Pale brown and yellowish brown, oxidized; minor gravel with fine pebbles up to .05" in size; wet.	
			SAND: Light yellowish brown, mostly fine, minor medium and trace coarse sand; saturated.	
			CLAY: Olive to olive gray, mottled appearance; trace Fe oxide; slightly calcareous; moist.	
-70			CLAY: Olive gray with light yellowish brown zones with Fe-oxide, moderately calcareous; moist.	
			CLAY: Dark gray, highly calcareous; some Fe-oxide, dry.	1080

Argonne National Laboratory

Project: Everest, KS
Boring ID: SB34
Elevation: 1132.15 ft
Depth: -58 ft
Geologist: R. Barrett
Location: 499722.40, 2035807.43
Log Date: 3/27/01
Plot Date: 6/11/01
Rig: CPT
Driller: K. Spokas
Company: Argonne



Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB34

Elevation: 1132.15 ft
Depth: -58 ft
Geologist: R. Barrett
Location: 499722.40, 2035807.43
Log Date: 3/27/01
Plot Date: 6/11/01
Rig: CPT
Driller: K. Spokas
Company: Argonne

Depth	Water	Sample	Lithology	Elev.
0			CLAY, SILTY: Very dark grayish brown (1.0-2.0 ft) to grayish brown (2.0-3.0 ft); contains organic material (topsoil); noncalcareous.	1130
-5			CLAY, SILTY: Grayish brown to yellowish brown, contains blebs of Mn-oxide and yellowish-brown Fe-oxide staining throughout; noncalcareous. Note: Slough from top of hole (topsoil) is at 6.0-6.2 ft. and 12.0-12.2 ft.	1125
-10				1120
-15			CLAY, SILTY: Gray to pale brown; similar to above 3.0-15.0 ft. interval, except for color difference and less oxidation (traces of Fe-oxide); Mn-oxide blebs; has a few-blebs of Fe-oxide below 21.0 ft; noncalcareous.	1115
-20				1110
-25			CLAY, SILTY: Light brown to pinkish gray, with Mn-oxide blebs and minor oxidation (Fe-oxide gives a mottled appearance); noncalcareous.	1105
			NO RECOVERY: Slough from top of hole (topsoil)	

SB34 p. 2

Depth	W.S.	**Lithology**	Elev.
-30		CLAY, SILTY: Light gray to grayish brown with dark gray mottling; contains minor sand (<5%)	
			1100
-35			
			1095
-40		SILT, SANDY: Pale brown to gray; contains 30% fine to very fine sand; traces of Fe- and Mn-oxides; noncalcareous. Note: Some slough from 40.0-40.3 ft.	
			1090
-45		CLAY: Dark grayish brown, locally very dark grayish brown; contains minor silt, traces of organic material; noncalcareous.	
		SAND, SILTY: Light yellowish-brown (mostly fine to very fine with minor medium sand) held together with minor silt; unconsolidated; slightly calcareous.	
		SAND: Light yellowish-brown; mostly fine to very fine with minor medium sand; loose, unconsolidated (probably was wet); very slightly calcareous.	1085
-50		SAND, GRAVELLY: Light yellowish brown to light brownish gray, loose unconsolidated sand mixed with fine gravel (up to .09 in.); sand is mostly fine to medium grained, but ranges from very fine to coarse; gravel is 20% (50.0-51.0 ft) and 5-10% (51.0-52.6 ft); slightly calcareous.	1080
		SAND, CLAYEY AND GRAVELLY: Light yellowish brown; 40-50% sand and 20% gravel combined with 30-40% clay; local bleb of dark brown silt-like material (probably from oxidation or weathering) at 52.8 ft; oxidation is obvious with yellowish brown color; gravel pebbles are up to .08 in.; slightly calcareous. (Note: This interval is a Transition Zone)	
-55		CLAY: Light olive brown to light yellowish brown; minor silt; appears more moist from 53.0-54.0 ft.; hard, dry, and compact below 54.0 ft; Fe-oxide traces, mostly from 53.0-54.0 ft; slightly calcareous from 53.0-54.0 ft.; moderately calcareous from 54.0-58.0 ft.	1075

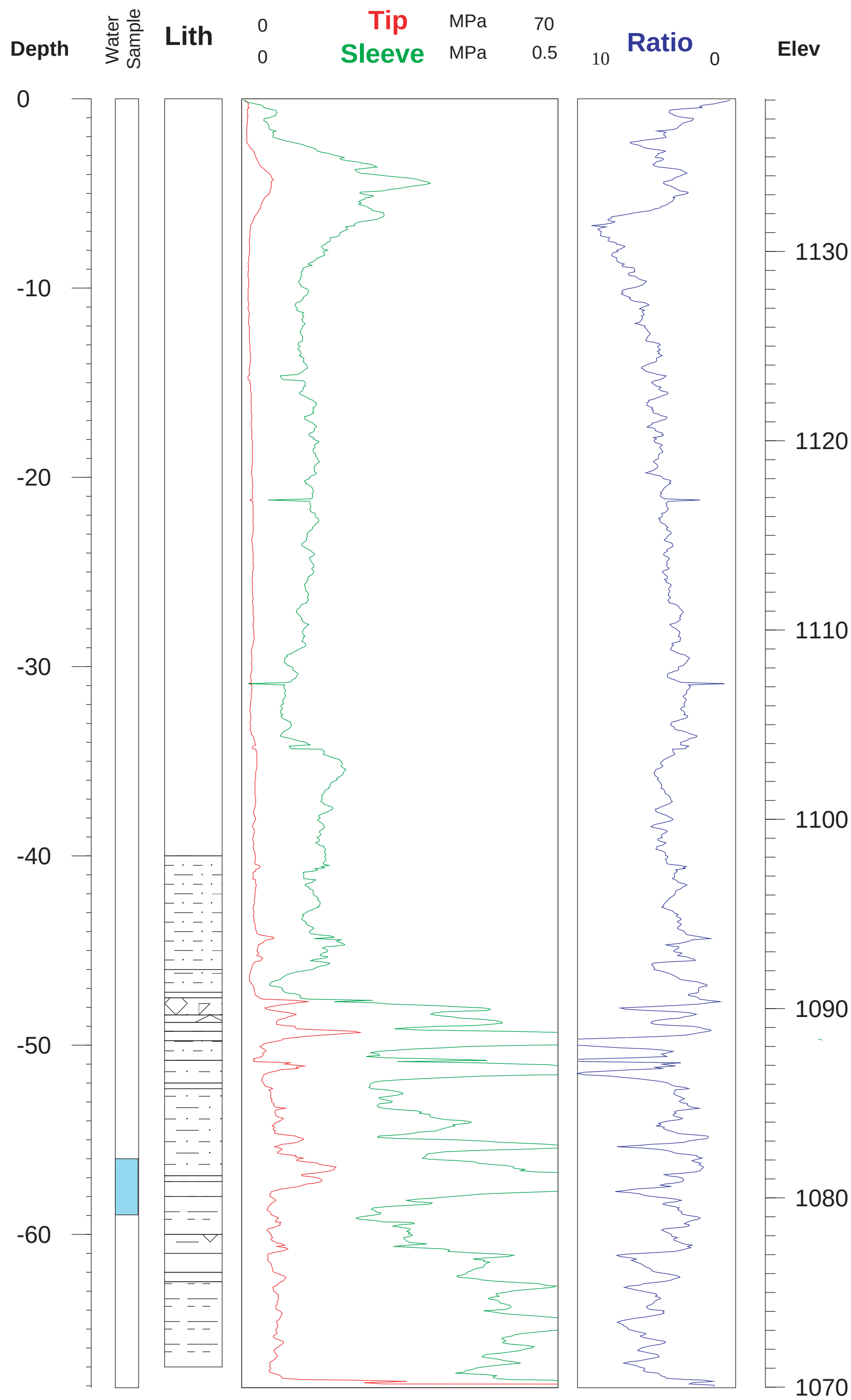
Argonne National Laboratory

Project: Everest, KS
Boring ID: SB35

Elevation: 1138.05 ft
Depth: 67 ft
Geologist: LaFreniere/Barrett
Location: 2035843.42, 500119.57

Log Date: 3/31/01
Plot Date: 4/27/01

Rig: CPT
Driller: K. Spokas
Company: Argonne



Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB35
Elevation: 1138.05 ft
Depth: 67 ft
Geologist: LaFreniere/Barrett
Location: 2035843.42, 500119.57
Log Date: 3/31/01
Plot Date: 4/27/01
Rig: CPT
Driller: K. Spokas
Company: Argonne

Depth	Water	Sample	Lithology	Elev.
			NO SAMPLE: (No sample recovery from 0 -40 ft).	
-40			CLAY, SANDY: Grayish brown with scattered caliche (white, calcareous), dark gray mottling throughout; 5-10% fine sand; Fe-oxide staining; dry.	1095
-45			CLAY, SANDY: Medium gray with oxidized zones (Fe-oxides); 10-15% fine sand; slightly calcareous with minor caliche, minor fine gravel; dry.	
			CLAY: Mixture of light gray and very pale yellowish gray clay, less than 10% fine sand and medium fine gravel (up to .02"), some minor Fe-oxide; highly calcareous; damp.	
			CLAY, SAND AND GRAVEL: Pale gray, highly calcareous, with caliche; sand content <10%; gravel is fine (up to .03"); Fe oxide, especially @ 48.0-48.4', poorly sorted, dry.	1090
			GRAVEL: Brownish gray cobbles of limestone; gravel pieces vary in size to .13"; highly calcareous; minor Fe-oxide coating; dry.	
			CLAY, SANDY: Light gray, <10% fine sand; oxidized, highly calcareous; oxidized areas are silty ; dry.	
-50			SAND, SILT, AND CLAY: Light gray very fine sand with 10% clayey silt as matrix. Somewhat cohesive due to clay-silt content; minor Fe-oxide (oxidized areas are brownish yellow); moderately calcareous; damp.	
			SAND, SILT, AND CLAY: Light gray, very fine sand with <10% clay and silt as matrix, cohesive similar to 49.25-49.45' interval; minor Fe-oxide from 49.75-50.3', much Fe-oxide 50.3 to 50.8'; moist.	
			CLAY, SILT AND SAND: Light yellowish brown, sandy, silty clay with <10% fine sand plus trace medium and course sand and gravel; gravel is fine, up to .02"; oxidized, highly calcareous; dry.	
			SAND, SILT, AND CLAY: Light gray, very fine sand with <10% clay and silt as matrix; cohesive similar to 49.75-50.8 ft; moderate Fe-oxide;highly calcareous; damp.	1085

SB35 p. 2

Depth	W.S.	**Lithology**	Elev.
		CLAY, SILT AND SAND: Light yellowish brown with 5-10% fine sand, light gray lenses of fine sand throughout; moderately calcareous; trace medium and coarse sand and gravel (fine and medium); gravel measured .06"; oxidized; dry.	
-55			
		CLAY, SILTY: Light yellowish brown, with 5% fine sand: moderate to highly calcareous; oxidized; moist.	
		SAND, SILTY: Yellowish brown silty, very fine sand with 25% silt; oxidized; moderately calcareous; wet.	1080
		CLAY, SILTY: Light yellowish brown with less than 10% sand (fine/medium/coarse) and fine gravel; moderately calcareous, oxidized; gravel from .03" to .05"; dry.	
-60		SAND, SILT, CLAY AND GRAVEL: Light brown sandy, silty, gravelly clay with <10% fine sand, 5% medium/coarse sand, and <5% fine gravel (up to .05in); highly calcareous clay with some caliche; trace of Fe-oxide; poorly sorted; dry, hard.	
		NO RECOVERY	
		SAND, SILTY: Yellowish brown, sand is very fine; oxidized, with Fe-oxide; highly calcareous; damp.	
		CLAY, SILTY: Olive, with minor Fe-oxide (staining); moderately calcareous; hard, dry.	1075
-65			
			1070

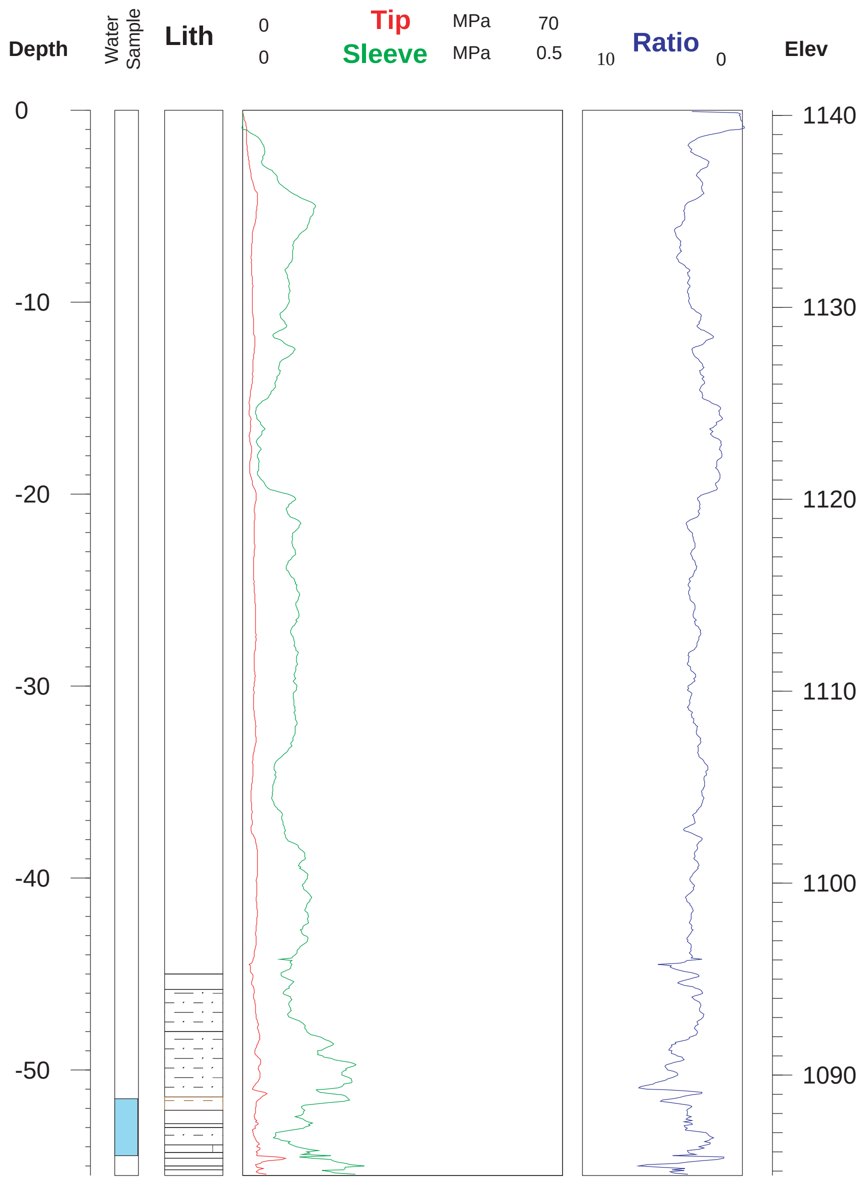
Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB36

Elevation: 1140.26 ft
Depth: 55.5 ft
Geologist: LaFreniere/Barrett
Location: 2035642.63, 500685.23

Log Date: 3/29/01
Plot Date: 4/27/01

Rig: CPT
Driller: K. Spokas
Company: Argonne



Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB36

Elevation: 1140.26 ft
Depth: 55.5 ft
Geologist: LaFreniere/Barrett
Location: 2035642.63, 500685.23
Log Date: 3/29/01
Plot Date: 4/27/01
Rig: CPT
Driller: K. Spokas
Company: Argonne

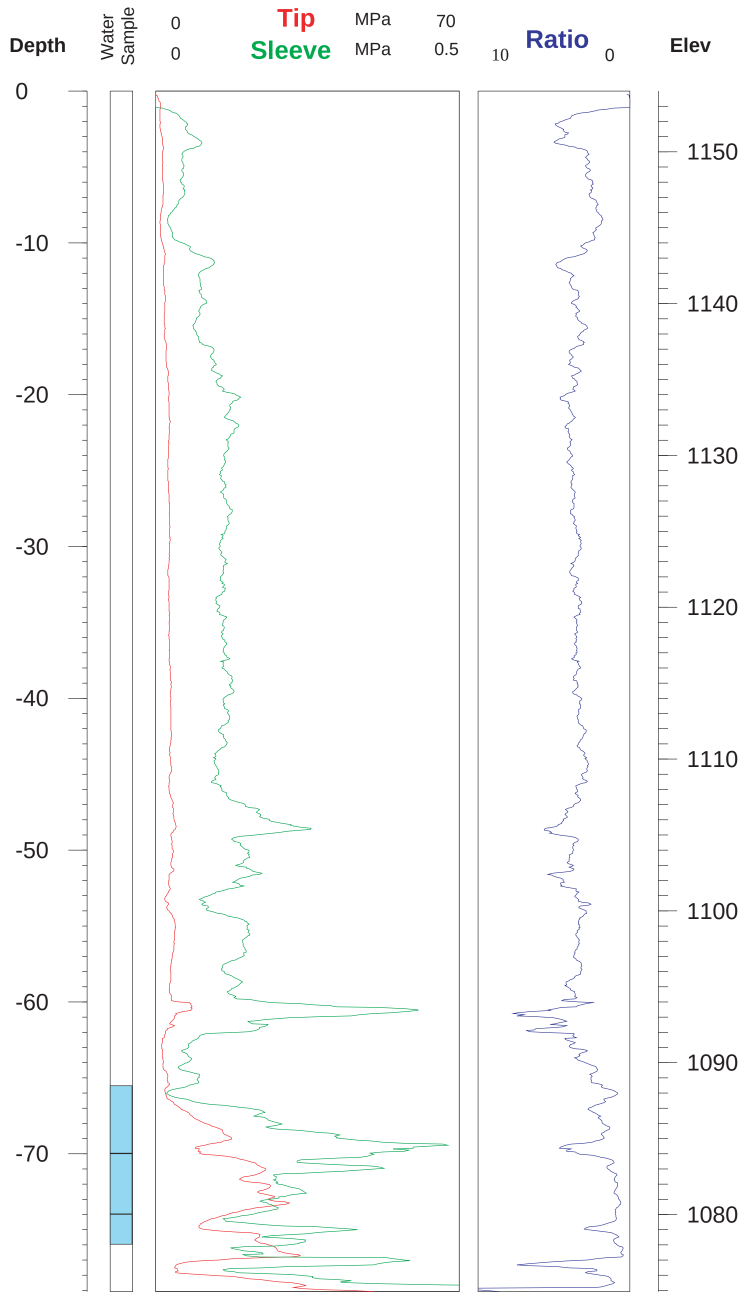
Depth	Water	Sample	Lithology	Elev.
			NO SAMPLE: (No sample recovered from 0 -45 ft).	
-45			CLAY: Brown. Possible slump from above: damp.	1095
			CLAY, SANDY: Grayish brown (45.8 to 46.4') to light brownish gray to light gray; sand varies from 20-40%; trace Fe oxide; dry.	
-50			CLAY, SANDY: Light gray with 30-40% sand (mostly fine) and fine gravel (<5%); contains white caliche, moderately to highly calcareous, oxidized slightly (increased oxidation below 50') with nodules and zones of Fe oxide; poorly sorted; dry;	1090

SB36 p. 2

Depth	W.S.	Lithology	Elev.
		SILT: Pale brown and brownish yellow, mottled, moderately calcareous, oxidized, with Fe-oxide; damp.	
		CLAY: Yellowish brown, poorly sorted, sandy and gravelly, 10% fine sand, some in lenses; 10% fine gravel; moderately calcareous; pebbles up to .04"; oxidized, dry;	
		SILT, SANDY: Yellowish brown, with 20% fine to very fine sand and minor clay; oxidized; very calcareous, dry.	
		SILT, CLAY, AND SAND: Grayish brown to yellowish brown; minor very fine sand lenses and minor caliche in patches; oxidized; moderate to highly calcareous; damp to 53.6', dry 53.6 to 53.9'.	
		CLAY AND GRAVEL: Yellowish brown with 20% gravel of fine to coarse size; cobble .17" (at 54.2') is angular and very calcareous; wet.	
		SILT, CLAY, AND SAND: Light olive brown, sandy and clayey silt; highly calcareous; 10-20% fine to medium sand; trace of Fe oxide; dry.	
-55		SILT, CLAY, AND SAND: Light olive brown, (similar to above interval but much more compact with 10-15% fine sand and more clay than above); highly calcareous, minor Fe oxide; dry.	
		NO RECOVERY: Incomplete recovery.	1085
		CLAY, SILTY: Light yellowish brown with <10% fine sand, minor Fe-oxide, highly calcareous, dry.	

Argonne National Laboratory

Project: Everest, KS
Boring ID: SB37
Elevation: 1153.97 ft
Depth: 79.068244
Geologist: N/A
Location: 2035086.76, 501162.83
Log Date:
Plot Date: 4/27/01
Rig: CPT
Driller: K. Spokas
Company: Argonne



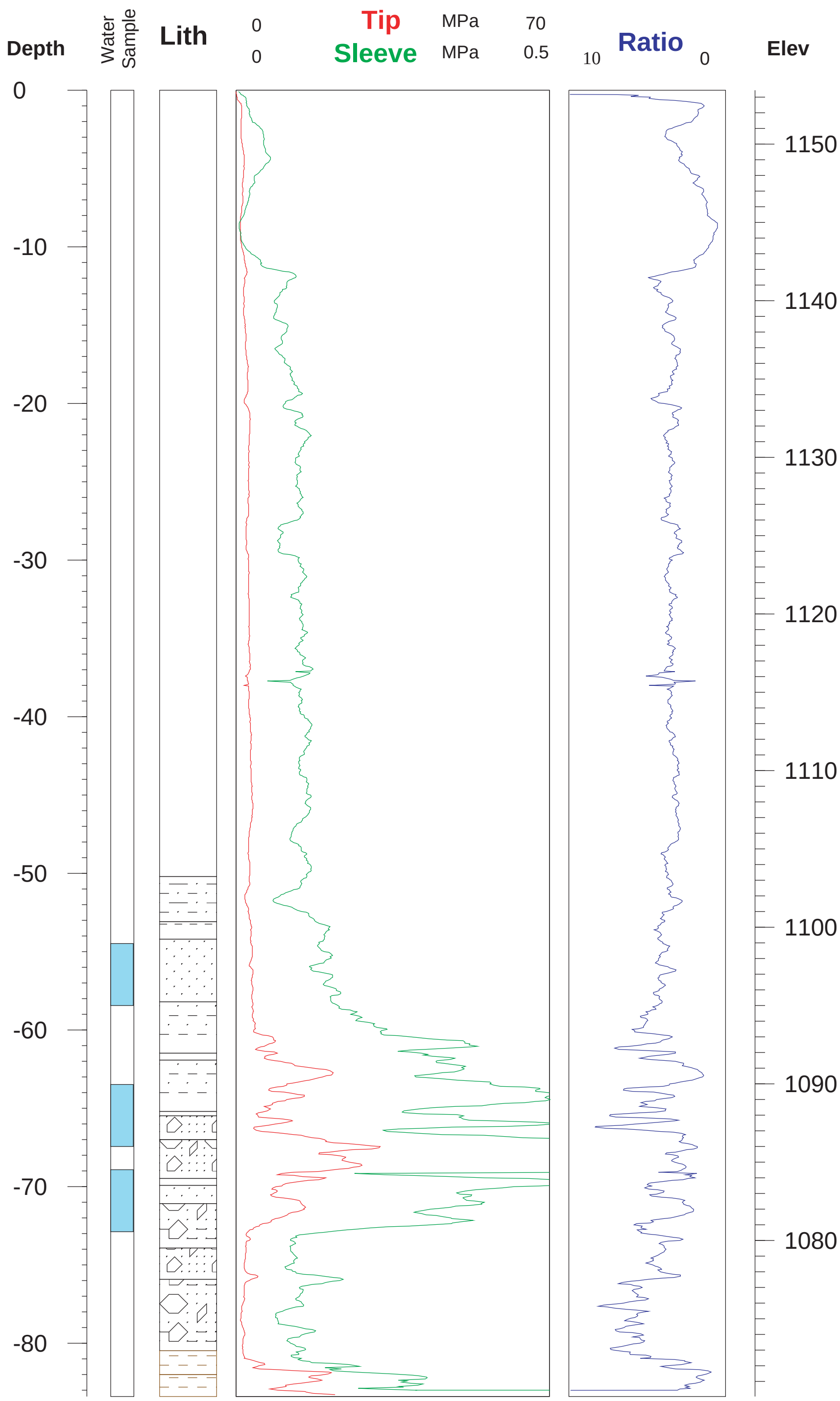
Argonne National Laboratory

Project: Everest, KS **Boring ID:** **SB38**

Elevation: 1153.43 ft
Depth: 83.4 ft
Geologist: R. Barrett
Location: 2034662.46, 500916.48

Log Date: 3/30/01
Plot Date: 6/11/01

Rig: CPT
Driller: K. Spokas
Company: Argonne



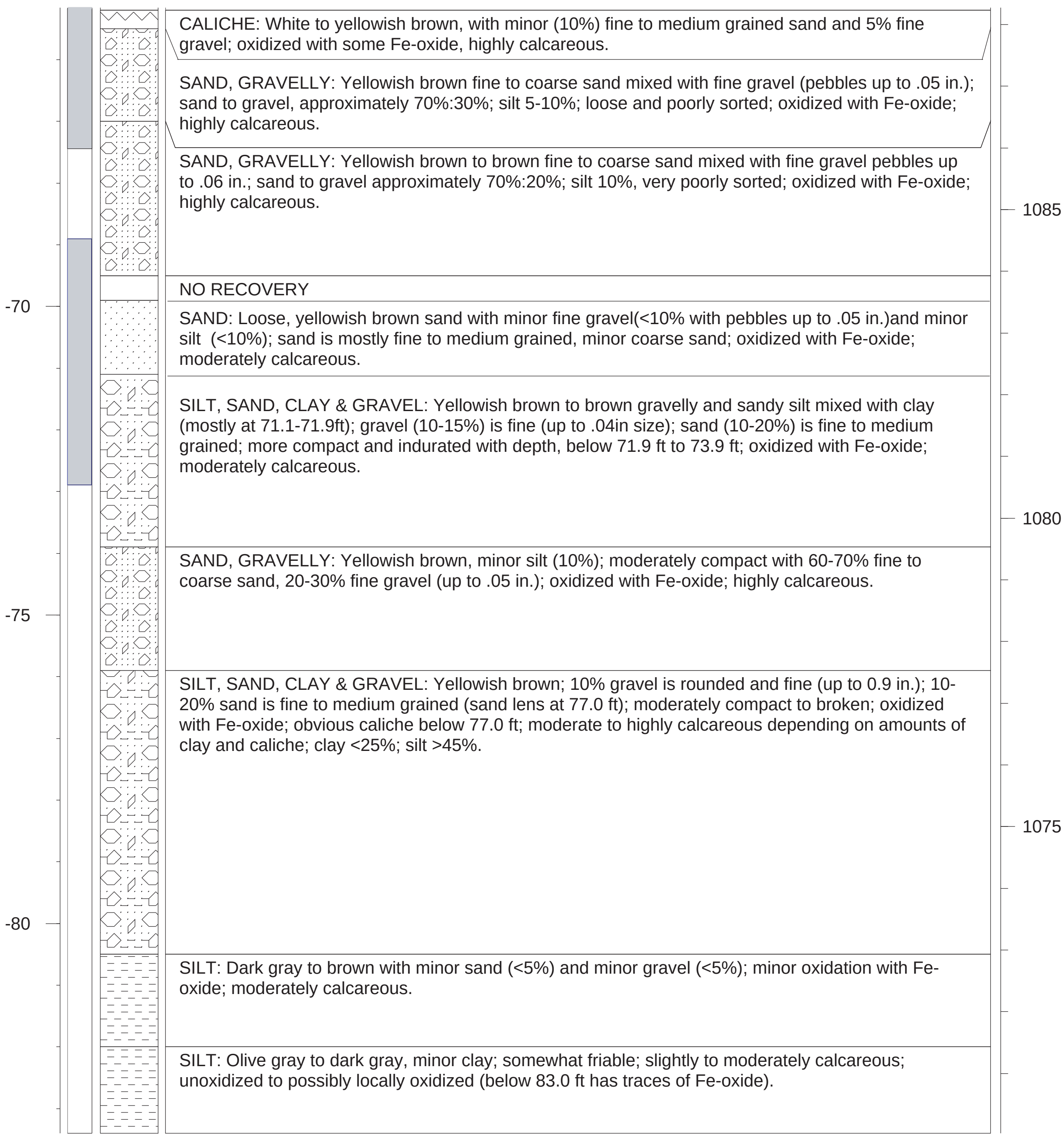
Argonne National Laboratory

Project:	Everest, KS
Boring ID:	SB38
Elevation:	1153.43 ft
Depth:	83.4 ft
Geologist:	R. Barrett
Location:	2034662.46, 500916.48
Log Date:	3/30/01
Plot Date:	6/11/01
Rig:	CPT
Driller:	K. Spokas
Company:	Argonne

Depth	Water	Sample	Lithology	Elev.
-50			NO SAMPLE: No Sample from 0 - 50.2 ft.	
			SAND, SILT, AND CLAY: Light brownish-gray to grayish-brown silty and clayey sand; contains 50-60% sand (medium to fine grained); 5% fine gravel with pebbles up to .03 in.; 35-45% mixture of silt and clay; noncalcareous; unoxidized.	
			SAND, SILTY: Light yellowish-brown with minor clay and traces of gravel; sand is mostly medium grained with minor fine and coarse sand; noncalcareous; unoxidized.	1100
-55			SAND: Light gray to light brownish-gray sand with minor silt and traces of gravel; sand is fine to medium grained; gravel size up to .01 in.; unoxidized. (Note: some core missing from 54.2 to 56.0 ft).	
-60			SILT, SANDY: Grayish-brown to brown sandy silt with traces of gravel; approximately 25-35% sand (40% sand from 58.2 to 58.6 ft); gravel pebbles up to .02 in.; very compact, unoxidized.	1095
			SAND: Probably slough from above. Light gray to light brownish gray, fine to medium grained (similar to interval 54.2-58.2 ft).	
-65			SILT, SANDY: Brown silt with 10-20% fine to medium grained sand and 5-10% gravel (mostly fine, up to 1.1 in.); moderately calcareous from 62.9 ft to 65.2 ft.	1090

SB38 p. 2

Depth W.S. **Lithology** Elev.



CALICHE: White to yellowish brown, with minor (10%) fine to medium grained sand and 5% fine gravel; oxidized with some Fe-oxide, highly calcareous.

SAND, GRAVELLY: Yellowish brown fine to coarse sand mixed with fine gravel (pebbles up to .05 in.); sand to gravel, approximately 70%:30%; silt 5-10%; loose and poorly sorted; oxidized with Fe-oxide; highly calcareous.

SAND, GRAVELLY: Yellowish brown to brown fine to coarse sand mixed with fine gravel pebbles up to .06 in.; sand to gravel approximately 70%:20%; silt 10%, very poorly sorted; oxidized with Fe-oxide; highly calcareous.

NO RECOVERY

SAND: Loose, yellowish brown sand with minor fine gravel(<10% with pebbles up to .05 in.)and minor silt (<10%); sand is mostly fine to medium grained, minor coarse sand; oxidized with Fe-oxide; moderately calcareous.

SILT, SAND, CLAY & GRAVEL: Yellowish brown to brown gravelly and sandy silt mixed with clay (mostly at 71.1-71.9ft); gravel (10-15%) is fine (up to .04in size); sand (10-20%) is fine to medium grained; more compact and indurated with depth, below 71.9 ft to 73.9 ft; oxidized with Fe-oxide; moderately calcareous.

SAND, GRAVELLY: Yellowish brown, minor silt (10%); moderately compact with 60-70% fine to coarse sand, 20-30% fine gravel (up to .05 in.); oxidized with Fe-oxide; highly calcareous.

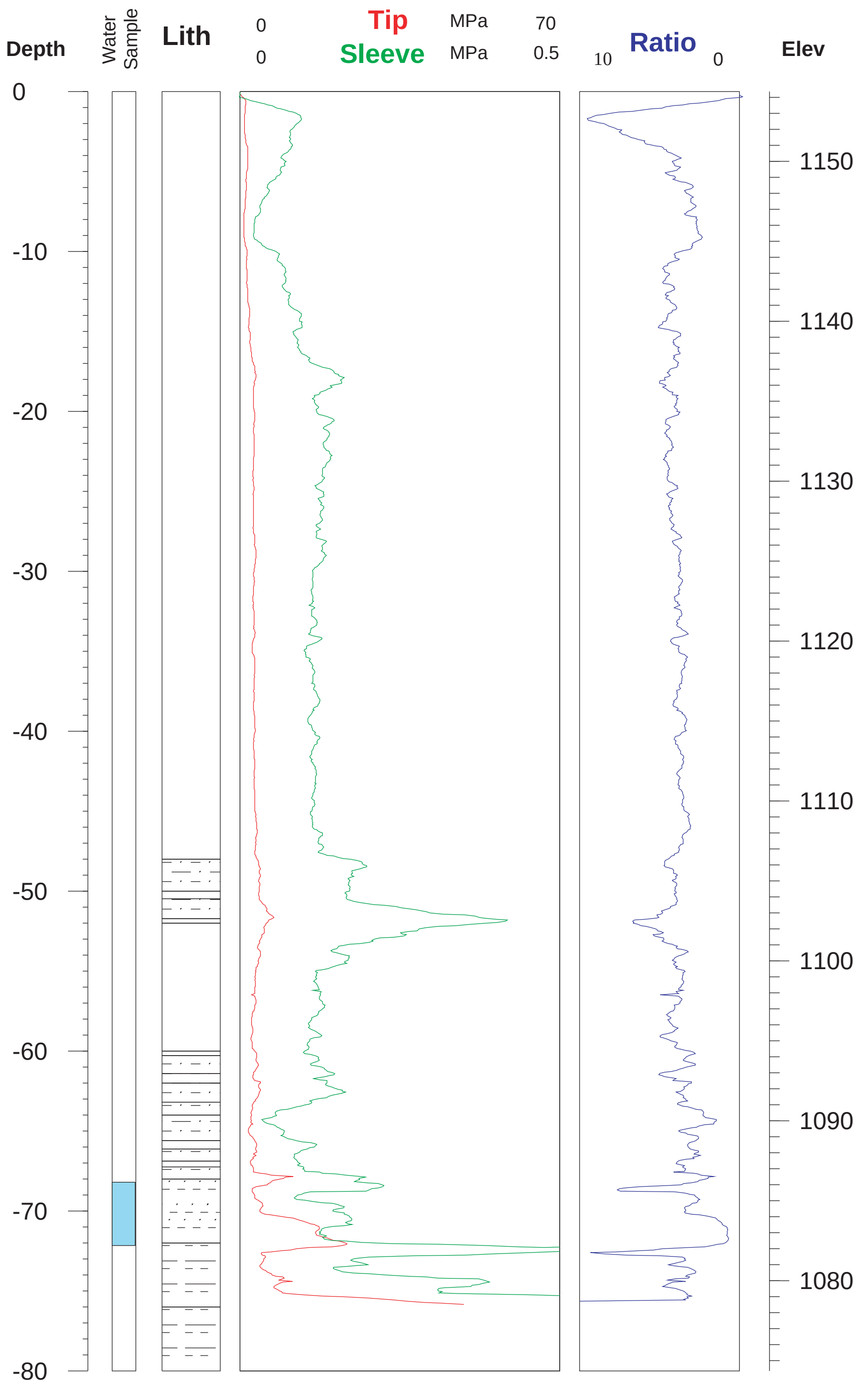
SILT, SAND, CLAY & GRAVEL: Yellowish brown; 10% gravel is rounded and fine (up to 0.9 in.); 10-20% sand is fine to medium grained (sand lens at 77.0 ft); moderately compact to broken; oxidized with Fe-oxide; obvious caliche below 77.0 ft; moderate to highly calcareous depending on amounts of clay and caliche; clay <25%; silt >45%.

SILT: Dark gray to brown with minor sand (<5%) and minor gravel (<5%); minor oxidation with Fe-oxide; moderately calcareous.

SILT: Olive gray to dark gray, minor clay; somewhat friable; slightly to moderately calcareous; unoxidized to possibly locally oxidized (below 83.0 ft has traces of Fe-oxide).

Argonne National Laboratory

Project: Everest, KS
Boring ID: SB39
Elevation: 1154.39 ft
Depth: 80 ft
Geologist: L. LaFreniere
Location: 2034940.12, 500906.45
Log Date: 4/01/01
Plot Date: 4/18/01
Rig: CPT
Driller: K. Spokas
Company: Argonne



Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB39

Elevation: 1154.39 ft
Depth: 80 ft
Geologist: L. LaFreniere
Location: 2034940.12, 500906.45
Log Date: 4/01/01
Plot Date: 4/18/01
Rig: CPT
Driller: K. Spokas
Company: Argonne

Depth	Water	Sample	Lithology	Elev.
			NO SAMPLE: (No Sample from 0 -48 ft)	
			SAND, CLAYEY: Non-calcareous, hard, crumbly, selectively oxidized, very pale brown, porous and dry.	1105
-50			CLAY, SILTY: Transitional interval, hard, stiff, non-calcareous, with sand; sand content decreases with depth. Brownish-yellow, dry.	
			CLAY, SANDY: Non-calcareous with minor selective oxidation. Sand comprises 20-25% of sample and is fine to medium grained. Yellowish-brown, dry.	
			CLAY, SANDY: Non-calcareous, yellowish-brown, dry. Increase in sand content to 30%. Sand fine to medium with a trace coarse grains. Becomes sandier with depth.	
-55			NO SAMPLE: No Sample Taken	1100
				1095
-60			SAND, CLAYEY: Matrix clays calcareous with evidence of caliche. Sand fine to very coarse grained. Pale brown. Dry.	
			CLAY, SANDY: Slightly calcareous, dense, hard. Sand content 10% to 15%. Lt brownish- gray. Dry.	
			SAND, CLAYEY: Light brownish-gray, calcareous, medium to coarse grained. Porous in areas of sand concentration. Trace of gravel to ~one-half inch in length. Trace of oxidation in sandier areas. Slightly moist .	
			SAND, CLAYEY: Calcareous, v. fine to medium grained. Slightly moist, crumbly, light yellowish- brown	

SB39 p. 2

Depth W.S. **Lithology** Elev.

SAND, CLAYEY: Some evidence of selective oxidation along with minor amounts of caliche. Calcareous and very slightly moist. Very pale brown.

1090

SAND, CLAYEY: Highly calcareous, moist to damp, plastic, poorly sorted, fine to medium grained sand. Sand content increases with depth.

-65

SAND, CLAYEY: Highly calcareous, damp, crumbly, fine to coarse grained sand. Minor evidence of caliche present. Very pale brown.

SAND, SILT, AND CLAY: Highly calcareous, crumbly, predominately very fine to coarse grained. Moist. Very pale brown.

SAND, CLAYEY: Trace of selective oxidation, highly calcareous, very pale brown. Moist .

SAND, SILT, AND CLAY: Increase in evidence of oxidation. Very highly calcareous and light yellowish-brown. Evidence of caliche. Moist.

SAND, SILTY: Very poorly sorted, sand fine to medium grained. Calcareous, oxidized, yellowish-brown. Wet. At 72’ contact with sand and gravel in an upward-fining sequence

1085

-70

CLAY, SILTY: Light olive-brown, calcareous, dense and hard with waxy appearance. Dry.

1080

-75

CLAY, SILTY: Very dark grayish-brown, highly calcareous with a waxy appearance. Dry.

1075

-80

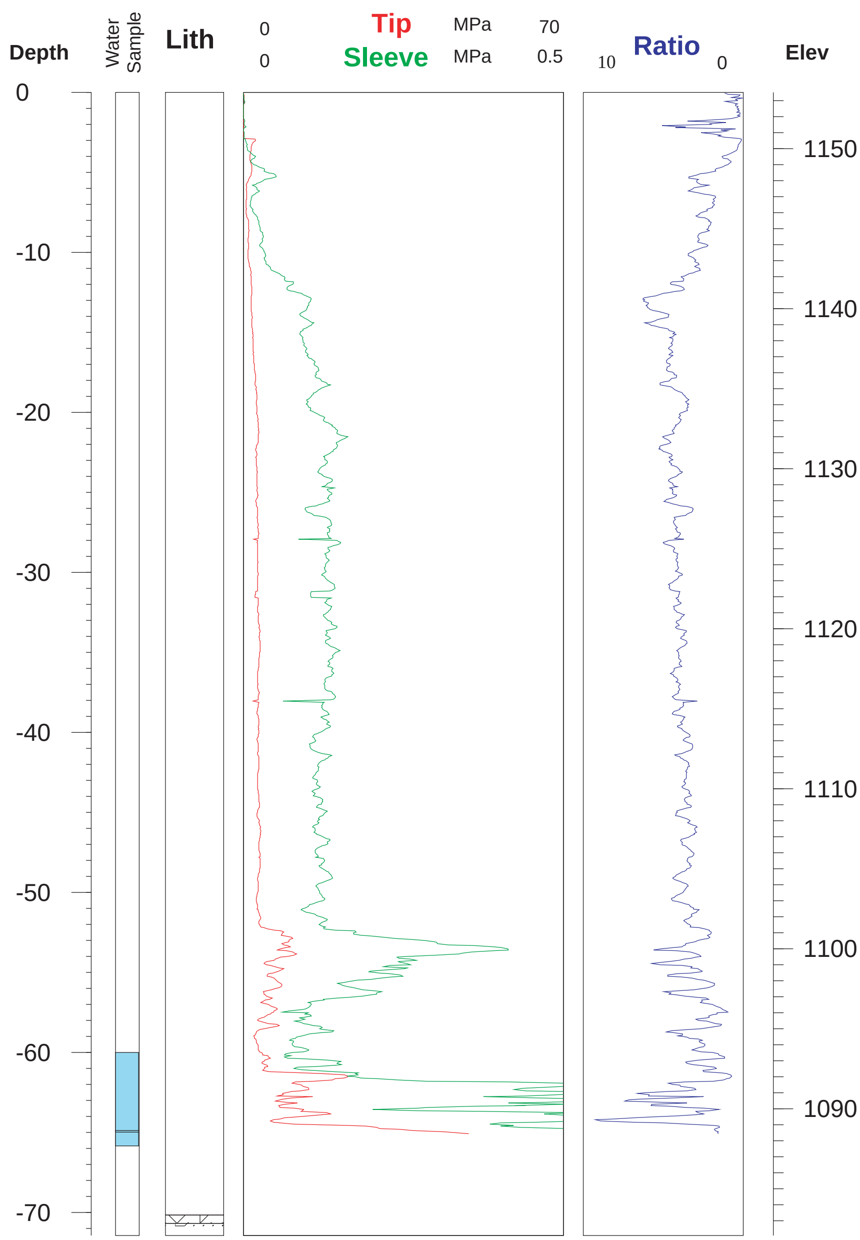
Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB40

Elevation: 1153.54 ft
Depth: 71.46 ft
Geologist: LaFreniere/Barrett
Location: 2034484.05, 500904.76

Log Date: 4/02/01
Plot Date: 4/27/01

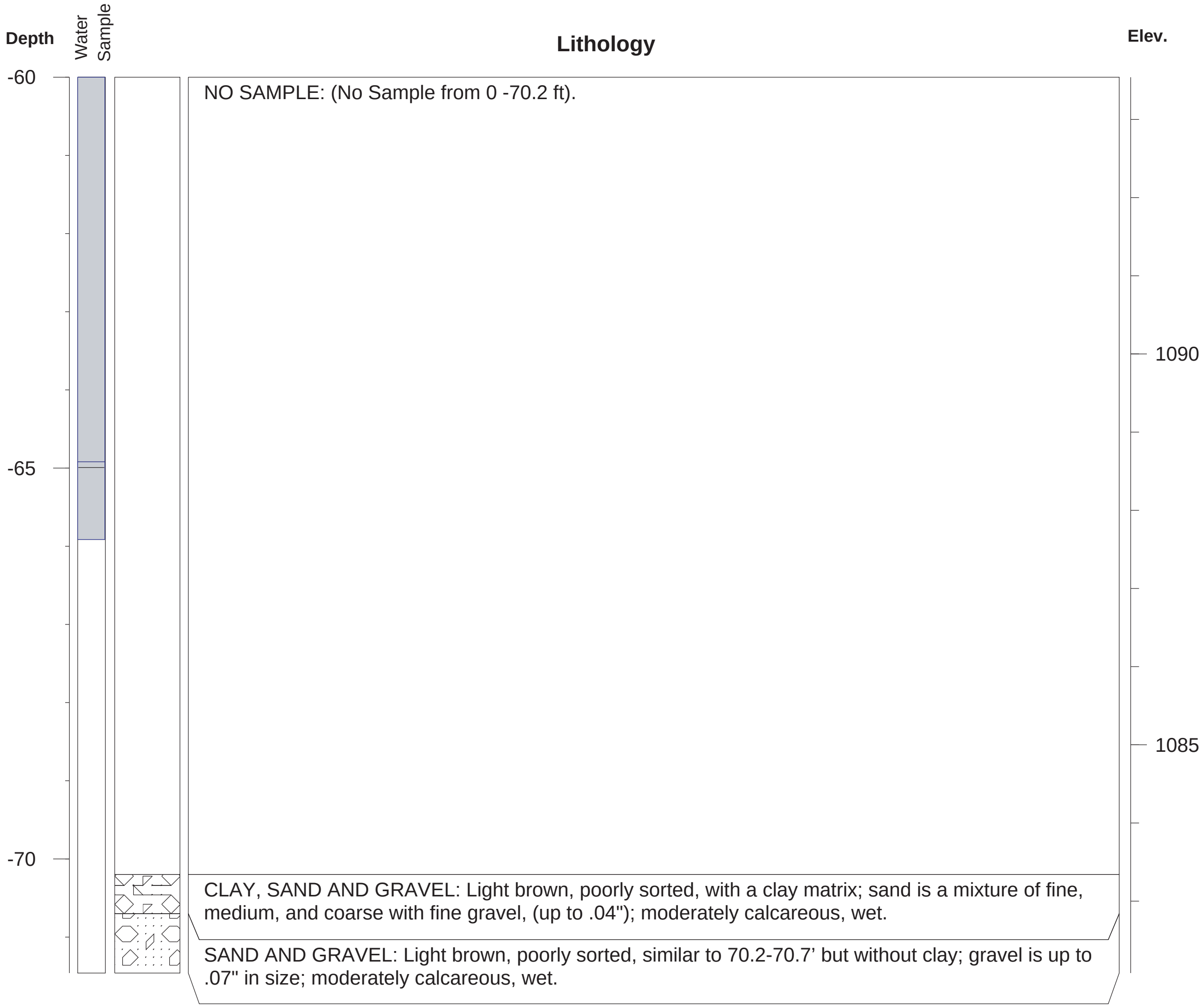
Rig: CPT
Driller: K. Spokas
Company: Argonne



Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB40

Elevation: 1153.54 ft
Depth: 71.46 ft
Geologist: LaFreniere/Barrett
Location: 2034484.05, 500904.76
Log Date: 4/02/01
Plot Date: 4/27/01
Rig: CPT
Driller: K. Spokas
Company: Argonne

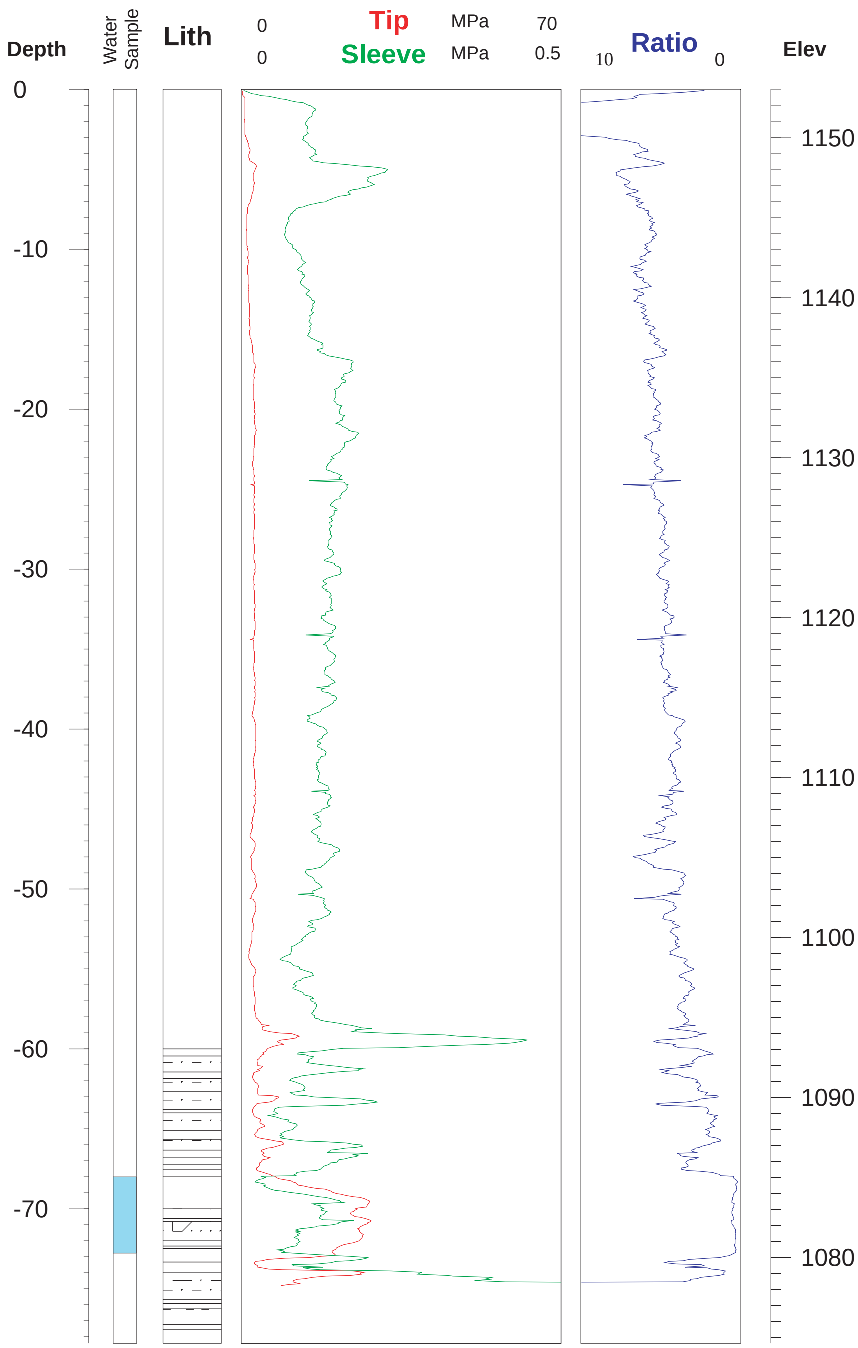


Argonne National Laboratory

Project: Everest, KS
Elevation: 1153.04 ft
Depth: 78.4 ft
Geologist: L. LaFreniere
Location: 2035239.9, 500916.7

Boring ID: SB41
Log Date: 4/02/01
Plot Date: 4/18/01

Rig: CPT
Driller: K. Spokas
Company: Argonne



Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB41

Elevation: 1153.04 ft
Depth: 78.4 ft
Geologist: L. LaFreniere
Location: 2035239.9,500916.7
Log Date: 4/02/01
Plot Date: 4/18/01
Rig: CPT
Driller: K. Spokas
Company: Argonne

Depth	Water	Sample	Lithology	Elev.
			No Sample: (No Sample from 0 -60 ft)	
-60			CLAY, SILTY: Pale brown, highly calcareous very sandy silty clay. Dry.	
			CLAY, SANDY: Highly calcareous, moist, crumbly in part with evidence of white caliche. Sand generally very fine to fine grained with trace of cemented sand in the form of granular gravels.	
			SAND, CLAYEY: Moist, fine to very fine sand with minor evidence of selective oxidation. Calcareous, light yellowish-brown.	
			CLAY, SANDY: Yellowish-brown, calcareous sandy clay with sand content ~30%. Very fine to fine grained sand.	
			SAND, CLAYEY: Calcareous, yellowish-brown, crumbly and porous in part. Poorly sorted, very fine to coarse grained sand, predominately quartz, calcareous.	1090
			CLAY, SANDY: Yellowish-brown, calcareous; sand content 25%-30%.	
			CLAY, SANDY: Moist, yellowish-brown, slightly plastic calcareous, with minor tiny manganese nodules scattered throughout with associated selective oxidation.	
-65			CLAY, SANDY: Damp, calcareous with minor tiny white calcareous nodules throughout. Moderately plastic with some evidence of oxidation. Sand is very fine to fine grained, light brownish-yellow.	
			SAND, CLAYEY: Light yellowish-brown, damp to slightly wet, slightly calcareous with very fine to fine grained sand.	
			SILT, CLAYEY: Oxidized, yellowish-brown, moist, very plastic with clasts of sucrosic sand present.	
			CLAY, SILTY: Slightly calcareous, oxidized, yellowish-brown, very plastic. Moist to damp.	
			SAND, SILTY: Oxidized, damp to wet, very fine to medium grained.	
			SAND AND GRAVEL: Oxidized, minor granular gravels to 10 cm in length. Damp to wet with poorly sorted fine to medium grained sand.	
			NO RECOVERY: Interval only partially recovered due to sand content. (Assuming interval 68.0 -70 is no recovery)	1085

SB41 p. 2

Depth W.S. **Lithology** Elev.

-70

SAND AND GRAVEL: Saturated fine sand with minor small granular gravel. Loose, unconsolidated, brownish-yellow, calcareous.

SAND: Unconsolidated, wet , oxidized, with rounded to sub-rounded quartz grains

SAND AND GRAVEL: Unconsolidated, wet to saturated, coarse to very coarse sand with granular gravel. Gravels to 1" in length, some composed of cemented sandstone. Mixed lithology for sands and gravels. Oxidized and highly calcareous.

SAND, CLAYEY: Slightly clayey sand, loose, oxidized, calcareous and wet. Predominately fine grained with minor medium grained sand.

GRAVEL AND SAND: Predominately gravel to ? in length. Oxidized, wet with mixed lithology gravels. Calcareous and yellow-brown in color.

SAND, SILTY: Minor granular gravels associated with the sands. Highly calcareous, damp to moist, oxidized and yellowish-brown in color.

1080

CLAY, SILTY: Clay, silty to sandy with trace of gravels. Gravels include granite granules to ? in length.

CLAY, SANDY: Till, oxidized, dense, hard, sandy clay till with minor gravel. Calcareous, dry and dark brown in color.

-75

CLAY, SILTY: With sand. Dry, crumbly, oxidized, highly calcareous and partially cemented. Dark brown.

SAND, SILT, AND CLAY: Very silty, calcareous, oxidized sand with clay. Yellowish-brown. Dry.

CLAY, SILTY: Dark brown, highly calcareous till with very thin lenses of light gray, sucrosic sand. Dry.

SAND, SILTY: Loose, oxidized, highly calcareous. Wet.

CLAY, SILTY: Probable transitional zone to Unit 4. Dense, hard, highly calcareous. Distinguished by rip-up clasts of sucrosic, light brownish-gray sand.

1075

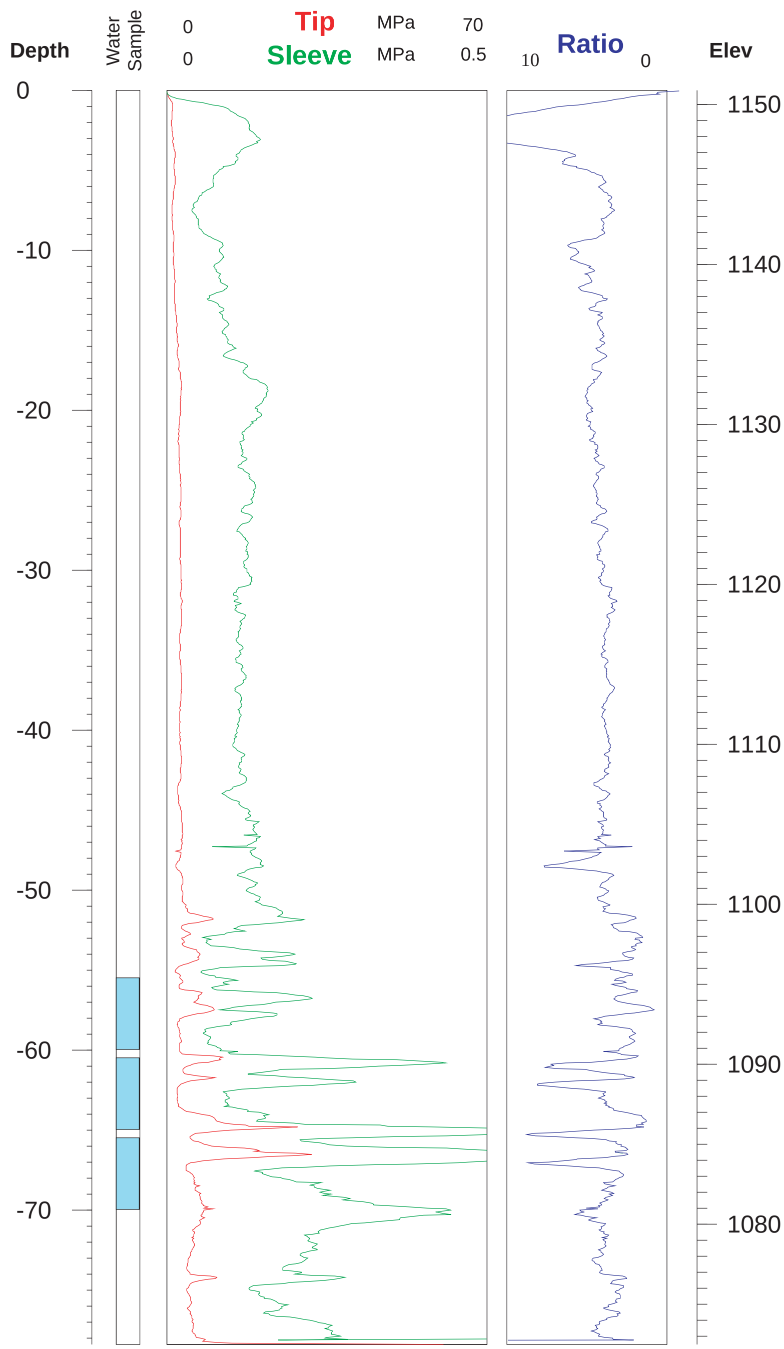
Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB42

Elevation: 1150.91 ft
Depth: 78.41 ft
Geologist: N/A
Location: 2034632.57, 501156.6

Log Date:
Plot Date: 9/17/01

Rig: CPT
Driller: K. Spokas
Company: Argonne



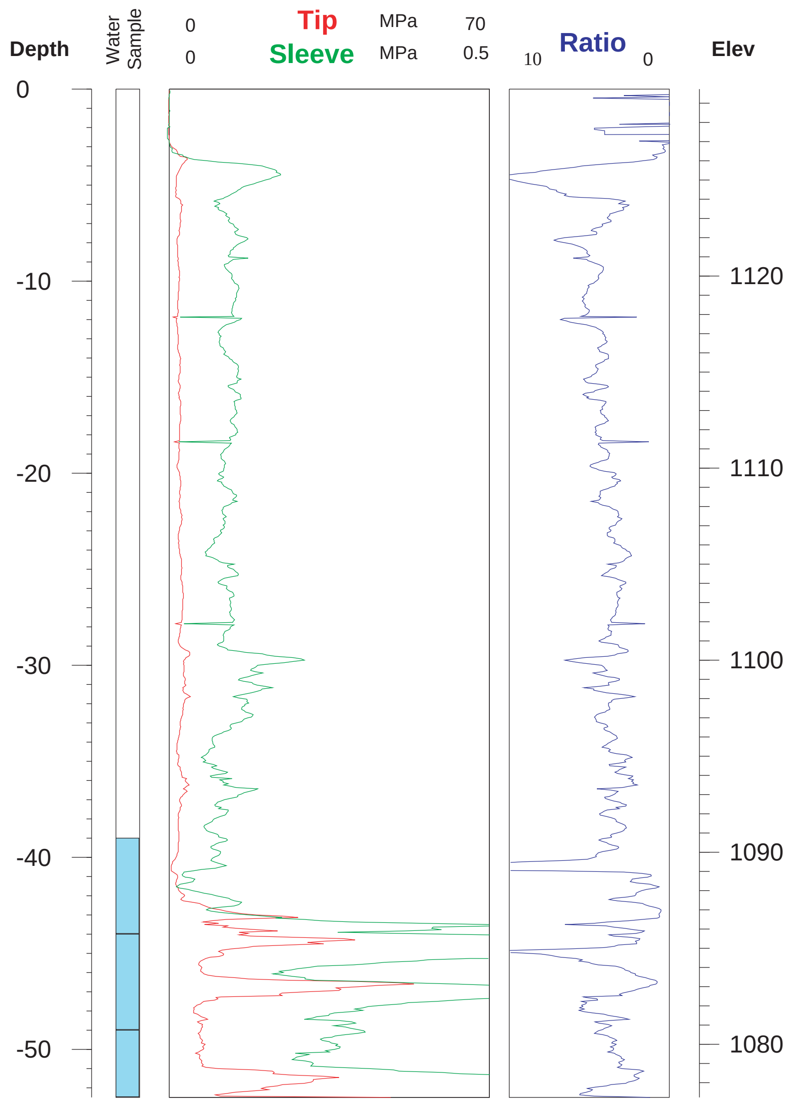
Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB43

Elevation: 1129.72 ft
Depth: 52.49 ft
Geologist: N/A
Location: 2034447.02, 501920.62

Log Date:
Plot Date: 9/17/01

Rig: CPT
Driller: K. Spokas
Company: Argonne



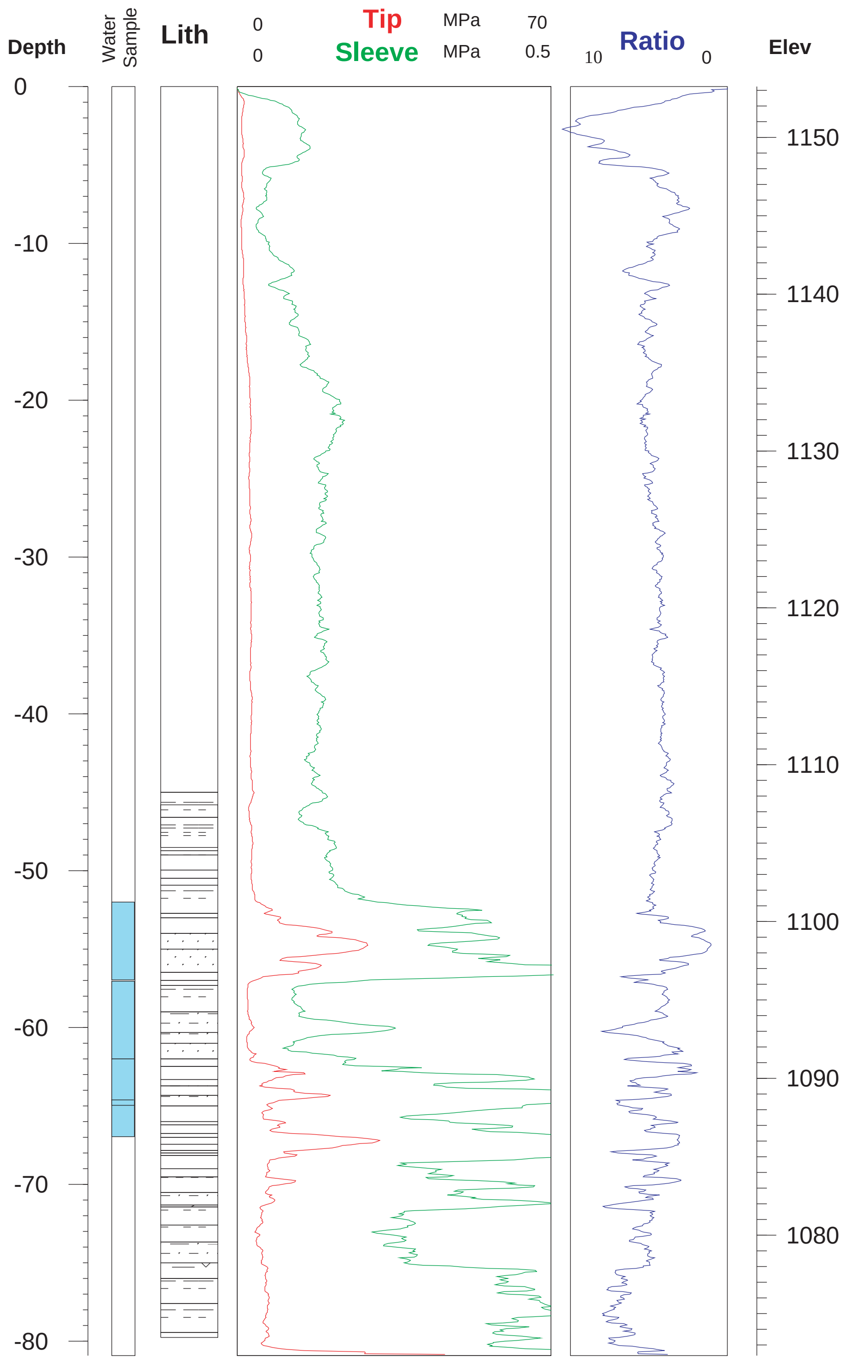
Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB44

Elevation: NA ft
Depth: 79.75 ft
Geologist: L. LaFreniere
Location: 2034642.64, 500768.73

Log Date: 4/05/01
Plot Date: 4/19/01

Rig: CPT
Driller: K. Spokas
Company: Argonne



Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB44

Elevation: 1153.22 ft
Depth: -80.84 ft
Geologist: L. LaFreniere
Location: 2034642.64,500768.73
Log Date: 4/05/01
Plot Date: 4/19/01
Rig: CPT
Driller: K. Spokas
Company: Argonne

Depth	Lithology	Elev.
	No Sample: (No Sample from 0 -45 ft)	
-45	CLAY, SILTY: Light brown, non-calcareous, dry to slightly moist. Sand grains comprising ~5% of sample scattered throughout. Slight evidence of oxidation associated with minute manganese nodules Dense and hard.	
	CLAY, SILTY: Light brown, non-calcareous with increase in sand content, sand occurs in lenses and forms areas of porosity development. Dense and hard with manganese present.	
	CLAY, SILTY: Yellowish-brown, non-calcareous, dense, hard, dry to slightly moist with 5% to 10% sand content with scattered minute manganese nodules present	1105
	CLAY, SILTY: Non-calcareous, yellowish-brown as described above with a marked increase in manganese nodules	
	CLAY, SILTY: Contact zone with a change in lithology to reddish-brown; non-calcareous, slightly plastic and moist.	
-50	CLAY, SILTY: Non-calcareous with ~5%-10% sand content. Reddish-brown, dense, hard and slightly moist.	
	CLAY, SILTY: Non-calcareous with a 10% to 15% sand content scattered throughout the matrix and occurring in small lenses with associated porosity. Light brownish-gray. Matrix sands fine to medium grained	
	CLAY, SILTY: Light brownish-gray silty clay with 10% to 15% fine to medium grained matrix sands. Trace coarse sand. Dense, hard and dry to very slightly moist. Non-calcareous,sand content increasing with depth	
	SAND, CLAYEY: Contact zone. Very poorly sorted, non-calcareous, fine to coarse grained sand with a trace very coarse sand	
	NO RECOVERY: Sample assumed to be a continuation of the unit described below.	1100

SB44 p. 2

Depth W.S. **Lithology** Elev.

SAND: Unconsolidated, loose, very poorly sorted, fine to coarse grained, predominately quartz. Subangular quartz grains. Dry to slightly moist becoming damp. Light yellowish-brown, non-calcareous

-55

SAND: Loose and unconsolidated, non-calcareous light yellowish-brown, damp to wet, fine to very coarse grained, very poorly sorted. Soil moisture increases with depth.

SAND, CLAYEY: Damp, non-calcareous, light yellowish-brown. Sand predominately very fine to medium with a trace coarse grains

CLAY AND SAND: Marked lithologic change transitional from overlying sand. Damp to wet, very plastic with increase in moisture content in sandier areas. Non-calcareous and generally, very fine to medium grained

CLAY, SILTY: With sand. Marked lithologic change transitional from overlying sand. Damp to wet, very plastic with increase in moisture content in sandier areas. Non-calcareous and generally very fine to medium grained

1095

CLAY, SANDY: Crumbly, dry to damp with areas of sand concentration and caliche associated with minor evidence of oxidation. Highly calcareous, hard, non-plastic, pale brown to brown. Sand is generally very fine grained.

-60

SAND, CLAYEY: Trace small granular gravel. Highly calcareous, crumbly, marked increase in oxidation, tiny white caliche nodules present throughout, dry.

SAND: Trace granular gravel. Saturated, fine to coarse (minor) grained, very poorly sorted, loose and unconsolidated, non-calcareous, very pale brown.

SAND: Fine to medium grained, loose, unconsolidated, very pale brown, wet.

CLAY, SILTY: Highly calcareous, moist with 10% sand. Tiny manganese nodules present. Some evidence of selective oxidation associated with the manganese. Generally, light yellowish-brown with evidence of caliche

1090

CLAY, SILTY: Thin lenses or pods of fine sand in silty clay with a sand matrix. Calcareous, light yellowish-brown, slightly plastic and crumbly in part. Slightly moist.

SAND AND GRAVEL: Clayey. Gravel to .75" in length. Highly calcareous, highly oxidized, dry to very slightly moist and crumbly in areas of sand concentration. Till sequence.

SAND, CLAYEY: Oxidized, brownish-yellow, loose, wet with highly calcareous, large silty clay clasts to 2" in length. Sand is fine to very coarse grained, very poorly sorted.

SB44 p. 3

Depth W.S. **Lithology** Elev.

-65

NO RECOVERY: No sample recovery

SAND, CLAYEY: Brownish-yellow, saturated to wet, very fine to medium (trace) grained, fairly well sorted, calcareous

SAND, CLAYEY: Oxidized, brownish-yellow, wet to damp, very fine grained with trace very small granular gravel

SAND, SILTY: With clay. Dry to slightly moist, highly calcareous, oxidized. Resembles a caliche rubble zone.

SAND AND GRAVEL: Silty. Heavily oxidized, highly calcareous, semi-consolidated, with caliche nodules and minor gravels

SAND, SILTY: Trace granular gravel. Highly oxidized, caliche bearing, highly calcareous, dry and crumbly in texture.

SAND, SILT, AND GRAVEL: Calcareous and moist

SILT AND GRAVEL: Oxidized, highly calcareous silt with gravels to ½" in length

1085

CLAY, SILTY: Minor gravel. Till sequence. Dense, hard, selectively oxidized, yellowish-brown, calcareous, sandy in part, dry.

SAND AND GRAVEL: Clayey. Till sequence continues with gravels to ¾" in length. Yellowish-brown with damp, plastic clays

SAND, SILTY: With clay and minor granular gravels. Oxidized, yellowish-brown, highly calcareous, generally fine grained. Dry till sequence.

-70

SAND, CLAYEY: With silt and trace granular gravel. Highly oxidized, brownish-yellow, highly calcareous, loose, dry.

GRAVEL: Thin basal gravel zone with angular gravels of mixed lithology to 1" in length.

CLAY, SILTY: Till sequence with many lenses of very poorly sorted fine to coarse grained sand. Highly oxidized and very calcareous, yellowish-brown clay matrix becoming sandier with depth. Minor porosity associated with sand lenses. Dry.

CLAY, SILTY: Dense, hard, dry, oxidized, yellowish-brown and calcareous

1080

CLAY, SANDY: Trace granular gravels. Till sequence. Highly oxidized, dry and crumbly in texture with lenses of very fine grained (sucrosic) sand . Sands are light gray and highly calcareous.

-75

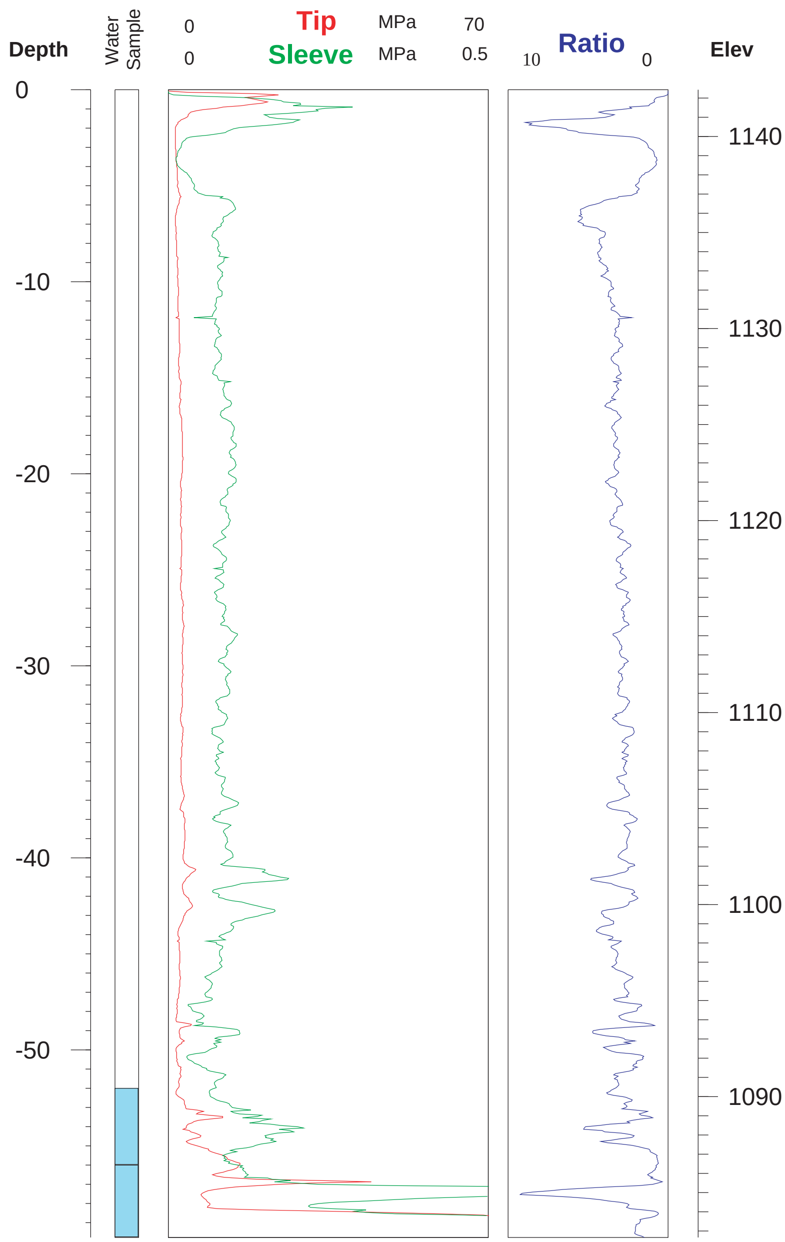
SILT AND GRAVEL: Clayey. Till sequence becoming increasingly more clay dominated with depth. Oxidized, brownish-yellow, calcareous, with widely ranging sized granular gravels of mixed lithology. Dry.

SB44 p. 4

Depth	W.S.	**Lithology**	Elev.
		CLAY, SILTY: Olive, dry, dense, hard, calcareous with a waxy appearance. Moderately silty.	
		CLAY, SILTY: Dry, hard, very dense, calcareous, waxy in appearance, dark olive to very dark gray. Moderately silty	1075
		CLAY: Some silt. Dry, waxy in appearance, with inclusions of very highly oxidized, bright rust colored, very thin silt stringers. Matrix is calcareous and dark olive in color.	

Argonne National Laboratory

Project: Everest, KS
Boring ID: SB45
Elevation: 1142.43 ft
Depth: 59.78 ft
Geologist: N/A
Location: 2034462.87, 501520.73
Log Date: N/A
Plot Date: 9/17/01
Rig: CPT
Driller: K. Spokas
Company: Argonne



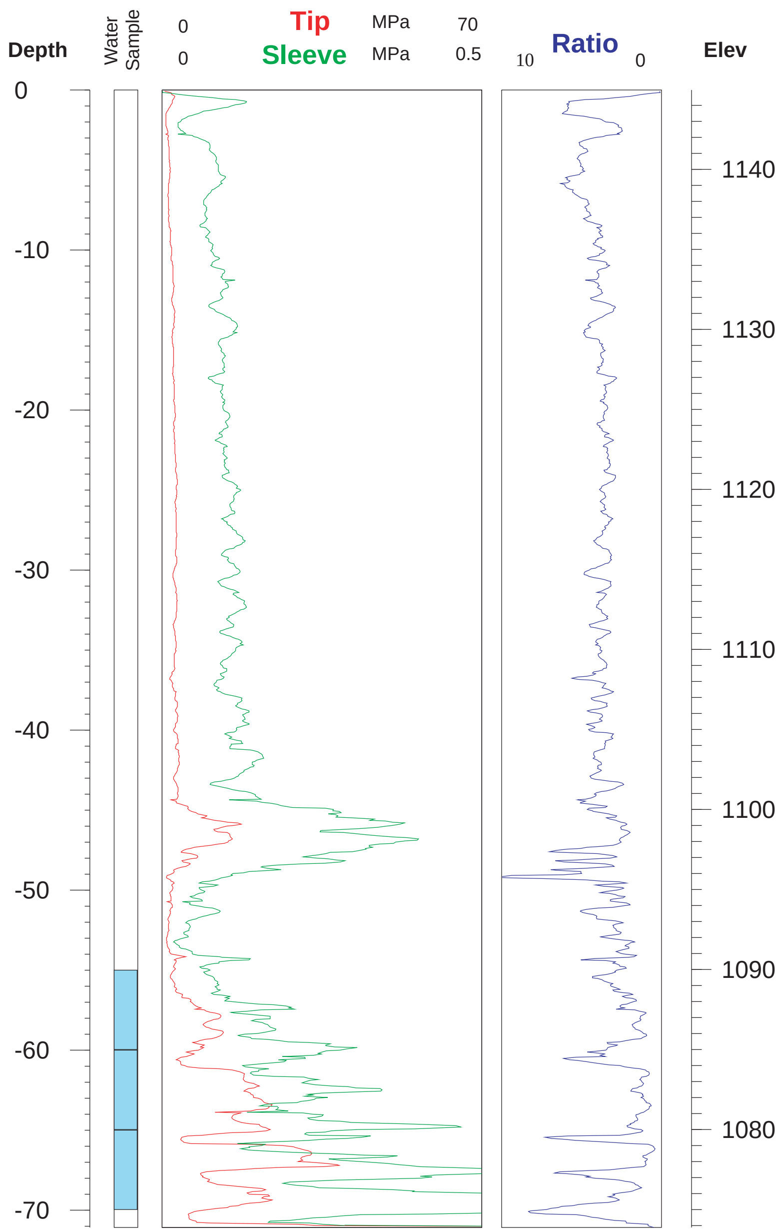
Argonne National Laboratory

Project: Everest, KS **Boring ID:** SB46

Elevation: 1144.94 ft
Depth: 71.06 ft
Geologist: N/A
Location: 2034841.01, 501426.58

Log Date: N/A
Plot Date: 9/17/01

Rig: CPT
Driller: K. Spokas
Company: Argonne



Argonne National Laboratory

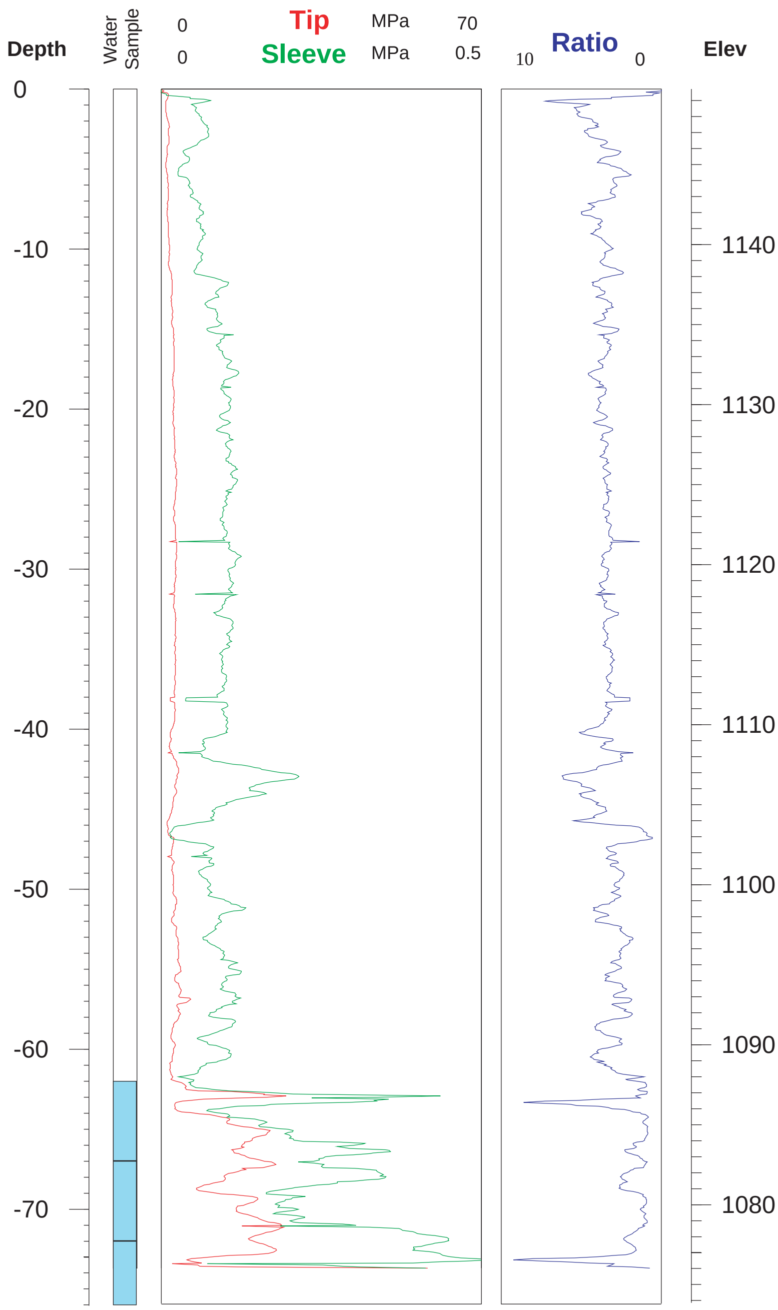
Project: Everest, KS

Boring ID: SB47

Elevation: 1149.71 ft
Depth: 73.69 ft
Geologist: N/A
Location: 2035139.36, 501437.73

Log Date: N/A
Plot Date: 9/17/01

Rig: CPT
Driller: K. Spokas
Company: Argonne



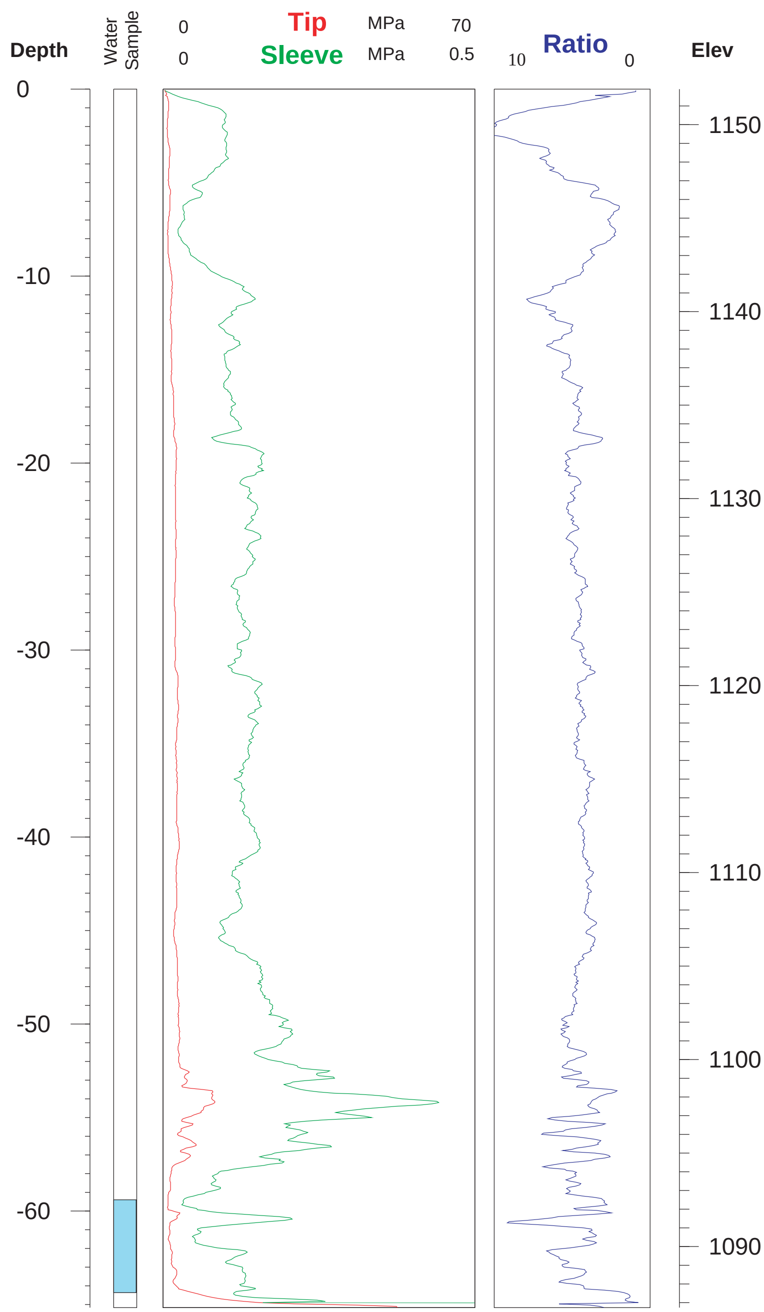
Argonne National Laboratory

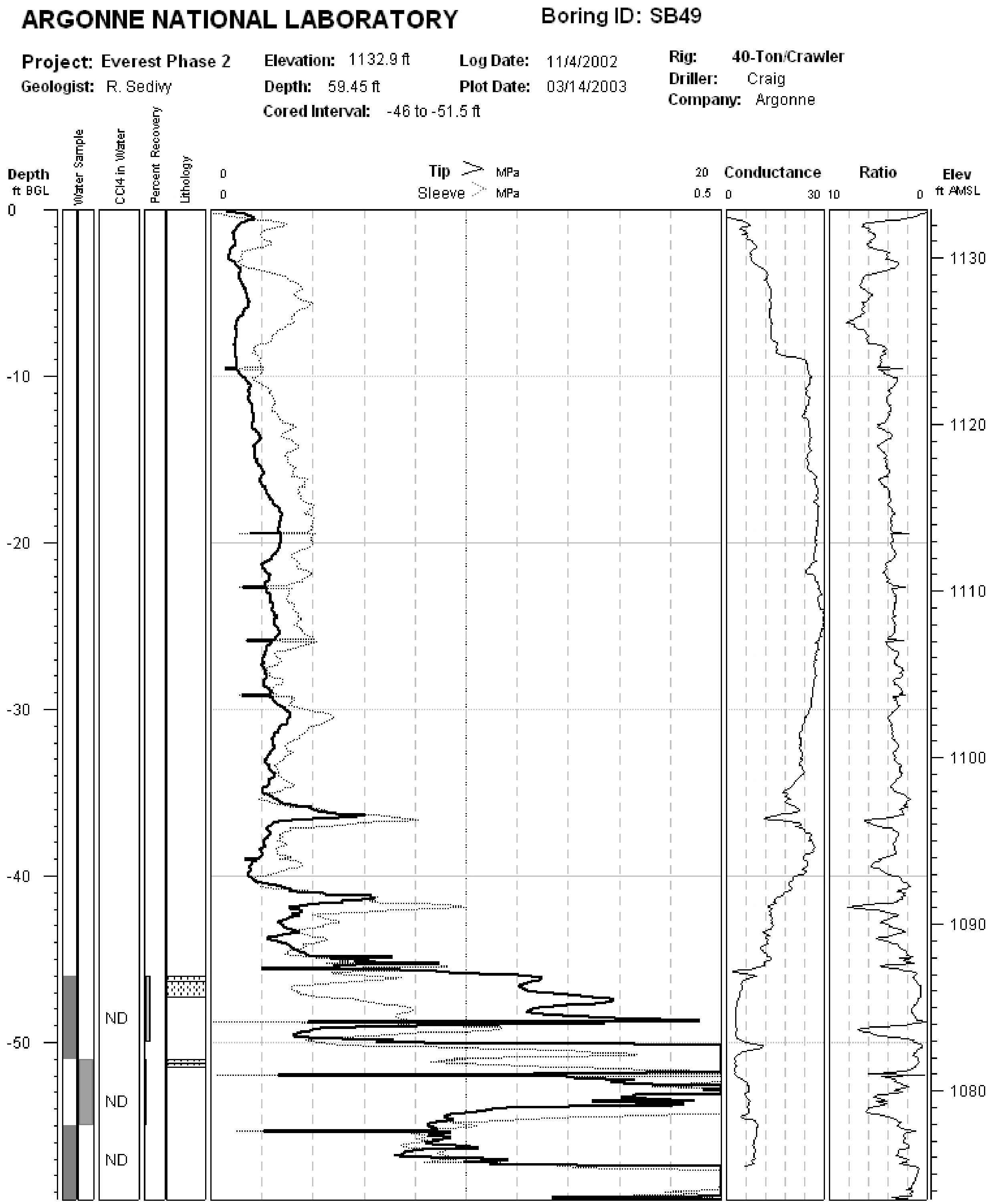
Project: Everest, KS **Boring ID:** SB48

Elevation: 1151.88 ft
Depth: 65.16 ft
Geologist: N/A
Location: 2034584.56, 501050.57

Log Date: N/A
Plot Date: 9/17/01

Rig: CPT
Driller: K. Spokas
Company: Argonne




ARGONNE NATIONAL LABORATORY
Boring ID: SB49
Project: Everest Phase 2
Geologist: R. Sedivy
Elevation: 1132.9 ft
Depth: 59.45 ft
Cored Interval: -46 to -51.5 ft
Log Date: 11/4/2002
Plot Date: 03/14/2003
Rig: 40-Ton/Crawler
Driller: Craig
Company: Argonne
Depth ft BGL
Water Sample
CCl4 in Water
Percent Recovery
Lithology
Tip MPa
Sleeve MPa
Conductance
Ratio
Elev ft AMSL
ND
ND
ND

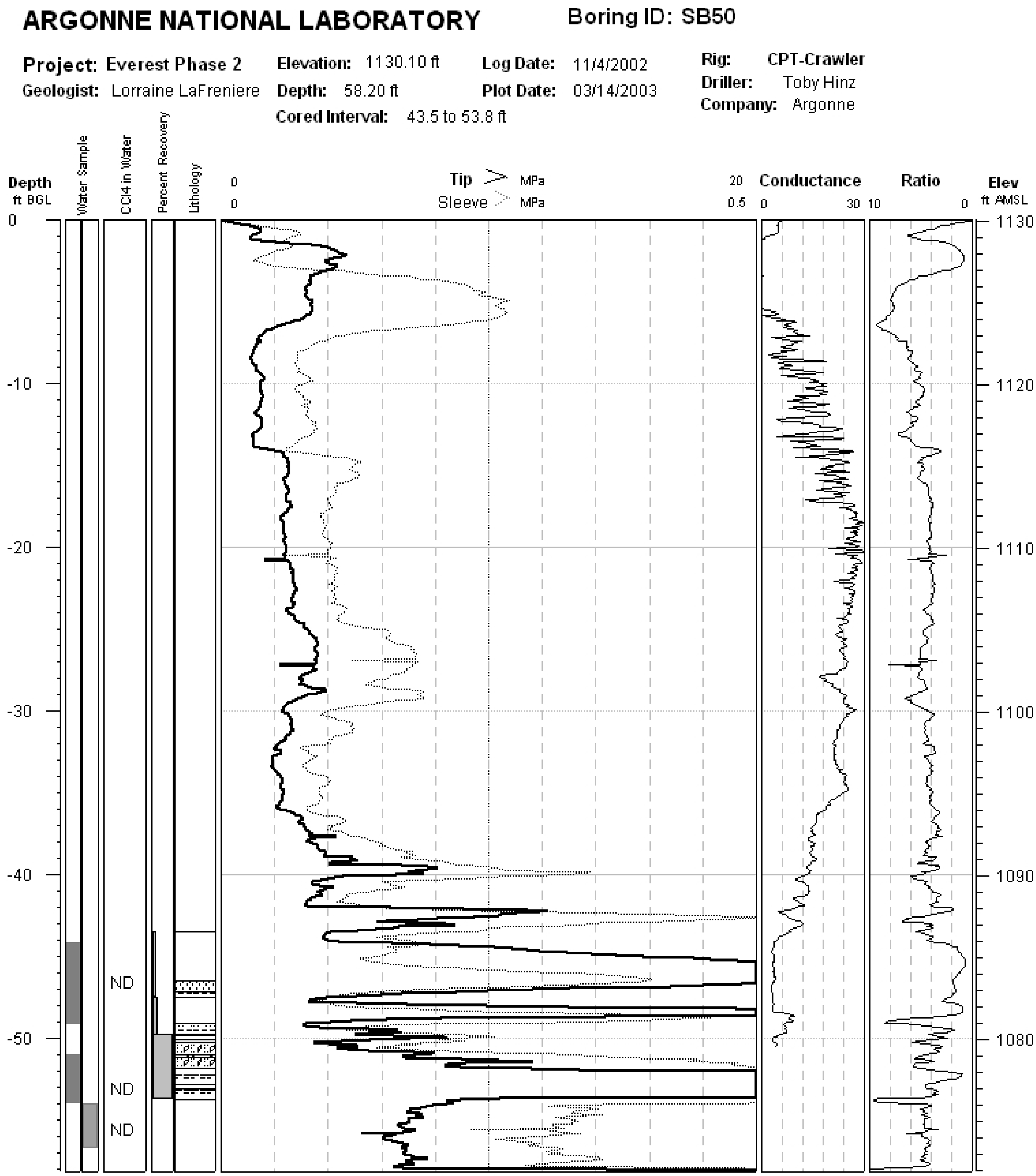
Argonne National Laboratory **Well ID: SB49**

Project: Everest Phase 2 **Elevation:** 1132.9 ft **Log Date:** 11/4/2002 **Rig:** 40-Ton/Crawler

Geologist: R. Sediwy **Depth:** 59.45 ft **Driller:** Craig **Drilling Company:** Argonne

Cored Interval: -46 to -51.5 ft

Depth ft BGL	Water Sample	CCl4	% Recovery	Lithology	LITHOLOGY DESCRIPTION	Elev ft AMSL
-45					NOT CORED: 0 - 46 ft not cored.	
					SAND: Silty-clayey. >50% sand, silt to medium sand w/some clay, sand subangular to rounded quartz, light olive brown, 2.5YR 5/3. Moist black, dense clayey silt lens, ~25mm across at very top of core.	
					SAND: Medium to very coarse; >90% sand, well sorted, loose, subangular to rounded quartz fining upward. Few well-rounded pebbles to 7mm. 47-47.3 moist to wet, non calcareous minor dark igneous grains. Light olive brown 2.5YR 5/3.	
		ND				1085
-50						
					SAND: Silty-clayey, >50% sand, silt to med. sand w/some clay quartz, sub-angular to rounded, non-calareous to slightly calcareous, minor dark igneous grains, reddish yellow 7.5YR 6/8 to yellowish brown 10 YR 5/8, mottled Fe staining, moist, 51-51.5. Cutting mouth jammed by several sub-angular, calcareous-cemented silt/fine sandstone pebbles to 2-2.5cm.	
					SAND: Gravelly, poorly sorted medium to coarse sand w/quartz pebbles and calcareous cemented silt-sand fragments to 2-2.5cm. >50% sand, 10-20% granules and pebbles, damp, 10YR 4/6 dark yellowish brown calcareous.	


ARGONNE NATIONAL LABORATORY
Boring ID: SB50
Project: Everest Phase 2
Geologist: Lorraine LaFreniere
Elevation: 1130.10 ft
Depth: 58.20 ft
Cored Interval: 43.5 to 53.8 ft
Log Date: 11/4/2002
Plot Date: 03/14/2003
Rig: CPT-Crawler
Driller: Toby Hinz
Company: Argonne
Depth ft BGL
Water Sample
CCl4 in Water
Percent Recovery
Lithology
Tip MPa 0 20
Sleeve MPa 0 0.5
Conductance 0 30
Ratio 10 0
Elev ft AMSL
0
-10
-20
-30
-40
-50
1130
1120
1110
1100
1090
1080
ND
ND
ND

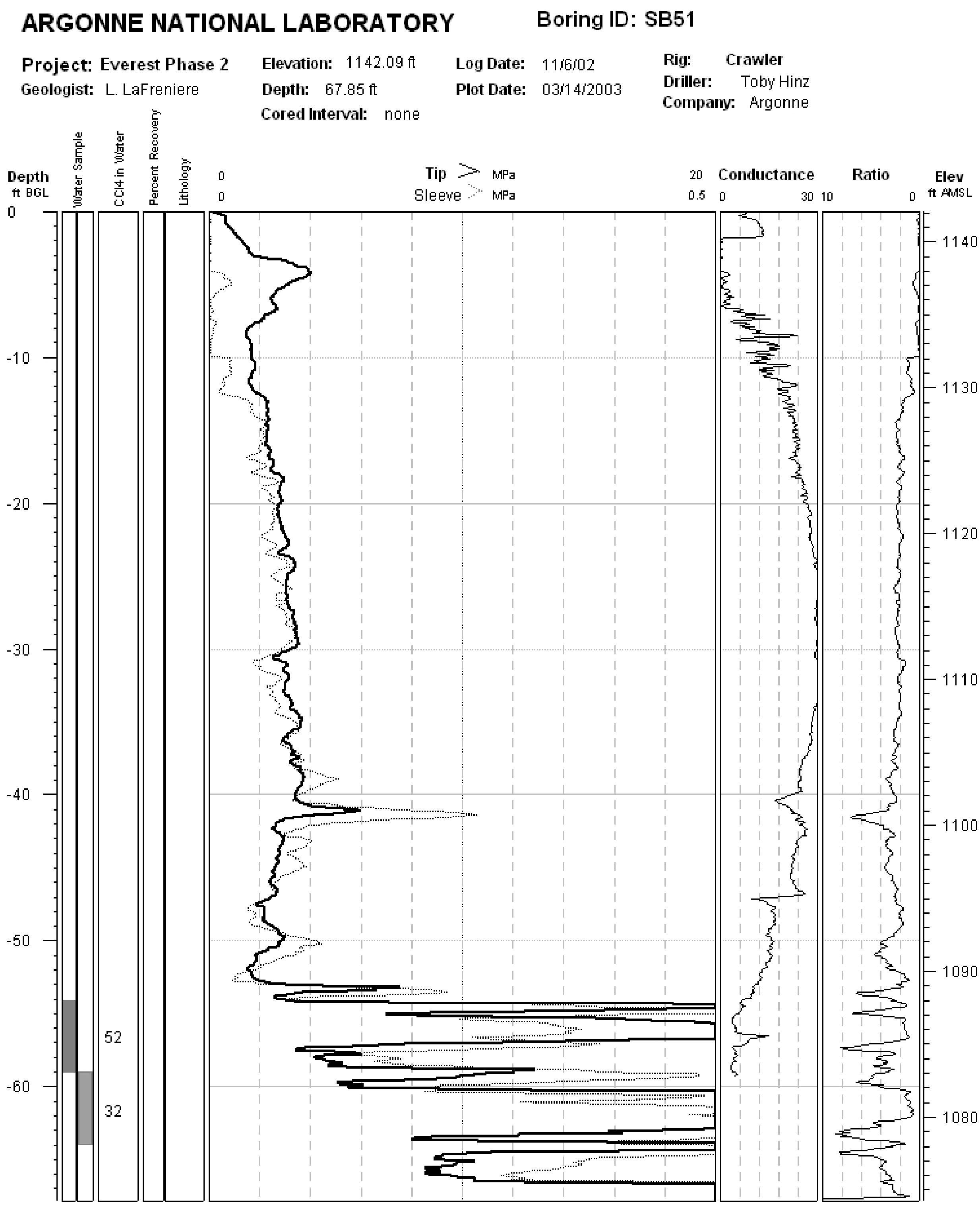
Argonne National Laboratory **Well ID: SB50**

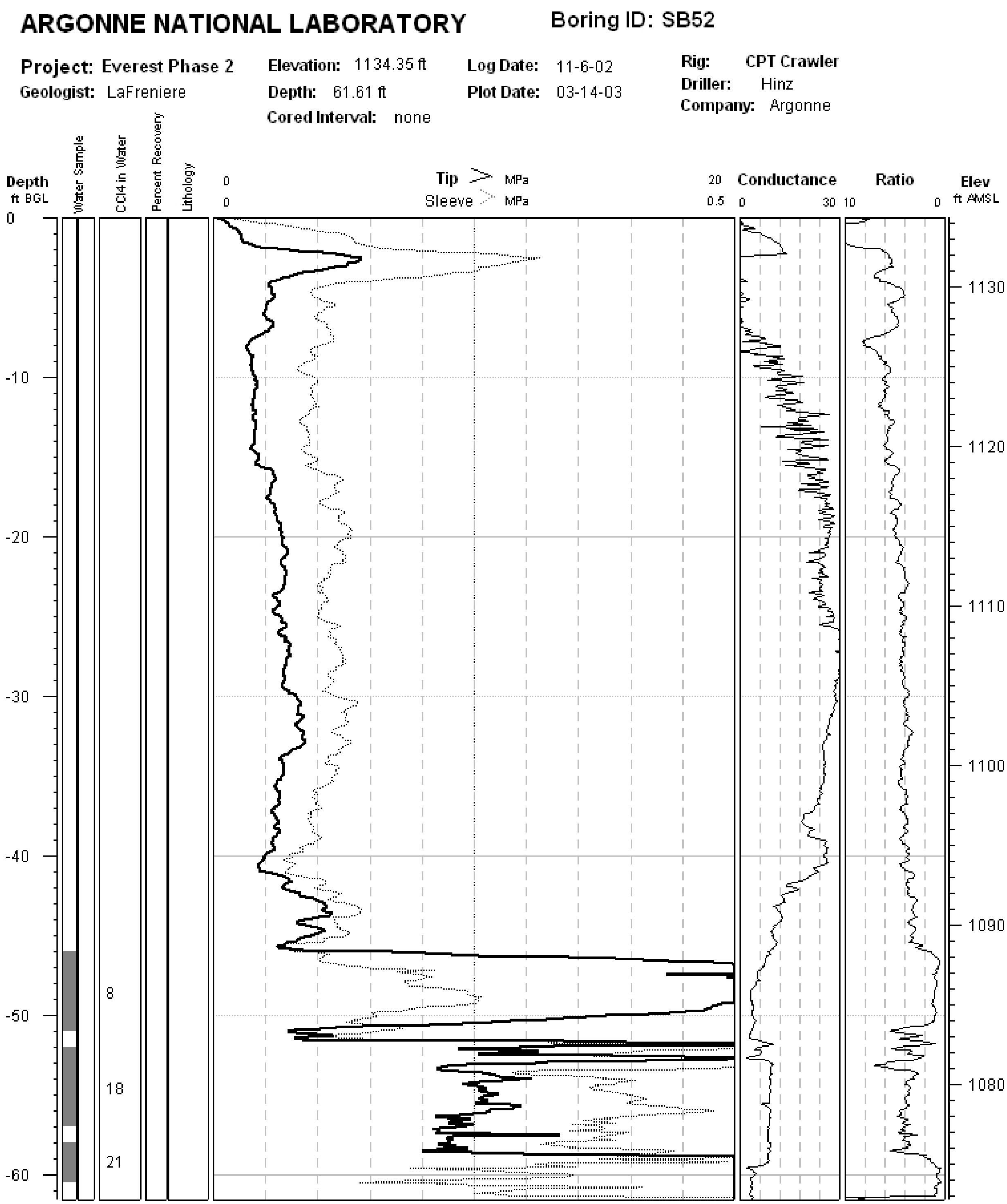
Project: Everest Phase 2 **Elevation:** 1130.10 ft **Log Date:** 11/4/2002 **Rig:** CPT-Crawler
Geologist: Lorraine LaFreniere **Depth:** 58.20 ft **Driller:** Toby Hinz **Drilling Company:** Argonne
Cored Interval: 43.5 to 53.8 ft

Depth ft BGL	Water Sample	CCl4	% Recovery	Lithology	LITHOLOGY DESCRIPTION	Elev ft AMSL
					NOT CORED: 0 - 43.5 feet not cored.	
-45		ND			NO DESCRIPTION: Uncertain as to stratigraphic postion but from recovery and ECPT data correlation it appears to be the basal part of the upper sand and the contact with the underlying light yellowish-brown (10 YR) sand.	1085
					SAND: with small granular gravel. Sand 85-95%, gravel 5%. Some fines (silt). Poorly sorted, medium to very coarse grained, highly calcareous, mixed lithology, sub-rounded to rounded. Slight coarsening with increase in depth. Wet.	
					SAND, SILTY: Sand 90%, very well sorted, very fine grained, quartz, sub-rounded to rounded, oxidized matrix. Highly calcareous, strong brown (7.5 YR). Wet.	
					NO RECOVERY	

SB50 Pg. 2

Depth	W.S.	CCl4	%	LITH	LITHOLOGY	Elev
					SAND, SILTY: Sand ~80% fine grained, oxidized, brownish-yellow (10 YR), highly calcareous, sub-rounded, fairly well sorted, trace of inclusions of loose, medium grained sand, light yellowish-brown (10 YR). Wet.	
					SAND, GRAVEL AND CLAY: Very thin stringer of sand and gravel at base of overlying unit. Sand 80%, trace granular gravel, highly calcareous, dark yellowish-brown (10 YR). Fine sand, wet.	
-50					SAND, SILTY: Poorly sorted, very fine - fine grained, inclusions of medium to coarse grained, sub-rounded to sub-angular, highly calcareous, wet, brownish-yellow (10 YR) sand.	1080
					SAND, SILT, AND GRAVEL: Abrupt contact. Sand 85%, gravel 5%. Sand fine to medium grained, sub-rounded to rounded, moderately well sorted, highly calcareous, yellowish-brown (10 YR), wet. Angular gravel to 3 cm in length.	
					SAND AND GRAVEL: Silty minor clay in matrix. Sand 85%, gravel 5%. Very poorly sorted, oxidized, medium- coarse grained, sub-rounded to sub-angular. Grain size increasing with depth. Wet to saturated, highly calcareous, yellowish-brown (10 YR) becoming dark yellowish-brown (10 YR) for basal 2 inch at basal contact. Wet.	
					GRAVEL: Thin zone angular, broken gravel. Gravel (100%). Calcareous cemented sandstone gravel to 3.5 cm in length.	
					SAND AND GRAVEL: Silty with minor clay content. Sand 85%, gravel 5-10%. Moist. Highly calcareous. Sand fine to medium grained, yellowish-brown (10 YR). Gravel ranges in size from granular to cobbles 4.5 cm in length. Gravel angular chert and sandy limestone with trace of indeterminate fossil debris.	
		ND			CLAY, SILTY: with sand and gravel. Sand 5-10%. Highly calcareous. Sand and granular gravel occur as thin, discontinuous lenses in the clay. Scattered, minor, white weathering carbonate nodules. Sand fine to medium grained throughout matrix. Damp. Medium plasticity. Brown (10 YR).	
					SAND, GRAVEL AND CLAY: Medium to very coarse grained, damp, non-plastic, highly calcareous. Sand very poorly sorted 85%, angular gravel <5% to 2 cm in length. Sand sub-angular to sub-rounded.	
					CLAY, SILTY: As described in above zone 51.9-52.9 feet.	


ARGONNE NATIONAL LABORATORY
Boring ID: SB51
Project: Everest Phase 2
Geologist: L. LaFreniere
Elevation: 1142.09 ft
Depth: 67.85 ft
Cored Interval: none
Log Date: 11/6/02
Plot Date: 03/14/2003
Rig: Crawler
Driller: Toby Hinz
Company: Argonne
Depth ft BGL
Water Sample
CCl4 in Water
Percent Recovery
Lithology
Tip MPa
Sleeve MPa
0
20
0.5
Conductance
30
Ratio
10
Elev ft AMSL
-10
-20
-30
-40
-50
-60
52
32
1140
1130
1120
1110
1100
1090
1080


ARGONNE NATIONAL LABORATORY
Boring ID: SB52
Project: Everest Phase 2
Geologist: LaFreniere
Elevation: 1134.35 ft
Depth: 61.61 ft
Cored Interval: none
Log Date: 11-6-02
Plot Date: 03-14-03
Rig: CPT Crawler
Driller: Hinz
Company: Argonne
Depth ft BGL
Water Sample
CCl4 in Water
Percent Recovery
Lithology
Tip MPa
Sleeve MPa
0
20
0.5
Conductance
30
Ratio
10
Elev ft AMSL
-10
-20
-30
-40
-50
-60
1130
1120
1110
1100
1090
1080
8
18
21

Argonne National Laboratory

Well ID: **SB53**

Project: Everest Phase 2 **Elevation:** 1102.44 ft **Log Date:** 11-5-02 **Rig:** Geoprobe
Geologist: E. Yan **Depth:** 34 ft **Driller:** **Drilling Company:** ANL
Cored Interval: -10 to -34 ft

Depth ft BGL	Water Sample	CCl4	% Recovery	Lithology	LITHOLOGY DESCRIPTION	Elev ft AMSL
					NO RECOVERY: No recovery from 0 to -10 ft	
-10					SILTY CLAY: Med. plastic. Trace of iron oxide, damp to dry. (dry 10-12 ft, damp 12 - 15 ft) Non calcareous. Dark Brown (7.5YR,3/2)	1090
-15					SILTY CLAY: Med. plastic. Trace of iron oxide, damp. Non calcareous. Dark Brown (7.5YR,3/2)	
					CLAY: Highly plastic. Damp-moist, non calcareous. V. Dark gray (7.5YR 3/1)	1085
-20					SAND, SILTY: Sand ~60-70%, coarse, sub angular. Increase in granules at the base, fines (silt) are non plastic, moist, non calcareous. Dark gray (10YR 4/1)	
					SAND, CLAYEY: Sand ~85%, fine, subrounded, a few med-coarse sand stringers, (highly oxidized), saturated, non calcareous, grayish brown (10YR 5/2)	1080
		ND				
					TILL: Clayey sand, sand fine - v.fine, sub rounded, w/5% gravel. Wet. Grayish brown (10YR 5/2).	
-25					TILL: Sandy silt with gravel. Silt >50%, gravel <5% scattered through the section, max 10mm, dry, calcareous. Dark grayish brown. (10YR 4/2).	1075
-30					TILL: Sandy silt with gravel. Silt >50% with patches of coarse sand. 1-in thick coarse sand-gravel/stringers at 33 ft, gravel <5% scattered through the section. Dry. Calcareous. Dark gray (10YR 4/1). Stopped at 34 ft due to refusal.	1070

Argonne National Laboratory

Well ID: SB54

Project: Everest Phase 2 **Elevation:** 1095.79 ft **Log Date:** 11-6-02 **Rig:** Geoprobe
Geologist: E. Yan **Depth:** 30 ft **Driller:** **Drilling Company:** ANL
Cored Interval: -15 to -30 ft

Depth ft BGL	Water Sample	CCl4	% Recovery	Lithology	LITHOLOGY DESCRIPTION	Elev ft AMSL
					NO RECOVERY	
-15					CLAY, SANDY: (fines >60-70%), med. plastic, 10-20% sand scattered in clay matrix. Moist non-calcareous. Light brownish gray (2.5YR 6/2)	1080
		ND			SAND: Coarse sand - granules >85%, sub-angular, non calcareous. Wet. Strong brown (7.5YR 4/6)	
-20					SAND: Coarse sand - granules >85%, sub-angular, non calcareous. Wet. Strong brown (7.5YR 4/6)	1075
					SAND, GRAVELLY: Coarse sand - granules with a few gravels. Sand, subrounded. Gravel up to 2cm. Non calcareous. Dark grayish brown (10YR 4/2)	
		ND			SAND, GRAVELLY: Coarse sand - granules with a few gravels. Sand, subrounded. Gravel up to 2cm. Non calcareous. Dark grayish brown at the base (10YR 4/2).	
-25					SAND: Fine well sorted, rounded, clay contents increase w/depth. Saturated, non calcareous. Gray (2.5YR 5/1)	1070
					TILL: Sandy silt, silt > 70% with sand patches. Gravels scattered throughout silt matrix. Calcareous, dry. Dark grayish brown (10YR 4/2)	
-30						

Argonne National Laboratory

Well ID: SB55

Project: Everest Phase 2 **Elevation:** 1108.33 ft **Log Date:** 11-6-02 **Rig:** Geoprobe
Geologist: E. Yan **Depth:** 35 ft **Driller:** **Drilling Company:** ANL
Cored Interval: -10 to -35 ft

Depth ft BGL	LITHOLOGY DESCRIPTION	Elev ft AMSL
	NOT CORED	
-10	SILTY CLAY: Low plastic, patches of iron oxide, non-calcareous, dry, dark brown (7.5 YR, 3/2).	1095
	CLAY: Highly plastic, non-calcareous, damp, very dark gray (7.5 YR, 3/1).	
-15		
	CLAY: Highly plastic, non-calcareous, iron oxide staining and manganese coating throughout, moist, brown (7.5 YR, 4/2).	1090
-20	CLAY: Plastic, non-calcareous, with some sand grains and a few sand stringers. Scattered iron oxide staining. Moist, gray (5 YR, 5/1).	
	CLAY: Sandy (~30%), non-calcareous, moist, gray (5 YR, 5/1).	1085
-25	CLAY: Same as above.	
	SAND, CLAYEY: Sand 70-80%, fine-medium grained, rounded, moist-wet, blueish-gray.	
	SAND: >85%, coarse grained with few gravels, moist-wet, dark yellowish brown (10 YR, 4/4).	1080
	SAND, CLAYEY: ~80% with carbonate cement, gravel scattered throughout, highly calcareous, damp-moist, olive (5 YR, 5/4).	
-30	SAND: >85%, coarse grained, sub-rounded, iron oxide staining, wet, dark reddish brown (5 YR, 3/2).	
	TILL: Sandy silt with gravel, iron oxide staining throughout, calcareous, damp-moist.	1075
-35		

Columns: Water Sample | CCl4 | % Recovery | Lithology

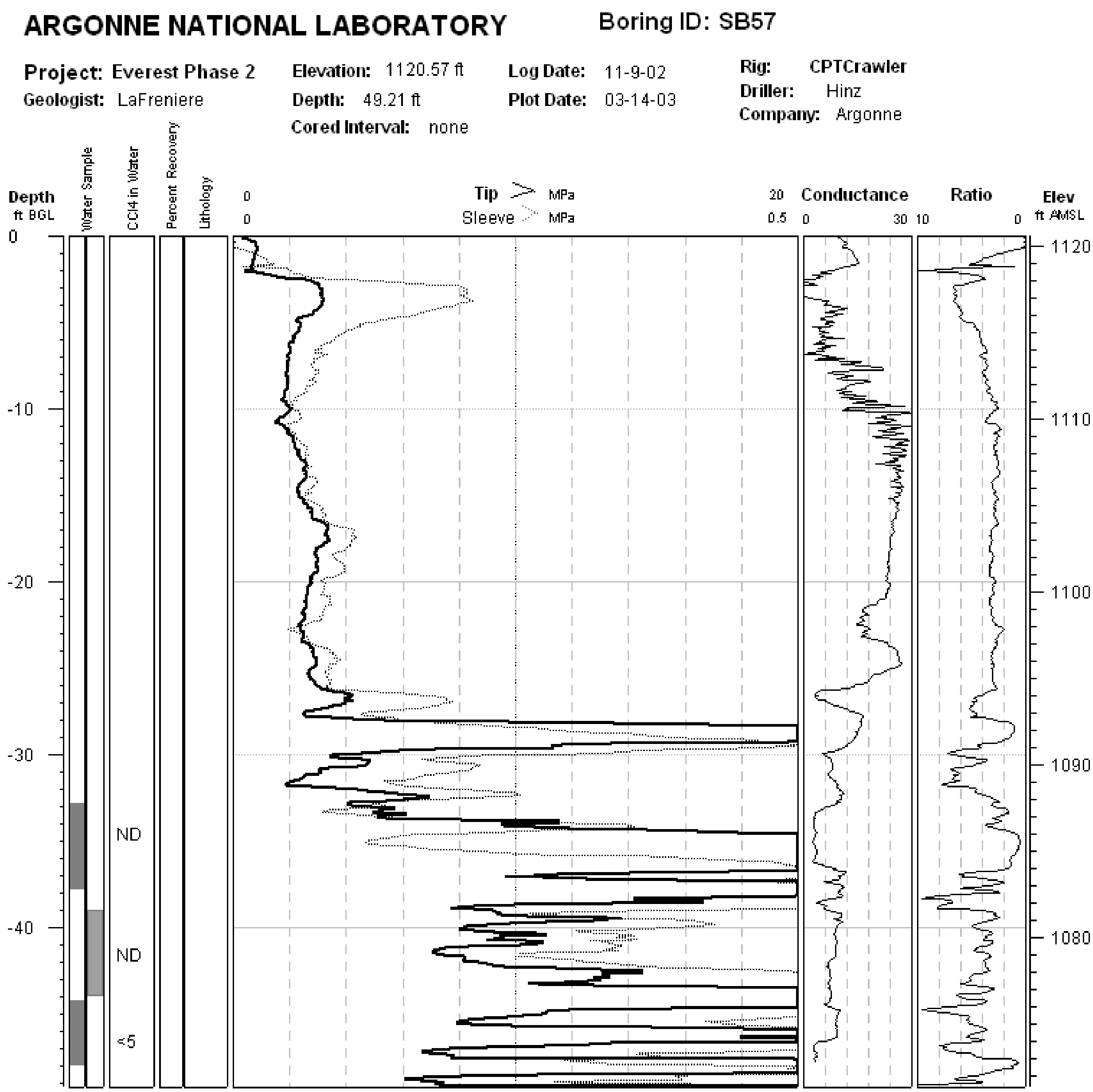
Argonne National Laboratory

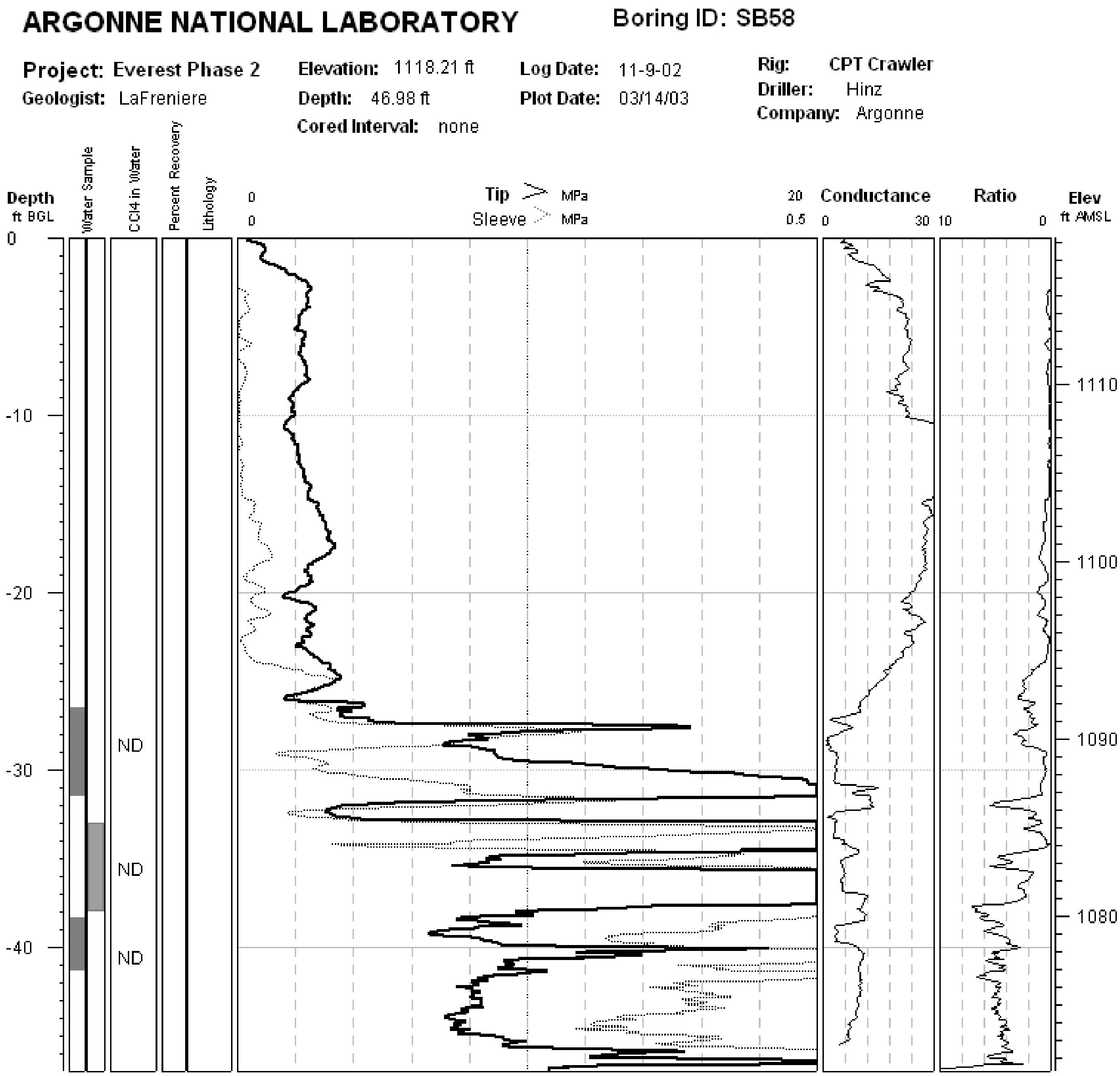
Well ID: SB56

Project: Everest Phase 2 **Elevation:** 1099.27 ft **Log Date:** 11-7-02 **Rig:** Geoprobe
Geologist: E. Yan **Depth:** 30 ft **Driller:** **Drilling Company:** ANL
Cored Interval: -15 to -30 ft

Depth ft BGL	CCl4	LITHOLOGY DESCRIPTION	Elev ft AMSL
		NOT CORED	1085
-15		SILT, CLAYEY: Low plastic, sandy. Manganese coating and iron oxide staining throughout, non-calcareous, dry, grayish-brown (10 YR, 5/2).	
	ND	SAND: >85% fine-medium grained, manganese coating near the top. Iron oxide staining throughout. Well sorted, rounded, damp-moist, brown (7.5 YR, 4/4). Color changes to light gray (10 YR, 7/1) at the bottom 3 in.	
		NO RECOVERY	1080
-20		TILL: Sandy silt with ~5% granules and gravels, calcareous, damp, yellowish-brown (10 YR, 5/4).	
	ND	SAND: >85%, medium-coarse grained, sub-rounded, moist, yellowish-brown (10 YR 5/4).	1075
-25			
		SAND: >85%, coarse grained, sub-angular, wet, yellowish-brown (10 YR, 5/6).	
		TILL: Sandy silt with carbonate patches, gravel scattered throughout, calcareous. Stopped due to refusal.	1070
-30			

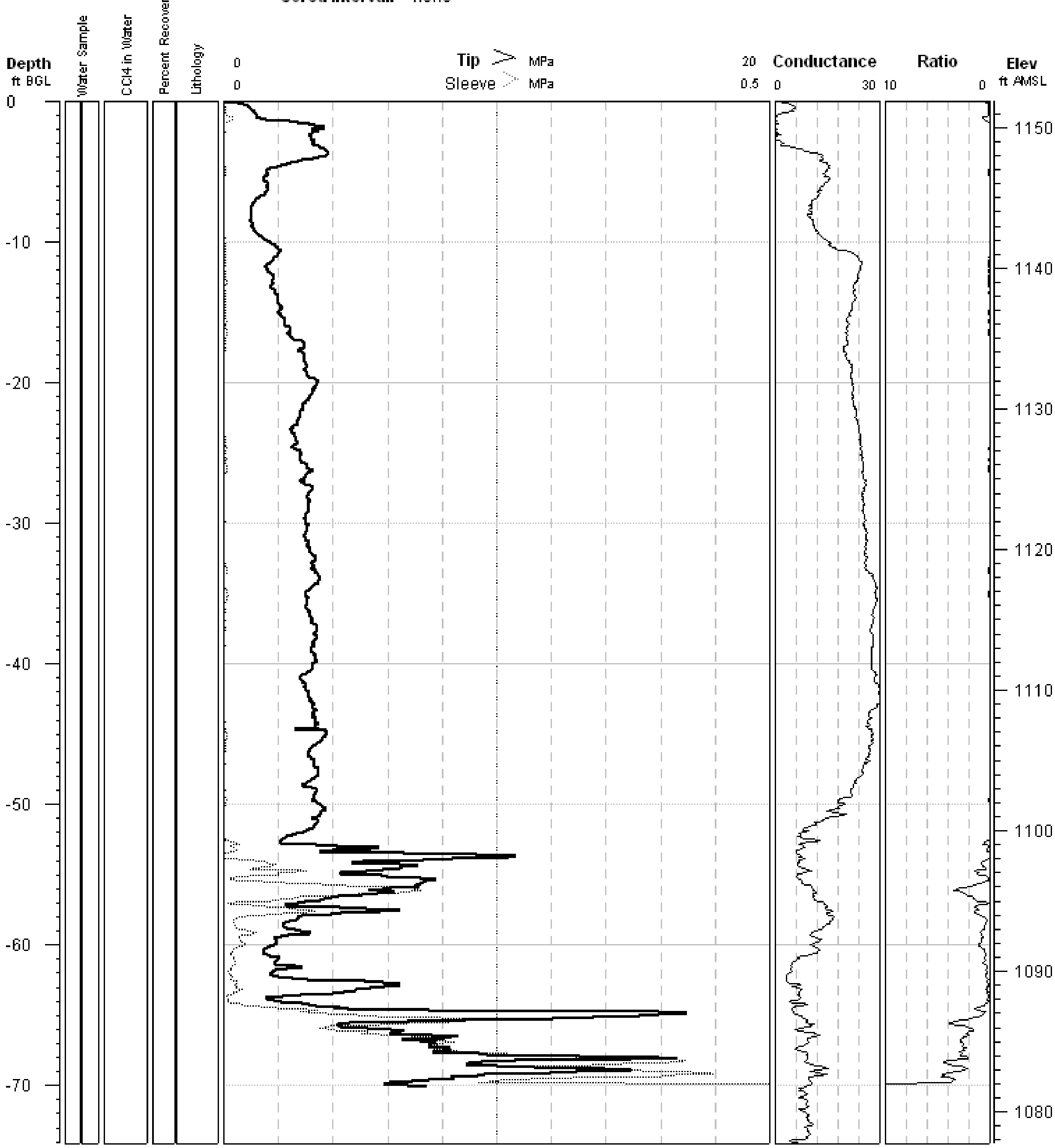
Columns: Water Sample, CCl4, % Recovery, Lithology

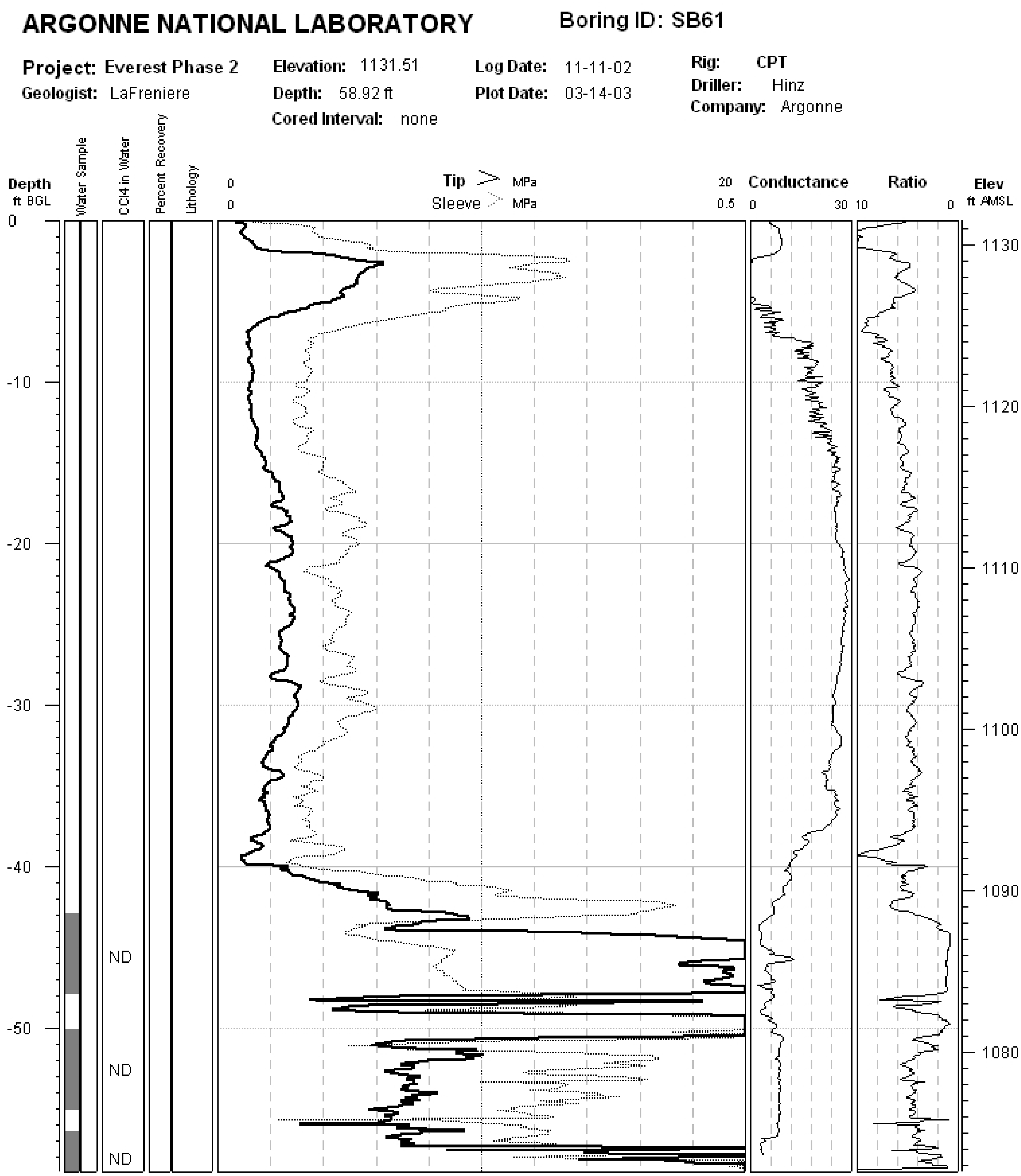

ARGONNE NATIONAL LABORATORY
Boring ID: SB57
Project: Everest Phase 2
Geologist: LaFreniere
Elevation: 1120.57 ft
Depth: 49.21 ft
Cored Interval: none
Log Date: 11-9-02
Plot Date: 03-14-03
Rig: CPTCrawler
Driller: Hinz
Company: Argonne
Depth ft BGL
Water Sample
CCl4 in Water
Percent Recovery
Lithology
Tip MPa
Sleeve MPa
Conductance
Ratio
Elev ft AMSL
ND
ND
<5


ARGONNE NATIONAL LABORATORY
Boring ID: SB58
Project: Everest Phase 2
Geologist: LaFreniere
Elevation: 1118.21 ft
Depth: 46.98 ft
Cored Interval: none
Log Date: 11-9-02
Plot Date: 03/14/03
Rig: CPT Crawler
Driller: Hinz
Company: Argonne
Depth ft BGL
Water Sample
CCl4 in Water
Percent Recovery
Lithology
Tip MPa
Sleeve MPa
0
20
0
0.5
Conductance
0
30
Ratio
10
0
Elev ft AMSL
0
-10
-20
-30
-40
ND
ND
ND
1110
1100
1090
1080

ARGONNE NATIONAL LABORATORY **Boring ID: SB59**

Project: Everest Phase 2 **Elevation:** 1151.87 ft **Log Date:** 11-10-02 **Rig:** CPT Crawler
Geologist: LaFreniere **Depth:** 74.13 **Plot Date:** 03-14-03 **Driller:** Hinz
Cored Interval: none **Company:** Argonne




ARGONNE NATIONAL LABORATORY
Boring ID: SB61
Project: Everest Phase 2
Geologist: LaFreniere
Elevation: 1131.51
Depth: 58.92 ft
Cored Interval: none
Log Date: 11-11-02
Plot Date: 03-14-03
Rig: CPT
Driller: Hinz
Company: Argonne
Depth ft BGL
Water Sample
CCl4 in Water
Percent Recovery
Lithology
Tip MPa
Sleeve MPa
0
0
20
0.5
Conductance
0
30
Ratio
10
0
Elev ft AMSL
0
-10
-20
-30
-40
-50
ND
ND
ND
1130
1120
1110
1100
1090
1080

Appendix C:

Survey Coordinates

TABLE C.1 Measured survey coordinates for Phase II sample locations at Everest, Kansas.

Location	Horizontal Location[a] (ft)		Elevation[b] (ft AMSL)	
	Easting	Northing	Representative Ground Surface	Reference
SB20	2035021.63	500291.45	1148.30	1148.30
SB21	2034651.18	500625.54	1152.20	1152.20
SB22	2036116.87	500456.09	1148.30	1147.87
SB23	2035803.12	499573.58	1128.60	1128.60
SB24	2035667.88	499661.97	1126.80	1126.80
SB25	2035288.37	499599.31	1131.40	1131.63
SB26	2034664.67	500266.54	1149.70	1149.70
SB27	2034834.08	500468.24	1151.90	1151.90
SB28	2035033.58	500073.67	1147.00	1147.00
SB29	2035397.08	500309.40	1141.00	1141.00
SB30	2034725.00	500269.64	1150.10	1150.10
SB31	2035907.34	499045.20	1142.76	1142.26
SB32	2035507.69	499309.65	1121.70	1121.70
SB33	2035241.91	500652.01	1150.60	1150.60
SB34	2035807.43	499722.40	1132.10	1131.73
SB35	2035843.42	500119.57	1138.00	1138.00
SB36	2035642.63	500685.23	1140.30	1140.30
SB37	2035086.76	501162.83	1154.00	1154.00
SB38	2034662.46	500916.48	1153.40	1153.40
SB39	2034940.12	500906.45	1154.40	1154.40
SB40	2034484.05	500904.76	1153.50	1153.50
SB41	2035239.86	500916.71	1153.00	1153.00
SB42	2034632.57	501156.60	1150.90	1150.90
SB43	2034447.02	501920.62	1129.70	1129.70
SB44	2034642.64	500768.73	1153.20	1153.20
SB45	2034462.87	501520.73	1142.40	1142.40
SB46	2034841.01	501426.58	1144.90	1144.90
SB47	2035139.36	501437.73	1149.70	1149.70
SB48	2034584.56	501050.57	1151.88	1151.88
SB49	2034020.21	501391.11	1132.90	1132.48
SB50	2033812.50	500697.68	1130.10	1130.10
SB51	2034072.18	500940.25	1142.09	1142.09
SB52	2033537.77	501174.58	1134.35	1134.35
SB53	2032589.64	501183.78	1102.44	1102.44
SB54	2032228.01	500324.28	1095.79	1095.79

TABLE C.1 (Cont.)

	Horizontal Location[a] (ft)		Elevation[b] (ft AMSL)	
Location	Easting	Northing	Representative Ground Surface	Reference
SB55	2033370.52	501805.63	1108.33	1108.33
SB56	2032506.49	500772.81	1099.27	1099.27
SB57	2033460.57	500879.48	1120.57	1120.57
SB58	2033134.70	500998.80	1118.21	1118.21
SB59	2034446.50	500874.45	1151.87	1151.87
SB60	2034114.37	500935.00	1144.44	1144.11
SB61	2033470.95	501322.58	1131.51	1131.51
SB62	2033142.86	500977.68	1118.92	1121.22
SB63	2032572.84	501171.69	1102.37	1104.75
SB64	2032210.26	500310.85	1095.98	1098.36
Stream	2032556.36	501288.62	1087.42[c]	
SW12	2032122.06	500339.73	1088.23	

[a] Horizontal coordinates of target location centers are shown, not points selected to represent ground elevations or to provide reference elevations. Northings and Eastings are Kansas State Plane Coordinates. Horizontal datum is converted North American Datum (NAD) 83.

[b] Vertical datum is National Geodetic Vertical Datum (NGVD) 83.

[c] Elevation of stream bed at 120th Road.

Appendix D:

Water Level Data

TABLE D.1 Hand-measured water levels in temporary piezometers in April 2001 (second session of Phase II) and November 2002 (third session of Phase II).

Location	Elevation (ft AMSL) Ground	Elevation (ft AMSL) Reference	April 1, 2001 Time	April 1, 2001 Water Level Depth TOC[a] (ft)	April 1, 2001 Water Level Elevation (ft AMSL)	April 4, 2001 Time	April 4, 2001 Water Level Depth TOC (ft)	April 4, 2001 Water Level Elevation (ft AMSL)	April 5, 2001 Time	April 5, 2001 Water Level Depth TOC (ft)	April 5, 2001 Water Level Elevation (ft AMSL)
SB25	1131.40	1131.63	16:46	15.99	1115.64	NM[b]	NM	NM	NM	NM	NM
SB30	1150.13	1150.13	7:30	47.45	1102.68	NM	NM	NM	NM	NM	NM
SB35	1138.05	1138.05	16:04	23.30	1114.75	13:30	23.35	1114.70	NM	NM	NM
SB36	1140.26	1140.26	16:20	33.40	1106.86	13:40	33.52	1106.74	NM	NM	NM
SB37	1153.97	1153.97	NM	NM	NM	12:50	52.30	1101.67	NM	NM	NM
SB38	1153.43	1153.43	17:24	53.84	1099.59	13:05	53.94	1099.49	NM	NM	NM
SB41	1153.05	1153.05	NM	NM	NM	13:15	50.85	1102.20	NM	NM	NM
SB42	1150.91	1150.91	NM	NM	NM	12:58	51.80	1099.11	NM	NM	NM
SB44	1153.22	1153.22	NM	NM	NM	NM	NM	NM	9:00	53.90	1099.32

Location	Elevation (ft AMSL) Ground	Elevation (ft AMSL) Calculated Reference	Stickup Height (ft)	November 6, 2002[c] Time	November 6, 2002[c] Water Level Depth TOC (ft)	November 6, 2002[c] Water Level Elevation (ft AMSL)	November 9, 2002[d] Time	November 9, 2002[d] Water Level Depth BGL (ft)	November 9, 2002[d] Water Level Elevation (ft AMSL)	November 12, 2002[d] Time	November 12, 2002[d] Water Level Depth BGL (ft)	November 12, 2002[d] Water Level Elevation (ft AMSL)
SB49t	1133.14	1134.14	1.00	15:06	44.59	1089.55	15:28	42.85	1090.29	17:16	43.79	1089.35
SB50t	1130.10	1131.44	1.34	15:44	41.93	1089.51	15:15	39.85	1090.25	17:08	40.79	1089.31
SB51t	1142.08	1142.08	0.00	NM	NM	NM	15:18	51.30	1090.78	17:12	52.24	1089.84
SB52t	1134.35	1135.56	1.21	15:41	46.62	1088.94	15:27	44.95	1089.40	16:26	45.53	1088.82
SB53t	1102.44	1104.53	2.09	15:51	20.62	1083.91	15:05	17.90	1084.54	16:53	18.36	1084.08
SB54t	1095.79	1098.09	2.30	15:54	21.16	1076.93	15:10	18.65	1077.14	16:58	18.84	1076.95

[a] Depth TOC, depth below top of casing.

[b] NM, not measured.

[c] Water levels measured from the top of the temporary outer stickup casing.

[d] Water levels measured from ground level.

TABLE D.2 Hand-measured water levels in permanent piezometers in April 2001 (second session of Phase II), November 2002 (third session of Phase II), and January 2003.

	Elevation (ft AMSL)		April 1, 2001			April 4, 2001			November 6, 2002			November 9, 2002		
				Water Level			Water Level			Water Level			Water Level	
Location	Ground	Reference	Time	Depth TOC (ft)	Elevation (ft AMSL)	Time	Depth TOC (ft)	Elevation (ft AMSL)	Time	Depth TOC (ft)	Elevation (ft AMSL)	Time	Depth TOC (ft)	Elevation (ft AMSL)
SB01	1129.55	1129.12	16:35	12.89	1116.23	NM[a]	NM	NM	15:30	18.28	1110.84	14:16	18.23	1110.89
SB09	1139.40	1138.94	16:50	27.51	1111.43	NM	NM	NM	14:31	31.32	1107.62	14:26	31.12	1107.82
SB16	1141.50	1141.17	17:12	37.19	1103.98	NM	NM	NM	15:19	39.44	1101.73	14:31	39.00	1102.17
SB18	1154.50	1153.97	14:01	49.93	1104.04	12:40	50.08	1103.89	15:07	51.12	1102.85	13:57	50.51	1103.46
SB19	1132.50	1131.98	17:08	26.50	1105.48	NM	NM	NM	15:52	32.23	1099.75	14:35	32.12	1099.86
SB22	1148.30	1147.87	16:16	36.00	1111.87	NM	NM	NM	15:42	39.69	1108.18	14:06	39.31	1108.56
SB31	1142.76	1142.26	16:29	26.10	1116.16	NM	NM	NM	15:37	31.46	1110.80	14:11	31.42	1110.84
SB34	1132.10	1131.73	16:40	15.69	1116.04	13:53	15.70	1116.03	15:46	21.11	1110.62	14:23	21.07	1110.66
SB49	1132.90	1132.48	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
SB60	1144.44	1144.11	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
SB62	1118.92	1121.22	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
SB63	1102.37	1104.75	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
SB64	1095.98	1098.36	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
DW06	1151.70	1152.26	17:17	55.07	1097.19	NM	NM	NM	13:00	54.09	1098.17	NM	NM	NM

			November 12, 2002			November 21, 2002			January 17, 2003		
				Water Level			Water Level			Water Level	
			Time	Depth TOC (ft)	Elevation (ft AMSL)	Time	Depth TOC (ft)	Elevation (ft AMSL)	Time	Depth TOC (ft)	Elevation (ft AMSL)
SB01	1129.55	1129.12	15:49	18.51	1110.61	14:46	18.91	1110.21	12:15	21.28	1107.84
SB09	1139.40	1138.94	15:58	31.64	1107.30	13:51	31.84	1107.10	11:40	33.88	1105.06
SB16	1141.50	1141.17	16:04	39.68	1101.49	14:15	39.83	1101.34	11:20	41.36	1099.81
SB18	1154.50	1153.97	16:22	51.46	1102.51	15:05	51.58	1102.39	11:50	52.67	1101.30
SB19	1132.50	1131.98	16:10	32.91	1099.07	14:37	32.69	1099.29	11:44	33.78	1098.20
SB22	1148.30	1147.87	15:31	38.94	1108.93	14:57	40.02	1107.85	12:02	42.02	1105.85
SB31	1142.76	1142.26	15:37	31.72	1110.54	14:50	32.12	1110.14	12:08	34.39	1107.87
SB34	1132.10	1131.73	15:44	21.35	1110.38	14:42	21.75	1109.98	12:22	24.12	1107.61
SB49	1132.90	1132.48	NM	NM	NM	10:33	43.07	1089.41	10:50	43.64	1088.84
SB60	1144.44	1144.11	NM	NM	NM	13:24	54.00	1090.11	11:00	54.62	1089.49
SB62	1118.92	1121.22	NM	NM	NM	13:00	33.25	1087.97	10:30	33.62	1087.60
SB63	1102.37	1104.75	NM	NM	NM	11:22	21.11	1083.64	10:10	21.49	1083.26
SB64	1095.98	1098.36	NM	NM	NM	12:20	21.76	1076.60	10:20	21.94	1076.42
DW06	1151.70	1152.26	NM	NM	NM	13:47	54.38	1097.88	11:10	55.30	1096.96

[a] NM, not measured.

TABLE D.3 Water level depths (ft BGL) in piezometers and DW06 for the period of automated monitoring from August 16, 2000, to June 11, 2001.

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
8/16/00	13:15	55.456	8/16/00	14:48	19.849	8/16/00	15:01	33.009	8/16/00	15:11	40.8465	8/16/00	13:29	53.3694	8/16/00	12:23	32.8511
8/16/00	17:15	55.407	8/16/00	18:48	19.852	8/16/00	19:01	32.982	8/16/00	19:11	40.8071	8/16/00	17:29	53.2907	8/16/00	16:23	32.8346
8/16/00	21:15	55.351	8/16/00	22:48	19.862	8/16/00	23:01	32.976	8/16/00	23:11	40.794	8/16/00	21:29	53.248	8/16/00	20:23	32.8314
8/17/00	1:15	55.338	8/17/00	2:48	19.872	8/17/00	3:01	32.969	8/17/00	3:11	40.7743	8/17/00	1:29	53.2251	8/17/00	0:23	32.8478
8/17/00	5:15	55.315	8/17/00	6:48	19.879	8/17/00	7:01	32.959	8/17/00	7:11	40.7546	8/17/00	5:29	53.1955	8/17/00	4:23	32.8445
8/17/00	9:15	55.299	8/17/00	10:48	19.895	8/17/00	11:01	32.969	8/17/00	11:11	40.7644	8/17/00	9:29	53.1955	8/17/00	8:23	32.8511
8/17/00	13:15	55.331	8/17/00	14:48	19.915	8/17/00	15:01	32.995	8/17/00	15:11	40.7874	8/17/00	13:29	53.2579	8/17/00	12:23	32.8806
8/17/00	17:15	55.374	8/17/00	18:48	19.928	8/17/00	19:01	33.005	8/17/00	19:11	40.8071	8/17/00	17:29	53.2776	8/17/00	16:23	32.9003
8/17/00	21:15	55.404	8/17/00	22:48	19.941	8/17/00	23:01	33.035	8/17/00	23:11	40.8333	8/17/00	21:29	53.3235	8/17/00	20:23	32.9134
8/18/00	1:15	55.443	8/18/00	2:48	19.957	8/18/00	3:01	33.054	8/18/00	3:11	40.8563	8/18/00	1:29	53.3596	8/18/00	0:23	32.9331
8/18/00	5:15	55.466	8/18/00	6:48	19.974	8/18/00	7:01	33.081	8/18/00	7:11	40.8891	8/18/00	5:29	53.3858	8/18/00	4:23	32.9429
8/18/00	9:15	55.509	8/18/00	10:48	19.993	8/18/00	11:01	33.110	8/18/00	11:11	40.9252	8/18/00	9:29	53.4383	8/18/00	8:23	32.9528
8/18/00	13:15	55.535	8/18/00	14:48	20.010	8/18/00	15:01	33.127	8/18/00	15:11	40.9383	8/18/00	13:29	53.458	8/18/00	12:23	32.9659
8/18/00	17:15	55.518	8/18/00	18:48	20.020	8/18/00	19:01	33.133	8/18/00	19:11	40.9383	8/18/00	17:29	53.4318	8/18/00	16:23	32.9593
8/18/00	21:15	55.502	8/18/00	22:48	20.030	8/18/00	23:01	33.140	8/18/00	23:11	40.9416	8/18/00	21:29	53.4186	8/18/00	20:23	32.956
8/19/00	1:15	55.502	8/19/00	2:48	20.046	8/19/00	3:01	33.150	8/19/00	3:11	40.9482	8/19/00	1:29	53.4219	8/19/00	0:23	32.9692
8/19/00	5:15	55.486	8/19/00	6:48	20.046	8/19/00	7:01	33.143	8/19/00	7:11	40.935	8/19/00	5:29	53.4186	8/19/00	4:23	32.9724
8/19/00	9:15	55.489	8/19/00	10:48	20.036	8/19/00	11:01	33.130	8/19/00	11:11	40.9219	8/19/00	9:29	53.4121	8/19/00	8:23	32.9724
8/19/00	13:15	55.518	8/19/00	14:48	20.030	8/19/00	15:01	33.127	8/19/00	15:11	40.9121	8/19/00	13:29	53.4318	8/19/00	12:23	32.9331
8/19/00	17:15	55.436	8/19/00	18:48	20.039	8/19/00	19:01	33.107	8/19/00	19:11	40.8825	8/19/00	17:29	53.3137	8/19/00	16:23	32.9167
8/19/00	21:15	55.427	8/19/00	22:48	19.993	8/19/00	23:01	33.051	8/19/00	23:11	40.8268	8/19/00	21:29	53.248	8/19/00	20:23	32.9068
8/20/00	1:15	55.394	8/20/00	2:48	19.997	8/20/00	3:01	33.051	8/20/00	3:11	40.8268	8/20/00	1:29	53.2349	8/20/00	0:23	32.8642
8/20/00	5:15	55.364	8/20/00	6:48	19.997	8/20/00	7:01	33.061	8/20/00	7:11	40.8333	8/20/00	5:29	53.248	8/20/00	4:23	32.8609
8/20/00	9:15	55.377	8/20/00	10:48	19.997	8/20/00	11:01	33.071	8/20/00	11:11	40.8399	8/20/00	9:29	53.2677	8/20/00	8:23	32.8576
8/20/00	13:15	55.371	8/20/00	14:48	19.997	8/20/00	15:01	33.064	8/20/00	15:11	40.8333	8/20/00	13:29	53.2579	8/20/00	12:23	32.8478
8/20/00	17:15	55.341	8/20/00	18:48	19.990	8/20/00	19:01	33.054	8/20/00	19:11	40.8169	8/20/00	17:29	53.2087	8/20/00	16:23	32.8445
8/20/00	21:15	55.328	8/20/00	22:48	19.987	8/20/00	23:01	33.054	8/20/00	23:11	40.8136	8/20/00	21:29	53.2021	8/20/00	20:23	32.8576
8/21/00	1:15	55.335	8/21/00	2:48	19.990	8/21/00	3:01	33.061	8/21/00	3:11	40.8268	8/21/00	1:29	53.2251	8/21/00	0:23	32.8707
8/21/00	5:15	55.348	8/21/00	6:48	19.993	8/21/00	7:01	33.071	8/21/00	7:11	40.8366	8/21/00	5:29	53.2382	8/21/00	4:23	32.8773
8/21/00	9:15	55.374	8/21/00	10:48	19.990	8/21/00	11:01	33.081	8/21/00	11:11	40.8465	8/21/00	9:29	53.2776	8/21/00	8:23	32.8937
8/21/00	13:15	55.407	8/21/00	14:48	19.997	8/21/00	15:01	33.094	8/21/00	15:11	40.8629	8/21/00	13:29	53.3005	8/21/00	12:23	32.9035
8/21/00	17:15	55.390	8/21/00	18:48	20.003	8/21/00	19:01	33.087	8/21/00	19:11	40.8596	8/21/00	17:29	53.2677	8/21/00	16:23	32.897
8/21/00	17:15	55.390	8/21/00	18:48	20.003	8/21/00	19:01	33.087	8/21/00	19:11	40.8596	8/21/00	17:29	53.2677	8/21/00	16:23	32.897
8/21/00	21:15	55.377	8/21/00	22:48	20.003	8/21/00	23:01	33.087	8/21/00	23:11	40.8694	8/21/00	21:29	53.2612	8/21/00	20:23	32.9101
8/22/00	1:15	55.397	8/22/00	2:48	20.003	8/22/00	3:01	33.097	8/22/00	3:11	40.8793	8/22/00	1:29	53.294	8/22/00	0:23	32.9331
8/22/00	5:15	55.397	8/22/00	6:48	20.013	8/22/00	7:01	33.107	8/22/00	7:11	40.8825	8/22/00	5:29	53.2776	8/22/00	4:23	32.9396

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
8/22/00	9:15	55.420	8/22/00	10:48	20.020	8/22/00	11:01	33.117	8/22/00	11:11	40.8957	8/22/00	9:29	53.3235	8/22/00	8:23	32.956
8/22/00	13:15	55.427	8/22/00	14:48	20.026	8/22/00	15:01	33.117	8/22/00	15:11	40.8891	8/22/00	13:29	53.3169	8/22/00	12:23	32.9528
8/22/00	17:15	55.407	8/22/00	18:48	20.033	8/22/00	19:01	33.107	8/22/00	19:11	40.8825	8/22/00	17:29	53.294	8/22/00	16:23	32.9593
8/22/00	21:15	55.387	8/22/00	22:48	20.036	8/22/00	23:01	33.110	8/22/00	23:11	40.8858	8/22/00	21:29	53.2776	8/22/00	20:23	32.9724
8/23/00	1:15	55.394	8/23/00	2:48	20.039	8/23/00	3:01	33.117	8/23/00	3:11	40.8957	8/23/00	1:29	53.2841	8/23/00	0:23	32.9856
8/23/00	5:15	55.407	8/23/00	6:48	20.052	8/23/00	7:01	33.133	8/23/00	7:11	40.9121	8/23/00	5:29	53.3202	8/23/00	4:23	32.9987
8/23/00	9:15	55.436	8/23/00	10:48	20.062	8/23/00	11:01	33.146	8/23/00	11:11	40.9186	8/23/00	9:29	53.3497	8/23/00	8:23	33.0151
8/23/00	13:15	55.440	8/23/00	14:48	20.072	8/23/00	15:01	33.150	8/23/00	15:11	40.9252	8/23/00	13:29	53.353	8/23/00	12:23	33.0118
8/23/00	17:15	55.417	8/23/00	18:48	20.079	8/23/00	19:01	33.140	8/23/00	19:11	40.9088	8/23/00	17:29	53.3005	8/23/00	16:23	33.0085
8/23/00	21:15	55.417	8/23/00	22:48	20.085	8/23/00	23:01	33.146	8/23/00	23:11	40.9121	8/23/00	21:29	53.3301	8/23/00	20:23	33.0315
8/24/00	1:15	55.427	8/24/00	2:48	20.095	8/24/00	3:01	33.156	8/24/00	3:11	40.9252	8/24/00	1:29	53.3432	8/24/00	0:23	33.0413
8/24/00	5:15	55.433	8/24/00	6:48	20.102	8/24/00	7:01	33.163	8/24/00	7:11	40.9318	8/24/00	5:29	53.353	8/24/00	4:23	33.0413
8/24/00	9:15	55.436	8/24/00	10:48	20.112	8/24/00	11:01	33.176	8/24/00	11:11	40.9449	8/24/00	9:29	53.3497	8/24/00	8:23	33.0512
8/24/00	13:15	55.456	8/24/00	14:48	20.121	8/24/00	15:01	33.182	8/24/00	15:11	40.9514	8/24/00	13:29	53.3629	8/24/00	12:23	33.0577
8/24/00	17:15	55.446	8/24/00	18:48	20.128	8/24/00	19:01	33.182	8/24/00	19:11	40.9449	8/24/00	17:29	53.3465	8/24/00	16:23	33.0577
8/24/00	21:15	55.440	8/24/00	22:48	20.138	8/24/00	23:01	33.189	8/24/00	23:11	40.9547	8/24/00	21:29	53.3563	8/24/00	20:23	33.0741
8/25/00	1:15	55.453	8/25/00	2:48	20.144	8/25/00	3:01	33.192	8/25/00	3:11	40.9547	8/25/00	1:29	53.353	8/25/00	0:23	33.0774
8/25/00	5:15	55.440	8/25/00	6:48	20.154	8/25/00	7:01	33.192	8/25/00	7:11	40.9514	8/25/00	5:29	53.3333	8/25/00	4:23	33.0741
8/25/00	9:15	55.440	8/25/00	10:48	20.164	8/25/00	11:01	33.199	8/25/00	11:11	40.9514	8/25/00	9:29	53.3399	8/25/00	8:23	33.0774
8/25/00	13:15	55.433	8/25/00	14:48	20.167	8/25/00	15:01	33.182	8/25/00	15:11	40.9088	8/25/00	13:29	53.3169	8/25/00	12:23	33.0709
8/25/00	17:15	55.384	8/25/00	18:48	20.167	8/25/00	19:01	33.146	8/25/00	19:11	40.8596	8/25/00	17:29	53.2415	8/25/00	16:23	33.0512
8/25/00	21:15	55.335	8/25/00	22:48	20.171	8/25/00	23:01	33.133	8/25/00	23:11	40.8497	8/25/00	21:29	53.2087	8/25/00	20:23	33.0479
8/26/00	1:15	55.335	8/26/00	2:48	20.177	8/26/00	3:01	33.140	8/26/00	3:11	40.8497	8/26/00	1:29	53.2218	8/26/00	0:23	33.0741
8/26/00	5:15	55.322	8/26/00	6:48	20.180	8/26/00	7:01	33.130	8/26/00	7:11	40.8432	8/26/00	5:29	53.1759	8/26/00	4:23	33.061
8/26/00	9:15	55.302	8/26/00	10:48	20.194	8/26/00	11:01	33.140	8/26/00	11:11	40.8465	8/26/00	9:29	53.1791	8/26/00	8:23	33.0643
8/26/00	13:15	55.302	8/26/00	14:48	20.200	8/26/00	15:01	33.133	8/26/00	15:11	40.8333	8/26/00	13:29	53.2251	8/26/00	12:23	33.0774
8/26/00	17:15	55.282	8/26/00	18:48	20.203	8/26/00	19:01	33.123	8/26/00	19:11	40.8136	8/26/00	17:29	53.1529	8/26/00	16:23	33.0741
8/26/00	21:15	55.269	8/26/00	22:48	20.213	8/26/00	23:01	33.127	8/26/00	23:11	40.8202	8/26/00	21:29	53.166	8/26/00	20:23	33.0807
8/27/00	1:15	55.272	8/27/00	2:48	20.217	8/27/00	3:01	33.130	8/27/00	3:11	40.8202	8/27/00	1:29	53.1496	8/27/00	0:23	33.0971
8/27/00	5:15	55.269	8/27/00	6:48	20.223	8/27/00	7:01	33.130	8/27/00	7:11	40.8136	8/27/00	5:29	53.1627	8/27/00	4:23	33.0938
8/27/00	9:15	55.266	8/27/00	10:48	20.233	8/27/00	11:01	33.136	8/27/00	11:11	40.8202	8/27/00	9:29	53.1595	8/27/00	8:23	33.1004
8/27/00	13:15	55.266	8/27/00	14:48	20.240	8/27/00	15:01	33.130	8/27/00	15:11	40.8038	8/27/00	13:29	53.1595	8/27/00	12:23	33.1004
8/27/00	17:15	55.243	8/27/00	18:48	20.246	8/27/00	19:01	33.120	8/27/00	19:11	40.7874	8/27/00	17:29	53.1135	8/27/00	16:23	33.1004
8/27/00	21:15	55.223	8/27/00	22:48	20.256	8/27/00	23:01	33.133	8/27/00	23:11	40.8005	8/27/00	21:29	53.1234	8/27/00	20:23	33.1102
8/28/00	1:15	55.253	8/28/00	2:48	20.262	8/28/00	3:01	33.146	8/28/00	3:11	40.8136	8/28/00	1:29	53.1463	8/28/00	0:23	33.1299
8/28/00	5:15	55.269	8/28/00	6:48	20.272	8/28/00	7:01	33.159	8/28/00	7:11	40.8333	8/28/00	5:29	53.166	8/28/00	4:23	33.1365
8/28/00	9:15	55.295	8/28/00	10:48	20.289	8/28/00	11:01	33.189	8/28/00	11:11	40.853	8/28/00	9:29	53.2119	8/28/00	8:23	33.1496
8/28/00	13:15	55.308	8/28/00	14:48	20.295	8/28/00	15:01	33.186	8/28/00	15:11	40.8596	8/28/00	13:29	53.2021	8/28/00	12:23	33.1594

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
8/28/00	17:15	55.295	8/28/00	18:48	20.299	8/28/00	19:01	33.179	8/28/00	19:11	40.8497	8/28/00	17:29	53.189	8/28/00	16:23	33.1562
8/28/00	21:15	55.302	8/28/00	22:48	20.312	8/28/00	23:01	33.199	8/28/00	23:11	40.8727	8/28/00	21:29	53.2185	8/28/00	20:23	33.1693
8/29/00	1:15	55.341	8/29/00	2:48	20.322	8/29/00	3:01	33.222	8/29/00	3:11	40.899	8/29/00	1:29	53.2546	8/29/00	0:23	33.1955
8/29/00	5:15	55.384	8/29/00	6:48	20.331	8/29/00	7:01	33.251	8/29/00	7:11	40.9285	8/29/00	5:29	53.3202	8/29/00	4:23	33.2119
8/29/00	9:15	55.436	8/29/00	10:48	20.348	8/29/00	11:01	33.291	8/29/00	11:11	40.9711	8/29/00	9:29	53.376	8/29/00	8:23	33.2283
8/29/00	13:15	55.479	8/29/00	14:48	20.361	8/29/00	15:01	33.307	8/29/00	15:11	40.9875	8/29/00	13:29	53.4088	8/29/00	12:23	33.2382
8/29/00	17:15	55.456	8/29/00	18:48	20.361	8/29/00	19:01	33.294	8/29/00	19:11	40.9777	8/29/00	17:29	53.3694	8/29/00	16:23	33.2218
8/29/00	21:15	55.440	8/29/00	22:48	20.371	8/29/00	23:01	33.297	8/29/00	23:11	40.9908	8/29/00	21:29	53.3465	8/29/00	20:23	33.2218
8/30/00	1:15	55.443	8/30/00	2:48	20.381	8/30/00	3:01	33.310	8/30/00	3:11	41.0007	8/30/00	1:29	53.3727	8/30/00	0:23	33.2349
8/30/00	5:15	55.443	8/30/00	6:48	20.390	8/30/00	7:01	33.314	8/30/00	7:11	40.9974	8/30/00	5:29	53.3793	8/30/00	4:23	33.2349
8/30/00	9:15	55.449	8/30/00	10:48	20.404	8/30/00	11:01	33.330	8/30/00	11:11	41.0171	8/30/00	9:29	53.3957	8/30/00	8:23	33.2382
8/30/00	13:15	55.446	8/30/00	14:48	20.410	8/30/00	15:01	33.310	8/30/00	15:11	40.981	8/30/00	13:29	53.3629	8/30/00	12:23	33.2415
8/30/00	17:15	55.387	8/30/00	18:48	20.410	8/30/00	19:01	33.281	8/30/00	19:11	40.9482	8/30/00	17:29	53.2874	8/30/00	16:23	33.2251
8/30/00	21:15	55.371	8/30/00	22:48	20.417	8/30/00	23:01	33.291	8/30/00	23:11	40.9547	8/30/00	21:29	53.294	8/30/00	20:23	33.2316
8/31/00	1:15	55.374	8/31/00	2:48	20.423	8/31/00	3:01	33.291	8/31/00	3:11	40.9547	8/31/00	1:29	53.3005	8/31/00	0:23	33.248
8/31/00	5:15	55.374	8/31/00	6:48	20.430	8/31/00	7:01	33.291	8/31/00	7:11	40.9514	8/31/00	5:29	53.2874	8/31/00	4:23	33.248
8/31/00	9:15	55.377	8/31/00	10:48	20.440	8/31/00	11:01	33.307	8/31/00	11:11	40.9646	8/31/00	9:29	53.2972	8/31/00	8:23	33.2546
8/31/00	13:15	55.377	8/31/00	14:48	20.449	8/31/00	15:01	33.307	8/31/00	15:11	40.958	8/31/00	13:29	53.3038	8/31/00	12:23	33.2644
8/31/00	17:15	55.354	8/31/00	18:48	20.449	8/31/00	19:01	33.297	8/31/00	19:11	40.9449	8/31/00	17:29	53.271	8/31/00	16:23	33.2579
8/31/00	21:15	55.367	8/31/00	22:48	20.463	8/31/00	23:01	33.323	8/31/00	23:11	40.9711	8/31/00	21:29	53.3005	8/31/00	20:23	33.2776
9/1/00	1:15	55.413	9/1/00	2:48	20.476	9/1/00	3:01	33.343	9/1/00	3:11	40.9941	9/1/00	1:29	53.3366	9/1/00	0:23	33.3038
9/1/00	5:15	55.440	9/1/00	6:48	20.489	9/1/00	7:01	33.363	9/1/00	7:11	41.0171	9/1/00	5:29	53.3793	9/1/00	4:23	33.3104
9/1/00	9:15	55.469	9/1/00	10:48	20.502	9/1/00	11:01	33.392	9/1/00	11:11	41.0466	9/1/00	9:29	53.4055	9/1/00	8:23	33.3169
9/1/00	13:15	55.492	9/1/00	14:48	20.509	9/1/00	15:01	33.396	9/1/00	15:11	41.0532	9/1/00	13:29	53.4383	9/1/00	12:23	33.3235
9/1/00	17:15	55.466	9/1/00	18:48	20.512	9/1/00	19:01	33.386	9/1/00	19:11	41.0367	9/1/00	17:29	53.376	9/1/00	16:23	33.3104
9/1/00	21:15	55.453	9/1/00	22:48	20.522	9/1/00	23:01	33.396	9/1/00	23:11	41.0532	9/1/00	21:29	53.3825	9/1/00	20:23	33.3136
9/2/00	1:15	55.456	9/2/00	2:48	20.531	9/2/00	3:01	33.399	9/2/00	3:11	41.0564	9/2/00	1:29	53.3924	9/2/00	0:23	33.3301
9/2/00	5:15	55.456	9/2/00	6:48	20.538	9/2/00	7:01	33.396	9/2/00	7:11	41.0499	9/2/00	5:29	53.3793	9/2/00	4:23	33.3301
9/2/00	9:15	55.456	9/2/00	10:48	20.548	9/2/00	11:01	33.409	9/2/00	11:11	41.0564	9/2/00	9:29	53.376	9/2/00	8:23	33.3301
9/2/00	13:15	55.453	9/2/00	14:48	20.554	9/2/00	15:01	33.399	9/2/00	15:11	41.0269	9/2/00	13:29	53.376	9/2/00	12:23	33.3333
9/2/00	17:15	55.390	9/2/00	18:48	20.554	9/2/00	19:01	33.379	9/2/00	19:11	41.0007	9/2/00	17:29	53.3169	9/2/00	16:23	33.3235
9/2/00	21:15	55.381	9/2/00	22:48	20.561	9/2/00	23:01	33.386	9/2/00	23:11	41.0105	9/2/00	21:29	53.3235	9/2/00	20:23	33.3268
9/3/00	1:15	55.394	9/3/00	2:48	20.571	9/3/00	3:01	33.399	9/3/00	3:11	41.0269	9/3/00	1:29	53.3137	9/3/00	0:23	33.3432
9/3/00	5:15	55.420	9/3/00	6:48	20.581	9/3/00	7:01	33.412	9/3/00	7:11	41.04	9/3/00	5:29	53.3465	9/3/00	4:23	33.3629
9/3/00	9:15	55.453	9/3/00	10:48	20.597	9/3/00	11:01	33.438	9/3/00	11:11	41.0663	9/3/00	9:29	53.3924	9/3/00	8:23	33.3793
9/3/00	13:15	55.472	9/3/00	14:48	20.600	9/3/00	15:01	33.445	9/3/00	15:11	41.0728	9/3/00	13:29	53.4055	9/3/00	12:23	33.3825
9/3/00	17:15	55.446	9/3/00	18:48	20.610	9/3/00	19:01	33.442	9/3/00	19:11	41.0696	9/3/00	17:29	53.3858	9/3/00	16:23	33.376
9/3/00	21:15	55.459	9/3/00	22:48	20.620	9/3/00	23:01	33.461	9/3/00	23:11	41.0892	9/3/00	21:29	53.4022	9/3/00	20:23	33.3891

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
9/4/00	1:15	55.495	9/4/00	2:48	20.636	9/4/00	3:01	33.491	9/4/00	3:11	41.1253	9/4/00	1:29	53.4416	9/4/00	0:23	33.4154
9/4/00	5:15	55.525	9/4/00	6:48	20.604	9/4/00	7:01	33.481	9/4/00	7:11	41.122	9/4/00	5:29	53.4908	9/4/00	4:23	33.4252
9/4/00	9:15	55.558	9/4/00	10:48	20.623	9/4/00	11:01	33.514	9/4/00	11:11	41.1549	9/4/00	9:29	53.5236	9/4/00	8:23	33.4055
9/4/00	13:15	55.587	9/4/00	14:48	20.636	9/4/00	15:01	33.537	9/4/00	15:11	41.1778	9/4/00	13:29	53.5564	9/4/00	12:23	33.4219
9/4/00	17:15	55.594	9/4/00	18:48	20.650	9/4/00	19:01	33.553	9/4/00	19:11	41.2008	9/4/00	17:29	53.5564	9/4/00	16:23	33.4252
9/4/00	21:15	55.614	9/4/00	22:48	20.656	9/4/00	23:01	33.583	9/4/00	23:11	41.2336	9/4/00	21:29	53.6155	9/4/00	20:23	33.4416
9/5/00	1:15	55.653	9/5/00	2:48	20.666	9/5/00	3:01	33.599	9/5/00	3:11	41.2631	9/5/00	1:29	53.6253	9/5/00	0:23	33.4613
9/5/00	5:15	55.673	9/5/00	6:48	20.682	9/5/00	7:01	33.625	9/5/00	7:11	41.2927	9/5/00	5:29	53.6549	9/5/00	4:23	33.4613
9/5/00	9:15	55.702	9/5/00	10:48	20.689	9/5/00	11:01	33.645	9/5/00	11:11	41.3156	9/5/00	9:29	53.7008	9/5/00	8:23	33.4744
9/5/00	13:15	55.712	9/5/00	14:48	20.692	9/5/00	15:01	33.645	9/5/00	15:11	41.3156	9/5/00	13:29	53.7041	9/5/00	12:23	33.4613
9/5/00	17:15	55.682	9/5/00	18:48	20.699	9/5/00	19:01	33.635	9/5/00	19:11	41.3025	9/5/00	17:29	53.6483	9/5/00	16:23	33.4449
9/5/00	21:15	55.663	9/5/00	22:48	20.705	9/5/00	23:01	33.635	9/5/00	23:11	41.3058	9/5/00	21:29	53.6385	9/5/00	20:23	33.4514
9/6/00	1:15	55.666	9/6/00	2:48	20.712	9/6/00	3:01	33.645	9/6/00	3:11	41.3123	9/6/00	1:29	53.6286	9/6/00	0:23	33.4613
9/6/00	5:15	55.663	9/6/00	6:48	20.722	9/6/00	7:01	33.645	9/6/00	7:11	41.3156	9/6/00	5:29	53.622	9/6/00	4:23	33.4613
9/6/00	9:15	55.673	9/6/00	10:48	20.728	9/6/00	11:01	33.655	9/6/00	11:11	41.3222	9/6/00	9:29	53.6385	9/6/00	8:23	33.4711
9/6/00	13:15	55.663	9/6/00	14:48	20.728	9/6/00	15:01	33.629	9/6/00	15:11	41.2664	9/6/00	13:29	53.6122	9/6/00	12:23	33.4613
9/6/00	17:15	55.604	9/6/00	18:48	20.728	9/6/00	19:01	33.586	9/6/00	19:11	41.2139	9/6/00	17:29	53.5171	9/6/00	16:23	33.4383
9/6/00	21:15	55.551	9/6/00	22:48	20.732	9/6/00	23:01	33.583	9/6/00	23:11	41.2074	9/6/00	21:29	53.4941	9/6/00	20:23	33.4383
9/7/00	1:15	55.541	9/7/00	2:48	20.738	9/7/00	3:01	33.589	9/7/00	3:11	41.2041	9/7/00	1:29	53.481	9/7/00	0:23	33.4514
9/7/00	5:15	55.538	9/7/00	6:48	20.745	9/7/00	7:01	33.596	9/7/00	7:11	41.2205	9/7/00	5:29	53.481	9/7/00	4:23	33.4547
9/7/00	9:15	55.571	9/7/00	10:48	20.755	9/7/00	11:01	33.615	9/7/00	11:11	41.2369	9/7/00	9:29	53.5203	9/7/00	8:23	33.481
9/7/00	13:15	55.584	9/7/00	14:48	20.755	9/7/00	15:01	33.615	9/7/00	15:11	41.227	9/7/00	13:29	53.5105	9/7/00	12:23	33.481
9/7/00	17:15	55.558	9/7/00	18:48	20.761	9/7/00	19:01	33.602	9/7/00	19:11	41.2139	9/7/00	17:29	53.4908	9/7/00	16:23	33.4711
9/7/00	21:15	55.548	9/7/00	22:48	20.771	9/7/00	23:01	33.609	9/7/00	23:11	41.2205	9/7/00	21:29	53.4974	9/7/00	20:23	33.4843
9/8/00	1:15	55.551	9/8/00	2:48	20.771	9/8/00	3:01	33.609	9/8/00	3:11	41.2139	9/8/00	1:29	53.4908	9/8/00	0:23	33.4941
9/8/00	5:15	55.545	9/8/00	6:48	20.781	9/8/00	7:01	33.612	9/8/00	7:11	41.2205	9/8/00	5:29	53.4974	9/8/00	4:23	33.4941
9/8/00	9:15	55.551	9/8/00	10:48	20.787	9/8/00	11:01	33.622	9/8/00	11:11	41.227	9/8/00	9:29	53.4974	9/8/00	8:23	33.5007
9/8/00	13:15	55.548	9/8/00	14:48	20.787	9/8/00	15:01	33.599	9/8/00	15:11	41.1844	9/8/00	13:29	53.481	9/8/00	12:23	33.4974
9/8/00	17:15	55.499	9/8/00	18:48	20.781	9/8/00	19:01	33.570	9/8/00	19:11	41.145	9/8/00	17:29	53.4022	9/8/00	16:23	33.4744
9/8/00	21:15	55.459	9/8/00	22:48	20.787	9/8/00	23:01	33.573	9/8/00	23:11	41.1483	9/8/00	21:29	53.3924	9/8/00	20:23	33.4777
9/9/00	1:15	55.469	9/9/00	2:48	20.791	9/9/00	3:01	33.583	9/9/00	3:11	41.1516	9/9/00	1:29	53.399	9/9/00	0:23	33.5007
9/9/00	5:15	55.459	9/9/00	6:48	20.794	9/9/00	7:01	33.576	9/9/00	7:11	41.145	9/9/00	5:29	53.3727	9/9/00	4:23	33.4974
9/9/00	9:15	55.449	9/9/00	10:48	20.804	9/9/00	11:01	33.579	9/9/00	11:11	41.1483	9/9/00	9:29	53.4022	9/9/00	8:23	33.5039
9/9/00	13:15	55.443	9/9/00	14:48	20.801	9/9/00	15:01	33.553	9/9/00	15:11	41.1089	9/9/00	13:29	53.3596	9/9/00	12:23	33.4974
9/9/00	17:15	55.400	9/9/00	18:48	20.801	9/9/00	19:01	33.537	9/9/00	19:11	41.0892	9/9/00	17:29	53.3235	9/9/00	16:23	33.481
9/9/00	21:15	55.394	9/9/00	22:48	20.810	9/9/00	23:01	33.563	9/9/00	23:11	41.1056	9/9/00	21:29	53.3071	9/9/00	20:23	33.4974
9/10/00	1:15	55.417	9/10/00	2:48	20.814	9/10/00	3:01	33.579	9/10/00	3:11	41.1155	9/10/00	1:29	53.3596	9/10/00	0:23	33.5236
9/10/00	5:15	55.423	9/10/00	6:48	20.827	9/10/00	7:01	33.589	9/10/00	7:11	41.1352	9/10/00	5:29	53.3727	9/10/00	4:23	33.5302

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
9/10/00	9:15	55.459	9/10/00	10:48	20.837	9/10/00	11:01	33.609	9/10/00	11:11	41.1581	9/10/00	9:29	53.4154	9/10/00	8:23	33.5466
9/10/00	13:15	55.466	9/10/00	14:48	20.837	9/10/00	15:01	33.589	9/10/00	15:11	41.1253	9/10/00	13:29	53.4055	9/10/00	12:23	33.5433
9/10/00	17:15	55.420	9/10/00	18:48	20.837	9/10/00	19:01	33.563	9/10/00	19:11	41.0991	9/10/00	17:29	53.3268	9/10/00	16:23	33.5171
9/10/00	21:15	55.400	9/10/00	22:48	20.843	9/10/00	23:01	33.579	9/10/00	23:11	41.1155	9/10/00	21:29	53.3301	9/10/00	20:23	33.5335
9/11/00	1:15	55.413	9/11/00	2:48	20.850	9/11/00	3:01	33.589	9/11/00	3:11	41.122	9/11/00	1:29	53.3629	9/11/00	0:23	33.5532
9/11/00	5:15	55.417	9/11/00	6:48	20.853	9/11/00	7:01	33.593	9/11/00	7:11	41.122	9/11/00	5:29	53.3465	9/11/00	4:23	33.5532
9/11/00	9:15	55.413	9/11/00	10:48	20.863	9/11/00	11:01	33.596	9/11/00	11:11	41.1155	9/11/00	9:29	53.3497	9/11/00	8:23	33.5532
9/11/00	13:15	55.397	9/11/00	14:48	20.863	9/11/00	15:01	33.563	9/11/00	15:11	41.0761	9/11/00	13:29	53.3169	9/11/00	12:23	33.5532
9/11/00	17:15	55.361	9/11/00	18:48	20.863	9/11/00	19:01	33.550	9/11/00	19:11	41.063	9/11/00	17:29	53.2677	9/11/00	16:23	33.5367
9/11/00	21:15	55.364	9/11/00	22:48	20.879	9/11/00	23:01	33.593	9/11/00	23:11	41.122	9/11/00	21:29	53.3432	9/11/00	20:23	33.563
9/12/00	1:15	55.469	9/12/00	2:48	20.896	9/12/00	3:01	33.635	9/12/00	3:11	41.1713	9/12/00	1:29	53.4383	9/12/00	0:23	33.6188
9/12/00	5:15	55.558	9/12/00	6:48	20.912	9/12/00	7:01	33.675	9/12/00	7:11	41.227	9/12/00	5:29	53.5269	9/12/00	4:23	33.645
9/12/00	9:15	55.630	9/12/00	10:48	20.928	9/12/00	11:01	33.717	9/12/00	11:11	41.2697	9/12/00	9:29	53.5794	9/12/00	8:23	33.6581
9/12/00	13:15	55.663	9/12/00	14:48	20.935	9/12/00	15:01	33.734	9/12/00	15:11	41.2861	9/12/00	13:29	53.6024	9/12/00	12:23	33.6614
9/12/00	17:15	55.646	9/12/00	18:48	20.942	9/12/00	19:01	33.747	9/12/00	19:11	41.2894	9/12/00	17:29	53.5925	9/12/00	16:23	33.645
9/12/00	21:15	55.643	9/12/00	22:48	20.955	9/12/00	23:01	33.763	9/12/00	23:11	41.3222	9/12/00	21:29	53.622	9/12/00	20:23	33.6549
9/13/00	1:15	55.663	9/13/00	2:48	20.961	9/13/00	3:01	33.783	9/13/00	3:11	41.3386	9/13/00	1:29	53.6385	9/13/00	0:23	33.6713
9/13/00	5:15	55.673	9/13/00	6:48	20.971	9/13/00	7:01	33.793	9/13/00	7:11	41.355	9/13/00	5:29	53.6549	9/13/00	4:23	33.668
9/13/00	9:15	55.679	9/13/00	10:48	20.984	9/13/00	11:01	33.809	9/13/00	11:11	41.3681	9/13/00	9:29	53.6614	9/13/00	8:23	33.6745
9/13/00	13:15	55.653	9/13/00	14:48	20.988	9/13/00	15:01	33.783	9/13/00	15:11	41.3517	9/13/00	13:29	53.6253	9/13/00	12:23	33.6647
9/13/00	17:15	55.604	9/13/00	18:48	20.984	9/13/00	19:01	33.747	9/13/00	19:11	41.3058	9/13/00	17:29	53.5466	9/13/00	16:23	33.6417
9/13/00	21:15	55.564	9/13/00	22:48	20.988	9/13/00	23:01	33.740	9/13/00	23:11	41.2992	9/13/00	21:29	53.5105	9/13/00	20:23	33.645
9/14/00	1:15	55.554	9/14/00	2:48	20.997	9/14/00	3:01	33.740	9/14/00	3:11	41.2894	9/14/00	1:29	53.4974	9/14/00	0:23	33.6581
9/14/00	5:15	55.545	9/14/00	6:48	21.004	9/14/00	7:01	33.750	9/14/00	7:11	41.3025	9/14/00	5:29	53.5138	9/14/00	4:23	33.6614
9/14/00	9:15	55.604	9/14/00	10:48	21.020	9/14/00	11:01	33.796	9/14/00	11:11	41.355	9/14/00	9:29	53.586	9/14/00	8:23	33.6975
9/14/00	13:15	55.682	9/14/00	14:48	21.037	9/14/00	15:01	33.829	9/14/00	15:11	41.3911	9/14/00	13:29	53.6745	9/14/00	12:23	33.7303
9/14/00	17:15	55.696	9/14/00	18:48	21.043	9/14/00	19:01	33.845	9/14/00	19:11	41.4075	9/14/00	17:29	53.6778	9/14/00	16:23	33.7336
9/14/00	21:15	55.722	9/14/00	22:48	21.053	9/14/00	23:01	33.875	9/14/00	23:11	41.4436	9/14/00	21:29	53.7172	9/14/00	20:23	33.7434
9/15/00	1:15	55.755	9/15/00	2:48	21.070	9/15/00	3:01	33.901	9/15/00	3:11	41.4764	9/15/00	1:29	53.7664	9/15/00	0:23	33.7631
9/15/00	5:15	55.784	9/15/00	6:48	21.079	9/15/00	7:01	33.917	9/15/00	7:11	41.5026	9/15/00	5:29	53.7894	9/15/00	4:23	33.7664
9/15/00	9:15	55.804	9/15/00	10:48	21.093	9/15/00	11:01	33.940	9/15/00	11:11	41.5256	9/15/00	9:29	53.8123	9/15/00	8:23	33.7697
9/15/00	13:15	55.810	9/15/00	14:48	21.096	9/15/00	15:01	33.940	9/15/00	15:11	41.5289	9/15/00	13:29	53.8025	9/15/00	12:23	33.7697
9/15/00	17:15	55.774	9/15/00	18:48	21.096	9/15/00	19:01	33.921	9/15/00	19:11	41.5026	9/15/00	17:29	53.773	9/15/00	16:23	33.7434
9/15/00	21:15	55.741	9/15/00	22:48	21.106	9/15/00	23:01	33.921	9/15/00	23:11	41.5026	9/15/00	21:29	53.7434	9/15/00	20:23	33.7434
9/16/00	1:15	55.741	9/16/00	2:48	21.115	9/16/00	3:01	33.927	9/16/00	3:11	41.5125	9/16/00	1:29	53.7533	9/16/00	0:23	33.7598
9/16/00	5:15	55.751	9/16/00	6:48	21.122	9/16/00	7:01	33.934	9/16/00	7:11	41.5157	9/16/00	5:29	53.7533	9/16/00	4:23	33.7664
9/16/00	9:15	55.755	9/16/00	10:48	21.129	9/16/00	11:01	33.947	9/16/00	11:11	41.5289	9/16/00	9:29	53.7566	9/16/00	8:23	33.773
9/16/00	13:15	55.758	9/16/00	14:48	21.135	9/16/00	15:01	33.927	9/16/00	15:11	41.5026	9/16/00	13:29	53.7467	9/16/00	12:23	33.773

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
9/16/00	17:15	55.705	9/16/00	18:48	21.135	9/16/00	19:01	33.907	9/16/00	19:11	41.4731	9/16/00	17:29	53.6909	9/16/00	16:23	33.7566
9/16/00	21:15	55.696	9/16/00	22:48	21.142	9/16/00	23:01	33.917	9/16/00	23:11	41.4698	9/16/00	21:29	53.6811	9/16/00	20:23	33.7664
9/17/00	1:15	55.696	9/17/00	2:48	21.145	9/17/00	3:01	33.917	9/17/00	3:11	41.4764	9/17/00	1:29	53.6745	9/17/00	0:23	33.7795
9/17/00	5:15	55.692	9/17/00	6:48	21.152	9/17/00	7:01	33.924	9/17/00	7:11	41.4764	9/17/00	5:29	53.668	9/17/00	4:23	33.7795
9/17/00	9:15	55.705	9/17/00	10:48	21.158	9/17/00	11:01	33.937	9/17/00	11:11	41.4895	9/17/00	9:29	53.6975	9/17/00	8:23	33.7959
9/17/00	13:15	55.705	9/17/00	14:48	21.165	9/17/00	15:01	33.921	9/17/00	15:11	41.46	9/17/00	13:29	53.6909	9/17/00	12:23	33.7927
9/17/00	17:15	55.659	9/17/00	18:48	21.161	9/17/00	19:01	33.891	9/17/00	19:11	41.4206	9/17/00	17:29	53.6122	9/17/00	16:23	33.7762
9/17/00	21:15	55.627	9/17/00	22:48	21.165	9/17/00	23:01	33.891	9/17/00	23:11	41.4206	9/17/00	21:29	53.5991	9/17/00	20:23	33.7795
9/18/00	1:15	55.623	9/18/00	2:48	21.171	9/18/00	3:01	33.891	9/18/00	3:11	41.4173	9/18/00	1:29	53.6089	9/18/00	0:23	33.7959
9/18/00	5:15	55.614	9/18/00	6:48	21.175	9/18/00	7:01	33.885	9/18/00	7:11	41.4042	9/18/00	5:29	53.5958	9/18/00	4:23	33.7927
9/18/00	9:15	55.597	9/18/00	10:48	21.175	9/18/00	11:01	33.871	9/18/00	11:11	41.3747	9/18/00	9:29	53.5564	9/18/00	8:23	33.7894
9/18/00	13:15	55.561	9/18/00	14:48	21.168	9/18/00	15:01	33.825	9/18/00	15:11	41.3058	9/18/00	13:29	53.5039	9/18/00	12:23	33.7697
9/18/00	17:15	55.489	9/18/00	18:48	21.158	9/18/00	19:01	33.789	9/18/00	19:11	41.2533	9/18/00	17:29	53.3957	9/18/00	16:23	33.7434
9/18/00	21:15	55.436	9/18/00	22:48	21.158	9/18/00	23:01	33.773	9/18/00	23:11	41.2402	9/18/00	21:29	53.3825	9/18/00	20:23	33.7402
9/19/00	1:15	55.400	9/19/00	2:48	21.155	9/19/00	3:01	33.753	9/19/00	3:11	41.2041	9/19/00	1:29	53.3432	9/19/00	0:23	33.7467
9/19/00	5:15	55.364	9/19/00	6:48	21.155	9/19/00	7:01	33.734	9/19/00	7:11	41.1778	9/19/00	5:29	53.2972	9/19/00	4:23	33.7369
9/19/00	9:15	55.338	9/19/00	10:48	21.148	9/19/00	11:01	33.737	9/19/00	11:11	41.1745	9/19/00	9:29	53.294	9/19/00	8:23	33.7369
9/19/00	13:15	55.331	9/19/00	14:48	21.155	9/19/00	15:01	33.740	9/19/00	15:11	41.1713	9/19/00	13:29	53.2907	9/19/00	12:23	33.7467
9/19/00	17:15	55.338	9/19/00	18:48	21.161	9/19/00	19:01	33.757	9/19/00	19:11	41.1909	9/19/00	17:29	53.3104	9/19/00	16:23	33.7566
9/19/00	21:15	55.387	9/19/00	22:48	21.171	9/19/00	23:01	33.780	9/19/00	23:11	41.2139	9/19/00	21:29	53.3694	9/19/00	20:23	33.7992
9/20/00	1:15	55.413	9/20/00	2:48	21.181	9/20/00	3:01	33.806	9/20/00	3:11	41.2467	9/20/00	1:29	53.4055	9/20/00	0:23	33.8091
9/20/00	5:15	55.459	9/20/00	6:48	21.178	9/20/00	7:01	33.819	9/20/00	7:11	41.2566	9/20/00	5:29	53.4514	9/20/00	4:23	33.8255
9/20/00	9:15	55.420	9/20/00	10:48	21.171	9/20/00	11:01	33.839	9/20/00	11:11	41.2894	9/20/00	9:29	53.4678	9/20/00	8:23	33.8222
9/20/00	13:15	55.554	9/20/00	14:48	21.188	9/20/00	15:01	33.868	9/20/00	15:11	41.3255	9/20/00	13:29	53.5597	9/20/00	12:23	33.832
9/20/00	17:15	55.587	9/20/00	18:48	21.201	9/20/00	19:01	33.898	9/20/00	19:11	41.3583	9/20/00	17:29	53.6024	9/20/00	16:23	33.8353
9/20/00	21:15	55.574	9/20/00	22:48	21.214	9/20/00	23:01	33.927	9/20/00	23:11	41.3944	9/20/00	21:29	53.645	9/20/00	20:23	33.855
9/21/00	1:15	55.679	9/21/00	2:48	21.220	9/21/00	3:01	33.947	9/21/00	3:11	41.4206	9/21/00	1:29	53.6975	9/21/00	0:23	33.8747
9/21/00	5:15	55.696	9/21/00	6:48	21.234	9/21/00	7:01	33.967	9/21/00	7:11	41.4469	9/21/00	5:29	53.7074	9/21/00	4:23	33.8681
9/21/00	9:15	55.705	9/21/00	10:48	21.243	9/21/00	11:01	33.983	9/21/00	11:11	41.4665	9/21/00	9:29	53.7139	9/21/00	8:23	33.8714
9/21/00	13:15	55.696	9/21/00	14:48	21.243	9/21/00	15:01	33.950	9/21/00	15:11	41.437	9/21/00	13:29	53.6909	9/21/00	12:23	33.8615
9/21/00	17:15	55.623	9/21/00	18:48	21.237	9/21/00	19:01	33.911	9/21/00	19:11	41.3976	9/21/00	17:29	53.5597	9/21/00	16:23	33.8255
9/21/00	21:15	55.571	9/21/00	22:48	21.243	9/21/00	23:01	33.901	9/21/00	23:11	41.3845	9/21/00	21:29	53.5335	9/21/00	20:23	33.8255
9/22/00	1:15	55.548	9/22/00	2:48	21.237	9/22/00	3:01	33.871	9/22/00	3:11	41.3287	9/22/00	1:29	53.5072	9/22/00	0:23	33.832
9/22/00	5:15	55.482	9/22/00	6:48	21.230	9/22/00	7:01	33.819	9/22/00	7:11	41.2598	9/22/00	5:29	53.4285	9/22/00	4:23	33.7992
9/22/00	9:15	55.410	9/22/00	10:48	21.227	9/22/00	11:01	33.809	9/22/00	11:11	41.2467	9/22/00	9:29	53.3858	9/22/00	8:23	33.7861
9/22/00	13:15	55.387	9/22/00	14:48	21.227	9/22/00	15:01	33.799	9/22/00	15:11	41.2369	9/22/00	13:29	53.376	9/22/00	12:23	33.7927
9/22/00	17:15	55.374	9/22/00	18:48	21.227	9/22/00	19:01	33.806	9/22/00	19:11	41.2402	9/22/00	17:29	53.3301	9/22/00	16:23	33.7927
9/22/00	21:15	55.407	9/22/00	22:48	21.237	9/22/00	23:01	33.839	9/22/00	23:11	41.2697	9/22/00	21:29	53.4154	9/22/00	20:23	33.8353

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
9/23/00	1:15	55.384	9/23/00	2:48	21.220	9/23/00	3:01	33.845	9/23/00	3:11	41.2894	9/23/00	1:29	53.4514	9/23/00	0:23	33.8681
9/23/00	5:15	55.417	9/23/00	6:48	21.188	9/23/00	7:01	33.855	9/23/00	7:11	41.3058	9/23/00	5:29	53.4285	9/23/00	4:23	33.8419
9/23/00	9:15	55.417	9/23/00	10:48	21.201	9/23/00	11:01	33.891	9/23/00	11:11	41.3583	9/23/00	9:29	53.481	9/23/00	8:23	33.8091
9/23/00	13:15	55.472	9/23/00	14:48	21.191	9/23/00	15:01	33.907	9/23/00	15:11	41.3747	9/23/00	13:29	53.6647	9/23/00	12:23	33.855
9/23/00	17:15	55.486	9/23/00	18:48	21.188	9/23/00	19:01	33.927	9/23/00	19:11	41.414	9/23/00	17:29	53.6188	9/23/00	16:23	33.7959
9/23/00	21:15	55.407	9/23/00	22:48	21.161	9/23/00	23:01	33.927	9/23/00	23:11	41.4108	9/23/00	21:29	53.5499	9/23/00	20:23	33.7861
9/24/00	1:15	55.410	9/24/00	2:48	21.155	9/24/00	3:01	33.950	9/24/00	3:11	41.4501	9/24/00	1:29	53.5794	9/24/00	0:23	33.7533
9/24/00	5:15	55.404	9/24/00	6:48	21.145	9/24/00	7:01	33.967	9/24/00	7:11	41.4731	9/24/00	5:29	53.7566	9/24/00	4:23	33.7205
9/24/00	9:15	55.387	9/24/00	10:48	21.132	9/24/00	11:01	33.980	9/24/00	11:11	41.4961	9/24/00	9:29	53.7566	9/24/00	8:23	33.7106
9/24/00	13:15	55.387	9/24/00	14:48	21.119	9/24/00	15:01	33.983	9/24/00	15:11	41.5026	9/24/00	13:29	53.8058	9/24/00	12:23	33.7106
9/24/00	17:15	55.427	9/24/00	18:48	21.086	9/24/00	19:01	33.983	9/24/00	19:11	41.5092	9/24/00	17:29	53.7533	9/24/00	16:23	33.645
9/24/00	21:15	55.374	9/24/00	22:48	21.076	9/24/00	23:01	33.996	9/24/00	23:11	41.542	9/24/00	21:29	53.6253	9/24/00	20:23	33.6155
9/25/00	1:15	55.410	9/25/00	2:48	21.047	9/25/00	3:01	33.993	9/25/00	3:11	41.5551	9/25/00	1:29	53.54	9/25/00	0:23	33.6155
9/25/00	5:15	55.453	9/25/00	6:48	21.024	9/25/00	7:01	33.999	9/25/00	7:11	41.5781	9/25/00	5:29	53.5269	9/25/00	4:23	33.6056
9/25/00	9:15	55.430	9/25/00	10:48	21.014	9/25/00	11:01	34.012	9/25/00	11:11	41.6076	9/25/00	9:29	53.7894	9/25/00	8:23	33.5892
9/25/00	13:15	55.545	9/25/00	14:48	20.997	9/25/00	15:01	34.012	9/25/00	15:11	41.6109	9/25/00	13:29	53.9304	9/25/00	12:23	33.5728
9/25/00	17:15	55.636	9/25/00	18:48	20.971	9/25/00	19:01	34.009	9/25/00	19:11	41.6076	9/25/00	17:29	53.878	9/25/00	16:23	33.5335
9/25/00	21:15	55.581	9/25/00	22:48	20.958	9/25/00	23:01	34.009	9/25/00	23:11	41.6175	9/25/00	21:29	53.8845	9/25/00	20:23	33.5269
9/26/00	1:15	55.545	9/26/00	2:48	20.942	9/26/00	3:01	34.003	9/26/00	3:11	41.6109	9/26/00	1:29	53.8812	9/26/00	0:23	33.5203
9/26/00	5:15	55.525	9/26/00	6:48	20.928	9/26/00	7:01	33.993	9/26/00	7:11	41.6175	9/26/00	5:29	53.8812	9/26/00	4:23	33.5072
9/26/00	9:15	55.509	9/26/00	10:48	20.919	9/26/00	11:01	33.993	9/26/00	11:11	41.6306	9/26/00	9:29	53.8944	9/26/00	8:23	33.5072
9/26/00	13:15	55.663	9/26/00	14:48	20.906	9/26/00	15:01	33.983	9/26/00	15:11	41.6109	9/26/00	13:29	53.8812	9/26/00	12:23	33.5039
9/26/00	17:15	55.725	9/26/00	18:48	20.892	9/26/00	19:01	33.963	9/26/00	19:11	41.5912	9/26/00	17:29	53.8091	9/26/00	16:23	33.481
9/26/00	21:15	55.623	9/26/00	22:48	20.886	9/26/00	23:01	33.957	9/26/00	23:11	41.5978	9/26/00	21:29	53.8091	9/26/00	20:23	33.4843
9/27/00	1:15	55.607	9/27/00	2:48	20.879	9/27/00	3:01	33.950	9/27/00	3:11	41.5945	9/27/00	1:29	53.8287	9/27/00	0:23	33.4974
9/27/00	5:15	55.571	9/27/00	6:48	20.873	9/27/00	7:01	33.940	9/27/00	7:11	41.5912	9/27/00	5:29	53.8255	9/27/00	4:23	33.5007
9/27/00	9:15	55.554	9/27/00	10:48	20.876	9/27/00	11:01	33.950	9/27/00	11:11	41.6109	9/27/00	9:29	53.8353	9/27/00	8:23	33.5072
9/27/00	13:15	55.692	9/27/00	14:48	20.869	9/27/00	15:01	33.947	9/27/00	15:11	41.6011	9/27/00	13:29	53.8386	9/27/00	12:23	33.5171
9/27/00	17:15	55.745	9/27/00	18:48	20.863	9/27/00	19:01	33.937	9/27/00	19:11	41.5879	9/27/00	17:29	53.8222	9/27/00	16:23	33.5072
9/27/00	21:15	55.640	9/27/00	22:48	20.866	9/27/00	23:01	33.944	9/27/00	23:11	41.6076	9/27/00	21:29	53.8222	9/27/00	20:23	33.5269
9/28/00	1:15	55.623	9/28/00	2:48	20.866	9/28/00	3:01	33.944	9/28/00	3:11	41.6109	9/28/00	1:29	53.8484	9/28/00	0:23	33.5433
9/28/00	5:15	55.587	9/28/00	6:48	20.863	9/28/00	7:01	33.944	9/28/00	7:11	41.6109	9/28/00	5:29	53.8616	9/28/00	4:23	33.5499
9/28/00	9:15	55.558	9/28/00	10:48	20.869	9/28/00	11:01	33.957	9/28/00	11:11	41.6273	9/28/00	9:29	53.8747	9/28/00	8:23	33.5564
9/28/00	13:15	55.689	9/28/00	14:48	20.873	9/28/00	15:01	33.953	9/28/00	15:11	41.6273	9/28/00	13:29	53.9042	9/28/00	12:23	33.5696
9/28/00	17:15	55.745	9/28/00	18:48	20.869	9/28/00	19:01	33.947	9/28/00	19:11	41.6142	9/28/00	17:29	53.8583	9/28/00	16:23	33.5564
9/28/00	21:15	55.659	9/28/00	22:48	20.876	9/28/00	23:01	33.947	9/28/00	23:11	41.6109	9/28/00	21:29	53.8386	9/28/00	20:23	33.563
9/29/00	1:15	55.623	9/29/00	2:48	20.879	9/29/00	3:01	33.940	9/29/00	3:11	41.6076	9/29/00	1:29	53.8419	9/29/00	0:23	33.5794
9/29/00	5:15	55.614	9/29/00	6:48	20.876	9/29/00	7:01	33.934	9/29/00	7:11	41.5945	9/29/00	5:29	53.832	9/29/00	4:23	33.5761

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
9/29/00	9:15	55.623	9/29/00	10:48	20.876	9/29/00	11:01	33.934	9/29/00	11:11	41.5879	9/29/00	9:29	53.8189	9/29/00	8:23	33.5728
9/29/00	13:15	55.787	9/29/00	14:48	20.879	9/29/00	15:01	33.911	9/29/00	15:11	41.5551	9/29/00	13:29	53.7762	9/29/00	12:23	33.5696
9/29/00	17:15	55.817	9/29/00	18:48	20.873	9/29/00	19:01	33.885	9/29/00	19:11	41.5092	9/29/00	17:29	53.7172	9/29/00	16:23	33.5532
9/29/00	21:15	55.735	9/29/00	22:48	20.876	9/29/00	23:01	33.868	9/29/00	23:11	41.4928	9/29/00	21:29	53.6778	9/29/00	20:23	33.563
9/30/00	1:15	55.725	9/30/00	2:48	20.879	9/30/00	3:01	33.855	9/30/00	3:11	41.4698	9/30/00	1:29	53.645	9/30/00	0:23	33.5728
9/30/00	5:15	55.745	9/30/00	6:48	20.873	9/30/00	7:01	33.835	9/30/00	7:11	41.4403	9/30/00	5:29	53.6089	9/30/00	4:23	33.563
9/30/00	9:15	55.758	9/30/00	10:48	20.876	9/30/00	11:01	33.819	9/30/00	11:11	41.414	9/30/00	9:29	53.5761	9/30/00	8:23	33.5696
9/30/00	13:15	55.807	9/30/00	14:48	20.876	9/30/00	15:01	33.793	9/30/00	15:11	41.378	9/30/00	13:29	53.5499	9/30/00	12:23	33.5597
9/30/00	17:15	55.807	9/30/00	18:48	20.876	9/30/00	19:01	33.780	9/30/00	19:11	41.3583	9/30/00	17:29	53.4974	9/30/00	16:23	33.5564
9/30/00	21:15	55.748	9/30/00	22:48	20.879	9/30/00	23:01	33.776	9/30/00	23:11	41.3484	9/30/00	21:29	53.5138	9/30/00	20:23	33.5728
10/1/00	1:15	55.741	10/1/00	2:48	20.886	10/1/00	3:01	33.766	10/1/00	3:11	41.3353	10/1/00	1:29	53.4908	10/1/00	0:23	33.5827
10/1/00	5:15	55.738	10/1/00	6:48	20.883	10/1/00	7:01	33.757	10/1/00	7:11	41.3123	10/1/00	5:29	53.4678	10/1/00	4:23	33.5794
10/1/00	9:15	55.725	10/1/00	10:48	20.886	10/1/00	11:01	33.753	10/1/00	11:11	41.3058	10/1/00	9:29	53.4547	10/1/00	8:23	33.5827
10/1/00	13:15	55.850	10/1/00	14:48	20.886	10/1/00	15:01	33.724	10/1/00	15:11	41.2566	10/1/00	13:29	53.4318	10/1/00	12:23	33.5827
10/1/00	17:15	55.866	10/1/00	18:48	20.889	10/1/00	19:01	33.711	10/1/00	19:11	41.2434	10/1/00	17:29	53.376	10/1/00	16:23	33.5728
10/1/00	21:15	55.745	10/1/00	22:48	20.896	10/1/00	23:01	33.720	10/1/00	23:11	41.2533	10/1/00	21:29	53.3924	10/1/00	20:23	33.5991
10/2/00	1:15	55.738	10/2/00	2:48	20.899	10/2/00	3:01	33.727	10/2/00	3:11	41.2533	10/2/00	1:29	53.4219	10/2/00	0:23	33.6188
10/2/00	5:15	55.640	10/2/00	6:48	20.912	10/2/00	7:01	33.737	10/2/00	7:11	41.273	10/2/00	5:29	53.4449	10/2/00	4:23	33.6286
10/2/00	9:15	55.636	10/2/00	10:48	20.919	10/2/00	11:01	33.763	10/2/00	11:11	41.2894	10/2/00	9:29	53.4974	10/2/00	8:23	33.645
10/2/00	13:15	55.705	10/2/00	14:48	20.932	10/2/00	15:01	33.776	10/2/00	15:11	41.3025	10/2/00	13:29	53.5302	10/2/00	12:23	33.6614
10/2/00	17:15	55.705	10/2/00	18:48	20.942	10/2/00	19:01	33.793	10/2/00	19:11	41.3255	10/2/00	17:29	53.5663	10/2/00	16:23	33.6713
10/2/00	21:15	55.623	10/2/00	22:48	20.951	10/2/00	23:01	33.812	10/2/00	23:11	41.3451	10/2/00	21:29	53.5892	10/2/00	20:23	33.6942
10/3/00	1:15	55.623	10/3/00	2:48	20.961	10/3/00	3:01	33.829	10/3/00	3:11	41.3648	10/3/00	1:29	53.6253	10/3/00	0:23	33.7041
10/3/00	5:15	55.594	10/3/00	6:48	20.971	10/3/00	7:01	33.845	10/3/00	7:11	41.378	10/3/00	5:29	53.6483	10/3/00	4:23	33.7106
10/3/00	9:15	55.614	10/3/00	10:48	20.974	10/3/00	11:01	33.852	10/3/00	11:11	41.3812	10/3/00	9:29	53.6417	10/3/00	8:23	33.7106
10/3/00	13:15	55.787	10/3/00	14:48	20.981	10/3/00	15:01	33.829	10/3/00	15:11	41.3615	10/3/00	13:29	53.5892	10/3/00	12:23	33.6942
10/3/00	17:15	55.778	10/3/00	18:48	20.988	10/3/00	19:01	33.822	10/3/00	19:11	41.3615	10/3/00	17:29	53.5564	10/3/00	16:23	33.6877
10/3/00	21:15	55.627	10/3/00	22:48	21.004	10/3/00	23:01	33.845	10/3/00	23:11	41.3911	10/3/00	21:29	53.5958	10/3/00	20:23	33.7205
10/4/00	1:15	55.531	10/4/00	2:48	21.020	10/4/00	3:01	33.881	10/4/00	3:11	41.4304	10/4/00	1:29	53.6778	10/4/00	0:23	33.7631
10/4/00	5:15	55.486	10/4/00	6:48	21.033	10/4/00	7:01	33.904	10/4/00	7:11	41.4633	10/4/00	5:29	53.7434	10/4/00	4:23	33.7762
10/4/00	9:15	55.515	10/4/00	10:48	21.047	10/4/00	11:01	33.927	10/4/00	11:11	41.4895	10/4/00	9:29	53.7762	10/4/00	8:23	33.7861
10/4/00	13:15	55.666	10/4/00	14:48	21.053	10/4/00	15:01	33.934	10/4/00	15:11	41.4829	10/4/00	13:29	53.7795	10/4/00	12:23	33.7795
10/4/00	17:15	55.633	10/4/00	18:48	21.056	10/4/00	19:01	33.940	10/4/00	19:11	41.4928	10/4/00	17:29	53.7762	10/4/00	16:23	33.773
10/4/00	21:15	55.623	10/4/00	22:48	21.066	10/4/00	23:01	33.947	10/4/00	23:11	41.4993	10/4/00	21:29	53.7303	10/4/00	20:23	33.773
10/5/00	1:15	55.512	10/5/00	2:48	21.014	10/5/00	3:01	33.881	10/5/00	3:11	41.4304	10/5/00	1:29	53.75	10/5/00	0:23	33.7598
10/5/00	5:15	55.453	10/5/00	6:48	20.994	10/5/00	7:01	33.871	10/5/00	7:11	41.4206	10/5/00	5:29	53.7074	10/5/00	4:23	33.7008
10/5/00	9:15	55.436	10/5/00	10:48	20.981	10/5/00	11:01	33.878	10/5/00	11:11	41.437	10/5/00	9:29	53.6975	10/5/00	8:23	33.6549
10/5/00	13:15	55.371	10/5/00	14:48	20.971	10/5/00	15:01	33.904	10/5/00	15:11	41.4797	10/5/00	13:29	53.7434	10/5/00	12:23	33.6122

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
10/5/00	17:15	55.325	10/5/00	18:48	20.961	10/5/00	19:01	33.940	10/5/00	19:11	41.542	10/5/00	17:29	53.8156	10/5/00	16:23	33.6056
10/5/00	21:15	55.240	10/5/00	22:48	20.955	10/5/00	23:01	33.983	10/5/00	23:11	41.6109	10/5/00	21:29	53.9272	10/5/00	20:23	33.5991
10/6/00	1:15	55.164	10/6/00	2:48	20.938	10/6/00	3:01	34.009	10/6/00	3:11	41.6535	10/6/00	1:29	53.9961	10/6/00	0:23	33.5991
10/6/00	5:15	55.121	10/6/00	6:48	20.928	10/6/00	7:01	34.032	10/6/00	7:11	41.6896	10/6/00	5:29	54.0584	10/6/00	4:23	33.5794
10/6/00	9:15	55.456	10/6/00	10:48	20.919	10/6/00	11:01	34.055	10/6/00	11:11	41.7421	10/6/00	9:29	54.1043	10/6/00	8:23	33.5696
10/6/00	13:15	55.646	10/6/00	14:48	20.902	10/6/00	15:01	34.055	10/6/00	15:11	41.7487	10/6/00	13:29	54.1273	10/6/00	12:23	33.563
10/6/00	17:15	56.073	10/6/00	18:48	20.896	10/6/00	19:01	34.062	10/6/00	19:11	41.7651	10/6/00	17:29	54.1109	10/6/00	16:23	33.5236
10/6/00	21:15	56.086	10/6/00	22:48	20.886	10/6/00	23:01	34.075	10/6/00	23:11	41.7979	10/6/00	21:29	54.1437	10/6/00	20:23	33.5236
10/7/00	1:15	56.115	10/7/00	2:48	20.886	10/7/00	3:01	34.085	10/7/00	3:11	41.8176	10/7/00	1:29	54.1995	10/7/00	0:23	33.5302
10/7/00	5:15	56.142	10/7/00	6:48	20.879	10/7/00	7:01	34.094	10/7/00	7:11	41.8406	10/7/00	5:29	54.1896	10/7/00	4:23	33.5236
10/7/00	9:15	56.168	10/7/00	10:48	20.879	10/7/00	11:01	34.111	10/7/00	11:11	41.8668	10/7/00	9:29	54.2126	10/7/00	8:23	33.5269
10/7/00	13:15	56.207	10/7/00	14:48	20.869	10/7/00	15:01	34.108	10/7/00	15:11	41.8734	10/7/00	13:29	54.2224	10/7/00	12:23	33.5236
10/7/00	17:15	56.188	10/7/00	18:48	20.869	10/7/00	19:01	34.104	10/7/00	19:11	41.8799	10/7/00	17:29	54.2224	10/7/00	16:23	33.5072
10/7/00	21:15	56.194	10/7/00	22:48	20.869	10/7/00	23:01	34.114	10/7/00	23:11	41.8963	10/7/00	21:29	54.2323	10/7/00	20:23	33.5105
10/8/00	1:15	56.211	10/8/00	2:48	20.863	10/8/00	3:01	34.114	10/8/00	3:11	41.9029	10/8/00	1:29	54.229	10/8/00	0:23	33.5138
10/8/00	5:15	56.217	10/8/00	6:48	20.863	10/8/00	7:01	34.117	10/8/00	7:11	41.916	10/8/00	5:29	54.252	10/8/00	4:23	33.5072
10/8/00	9:15	56.230	10/8/00	10:48	20.866	10/8/00	11:01	34.127	10/8/00	11:11	41.9357	10/8/00	9:29	54.2749	10/8/00	8:23	33.5171
10/8/00	13:15	56.240	10/8/00	14:48	20.860	10/8/00	15:01	34.114	10/8/00	15:11	41.916	10/8/00	13:29	54.2487	10/8/00	12:23	33.5171
10/8/00	17:15	56.204	10/8/00	18:48	20.853	10/8/00	19:01	34.101	10/8/00	19:11	41.893	10/8/00	17:29	54.1831	10/8/00	16:23	33.4875
10/8/00	21:15	56.168	10/8/00	22:48	20.850	10/8/00	23:01	34.098	10/8/00	23:11	41.8865	10/8/00	21:29	54.1601	10/8/00	20:23	33.481
10/9/00	1:15	56.158	10/9/00	2:48	20.846	10/9/00	3:01	34.091	10/9/00	3:11	41.8734	10/9/00	1:29	54.147	10/9/00	0:23	33.481
10/9/00	5:15	56.138	10/9/00	6:48	20.843	10/9/00	7:01	34.078	10/9/00	7:11	41.8635	10/9/00	5:29	54.1207	10/9/00	4:23	33.4711
10/9/00	9:15	56.132	10/9/00	10:48	20.840	10/9/00	11:01	34.075	10/9/00	11:11	41.8635	10/9/00	9:29	54.1306	10/9/00	8:23	33.4711
10/9/00	13:15	56.119	10/9/00	14:48	20.833	10/9/00	15:01	34.055	10/9/00	15:11	41.8209	10/9/00	13:29	54.1043	10/9/00	12:23	33.4678
10/9/00	17:15	56.050	10/9/00	18:48	20.820	10/9/00	19:01	34.019	10/9/00	19:11	41.7749	10/9/00	17:29	54.0092	10/9/00	16:23	33.4285
10/9/00	21:15	55.991	10/9/00	22:48	20.820	10/9/00	23:01	34.006	10/9/00	23:11	41.7487	10/9/00	21:29	53.9534	10/9/00	20:23	33.4154
10/10/00	1:15	55.948	10/10/00	2:48	20.810	10/10/00	3:01	33.990	10/10/00	3:11	41.7159	10/10/00	1:29	53.9436	10/10/00	0:23	33.4154
10/10/00	5:15	55.912	10/10/00	6:48	20.807	10/10/00	7:01	33.973	10/10/00	7:11	41.6962	10/10/00	5:29	53.8878	10/10/00	4:23	33.5236
10/10/00	9:15	55.896	10/10/00	10:48	20.810	10/10/00	11:01	33.973	10/10/00	11:11	41.6864	10/10/00	9:29	53.8944	10/10/00	8:23	33.5269
10/10/00	13:15	55.873	10/10/00	14:48	20.797	10/10/00	15:01	33.953	10/10/00	15:11	41.6437	10/10/00	13:29	53.8517	10/10/00	12:23	33.5269
10/10/00	17:15	55.827	10/10/00	18:48	20.794	10/10/00	19:01	33.930	10/10/00	19:11	41.6142	10/10/00	17:29	53.8222	10/10/00	16:23	33.5039
10/10/00	21:15	55.810	10/10/00	22:48	20.794	10/10/00	23:01	33.924	10/10/00	23:11	41.6076	10/10/00	21:29	53.8287	10/10/00	20:23	33.5138
10/11/00	1:15	55.804	10/11/00	2:48	20.794	10/11/00	3:01	33.917	10/11/00	3:11	41.5945	10/11/00	1:29	53.8189	10/11/00	0:23	33.5203
10/11/00	5:15	55.801	10/11/00	6:48	20.794	10/11/00	7:01	33.911	10/11/00	7:11	41.5879	10/11/00	5:29	53.8189	10/11/00	4:23	33.5203
10/11/00	9:15	55.804	10/11/00	10:48	20.794	10/11/00	11:01	33.917	10/11/00	11:11	41.5912	10/11/00	9:29	53.8386	10/11/00	8:23	33.5302
10/11/00	13:15	55.794	10/11/00	14:48	20.794	10/11/00	15:01	33.898	10/11/00	15:11	41.565	10/11/00	13:29	53.8222	10/11/00	12:23	33.5302
10/11/00	17:15	55.751	10/11/00	18:48	20.787	10/11/00	19:01	33.881	10/11/00	19:11	41.5354	10/11/00	17:29	53.7697	10/11/00	16:23	33.5072
10/11/00	21:15	55.732	10/11/00	22:48	20.794	10/11/00	23:01	33.878	10/11/00	23:11	41.5256	10/11/00	21:29	53.7697	10/11/00	20:23	33.5171

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
10/12/00	1:15	55.728	10/12/00	2:48	20.794	10/12/00	3:01	33.875	10/12/00	3:11	41.5157	10/12/00	1:29	53.7861	10/12/00	0:23	33.5269
10/12/00	5:15	55.728	10/12/00	6:48	20.794	10/12/00	7:01	33.868	10/12/00	7:11	41.5092	10/12/00	5:29	53.7697	10/12/00	4:23	33.5302
10/12/00	9:15	55.728	10/12/00	10:48	20.801	10/12/00	11:01	33.871	10/12/00	11:11	41.5059	10/12/00	9:29	53.7697	10/12/00	8:23	33.5367
10/12/00	13:15	55.722	10/12/00	14:48	20.801	10/12/00	15:01	33.858	10/12/00	15:11	41.4829	10/12/00	13:29	53.75	10/12/00	12:23	33.54
10/12/00	17:15	55.679	10/12/00	18:48	20.794	10/12/00	19:01	33.832	10/12/00	19:11	41.4501	10/12/00	17:29	53.6844	10/12/00	16:23	33.5171
10/12/00	21:15	55.653	10/12/00	22:48	20.801	10/12/00	23:01	33.829	10/12/00	23:11	41.4436	10/12/00	21:29	53.6745	10/12/00	20:23	33.5269
10/13/00	1:15	55.643	10/13/00	2:48	20.804	10/13/00	3:01	33.825	10/13/00	3:11	41.4304	10/13/00	1:29	53.6778	10/13/00	0:23	33.54
10/13/00	5:15	55.636	10/13/00	6:48	20.804	10/13/00	7:01	33.812	10/13/00	7:11	41.414	10/13/00	5:29	53.6516	10/13/00	4:23	33.5367
10/13/00	9:15	55.623	10/13/00	10:48	20.807	10/13/00	11:01	33.816	10/13/00	11:11	41.4108	10/13/00	9:29	53.6483	10/13/00	8:23	33.5367
10/13/00	13:15	55.614	10/13/00	14:48	20.810	10/13/00	15:01	33.796	10/13/00	15:11	41.3845	10/13/00	13:29	53.6286	10/13/00	12:23	33.5433
10/13/00	17:15	55.587	10/13/00	18:48	20.807	10/13/00	19:01	33.773	10/13/00	19:11	41.355	10/13/00	17:29	53.5794	10/13/00	16:23	33.5335
10/13/00	21:15	55.571	10/13/00	22:48	20.787	10/13/00	23:01	33.753	10/13/00	23:11	41.332	10/13/00	21:29	53.5892	10/13/00	20:23	33.54
10/14/00	1:15	55.594	10/14/00	2:48	20.784	10/14/00	3:01	33.753	10/14/00	3:11	41.332	10/14/00	1:29	53.6024	10/14/00	0:23	33.54
10/14/00	5:15	55.568	10/14/00	6:48	20.778	10/14/00	7:01	33.753	10/14/00	7:11	41.3386	10/14/00	5:29	53.6188	10/14/00	4:23	33.5269
10/14/00	9:15	55.525	10/14/00	10:48	20.778	10/14/00	11:01	33.773	10/14/00	11:11	41.3648	10/14/00	9:29	53.6581	10/14/00	8:23	33.5203
10/14/00	13:15	55.627	10/14/00	14:48	20.764	10/14/00	15:01	33.760	10/14/00	15:11	41.3386	10/14/00	13:29	53.6483	10/14/00	12:23	33.5105
10/14/00	17:15	55.643	10/14/00	18:48	20.702	10/14/00	19:01	33.691	10/14/00	19:11	41.2762	10/14/00	17:29	53.6024	10/14/00	16:23	33.4875
10/14/00	21:15	55.594	10/14/00	22:48	20.669	10/14/00	23:01	33.704	10/14/00	23:11	41.3025	10/14/00	21:29	53.4547	10/14/00	20:23	33.3694
10/15/00	1:15	55.584	10/15/00	2:48	20.643	10/15/00	3:01	33.711	10/15/00	3:11	41.3287	10/15/00	1:29	53.4285	10/15/00	0:23	33.3891
10/15/00	5:15	55.564	10/15/00	6:48	20.604	10/15/00	7:01	33.714	10/15/00	7:11	41.3419	10/15/00	5:29	53.4449	10/15/00	4:23	33.3432
10/15/00	9:15	55.492	10/15/00	10:48	20.574	10/15/00	11:01	33.720	10/15/00	11:11	41.3747	10/15/00	9:29	53.727	10/15/00	8:23	33.3268
10/15/00	13:15	55.600	10/15/00	14:48	20.541	10/15/00	15:01	33.717	10/15/00	15:11	41.3845	10/15/00	13:29	53.7631	10/15/00	12:23	33.3038
10/15/00	17:15	55.636	10/15/00	18:48	20.509	10/15/00	19:01	33.707	10/15/00	19:11	41.3845	10/15/00	17:29	53.7467	10/15/00	16:23	33.2579
10/15/00	21:15	55.561	10/15/00	22:48	20.479	10/15/00	23:01	33.704	10/15/00	23:11	41.3976	10/15/00	21:29	53.7697	10/15/00	20:23	33.2316
10/16/00	1:15	55.531	10/16/00	2:48	20.453	10/16/00	3:01	33.694	10/16/00	3:11	41.4042	10/16/00	1:29	53.7861	10/16/00	0:23	33.2119
10/16/00	5:15	55.535	10/16/00	6:48	20.427	10/16/00	7:01	33.681	10/16/00	7:11	41.4009	10/16/00	5:29	53.7697	10/16/00	4:23	33.1857
10/16/00	9:15	55.522	10/16/00	10:48	20.404	10/16/00	11:01	33.671	10/16/00	11:11	41.4075	10/16/00	9:29	53.7795	10/16/00	8:23	33.1627
10/16/00	13:15	55.614	10/16/00	14:48	20.387	10/16/00	15:01	33.658	10/16/00	15:11	41.4075	10/16/00	13:29	53.7762	10/16/00	12:23	33.1529
10/16/00	17:15	55.627	10/16/00	18:48	20.364	10/16/00	19:01	33.645	10/16/00	19:11	41.4042	10/16/00	17:29	53.7697	10/16/00	16:23	33.1332
10/16/00	21:15	55.525	10/16/00	22:48	20.358	10/16/00	23:01	33.645	10/16/00	23:11	41.4108	10/16/00	21:29	53.773	10/16/00	20:23	33.1266
10/17/00	1:15	55.509	10/17/00	2:48	20.344	10/17/00	3:01	33.635	10/17/00	3:11	41.4173	10/17/00	1:29	53.773	10/17/00	0:23	33.1201
10/17/00	5:15	55.472	10/17/00	6:48	20.335	10/17/00	7:01	33.629	10/17/00	7:11	41.4206	10/17/00	5:29	53.7828	10/17/00	4:23	33.1168
10/17/00	9:15	55.449	10/17/00	10:48	20.325	10/17/00	11:01	33.632	10/17/00	11:11	41.4304	10/17/00	9:29	53.8123	10/17/00	8:23	33.1168
10/17/00	13:15	55.607	10/17/00	14:48	20.318	10/17/00	15:01	33.619	10/17/00	15:11	41.4239	10/17/00	13:29	53.8058	10/17/00	12:23	33.1102
10/17/00	17:15	55.620	10/17/00	18:48	20.312	10/17/00	19:01	33.615	10/17/00	19:11	41.4272	10/17/00	17:29	53.7828	10/17/00	16:23	33.0906
10/17/00	21:15	55.535	10/17/00	22:48	20.305	10/17/00	23:01	33.615	10/17/00	23:11	41.4337	10/17/00	21:29	53.8123	10/17/00	20:23	33.1004
10/18/00	1:15	55.522	10/18/00	2:48	20.302	10/18/00	3:01	33.609	10/18/00	3:11	41.4403	10/18/00	1:29	53.8123	10/18/00	0:23	33.1004
10/18/00	5:15	55.486	10/18/00	6:48	20.299	10/18/00	7:01	33.606	10/18/00	7:11	41.4337	10/18/00	5:29	53.8058	10/18/00	4:23	33.0938

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
10/18/00	9:15	55.509	10/18/00	10:48	20.295	10/18/00	11:01	33.606	10/18/00	11:11	41.437	10/18/00	9:29	53.8156	10/18/00	8:23	33.0938
10/18/00	13:15	55.656	10/18/00	14:48	20.289	10/18/00	15:01	33.589	10/18/00	15:11	41.4239	10/18/00	13:29	53.8058	10/18/00	12:23	33.0906
10/18/00	17:15	55.692	10/18/00	18:48	20.282	10/18/00	19:01	33.576	10/18/00	19:11	41.3976	10/18/00	17:29	53.7533	10/18/00	16:23	33.0676
10/18/00	21:15	55.594	10/18/00	22:48	20.279	10/18/00	23:01	33.570	10/18/00	23:11	41.3976	10/18/00	21:29	53.7467	10/18/00	20:23	33.0643
10/19/00	1:15	55.561	10/19/00	2:48	20.276	10/19/00	3:01	33.563	10/19/00	3:11	41.3976	10/19/00	1:29	53.7533	10/19/00	0:23	33.0709
10/19/00	5:15	55.525	10/19/00	6:48	20.276	10/19/00	7:01	33.563	10/19/00	7:11	41.3944	10/19/00	5:29	53.7402	10/19/00	4:23	33.0709
10/19/00	9:15	55.548	10/19/00	10:48	20.272	10/19/00	11:01	33.556	10/19/00	11:11	41.3911	10/19/00	9:29	53.7533	10/19/00	8:23	33.0741
10/19/00	13:15	55.702	10/19/00	14:48	20.266	10/19/00	15:01	33.537	10/19/00	15:11	41.3648	10/19/00	13:29	53.7238	10/19/00	12:23	33.0643
10/19/00	17:15	55.715	10/19/00	18:48	20.266	10/19/00	19:01	33.527	10/19/00	19:11	41.3451	10/19/00	17:29	53.6352	10/19/00	16:23	33.0413
10/19/00	21:15	55.594	10/19/00	22:48	20.266	10/19/00	23:01	33.527	10/19/00	23:11	41.3419	10/19/00	21:29	53.6483	10/19/00	20:23	33.0446
10/20/00	1:15	55.558	10/20/00	2:48	20.262	10/20/00	3:01	33.517	10/20/00	3:11	41.3386	10/20/00	1:29	53.6713	10/20/00	0:23	33.0545
10/20/00	5:15	55.525	10/20/00	6:48	20.269	10/20/00	7:01	33.517	10/20/00	7:11	41.3353	10/20/00	5:29	53.6549	10/20/00	4:23	33.0577
10/20/00	9:15	55.525	10/20/00	10:48	20.269	10/20/00	11:01	33.517	10/20/00	11:11	41.3353	10/20/00	9:29	53.6745	10/20/00	8:23	33.0643
10/20/00	13:15	55.735	10/20/00	14:48	20.266	10/20/00	15:01	33.507	10/20/00	15:11	41.3156	10/20/00	13:29	53.6647	10/20/00	12:23	33.0643
10/20/00	17:15	55.709	10/20/00	18:48	20.266	10/20/00	19:01	33.507	10/20/00	19:11	41.3058	10/20/00	17:29	53.6417	10/20/00	16:23	33.0512
10/20/00	21:15	55.699	10/20/00	22:48	20.269	10/20/00	23:01	33.507	10/20/00	23:11	41.3123	10/20/00	21:29	53.6483	10/20/00	20:23	33.0577
10/21/00	1:15	55.709	10/21/00	2:48	20.272	10/21/00	3:01	33.507	10/21/00	3:11	41.3091	10/21/00	1:29	53.6483	10/21/00	0:23	33.0676
10/21/00	5:15	55.725	10/21/00	6:48	20.279	10/21/00	7:01	33.507	10/21/00	7:11	41.3156	10/21/00	5:29	53.6549	10/21/00	4:23	33.0741
10/21/00	9:15	55.738	10/21/00	10:48	20.285	10/21/00	11:01	33.520	10/21/00	11:11	41.3287	10/21/00	9:29	53.6909	10/21/00	8:23	33.084
10/21/00	13:15	55.764	10/21/00	14:48	20.285	10/21/00	15:01	33.517	10/21/00	15:11	41.3156	10/21/00	13:29	53.7008	10/21/00	12:23	33.0906
10/21/00	17:15	55.738	10/21/00	18:48	20.289	10/21/00	19:01	33.514	10/21/00	19:11	41.3156	10/21/00	17:29	53.6745	10/21/00	16:23	33.0741
10/21/00	21:15	55.745	10/21/00	22:48	20.292	10/21/00	23:01	33.520	10/21/00	23:11	41.3255	10/21/00	21:29	53.6942	10/21/00	20:23	33.0873
10/22/00	1:15	55.764	10/22/00	2:48	20.302	10/22/00	3:01	33.527	10/22/00	3:11	41.332	10/22/00	1:29	53.7238	10/22/00	0:23	33.1004
10/22/00	5:15	55.778	10/22/00	6:48	20.302	10/22/00	7:01	33.537	10/22/00	7:11	41.3386	10/22/00	5:29	53.7336	10/22/00	4:23	33.1037
10/22/00	9:15	55.778	10/22/00	10:48	20.292	10/22/00	11:01	33.533	10/22/00	11:11	41.3419	10/22/00	9:29	53.7402	10/22/00	8:23	33.1135
10/22/00	13:15	55.837	10/22/00	14:48	20.295	10/22/00	15:01	33.537	10/22/00	15:11	41.3517	10/22/00	13:29	53.773	10/22/00	12:23	33.1201
10/22/00	17:15	55.840	10/22/00	18:48	20.299	10/22/00	19:01	33.550	10/22/00	19:11	41.3681	10/22/00	17:29	53.7894	10/22/00	16:23	33.1037
10/22/00	21:15	55.797	10/22/00	22:48	20.302	10/22/00	23:01	33.563	10/22/00	23:11	41.3911	10/22/00	21:29	53.8091	10/22/00	20:23	33.1135
10/23/00	1:15	55.791	10/23/00	2:48	20.299	10/23/00	3:01	33.573	10/23/00	3:11	41.4042	10/23/00	1:29	53.8353	10/23/00	0:23	33.1168
10/23/00	5:15	55.791	10/23/00	6:48	20.292	10/23/00	7:01	33.576	10/23/00	7:11	41.414	10/23/00	5:29	53.8583	10/23/00	4:23	33.1201
10/23/00	9:15	55.751	10/23/00	10:48	20.292	10/23/00	11:01	33.593	10/23/00	11:11	41.4436	10/23/00	9:29	53.8517	10/23/00	8:23	33.1037
10/23/00	13:15	55.810	10/23/00	14:48	20.285	10/23/00	15:01	33.596	10/23/00	15:11	41.4436	10/23/00	13:29	53.9206	10/23/00	12:23	33.1201
10/23/00	17:15	55.830	10/23/00	18:48	20.279	10/23/00	19:01	33.599	10/23/00	19:11	41.4501	10/23/00	17:29	53.8976	10/23/00	16:23	33.1037
10/23/00	21:15	55.784	10/23/00	22:48	20.276	10/23/00	23:01	33.602	10/23/00	23:11	41.4665	10/23/00	21:29	53.9272	10/23/00	20:23	33.1037
10/24/00	1:15	55.774	10/24/00	2:48	20.266	10/24/00	3:01	33.599	10/24/00	3:11	41.4633	10/24/00	1:29	53.9272	10/24/00	0:23	33.1102
10/24/00	5:15	55.761	10/24/00	6:48	20.256	10/24/00	7:01	33.596	10/24/00	7:11	41.4665	10/24/00	5:29	53.9272	10/24/00	4:23	33.0971
10/24/00	9:15	55.755	10/24/00	10:48	20.253	10/24/00	11:01	33.596	10/24/00	11:11	41.4698	10/24/00	9:29	53.9501	10/24/00	8:23	33.0906
10/24/00	13:15	55.840	10/24/00	14:48	20.236	10/24/00	15:01	33.579	10/24/00	15:11	41.4436	10/24/00	13:29	53.9272	10/24/00	12:23	33.0873

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
10/24/00	17:15	55.886	10/24/00	18:48	20.220	10/24/00	19:01	33.560	10/24/00	19:11	41.4272	10/24/00	17:29	53.8451	10/24/00	16:23	33.0545
10/24/00	21:15	55.830	10/24/00	22:48	20.217	10/24/00	23:01	33.553	10/24/00	23:11	41.414	10/24/00	21:29	53.7992	10/24/00	20:23	33.0479
10/25/00	1:15	55.833	10/25/00	2:48	20.203	10/25/00	3:01	33.533	10/25/00	3:11	41.3976	10/25/00	1:29	53.7927	10/25/00	0:23	33.0381
10/25/00	5:15	55.840	10/25/00	6:48	20.194	10/25/00	7:01	33.517	10/25/00	7:11	41.3747	10/25/00	5:29	53.7533	10/25/00	4:23	33.0184
10/25/00	9:15	55.814	10/25/00	10:48	20.184	10/25/00	11:01	33.504	10/25/00	11:11	41.3583	10/25/00	9:29	53.7566	10/25/00	8:23	33.0184
10/25/00	13:15	55.876	10/25/00	14:48	20.167	10/25/00	15:01	33.481	10/25/00	15:11	41.3255	10/25/00	13:29	53.773	10/25/00	12:23	33.061
10/25/00	17:15	55.840	10/25/00	18:48	20.154	10/25/00	19:01	33.455	10/25/00	19:11	41.2959	10/25/00	17:29	53.6352	10/25/00	16:23	32.9724
10/25/00	21:15	55.778	10/25/00	22:48	20.151	10/25/00	23:01	33.445	10/25/00	23:11	41.2861	10/25/00	21:29	53.5991	10/25/00	20:23	32.9724
10/26/00	1:15	55.768	10/26/00	2:48	20.144	10/26/00	3:01	33.442	10/26/00	3:11	41.2697	10/26/00	1:29	53.5958	10/26/00	0:23	32.9823
10/26/00	5:15	55.738	10/26/00	6:48	20.141	10/26/00	7:01	33.432	10/26/00	7:11	41.2598	10/26/00	5:29	53.6122	10/26/00	4:23	32.9757
10/26/00	9:15	55.722	10/26/00	10:48	20.138	10/26/00	11:01	33.438	10/26/00	11:11	41.2598	10/26/00	9:29	53.6319	10/26/00	8:23	32.9823
10/26/00	13:15	55.778	10/26/00	14:48	20.135	10/26/00	15:01	33.422	10/26/00	15:11	41.2533	10/26/00	13:29	53.645	10/26/00	12:23	32.9823
10/26/00	17:15	55.801	10/26/00	18:48	20.131	10/26/00	19:01	33.425	10/26/00	19:11	41.2533	10/26/00	17:29	53.6155	10/26/00	16:23	32.979
10/26/00	21:15	55.719	10/26/00	22:48	20.135	10/26/00	23:01	33.438	10/26/00	23:11	41.2664	10/26/00	21:29	53.6417	10/26/00	20:23	32.9954
10/27/00	1:15	55.682	10/27/00	2:48	20.135	10/27/00	3:01	33.435	10/27/00	3:11	41.2762	10/27/00	1:29	53.6778	10/27/00	0:23	33.0085
10/27/00	5:15	55.666	10/27/00	6:48	20.138	10/27/00	7:01	33.445	10/27/00	7:11	41.2828	10/27/00	5:29	53.7205	10/27/00	4:23	33.0151
10/27/00	9:15	55.636	10/27/00	10:48	20.141	10/27/00	11:01	33.458	10/27/00	11:11	41.3091	10/27/00	9:29	53.7467	10/27/00	8:23	33.0315
10/27/00	13:15	55.705	10/27/00	14:48	20.148	10/27/00	15:01	33.461	10/27/00	15:11	41.3123	10/27/00	13:29	53.7992	10/27/00	12:23	33.0446
10/27/00	17:15	55.728	10/27/00	18:48	20.151	10/27/00	19:01	33.468	10/27/00	19:11	41.3156	10/27/00	17:29	53.7894	10/27/00	16:23	33.0413
10/27/00	21:15	55.663	10/27/00	22:48	20.157	10/27/00	23:01	33.481	10/27/00	23:11	41.3386	10/27/00	21:29	53.8123	10/27/00	20:23	33.0512
10/28/00	1:15	55.614	10/28/00	2:48	20.161	10/28/00	3:01	33.491	10/28/00	3:11	41.3517	10/28/00	1:29	53.8287	10/28/00	0:23	33.061
10/28/00	5:15	55.587	10/28/00	6:48	20.164	10/28/00	7:01	33.494	10/28/00	7:11	41.3583	10/28/00	5:29	53.8583	10/28/00	4:23	33.0709
10/28/00	9:15	55.577	10/28/00	10:48	20.174	10/28/00	11:01	33.501	10/28/00	11:11	41.3681	10/28/00	9:29	53.8517	10/28/00	8:23	33.0741
10/28/00	13:15	55.696	10/28/00	14:48	20.167	10/28/00	15:01	33.491	10/28/00	15:11	41.3517	10/28/00	13:29	53.8386	10/28/00	12:23	33.0741
10/28/00	17:15	55.728	10/28/00	18:48	20.164	10/28/00	19:01	33.484	10/28/00	19:11	41.3386	10/28/00	17:29	53.7927	10/28/00	16:23	33.0512
10/28/00	21:15	55.663	10/28/00	22:48	20.167	10/28/00	23:01	33.481	10/28/00	23:11	41.3353	10/28/00	21:29	53.7927	10/28/00	20:23	33.0479
10/29/00	1:15	55.656	10/29/00	2:48	20.167	10/29/00	3:01	33.471	10/29/00	3:11	41.3123	10/29/00	1:29	53.7566	10/29/00	0:23	33.0446
10/29/00	5:15	55.679	10/29/00	6:48	20.161	10/29/00	7:01	33.455	10/29/00	7:11	41.2861	10/29/00	5:29	53.6942	10/29/00	4:23	33.0282
10/29/00	9:15	55.696	10/29/00	10:48	20.161	10/29/00	11:01	33.442	10/29/00	11:11	41.2697	10/29/00	9:29	53.6713	10/29/00	8:23	33.0184
10/29/00	13:15	55.768	10/29/00	14:48	20.154	10/29/00	15:01	33.425	10/29/00	15:11	41.2434	10/29/00	13:29	53.6352	10/29/00	12:23	33.0118
10/29/00	17:15	55.801	10/29/00	18:48	20.151	10/29/00	19:01	33.406	10/29/00	19:11	41.2139	10/29/00	17:29	53.5728	10/29/00	16:23	32.9921
10/29/00	21:15	55.735	10/29/00	22:48	20.151	10/29/00	23:01	33.399	10/29/00	23:11	41.2041	10/29/00	21:29	53.5499	10/29/00	20:23	32.9921
10/30/00	1:15	55.692	10/30/00	2:48	20.157	10/30/00	3:01	33.406	10/30/00	3:11	41.2074	10/30/00	1:29	53.4908	10/30/00	0:23	33.0053
10/30/00	5:15	55.636	10/30/00	6:48	20.161	10/30/00	7:01	33.412	10/30/00	7:11	41.2205	10/30/00	5:29	53.4022	10/30/00	4:23	32.9823
10/30/00	9:15	55.627	10/30/00	10:48	20.164	10/30/00	11:01	33.428	10/30/00	11:11	41.2434	10/30/00	9:29	53.3333	10/30/00	8:23	33.0085
10/30/00	13:15	55.768	10/30/00	14:48	20.167	10/30/00	15:01	33.428	10/30/00	15:11	41.2434	10/30/00	13:29	53.7139	10/30/00	12:23	33.0413
10/30/00	17:15	55.771	10/30/00	18:48	20.167	10/30/00	19:01	33.435	10/30/00	19:11	41.2467	10/30/00	17:29	53.6844	10/30/00	16:23	33.0315
10/30/00	21:15	55.778	10/30/00	22:48	20.167	10/30/00	23:01	33.442	10/30/00	23:11	41.2533	10/30/00	21:29	53.7303	10/30/00	20:23	33.0381

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
10/31/00	1:15	55.787	10/31/00	2:48	20.171	10/31/00	3:01	33.442	10/31/00	3:11	41.2598	10/31/00	1:29	53.7172	10/31/00	0:23	33.0446
10/31/00	5:15	55.787	10/31/00	6:48	20.167	10/31/00	7:01	33.442	10/31/00	7:11	41.2566	10/31/00	5:29	53.7238	10/31/00	4:23	33.0413
10/31/00	9:15	55.787	10/31/00	10:48	20.174	10/31/00	11:01	33.445	10/31/00	11:11	41.2631	10/31/00	9:29	53.7172	10/31/00	8:23	33.0413
10/31/00	13:15	55.781	10/31/00	14:48	20.167	10/31/00	15:01	33.442	10/31/00	15:11	41.2533	10/31/00	13:29	53.7205	10/31/00	12:23	33.0446
10/31/00	17:15	55.758	10/31/00	18:48	20.167	10/31/00	19:01	33.432	10/31/00	19:11	41.2336	10/31/00	17:29	53.6483	10/31/00	16:23	33.0282
10/31/00	21:15	55.725	10/31/00	22:48	20.167	10/31/00	23:01	33.425	10/31/00	23:11	41.2205	10/31/00	21:29	53.6417	10/31/00	20:23	33.0217
11/1/00	1:15	55.709	11/1/00	2:48	20.167	11/1/00	3:01	33.415	11/1/00	3:11	41.2106	11/1/00	1:29	53.6122	11/1/00	0:23	33.0184
11/1/00	5:15	55.676	11/1/00	6:48	20.151	11/1/00	7:01	33.389	11/1/00	7:11	41.1745	11/1/00	5:29	53.5827	11/1/00	4:23	33.0085
11/1/00	9:15	55.646	11/1/00	10:48	20.154	11/1/00	11:01	33.376	11/1/00	11:11	41.1516	11/1/00	9:29	53.6122	11/1/00	8:23	33.002
11/1/00	13:15	55.617	11/1/00	14:48	20.092	11/1/00	15:01	33.307	11/1/00	15:11	41.0827	11/1/00	13:29	53.4777	11/1/00	12:23	32.9921
11/1/00	17:15	55.574	11/1/00	18:48	20.069	11/1/00	19:01	33.294	11/1/00	19:11	41.0761	11/1/00	17:29	53.4186	11/1/00	16:23	32.9167
11/1/00	21:15	55.587	11/1/00	22:48	20.046	11/1/00	23:01	33.314	11/1/00	23:11	41.1089	11/1/00	21:29	53.4777	11/1/00	20:23	32.8773
11/2/00	1:15	55.656	11/2/00	2:48	20.013	11/2/00	3:01	33.330	11/2/00	3:11	41.145	11/2/00	1:29	53.5794	11/2/00	0:23	32.8609
11/2/00	5:15	55.719	11/2/00	6:48	19.977	11/2/00	7:01	33.333	11/2/00	7:11	41.1778	11/2/00	5:29	53.6483	11/2/00	4:23	32.8314
11/2/00	9:15	55.781	11/2/00	10:48	19.938	11/2/00	11:01	33.343	11/2/00	11:11	41.2139	11/2/00	9:29	53.7172	11/2/00	8:23	32.8018
11/2/00	13:15	55.837	11/2/00	14:48	19.902	11/2/00	15:01	33.337	11/2/00	15:11	41.2303	11/2/00	13:29	53.7762	11/2/00	12:23	32.7723
11/2/00	17:15	55.860	11/2/00	18:48	19.875	11/2/00	19:01	33.337	11/2/00	19:11	41.2533	11/2/00	17:29	53.773	11/2/00	16:23	32.7395
11/2/00	21:15	55.896	11/2/00	22:48	19.849	11/2/00	23:01	33.343	11/2/00	23:11	41.2861	11/2/00	21:29	53.8025	11/2/00	20:23	32.7231
11/3/00	1:15	55.945	11/3/00	2:48	19.826	11/3/00	3:01	33.353	11/3/00	3:11	41.3189	11/3/00	1:29	53.8484	11/3/00	0:23	32.7165
11/3/00	5:15	55.988	11/3/00	6:48	19.810	11/3/00	7:01	33.356	11/3/00	7:11	41.3419	11/3/00	5:29	53.8944	11/3/00	4:23	32.7067
11/3/00	9:15	56.027	11/3/00	10:48	19.797	11/3/00	11:01	33.366	11/3/00	11:11	41.3845	11/3/00	9:29	53.9567	11/3/00	8:23	32.6969
11/3/00	13:15	56.060	11/3/00	14:48	19.774	11/3/00	15:01	33.353	11/3/00	15:11	41.3747	11/3/00	13:29	53.9436	11/3/00	12:23	32.6936
11/3/00	17:15	56.047	11/3/00	18:48	19.754	11/3/00	19:01	33.330	11/3/00	19:11	41.3714	11/3/00	17:29	53.9206	11/3/00	16:23	32.6509
11/3/00	21:15	56.040	11/3/00	22:48	19.734	11/3/00	23:01	33.310	11/3/00	23:11	41.3648	11/3/00	21:29	53.9042	11/3/00	20:23	32.6312
11/4/00	1:15	56.020	11/4/00	2:48	19.718	11/4/00	3:01	33.294	11/4/00	3:11	41.3517	11/4/00	1:29	53.8648	11/4/00	0:23	32.6115
11/4/00	5:15	56.004	11/4/00	6:48	19.698	11/4/00	7:01	33.268	11/4/00	7:11	41.3287	11/4/00	5:29	53.8419	11/4/00	4:23	32.582
11/4/00	9:15	55.981	11/4/00	10:48	19.685	11/4/00	11:01	33.251	11/4/00	11:11	41.3222	11/4/00	9:29	53.8091	11/4/00	8:23	32.5689
11/4/00	13:15	55.955	11/4/00	14:48	19.659	11/4/00	15:01	33.215	11/4/00	15:11	41.2762	11/4/00	13:29	53.7566	11/4/00	12:23	32.5459
11/4/00	17:15	55.886	11/4/00	18:48	19.642	11/4/00	19:01	33.179	11/4/00	19:11	41.2402	11/4/00	17:29	53.7008	11/4/00	16:23	32.5033
11/4/00	21:15	55.833	11/4/00	22:48	19.623	11/4/00	23:01	33.150	11/4/00	23:11	41.2106	11/4/00	21:29	53.6483	11/4/00	20:23	32.4803
11/5/00	1:15	55.791	11/5/00	2:48	19.600	11/5/00	3:01	33.117	11/5/00	3:11	41.1713	11/5/00	1:29	53.6122	11/5/00	0:23	32.4606
11/5/00	5:15	55.728	11/5/00	6:48	19.583	11/5/00	7:01	33.077	11/5/00	7:11	41.1286	11/5/00	5:29	53.563	11/5/00	4:23	32.4344
11/5/00	9:15	55.673	11/5/00	10:48	19.567	11/5/00	11:01	33.051	11/5/00	11:11	41.0827	11/5/00	9:29	53.5007	11/5/00	8:23	32.4081
11/5/00	13:15	55.617	11/5/00	14:48	19.544	11/5/00	15:01	32.999	11/5/00	15:11	41.0236	11/5/00	13:29	53.4219	11/5/00	12:23	32.3852
11/5/00	17:15	55.538	11/5/00	18:48	19.521	11/5/00	19:01	32.959	11/5/00	19:11	40.9613	11/5/00	17:29	53.3235	11/5/00	16:23	32.3425
11/5/00	21:15	55.538	11/5/00	22:48	19.491	11/5/00	23:01	32.913	11/5/00	23:11	40.9055	11/5/00	21:29	53.3169	11/5/00	20:23	32.3556
11/6/00	1:15	55.535	11/6/00	2:48	19.459	11/6/00	3:01	32.874	11/6/00	3:11	40.8563	11/6/00	1:29	53.353	11/6/00	0:23	32.3196
11/6/00	5:15	55.561	11/6/00	6:48	19.409	11/6/00	7:01	32.815	11/6/00	7:11	40.7874	11/6/00	5:29	53.3858	11/6/00	4:23	32.2867

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
11/6/00	9:15	55.472	11/6/00	10:48	19.334	11/6/00	11:01	32.759	11/6/00	11:11	40.7316	11/6/00	9:29	53.2382	11/6/00	8:23	32.1129
11/6/00	13:15	55.404	11/6/00	14:48	19.275	11/6/00	15:01	32.736	11/6/00	15:11	40.7119	11/6/00	13:29	53.0545	11/6/00	12:23	31.8602
11/6/00	17:15	55.285	11/6/00	18:48	19.213	11/6/00	19:01	32.733	11/6/00	19:11	40.7513	11/6/00	17:29	53.1693	11/6/00	16:23	32.0505
11/6/00	21:15	55.240	11/6/00	22:48	19.160	11/6/00	23:01	32.746	11/6/00	23:11	40.7972	11/6/00	21:29	53.2119	11/6/00	20:23	31.916
11/7/00	1:15	55.148	11/7/00	2:48	19.104	11/7/00	3:01	32.753	11/7/00	3:11	40.8432	11/7/00	1:29	53.294	11/7/00	0:23	31.9554
11/7/00	5:15	55.138	11/7/00	6:48	19.049	11/7/00	7:01	32.759	11/7/00	7:11	40.8793	11/7/00	5:29	53.3924	11/7/00	4:23	31.916
11/7/00	9:15	55.075	11/7/00	10:48	19.003	11/7/00	11:01	32.769	11/7/00	11:11	40.9285	11/7/00	9:29	53.4678	11/7/00	8:23	31.8832
11/7/00	13:15	55.135	11/7/00	14:48	18.960	11/7/00	15:01	32.769	11/7/00	15:11	40.9514	11/7/00	13:29	53.5203	11/7/00	12:23	31.8602
11/7/00	17:15	55.148	11/7/00	18:48	18.917	11/7/00	19:01	32.769	11/7/00	19:11	40.9777	11/7/00	17:29	53.5663	11/7/00	16:23	31.8241
11/7/00	21:15	55.128	11/7/00	22:48	18.878	11/7/00	23:01	32.759	11/7/00	23:11	40.9974	11/7/00	21:29	53.5794	11/7/00	20:23	31.7979
11/8/00	1:15	55.154	11/8/00	2:48	18.842	11/8/00	3:01	32.749	11/8/00	3:11	41.0138	11/8/00	1:29	53.622	11/8/00	0:23	31.7684
11/8/00	5:15	55.154	11/8/00	6:48	18.802	11/8/00	7:01	32.723	11/8/00	7:11	41.0138	11/8/00	5:29	53.6056	11/8/00	4:23	31.7224
11/8/00	9:15	55.151	11/8/00	10:48	18.773	11/8/00	11:01	32.710	11/8/00	11:11	41.0138	11/8/00	9:29	53.5892	11/8/00	8:23	31.6864
11/8/00	13:15	55.866	11/8/00	14:48	18.734	11/8/00	15:01	32.671	11/8/00	15:11	40.9875	11/8/00	13:29	53.5663	11/8/00	12:23	31.6503
11/8/00	17:15	55.876	11/8/00	18:48	18.698	11/8/00	19:01	32.628	11/8/00	19:11	40.958	11/8/00	17:29	53.5138	11/8/00	16:23	31.5945
11/8/00	21:15	55.810	11/8/00	22:48	18.665	11/8/00	23:01	32.589	11/8/00	23:11	40.935	11/8/00	21:29	53.4777	11/8/00	20:23	31.5551
11/9/00	1:15	55.784	11/9/00	2:48	18.629	11/9/00	3:01	32.539	11/9/00	3:11	40.8957	11/9/00	1:29	53.435	11/9/00	0:23	31.5157
11/9/00	5:15	55.728	11/9/00	6:48	18.596	11/9/00	7:01	32.503	11/9/00	7:11	40.8629	11/9/00	5:29	53.3563	11/9/00	4:23	31.4665
11/9/00	9:15	55.699	11/9/00	10:48	18.573	11/9/00	11:01	32.484	11/9/00	11:11	40.8661	11/9/00	9:29	53.3661	11/9/00	8:23	31.4469
11/9/00	13:15	55.741	11/9/00	14:48	18.556	11/9/00	15:01	32.474	11/9/00	15:11	40.8596	11/9/00	13:29	53.3924	11/9/00	12:23	31.4501
11/9/00	17:15	55.709	11/9/00	18:48	18.540	11/9/00	19:01	32.474	11/9/00	19:11	40.876	11/9/00	17:29	53.3924	11/9/00	16:23	31.4436
11/9/00	21:15	55.636	11/9/00	22:48	18.540	11/9/00	23:01	32.487	11/9/00	23:11	40.9121	11/9/00	21:29	53.458	11/9/00	20:23	31.4633
11/10/00	1:15	55.591	11/10/00	2:48	18.533	11/10/00	3:01	32.503	11/10/00	3:11	40.9416	11/10/00	1:29	53.5269	11/10/00	0:23	31.4829
11/10/00	5:15	55.571	11/10/00	6:48	18.530	11/10/00	7:01	32.513	11/10/00	7:11	40.9678	11/10/00	5:29	53.5564	11/10/00	4:23	31.4993
11/10/00	9:15	55.535	11/10/00	10:48	18.537	11/10/00	11:01	32.526	11/10/00	11:11	41.0039	11/10/00	9:29	53.6024	11/10/00	8:23	31.5157
11/10/00	13:15	55.604	11/10/00	14:48	18.530	11/10/00	15:01	32.523	11/10/00	15:11	41.0007	11/10/00	13:29	53.622	11/10/00	12:23	31.5354
11/10/00	17:15	55.623	11/10/00	18:48	18.524	11/10/00	19:01	32.507	11/10/00	19:11	40.9941	11/10/00	17:29	53.5925	11/10/00	16:23	31.5125
11/10/00	21:15	55.597	11/10/00	22:48	18.524	11/10/00	23:01	32.500	11/10/00	23:11	40.9941	11/10/00	21:29	53.5892	11/10/00	20:23	31.5125
11/11/00	1:15	55.554	11/11/00	2:48	18.520	11/11/00	3:01	32.490	11/11/00	3:11	40.9941	11/11/00	1:29	53.5761	11/11/00	0:23	31.5125
11/11/00	5:15	55.568	11/11/00	6:48	18.514	11/11/00	7:01	32.477	11/11/00	7:11	40.9744	11/11/00	5:29	53.5827	11/11/00	4:23	31.5059
11/11/00	9:15	55.584	11/11/00	10:48	18.510	11/11/00	11:01	32.457	11/11/00	11:11	40.958	11/11/00	9:29	53.5302	11/11/00	8:23	31.4928
11/11/00	13:15	55.640	11/11/00	14:48	18.497	11/11/00	15:01	32.425	11/11/00	15:11	40.9186	11/11/00	13:29	53.4843	11/11/00	12:23	31.4731
11/11/00	17:15	55.699	11/11/00	18:48	18.488	11/11/00	19:01	32.388	11/11/00	19:11	40.8825	11/11/00	17:29	53.399	11/11/00	16:23	31.437
11/11/00	21:15	55.659	11/11/00	22:48	18.474	11/11/00	23:01	32.356	11/11/00	23:11	40.8432	11/11/00	21:29	53.3563	11/11/00	20:23	31.4173
11/12/00	1:15	55.709	11/12/00	2:48	18.458	11/12/00	3:01	32.320	11/12/00	3:11	40.8071	11/12/00	1:29	53.3038	11/12/00	0:23	31.4009
11/12/00	5:15	55.709	11/12/00	6:48	18.445	11/12/00	7:01	32.300	11/12/00	7:11	40.7808	11/12/00	5:29	53.3924	11/12/00	4:23	31.4206
11/12/00	9:15	55.607	11/12/00	10:48	18.445	11/12/00	11:01	32.303	11/12/00	11:11	40.794	11/12/00	9:29	53.3038	11/12/00	8:23	31.3419
11/12/00	13:15	55.719	11/12/00	14:48	18.442	11/12/00	15:01	32.293	11/12/00	15:11	40.7841	11/12/00	13:29	53.3333	11/12/00	12:23	31.4108

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
11/12/00	17:15	55.656	11/12/00	18:48	18.442	11/12/00	19:01	32.293	11/12/00	19:11	40.7841	11/12/00	17:29	53.3169	11/12/00	16:23	31.3944
11/12/00	21:15	55.587	11/12/00	22:48	18.442	11/12/00	23:01	32.303	11/12/00	23:11	40.7972	11/12/00	21:29	53.3366	11/12/00	20:23	31.4173
11/13/00	1:15	55.581	11/13/00	2:48	18.442	11/13/00	3:01	32.303	11/13/00	3:11	40.794	11/13/00	1:29	53.3333	11/13/00	0:23	31.4272
11/13/00	5:15	55.594	11/13/00	6:48	18.435	11/13/00	7:01	32.290	11/13/00	7:11	40.7808	11/13/00	5:29	53.3399	11/13/00	4:23	31.4272
11/13/00	9:15	55.564	11/13/00	10:48	18.432	11/13/00	11:01	32.287	11/13/00	11:11	40.7874	11/13/00	9:29	53.3235	11/13/00	8:23	31.4272
11/13/00	13:15	55.597	11/13/00	14:48	18.428	11/13/00	15:01	32.283	11/13/00	15:11	40.7808	11/13/00	13:29	53.3366	11/13/00	12:23	31.437
11/13/00	17:15	55.587	11/13/00	18:48	18.432	11/13/00	19:01	32.290	11/13/00	19:11	40.7874	11/13/00	17:29	53.3333	11/13/00	16:23	31.437
11/13/00	21:15	55.535	11/13/00	22:48	18.442	11/13/00	23:01	32.300	11/13/00	23:11	40.8071	11/13/00	21:29	53.3727	11/13/00	20:23	31.46
11/14/00	1:15	55.531	11/14/00	2:48	18.448	11/14/00	3:01	32.313	11/14/00	3:11	40.8169	11/14/00	1:29	53.3924	11/14/00	0:23	31.4797
11/14/00	5:15	55.525	11/14/00	6:48	18.448	11/14/00	7:01	32.313	11/14/00	7:11	40.8202	11/14/00	5:29	53.4121	11/14/00	4:23	31.4895
11/14/00	9:15	55.518	11/14/00	10:48	18.451	11/14/00	11:01	32.313	11/14/00	11:11	40.8333	11/14/00	9:29	53.4154	11/14/00	8:23	31.4993
11/14/00	13:15	55.623	11/14/00	14:48	18.455	11/14/00	15:01	32.313	11/14/00	15:11	40.8202	11/14/00	13:29	53.4121	11/14/00	12:23	31.5092
11/14/00	17:15	55.636	11/14/00	18:48	18.451	11/14/00	19:01	32.297	11/14/00	19:11	40.8005	11/14/00	17:29	53.3825	11/14/00	16:23	31.4961
11/14/00	21:15	55.607	11/14/00	22:48	18.451	11/14/00	23:01	32.283	11/14/00	23:11	40.7874	11/14/00	21:29	53.3399	11/14/00	20:23	31.4829
11/15/00	1:15	55.568	11/15/00	2:48	18.451	11/15/00	3:01	32.274	11/15/00	3:11	40.771	11/15/00	1:29	53.3202	11/15/00	0:23	31.4797
11/15/00	5:15	55.600	11/15/00	6:48	18.445	11/15/00	7:01	32.247	11/15/00	7:11	40.7316	11/15/00	5:29	53.2743	11/15/00	4:23	31.4633
11/15/00	9:15	55.627	11/15/00	10:48	18.435	11/15/00	11:01	32.215	11/15/00	11:11	40.6824	11/15/00	9:29	53.2349	11/15/00	8:23	31.4304
11/15/00	13:15	55.810	11/15/00	14:48	18.415	11/15/00	15:01	32.156	11/15/00	15:11	40.607	11/15/00	13:29	53.107	11/15/00	12:23	31.3911
11/15/00	17:15	55.889	11/15/00	18:48	18.406	11/15/00	19:01	32.113	11/15/00	19:11	40.5446	11/15/00	17:29	52.9921	11/15/00	16:23	31.3255
11/15/00	21:15	55.807	11/15/00	22:48	18.396	11/15/00	23:01	32.087	11/15/00	23:11	40.5118	11/15/00	21:29	52.956	11/15/00	20:23	31.3123
11/16/00	1:15	55.587	11/16/00	2:48	18.409	11/16/00	3:01	32.096	11/16/00	3:11	40.5249	11/16/00	1:29	53.002	11/16/00	0:23	31.3255
11/16/00	5:15	55.531	11/16/00	6:48	18.415	11/16/00	7:01	32.116	11/16/00	7:11	40.5545	11/16/00	5:29	53.084	11/16/00	4:23	31.3648
11/16/00	9:15	55.436	11/16/00	10:48	18.428	11/16/00	11:01	32.152	11/16/00	11:11	40.5938	11/16/00	9:29	53.1824	11/16/00	8:23	31.4075
11/16/00	13:15	55.495	11/16/00	14:48	18.442	11/16/00	15:01	32.182	11/16/00	15:11	40.6332	11/16/00	13:29	53.2349	11/16/00	12:23	31.4567
11/16/00	17:15	55.843	11/16/00	18:48	18.458	11/16/00	19:01	32.205	11/16/00	19:11	40.6627	11/16/00	17:29	53.2579	11/16/00	16:23	31.4731
11/16/00	21:15	55.892	11/16/00	22:48	18.468	11/16/00	23:01	32.228	11/16/00	23:11	40.6955	11/16/00	21:29	53.3137	11/16/00	20:23	31.5026
11/17/00	1:15	55.942	11/17/00	2:48	18.484	11/17/00	3:01	32.247	11/17/00	3:11	40.7152	11/17/00	1:29	53.3629	11/17/00	0:23	31.5223
11/17/00	5:15	55.968	11/17/00	6:48	18.497	11/17/00	7:01	32.260	11/17/00	7:11	40.7283	11/17/00	5:29	53.3333	11/17/00	4:23	31.542
11/17/00	9:15	55.994	11/17/00	10:48	18.507	11/17/00	11:01	32.277	11/17/00	11:11	40.7513	11/17/00	9:29	53.3924	11/17/00	8:23	31.5617
11/17/00	13:15	56.089	11/17/00	14:48	18.514	11/17/00	15:01	32.283	11/17/00	15:11	40.7382	11/17/00	13:29	53.4219	11/17/00	12:23	31.5846
11/17/00	17:15	56.109	11/17/00	18:48	18.517	11/17/00	19:01	32.277	11/17/00	19:11	40.7382	11/17/00	17:29	53.3694	11/17/00	16:23	31.5748
11/17/00	21:15	55.994	11/17/00	22:48	18.530	11/17/00	23:01	32.287	11/17/00	23:11	40.7448	11/17/00	21:29	53.3629	11/17/00	20:23	31.5846
11/18/00	1:15	56.011	11/18/00	2:48	18.540	11/18/00	3:01	32.297	11/18/00	3:11	40.7513	11/18/00	1:29	53.3891	11/18/00	0:23	31.6043
11/18/00	5:15	56.011	11/18/00	6:48	18.550	11/18/00	7:01	32.297	11/18/00	7:11	40.7579	11/18/00	5:29	53.3924	11/18/00	4:23	31.6175
11/18/00	9:15	56.014	11/18/00	10:48	18.556	11/18/00	11:01	32.306	11/18/00	11:11	40.7644	11/18/00	9:29	53.3858	11/18/00	8:23	31.6207
11/18/00	13:15	56.158	11/18/00	14:48	18.556	11/18/00	15:01	32.287	11/18/00	15:11	40.7316	11/18/00	13:29	53.3629	11/18/00	12:23	31.6273
11/18/00	17:15	56.191	11/18/00	18:48	18.560	11/18/00	19:01	32.267	11/18/00	19:11	40.7021	11/18/00	17:29	53.2776	11/18/00	16:23	31.5912
11/18/00	21:15	56.109	11/18/00	22:48	18.560	11/18/00	23:01	32.251	11/18/00	23:11	40.6759	11/18/00	21:29	53.2513	11/18/00	20:23	31.5912

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
11/19/00	1:15	56.132	11/19/00	2:48	18.563	11/19/00	3:01	32.238	11/19/00	3:11	40.643	11/19/00	1:29	53.2218	11/19/00	0:23	31.5715
11/19/00	5:15	55.860	11/19/00	6:48	18.566	11/19/00	7:01	32.238	11/19/00	7:11	40.6398	11/19/00	5:29	53.189	11/19/00	4:23	31.5748
11/19/00	9:15	55.810	11/19/00	10:48	18.573	11/19/00	11:01	32.241	11/19/00	11:11	40.6463	11/19/00	9:29	53.2349	11/19/00	8:23	31.5846
11/19/00	13:15	55.912	11/19/00	14:48	18.579	11/19/00	15:01	32.241	11/19/00	15:11	40.643	11/19/00	13:29	53.2218	11/19/00	12:23	31.6011
11/19/00	17:15	55.801	11/19/00	18:48	18.596	11/19/00	19:01	32.260	11/19/00	19:11	40.6627	11/19/00	17:29	53.2513	11/19/00	16:23	31.6109
11/19/00	21:15	55.751	11/19/00	22:48	18.609	11/19/00	23:01	32.283	11/19/00	23:11	40.689	11/19/00	21:29	53.3038	11/19/00	20:23	31.647
11/20/00	1:15	55.722	11/20/00	2:48	18.622	11/20/00	3:01	32.306	11/20/00	3:11	40.7185	11/20/00	1:29	53.3465	11/20/00	0:23	31.6765
11/20/00	5:15	55.653	11/20/00	6:48	18.638	11/20/00	7:01	32.339	11/20/00	7:11	40.7644	11/20/00	5:29	53.4318	11/20/00	4:23	31.706
11/20/00	9:15	55.581	11/20/00	10:48	18.665	11/20/00	11:01	32.385	11/20/00	11:11	40.8136	11/20/00	9:29	53.481	11/20/00	8:23	31.752
11/20/00	13:15	55.636	11/20/00	14:48	18.675	11/20/00	15:01	32.402	11/20/00	15:11	40.8333	11/20/00	13:29	53.5367	11/20/00	12:23	31.7815
11/20/00	17:15	55.646	11/20/00	18:48	18.691	11/20/00	19:01	32.428	11/20/00	19:11	40.8497	11/20/00	17:29	53.5302	11/20/00	16:23	31.7848
11/20/00	21:15	55.646	11/20/00	22:48	18.704	11/20/00	23:01	32.441	11/20/00	23:11	40.8596	11/20/00	21:29	53.5433	11/20/00	20:23	31.8012
11/21/00	1:15	55.673	11/21/00	2:48	18.714	11/21/00	3:01	32.431	11/21/00	3:11	40.8497	11/21/00	1:29	53.5269	11/21/00	0:23	31.8045
11/21/00	5:15	55.659	11/21/00	6:48	18.717	11/21/00	7:01	32.421	11/21/00	7:11	40.8366	11/21/00	5:29	53.4908	11/21/00	4:23	31.7979
11/21/00	9:15	55.702	11/21/00	10:48	18.724	11/21/00	11:01	32.411	11/21/00	11:11	40.8202	11/21/00	9:29	53.4514	11/21/00	8:23	31.7881
11/21/00	13:15	55.873	11/21/00	14:48	18.724	11/21/00	15:01	32.385	11/21/00	15:11	40.7776	11/21/00	13:29	53.3891	11/21/00	12:23	31.7684
11/21/00	17:15	55.860	11/21/00	18:48	18.727	11/21/00	19:01	32.379	11/21/00	19:11	40.7644	11/21/00	17:29	53.3333	11/21/00	16:23	31.7487
11/21/00	21:15	55.728	11/21/00	22:48	18.740	11/21/00	23:01	32.388	11/21/00	23:11	40.7776	11/21/00	21:29	53.3694	11/21/00	20:23	31.7684
11/22/00	1:15	55.725	11/22/00	2:48	18.750	11/22/00	3:01	32.392	11/22/00	3:11	40.7743	11/22/00	1:29	53.3727	11/22/00	0:23	31.7815
11/22/00	5:15	55.712	11/22/00	6:48	18.757	11/22/00	7:01	32.398	11/22/00	7:11	40.7743	11/22/00	5:29	53.3858	11/22/00	4:23	31.7848
11/22/00	9:15	55.679	11/22/00	10:48	18.770	11/22/00	11:01	32.402	11/22/00	11:11	40.7808	11/22/00	9:29	53.3924	11/22/00	8:23	31.7946
11/22/00	13:15	55.820	11/22/00	14:48	18.770	11/22/00	15:01	32.395	11/22/00	15:11	40.7579	11/22/00	13:29	53.3793	11/22/00	12:23	31.8045
11/22/00	17:15	55.843	11/22/00	18:48	18.770	11/22/00	19:01	32.385	11/22/00	19:11	40.7349	11/22/00	17:29	53.3301	11/22/00	16:23	31.7815
11/22/00	21:15	55.768	11/22/00	22:48	18.776	11/22/00	23:01	32.379	11/22/00	23:11	40.7283	11/22/00	21:29	53.3202	11/22/00	20:23	31.7782
11/23/00	1:15	55.761	11/23/00	2:48	18.780	11/23/00	3:01	32.372	11/23/00	3:11	40.7054	11/23/00	1:29	53.2808	11/23/00	0:23	31.7782
11/23/00	5:15	55.741	11/23/00	6:48	18.783	11/23/00	7:01	32.362	11/23/00	7:11	40.6923	11/23/00	5:29	53.2776	11/23/00	4:23	31.7717
11/23/00	9:15	55.719	11/23/00	10:48	18.789	11/23/00	11:01	32.365	11/23/00	11:11	40.6923	11/23/00	9:29	53.2644	11/23/00	8:23	31.7749
11/23/00	13:15	55.873	11/23/00	14:48	18.793	11/23/00	15:01	32.359	11/23/00	15:11	40.6693	11/23/00	13:29	53.2808	11/23/00	12:23	31.7815
11/23/00	17:15	55.846	11/23/00	18:48	18.799	11/23/00	19:01	32.356	11/23/00	19:11	40.6627	11/23/00	17:29	53.2382	11/23/00	16:23	31.7684
11/23/00	21:15	55.745	11/23/00	22:48	18.809	11/23/00	23:01	32.362	11/23/00	23:11	40.666	11/23/00	21:29	53.2546	11/23/00	20:23	31.7881
11/24/00	1:15	55.735	11/24/00	2:48	18.816	11/24/00	3:01	32.365	11/24/00	3:11	40.6627	11/24/00	1:29	53.2972	11/24/00	0:23	31.8077
11/24/00	5:15	55.728	11/24/00	6:48	18.819	11/24/00	7:01	32.365	11/24/00	7:11	40.6562	11/24/00	5:29	53.2644	11/24/00	4:23	31.8012
11/24/00	9:15	55.692	11/24/00	10:48	18.832	11/24/00	11:01	32.375	11/24/00	11:11	40.6627	11/24/00	9:29	53.271	11/24/00	8:23	31.8143
11/24/00	13:15	55.823	11/24/00	14:48	18.835	11/24/00	15:01	32.369	11/24/00	15:11	40.643	11/24/00	13:29	53.2612	11/24/00	12:23	31.8241
11/24/00	17:15	55.863	11/24/00	18:48	18.835	11/24/00	19:01	32.356	11/24/00	19:11	40.6201	11/24/00	17:29	53.1988	11/24/00	16:23	31.7913
11/24/00	21:15	55.801	11/24/00	22:48	18.845	11/24/00	23:01	32.356	11/24/00	23:11	40.607	11/24/00	21:29	53.1955	11/24/00	20:23	31.7913
11/25/00	1:15	55.797	11/25/00	2:48	18.848	11/25/00	3:01	32.349	11/25/00	3:11	40.5971	11/25/00	1:29	53.2119	11/25/00	0:23	31.8045
11/25/00	5:15	55.787	11/25/00	6:48	18.845	11/25/00	7:01	32.336	11/25/00	7:11	40.5741	11/25/00	5:29	53.1759	11/25/00	4:23	31.7979

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
11/25/00	9:15	55.751	11/25/00	10:48	18.852	11/25/00	11:01	32.339	11/25/00	11:11	40.5676	11/25/00	9:29	53.166	11/25/00	8:23	31.7881
11/25/00	13:15	55.791	11/25/00	14:48	18.858	11/25/00	15:01	32.333	11/25/00	15:11	40.5545	11/25/00	13:29	53.1824	11/25/00	12:23	31.8045
11/25/00	17:15	55.787	11/25/00	18:48	18.865	11/25/00	19:01	32.336	11/25/00	19:11	40.5545	11/25/00	17:29	53.166	11/25/00	16:23	31.7979
11/25/00	21:15	55.741	11/25/00	22:48	18.875	11/25/00	23:01	32.343	11/25/00	23:11	40.5545	11/25/00	21:29	53.1595	11/25/00	20:23	31.8143
11/26/00	1:15	55.728	11/26/00	2:48	18.881	11/26/00	3:01	32.349	11/26/00	3:11	40.5512	11/26/00	1:29	53.1759	11/26/00	0:23	31.8241
11/26/00	5:15	55.719	11/26/00	6:48	18.885	11/26/00	7:01	32.349	11/26/00	7:11	40.5479	11/26/00	5:29	53.1693	11/26/00	4:23	31.8274
11/26/00	9:15	55.719	11/26/00	10:48	18.891	11/26/00	11:01	32.356	11/26/00	11:11	40.5512	11/26/00	9:29	53.1595	11/26/00	8:23	31.834
11/26/00	13:15	55.827	11/26/00	14:48	18.898	11/26/00	15:01	32.352	11/26/00	15:11	40.5381	11/26/00	13:29	53.189	11/26/00	12:23	31.8471
11/26/00	17:15	55.797	11/26/00	18:48	18.907	11/26/00	19:01	32.356	11/26/00	19:11	40.5446	11/26/00	17:29	53.1529	11/26/00	16:23	31.8438
11/26/00	21:15	55.682	11/26/00	22:48	18.924	11/26/00	23:01	32.375	11/26/00	23:11	40.561	11/26/00	21:29	53.189	11/26/00	20:23	31.8668
11/27/00	1:15	55.646	11/27/00	2:48	18.930	11/27/00	3:01	32.388	11/27/00	3:11	40.561	11/27/00	1:29	53.2218	11/27/00	0:23	31.8865
11/27/00	5:15	55.676	11/27/00	6:48	18.940	11/27/00	7:01	32.395	11/27/00	7:11	40.5807	11/27/00	5:29	53.2513	11/27/00	4:23	31.9029
11/27/00	9:15	55.646	11/27/00	10:48	18.953	11/27/00	11:01	32.415	11/27/00	11:11	40.5971	11/27/00	9:29	53.2513	11/27/00	8:23	31.9127
11/27/00	13:15	55.797	11/27/00	14:48	18.960	11/27/00	15:01	32.421	11/27/00	15:11	40.5938	11/27/00	13:29	53.271	11/27/00	12:23	31.9357
11/27/00	17:15	55.791	11/27/00	18:48	18.970	11/27/00	19:01	32.431	11/27/00	19:11	40.6004	11/27/00	17:29	53.2579	11/27/00	16:23	31.9259
11/27/00	21:15	55.735	11/27/00	22:48	18.983	11/27/00	23:01	32.438	11/27/00	23:11	40.6102	11/27/00	21:29	53.2644	11/27/00	20:23	31.9423
11/28/00	1:15	55.741	11/28/00	2:48	18.993	11/28/00	3:01	32.448	11/28/00	3:11	40.6135	11/28/00	1:29	53.271	11/28/00	0:23	31.9587
11/28/00	5:15	55.745	11/28/00	6:48	18.999	11/28/00	7:01	32.451	11/28/00	7:11	40.607	11/28/00	5:29	53.2841	11/28/00	4:23	31.9652
11/28/00	9:15	55.728	11/28/00	10:48	19.009	11/28/00	11:01	32.457	11/28/00	11:11	40.6201	11/28/00	9:29	53.2776	11/28/00	8:23	31.9652
11/28/00	13:15	55.873	11/28/00	14:48	19.019	11/28/00	15:01	32.454	11/28/00	15:11	40.607	11/28/00	13:29	53.271	11/28/00	12:23	31.9718
11/28/00	17:15	55.794	11/28/00	18:48	19.035	11/28/00	19:01	32.477	11/28/00	19:11	40.6332	11/28/00	17:29	53.2644	11/28/00	16:23	31.9783
11/28/00	21:15	55.692	11/28/00	22:48	19.049	11/28/00	23:01	32.507	11/28/00	23:11	40.6693	11/28/00	21:29	53.3465	11/28/00	20:23	32.0276
11/29/00	1:15	55.669	11/29/00	2:48	19.065	11/29/00	3:01	32.530	11/29/00	3:11	40.6988	11/29/00	1:29	53.3793	11/29/00	0:23	32.0505
11/29/00	5:15	55.669	11/29/00	6:48	19.081	11/29/00	7:01	32.549	11/29/00	7:11	40.7152	11/29/00	5:29	53.4088	11/29/00	4:23	32.0669
11/29/00	9:15	55.633	11/29/00	10:48	19.098	11/29/00	11:01	32.575	11/29/00	11:11	40.7448	11/29/00	9:29	53.4482	11/29/00	8:23	32.0833
11/29/00	13:15	55.719	11/29/00	14:48	19.114	11/29/00	15:01	32.602	11/29/00	15:11	40.7776	11/29/00	13:29	53.4908	11/29/00	12:23	32.1129
11/29/00	17:15	55.679	11/29/00	18:48	19.127	11/29/00	19:01	32.621	11/29/00	19:11	40.8005	11/29/00	17:29	53.5335	11/29/00	16:23	32.1358
11/29/00	21:15	56.093	11/29/00	22:48	19.144	11/29/00	23:01	32.641	11/29/00	23:11	40.8202	11/29/00	21:29	53.5433	11/29/00	20:23	32.149
11/30/00	1:15	56.106	11/30/00	2:48	19.157	11/30/00	3:01	32.654	11/30/00	3:11	40.8366	11/30/00	1:29	53.5564	11/30/00	0:23	32.1654
11/30/00	5:15	56.093	11/30/00	6:48	19.170	11/30/00	7:01	32.657	11/30/00	7:11	40.8333	11/30/00	5:29	53.5269	11/30/00	4:23	32.1588
11/30/00	9:15	56.073	11/30/00	10:48	19.173	11/30/00	11:01	32.654	11/30/00	11:11	40.8268	11/30/00	9:29	53.5072	11/30/00	8:23	32.1522
11/30/00	13:15	56.047	11/30/00	14:48	19.177	11/30/00	15:01	32.638	11/30/00	15:11	40.794	11/30/00	13:29	53.4843	11/30/00	12:23	32.1424
11/30/00	17:15	55.971	11/30/00	18:48	19.177	11/30/00	19:01	32.621	11/30/00	19:11	40.7644	11/30/00	17:29	53.4022	11/30/00	16:23	32.1063
11/30/00	21:15	55.932	11/30/00	22:48	19.180	11/30/00	23:01	32.615	11/30/00	23:11	40.748	11/30/00	21:29	53.376	11/30/00	20:23	32.1096
12/1/00	1:15	55.892	12/1/00	2:48	19.186	12/1/00	3:01	32.608	12/1/00	3:11	40.7349	12/1/00	1:29	53.3366	12/1/00	0:23	32.0997
12/1/00	5:15	55.883	12/1/00	6:48	19.196	12/1/00	7:01	32.615	12/1/00	7:11	40.7382	12/1/00	5:29	53.3497	12/1/00	4:23	32.1063
12/1/00	9:15	55.906	12/1/00	10:48	19.216	12/1/00	11:01	32.641	12/1/00	11:11	40.7644	12/1/00	9:29	53.3924	12/1/00	8:23	32.126
12/1/00	13:15	55.978	12/1/00	14:48	19.226	12/1/00	15:01	32.677	12/1/00	15:11	40.8071	12/1/00	13:29	53.4744	12/1/00	12:23	32.1719

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
12/1/00	17:15	56.053	12/1/00	18:48	19.249	12/1/00	19:01	32.713	12/1/00	19:11	40.8596	12/1/00	17:29	53.5367	12/1/00	16:23	32.2146
12/1/00	21:15	56.138	12/1/00	22:48	19.272	12/1/00	23:01	32.759	12/1/00	23:11	40.9121	12/1/00	21:29	53.6352	12/1/00	20:23	32.2572
12/2/00	1:15	56.188	12/2/00	2:48	19.291	12/2/00	3:01	32.789	12/2/00	3:11	40.9514	12/2/00	1:29	53.6811	12/2/00	0:23	32.2835
12/2/00	5:15	56.224	12/2/00	6:48	19.308	12/2/00	7:01	32.815	12/2/00	7:11	40.9875	12/2/00	5:29	53.7172	12/2/00	4:23	32.3064
12/2/00	9:15	56.257	12/2/00	10:48	19.327	12/2/00	11:01	32.851	12/2/00	11:11	41.0269	12/2/00	9:29	53.7762	12/2/00	8:23	32.3327
12/2/00	13:15	56.289	12/2/00	14:48	19.341	12/2/00	15:01	32.867	12/2/00	15:11	41.0466	12/2/00	13:29	53.8222	12/2/00	12:23	32.3556
12/2/00	17:15	56.289	12/2/00	18:48	19.357	12/2/00	19:01	32.881	12/2/00	19:11	41.0499	12/2/00	17:29	53.7828	12/2/00	16:23	32.3524
12/2/00	21:15	56.286	12/2/00	22:48	19.367	12/2/00	23:01	32.887	12/2/00	23:11	41.0597	12/2/00	21:29	53.773	12/2/00	20:23	32.3491
12/3/00	1:15	56.276	12/3/00	2:48	19.377	12/3/00	3:01	32.894	12/3/00	3:11	41.0597	12/3/00	1:29	53.7664	12/3/00	0:23	32.3524
12/3/00	5:15	56.257	12/3/00	6:48	19.386	12/3/00	7:01	32.890	12/3/00	7:11	41.0499	12/3/00	5:29	53.7434	12/3/00	4:23	32.3458
12/3/00	9:15	56.237	12/3/00	10:48	19.393	12/3/00	11:01	32.887	12/3/00	11:11	41.0466	12/3/00	9:29	53.7303	12/3/00	8:23	32.3425
12/3/00	13:15	56.201	12/3/00	14:48	19.390	12/3/00	15:01	32.864	12/3/00	15:11	41.0072	12/3/00	13:29	53.6778	12/3/00	12:23	32.3327
12/3/00	17:15	56.125	12/3/00	18:48	19.390	12/3/00	19:01	32.848	12/3/00	19:11	40.9711	12/3/00	17:29	53.5925	12/3/00	16:23	32.2933
12/3/00	21:15	56.076	12/3/00	22:48	19.393	12/3/00	23:01	32.838	12/3/00	23:11	40.9514	12/3/00	21:29	53.5597	12/3/00	20:23	32.2802
12/4/00	1:15	56.043	12/4/00	2:48	19.396	12/4/00	3:01	32.828	12/4/00	3:11	40.9219	12/4/00	1:29	53.5367	12/4/00	0:23	32.2769
12/4/00	5:15	56.004	12/4/00	6:48	19.403	12/4/00	7:01	32.825	12/4/00	7:11	40.9154	12/4/00	5:29	53.5171	12/4/00	4:23	32.2703
12/4/00	9:15	56.001	12/4/00	10:48	19.413	12/4/00	11:01	32.831	12/4/00	11:11	40.9252	12/4/00	9:29	53.5138	12/4/00	8:23	32.2769
12/4/00	13:15	56.033	12/4/00	14:48	19.419	12/4/00	15:01	32.841	12/4/00	15:11	40.9252	12/4/00	13:29	53.5597	12/4/00	12:23	32.3064
12/4/00	17:15	56.050	12/4/00	18:48	19.432	12/4/00	19:01	32.854	12/4/00	19:11	40.9383	12/4/00	17:29	53.5892	12/4/00	16:23	32.313
12/4/00	21:15	56.079	12/4/00	22:48	19.442	12/4/00	23:01	32.877	12/4/00	23:11	40.9678	12/4/00	21:29	53.6319	12/4/00	20:23	32.336
12/5/00	1:15	56.119	12/5/00	2:48	19.452	12/5/00	3:01	32.890	12/5/00	3:11	40.9777	12/5/00	1:29	53.6516	12/5/00	0:23	32.3622
12/5/00	5:15	56.135	12/5/00	6:48	19.465	12/5/00	7:01	32.900	12/5/00	7:11	40.9875	12/5/00	5:29	53.6516	12/5/00	4:23	32.372
12/5/00	9:15	56.138	12/5/00	10:48	19.475	12/5/00	11:01	32.913	12/5/00	11:11	40.9941	12/5/00	9:29	53.6647	12/5/00	8:23	32.3786
12/5/00	13:15	56.135	12/5/00	14:48	19.475	12/5/00	15:01	32.904	12/5/00	15:11	40.9744	12/5/00	13:29	53.6516	12/5/00	12:23	32.3786
12/5/00	17:15	56.076	12/5/00	18:48	19.478	12/5/00	19:01	32.890	12/5/00	19:11	40.9482	12/5/00	17:29	53.5728	12/5/00	16:23	32.3524
12/5/00	21:15	56.033	12/5/00	22:48	19.488	12/5/00	23:01	32.890	12/5/00	23:11	40.9449	12/5/00	21:29	53.5696	12/5/00	20:23	32.3491
12/6/00	1:15	56.024	12/6/00	2:48	19.485	12/6/00	3:01	32.884	12/6/00	3:11	40.9252	12/6/00	1:29	53.5696	12/6/00	0:23	32.3524
12/6/00	5:15	56.004	12/6/00	6:48	19.491	12/6/00	7:01	32.877	12/6/00	7:11	40.9186	12/6/00	5:29	53.54	12/6/00	4:23	32.3491
12/6/00	9:15	55.991	12/6/00	10:48	19.498	12/6/00	11:01	32.877	12/6/00	11:11	40.9154	12/6/00	9:29	53.5367	12/6/00	8:23	32.3491
12/6/00	13:15	55.971	12/6/00	14:48	19.495	12/6/00	15:01	32.858	12/6/00	15:11	40.8727	12/6/00	13:29	53.5597	12/6/00	12:23	32.3524
12/6/00	17:15	55.899	12/6/00	18:48	19.491	12/6/00	19:01	32.831	12/6/00	19:11	40.8333	12/6/00	17:29	53.4449	12/6/00	16:23	32.3097
12/6/00	21:15	55.840	12/6/00	22:48	19.491	12/6/00	23:01	32.812	12/6/00	23:11	40.7972	12/6/00	21:29	53.376	12/6/00	20:23	32.2966
12/7/00	1:15	55.771	12/7/00	2:48	19.482	12/7/00	3:01	32.772	12/7/00	3:11	40.7382	12/7/00	1:29	53.3104	12/7/00	0:23	32.2769
12/7/00	5:15	55.689	12/7/00	6:48	19.472	12/7/00	7:01	32.740	12/7/00	7:11	40.689	12/7/00	5:29	53.2349	12/7/00	4:23	32.2408
12/7/00	9:15	55.623	12/7/00	10:48	19.475	12/7/00	11:01	32.717	12/7/00	11:11	40.6627	12/7/00	9:29	53.1923	12/7/00	8:23	32.2244
12/7/00	13:15	55.587	12/7/00	14:48	19.465	12/7/00	15:01	32.703	12/7/00	15:11	40.6266	12/7/00	13:29	53.1923	12/7/00	12:23	32.2244
12/7/00	17:15	55.574	12/7/00	18:48	19.475	12/7/00	19:01	32.713	12/7/00	19:11	40.643	12/7/00	17:29	53.1857	12/7/00	16:23	32.2277
12/7/00	21:15	55.633	12/7/00	22:48	19.495	12/7/00	23:01	32.762	12/7/00	23:11	40.7021	12/7/00	21:29	53.3104	12/7/00	20:23	32.2867

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
12/8/00	1:15	55.745	12/8/00	2:48	19.511	12/8/00	3:01	32.805	12/8/00	3:11	40.7513	12/8/00	1:29	53.4318	12/8/00	0:23	32.3491
12/8/00	5:15	55.840	12/8/00	6:48	19.534	12/8/00	7:01	32.841	12/8/00	7:11	40.8005	12/8/00	5:29	53.4974	12/8/00	4:23	32.3885
12/8/00	9:15	55.932	12/8/00	10:48	19.557	12/8/00	11:01	32.890	12/8/00	11:11	40.8497	12/8/00	9:29	53.5728	12/8/00	8:23	32.4344
12/8/00	13:15	55.991	12/8/00	14:48	19.567	12/8/00	15:01	32.904	12/8/00	15:11	40.876	12/8/00	13:29	53.6122	12/8/00	12:23	32.4574
12/8/00	17:15	56.014	12/8/00	18:48	19.577	12/8/00	19:01	32.920	12/8/00	19:11	40.8825	12/8/00	17:29	53.6188	12/8/00	16:23	32.4574
12/8/00	21:15	56.020	12/8/00	22:48	19.590	12/8/00	23:01	32.927	12/8/00	23:11	40.8825	12/8/00	21:29	53.6024	12/8/00	20:23	32.4672
12/9/00	1:15	56.004	12/9/00	2:48	19.593	12/9/00	3:01	32.923	12/9/00	3:11	40.8825	12/9/00	1:29	53.5958	12/9/00	0:23	32.4639
12/9/00	5:15	55.978	12/9/00	6:48	19.593	12/9/00	7:01	32.917	12/9/00	7:11	40.8563	12/9/00	5:29	53.5499	12/9/00	4:23	32.4541
12/9/00	9:15	55.925	12/9/00	10:48	19.600	12/9/00	11:01	32.910	12/9/00	11:11	40.8465	12/9/00	9:29	53.4974	12/9/00	8:23	32.4344
12/9/00	13:15	55.873	12/9/00	14:48	19.600	12/9/00	15:01	32.887	12/9/00	15:11	40.8136	12/9/00	13:29	53.4777	12/9/00	12:23	32.4278
12/9/00	17:15	55.797	12/9/00	18:48	19.600	12/9/00	19:01	32.874	12/9/00	19:11	40.7841	12/9/00	17:29	53.4154	12/9/00	16:23	32.3983
12/9/00	21:15	55.771	12/9/00	22:48	19.610	12/9/00	23:01	32.874	12/9/00	23:11	40.7808	12/9/00	21:29	53.3924	12/9/00	20:23	32.4016
12/10/00	1:15	55.764	12/10/00	2:48	19.616	12/10/00	3:01	32.877	12/10/00	3:11	40.7808	12/10/00	1:29	53.4022	12/10/00	0:23	32.4147
12/10/00	5:15	55.787	12/10/00	6:48	19.626	12/10/00	7:01	32.897	12/10/00	7:11	40.8071	12/10/00	5:29	53.4613	12/10/00	4:23	32.4311
12/10/00	9:15	55.860	12/10/00	10:48	19.649	12/10/00	11:01	32.943	12/10/00	11:11	40.8694	12/10/00	9:29	53.5433	12/10/00	8:23	32.4803
12/10/00	13:15	55.945	12/10/00	14:48	19.659	12/10/00	15:01	32.966	12/10/00	15:11	40.8825	12/10/00	13:29	53.6122	12/10/00	12:23	32.5197
12/10/00	17:15	55.965	12/10/00	18:48	19.665	12/10/00	19:01	32.979	12/10/00	19:11	40.8891	12/10/00	17:29	53.6188	12/10/00	16:23	32.5197
12/10/00	21:15	55.971	12/10/00	22:48	19.678	12/10/00	23:01	32.982	12/10/00	23:11	40.8957	12/10/00	21:29	53.5991	12/10/00	20:23	32.523
12/11/00	1:15	55.935	12/11/00	2:48	19.675	12/11/00	3:01	32.969	12/11/00	3:11	40.8727	12/11/00	1:29	53.5499	12/11/00	0:23	32.5033
12/11/00	5:15	55.899	12/11/00	6:48	19.675	12/11/00	7:01	32.959	12/11/00	7:11	40.8563	12/11/00	5:29	53.5367	12/11/00	4:23	32.4967
12/11/00	9:15	55.883	12/11/00	10:48	19.685	12/11/00	11:01	32.969	12/11/00	11:11	40.8694	12/11/00	9:29	53.5302	12/11/00	8:23	32.4967
12/11/00	13:15	55.912	12/11/00	14:48	19.698	12/11/00	15:01	32.995	12/11/00	15:11	40.9121	12/11/00	13:29	53.5663	12/11/00	12:23	32.5295
12/11/00	17:15	55.988	12/11/00	18:48	19.718	12/11/00	19:01	33.041	12/11/00	19:11	40.958	12/11/00	17:29	53.6647	12/11/00	16:23	32.5755
12/11/00	21:15	56.076	12/11/00	22:48	19.747	12/11/00	23:01	33.087	12/11/00	23:11	41.0203	12/11/00	21:29	53.7533	12/11/00	20:23	32.6148
12/12/00	1:15	56.155	12/12/00	2:48	19.764	12/12/00	3:01	33.123	12/12/00	3:11	41.0696	12/12/00	1:29	53.8189	12/12/00	0:23	32.6575
12/12/00	5:15	56.198	12/12/00	6:48	19.780	12/12/00	7:01	33.146	12/12/00	7:11	41.0958	12/12/00	5:29	53.8156	12/12/00	4:23	32.664
12/12/00	9:15	56.243	12/12/00	10:48	19.797	12/12/00	11:01	33.179	12/12/00	11:11	41.1516	12/12/00	9:29	53.9042	12/12/00	8:23	32.6969
12/12/00	13:15	56.266	12/12/00	14:48	19.806	12/12/00	15:01	33.182	12/12/00	15:11	41.1385	12/12/00	13:29	53.9042	12/12/00	12:23	32.7133
12/12/00	17:15	56.217	12/12/00	18:48	19.810	12/12/00	19:01	33.176	12/12/00	19:11	41.1122	12/12/00	17:29	53.8287	12/12/00	16:23	32.6804
12/12/00	21:15	56.165	12/12/00	22:48	19.816	12/12/00	23:01	33.176	12/12/00	23:11	41.1056	12/12/00	21:29	53.7828	12/12/00	20:23	32.664
12/13/00	1:15	56.132	12/13/00	2:48	19.826	12/13/00	3:01	33.159	12/13/00	3:11	41.0892	12/13/00	1:29	53.7533	12/13/00	0:23	32.6575
12/13/00	5:15	56.083	12/13/00	6:48	19.816	12/13/00	7:01	33.136	12/13/00	7:11	41.0499	12/13/00	5:29	53.6975	12/13/00	4:23	32.6411
12/13/00	9:15	56.030	12/13/00	10:48	19.810	12/13/00	11:01	33.114	12/13/00	11:11	41.0203	12/13/00	9:29	53.6778	12/13/00	8:23	32.6148
12/13/00	13:15	55.981	12/13/00	14:48	19.800	12/13/00	15:01	33.087	12/13/00	15:11	40.981	12/13/00	13:29	53.5958	12/13/00	12:23	32.5951
12/13/00	17:15	55.928	12/13/00	18:48	19.803	12/13/00	19:01	33.091	12/13/00	19:11	40.9744	12/13/00	17:29	53.5663	12/13/00	16:23	32.582
12/13/00	21:15	55.935	12/13/00	22:48	19.816	12/13/00	23:01	33.107	12/13/00	23:11	40.9941	12/13/00	21:29	53.6155	12/13/00	20:23	32.6017
12/14/00	1:15	55.971	12/14/00	2:48	19.833	12/14/00	3:01	33.123	12/14/00	3:11	41.0138	12/14/00	1:29	53.6417	12/14/00	0:23	32.6312
12/14/00	5:15	56.020	12/14/00	6:48	19.843	12/14/00	7:01	33.150	12/14/00	7:11	41.0433	12/14/00	5:29	53.6909	12/14/00	4:23	32.6673

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
12/14/00	9:15	56.073	12/14/00	10:48	19.859	12/14/00	11:01	33.173	12/14/00	11:11	41.0794	12/14/00	9:29	53.7533	12/14/00	8:23	32.687
12/14/00	13:15	56.115	12/14/00	14:48	19.869	12/14/00	15:01	33.186	12/14/00	15:11	41.0958	12/14/00	13:29	53.7697	12/14/00	12:23	32.71
12/14/00	17:15	56.119	12/14/00	18:48	19.875	12/14/00	19:01	33.192	12/14/00	19:11	41.0892	12/14/00	17:29	53.7697	12/14/00	16:23	32.7034
12/14/00	21:15	56.102	12/14/00	22:48	19.882	12/14/00	23:01	33.192	12/14/00	23:11	41.0892	12/14/00	21:29	53.7566	12/14/00	20:23	32.7034
12/15/00	1:15	56.083	12/15/00	2:48	19.895	12/15/00	3:01	33.199	12/15/00	3:11	41.0892	12/15/00	1:29	53.7631	12/15/00	0:23	32.7133
12/15/00	5:15	56.050	12/15/00	6:48	19.895	12/15/00	7:01	33.179	12/15/00	7:11	41.0597	12/15/00	5:29	53.7172	12/15/00	4:23	32.6936
12/15/00	9:15	55.981	12/15/00	10:48	19.888	12/15/00	11:01	33.153	12/15/00	11:11	41.0171	12/15/00	9:29	53.6352	12/15/00	8:23	32.6673
12/15/00	13:15	55.899	12/15/00	14:48	19.879	12/15/00	15:01	33.097	12/15/00	15:11	40.935	12/15/00	13:29	53.5367	12/15/00	12:23	32.6312
12/15/00	17:15	55.771	12/15/00	18:48	19.865	12/15/00	19:01	33.051	12/15/00	19:11	40.8694	12/15/00	17:29	53.3924	12/15/00	16:23	32.5755
12/15/00	21:15	55.669	12/15/00	22:48	19.862	12/15/00	23:01	33.022	12/15/00	23:11	40.8235	12/15/00	21:29	53.3169	12/15/00	20:23	32.5623
12/16/00	1:15	55.630	12/16/00	2:48	19.862	12/16/00	3:01	33.005	12/16/00	3:11	40.8005	12/16/00	1:29	53.2874	12/16/00	0:23	32.5558
12/16/00	5:15	55.614	12/16/00	6:48	19.875	12/16/00	7:01	33.022	12/16/00	7:11	40.8169	12/16/00	5:29	53.2841	12/16/00	4:23	32.5656
12/16/00	9:15	55.692	12/16/00	10:48	19.898	12/16/00	11:01	33.084	12/16/00	11:11	40.8957	12/16/00	9:29	53.2218	12/16/00	8:23	32.6247
12/16/00	13:15	55.830	12/16/00	14:48	19.911	12/16/00	15:01	33.123	12/16/00	15:11	40.9449	12/16/00	13:29	53.5564	12/16/00	12:23	32.6903
12/16/00	17:15	55.912	12/16/00	18:48	19.931	12/16/00	19:01	33.159	12/16/00	19:11	40.9843	12/16/00	17:29	53.6417	12/16/00	16:23	32.7198
12/16/00	21:15	55.984	12/16/00	22:48	19.944	12/16/00	23:01	33.192	12/16/00	23:11	41.0203	12/16/00	21:29	53.7074	12/16/00	20:23	32.7493
12/17/00	1:15	56.037	12/17/00	2:48	19.961	12/17/00	3:01	33.205	12/17/00	3:11	41.0466	12/17/00	1:29	53.7238	12/17/00	0:23	32.769
12/17/00	5:15	56.060	12/17/00	6:48	19.970	12/17/00	7:01	33.225	12/17/00	7:11	41.063	12/17/00	5:29	53.7467	12/17/00	4:23	32.7789
12/17/00	9:15	56.073	12/17/00	10:48	19.984	12/17/00	11:01	33.235	12/17/00	11:11	41.0892	12/17/00	9:29	53.7631	12/17/00	8:23	32.7854
12/17/00	13:15	56.070	12/17/00	14:48	19.984	12/17/00	15:01	33.222	12/17/00	15:11	41.063	12/17/00	13:29	53.7533	12/17/00	12:23	32.7822
12/17/00	17:15	55.997	12/17/00	18:48	19.984	12/17/00	19:01	33.202	12/17/00	19:11	41.0072	12/17/00	17:29	53.6549	12/17/00	16:23	32.7493
12/17/00	21:15	55.902	12/17/00	22:48	19.990	12/17/00	23:01	33.196	12/17/00	23:11	40.9875	12/17/00	21:29	53.5597	12/17/00	20:23	32.7198
12/18/00	1:15	55.876	12/18/00	2:48	19.984	12/18/00	3:01	33.173	12/18/00	3:11	40.9613	12/18/00	1:29	53.5433	12/18/00	0:23	32.7231
12/18/00	5:15	55.817	12/18/00	6:48	19.990	12/18/00	7:01	33.166	12/18/00	7:11	40.9514	12/18/00	5:29	53.4875	12/18/00	4:23	32.7034
12/18/00	9:15	55.817	12/18/00	10:48	20.003	12/18/00	11:01	33.182	12/18/00	11:11	40.9843	12/18/00	9:29	53.5236	12/18/00	8:23	32.7231
12/18/00	13:15	55.886	12/18/00	14:48	20.016	12/18/00	15:01	33.222	12/18/00	15:11	41.0269	12/18/00	13:29	53.6122	12/18/00	12:23	32.7723
12/18/00	17:15	55.971	12/18/00	18:48	20.039	12/18/00	19:01	33.264	12/18/00	19:11	41.0696	12/18/00	17:29	53.7172	12/18/00	16:23	32.815
12/18/00	21:15	56.047	12/18/00	22:48	20.056	12/18/00	23:01	33.294	12/18/00	23:11	41.1089	12/18/00	21:29	53.8058	12/18/00	20:23	32.8511
12/19/00	1:15	56.099	12/19/00	2:48	20.066	12/19/00	3:01	33.314	12/19/00	3:11	41.1253	12/19/00	1:29	53.8156	12/19/00	0:23	32.8609
12/19/00	5:15	56.132	12/19/00	6:48	20.082	12/19/00	7:01	33.333	12/19/00	7:11	41.1581	12/19/00	5:29	53.8517	12/19/00	4:23	32.874
12/19/00	9:15	56.155	12/19/00	10:48	20.098	12/19/00	11:01	33.353	12/19/00	11:11	41.1909	12/19/00	9:29	53.8616	12/19/00	8:23	32.8904
12/19/00	13:15	56.158	12/19/00	14:48	20.102	12/19/00	15:01	33.353	12/19/00	15:11	41.1877	12/19/00	13:29	53.8616	12/19/00	12:23	32.8904
12/19/00	17:15	56.122	12/19/00	18:48	20.108	12/19/00	19:01	33.346	12/19/00	19:11	41.1647	12/19/00	17:29	53.8025	12/19/00	16:23	32.874
12/19/00	21:15	56.073	12/19/00	22:48	20.108	12/19/00	23:01	33.333	12/19/00	23:11	41.1286	12/19/00	21:29	53.7434	12/19/00	20:23	32.8576
12/20/00	1:15	55.991	12/20/00	2:48	20.102	12/20/00	3:01	33.297	12/20/00	3:11	41.0827	12/20/00	1:29	53.6549	12/20/00	0:23	32.8281
12/20/00	5:15	55.896	12/20/00	6:48	20.098	12/20/00	7:01	33.261	12/20/00	7:11	41.04	12/20/00	5:29	53.5564	12/20/00	4:23	32.7986
12/20/00	9:15	55.823	12/20/00	10:48	20.105	12/20/00	11:01	33.251	12/20/00	11:11	41.0269	12/20/00	9:29	53.5039	12/20/00	8:23	32.7789
12/20/00	13:15	55.817	12/20/00	14:48	20.095	12/20/00	15:01	33.245	12/20/00	15:11	41.0072	12/20/00	13:29	53.5203	12/20/00	12:23	32.7953

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
12/20/00	17:15	55.827	12/20/00	18:48	20.112	12/20/00	19:01	33.271	12/20/00	19:11	41.04	12/20/00	17:29	53.5466	12/20/00	16:23	32.8018
12/20/00	21:15	55.889	12/20/00	22:48	20.131	12/20/00	23:01	33.310	12/20/00	23:11	41.086	12/20/00	21:29	53.6352	12/20/00	20:23	32.8445
12/21/00	1:15	55.988	12/21/00	2:48	20.151	12/21/00	3:01	33.353	12/21/00	3:11	41.1253	12/21/00	1:29	53.7303	12/21/00	0:23	32.897
12/21/00	5:15	56.060	12/21/00	6:48	20.164	12/21/00	7:01	33.379	12/21/00	7:11	41.1647	12/21/00	5:29	53.7927	12/21/00	4:23	32.9265
12/21/00	9:15	56.129	12/21/00	10:48	20.187	12/21/00	11:01	33.419	12/21/00	11:11	41.227	12/21/00	9:29	53.8648	12/21/00	8:23	32.9528
12/21/00	13:15	56.191	12/21/00	14:48	20.200	12/21/00	15:01	33.445	12/21/00	15:11	41.2598	12/21/00	13:29	53.9436	12/21/00	12:23	32.9888
12/21/00	17:15	56.224	12/21/00	18:48	20.217	12/21/00	19:01	33.468	12/21/00	19:11	41.2697	12/21/00	17:29	53.9337	12/21/00	16:23	32.9888
12/21/00	21:15	56.243	12/21/00	22:48	20.233	12/21/00	23:01	33.488	12/21/00	23:11	41.2992	12/21/00	21:29	53.9731	12/21/00	20:23	33.0053
12/22/00	1:15	56.253	12/22/00	2:48	20.243	12/22/00	3:01	33.501	12/22/00	3:11	41.3156	12/22/00	1:29	53.9731	12/22/00	0:23	33.0184
12/22/00	5:15	56.253	12/22/00	6:48	20.253	12/22/00	7:01	33.510	12/22/00	7:11	41.3222	12/22/00	5:29	53.9797	12/22/00	4:23	33.0184
12/22/00	9:15	56.250	12/22/00	10:48	20.266	12/22/00	11:01	33.520	12/22/00	11:11	41.3451	12/22/00	9:29	53.9731	12/22/00	8:23	33.0249
12/22/00	13:15	56.237	12/22/00	14:48	20.269	12/22/00	15:01	33.510	12/22/00	15:11	41.332	12/22/00	13:29	53.96	12/22/00	12:23	33.0249
12/22/00	17:15	56.178	12/22/00	18:48	20.266	12/22/00	19:01	33.494	12/22/00	19:11	41.2894	12/22/00	17:29	53.8911	12/22/00	16:23	32.9888
12/22/00	21:15	56.122	12/22/00	22:48	20.279	12/22/00	23:01	33.497	12/22/00	23:11	41.2762	12/22/00	21:29	53.8451	12/22/00	20:23	32.9823
12/23/00	1:15	56.089	12/23/00	2:48	20.279	12/23/00	3:01	33.488	12/23/00	3:11	41.2631	12/23/00	1:29	53.832	12/23/00	0:23	32.979
12/23/00	5:15	56.066	12/23/00	6:48	20.285	12/23/00	7:01	33.488	12/23/00	7:11	41.2664	12/23/00	5:29	53.7959	12/23/00	4:23	32.9724
12/23/00	9:15	56.076	12/23/00	10:48	20.302	12/23/00	11:01	33.510	12/23/00	11:11	41.2959	12/23/00	9:29	53.8287	12/23/00	8:23	32.9921
12/23/00	13:15	56.129	12/23/00	14:48	20.315	12/23/00	15:01	33.533	12/23/00	15:11	41.3123	12/23/00	13:29	53.8845	12/23/00	12:23	33.0315
12/23/00	17:15	56.175	12/23/00	18:48	20.331	12/23/00	19:01	33.566	12/23/00	19:11	41.3451	12/23/00	17:29	53.937	12/23/00	16:23	33.0512
12/23/00	21:15	56.240	12/23/00	22:48	20.351	12/23/00	23:01	33.599	12/23/00	23:11	41.3845	12/23/00	21:29	53.9961	12/23/00	20:23	33.084
12/24/00	1:15	56.286	12/24/00	2:48	20.364	12/24/00	3:01	33.629	12/24/00	3:11	41.414	12/24/00	1:29	54.0617	12/24/00	0:23	33.1102
12/24/00	5:15	56.319	12/24/00	6:48	20.377	12/24/00	7:01	33.648	12/24/00	7:11	41.4436	12/24/00	5:29	54.1011	12/24/00	4:23	33.1201
12/24/00	9:15	56.339	12/24/00	10:48	20.397	12/24/00	11:01	33.678	12/24/00	11:11	41.4961	12/24/00	9:29	54.1306	12/24/00	8:23	33.1398
12/24/00	13:15	56.365	12/24/00	14:48	20.410	12/24/00	15:01	33.691	12/24/00	15:11	41.5157	12/24/00	13:29	54.147	12/24/00	12:23	33.1562
12/24/00	17:15	56.368	12/24/00	18:48	20.417	12/24/00	19:01	33.698	12/24/00	19:11	41.5157	12/24/00	17:29	54.1306	12/24/00	16:23	33.1496
12/24/00	21:15	56.378	12/24/00	22:48	20.433	12/24/00	23:01	33.717	12/24/00	23:11	41.5289	12/24/00	21:29	54.1371	12/24/00	20:23	33.1562
12/25/00	1:15	56.388	12/25/00	2:48	20.443	12/25/00	3:01	33.727	12/25/00	3:11	41.5354	12/25/00	1:29	54.1535	12/25/00	0:23	33.166
12/25/00	5:15	56.388	12/25/00	6:48	20.449	12/25/00	7:01	33.734	12/25/00	7:11	41.542	12/25/00	5:29	54.1404	12/25/00	4:23	33.1693
12/25/00	9:15	56.388	12/25/00	10:48	20.459	12/25/00	11:01	33.743	12/25/00	11:11	41.5584	12/25/00	9:29	54.1404	12/25/00	8:23	33.1759
12/25/00	13:15	56.437	12/25/00	14:48	20.469	12/25/00	15:01	33.740	12/25/00	15:11	41.5551	12/25/00	13:29	54.1371	12/25/00	12:23	33.1824
12/25/00	17:15	56.437	12/25/00	18:48	20.476	12/25/00	19:01	33.740	12/25/00	19:11	41.542	12/25/00	17:29	54.0945	12/25/00	16:23	33.166
12/25/00	21:15	56.447	12/25/00	22:48	20.482	12/25/00	23:01	33.740	12/25/00	23:11	41.542	12/25/00	21:29	54.0879	12/25/00	20:23	33.1627
12/26/00	1:15	56.453	12/26/00	2:48	20.482	12/26/00	3:01	33.737	12/26/00	3:11	41.5256	12/26/00	1:29	54.0715	12/26/00	0:23	33.1693
12/26/00	5:15	56.463	12/26/00	6:48	20.482	12/26/00	7:01	33.730	12/26/00	7:11	41.5157	12/26/00	5:29	54.0453	12/26/00	4:23	33.1562
12/26/00	9:15	56.457	12/26/00	10:48	20.492	12/26/00	11:01	33.737	12/26/00	11:11	41.5125	12/26/00	9:29	54.042	12/26/00	8:23	33.1562
12/26/00	13:15	56.293	12/26/00	14:48	20.499	12/26/00	15:01	33.734	12/26/00	15:11	41.4993	12/26/00	13:29	54.019	12/26/00	12:23	33.166
12/26/00	17:15	56.273	12/26/00	18:48	20.505	12/26/00	19:01	33.730	12/26/00	19:11	41.4862	12/26/00	17:29	54.0125	12/26/00	16:23	33.1562
12/26/00	21:15	56.243	12/26/00	22:48	20.515	12/26/00	23:01	33.734	12/26/00	23:11	41.4731	12/26/00	21:29	54.0059	12/26/00	20:23	33.1562

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
12/27/00	1:15	56.240	12/27/00	2:48	20.518	12/27/00	3:01	33.730	12/27/00	3:11	41.4534	12/27/00	1:29	53.9764	12/27/00	0:23	33.1562
12/27/00	5:15	56.293	12/27/00	6:48	20.518	12/27/00	7:01	33.707	12/27/00	7:11	41.4272	12/27/00	5:29	53.9436	12/27/00	4:23	33.1463
12/27/00	9:15	56.302	12/27/00	10:48	20.522	12/27/00	11:01	33.694	12/27/00	11:11	41.4173	12/27/00	9:29	53.8911	12/27/00	8:23	33.1398
12/27/00	13:15	56.099	12/27/00	14:48	20.522	12/27/00	15:01	33.668	12/27/00	15:11	41.3812	12/27/00	13:29	53.8583	12/27/00	12:23	33.1266
12/27/00	17:15	56.033	12/27/00	18:48	20.518	12/27/00	19:01	33.642	12/27/00	19:11	41.3386	12/27/00	17:29	53.8189	12/27/00	16:23	33.1004
12/27/00	21:15	55.994	12/27/00	22:48	20.525	12/27/00	23:01	33.638	12/27/00	23:11	41.3189	12/27/00	21:29	53.7631	12/27/00	20:23	33.0971
12/28/00	1:15	55.974	12/28/00	2:48	20.525	12/28/00	3:01	33.635	12/28/00	3:11	41.2927	12/28/00	1:29	53.75	12/28/00	0:23	33.1037
12/28/00	5:15	55.958	12/28/00	6:48	20.525	12/28/00	7:01	33.625	12/28/00	7:11	41.2828	12/28/00	5:29	53.7303	12/28/00	4:23	33.1037
12/28/00	9:15	55.948	12/28/00	10:48	20.535	12/28/00	11:01	33.625	12/28/00	11:11	41.2894	12/28/00	9:29	53.7336	12/28/00	8:23	33.107
12/28/00	13:15	55.948	12/28/00	14:48	20.535	12/28/00	15:01	33.609	12/28/00	15:11	41.2631	12/28/00	13:29	53.7467	12/28/00	12:23	33.1168
12/28/00	17:15	55.915	12/28/00	18:48	20.541	12/28/00	19:01	33.609	12/28/00	19:11	41.2631	12/28/00	17:29	53.6877	12/28/00	16:23	33.1004
12/28/00	21:15	55.879	12/28/00	22:48	20.551	12/28/00	23:01	33.625	12/28/00	23:11	41.2762	12/28/00	21:29	53.7402	12/28/00	20:23	33.1299
12/29/00	1:15	55.840	12/29/00	2:48	20.561	12/29/00	3:01	33.638	12/29/00	3:11	41.2828	12/29/00	1:29	53.7697	12/29/00	0:23	33.1496
12/29/00	5:15	55.823	12/29/00	6:48	20.571	12/29/00	7:01	33.658	12/29/00	7:11	41.2959	12/29/00	5:29	53.8058	12/29/00	4:23	33.166
12/29/00	9:15	55.823	12/29/00	10:48	20.584	12/29/00	11:01	33.678	12/29/00	11:11	41.332	12/29/00	9:29	53.8353	12/29/00	8:23	33.1824
12/29/00	13:15	55.846	12/29/00	14:48	20.591	12/29/00	15:01	33.691	12/29/00	15:11	41.355	12/29/00	13:29	53.8911	12/29/00	12:23	33.2087
12/29/00	17:15	55.853	12/29/00	18:48	20.600	12/29/00	19:01	33.704	12/29/00	19:11	41.3583	12/29/00	17:29	53.9042	12/29/00	16:23	33.2087
12/29/00	21:15	55.863	12/29/00	22:48	20.610	12/29/00	23:01	33.717	12/29/00	23:11	41.3648	12/29/00	21:29	53.9075	12/29/00	20:23	33.2152
12/30/00	1:15	55.886	12/30/00	2:48	20.623	12/30/00	3:01	33.727	12/30/00	3:11	41.3714	12/30/00	1:29	53.9239	12/30/00	0:23	33.2251
12/30/00	5:15	55.876	12/30/00	6:48	20.633	12/30/00	7:01	33.737	12/30/00	7:11	41.3845	12/30/00	5:29	53.9272	12/30/00	4:23	33.2316
12/30/00	9:15	55.883	12/30/00	10:48	20.643	12/30/00	11:01	33.757	12/30/00	11:11	41.414	12/30/00	9:29	53.9501	12/30/00	8:23	33.2448
12/30/00	13:15	55.915	12/30/00	14:48	20.650	12/30/00	15:01	33.760	12/30/00	15:11	41.4239	12/30/00	13:29	53.9764	12/30/00	12:23	33.2612
12/30/00	17:15	55.906	12/30/00	18:48	20.659	12/30/00	19:01	33.773	12/30/00	19:11	41.4206	12/30/00	17:29	53.9534	12/30/00	16:23	33.2579
12/30/00	21:15	55.860	12/30/00	22:48	20.673	12/30/00	23:01	33.789	12/30/00	23:11	41.4272	12/30/00	21:29	53.9698	12/30/00	20:23	33.2677
12/31/00	1:15	55.853	12/31/00	2:48	20.682	12/31/00	3:01	33.799	12/31/00	3:11	41.4436	12/31/00	1:29	53.9961	12/31/00	0:23	33.2776
12/31/00	5:15	55.833	12/31/00	6:48	20.692	12/31/00	7:01	33.816	12/31/00	7:11	41.4403	12/31/00	5:29	54.0157	12/31/00	4:23	33.2874
12/31/00	9:15	55.820	12/31/00	10:48	20.705	12/31/00	11:01	33.825	12/31/00	11:11	41.4797	12/31/00	9:29	54.0354	12/31/00	8:23	33.294
12/31/00	13:15	55.873	12/31/00	14:48	20.712	12/31/00	15:01	33.825	12/31/00	15:11	41.4797	12/31/00	13:29	54.0354	12/31/00	12:23	33.3038
12/31/00	17:15	56.201	12/31/00	18:48	20.725	12/31/00	19:01	33.839	12/31/00	19:11	41.4797	12/31/00	17:29	54.0059	12/31/00	16:23	33.3005
12/31/00	21:15	56.201	12/31/00	22:48	20.732	12/31/00	23:01	33.848	12/31/00	23:11	41.4862	12/31/00	21:29	54.0256	12/31/00	20:23	33.3038
1/1/01	1:15	56.211	1/1/01	2:48	20.741	1/1/01	3:01	33.865	1/1/01	3:11	41.4961	1/1/01	1:29	54.0223	1/1/01	0:23	33.3202
1/1/01	5:15	56.227	1/1/01	6:48	20.751	1/1/01	7:01	33.871	1/1/01	7:11	41.5125	1/1/01	5:29	54.0486	1/1/01	4:23	33.3333
1/1/01	9:15	56.240	1/1/01	10:48	20.764	1/1/01	11:01	33.888	1/1/01	11:11	41.5453	1/1/01	9:29	54.0617	1/1/01	8:23	33.3399
1/1/01	13:15	56.263	1/1/01	14:48	20.774	1/1/01	15:01	33.901	1/1/01	15:11	41.565	1/1/01	13:29	54.0781	1/1/01	12:23	33.3563
1/1/01	17:15	56.273	1/1/01	18:48	20.791	1/1/01	19:01	33.917	1/1/01	19:11	41.5748	1/1/01	17:29	54.1076	1/1/01	16:23	33.3629
1/1/01	21:15	56.299	1/1/01	22:48	20.801	1/1/01	23:01	33.937	1/1/01	23:11	41.5846	1/1/01	21:29	54.1503	1/1/01	20:23	33.3793
1/2/01	1:15	56.329	1/2/01	2:48	20.814	1/2/01	3:01	33.960	1/2/01	3:11	41.6109	1/2/01	1:29	54.1634	1/2/01	0:23	33.3924
1/2/01	5:15	56.358	1/2/01	6:48	20.827	1/2/01	7:01	33.973	1/2/01	7:11	41.6273	1/2/01	5:29	54.1929	1/2/01	4:23	33.4055

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
1/2/01	9:15	56.371	1/2/01	10:48	20.840	1/2/01	11:01	33.993	1/2/01	11:11	41.6667	1/2/01	9:29	54.1995	1/2/01	8:23	33.4121
1/2/01	13:15	56.375	1/2/01	14:48	20.840	1/2/01	15:01	33.983	1/2/01	15:11	41.6667	1/2/01	13:29	54.2192	1/2/01	12:23	33.4252
1/2/01	17:15	56.332	1/2/01	18:48	20.843	1/2/01	19:01	33.976	1/2/01	19:11	41.647	1/2/01	17:29	54.1699	1/2/01	16:23	33.3924
1/2/01	21:15	56.293	1/2/01	22:48	20.850	1/2/01	23:01	33.960	1/2/01	23:11	41.6175	1/2/01	21:29	54.124	1/2/01	20:23	33.3891
1/3/01	1:15	56.237	1/3/01	2:48	20.850	1/3/01	3:01	33.934	1/3/01	3:11	41.5781	1/3/01	1:29	54.0486	1/3/01	0:23	33.3629
1/3/01	5:15	56.181	1/3/01	6:48	20.850	1/3/01	7:01	33.904	1/3/01	7:11	41.5223	1/3/01	5:29	53.9567	1/3/01	4:23	33.353
1/3/01	9:15	56.122	1/3/01	10:48	20.850	1/3/01	11:01	33.871	1/3/01	11:11	41.4895	1/3/01	9:29	53.9075	1/3/01	8:23	33.3333
1/3/01	13:15	56.099	1/3/01	14:48	20.843	1/3/01	15:01	33.825	1/3/01	15:11	41.4075	1/3/01	13:29	53.8386	1/3/01	12:23	33.3235
1/3/01	17:15	56.053	1/3/01	18:48	20.846	1/3/01	19:01	33.819	1/3/01	19:11	41.4042	1/3/01	17:29	53.7631	1/3/01	16:23	33.3038
1/3/01	21:15	55.965	1/3/01	22:48	20.853	1/3/01	23:01	33.832	1/3/01	23:11	41.4108	1/3/01	21:29	53.8025	1/3/01	20:23	33.3235
1/4/01	1:15	55.965	1/4/01	2:48	20.856	1/4/01	3:01	33.845	1/4/01	3:11	41.4075	1/4/01	1:29	53.8222	1/4/01	0:23	33.3399
1/4/01	5:15	55.988	1/4/01	6:48	20.860	1/4/01	7:01	33.835	1/4/01	7:11	41.3944	1/4/01	5:29	53.8222	1/4/01	4:23	33.3333
1/4/01	9:15	56.037	1/4/01	10:48	20.860	1/4/01	11:01	33.812	1/4/01	11:11	41.3845	1/4/01	9:29	53.7566	1/4/01	8:23	33.3268
1/4/01	13:15	55.951	1/4/01	14:48	20.853	1/4/01	15:01	33.750	1/4/01	15:11	41.2927	1/4/01	13:29	53.7041	1/4/01	12:23	33.3136
1/4/01	17:15	55.863	1/4/01	18:48	20.850	1/4/01	19:01	33.727	1/4/01	19:11	41.2697	1/4/01	17:29	53.5991	1/4/01	16:23	33.2743
1/4/01	21:15	55.850	1/4/01	22:48	20.856	1/4/01	23:01	33.740	1/4/01	23:11	41.273	1/4/01	21:29	53.6385	1/4/01	20:23	33.294
1/5/01	1:15	55.873	1/5/01	2:48	20.860	1/5/01	3:01	33.760	1/5/01	3:11	41.2927	1/5/01	1:29	53.6778	1/5/01	0:23	33.3202
1/5/01	5:15	55.902	1/5/01	6:48	20.866	1/5/01	7:01	33.776	1/5/01	7:11	41.3091	1/5/01	5:29	53.6877	1/5/01	4:23	33.3301
1/5/01	9:15	55.925	1/5/01	10:48	20.876	1/5/01	11:01	33.796	1/5/01	11:11	41.332	1/5/01	9:29	53.7369	1/5/01	8:23	33.3432
1/5/01	13:15	55.955	1/5/01	14:48	20.883	1/5/01	15:01	33.809	1/5/01	15:11	41.3353	1/5/01	13:29	53.7795	1/5/01	12:23	33.3596
1/5/01	17:15	55.955	1/5/01	18:48	20.889	1/5/01	19:01	33.809	1/5/01	19:11	41.3386	1/5/01	17:29	53.7828	1/5/01	16:23	33.3497
1/5/01	21:15	55.948	1/5/01	22:48	20.892	1/5/01	23:01	33.796	1/5/01	23:11	41.3287	1/5/01	21:29	53.7402	1/5/01	20:23	33.353
1/6/01	1:15	55.912	1/6/01	2:48	20.879	1/6/01	3:01	33.743	1/6/01	3:11	41.2631	1/6/01	1:29	53.7402	1/6/01	0:23	33.3301
1/6/01	5:15	55.837	1/6/01	6:48	20.873	1/6/01	7:01	33.701	1/6/01	7:11	41.2172	1/6/01	5:29	53.6352	1/6/01	4:23	33.2874
1/6/01	9:15	55.791	1/6/01	10:48	20.876	1/6/01	11:01	33.704	1/6/01	11:11	41.2172	1/6/01	9:29	53.5663	1/6/01	8:23	33.2776
1/6/01	13:15	55.787	1/6/01	14:48	20.869	1/6/01	15:01	33.707	1/6/01	15:11	41.2139	1/6/01	13:29	53.6188	1/6/01	12:23	33.2874
1/6/01	17:15	55.784	1/6/01	18:48	20.873	1/6/01	19:01	33.711	1/6/01	19:11	41.2172	1/6/01	17:29	53.5597	1/6/01	16:23	33.2776
1/6/01	21:15	55.801	1/6/01	22:48	20.876	1/6/01	23:01	33.730	1/6/01	23:11	41.2402	1/6/01	21:29	53.5958	1/6/01	20:23	33.2907
1/7/01	1:15	55.840	1/7/01	2:48	20.876	1/7/01	3:01	33.757	1/7/01	3:11	41.2631	1/7/01	1:29	53.6417	1/7/01	0:23	33.3005
1/7/01	5:15	55.883	1/7/01	6:48	20.879	1/7/01	7:01	33.780	1/7/01	7:11	41.2959	1/7/01	5:29	53.7205	1/7/01	4:23	33.3071
1/7/01	9:15	55.945	1/7/01	10:48	20.889	1/7/01	11:01	33.812	1/7/01	11:11	41.3386	1/7/01	9:29	53.7861	1/7/01	8:23	33.3235
1/7/01	13:15	56.004	1/7/01	14:48	20.892	1/7/01	15:01	33.835	1/7/01	15:11	41.3615	1/7/01	13:29	53.8517	1/7/01	12:23	33.3366
1/7/01	17:15	56.043	1/7/01	18:48	20.892	1/7/01	19:01	33.855	1/7/01	19:11	41.3911	1/7/01	17:29	53.8681	1/7/01	16:23	33.3301
1/7/01	21:15	56.073	1/7/01	22:48	20.896	1/7/01	23:01	33.881	1/7/01	23:11	41.4206	1/7/01	21:29	53.9042	1/7/01	20:23	33.3366
1/8/01	1:15	56.106	1/8/01	2:48	20.892	1/8/01	3:01	33.891	1/8/01	3:11	41.4304	1/8/01	1:29	53.9501	1/8/01	0:23	33.3333
1/8/01	5:15	56.106	1/8/01	6:48	20.886	1/8/01	7:01	33.898	1/8/01	7:11	41.4403	1/8/01	5:29	53.914	1/8/01	4:23	33.3169
1/8/01	9:15	56.122	1/8/01	10:48	20.886	1/8/01	11:01	33.914	1/8/01	11:11	41.4665	1/8/01	9:29	53.9534	1/8/01	8:23	33.3136
1/8/01	13:15	56.148	1/8/01	14:48	20.879	1/8/01	15:01	33.917	1/8/01	15:11	41.4731	1/8/01	13:29	53.9633	1/8/01	12:23	33.3202

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
1/8/01	17:15	56.142	1/8/01	18:48	20.876	1/8/01	19:01	33.924	1/8/01	19:11	41.4829	1/8/01	17:29	53.9436	1/8/01	16:23	33.2972
1/8/01	21:15	56.155	1/8/01	22:48	20.883	1/8/01	23:01	33.944	1/8/01	23:11	41.5125	1/8/01	21:29	53.9895	1/8/01	20:23	33.3038
1/9/01	1:15	56.191	1/9/01	2:48	20.879	1/9/01	3:01	33.960	1/9/01	3:11	41.542	1/9/01	1:29	54.0486	1/9/01	0:23	33.3169
1/9/01	5:15	56.230	1/9/01	6:48	20.873	1/9/01	7:01	33.970	1/9/01	7:11	41.5551	1/9/01	5:29	54.0814	1/9/01	4:23	33.3169
1/9/01	9:15	56.260	1/9/01	10:48	20.873	1/9/01	11:01	33.983	1/9/01	11:11	41.5912	1/9/01	9:29	54.1142	1/9/01	8:23	33.3136
1/9/01	13:15	56.280	1/9/01	14:48	20.866	1/9/01	15:01	33.986	1/9/01	15:11	41.5879	1/9/01	13:29	54.1404	1/9/01	12:23	33.3169
1/9/01	17:15	56.257	1/9/01	18:48	20.856	1/9/01	19:01	33.973	1/9/01	19:11	41.5781	1/9/01	17:29	54.0814	1/9/01	16:23	33.2841
1/9/01	21:15	56.230	1/9/01	22:48	20.853	1/9/01	23:01	33.973	1/9/01	23:11	41.5781	1/9/01	21:29	54.0387	1/9/01	20:23	33.2677
1/10/01	1:15	56.204	1/10/01	2:48	20.840	1/10/01	3:01	33.953	1/10/01	3:11	41.5617	1/10/01	1:29	54.0157	1/10/01	0:23	33.2579
1/10/01	5:15	56.168	1/10/01	6:48	20.827	1/10/01	7:01	33.924	1/10/01	7:11	41.5289	1/10/01	5:29	53.9534	1/10/01	4:23	33.2283
1/10/01	9:15	56.129	1/10/01	10:48	20.820	1/10/01	11:01	33.914	1/10/01	11:11	41.5223	1/10/01	9:29	53.9403	1/10/01	8:23	33.2087
1/10/01	13:15	56.115	1/10/01	14:48	20.807	1/10/01	15:01	33.888	1/10/01	15:11	41.4895	1/10/01	13:29	53.9337	1/10/01	12:23	33.2021
1/10/01	17:15	56.073	1/10/01	18:48	20.797	1/10/01	19:01	33.865	1/10/01	19:11	41.4633	1/10/01	17:29	53.8583	1/10/01	16:23	33.1726
1/10/01	21:15	56.066	1/10/01	22:48	20.791	1/10/01	23:01	33.865	1/10/01	23:11	41.4698	1/10/01	21:29	53.8812	1/10/01	20:23	33.1759
1/11/01	1:15	56.066	1/11/01	2:48	20.774	1/11/01	3:01	33.858	1/11/01	3:11	41.4534	1/11/01	1:29	53.9042	1/11/01	0:23	33.1693
1/11/01	5:15	56.070	1/11/01	6:48	20.755	1/11/01	7:01	33.855	1/11/01	7:11	41.4534	1/11/01	5:29	53.9075	1/11/01	4:23	33.1594
1/11/01	9:15	56.063	1/11/01	10:48	20.738	1/11/01	11:01	33.845	1/11/01	11:11	41.4567	1/11/01	9:29	53.9042	1/11/01	8:23	33.1201
1/11/01	13:15	56.063	1/11/01	14:48	20.722	1/11/01	15:01	33.835	1/11/01	15:11	41.4469	1/11/01	13:29	53.8845	1/11/01	12:23	33.1234
1/11/01	17:15	56.043	1/11/01	18:48	20.702	1/11/01	19:01	33.822	1/11/01	19:11	41.4403	1/11/01	17:29	53.8583	1/11/01	16:23	33.0545
1/11/01	21:15	56.056	1/11/01	22:48	20.682	1/11/01	23:01	33.822	1/11/01	23:11	41.4534	1/11/01	21:29	53.8681	1/11/01	20:23	33.0381
1/12/01	1:15	56.079	1/12/01	2:48	20.666	1/12/01	3:01	33.832	1/12/01	3:11	41.4665	1/12/01	1:29	53.8976	1/12/01	0:23	33.0184
1/12/01	5:15	56.115	1/12/01	6:48	20.643	1/12/01	7:01	33.832	1/12/01	7:11	41.4829	1/12/01	5:29	53.9469	1/12/01	4:23	33.002
1/12/01	9:15	56.152	1/12/01	10:48	20.627	1/12/01	11:01	33.839	1/12/01	11:11	41.4993	1/12/01	9:29	53.9862	1/12/01	8:23	32.9888
1/12/01	13:15	56.181	1/12/01	14:48	20.604	1/12/01	15:01	33.835	1/12/01	15:11	41.5092	1/12/01	13:29	54.0354	1/12/01	12:23	32.9757
1/12/01	17:15	56.227	1/12/01	18:48	20.577	1/12/01	19:01	33.822	1/12/01	19:11	41.4961	1/12/01	17:29	53.9731	1/12/01	16:23	32.9364
1/12/01	21:15	56.198	1/12/01	22:48	20.554	1/12/01	23:01	33.812	1/12/01	23:11	41.4895	1/12/01	21:29	53.9698	1/12/01	20:23	32.9068
1/13/01	1:15	56.211	1/13/01	2:48	20.535	1/13/01	3:01	33.796	1/13/01	3:11	41.4829	1/13/01	1:29	53.9403	1/13/01	0:23	32.8806
1/13/01	5:15	56.240	1/13/01	6:48	20.509	1/13/01	7:01	33.770	1/13/01	7:11	41.4534	1/13/01	5:29	53.9272	1/13/01	4:23	32.8543
1/13/01	9:15	56.289	1/13/01	10:48	20.479	1/13/01	11:01	33.734	1/13/01	11:11	41.4075	1/13/01	9:29	53.8451	1/13/01	8:23	32.8051
1/13/01	13:15	56.342	1/13/01	14:48	20.436	1/13/01	15:01	33.658	1/13/01	15:11	41.3091	1/13/01	13:29	53.7927	1/13/01	12:23	32.769
1/13/01	17:15	56.352	1/13/01	18:48	20.400	1/13/01	19:01	33.602	1/13/01	19:11	41.2631	1/13/01	17:29	53.7927	1/13/01	16:23	32.7395
1/13/01	21:15	56.322	1/13/01	22:48	20.367	1/13/01	23:01	33.573	1/13/01	23:11	41.2467	1/13/01	21:29	53.8255	1/13/01	20:23	32.6837
1/14/01	1:15	56.342	1/14/01	2:48	20.335	1/14/01	3:01	33.553	1/14/01	3:11	41.2336	1/14/01	1:29	53.8353	1/14/01	0:23	32.6345
1/14/01	5:15	56.280	1/14/01	6:48	20.302	1/14/01	7:01	33.547	1/14/01	7:11	41.2402	1/14/01	5:29	53.8484	1/14/01	4:23	32.5755
1/14/01	9:15	56.178	1/14/01	10:48	20.269	1/14/01	11:01	33.553	1/14/01	11:11	41.2762	1/14/01	9:29	53.7369	1/14/01	8:23	32.5
1/14/01	13:15	56.161	1/14/01	14:48	20.236	1/14/01	15:01	33.553	1/14/01	15:11	41.2959	1/14/01	13:29	53.7861	1/14/01	12:23	32.5394
1/14/01	17:15	56.129	1/14/01	18:48	20.207	1/14/01	19:01	33.563	1/14/01	19:11	41.3353	1/14/01	17:29	53.8222	1/14/01	16:23	32.5066
1/14/01	21:15	56.119	1/14/01	22:48	20.174	1/14/01	23:01	33.573	1/14/01	23:11	41.3583	1/14/01	21:29	53.9075	1/14/01	20:23	32.4902

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
1/15/01	1:15	56.102	1/15/01	2:48	20.144	1/15/01	3:01	33.570	1/15/01	3:11	41.3845	1/15/01	1:29	53.9403	1/15/01	0:23	32.4606
1/15/01	5:15	56.083	1/15/01	6:48	20.112	1/15/01	7:01	33.566	1/15/01	7:11	41.4042	1/15/01	5:29	53.9501	1/15/01	4:23	32.4377
1/15/01	9:15	56.089	1/15/01	10:48	20.089	1/15/01	11:01	33.570	1/15/01	11:11	41.4239	1/15/01	9:29	53.9829	1/15/01	8:23	32.4114
1/15/01	13:15	56.243	1/15/01	14:48	20.066	1/15/01	15:01	33.563	1/15/01	15:11	41.4272	1/15/01	13:29	54.0256	1/15/01	12:23	32.395
1/15/01	17:15	56.253	1/15/01	18:48	20.039	1/15/01	19:01	33.556	1/15/01	19:11	41.4469	1/15/01	17:29	54.042	1/15/01	16:23	32.3622
1/15/01	21:15	56.243	1/15/01	22:48	20.016	1/15/01	23:01	33.556	1/15/01	23:11	41.4633	1/15/01	21:29	54.0518	1/15/01	20:23	32.3491
1/16/01	1:15	56.211	1/16/01	2:48	19.993	1/16/01	3:01	33.553	1/16/01	3:11	41.4731	1/16/01	1:29	54.0781	1/16/01	0:23	32.3327
1/16/01	5:15	56.191	1/16/01	6:48	19.974	1/16/01	7:01	33.550	1/16/01	7:11	41.4862	1/16/01	5:29	54.1109	1/16/01	4:23	32.3163
1/16/01	9:15	56.168	1/16/01	10:48	19.957	1/16/01	11:01	33.547	1/16/01	11:11	41.4993	1/16/01	9:29	54.1142	1/16/01	8:23	32.29
1/16/01	13:15	56.188	1/16/01	14:48	19.938	1/16/01	15:01	33.533	1/16/01	15:11	41.4862	1/16/01	13:29	54.124	1/16/01	12:23	32.2769
1/16/01	17:15	56.194	1/16/01	18:48	19.918	1/16/01	19:01	33.524	1/16/01	19:11	41.4928	1/16/01	17:29	54.1109	1/16/01	16:23	32.2572
1/16/01	21:15	56.188	1/16/01	22:48	19.908	1/16/01	23:01	33.517	1/16/01	23:11	41.5026	1/16/01	21:29	54.1207	1/16/01	20:23	32.2408
1/17/01	1:15	56.158	1/17/01	2:48	19.885	1/17/01	3:01	33.507	1/17/01	3:11	41.4993	1/17/01	1:29	54.1175	1/17/01	0:23	32.231
1/17/01	5:15	56.152	1/17/01	6:48	19.872	1/17/01	7:01	33.497	1/17/01	7:11	41.4961	1/17/01	5:29	54.1076	1/17/01	4:23	32.2113
1/17/01	9:15	56.165	1/17/01	10:48	19.859	1/17/01	11:01	33.488	1/17/01	11:11	41.4895	1/17/01	9:29	54.1142	1/17/01	8:23	32.2014
1/17/01	13:15	56.280	1/17/01	14:48	19.833	1/17/01	15:01	33.458	1/17/01	15:11	41.46	1/17/01	13:29	54.0879	1/17/01	12:23	32.185
1/17/01	17:15	56.306	1/17/01	18:48	19.816	1/17/01	19:01	33.425	1/17/01	19:11	41.4304	1/17/01	17:29	54.0322	1/17/01	16:23	32.1358
1/17/01	21:15	56.260	1/17/01	22:48	19.793	1/17/01	23:01	33.402	1/17/01	23:11	41.4042	1/17/01	21:29	53.9731	1/17/01	20:23	32.1129
1/18/01	1:15	56.247	1/18/01	2:48	19.770	1/18/01	3:01	33.369	1/18/01	3:11	41.3648	1/18/01	1:29	53.9469	1/18/01	0:23	32.0833
1/18/01	5:15	56.273	1/18/01	6:48	19.751	1/18/01	7:01	33.337	1/18/01	7:11	41.3287	1/18/01	5:29	53.9009	1/18/01	4:23	32.0571
1/18/01	9:15	56.237	1/18/01	10:48	19.734	1/18/01	11:01	33.317	1/18/01	11:11	41.3156	1/18/01	9:29	53.8976	1/18/01	8:23	32.0341
1/18/01	13:15	56.312	1/18/01	14:48	19.718	1/18/01	15:01	33.297	1/18/01	15:11	41.2894	1/18/01	13:29	53.9108	1/18/01	12:23	32.0374
1/18/01	17:15	56.283	1/18/01	18:48	19.708	1/18/01	19:01	33.291	1/18/01	19:11	41.2828	1/18/01	17:29	53.8911	1/18/01	16:23	32.021
1/18/01	21:15	56.217	1/18/01	22:48	19.698	1/18/01	23:01	33.287	1/18/01	23:11	41.2894	1/18/01	21:29	53.8845	1/18/01	20:23	32.0276
1/19/01	1:15	56.198	1/19/01	2:48	19.692	1/19/01	3:01	33.287	1/19/01	3:11	41.2959	1/19/01	1:29	53.9272	1/19/01	0:23	32.0374
1/19/01	5:15	56.056	1/19/01	6:48	19.692	1/19/01	7:01	33.307	1/19/01	7:11	41.3255	1/19/01	5:29	53.9731	1/19/01	4:23	32.0538
1/19/01	9:15	55.991	1/19/01	10:48	19.695	1/19/01	11:01	33.330	1/19/01	11:11	41.3583	1/19/01	9:29	54.0551	1/19/01	8:23	32.0833
1/19/01	13:15	56.060	1/19/01	14:48	19.692	1/19/01	15:01	33.323	1/19/01	15:11	41.3517	1/19/01	13:29	54.0486	1/19/01	12:23	32.1096
1/19/01	17:15	56.050	1/19/01	18:48	19.692	1/19/01	19:01	33.333	1/19/01	19:11	41.3648	1/19/01	17:29	54.042	1/19/01	16:23	32.0965
1/19/01	21:15	56.033	1/19/01	22:48	19.695	1/19/01	23:01	33.340	1/19/01	23:11	41.3714	1/19/01	21:29	54.0748	1/19/01	20:23	32.1161
1/20/01	1:15	56.047	1/20/01	2:48	19.682	1/20/01	3:01	33.327	1/20/01	3:11	41.3583	1/20/01	1:29	54.0978	1/20/01	0:23	32.1129
1/20/01	5:15	56.086	1/20/01	6:48	19.675	1/20/01	7:01	33.314	1/20/01	7:11	41.3419	1/20/01	5:29	54.0486	1/20/01	4:23	32.1096
1/20/01	9:15	56.083	1/20/01	10:48	19.672	1/20/01	11:01	33.304	1/20/01	11:11	41.3451	1/20/01	9:29	54.0387	1/20/01	8:23	32.103
1/20/01	13:15	56.220	1/20/01	14:48	19.662	1/20/01	15:01	33.278	1/20/01	15:11	41.3123	1/20/01	13:29	54.0125	1/20/01	12:23	32.1096
1/20/01	17:15	56.211	1/20/01	18:48	19.659	1/20/01	19:01	33.271	1/20/01	19:11	41.2927	1/20/01	17:29	53.9797	1/20/01	16:23	32.0801
1/20/01	21:15	56.158	1/20/01	22:48	19.656	1/20/01	23:01	33.264	1/20/01	23:11	41.2861	1/20/01	21:29	53.9731	1/20/01	20:23	32.0735
1/21/01	1:15	56.152	1/21/01	2:48	19.646	1/21/01	3:01	33.255	1/21/01	3:11	41.273	1/21/01	1:29	53.9731	1/21/01	0:23	32.0833
1/21/01	5:15	56.145	1/21/01	6:48	19.649	1/21/01	7:01	33.261	1/21/01	7:11	41.2795	1/21/01	5:29	53.9961	1/21/01	4:23	32.0866

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
1/21/01	9:15	56.076	1/21/01	10:48	19.659	1/21/01	11:01	33.281	1/21/01	11:11	41.3222	1/21/01	9:29	54.0223	1/21/01	8:23	32.1129
1/21/01	13:15	56.178	1/21/01	14:48	19.659	1/21/01	15:01	33.284	1/21/01	15:11	41.3222	1/21/01	13:29	54.0715	1/21/01	12:23	32.149
1/21/01	17:15	56.181	1/21/01	18:48	19.659	1/21/01	19:01	33.287	1/21/01	19:11	41.3222	1/21/01	17:29	54.0617	1/21/01	16:23	32.1391
1/21/01	21:15	56.152	1/21/01	22:48	19.659	1/21/01	23:01	33.294	1/21/01	23:11	41.3287	1/21/01	21:29	54.0682	1/21/01	20:23	32.149
1/22/01	1:15	56.142	1/22/01	2:48	19.659	1/22/01	3:01	33.291	1/22/01	3:11	41.3222	1/22/01	1:29	54.065	1/22/01	0:23	32.1588
1/22/01	5:15	56.135	1/22/01	6:48	19.652	1/22/01	7:01	33.278	1/22/01	7:11	41.2959	1/22/01	5:29	54.0551	1/22/01	4:23	32.149
1/22/01	9:15	56.142	1/22/01	10:48	19.656	1/22/01	11:01	33.271	1/22/01	11:11	41.3091	1/22/01	9:29	54.065	1/22/01	8:23	32.149
1/22/01	13:15	56.299	1/22/01	14:48	19.649	1/22/01	15:01	33.251	1/22/01	15:11	41.2697	1/22/01	13:29	54.042	1/22/01	12:23	32.149
1/22/01	17:15	56.335	1/22/01	18:48	19.642	1/22/01	19:01	33.228	1/22/01	19:11	41.2434	1/22/01	17:29	53.9895	1/22/01	16:23	32.1227
1/22/01	21:15	56.217	1/22/01	22:48	19.646	1/22/01	23:01	33.232	1/22/01	23:11	41.2467	1/22/01	21:29	53.9829	1/22/01	20:23	32.1227
1/23/01	1:15	56.198	1/23/01	2:48	19.646	1/23/01	3:01	33.225	1/23/01	3:11	41.2434	1/23/01	1:29	53.9829	1/23/01	0:23	32.1293
1/23/01	5:15	56.171	1/23/01	6:48	19.646	1/23/01	7:01	33.228	1/23/01	7:11	41.2369	1/23/01	5:29	53.9993	1/23/01	4:23	32.1391
1/23/01	9:15	56.181	1/23/01	10:48	19.649	1/23/01	11:01	33.232	1/23/01	11:11	41.2533	1/23/01	9:29	54.0157	1/23/01	8:23	32.1457
1/23/01	13:15	56.332	1/23/01	14:48	19.646	1/23/01	15:01	33.219	1/23/01	15:11	41.2303	1/23/01	13:29	54.0125	1/23/01	12:23	32.1555
1/23/01	17:15	56.329	1/23/01	18:48	19.646	1/23/01	19:01	33.212	1/23/01	19:11	41.2205	1/23/01	17:29	53.9829	1/23/01	16:23	32.1358
1/23/01	21:15	56.237	1/23/01	22:48	19.646	1/23/01	23:01	33.215	1/23/01	23:11	41.2205	1/23/01	21:29	53.9961	1/23/01	20:23	32.1424
1/24/01	1:15	56.230	1/24/01	2:48	19.649	1/24/01	3:01	33.215	1/24/01	3:11	41.2205	1/24/01	1:29	53.9829	1/24/01	0:23	32.1457
1/24/01	5:15	56.188	1/24/01	6:48	19.649	1/24/01	7:01	33.215	1/24/01	7:11	41.227	1/24/01	5:29	53.9961	1/24/01	4:23	32.1522
1/24/01	9:15	56.106	1/24/01	10:48	19.659	1/24/01	11:01	33.241	1/24/01	11:11	41.2566	1/24/01	9:29	54.0289	1/24/01	8:23	32.1719
1/24/01	13:15	56.342	1/24/01	14:48	19.669	1/24/01	15:01	33.255	1/24/01	15:11	41.2762	1/24/01	13:29	54.0879	1/24/01	12:23	32.2047
1/24/01	17:15	56.365	1/24/01	18:48	19.678	1/24/01	19:01	33.271	1/24/01	19:11	41.2959	1/24/01	17:29	54.1076	1/24/01	16:23	32.2146
1/24/01	21:15	56.394	1/24/01	22:48	19.692	1/24/01	23:01	33.297	1/24/01	23:11	41.3222	1/24/01	21:29	54.1207	1/24/01	20:23	32.231
1/25/01	1:15	56.421	1/25/01	2:48	19.698	1/25/01	3:01	33.301	1/25/01	3:11	41.3287	1/25/01	1:29	54.1503	1/25/01	0:23	32.2507
1/25/01	5:15	56.424	1/25/01	6:48	19.698	1/25/01	7:01	33.297	1/25/01	7:11	41.3123	1/25/01	5:29	54.1503	1/25/01	4:23	32.2507
1/25/01	9:15	56.404	1/25/01	10:48	19.698	1/25/01	11:01	33.287	1/25/01	11:11	41.3091	1/25/01	9:29	54.1207	1/25/01	8:23	32.2343
1/25/01	13:15	56.362	1/25/01	14:48	19.692	1/25/01	15:01	33.251	1/25/01	15:11	41.2533	1/25/01	13:29	54.0748	1/25/01	12:23	32.2244
1/25/01	17:15	56.260	1/25/01	18:48	19.675	1/25/01	19:01	33.209	1/25/01	19:11	41.1844	1/25/01	17:29	53.9403	1/25/01	16:23	32.1621
1/25/01	21:15	56.158	1/25/01	22:48	19.662	1/25/01	23:01	33.159	1/25/01	23:11	41.122	1/25/01	21:29	53.8451	1/25/01	20:23	32.1194
1/26/01	1:15	56.060	1/26/01	2:48	19.636	1/26/01	3:01	33.104	1/26/01	3:11	41.0302	1/26/01	1:29	53.7467	1/26/01	0:23	32.0735
1/26/01	5:15	55.932	1/26/01	6:48	19.616	1/26/01	7:01	33.051	1/26/01	7:11	40.958	1/26/01	5:29	53.6089	1/26/01	4:23	32.021
1/26/01	9:15	55.869	1/26/01	10:48	19.623	1/26/01	11:01	33.061	1/26/01	11:11	40.981	1/26/01	9:29	53.5991	1/26/01	8:23	32.0112
1/26/01	13:15	55.951	1/26/01	14:48	19.633	1/26/01	15:01	33.097	1/26/01	15:11	41.0302	1/26/01	13:29	53.7598	1/26/01	12:23	32.0899
1/26/01	17:15	56.037	1/26/01	18:48	19.649	1/26/01	19:01	33.140	1/26/01	19:11	41.0827	1/26/01	17:29	53.8616	1/26/01	16:23	32.1358
1/26/01	21:15	56.148	1/26/01	22:48	19.665	1/26/01	23:01	33.186	1/26/01	23:11	41.145	1/26/01	21:29	53.9469	1/26/01	20:23	32.1883
1/27/01	1:15	56.240	1/27/01	2:48	19.682	1/27/01	3:01	33.215	1/27/01	3:11	41.1778	1/27/01	1:29	54.019	1/27/01	0:23	32.231
1/27/01	5:15	56.309	1/27/01	6:48	19.692	1/27/01	7:01	33.232	1/27/01	7:11	41.2008	1/27/01	5:29	54.065	1/27/01	4:23	32.2539
1/27/01	9:15	56.352	1/27/01	10:48	19.701	1/27/01	11:01	33.251	1/27/01	11:11	41.2303	1/27/01	9:29	54.0912	1/27/01	8:23	32.2769
1/27/01	13:15	56.381	1/27/01	14:48	19.708	1/27/01	15:01	33.245	1/27/01	15:11	41.2205	1/27/01	13:29	54.0879	1/27/01	12:23	32.2966

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
1/27/01	17:15	56.342	1/27/01	18:48	19.708	1/27/01	19:01	33.235	1/27/01	19:11	41.2008	1/27/01	17:29	54.0354	1/27/01	16:23	32.2638
1/27/01	21:15	56.322	1/27/01	22:48	19.718	1/27/01	23:01	33.241	1/27/01	23:11	41.1975	1/27/01	21:29	54.0256	1/27/01	20:23	32.2638
1/28/01	1:15	56.309	1/28/01	2:48	19.721	1/28/01	3:01	33.235	1/28/01	3:11	41.1909	1/28/01	1:29	54.0223	1/28/01	0:23	32.2671
1/28/01	5:15	56.283	1/28/01	6:48	19.715	1/28/01	7:01	33.215	1/28/01	7:11	41.1581	1/28/01	5:29	53.9829	1/28/01	4:23	32.2638
1/28/01	9:15	56.247	1/28/01	10:48	19.698	1/28/01	11:01	33.189	1/28/01	11:11	41.1286	1/28/01	9:29	53.9633	1/28/01	8:23	32.2408
1/28/01	13:15	56.289	1/28/01	14:48	19.669	1/28/01	15:01	33.150	1/28/01	15:11	41.0728	1/28/01	13:29	54.0256	1/28/01	12:23	32.2244
1/28/01	17:15	56.309	1/28/01	18:48	19.662	1/28/01	19:01	33.127	1/28/01	19:11	41.04	1/28/01	17:29	54.0551	1/28/01	16:23	32.1818
1/28/01	21:15	56.332	1/28/01	22:48	19.649	1/28/01	23:01	33.100	1/28/01	23:11	41.0072	1/28/01	21:29	54.0715	1/28/01	20:23	32.1457
1/29/01	1:15	56.358	1/29/01	2:48	19.623	1/29/01	3:01	33.064	1/29/01	3:11	40.9514	1/29/01	1:29	53.8681	1/29/01	0:23	32.1129
1/29/01	5:15	56.430	1/29/01	6:48	19.580	1/29/01	7:01	33.005	1/29/01	7:11	41.0532	1/29/01	5:29	53.8976	1/29/01	4:23	32.0571
1/29/01	9:15	55.968	1/29/01	10:48	19.534	1/29/01	11:01	32.946	1/29/01	11:11	41.0269	1/29/01	9:29	53.9304	1/29/01	8:23	31.9915
1/29/01	13:15	55.833	1/29/01	14:48	19.482	1/29/01	15:01	32.877	1/29/01	15:11	40.5315	1/29/01	13:29	53.914	1/29/01	12:23	31.8996
1/29/01	17:15	55.768	1/29/01	18:48	19.436	1/29/01	19:01	32.835	1/29/01	19:11	40.6463	1/29/01	17:29	53.7861	1/29/01	16:23	31.7979
1/29/01	21:15	55.761	1/29/01	22:48	19.383	1/29/01	23:01	32.795	1/29/01	23:11	40.2723	1/29/01	21:29	53.7598	1/29/01	20:23	31.7323
1/30/01	1:15	55.771	1/30/01	2:48	19.324	1/30/01	3:01	32.749	1/30/01	3:11	40.4987	1/30/01	1:29	53.5958	1/30/01	0:23	31.6601
1/30/01	5:15	55.771	1/30/01	6:48	19.268	1/30/01	7:01	32.713	1/30/01	7:11	40.5282	1/30/01	5:29	53.1234	1/30/01	4:23	31.5682
1/30/01	9:15	55.679	1/30/01	10:48	19.229	1/30/01	11:01	32.707	1/30/01	11:11	40.5446	1/30/01	9:29	53.1824	1/30/01	8:23	31.542
1/30/01	13:15	55.636	1/30/01	14:48	19.196	1/30/01	15:01	32.723	1/30/01	15:11	40.5807	1/30/01	13:29	53.2218	1/30/01	12:23	31.542
1/30/01	17:15	55.591	1/30/01	18:48	19.173	1/30/01	19:01	32.749	1/30/01	19:11	40.6496	1/30/01	17:29	53.2054	1/30/01	16:23	31.5453
1/30/01	21:15	55.522	1/30/01	22:48	19.150	1/30/01	23:01	32.779	1/30/01	23:11	40.7054	1/30/01	21:29	53.1923	1/30/01	20:23	31.5814
1/31/01	1:15	55.509	1/31/01	2:48	19.134	1/31/01	3:01	32.812	1/31/01	3:11	40.7743	1/31/01	1:29	53.6286	1/31/01	0:23	31.5945
1/31/01	5:15	55.505	1/31/01	6:48	19.124	1/31/01	7:01	32.841	1/31/01	7:11	40.8366	1/31/01	5:29	53.7139	1/31/01	4:23	31.6076
1/31/01	9:15	55.492	1/31/01	10:48	19.108	1/31/01	11:01	32.867	1/31/01	11:11	40.8825	1/31/01	9:29	53.8025	1/31/01	8:23	31.624
1/31/01	13:15	56.119	1/31/01	14:48	19.091	1/31/01	15:01	32.877	1/31/01	15:11	40.9121	1/31/01	13:29	53.8681	1/31/01	12:23	31.6339
1/31/01	17:15	56.165	1/31/01	18:48	19.081	1/31/01	19:01	32.877	1/31/01	19:11	40.9318	1/31/01	17:29	53.8681	1/31/01	16:23	31.6306
1/31/01	21:15	56.207	1/31/01	22:48	19.065	1/31/01	23:01	32.887	1/31/01	23:11	40.9514	1/31/01	21:29	53.9272	1/31/01	20:23	31.6076
2/1/01	1:15	56.257	2/1/01	2:48	19.049	2/1/01	3:01	32.894	2/1/01	3:11	40.9777	2/1/01	1:29	53.9206	2/1/01	0:23	31.6043
2/1/01	5:15	56.283	2/1/01	6:48	19.032	2/1/01	7:01	32.887	2/1/01	7:11	40.9908	2/1/01	5:29	53.937	2/1/01	4:23	31.5912
2/1/01	9:15	56.309	2/1/01	10:48	19.022	2/1/01	11:01	32.897	2/1/01	11:11	41.0269	2/1/01	9:29	53.9567	2/1/01	8:23	31.5748
2/1/01	13:15	56.362	2/1/01	14:48	19.012	2/1/01	15:01	32.930	2/1/01	15:11	41.0696	2/1/01	13:29	54.019	2/1/01	12:23	31.5879
2/1/01	17:15	56.417	2/1/01	18:48	19.012	2/1/01	19:01	32.959	2/1/01	19:11	41.1155	2/1/01	17:29	54.1043	2/1/01	16:23	31.6043
2/1/01	21:15	56.473	2/1/01	22:48	19.006	2/1/01	23:01	32.979	2/1/01	23:11	41.1581	2/1/01	21:29	54.1535	2/1/01	20:23	31.624
2/2/01	1:15	56.503	2/2/01	2:48	18.999	2/2/01	3:01	32.982	2/2/01	3:11	41.1713	2/2/01	1:29	54.1634	2/2/01	0:23	31.624
2/2/01	5:15	56.509	2/2/01	6:48	18.990	2/2/01	7:01	32.976	2/2/01	7:11	41.1713	2/2/01	5:29	54.1437	2/2/01	4:23	31.6076
2/2/01	9:15	56.512	2/2/01	10:48	18.973	2/2/01	11:01	32.949	2/2/01	11:11	41.1745	2/2/01	9:29	54.1306	2/2/01	8:23	31.5912
2/2/01	13:15	56.483	2/2/01	14:48	18.957	2/2/01	15:01	32.917	2/2/01	15:11	41.1286	2/2/01	13:29	54.0814	2/2/01	12:23	31.5748
2/2/01	17:15	56.394	2/2/01	18:48	18.940	2/2/01	19:01	32.877	2/2/01	19:11	41.0761	2/2/01	17:29	53.9501	2/2/01	16:23	31.5092
2/2/01	21:15	56.335	2/2/01	22:48	18.983	2/2/01	23:01	32.844	2/2/01	23:11	41.0335	2/2/01	21:29	53.9009	2/2/01	20:23	31.4665

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
2/3/01	1:15	56.280	2/3/01	2:48	18.842	2/3/01	3:01	32.808	2/3/01	3:11	40.9908	2/3/01	1:29	53.8451	2/3/01	0:23	31.4337
2/3/01	5:15	56.234	2/3/01	6:48	18.881	2/3/01	7:01	32.772	2/3/01	7:11	40.958	2/3/01	5:29	53.8025	2/3/01	4:23	31.4108
2/3/01	9:15	56.198	2/3/01	10:48	18.868	2/3/01	11:01	32.753	2/3/01	11:11	40.9318	2/3/01	9:29	53.773	2/3/01	8:23	31.3944
2/3/01	13:15	56.171	2/3/01	14:48	18.852	2/3/01	15:01	32.730	2/3/01	15:11	40.9022	2/3/01	13:29	53.7631	2/3/01	12:23	31.3812
2/3/01	17:15	56.155	2/3/01	18:48	18.842	2/3/01	19:01	32.723	2/3/01	19:11	41.0925	2/3/01	17:29	53.7402	2/3/01	16:23	31.3714
2/3/01	21:15	56.178	2/3/01	22:48	18.832	2/3/01	23:01	32.720	2/3/01	23:11	40.8924	2/3/01	21:29	53.7369	2/3/01	20:23	31.3812
2/4/01	1:15	56.198	2/4/01	2:48	18.816	2/4/01	3:01	32.707	2/4/01	3:11	40.8858	2/4/01	1:29	53.7861	2/4/01	0:23	31.3714
2/4/01	5:15	56.201	2/4/01	6:48	18.799	2/4/01	7:01	32.697	2/4/01	7:11	40.8825	2/4/01	5:29	53.7894	2/4/01	4:23	31.355
2/4/01	9:15	56.214	2/4/01	10:48	18.789	2/4/01	11:01	32.703	2/4/01	11:11	40.899	2/4/01	9:29	53.8255	2/4/01	8:23	31.3517
2/4/01	13:15	56.266	2/4/01	14:48	18.783	2/4/01	15:01	32.720	2/4/01	15:11	40.9219	2/4/01	13:29	53.8419	2/4/01	12:23	31.378
2/4/01	17:15	56.306	2/4/01	18:48	18.783	2/4/01	19:01	32.723	2/4/01	19:11	40.9285	2/4/01	17:29	53.8616	2/4/01	16:23	31.3812
2/4/01	21:15	56.339	2/4/01	22:48	18.773	2/4/01	23:01	32.736	2/4/01	23:11	40.9449	2/4/01	21:29	53.9272	2/4/01	20:23	31.3911
2/5/01	1:15	56.348	2/5/01	2:48	18.757	2/5/01	3:01	32.717	2/5/01	3:11	40.9285	2/5/01	1:29	53.9042	2/5/01	0:23	31.3812
2/5/01	5:15	56.319	2/5/01	6:48	18.740	2/5/01	7:01	32.687	2/5/01	7:11	40.9022	2/5/01	5:29	53.8517	2/5/01	4:23	31.3484
2/5/01	9:15	56.270	2/5/01	10:48	18.724	2/5/01	11:01	32.657	2/5/01	11:11	40.8694	2/5/01	9:29	53.8025	2/5/01	8:23	31.3189
2/5/01	13:15	56.201	2/5/01	14:48	18.701	2/5/01	15:01	32.615	2/5/01	15:11	40.8071	2/5/01	13:29	53.7631	2/5/01	12:23	31.2894
2/5/01	17:15	56.115	2/5/01	18:48	18.681	2/5/01	19:01	32.572	2/5/01	19:11	40.7513	2/5/01	17:29	53.6417	2/5/01	16:23	31.2336
2/5/01	21:15	56.066	2/5/01	22:48	18.661	2/5/01	23:01	32.566	2/5/01	23:11	40.7448	2/5/01	21:29	53.668	2/5/01	20:23	31.2205
2/6/01	1:15	56.083	2/6/01	2:48	18.652	2/6/01	3:01	32.562	2/6/01	3:11	40.7513	2/6/01	1:29	53.6975	2/6/01	0:23	31.227
2/6/01	5:15	56.115	2/6/01	6:48	18.638	2/6/01	7:01	32.569	2/6/01	7:11	40.771	2/6/01	5:29	53.7106	2/6/01	4:23	31.2336
2/6/01	9:15	56.181	2/6/01	10:48	18.632	2/6/01	11:01	32.595	2/6/01	11:11	40.8136	2/6/01	9:29	53.7959	2/6/01	8:23	31.2533
2/6/01	13:15	56.250	2/6/01	14:48	18.622	2/6/01	15:01	32.605	2/6/01	15:11	40.8366	2/6/01	13:29	53.8517	2/6/01	12:23	31.273
2/6/01	17:15	56.280	2/6/01	18:48	18.615	2/6/01	19:01	32.602	2/6/01	19:11	40.8399	2/6/01	17:29	53.8386	2/6/01	16:23	31.2631
2/6/01	21:15	56.299	2/6/01	22:48	18.606	2/6/01	23:01	32.598	2/6/01	23:11	40.853	2/6/01	21:29	53.8451	2/6/01	20:23	31.2631
2/7/01	1:15	56.299	2/7/01	2:48	18.589	2/7/01	3:01	32.585	2/7/01	3:11	40.8399	2/7/01	1:29	53.8484	2/7/01	0:23	31.2533
2/7/01	5:15	56.266	2/7/01	6:48	18.563	2/7/01	7:01	32.549	2/7/01	7:11	40.794	2/7/01	5:29	53.7598	2/7/01	4:23	31.2172
2/7/01	9:15	56.220	2/7/01	10:48	18.547	2/7/01	11:01	32.533	2/7/01	11:11	40.7743	2/7/01	9:29	53.7303	2/7/01	8:23	31.1877
2/7/01	13:15	56.184	2/7/01	14:48	18.524	2/7/01	15:01	32.490	2/7/01	15:11	40.7218	2/7/01	13:29	53.7008	2/7/01	12:23	31.1581
2/7/01	17:15	56.109	2/7/01	18:48	18.504	2/7/01	19:01	32.454	2/7/01	19:11	40.6791	2/7/01	17:29	53.6188	2/7/01	16:23	31.1056
2/7/01	21:15	56.073	2/7/01	22:48	18.491	2/7/01	23:01	32.438	2/7/01	23:11	40.6726	2/7/01	21:29	53.622	2/7/01	20:23	31.0925
2/8/01	1:15	56.076	2/8/01	2:48	18.484	2/8/01	3:01	32.434	2/8/01	3:11	40.6759	2/8/01	1:29	53.6286	2/8/01	0:23	31.0958
2/8/01	5:15	56.093	2/8/01	6:48	18.468	2/8/01	7:01	32.425	2/8/01	7:11	40.6627	2/8/01	5:29	53.6286	2/8/01	4:23	31.0958
2/8/01	9:15	56.089	2/8/01	10:48	18.458	2/8/01	11:01	32.428	2/8/01	11:11	40.6791	2/8/01	9:29	53.5991	2/8/01	8:23	31.0991
2/8/01	13:15	56.158	2/8/01	14:48	18.448	2/8/01	15:01	32.388	2/8/01	15:11	40.9318	2/8/01	13:29	53.6188	2/8/01	12:23	31.0958
2/8/01	17:15	56.168	2/8/01	18:48	18.924	2/8/01	19:01	32.372	2/8/01	19:11	40.794	2/8/01	17:29	53.6417	2/8/01	16:23	31.1122
2/8/01	21:15	56.168	2/8/01	22:48	18.455	2/8/01	23:01	32.349	2/8/01	23:11	40.4068	2/8/01	21:29	53.668	2/8/01	20:23	31.0203
2/9/01	1:15	56.145	2/9/01	2:48	18.366	2/9/01	3:01	32.297	2/9/01	3:11	40.128	2/9/01	1:29	53.6056	2/9/01	0:23	30.9514
2/9/01	5:15	56.125	2/9/01	6:48	18.140	2/9/01	7:01	32.247	2/9/01	7:11	40.4331	2/9/01	5:29	53.4252	2/9/01	4:23	30.8465

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
2/9/01	9:15	56.053	2/9/01	10:48	18.064	2/9/01	11:01	32.270	2/9/01	11:11	40.5774	2/9/01	9:29	53.4482	2/9/01	8:23	30.8136
2/9/01	13:15	55.961	2/9/01	14:48	18.064	2/9/01	15:01	32.300	2/9/01	15:11	40.6398	2/9/01	13:29	53.4121	2/9/01	12:23	30.8235
2/9/01	17:15	55.883	2/9/01	18:48	18.054	2/9/01	19:01	32.343	2/9/01	19:11	40.7119	2/9/01	17:29	53.4088	2/9/01	16:23	30.8202
2/9/01	21:15	55.860	2/9/01	22:48	18.097	2/9/01	23:01	32.375	2/9/01	23:11	40.7743	2/9/01	21:29	53.3793	2/9/01	20:23	30.8366
2/10/01	1:15	55.876	2/10/01	2:48	18.097	2/10/01	3:01	32.395	2/10/01	3:11	40.8202	2/10/01	1:29	53.3694	2/10/01	0:23	30.8366
2/10/01	5:15	55.837	2/10/01	6:48	18.097	2/10/01	7:01	32.402	2/10/01	7:11	40.8399	2/10/01	5:29	53.3235	2/10/01	4:23	30.8268
2/10/01	9:15	55.873	2/10/01	10:48	18.077	2/10/01	11:01	32.408	2/10/01	11:11	40.8793	2/10/01	9:29	53.3169	2/10/01	8:23	30.8071
2/10/01	13:15	55.922	2/10/01	14:48	18.058	2/10/01	15:01	32.392	2/10/01	15:11	40.876	2/10/01	13:29	53.2972	2/10/01	12:23	30.7874
2/10/01	17:15	55.981	2/10/01	18:48	18.031	2/10/01	19:01	32.362	2/10/01	19:11	40.8333	2/10/01	17:29	53.3399	2/10/01	16:23	30.7382
2/10/01	21:15	55.932	2/10/01	22:48	18.015	2/10/01	23:01	32.343	2/10/01	23:11	40.8268	2/10/01	21:29	53.3268	2/10/01	20:23	30.7021
2/11/01	1:15	55.938	2/11/01	2:48	17.989	2/11/01	3:01	32.323	2/11/01	3:11	40.8136	2/11/01	1:29	53.3038	2/11/01	0:23	30.6791
2/11/01	5:15	55.971	2/11/01	6:48	17.969	2/11/01	7:01	32.293	2/11/01	7:11	40.7874	2/11/01	5:29	53.3005	2/11/01	4:23	30.6529
2/11/01	9:15	55.984	2/11/01	10:48	17.946	2/11/01	11:01	32.267	2/11/01	11:11	40.7776	2/11/01	9:29	53.3202	2/11/01	8:23	30.6168
2/11/01	13:15	56.063	2/11/01	14:48	17.917	2/11/01	15:01	32.221	2/11/01	15:11	40.7316	2/11/01	13:29	53.3301	2/11/01	12:23	30.584
2/11/01	17:15	56.119	2/11/01	18:48	17.890	2/11/01	19:01	32.169	2/11/01	19:11	40.666	2/11/01	17:29	53.376	2/11/01	16:23	30.5249
2/11/01	21:15	56.093	2/11/01	22:48	17.864	2/11/01	23:01	32.133	2/11/01	23:11	40.6234	2/11/01	21:29	53.399	2/11/01	20:23	30.4921
2/12/01	1:15	56.053	2/12/01	2:48	17.844	2/12/01	3:01	32.110	2/12/01	3:11	40.6037	2/12/01	1:29	53.3465	2/12/01	0:23	30.479
2/12/01	5:15	56.037	2/12/01	6:48	17.828	2/12/01	7:01	32.090	2/12/01	7:11	40.6004	2/12/01	5:29	53.3432	2/12/01	4:23	30.4659
2/12/01	9:15	55.984	2/12/01	10:48	17.815	2/12/01	11:01	32.090	2/12/01	11:11	40.607	2/12/01	9:29	53.3268	2/12/01	8:23	30.4757
2/12/01	13:15	56.004	2/12/01	14:48	17.805	2/12/01	15:01	32.083	2/12/01	15:11	40.6004	2/12/01	13:29	53.2874	2/12/01	12:23	30.4921
2/12/01	17:15	56.024	2/12/01	18:48	17.789	2/12/01	19:01	32.073	2/12/01	19:11	40.5873	2/12/01	17:29	53.3104	2/12/01	16:23	30.4856
2/12/01	21:15	56.014	2/12/01	22:48	17.779	2/12/01	23:01	32.057	2/12/01	23:11	40.5807	2/12/01	21:29	53.3465	2/12/01	20:23	30.4823
2/13/01	1:15	56.017	2/13/01	2:48	17.769	2/13/01	3:01	32.037	2/13/01	3:11	40.5643	2/13/01	1:29	53.3727	2/13/01	0:23	30.479
2/13/01	5:15	56.056	2/13/01	6:48	17.753	2/13/01	7:01	32.018	2/13/01	7:11	40.5413	2/13/01	5:29	53.399	2/13/01	4:23	30.4692
2/13/01	9:15	56.060	2/13/01	10:48	17.736	2/13/01	11:01	31.995	2/13/01	11:11	40.5118	2/13/01	9:29	53.4154	2/13/01	8:23	30.4659
2/13/01	13:15	56.145	2/13/01	14:48	17.717	2/13/01	15:01	31.959	2/13/01	15:11	40.4757	2/13/01	13:29	53.4416	2/13/01	12:23	30.4626
2/13/01	17:15	56.161	2/13/01	18:48	17.707	2/13/01	19:01	31.929	2/13/01	19:11	40.6759	2/13/01	17:29	53.4711	2/13/01	16:23	30.456
2/13/01	21:15	56.115	2/13/01	22:48	18.186	2/13/01	23:01	31.900	2/13/01	23:11	40.5938	2/13/01	21:29	53.4613	2/13/01	20:23	30.3937
2/14/01	1:15	56.109	2/14/01	2:48	18.156	2/14/01	3:01	31.867	2/14/01	3:11	40.5971	2/14/01	1:29	53.4711	2/14/01	0:23	30.3642
2/14/01	5:15	56.161	2/14/01	6:48	18.100	2/14/01	7:01	31.834	2/14/01	7:11	40.5217	2/14/01	5:29	53.481	2/14/01	4:23	30.3248
2/14/01	9:15	56.109	2/14/01	10:48	18.048	2/14/01	11:01	31.818	2/14/01	11:11	40.4888	2/14/01	9:29	53.458	2/14/01	8:23	30.2559
2/14/01	13:15	56.024	2/14/01	14:48	17.920	2/14/01	15:01	31.811	2/14/01	15:11	40.4659	2/14/01	13:29	53.4547	2/14/01	12:23	30.2165
2/14/01	17:15	56.053	2/14/01	18:48	17.480	2/14/01	19:01	31.791	2/14/01	19:11	40.3215	2/14/01	17:29	53.4711	2/14/01	16:23	30.1903
2/14/01	21:15	56.011	2/14/01	22:48	17.441	2/14/01	23:01	31.785	2/14/01	23:11	40.3248	2/14/01	21:29	53.4777	2/14/01	20:23	30.1608
2/15/01	1:15	56.030	2/15/01	2:48	17.398	2/15/01	3:01	31.755	2/15/01	3:11	40.3117	2/15/01	1:29	53.4941	2/15/01	0:23	30.1247
2/15/01	5:15	56.079	2/15/01	6:48	17.359	2/15/01	7:01	31.732	2/15/01	7:11	40.3018	2/15/01	5:29	53.4514	2/15/01	4:23	30.0722
2/15/01	9:15	56.040	2/15/01	10:48	17.306	2/15/01	11:01	31.716	2/15/01	11:11	40.3051	2/15/01	9:29	53.4646	2/15/01	8:23	30.0427
2/15/01	13:15	56.089	2/15/01	14:48	17.274	2/15/01	15:01	31.693	2/15/01	15:11	40.292	2/15/01	13:29	53.4678	2/15/01	12:23	30.0131

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
2/15/01	17:15	56.112	2/15/01	18:48	17.241	2/15/01	19:01	31.670	2/15/01	19:11	40.2854	2/15/01	17:29	53.4318	2/15/01	16:23	29.9672
2/15/01	21:15	56.020	2/15/01	22:48	17.208	2/15/01	23:01	31.663	2/15/01	23:11	40.2822	2/15/01	21:29	53.4547	2/15/01	20:23	29.9508
2/16/01	1:15	55.968	2/16/01	2:48	17.178	2/16/01	3:01	31.660	2/16/01	3:11	40.3084	2/16/01	1:29	53.5039	2/16/01	0:23	29.9475
2/16/01	5:15	55.886	2/16/01	6:48	17.146	2/16/01	7:01	31.667	2/16/01	7:11	40.3346	2/16/01	5:29	53.5597	2/16/01	4:23	29.9442
2/16/01	9:15	55.810	2/16/01	10:48	17.162	2/16/01	11:01	31.706	2/16/01	11:11	40.4101	2/16/01	9:29	53.6516	2/16/01	8:23	29.9738
2/16/01	13:15	55.827	2/16/01	14:48	17.178	2/16/01	15:01	31.726	2/16/01	15:11	40.4528	2/16/01	13:29	53.7566	2/16/01	12:23	30.0033
2/16/01	17:15	55.801	2/16/01	18:48	17.172	2/16/01	19:01	31.739	2/16/01	19:11	40.4757	2/16/01	17:29	53.7598	2/16/01	16:23	30.0033
2/16/01	21:15	55.764	2/16/01	22:48	17.165	2/16/01	23:01	31.745	2/16/01	23:11	40.4856	2/16/01	21:29	53.7992	2/16/01	20:23	30.0131
2/17/01	1:15	55.745	2/17/01	2:48	17.162	2/17/01	3:01	31.752	2/17/01	3:11	40.5053	2/17/01	1:29	53.8419	2/17/01	0:23	30.023
2/17/01	5:15	55.758	2/17/01	6:48	17.159	2/17/01	7:01	31.752	2/17/01	7:11	40.5184	2/17/01	5:29	53.8451	2/17/01	4:23	30.023
2/17/01	9:15	55.771	2/17/01	10:48	17.162	2/17/01	11:01	31.791	2/17/01	11:11	40.5906	2/17/01	9:29	53.8386	2/17/01	8:23	30.023
2/17/01	13:15	55.892	2/17/01	14:48	17.156	2/17/01	15:01	31.749	2/17/01	15:11	40.5643	2/17/01	13:29	53.855	2/17/01	12:23	30.0295
2/17/01	17:15	55.951	2/17/01	18:48	17.142	2/17/01	19:01	31.736	2/17/01	19:11	40.5315	2/17/01	17:29	53.7795	2/17/01	16:23	29.9902
2/17/01	21:15	55.909	2/17/01	22:48	17.136	2/17/01	23:01	31.699	2/17/01	23:11	40.4987	2/17/01	21:29	53.7172	2/17/01	20:23	29.9705
2/18/01	1:15	55.899	2/18/01	2:48	17.116	2/18/01	3:01	31.663	2/18/01	3:11	40.4462	2/18/01	1:29	53.7074	2/18/01	0:23	29.9508
2/18/01	5:15	55.925	2/18/01	6:48	17.103	2/18/01	7:01	31.627	2/18/01	7:11	40.4101	2/18/01	5:29	53.6581	2/18/01	4:23	29.9245
2/18/01	9:15	55.955	2/18/01	10:48	17.093	2/18/01	11:01	31.621	2/18/01	11:11	40.4003	2/18/01	9:29	53.5761	2/18/01	8:23	29.8983
2/18/01	13:15	56.096	2/18/01	14:48	17.070	2/18/01	15:01	31.552	2/18/01	15:11	40.3379	2/18/01	13:29	53.5269	2/18/01	12:23	29.8753
2/18/01	17:15	56.184	2/18/01	18:48	17.047	2/18/01	19:01	31.483	2/18/01	19:11	40.2526	2/18/01	17:29	53.3825	2/18/01	16:23	29.8097
2/18/01	21:15	56.165	2/18/01	22:48	17.021	2/18/01	23:01	31.430	2/18/01	23:11	40.1804	2/18/01	21:29	53.2743	2/18/01	20:23	29.7605
2/19/01	1:15	56.142	2/19/01	2:48	16.998	2/19/01	3:01	31.378	2/19/01	3:11	40.1181	2/19/01	1:29	53.2054	2/19/01	0:23	29.7277
2/19/01	5:15	56.125	2/19/01	6:48	16.972	2/19/01	7:01	31.329	2/19/01	7:11	40.0591	2/19/01	5:29	53.1299	2/19/01	4:23	29.6982
2/19/01	9:15	56.053	2/19/01	10:48	16.962	2/19/01	11:01	31.306	2/19/01	11:11	40.0361	2/19/01	9:29	53.1463	2/19/01	8:23	29.6916
2/19/01	13:15	56.198	2/19/01	14:48	16.952	2/19/01	15:01	31.293	2/19/01	15:11	40.023	2/19/01	13:29	53.1562	2/19/01	12:23	29.6982
2/19/01	17:15	56.158	2/19/01	18:48	16.946	2/19/01	19:01	31.273	2/19/01	19:11	40.0066	2/19/01	17:29	53.166	2/19/01	16:23	29.7113
2/19/01	21:15	56.043	2/19/01	22:48	16.978	2/19/01	23:01	31.270	2/19/01	23:11	40.0033	2/19/01	21:29	53.1595	2/19/01	20:23	29.6883
2/20/01	1:15	56.011	2/20/01	2:48	16.962	2/20/01	3:01	31.263	2/20/01	3:11	40.0066	2/20/01	1:29	53.1299	2/20/01	0:23	29.6949
2/20/01	5:15	55.984	2/20/01	6:48	16.903	2/20/01	7:01	31.266	2/20/01	7:11	40.0066	2/20/01	5:29	53.143	2/20/01	4:23	29.6719
2/20/01	9:15	55.919	2/20/01	10:48	16.831	2/20/01	11:01	31.283	2/20/01	11:11	40.0492	2/20/01	9:29	53.1988	2/20/01	8:23	29.6686
2/20/01	13:15	55.951	2/20/01	14:48	16.880	2/20/01	15:01	31.296	2/20/01	15:11	40.0755	2/20/01	13:29	53.3465	2/20/01	12:23	29.6883
2/20/01	17:15	55.945	2/20/01	18:48	16.864	2/20/01	19:01	31.302	2/20/01	19:11	40.0853	2/20/01	17:29	53.3793	2/20/01	16:23	29.6883
2/20/01	21:15	55.869	2/20/01	22:48	16.860	2/20/01	23:01	31.325	2/20/01	23:11	40.1115	2/20/01	21:29	53.4318	2/20/01	20:23	29.6883
2/21/01	1:15	55.866	2/21/01	2:48	16.837	2/21/01	3:01	31.322	2/21/01	3:11	40.1345	2/21/01	1:29	53.4711	2/21/01	0:23	29.6883
2/21/01	5:15	55.856	2/21/01	6:48	16.791	2/21/01	7:01	31.329	2/21/01	7:11	40.1444	2/21/01	5:29	53.4646	2/21/01	4:23	29.6719
2/21/01	9:15	55.860	2/21/01	10:48	16.768	2/21/01	11:01	31.322	2/21/01	11:11	40.1542	2/21/01	9:29	53.4711	2/21/01	8:23	29.6522
2/21/01	13:15	55.942	2/21/01	14:48	16.778	2/21/01	15:01	31.293	2/21/01	15:11	40.128	2/21/01	13:29	53.4547	2/21/01	12:23	29.6358
2/21/01	17:15	55.981	2/21/01	18:48	16.762	2/21/01	19:01	31.263	2/21/01	19:11	40.0984	2/21/01	17:29	53.3629	2/21/01	16:23	29.5899
2/21/01	21:15	56.004	2/21/01	22:48	16.739	2/21/01	23:01	31.230	2/21/01	23:11	40.0623	2/21/01	21:29	53.3169	2/21/01	20:23	29.5538

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
2/22/01	1:15	55.997	2/22/01	2:48	16.726	2/22/01	3:01	31.198	2/22/01	3:11	40.0262	2/22/01	1:29	53.2972	2/22/01	0:23	29.5144
2/22/01	5:15	56.004	2/22/01	6:48	16.703	2/22/01	7:01	31.155	2/22/01	7:11	39.9803	2/22/01	5:29	53.2119	2/22/01	4:23	29.4783
2/22/01	9:15	55.971	2/22/01	10:48	16.693	2/22/01	11:01	31.135	2/22/01	11:11	39.9639	2/22/01	9:29	53.1759	2/22/01	8:23	29.4488
2/22/01	13:15	56.102	2/22/01	14:48	16.680	2/22/01	15:01	31.109	2/22/01	15:11	39.9409	2/22/01	13:29	53.1529	2/22/01	12:23	29.4488
2/22/01	17:15	56.129	2/22/01	18:48	16.703	2/22/01	19:01	31.079	2/22/01	19:11	39.9049	2/22/01	17:29	53.0643	2/22/01	16:23	29.4193
2/22/01	21:15	56.004	2/22/01	22:48	16.670	2/22/01	23:01	31.063	2/22/01	23:11	39.8885	2/22/01	21:29	52.9265	2/22/01	20:23	29.4094
2/23/01	1:15	56.132	2/23/01	2:48	16.644	2/23/01	3:01	31.053	2/23/01	3:11	39.8819	2/23/01	1:29	52.8806	2/23/01	0:23	29.4094
2/23/01	5:15	56.135	2/23/01	6:48	16.621	2/23/01	7:01	31.040	2/23/01	7:11	39.872	2/23/01	5:29	52.8314	2/23/01	4:23	29.3996
2/23/01	9:15	56.132	2/23/01	10:48	16.594	2/23/01	11:01	31.024	2/23/01	11:11	39.8556	2/23/01	9:29	52.8182	2/23/01	8:23	29.3865
2/23/01	13:15	56.115	2/23/01	14:48	16.470	2/23/01	15:01	30.984	2/23/01	15:11	39.8097	2/23/01	13:29	52.9101	2/23/01	12:23	29.3668
2/23/01	17:15	56.161	2/23/01	18:48	16.722	2/23/01	19:01	30.925	2/23/01	19:11	39.7474	2/23/01	17:29	52.9724	2/23/01	16:23	29.3077
2/23/01	21:15	56.204	2/23/01	22:48	16.785	2/23/01	23:01	30.869	2/23/01	23:11	39.685	2/23/01	21:29	53.0053	2/23/01	20:23	29.252
2/24/01	1:15	56.171	2/24/01	2:48	16.903	2/24/01	3:01	30.820	2/24/01	3:11	39.626	2/24/01	1:29	53.0118	2/24/01	0:23	29.229
2/24/01	5:15	56.234	2/24/01	6:48	16.847	2/24/01	7:01	30.771	2/24/01	7:11	39.5833	2/24/01	5:29	53.0381	2/24/01	4:23	29.2192
2/24/01	9:15	56.253	2/24/01	10:48	16.926	2/24/01	11:01	30.699	2/24/01	11:11	39.5144	2/24/01	9:29	53.084	2/24/01	8:23	29.1765
2/24/01	13:15	56.362	2/24/01	14:48	16.834	2/24/01	15:01	30.614	2/24/01	15:11	39.4127	2/24/01	13:29	53.002	2/24/01	12:23	29.1503
2/24/01	17:15	56.401	2/24/01	18:48	16.762	2/24/01	19:01	30.568	2/24/01	19:11	39.3471	2/24/01	17:29	52.6804	2/24/01	16:23	29.0223
2/24/01	21:15	56.345	2/24/01	22:48	16.706	2/24/01	23:01	30.509	2/24/01	23:11	39.6096	2/24/01	21:29	52.5984	2/24/01	20:23	28.96
2/25/01	1:15	55.653	2/25/01	2:48	16.253	2/25/01	3:01	30.541	2/25/01	3:11	39.2881	2/25/01	1:29	52.4409	2/25/01	0:23	28.7303
2/25/01	5:15	55.446	2/25/01	6:48	16.178	2/25/01	7:01	30.587	2/25/01	7:11	39.4127	2/25/01	5:29	52.6804	2/25/01	4:23	29.0289
2/25/01	9:15	55.420	2/25/01	10:48	16.178	2/25/01	11:01	30.656	2/25/01	11:11	39.5112	2/25/01	9:29	52.8543	2/25/01	8:23	29.1011
2/25/01	13:15	55.528	2/25/01	14:48	16.175	2/25/01	15:01	30.715	2/25/01	15:11	39.5965	2/25/01	13:29	53.0053	2/25/01	12:23	29.1634
2/25/01	17:15	55.577	2/25/01	18:48	16.148	2/25/01	19:01	30.735	2/25/01	19:11	39.6555	2/25/01	17:29	53.0348	2/25/01	16:23	29.1896
2/25/01	21:15	55.577	2/25/01	22:48	16.138	2/25/01	23:01	30.751	2/25/01	23:11	39.685	2/25/01	21:29	53.0873	2/25/01	20:23	29.1995
2/26/01	1:15	55.571	2/26/01	2:48	16.145	2/26/01	3:01	30.764	2/26/01	3:11	39.7211	2/26/01	1:29	53.0938	2/26/01	0:23	29.2028
2/26/01	5:15	55.591	2/26/01	6:48	16.138	2/26/01	7:01	30.768	2/26/01	7:11	39.7244	2/26/01	5:29	53.0938	2/26/01	4:23	29.1929
2/26/01	9:15	55.597	2/26/01	10:48	16.122	2/26/01	11:01	30.758	2/26/01	11:11	39.7408	2/26/01	9:29	53.0709	2/26/01	8:23	29.1798
2/26/01	13:15	55.709	2/26/01	14:48	16.184	2/26/01	15:01	30.745	2/26/01	15:11	39.7375	2/26/01	13:29	53.0774	2/26/01	12:23	29.1732
2/26/01	17:15	55.735	2/26/01	18:48	16.188	2/26/01	19:01	30.722	2/26/01	19:11	39.7244	2/26/01	17:29	53.0217	2/26/01	16:23	29.147
2/26/01	21:15	55.686	2/26/01	22:48	16.079	2/26/01	23:01	30.715	2/26/01	23:11	39.7146	2/26/01	21:29	52.979	2/26/01	20:23	29.1306
2/27/01	1:15	55.643	2/27/01	2:48	16.020	2/27/01	3:01	30.702	2/27/01	3:11	39.7211	2/27/01	1:29	53.0643	2/27/01	0:23	29.124
2/27/01	5:15	55.653	2/27/01	6:48	15.961	2/27/01	7:01	30.689	2/27/01	7:11	39.7178	2/27/01	5:29	53.0545	2/27/01	4:23	29.1043
2/27/01	9:15	55.620	2/27/01	10:48	15.928	2/27/01	11:01	30.686	2/27/01	11:11	39.7277	2/27/01	9:29	53.0479	2/27/01	8:23	29.0846
2/27/01	13:15	55.610	2/27/01	14:48	15.869	2/27/01	15:01	30.669	2/27/01	15:11	39.7244	2/27/01	13:29	53.0741	2/27/01	12:23	29.0781
2/27/01	17:15	55.627	2/27/01	18:48	15.856	2/27/01	19:01	30.653	2/27/01	19:11	39.7211	2/27/01	17:29	53.0741	2/27/01	16:23	29.0518
2/27/01	21:15	55.581	2/27/01	22:48	15.787	2/27/01	23:01	30.653	2/27/01	23:11	39.7343	2/27/01	21:29	53.0512	2/27/01	20:23	29.0518
2/28/01	1:15	55.584	2/28/01	2:48	15.771	2/28/01	3:01	30.646	2/28/01	3:11	39.7408	2/28/01	1:29	53.0676	2/28/01	0:23	29.0486
2/28/01	5:15	55.617	2/28/01	6:48	15.807	2/28/01	7:01	30.623	2/28/01	7:11	39.7244	2/28/01	5:29	53.0446	2/28/01	4:23	29.0387

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
2/28/01	9:15	55.610	2/28/01	10:48	15.797	2/28/01	11:01	30.604	2/28/01	11:11	39.7113	2/28/01	9:29	52.9987	2/28/01	8:23	29.0157
2/28/01	13:15	55.725	2/28/01	14:48	15.899	2/28/01	15:01	30.568	2/28/01	15:11	39.6686	2/28/01	13:29	52.9593	2/28/01	12:23	28.9895
2/28/01	17:15	55.781	2/28/01	18:48	15.984	2/28/01	19:01	30.518	2/28/01	19:11	39.6096	2/28/01	17:29	52.8609	2/28/01	16:23	28.9436
2/28/01	21:15	55.784	2/28/01	22:48	16.033	2/28/01	23:01	30.472	2/28/01	23:11	39.5538	2/28/01	21:29	52.7625	2/28/01	20:23	28.9042
3/1/01	1:15	55.764	3/1/01	2:48	16.070	3/1/01	3:01	30.427	3/1/01	3:11	39.5046	3/1/01	1:29	52.7034	3/1/01	0:23	28.8681
3/1/01	5:15	55.807	3/1/01	6:48	16.148	3/1/01	7:01	30.371	3/1/01	7:11	39.4423	3/1/01	5:29	52.6345	3/1/01	4:23	28.8255
3/1/01	9:15	55.791	3/1/01	10:48	16.145	3/1/01	11:01	30.328	3/1/01	11:11	39.3898	3/1/01	9:29	52.5591	3/1/01	8:23	28.7959
3/1/01	13:15	55.833	3/1/01	14:48	16.198	3/1/01	15:01	30.285	3/1/01	15:11	39.3438	3/1/01	13:29	52.5197	3/1/01	12:23	28.773
3/1/01	17:15	55.827	3/1/01	18:48	16.191	3/1/01	19:01	30.253	3/1/01	19:11	39.3045	3/1/01	17:29	52.4508	3/1/01	16:23	28.7467
3/1/01	21:15	55.768	3/1/01	22:48	16.142	3/1/01	23:01	30.223	3/1/01	23:11	39.2717	3/1/01	21:29	52.4409	3/1/01	20:23	28.7402
3/2/01	1:15	55.745	3/2/01	2:48	16.106	3/2/01	3:01	30.207	3/2/01	3:11	39.2454	3/2/01	1:29	52.4311	3/2/01	0:23	28.7434
3/2/01	5:15	55.705	3/2/01	6:48	16.093	3/2/01	7:01	30.187	3/2/01	7:11	39.2257	3/2/01	5:29	52.4213	3/2/01	4:23	28.7434
3/2/01	9:15	55.719	3/2/01	10:48	16.037	3/2/01	11:01	30.171	3/2/01	11:11	39.2159	3/2/01	9:29	52.4213	3/2/01	8:23	28.7467
3/2/01	13:15	55.820	3/2/01	14:48	16.060	3/2/01	15:01	30.157	3/2/01	15:11	39.1962	3/2/01	13:29	52.4311	3/2/01	12:23	28.7566
3/2/01	17:15	55.827	3/2/01	18:48	16.063	3/2/01	19:01	30.141	3/2/01	19:11	39.1699	3/2/01	17:29	52.4016	3/2/01	16:23	28.75
3/2/01	21:15	55.801	3/2/01	22:48	16.043	3/2/01	23:01	30.125	3/2/01	23:11	39.252	3/2/01	21:29	52.395	3/2/01	20:23	28.7533
3/3/01	1:15	55.764	3/3/01	2:48	16.030	3/3/01	3:01	30.105	3/3/01	3:11	39.0945	3/3/01	1:29	52.3655	3/3/01	0:23	28.7467
3/3/01	5:15	55.751	3/3/01	6:48	15.984	3/3/01	7:01	30.098	3/3/01	7:11	39.1076	3/3/01	5:29	52.3655	3/3/01	4:23	28.75
3/3/01	9:15	55.702	3/3/01	10:48	15.922	3/3/01	11:01	30.089	3/3/01	11:11	39.1142	3/3/01	9:29	52.3786	3/3/01	8:23	28.7598
3/3/01	13:15	55.791	3/3/01	14:48	15.955	3/3/01	15:01	30.085	3/3/01	15:11	39.3045	3/3/01	13:29	52.4147	3/3/01	12:23	28.7762
3/3/01	17:15	55.820	3/3/01	18:48	15.922	3/3/01	19:01	30.079	3/3/01	19:11	39.4259	3/3/01	17:29	52.4081	3/3/01	16:23	28.7762
3/3/01	21:15	55.751	3/3/01	22:48	15.856	3/3/01	23:01	30.079	3/3/01	23:11	39.2585	3/3/01	21:29	52.3917	3/3/01	20:23	28.7828
3/4/01	1:15	55.705	3/4/01	2:48	15.797	3/4/01	3:01	30.082	3/4/01	3:11	38.8156	3/4/01	1:29	52.3294	3/4/01	0:23	28.7927
3/4/01	5:15	55.669	3/4/01	6:48	15.738	3/4/01	7:01	30.089	3/4/01	7:11	38.8517	3/4/01	5:29	52.2802	3/4/01	4:23	28.8123
3/4/01	9:15	55.591	3/4/01	10:48	15.604	3/4/01	11:01	30.112	3/4/01	11:11	38.9337	3/4/01	9:29	52.2244	3/4/01	8:23	28.8386
3/4/01	13:15	55.682	3/4/01	14:48	15.545	3/4/01	15:01	30.135	3/4/01	15:11	39.5144	3/4/01	13:29	52.3983	3/4/01	12:23	28.8714
3/4/01	17:15	56.027	3/4/01	18:48	15.459	3/4/01	19:01	30.154	3/4/01	19:11	39.5407	3/4/01	17:29	52.6214	3/4/01	16:23	28.8911
3/4/01	21:15	56.115	3/4/01	22:48	15.604	3/4/01	23:01	30.174	3/4/01	23:11	39.3012	3/4/01	21:29	52.6739	3/4/01	20:23	28.9075
3/5/01	1:15	56.165	3/5/01	2:48	15.597	3/5/01	3:01	30.187	3/5/01	3:11	39.2651	3/5/01	1:29	52.7198	3/5/01	0:23	28.9206
3/5/01	5:15	56.194	3/5/01	6:48	15.594	3/5/01	7:01	30.197	3/5/01	7:11	39.2848	3/5/01	5:29	52.7329	3/5/01	4:23	28.9206
3/5/01	9:15	56.224	3/5/01	10:48	15.515	3/5/01	11:01	30.207	3/5/01	11:11	39.3077	3/5/01	9:29	52.7592	3/5/01	8:23	28.914
3/5/01	13:15	56.329	3/5/01	14:48	15.515	3/5/01	15:01	30.217	3/5/01	15:11	39.6621	3/5/01	13:29	52.7559	3/5/01	12:23	28.9173
3/5/01	17:15	56.358	3/5/01	18:48	15.538	3/5/01	19:01	30.210	3/5/01	19:11	39.5407	3/5/01	17:29	52.7625	3/5/01	16:23	28.9009
3/5/01	21:15	56.270	3/5/01	22:48	15.505	3/5/01	23:01	30.207	3/5/01	23:11	39.3274	3/5/01	21:29	52.7428	3/5/01	20:23	28.8681
3/6/01	1:15	56.260	3/6/01	2:48	15.479	3/6/01	3:01	30.197	3/6/01	3:11	39.3143	3/6/01	1:29	52.7493	3/6/01	0:23	28.8517
3/6/01	5:15	56.270	3/6/01	6:48	15.459	3/6/01	7:01	30.184	3/6/01	7:11	39.3077	3/6/01	5:29	52.7198	3/6/01	4:23	28.8189
3/6/01	9:15	56.253	3/6/01	10:48	15.400	3/6/01	11:01	30.180	3/6/01	11:11	39.2979	3/6/01	9:29	52.7264	3/6/01	8:23	28.7927
3/6/01	13:15	56.394	3/6/01	14:48	15.479	3/6/01	15:01	30.151	3/6/01	15:11	39.4521	3/6/01	13:29	52.687	3/6/01	12:23	28.7762

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
3/6/01	17:15	56.227	3/6/01	18:48	15.502	3/6/01	19:01	30.121	3/6/01	19:11	39.2881	3/6/01	17:29	52.6444	3/6/01	16:23	28.727
3/6/01	21:15	56.204	3/6/01	22:48	15.466	3/6/01	23:01	30.098	3/6/01	23:11	39.2782	3/6/01	21:29	52.6148	3/6/01	20:23	28.6909
3/7/01	1:15	56.194	3/7/01	2:48	15.453	3/7/01	3:01	30.072	3/7/01	3:11	39.252	3/7/01	1:29	52.5919	3/7/01	0:23	28.668
3/7/01	5:15	56.175	3/7/01	6:48	15.430	3/7/01	7:01	30.046	3/7/01	7:11	39.2323	3/7/01	5:29	52.5689	3/7/01	4:23	28.6286
3/7/01	9:15	56.168	3/7/01	10:48	15.367	3/7/01	11:01	30.033	3/7/01	11:11	39.229	3/7/01	9:29	52.5623	3/7/01	8:23	28.5991
3/7/01	13:15	56.171	3/7/01	14:48	15.400	3/7/01	15:01	30.010	3/7/01	15:11	39.2093	3/7/01	13:29	52.5591	3/7/01	12:23	28.5827
3/7/01	17:15	56.138	3/7/01	18:48	15.443	3/7/01	19:01	29.977	3/7/01	19:11	39.1667	3/7/01	17:29	52.5033	3/7/01	16:23	28.5335
3/7/01	21:15	56.102	3/7/01	22:48	15.397	3/7/01	23:01	29.948	3/7/01	23:11	39.147	3/7/01	21:29	52.4475	3/7/01	20:23	28.5039
3/8/01	1:15	56.083	3/8/01	2:48	15.384	3/8/01	3:01	29.915	3/8/01	3:11	39.1175	3/8/01	1:29	52.4344	3/8/01	0:23	28.4777
3/8/01	5:15	56.050	3/8/01	6:48	15.384	3/8/01	7:01	29.879	3/8/01	7:11	39.0879	3/8/01	5:29	52.3786	3/8/01	4:23	28.435
3/8/01	9:15	56.033	3/8/01	10:48	15.328	3/8/01	11:01	29.859	3/8/01	11:11	39.0748	3/8/01	9:29	52.3655	3/8/01	8:23	28.4121
3/8/01	13:15	56.040	3/8/01	14:48	15.374	3/8/01	15:01	29.843	3/8/01	15:11	39.0551	3/8/01	13:29	52.3852	3/8/01	12:23	28.4055
3/8/01	17:15	56.024	3/8/01	18:48	15.443	3/8/01	19:01	29.816	3/8/01	19:11	39.0256	3/8/01	17:29	52.3655	3/8/01	16:23	28.376
3/8/01	21:15	56.011	3/8/01	22:48	15.328	3/8/01	23:01	29.806	3/8/01	23:11	39.0256	3/8/01	21:29	52.3655	3/8/01	20:23	28.3563
3/9/01	1:15	56.014	3/9/01	2:48	15.230	3/9/01	3:01	29.787	3/9/01	3:11	39.019	3/9/01	1:29	52.3622	3/9/01	0:23	28.3465
3/9/01	5:15	56.024	3/9/01	6:48	15.187	3/9/01	7:01	29.770	3/9/01	7:11	38.9961	3/9/01	5:29	52.3327	3/9/01	4:23	28.3235
3/9/01	9:15	56.024	3/9/01	10:48	15.154	3/9/01	11:01	29.754	3/9/01	11:11	39.0026	3/9/01	9:29	52.336	3/9/01	8:23	28.294
3/9/01	13:15	56.020	3/9/01	14:48	15.295	3/9/01	15:01	29.724	3/9/01	15:11	38.9665	3/9/01	13:29	52.3032	3/9/01	12:23	28.2743
3/9/01	17:15	55.961	3/9/01	18:48	15.453	3/9/01	19:01	29.678	3/9/01	19:11	38.9108	3/9/01	17:29	52.2244	3/9/01	16:23	28.2185
3/9/01	21:15	55.899	3/9/01	22:48	15.413	3/9/01	23:01	29.642	3/9/01	23:11	38.8714	3/9/01	21:29	52.1785	3/9/01	20:23	28.1759
3/10/01	1:15	55.860	3/10/01	2:48	15.233	3/10/01	3:01	29.596	3/10/01	3:11	38.8287	3/10/01	1:29	52.1096	3/10/01	0:23	28.1365
3/10/01	5:15	55.807	3/10/01	6:48	15.230	3/10/01	7:01	29.551	3/10/01	7:11	38.7795	3/10/01	5:29	52.0604	3/10/01	4:23	28.0906
3/10/01	9:15	55.761	3/10/01	10:48	15.230	3/10/01	11:01	29.514	3/10/01	11:11	38.7402	3/10/01	9:29	52.0079	3/10/01	8:23	28.0479
3/10/01	13:15	55.738	3/10/01	14:48	15.374	3/10/01	15:01	29.475	3/10/01	15:11	38.7008	3/10/01	13:29	51.9882	3/10/01	12:23	28.0217
3/10/01	17:15	55.705	3/10/01	18:48	15.338	3/10/01	19:01	29.449	3/10/01	19:11	38.6811	3/10/01	17:29	51.9652	3/10/01	16:23	27.9921
3/10/01	21:15	55.725	3/10/01	22:48	15.197	3/10/01	23:01	29.429	3/10/01	23:11	38.9633	3/10/01	21:29	51.998	3/10/01	20:23	27.9888
3/11/01	1:15	55.768	3/11/01	2:48	15.102	3/11/01	3:01	29.419	3/11/01	3:11	38.8944	3/11/01	1:29	52.0341	3/11/01	0:23	27.9429
3/11/01	5:15	55.774	3/11/01	6:48	15.033	3/11/01	7:01	29.396	3/11/01	7:11	38.9075	3/11/01	5:29	52.0407	3/11/01	4:23	27.9003
3/11/01	9:15	55.748	3/11/01	10:48	14.961	3/11/01	11:01	29.386	3/11/01	11:11	38.8517	3/11/01	9:29	52.044	3/11/01	8:23	27.8445
3/11/01	13:15	55.810	3/11/01	14:48	15.075	3/11/01	15:01	29.360	3/11/01	15:11	38.7992	3/11/01	13:29	52.0243	3/11/01	12:23	27.9298
3/11/01	17:15	55.928	3/11/01	18:48	15.161	3/11/01	19:01	29.298	3/11/01	19:11	38.7959	3/11/01	17:29	52.0013	3/11/01	16:23	27.8445
3/11/01	21:15	55.928	3/11/01	22:48	15.187	3/11/01	23:01	29.245	3/11/01	23:11	38.8255	3/11/01	21:29	51.998	3/11/01	20:23	27.7854
3/12/01	1:15	55.994	3/12/01	2:48	15.138	3/12/01	3:01	29.186	3/12/01	3:11	38.6713	3/12/01	1:29	51.9685	3/12/01	0:23	27.8215
3/12/01	5:15	55.873	3/12/01	6:48	15.039	3/12/01	7:01	29.150	3/12/01	7:11	38.5892	3/12/01	5:29	51.8143	3/12/01	4:23	27.7461
3/12/01	9:15	55.810	3/12/01	10:48	14.954	3/12/01	11:01	29.127	3/12/01	11:11	38.399	3/12/01	9:29	51.7126	3/12/01	8:23	27.5787
3/12/01	13:15	55.850	3/12/01	14:48	14.970	3/12/01	15:01	29.091	3/12/01	15:11	38.376	3/12/01	13:29	51.7192	3/12/01	12:23	27.5459
3/12/01	17:15	55.820	3/12/01	18:48	14.918	3/12/01	19:01	29.062	3/12/01	19:11	38.353	3/12/01	17:29	51.6962	3/12/01	16:23	27.5
3/12/01	21:15	55.745	3/12/01	22:48	14.836	3/12/01	23:01	29.032	3/12/01	23:11	38.3366	3/12/01	21:29	51.6864	3/12/01	20:23	27.4705

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
3/13/01	1:15	55.738	3/13/01	2:48	14.751	3/13/01	3:01	29.006	3/13/01	3:11	38.3136	3/13/01	1:29	51.6732	3/13/01	0:23	27.4311
3/13/01	5:15	55.699	3/13/01	6:48	14.619	3/13/01	7:01	28.990	3/13/01	7:11	38.3071	3/13/01	5:29	51.6831	3/13/01	4:23	27.4049
3/13/01	9:15	55.659	3/13/01	10:48	14.514	3/13/01	11:01	28.986	3/13/01	11:11	38.3202	3/13/01	9:29	51.6831	3/13/01	8:23	27.3917
3/13/01	13:15	55.764	3/13/01	14:48	14.587	3/13/01	15:01	28.990	3/13/01	15:11	38.3399	3/13/01	13:29	51.7553	3/13/01	12:23	27.395
3/13/01	17:15	55.751	3/13/01	18:48	14.652	3/13/01	19:01	28.993	3/13/01	19:11	38.353	3/13/01	17:29	51.7913	3/13/01	16:23	27.3917
3/13/01	21:15	55.712	3/13/01	22:48	14.564	3/13/01	23:01	28.976	3/13/01	23:11	38.3563	3/13/01	21:29	51.811	3/13/01	20:23	27.3852
3/14/01	1:15	55.745	3/14/01	2:48	14.531	3/14/01	3:01	28.957	3/14/01	3:11	38.3366	3/14/01	1:29	51.7618	3/14/01	0:23	27.3589
3/14/01	5:15	55.781	3/14/01	6:48	14.570	3/14/01	7:01	28.917	3/14/01	7:11	38.3038	3/14/01	5:29	51.6995	3/14/01	4:23	27.3196
3/14/01	9:15	55.804	3/14/01	10:48	14.629	3/14/01	11:01	28.885	3/14/01	11:11	38.271	3/14/01	9:29	51.6371	3/14/01	8:23	27.29
3/14/01	13:15	55.863	3/14/01	14:48	14.199	3/14/01	15:01	28.835	3/14/01	15:11	38.2152	3/14/01	13:29	51.5518	3/14/01	12:23	27.2441
3/14/01	17:15	55.758	3/14/01	20:00	13.989	3/19/01	16:00	28.259	3/19/01	16:00	38.249	3/14/01	17:29	51.4469	3/14/01	16:00	26.746
3/14/01	20:00	55.501	3/15/01	0:00	13.866	3/19/01	20:00	28.233	3/19/01	20:00	38.221	3/14/01	20:00	51.43	3/14/01	20:00	26.705
3/15/01	0:00	55.488	3/15/01	4:00	13.824	3/20/01	0:00	28.211	3/20/01	0:00	38.2	3/15/01	0:00	51.455	3/15/01	0:00	26.731
3/15/01	4:00	55.453	3/15/01	8:00	13.765	3/20/01	4:00	28.187	3/20/01	4:00	38.174	3/15/01	4:00	51.392	3/15/01	4:00	26.664
3/15/01	8:00	55.416	3/15/01	12:00	13.680	3/20/01	8:00	28.165	3/20/01	8:00	38.157	3/15/01	8:00	51.421	3/15/01	8:00	26.654
3/15/01	12:00	55.426	3/15/01	16:00	13.577	3/20/01	12:00	28.149	3/20/01	12:00	38.139	3/15/01	12:00	51.423	3/15/01	12:00	26.661
3/15/01	16:00	55.396	3/15/01	20:00	13.464	3/20/01	16:00	28.113	3/20/01	16:00	38.09	3/15/01	16:00	51.309	3/15/01	16:00	26.635
3/15/01	20:00	55.265	3/16/01	0:00	13.438	3/20/01	20:00	28.086	3/20/01	20:00	38.058	3/15/01	20:00	51.124	3/15/01	20:00	26.618
3/16/01	0:00	55.237	3/16/01	4:00	13.429	3/21/01	0:00	28.064	3/21/01	0:00	38.032	3/16/01	0:00	51.079	3/16/01	0:00	26.482
3/16/01	4:00	55.229	3/16/01	8:00	13.382	3/21/01	4:00	28.043	3/21/01	4:00	38.01	3/16/01	4:00	51.049	3/16/01	4:00	26.448
3/16/01	8:00	55.195	3/16/01	12:00	13.424	3/21/01	8:00	28.023	3/21/01	8:00	37.991	3/16/01	8:00	50.994	3/16/01	8:00	26.501
3/16/01	12:00	55.284	3/16/01	16:00	13.607	3/21/01	12:00	28.001	3/21/01	12:00	37.984	3/16/01	12:00	51.241	3/16/01	12:00	26.596
3/16/01	16:00	55.316	3/16/01	20:00	13.518	3/21/01	16:00	27.975	3/21/01	16:00	37.941	3/16/01	16:00	51.732	3/16/01	16:00	26.608
3/16/01	20:00	55.240	3/17/01	0:00	13.551	3/21/01	20:00	27.949	3/21/01	20:00	37.913	3/16/01	20:00	51.741	3/16/01	20:00	26.589
3/17/01	0:00	55.222	3/17/01	4:00	13.588	3/22/01	0:00	27.934	3/22/01	0:00	37.887	3/17/01	0:00	51.766	3/17/01	0:00	26.569
3/17/01	4:00	55.225	3/17/01	8:00	13.440	3/22/01	4:00	27.910	3/22/01	4:00	37.864	3/17/01	4:00	51.784	3/17/01	4:00	26.547
3/17/01	8:00	55.175	3/17/01	12:00	13.577	3/22/01	8:00	27.895	3/22/01	8:00	37.849	3/17/01	8:00	51.823	3/17/01	8:00	26.535
3/17/01	12:00	56.014	3/17/01	16:00	13.577	3/22/01	12:00	27.890	3/22/01	12:00	37.842	3/17/01	12:00	51.848	3/17/01	12:00	26.513
3/17/01	16:00	56.037	3/17/01	20:00	13.556	3/22/01	16:00	27.871	3/22/01	16:00	37.819	3/17/01	16:00	51.814	3/17/01	16:00	26.472
3/17/01	20:00	55.950	3/18/01	0:00	13.435	3/22/01	20:00	27.861	3/22/01	20:00	37.819	3/17/01	20:00	51.764	3/17/01	20:00	26.443
3/18/01	0:00	55.888	3/18/01	4:00	13.393	3/23/01	0:00	27.857	3/23/01	0:00	37.819	3/18/01	0:00	51.771	3/18/01	0:00	26.419
3/18/01	4:00	55.917	3/18/01	8:00	13.325	3/23/01	4:00	27.844	3/23/01	4:00	37.801	3/18/01	4:00	51.75	3/18/01	4:00	26.385
3/18/01	8:00	55.858	3/18/01	12:00	13.400	3/23/01	8:00	27.840	3/23/01	8:00	37.795	3/18/01	8:00	51.75	3/18/01	8:00	26.361
3/18/01	12:00	56.014	3/18/01	16:00	13.532	3/23/01	12:00	27.840	3/23/01	12:00	37.799	3/18/01	12:00	51.707	3/18/01	12:00	26.334
3/18/01	16:00	56.032	3/18/01	20:00	13.553	3/23/01	16:00	27.823	3/23/01	16:00	37.778	3/18/01	16:00	51.652	3/18/01	16:00	26.296
3/18/01	20:00	55.970	3/19/01	0:00	13.499	3/23/01	20:00	27.835	3/23/01	20:00	37.791	3/18/01	20:00	51.627	3/18/01	20:00	26.274
3/19/01	0:00	55.925	3/19/01	4:00	13.457	3/24/01	0:00	27.845	3/24/01	0:00	37.81	3/19/01	0:00	51.588	3/19/01	0:00	26.254
3/19/01	4:00	55.917	3/19/01	8:00	13.362	3/24/01	4:00	27.862	3/24/01	4:00	37.836	3/19/01	4:00	51.551	3/19/01	4:00	26.225

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
3/19/01	8:00	55.878	3/19/01	12:00	13.532	3/24/01	8:00	27.879	3/24/01	8:00	37.872	3/19/01	8:00	51.531	3/19/01	8:00	26.213
3/19/01	12:00	56.009	3/19/01	16:00	13.115	3/24/01	12:00	27.895	3/24/01	12:00	37.902	3/19/01	12:00	51.513	3/19/01	12:00	26.199
3/19/01	16:00	56.025	3/19/01	20:00	13.080	3/24/01	16:00	27.888	3/24/01	16:00	37.892	3/19/01	16:00	51.417	3/19/01	16:00	26.167
3/19/01	20:00	55.925	3/20/01	0:00	13.066	3/24/01	20:00	27.886	3/24/01	20:00	37.881	3/19/01	20:00	51.389	3/19/01	20:00	26.155
3/20/01	0:00	55.873	3/20/01	4:00	13.049	3/25/01	0:00	27.893	3/25/01	0:00	37.887	3/20/01	0:00	51.378	3/20/01	0:00	26.148
3/20/01	4:00	55.853	3/20/01	8:00	13.042	3/25/01	4:00	27.874	3/25/01	4:00	37.874	3/20/01	4:00	51.344	3/20/01	4:00	26.133
3/20/01	8:00	55.836	3/20/01	12:00	13.036	3/25/01	8:00	27.874	3/25/01	8:00	37.872	3/20/01	8:00	51.323	3/20/01	8:00	26.129
3/20/01	12:00	55.984	3/20/01	16:00	13.028	3/25/01	12:00	27.869	3/25/01	12:00	37.874	3/20/01	12:00	51.284	3/20/01	12:00	26.121
3/20/01	16:00	55.838	3/20/01	20:00	13.016	3/25/01	16:00	27.852	3/25/01	16:00	37.849	3/20/01	16:00	51.197	3/20/01	16:00	26.09
3/20/01	20:00	55.799	3/21/01	0:00	13.011	3/25/01	20:00	27.842	3/25/01	20:00	37.834	3/20/01	20:00	51.156	3/20/01	20:00	26.085
3/21/01	0:00	55.791	3/21/01	4:00	13.000	3/26/01	0:00	27.840	3/26/01	0:00	37.829	3/21/01	0:00	51.145	3/21/01	0:00	26.085
3/21/01	4:00	55.779	3/21/01	8:00	12.976	3/26/01	4:00	27.833	3/26/01	4:00	37.823	3/21/01	4:00	51.122	3/21/01	4:00	26.078
3/21/01	8:00	55.756	3/21/01	12:00	13.033	3/26/01	8:00	27.828	3/26/01	8:00	37.814	3/21/01	8:00	51.106	3/21/01	8:00	26.078
3/21/01	12:00	55.746	3/21/01	16:00	13.118	3/26/01	12:00	27.823	3/26/01	12:00	37.816	3/21/01	12:00	51.074	3/21/01	12:00	26.078
3/21/01	16:00	55.722	3/21/01	20:00	13.094	3/26/01	16:00	27.801	3/26/01	16:00	37.78	3/21/01	16:00	51.017	3/21/01	16:00	26.056
3/21/01	20:00	55.689	3/22/01	0:00	13.033	3/26/01	20:00	27.777	3/26/01	20:00	37.743	3/21/01	20:00	50.962	3/21/01	20:00	26.056
3/22/01	0:00	55.677	3/22/01	4:00	13.014	3/27/01	0:00	27.768	3/27/01	0:00	37.728	3/22/01	0:00	50.96	3/22/01	0:00	26.058
3/22/01	4:00	55.655	3/22/01	8:00	12.969	3/27/01	4:00	27.756	3/27/01	4:00	37.709	3/22/01	4:00	50.923	3/22/01	4:00	26.051
3/22/01	8:00	55.650	3/22/01	12:00	13.106	3/27/01	8:00	27.746	3/27/01	8:00	37.696	3/22/01	8:00	50.912	3/22/01	8:00	26.056
3/22/01	12:00	55.650	3/22/01	16:00	12.899	3/27/01	12:00	27.739	3/27/01	12:00	37.687	3/22/01	12:00	50.909	3/22/01	12:00	26.07
3/22/01	16:00	55.630	3/22/01	20:00	12.534	3/27/01	16:00	27.707	3/27/01	16:00	37.648	3/22/01	16:00	50.871	3/22/01	16:00	26.066
3/22/01	20:00	55.630	3/23/01	0:00	12.936	3/27/01	20:00	27.686	3/27/01	20:00	37.609	3/22/01	20:00	50.866	3/22/01	20:00	26.08
3/23/01	0:00	55.642	3/23/01	4:00	12.929	3/28/01	0:00	27.669	3/28/01	0:00	37.579	3/23/01	0:00	50.871	3/23/01	0:00	26.095
3/23/01	4:00	55.635	3/23/01	8:00	12.929	3/28/01	4:00	27.640	3/28/01	4:00	37.536	3/23/01	4:00	50.823	3/23/01	4:00	26.09
3/23/01	8:00	55.650	3/23/01	12:00	12.936	3/28/01	8:00	27.601	3/28/01	8:00	37.485	3/23/01	8:00	50.823	3/23/01	8:00	26.102
3/23/01	12:00	55.652	3/23/01	16:00	12.927	3/28/01	12:00	27.572	3/28/01	12:00	37.444	3/23/01	12:00	50.855	3/23/01	12:00	26.124
3/23/01	16:00	55.717	3/23/01	20:00	12.934	3/28/01	16:00	27.538	3/28/01	16:00	37.392	3/23/01	16:00	50.791	3/23/01	16:00	26.119
3/23/01	20:00	55.506	3/24/01	0:00	12.932	3/28/01	20:00	27.512	3/28/01	20:00	37.343	3/23/01	20:00	50.852	3/23/01	20:00	26.15
3/24/01	0:00	55.444	3/24/01	4:00	12.943	3/29/01	0:00	27.500	3/29/01	0:00	37.332	3/24/01	0:00	50.853	3/24/01	0:00	26.184
3/24/01	4:00	55.372	3/24/01	8:00	12.960	3/29/01	4:00	27.488	3/29/01	4:00	37.317	3/24/01	4:00	50.93	3/24/01	4:00	26.213
3/24/01	8:00	55.342	3/24/01	12:00	12.971	3/29/01	8:00	27.478	3/29/01	8:00	37.302	3/24/01	8:00	50.983	3/24/01	8:00	26.245
3/24/01	12:00	55.833	3/24/01	16:00	12.969	3/29/01	12:00	27.473	3/29/01	12:00	37.295	3/24/01	12:00	50.992	3/24/01	12:00	26.269
3/24/01	16:00	55.806	3/24/01	20:00	12.969	3/29/01	16:00	27.461	3/29/01	16:00	37.265	3/24/01	16:00	50.958	3/24/01	16:00	26.262
3/24/01	20:00	55.794	3/25/01	0:00	12.976	3/29/01	20:00	27.454	3/29/01	20:00	37.265	3/24/01	20:00	50.917	3/24/01	20:00	26.269
3/25/01	0:00	55.799	3/25/01	4:00	12.976	3/30/01	0:00	27.459	3/30/01	0:00	37.265	3/25/01	0:00	50.93	3/25/01	0:00	26.281
3/25/01	4:00	55.791	3/25/01	8:00	12.979	3/30/01	4:00	27.452	3/30/01	4:00	37.259	3/25/01	4:00	50.909	3/25/01	4:00	26.276
3/25/01	8:00	55.782	3/25/01	12:00	12.983	3/30/01	8:00	27.452	3/30/01	8:00	37.256	3/25/01	8:00	50.889	3/25/01	8:00	26.291
3/25/01	12:00	55.893	3/25/01	16:00	12.981	3/30/01	12:00	27.447	3/30/01	12:00	37.248	3/25/01	12:00	50.887	3/25/01	12:00	26.3

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
3/25/01	16:00	55.898	3/25/01	20:00	12.981	3/30/01	16:00	27.420	3/30/01	16:00	37.218	3/25/01	16:00	50.841	3/25/01	16:00	26.288
3/25/01	20:00	55.719	3/26/01	0:00	12.983	3/30/01	20:00	27.411	3/30/01	20:00	37.2	3/25/01	20:00	50.816	3/25/01	20:00	26.293
3/26/01	0:00	55.734	3/26/01	4:00	12.986	3/31/01	0:00	27.403	3/31/01	0:00	37.192	3/26/01	0:00	50.818	3/26/01	0:00	26.305
3/26/01	4:00	55.729	3/26/01	8:00	12.988	3/31/01	4:00	27.394	3/31/01	4:00	37.183	3/26/01	4:00	50.796	3/26/01	4:00	26.313
3/26/01	8:00	55.736	3/26/01	12:00	12.995	3/31/01	8:00	27.406	3/31/01	8:00	37.194	3/26/01	8:00	50.793	3/26/01	8:00	26.322
3/26/01	12:00	55.736	3/26/01	16:00	12.993	3/31/01	12:00	27.432	3/31/01	12:00	37.228	3/26/01	12:00	50.777	3/26/01	12:00	26.329
3/26/01	16:00	55.684	3/26/01	20:00	12.986	3/31/01	16:00	27.440	3/31/01	16:00	37.239	3/26/01	16:00	50.727	3/26/01	16:00	26.305
3/26/01	20:00	55.640	3/27/01	0:00	12.988	3/31/01	20:00	27.444	3/31/01	20:00	37.25	3/26/01	20:00	50.686	3/26/01	20:00	26.3
3/27/01	0:00	55.630	3/27/01	4:00	12.988	4/1/01	0:00	27.444	4/1/01	0:00	37.254	3/27/01	0:00	50.619	3/27/01	0:00	26.308
3/27/01	4:00	55.617	3/27/01	8:00	12.988	4/1/01	4:00	27.437	4/1/01	4:00	37.25	3/27/01	4:00	50.608	3/27/01	4:00	26.308
3/27/01	8:00	55.607	3/27/01	12:00	12.990	4/1/01	8:00	27.430	4/1/01	8:00	37.244	3/27/01	8:00	50.613	3/27/01	8:00	26.317
3/27/01	12:00	55.600	3/27/01	16:00	12.983	4/1/01	12:00	27.418	4/1/01	12:00	37.228	3/27/01	12:00	50.583	3/27/01	12:00	26.322
3/27/01	16:00	55.600	3/27/01	20:00	12.976	4/1/01	16:00	27.394	4/1/01	16:00	37.198	3/27/01	16:00	50.51	3/27/01	16:00	26.303
3/27/01	20:00	55.541	3/28/01	0:00	12.976	4/1/01	20:00	27.384	4/1/01	20:00	37.17	3/27/01	20:00	50.462	3/27/01	20:00	26.291
3/28/01	0:00	55.536	3/28/01	4:00	12.969	4/2/01	0:00	27.372	4/2/01	0:00	37.159	3/28/01	0:00	50.416	3/28/01	0:00	26.293
3/28/01	4:00	55.558	3/28/01	8:00	13.016	4/2/01	4:00	27.367	4/2/01	4:00	37.162	3/28/01	4:00	50.368	3/28/01	4:00	26.274
3/28/01	8:00	55.525	3/28/01	12:00	13.200	4/2/01	8:00	27.365	4/2/01	8:00	37.16	3/28/01	8:00	50.274	3/28/01	8:00	26.32
3/28/01	12:00	55.314	3/28/01	16:00	12.943	4/2/01	12:00	27.367	4/2/01	12:00	37.164	3/28/01	12:00	50.33	3/28/01	12:00	26.262
3/28/01	16:00	55.233	3/28/01	20:00	12.939	4/2/01	16:00	27.355	4/2/01	16:00	37.144	3/28/01	16:00	50.133	3/28/01	16:00	26.216
3/28/01	20:00	55.200	3/29/01	0:00	12.932	4/2/01	20:00	27.345	4/2/01	20:00	37.144	3/28/01	20:00	50.108	3/28/01	20:00	26.216
3/29/01	0:00	55.190	3/29/01	4:00	12.929	4/3/01	0:00	27.350	4/3/01	0:00	37.144	3/29/01	0:00	50.11	3/29/01	0:00	26.23
3/29/01	4:00	55.186	3/29/01	8:00	12.934	4/3/01	4:00	27.343	4/3/01	4:00	37.14	3/29/01	4:00	50.097	3/29/01	4:00	26.237
3/29/01	8:00	55.183	3/29/01	12:00	12.932	4/3/01	8:00	27.350	4/3/01	8:00	37.147	3/29/01	8:00	50.094	3/29/01	8:00	26.247
3/29/01	12:00	55.188	3/29/01	16:00	12.927	4/3/01	12:00	27.360	4/3/01	12:00	37.164	3/29/01	12:00	50.113	3/29/01	12:00	26.264
3/29/01	16:00	55.158	3/29/01	20:00	12.927	4/3/01	16:00	27.377	4/3/01	16:00	37.191	3/29/01	16:00	50.046	3/29/01	16:00	26.262
3/29/01	20:00	55.156	3/30/01	0:00	12.932	4/3/01	20:00	27.396	4/3/01	20:00	37.216	3/29/01	20:00	50.069	3/29/01	20:00	26.283
3/30/01	0:00	55.171	3/30/01	4:00	12.934	4/4/01	0:00	27.411	4/4/01	0:00	37.25	3/30/01	0:00	50.067	3/30/01	0:00	26.3
3/30/01	4:00	55.173	3/30/01	8:00	12.934	4/4/01	4:00	27.418	4/4/01	4:00	37.259	3/30/01	4:00	50.055	3/30/01	4:00	26.315
3/30/01	8:00	55.176	3/30/01	12:00	12.941	4/4/01	8:00	27.427	4/4/01	8:00	37.276	3/30/01	8:00	50.058	3/30/01	8:00	26.332
3/30/01	12:00	55.173	3/30/01	16:00	12.943	4/4/01	12:00	27.437	4/4/01	12:00	37.287	3/30/01	12:00	50.055	3/30/01	12:00	26.339
3/30/01	16:00	55.168	3/30/01	20:00	12.910	4/4/01	16:00	27.425	4/4/01	16:00	37.278	3/30/01	16:00	50.01	3/30/01	16:00	26.417
3/30/01	20:00	55.109	3/31/01	0:00	12.920	4/4/01	20:00	27.423	4/4/01	20:00	37.272	3/30/01	20:00	49.989	3/30/01	20:00	26.337
3/31/01	0:00	55.086	3/31/01	4:00	12.920	4/5/01	0:00	27.415	4/5/01	0:00	37.263	3/31/01	0:00	49.969	3/31/01	0:00	26.344
3/31/01	4:00	55.061	3/31/01	8:00	12.849	4/5/01	4:00	27.401	4/5/01	4:00	37.231	3/31/01	4:00	49.969	3/31/01	4:00	26.354
3/31/01	8:00	54.950	3/31/01	12:00	12.946	4/5/01	8:00	27.396	4/5/01	8:00	37.233	3/31/01	8:00	50.005	3/31/01	8:00	26.392
3/31/01	12:00	55.059	3/31/01	16:00	12.936	4/5/01	12:00	27.379	4/5/01	12:00	37.216	3/31/01	12:00	50.099	3/31/01	12:00	26.426
3/31/01	16:00	55.118	3/31/01	20:00	12.934	4/5/01	16:00	27.358	4/5/01	16:00	37.183	3/31/01	16:00	50.092	3/31/01	16:00	26.431
3/31/01	20:00	55.024	4/1/01	0:00	12.929	4/5/01	20:00	27.350	4/5/01	20:00	37.175	3/31/01	20:00	50.094	3/31/01	20:00	26.451

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
4/1/01	0:00	55.034	4/1/01	4:00	12.924	4/6/01	0:00	27.350	4/6/01	0:00	37.168	4/1/01	0:00	50.087	4/1/01	0:00	26.448
4/1/01	4:00	55.027	4/1/01	8:00	12.922	4/6/01	4:00	27.324	4/6/01	4:00	37.132	4/1/01	4:00	50.049	4/1/01	4:00	26.443
4/1/01	8:00	55.034	4/1/01	12:00	12.913	4/6/01	8:00	27.314	4/6/01	8:00	37.121	4/1/01	8:00	50.035	4/1/01	8:00	26.446
4/1/01	12:00	55.146	4/1/01	16:00	12.901	4/6/01	12:00	27.307	4/6/01	12:00	37.108	4/1/01	12:00	50.003	4/1/01	12:00	26.441
4/1/01	16:00	55.211	4/1/01	20:00	12.896	4/6/01	16:00	27.283	4/6/01	16:00	37.071	4/1/01	16:00	49.939	4/1/01	16:00	26.417
4/1/01	20:00	55.126	4/2/01	0:00	12.892	4/6/01	20:00	27.239	4/6/01	20:00	37.015	4/1/01	20:00	49.914	4/1/01	20:00	26.412
4/2/01	0:00	55.096	4/2/01	4:00	12.887	4/7/01	0:00	27.208	4/7/01	0:00	36.97	4/2/01	0:00	49.918	4/2/01	0:00	26.424
4/2/01	4:00	55.089	4/2/01	8:00	12.884	4/7/01	4:00	27.193	4/7/01	4:00	36.948	4/2/01	4:00	49.918	4/2/01	4:00	26.426
4/2/01	8:00	55.124	4/2/01	12:00	12.889	4/7/01	8:00	27.206	4/7/01	8:00	36.961	4/2/01	8:00	49.928	4/2/01	8:00	26.438
4/2/01	12:00	55.233	4/2/01	16:00	12.882	4/7/01	12:00	27.230	4/7/01	12:00	36.994	4/2/01	12:00	49.934	4/2/01	12:00	26.453
4/2/01	16:00	55.278	4/2/01	20:00	12.750	4/7/01	16:00	27.247	4/7/01	16:00	37.004	4/2/01	16:00	49.85	4/2/01	16:00	26.443
4/2/01	20:00	55.161	4/3/01	0:00	12.708	4/7/01	20:00	27.261	4/7/01	20:00	37.03	4/2/01	20:00	49.811	4/2/01	20:00	26.458
4/3/01	0:00	55.159	4/3/01	4:00	12.870	4/8/01	0:00	27.290	4/8/01	0:00	37.069	4/3/01	0:00	49.715	4/3/01	0:00	26.47
4/3/01	4:00	55.151	4/3/01	8:00	12.720	4/8/01	4:00	27.300	4/8/01	4:00	37.082	4/3/01	4:00	49.852	4/3/01	4:00	26.477
4/3/01	8:00	55.042	4/3/01	12:00	12.873	4/8/01	8:00	27.297	4/8/01	8:00	37.08	4/3/01	8:00	49.784	4/3/01	8:00	26.504
4/3/01	12:00	55.029	4/3/01	16:00	12.894	4/8/01	12:00	27.292	4/8/01	12:00	37.071	4/3/01	12:00	49.889	4/3/01	12:00	26.526
4/3/01	16:00	55.049	4/3/01	20:00	12.901	4/8/01	16:00	27.278	4/8/01	16:00	37.043	4/3/01	16:00	49.957	4/3/01	16:00	26.55
4/3/01	20:00	55.002	4/4/01	0:00	12.910	4/8/01	20:00	27.263	4/8/01	20:00	37.022	4/3/01	20:00	49.966	4/3/01	20:00	26.581
4/4/01	0:00	55.002	4/4/01	4:00	12.915	4/9/01	0:00	27.266	4/9/01	0:00	37.024	4/4/01	0:00	50.021	4/4/01	0:00	26.608
4/4/01	4:00	55.032	4/4/01	8:00	12.924	4/9/01	4:00	27.259	4/9/01	4:00	37.009	4/4/01	4:00	50.005	4/4/01	4:00	26.615
4/4/01	8:00	55.032	4/4/01	12:00	12.929	4/9/01	8:00	27.283	4/9/01	8:00	37.035	4/4/01	8:00	50.037	4/4/01	8:00	26.632
4/4/01	12:00	55.077	4/4/01	16:00	12.924	4/9/01	12:00	27.304	4/9/01	12:00	37.067	4/4/01	12:00	50.005	4/4/01	12:00	26.644
4/4/01	16:00	55.129	4/4/01	20:00	12.922	4/9/01	16:00	27.314	4/9/01	16:00	37.08	4/4/01	16:00	49.96	4/4/01	16:00	26.637
4/4/01	20:00	55.126	4/5/01	0:00	12.927	4/9/01	20:00	27.321	4/9/01	20:00	37.08	4/4/01	20:00	49.934	4/4/01	20:00	26.642
4/5/01	0:00	55.141	4/5/01	4:00	12.922	4/10/01	0:00	27.331	4/10/01	0:00	37.095	4/5/01	0:00	49.918	4/5/01	0:00	26.642
4/5/01	4:00	55.166	4/5/01	8:00	12.934	4/10/01	4:00	27.329	4/10/01	4:00	37.093	4/5/01	4:00	49.873	4/5/01	4:00	26.632
4/5/01	8:00	55.191	4/5/01	12:00	12.929	4/10/01	8:00	27.331	4/10/01	8:00	37.093	4/5/01	8:00	49.845	4/5/01	8:00	26.635
4/5/01	12:00	55.231	4/5/01	16:00	12.915	4/10/01	12:00	27.319	4/10/01	12:00	37.078	4/5/01	12:00	49.822	4/5/01	12:00	26.625
4/5/01	16:00	55.186	4/5/01	20:00	12.915	4/10/01	16:00	27.280	4/10/01	16:00	37.024	4/5/01	16:00	49.77	4/5/01	16:00	26.61
4/5/01	20:00	55.169	4/6/01	0:00	12.913	4/10/01	20:00	27.206	4/10/01	20:00	37.041	4/5/01	20:00	49.765	4/5/01	20:00	26.62
4/6/01	0:00	55.171	4/6/01	4:00	12.906	4/11/01	0:00	27.189	4/11/01	0:00	36.996	4/6/01	0:00	49.749	4/6/01	0:00	26.627
4/6/01	4:00	55.131	4/6/01	8:00	12.906	4/11/01	4:00	27.162	4/11/01	4:00	37.067	4/6/01	4:00	49.697	4/6/01	4:00	26.603
4/6/01	8:00	55.109	4/6/01	12:00	12.913	4/11/01	8:00	27.111	4/11/01	8:00	37.052	4/6/01	8:00	49.692	4/6/01	8:00	26.615
4/6/01	12:00	55.096	4/6/01	16:00	12.901	4/11/01	12:00	27.061	4/11/01	12:00	36.819	4/6/01	12:00	49.674	4/6/01	12:00	26.615
4/6/01	16:00	55.079	4/6/01	20:00	12.884	4/11/01	16:00	27.015	4/11/01	16:00	36.753	4/6/01	16:00	49.61	4/6/01	16:00	26.589
4/6/01	20:00	54.998	4/7/01	0:00	12.875	4/11/01	20:00	26.979	4/11/01	20:00	36.735	4/6/01	20:00	49.484	4/6/01	20:00	26.547
4/7/01	0:00	54.893	4/7/01	4:00	12.875	4/12/01	0:00	26.996	4/12/01	0:00	36.783	4/7/01	0:00	49.432	4/7/01	0:00	26.533
4/7/01	4:00	54.856	4/7/01	8:00	12.887	4/12/01	4:00	27.022	4/12/01	4:00	36.856	4/7/01	4:00	49.432	4/7/01	4:00	26.547

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
4/7/01	8:00	54.898	4/7/01	12:00	12.899	4/12/01	8:00	27.056	4/12/01	8:00	36.929	4/7/01	8:00	49.478	4/7/01	8:00	26.586
4/7/01	12:00	54.963	4/7/01	16:00	12.906	4/12/01	12:00	27.080	4/12/01	12:00	37.009	4/7/01	12:00	49.551	4/7/01	12:00	26.627
4/7/01	16:00	54.995	4/7/01	20:00	12.915	4/12/01	16:00	27.083	4/12/01	16:00	37.054	4/7/01	16:00	49.58	4/7/01	16:00	26.651
4/7/01	20:00	55.024	4/8/01	0:00	12.932	4/12/01	20:00	27.083	4/12/01	20:00	37.084	4/7/01	20:00	49.628	4/7/01	20:00	26.683
4/8/01	0:00	55.099	4/8/01	4:00	12.936	4/13/01	0:00	27.090	4/13/01	0:00	37.119	4/8/01	0:00	49.672	4/8/01	0:00	26.729
4/8/01	4:00	55.119	4/8/01	8:00	12.941	4/13/01	4:00	27.087	4/13/01	4:00	37.138	4/8/01	4:00	49.697	4/8/01	4:00	26.736
4/8/01	8:00	55.104	4/8/01	12:00	12.955	4/13/01	8:00	27.087	4/13/01	8:00	37.16	4/8/01	8:00	49.665	4/8/01	8:00	26.736
4/8/01	12:00	55.054	4/8/01	16:00	12.950	4/13/01	12:00	27.080	4/13/01	12:00	37.168	4/8/01	12:00	49.644	4/8/01	12:00	26.741
4/8/01	16:00	55.015	4/8/01	20:00	12.953	4/13/01	16:00	27.061	4/13/01	16:00	37.149	4/8/01	16:00	49.596	4/8/01	16:00	26.729
4/8/01	20:00	54.972	4/9/01	0:00	12.960	4/13/01	20:00	27.030	4/13/01	20:00	37.127	4/8/01	20:00	49.537	4/8/01	20:00	26.731
4/9/01	0:00	54.982	4/9/01	4:00	12.965	4/14/01	0:00	27.022	4/14/01	0:00	37.123	4/9/01	0:00	49.544	4/9/01	0:00	26.743
4/9/01	4:00	54.973	4/9/01	8:00	12.981	4/14/01	4:00	27.013	4/14/01	4:00	37.123	4/9/01	4:00	49.526	4/9/01	4:00	26.746
4/9/01	8:00	55.015	4/9/01	12:00	12.995	4/14/01	8:00	26.996	4/14/01	8:00	37.114	4/9/01	8:00	49.601	4/9/01	8:00	26.797
4/9/01	12:00	55.079	4/9/01	16:00	13.007	4/14/01	12:00	26.984	4/14/01	12:00	37.101	4/9/01	12:00	49.656	4/9/01	12:00	26.828
4/9/01	16:00	55.089	4/9/01	20:00	13.012	4/14/01	16:00	26.933	4/14/01	16:00	37.043	4/9/01	16:00	49.651	4/9/01	16:00	26.835
4/9/01	20:00	55.082	4/10/01	0:00	13.023	4/14/01	20:00	26.883	4/14/01	20:00	36.976	4/9/01	20:00	49.658	4/9/01	20:00	26.85
4/10/01	0:00	55.109	4/10/01	4:00	13.028	4/15/01	0:00	26.853	4/15/01	0:00	36.942	4/10/01	0:00	49.669	4/10/01	0:00	26.869
4/10/01	4:00	55.089	4/10/01	8:00	13.035	4/15/01	4:00	26.846	4/15/01	4:00	36.927	4/10/01	4:00	49.644	4/10/01	4:00	26.872
4/10/01	8:00	55.089	4/10/01	12:00	13.040	4/15/01	8:00	26.859	4/15/01	8:00	36.946	4/10/01	8:00	49.624	4/10/01	8:00	26.884
4/10/01	12:00	55.065	4/10/01	16:00	13.021	4/15/01	12:00	26.880	4/15/01	12:00	36.987	4/10/01	12:00	49.587	4/10/01	12:00	26.869
4/10/01	16:00	55.035	4/10/01	20:00	13.000	4/15/01	16:00	26.892	4/15/01	16:00	37.004	4/10/01	16:00	49.605	4/10/01	16:00	26.84
4/10/01	20:00	55.010	4/11/01	0:00	13.068	4/15/01	20:00	26.902	4/15/01	20:00	37.039	4/10/01	20:00	49.564	4/10/01	20:00	26.799
4/11/01	0:00	55.070	4/11/01	4:00	12.948	4/16/01	0:00	26.914	4/16/01	0:00	37.067	4/11/01	0:00	49.594	4/11/01	0:00	26.753
4/11/01	4:00	54.973	4/11/01	8:00	12.981	4/16/01	4:00	26.924	4/16/01	4:00	37.088	4/11/01	4:00	49.544	4/11/01	4:00	26.727
4/11/01	8:00	55.117	4/11/01	12:00	12.753	4/16/01	8:00	26.955	4/16/01	8:00	37.132	4/11/01	8:00	49.526	4/11/01	8:00	26.608
4/11/01	12:00	54.724	4/11/01	16:00	12.661	4/16/01	12:00	26.962	4/16/01	12:00	37.157	4/11/01	12:00	49.204	4/11/01	12:00	26.516
4/11/01	16:00	54.662	4/11/01	20:00	12.595	4/16/01	16:00	26.957	4/16/01	16:00	37.16	4/11/01	16:00	49.135	4/11/01	16:00	26.426
4/11/01	20:00	54.637	4/12/01	0:00	12.552	4/16/01	20:00	26.957	4/16/01	20:00	37.164	4/11/01	20:00	49.156	4/11/01	20:00	26.383
4/12/01	0:00	54.744	4/12/01	4:00	12.522	4/17/01	0:00	26.967	4/17/01	0:00	37.181	4/12/01	0:00	49.281	4/12/01	0:00	26.395
4/12/01	4:00	54.901	4/12/01	8:00	12.494	4/17/01	4:00	26.972	4/17/01	4:00	37.198	4/12/01	4:00	49.45	4/12/01	4:00	26.412
4/12/01	8:00	55.032	4/12/01	12:00	12.477	4/17/01	8:00	26.991	4/17/01	8:00	37.228	4/12/01	8:00	49.567	4/12/01	8:00	26.424
4/12/01	12:00	55.147	4/12/01	16:00	12.456	4/17/01	12:00	27.006	4/17/01	12:00	37.248	4/12/01	12:00	49.667	4/12/01	12:00	26.431
4/12/01	16:00	55.194	4/12/01	20:00	12.432	4/17/01	16:00	26.991	4/17/01	16:00	37.241	4/12/01	16:00	49.676	4/12/01	16:00	26.407
4/12/01	20:00	55.224	4/13/01	0:00	12.414	4/17/01	20:00	26.972	4/17/01	20:00	37.218	4/12/01	20:00	49.708	4/12/01	20:00	26.39
4/13/01	0:00	55.271	4/13/01	4:00	12.400	4/18/01	0:00	26.962	4/18/01	0:00	37.198	4/13/01	0:00	49.759	4/13/01	0:00	26.383
4/13/01	4:00	55.303	4/13/01	8:00	12.388	4/18/01	4:00	26.943	4/18/01	4:00	37.175	4/13/01	4:00	49.754	4/13/01	4:00	26.361
4/13/01	8:00	55.333	4/13/01	12:00	12.374	4/18/01	8:00	26.926	4/18/01	8:00	37.149	4/13/01	8:00	49.793	4/13/01	8:00	26.354
4/13/01	12:00	55.340	4/13/01	16:00	12.355	4/18/01	12:00	26.897	4/18/01	12:00	37.108	4/13/01	12:00	49.775	4/13/01	12:00	26.322

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
4/13/01	16:00	55.296	4/13/01	20:00	12.338	4/18/01	16:00	26.846	4/18/01	16:00	37.037	4/13/01	16:00	49.715	4/13/01	16:00	26.281
4/13/01	20:00	55.261	4/14/01	0:00	12.317	4/18/01	20:00	26.803	4/18/01	20:00	36.974	4/13/01	20:00	49.685	4/13/01	20:00	26.25
4/14/01	0:00	55.271	4/14/01	4:00	12.312	4/19/01	0:00	26.764	4/19/01	0:00	36.912	4/14/01	0:00	49.711	4/14/01	0:00	26.245
4/14/01	4:00	55.291	4/14/01	8:00	12.319	4/19/01	4:00	26.723	4/19/01	4:00	36.854	4/14/01	4:00	49.711	4/14/01	4:00	26.228
4/14/01	8:00	55.291	4/14/01	12:00	12.298	4/19/01	8:00	26.687	4/19/01	8:00	36.796	4/14/01	8:00	49.669	4/14/01	8:00	26.213
4/14/01	12:00	55.274	4/14/01	16:00	12.150	4/19/01	12:00	26.651	4/19/01	12:00	36.74	4/14/01	12:00	49.658	4/14/01	12:00	26.189
4/14/01	16:00	55.177	4/14/01	20:00	11.924	4/19/01	16:00	26.608	4/19/01	16:00	36.675	4/14/01	16:00	49.532	4/14/01	16:00	26.141
4/14/01	20:00	55.035	4/15/01	0:00	12.129	4/19/01	20:00	26.581	4/19/01	20:00	36.634	4/14/01	20:00	49.391	4/14/01	20:00	26.087
4/15/01	0:00	55.028	4/15/01	4:00	12.206	4/20/01	0:00	26.569	4/20/01	0:00	36.611	4/15/01	0:00	49.416	4/15/01	0:00	26.058
4/15/01	4:00	54.983	4/15/01	8:00	12.211	4/20/01	4:00	26.552	4/20/01	4:00	36.585	4/15/01	4:00	49.434	4/15/01	4:00	26.041
4/15/01	8:00	54.894	4/15/01	12:00	12.218	4/20/01	8:00	26.552	4/20/01	8:00	36.582	4/15/01	8:00	49.487	4/15/01	8:00	26.056
4/15/01	12:00	54.946	4/15/01	16:00	12.192	4/20/01	12:00	26.550	4/20/01	12:00	36.569	4/15/01	12:00	49.564	4/15/01	12:00	26.075
4/15/01	16:00	55.241	4/15/01	20:00	12.188	4/20/01	16:00	26.528	4/20/01	16:00	36.539	4/15/01	16:00	49.587	4/15/01	16:00	26.068
4/15/01	20:00	55.274	4/16/01	0:00	12.188	4/20/01	20:00	26.514	4/20/01	20:00	36.511	4/15/01	20:00	49.642	4/15/01	20:00	26.08
4/16/01	0:00	55.321	4/16/01	4:00	12.176	4/21/01	0:00	26.463	4/21/01	0:00	36.537	4/16/01	0:00	49.674	4/16/01	0:00	26.085
4/16/01	4:00	55.351	4/16/01	8:00	12.183	4/21/01	4:00	25.488	4/21/01	4:00	36.634	4/16/01	4:00	49.704	4/16/01	4:00	26.092
4/16/01	8:00	55.420	4/16/01	12:00	12.183	4/21/01	8:00	26.026	4/21/01	8:00	36.673	4/16/01	8:00	49.765	4/16/01	8:00	26.119
4/16/01	12:00	55.462	4/16/01	16:00	12.181	4/21/01	12:00	26.312	4/21/01	12:00	36.52	4/16/01	12:00	49.777	4/16/01	12:00	26.119
4/16/01	16:00	55.453	4/16/01	20:00	12.176	4/21/01	16:00	26.385	4/21/01	16:00	36.522	4/16/01	16:00	49.752	4/16/01	16:00	26.104
4/16/01	20:00	55.435	4/17/01	0:00	12.181	4/21/01	20:00	26.349	4/21/01	20:00	36.518	4/16/01	20:00	49.743	4/16/01	20:00	26.109
4/17/01	0:00	55.472	4/17/01	4:00	12.178	4/22/01	0:00	26.407	4/22/01	0:00	36.574	4/17/01	0:00	49.765	4/17/01	0:00	26.116
4/17/01	4:00	55.502	4/17/01	8:00	12.188	4/22/01	4:00	26.371	4/22/01	4:00	36.708	4/17/01	4:00	49.804	4/17/01	4:00	26.126
4/17/01	8:00	55.537	4/17/01	12:00	12.190	4/22/01	8:00	26.332	4/22/01	8:00	36.46	4/17/01	8:00	49.836	4/17/01	8:00	26.148
4/17/01	12:00	55.572	4/17/01	16:00	12.183	4/22/01	12:00	26.287	4/22/01	12:00	36.408	4/17/01	12:00	49.877	4/17/01	12:00	26.155
4/17/01	16:00	55.552	4/17/01	20:00	12.183	4/22/01	16:00	26.226	4/22/01	16:00	36.335	4/17/01	16:00	49.834	4/17/01	16:00	26.133
4/17/01	20:00	55.497	4/18/01	0:00	12.178	4/22/01	20:00	26.154	4/22/01	20:00	36.441	4/17/01	20:00	49.768	4/17/01	20:00	26.116
4/18/01	0:00	55.475	4/18/01	4:00	12.169	4/23/01	0:00	26.115	4/23/01	0:00	36.298	4/18/01	0:00	49.749	4/18/01	0:00	26.104
4/18/01	4:00	55.443	4/18/01	8:00	12.169	4/23/01	4:00	26.082	4/23/01	4:00	36.216	4/18/01	4:00	49.713	4/18/01	4:00	26.085
4/18/01	8:00	55.411	4/18/01	12:00	12.162	4/23/01	8:00	26.041	4/23/01	8:00	36.221	4/18/01	8:00	49.665	4/18/01	8:00	26.07
4/18/01	12:00	55.351	4/18/01	16:00	12.148	4/23/01	12:00	26.065	4/23/01	12:00	36.266	4/18/01	12:00	49.599	4/18/01	12:00	26.036
4/18/01	16:00	55.254	4/18/01	20:00	12.134	4/23/01	16:00	26.067	4/23/01	16:00	36.292	4/18/01	16:00	49.462	4/18/01	16:00	25.986
4/18/01	20:00	55.155	4/19/01	0:00	12.122	4/23/01	20:00	26.079	4/23/01	20:00	36.326	4/18/01	20:00	49.375	4/18/01	20:00	25.952
4/19/01	0:00	55.080	4/19/01	4:00	12.110	4/24/01	0:00	26.089	4/24/01	0:00	36.361	4/19/01	0:00	49.318	4/19/01	0:00	25.928
4/19/01	4:00	55.021	4/19/01	8:00	12.100	4/24/01	4:00	26.091	4/24/01	4:00	36.372	4/19/01	4:00	49.236	4/19/01	4:00	25.899
4/19/01	8:00	54.949	4/19/01	12:00	12.091	4/24/01	8:00	26.092	4/24/01	8:00	36.395	4/19/01	8:00	49.163	4/19/01	8:00	25.874
4/19/01	12:00	54.882	4/19/01	16:00	12.082	4/24/01	12:00	26.089	4/24/01	12:00	36.408	4/19/01	12:00	49.094	4/19/01	12:00	25.853
4/19/01	16:00	54.800	4/19/01	20:00	12.075	4/24/01	16:00	26.063	4/24/01	16:00	36.376	4/19/01	16:00	49.003	4/19/01	16:00	25.823
4/19/01	20:00	54.749	4/20/01	0:00	12.075	4/24/01	20:00	26.026	4/24/01	20:00	36.337	4/19/01	20:00	48.964	4/19/01	20:00	25.826

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
4/20/01	0:00	54.754	4/20/01	4:00	12.075	4/25/01	0:00	26.010	4/25/01	0:00	36.316	4/20/01	0:00	48.961	4/20/01	0:00	25.838
4/20/01	4:00	54.744	4/20/01	8:00	12.077	4/25/01	4:00	25.985	4/25/01	4:00	36.29	4/20/01	4:00	48.939	4/20/01	4:00	25.845
4/20/01	8:00	54.751	4/20/01	12:00	12.079	4/25/01	8:00	25.973	4/25/01	8:00	36.268	4/20/01	8:00	48.964	4/20/01	8:00	25.867
4/20/01	12:00	54.766	4/20/01	16:00	12.077	4/25/01	12:00	25.969	4/25/01	12:00	36.27	4/20/01	12:00	48.962	4/20/01	12:00	25.877
4/20/01	16:00	54.739	4/20/01	20:00	12.082	4/25/01	16:00	25.942	4/25/01	16:00	36.24	4/20/01	16:00	48.923	4/20/01	16:00	25.865
4/20/01	20:00	54.664	4/21/01	0:00	11.726	4/25/01	20:00	25.920	4/25/01	20:00	36.206	4/20/01	20:00	48.895	4/20/01	20:00	25.872
4/21/01	0:00	54.771	4/21/01	4:00	11.696	4/26/01	0:00	25.896	4/26/01	0:00	36.18	4/21/01	0:00	48.793	4/21/01	0:00	25.894
4/21/01	4:00	54.701	4/21/01	8:00	11.587	4/26/01	4:00	25.872	4/26/01	4:00	36.146	4/21/01	4:00	48.781	4/21/01	4:00	25.797
4/21/01	8:00	54.624	4/21/01	12:00	11.870	4/26/01	8:00	25.855	4/26/01	8:00	36.124	4/21/01	8:00	48.994	4/21/01	8:00	25.792
4/21/01	12:00	54.862	4/21/01	16:00	11.785	4/26/01	12:00	25.838	4/26/01	12:00	36.1	4/21/01	12:00	49.058	4/21/01	12:00	25.748
4/21/01	16:00	54.892	4/21/01	20:00	11.698	4/26/01	16:00	25.817	4/26/01	16:00	36.062	4/21/01	16:00	49.042	4/21/01	16:00	25.664
4/21/01	20:00	54.895	4/22/01	0:00	11.524	4/26/01	20:00	25.790	4/26/01	20:00	36.023	4/21/01	20:00	49.053	4/21/01	20:00	25.581
4/22/01	0:00	54.930	4/22/01	4:00	11.463	4/27/01	0:00	25.780	4/27/01	0:00	36.008	4/22/01	0:00	49.019	4/22/01	0:00	25.506
4/22/01	4:00	54.987	4/22/01	8:00	11.458	4/27/01	4:00	25.771	4/27/01	4:00	35.995	4/22/01	4:00	49.037	4/22/01	4:00	25.458
4/22/01	8:00	54.999	4/22/01	12:00	11.460	4/27/01	8:00	25.764	4/27/01	8:00	35.982	4/22/01	8:00	49.012	4/22/01	8:00	25.31
4/22/01	12:00	54.833	4/22/01	16:00	11.397	4/27/01	12:00	25.764	4/27/01	12:00	35.973	4/22/01	12:00	48.941	4/22/01	12:00	25.211
4/22/01	16:00	54.768	4/22/01	20:00	11.229	4/27/01	16:00	25.749	4/27/01	16:00	35.954	4/22/01	16:00	48.825	4/22/01	16:00	25.104
4/22/01	20:00	54.704	4/23/01	0:00	11.036	4/27/01	20:00	25.739	4/27/01	20:00	35.935	4/22/01	20:00	48.761	4/22/01	20:00	25.029
4/23/01	0:00	54.684	4/23/01	4:00	11.222	4/28/01	0:00	25.742	4/28/01	0:00	35.932	4/23/01	0:00	48.729	4/23/01	0:00	24.94
4/23/01	4:00	54.689	4/23/01	8:00	11.194	4/28/01	4:00	25.747	4/28/01	4:00	35.93	4/23/01	4:00	48.747	4/23/01	4:00	24.896
4/23/01	8:00	54.751	4/23/01	12:00	11.182	4/28/01	8:00	25.754	4/28/01	8:00	35.941	4/23/01	8:00	48.822	4/23/01	8:00	24.874
4/23/01	12:00	54.838	4/23/01	16:00	11.147	4/28/01	12:00	25.761	4/28/01	12:00	35.95	4/23/01	12:00	48.925	4/23/01	12:00	24.87
4/23/01	16:00	54.908	4/23/01	20:00	11.121	4/28/01	16:00	25.754	4/28/01	16:00	35.922	4/23/01	16:00	48.966	4/23/01	16:00	24.85
4/23/01	20:00	54.967	4/24/01	0:00	11.107	4/28/01	20:00	25.747	4/28/01	20:00	35.909	4/23/01	20:00	49.014	4/23/01	20:00	24.843
4/24/01	0:00	55.027	4/24/01	4:00	11.088	4/29/01	0:00	25.744	4/29/01	0:00	35.909	4/24/01	0:00	49.062	4/24/01	0:00	24.836
4/24/01	4:00	55.074	4/24/01	8:00	11.076	4/29/01	4:00	25.747	4/29/01	4:00	35.902	4/24/01	4:00	49.076	4/24/01	4:00	24.819
4/24/01	8:00	55.118	4/24/01	12:00	11.067	4/29/01	8:00	25.749	4/29/01	8:00	35.904	4/24/01	8:00	49.124	4/24/01	8:00	24.811
4/24/01	12:00	55.138	4/24/01	16:00	11.046	4/29/01	12:00	25.742	4/29/01	12:00	35.894	4/24/01	12:00	49.126	4/24/01	12:00	24.792
4/24/01	16:00	55.098	4/24/01	20:00	11.027	4/29/01	16:00	25.730	4/29/01	16:00	35.863	4/24/01	16:00	49.067	4/24/01	16:00	24.746
4/24/01	20:00	55.047	4/25/01	0:00	11.013	4/29/01	20:00	25.715	4/29/01	20:00	35.831	4/24/01	20:00	48.985	4/24/01	20:00	24.707
4/25/01	0:00	55.042	4/25/01	4:00	10.999	4/30/01	0:00	25.703	4/30/01	0:00	35.814	4/25/01	0:00	48.966	4/25/01	0:00	24.693
4/25/01	4:00	55.022	4/25/01	8:00	10.989	4/30/01	4:00	25.694	4/30/01	4:00	35.786	4/25/01	4:00	48.921	4/25/01	4:00	24.664
4/25/01	8:00	55.027	4/25/01	12:00	10.989	4/30/01	8:00	25.696	4/30/01	8:00	35.784	4/25/01	8:00	48.946	4/25/01	8:00	24.654
4/25/01	12:00	55.040	4/25/01	16:00	10.978	4/30/01	12:00	25.679	4/30/01	12:00	35.751	4/25/01	12:00	48.921	4/25/01	12:00	24.649
4/25/01	16:00	55.007	4/25/01	20:00	10.966	4/30/01	16:00	25.662	4/30/01	16:00	35.73	4/25/01	16:00	48.875	4/25/01	16:00	24.627
4/25/01	20:00	54.965	4/26/01	0:00	10.961	4/30/01	20:00	25.648	4/30/01	20:00	35.698	4/25/01	20:00	48.829	4/25/01	20:00	24.608
4/26/01	0:00	54.957	4/26/01	4:00	10.952	5/1/01	0:00	25.636	5/1/01	0:00	35.67	4/26/01	0:00	48.804	4/26/01	0:00	24.596
4/26/01	4:00	54.928	4/26/01	8:00	10.952	5/1/01	4:00	25.621	5/1/01	4:00	35.635	4/26/01	4:00	48.763	4/26/01	4:00	24.579

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
4/26/01	8:00	54.920	4/26/01	12:00	10.949	5/1/01	8:00	25.612	5/1/01	8:00	35.618	4/26/01	8:00	48.745	4/26/01	8:00	24.574
4/26/01	12:00	54.905	4/26/01	16:00	10.942	5/1/01	12:00	25.602	5/1/01	12:00	35.596	4/26/01	12:00	48.724	4/26/01	12:00	24.565
4/26/01	16:00	54.866	4/26/01	20:00	10.935	5/1/01	16:00	25.578	5/1/01	16:00	35.556	4/26/01	16:00	48.663	4/26/01	16:00	24.552
4/26/01	20:00	54.823	4/27/01	0:00	10.938	5/1/01	20:00	25.563	5/1/01	20:00	35.519	4/26/01	20:00	48.624	4/26/01	20:00	24.543
4/27/01	0:00	54.828	4/27/01	4:00	10.942	5/2/01	0:00	25.554	5/2/01	0:00	35.5	4/27/01	0:00	48.615	4/27/01	0:00	24.552
4/27/01	4:00	54.826	4/27/01	8:00	10.945	5/2/01	4:00	25.542	5/2/01	4:00	35.476	4/27/01	4:00	48.614	4/27/01	4:00	24.557
4/27/01	8:00	54.833	4/27/01	12:00	10.956	5/2/01	8:00	25.551	5/2/01	8:00	35.482	4/27/01	8:00	48.626	4/27/01	8:00	24.565
4/27/01	12:00	54.843	4/27/01	16:00	10.956	5/2/01	12:00	25.556	5/2/01	12:00	35.487	4/27/01	12:00	48.601	4/27/01	12:00	24.579
4/27/01	16:00	54.814	4/27/01	20:00	10.959	5/2/01	16:00	25.561	5/2/01	16:00	35.489	4/27/01	16:00	48.557	4/27/01	16:00	24.581
4/27/01	20:00	54.786	4/28/01	0:00	10.966	5/2/01	20:00	25.580	5/2/01	20:00	35.508	4/27/01	20:00	48.551	4/27/01	20:00	24.594
4/28/01	0:00	54.806	4/28/01	4:00	10.973	5/3/01	0:00	25.600	5/3/01	0:00	35.534	4/28/01	0:00	48.564	4/28/01	0:00	24.611
4/28/01	4:00	54.819	4/28/01	8:00	10.985	5/3/01	4:00	25.607	5/3/01	4:00	35.543	4/28/01	4:00	48.557	4/28/01	4:00	24.63
4/28/01	8:00	54.851	4/28/01	12:00	10.996	5/3/01	8:00	25.631	5/3/01	8:00	35.571	4/28/01	8:00	48.583	4/28/01	8:00	24.652
4/28/01	12:00	54.868	4/28/01	16:00	11.006	5/3/01	12:00	25.648	5/3/01	12:00	35.596	4/28/01	12:00	48.612	4/28/01	12:00	24.676
4/28/01	16:00	54.831	4/28/01	20:00	11.011	5/3/01	16:00	25.648	5/3/01	16:00	35.592	4/28/01	16:00	48.573	4/28/01	16:00	24.678
4/28/01	20:00	54.816	4/29/01	0:00	11.020	5/3/01	20:00	25.643	5/3/01	20:00	35.601	4/28/01	20:00	48.512	4/28/01	20:00	24.69
4/29/01	0:00	54.816	4/29/01	4:00	11.029	5/4/01	0:00	25.665	5/4/01	0:00	35.627	4/29/01	0:00	48.535	4/29/01	0:00	24.71
4/29/01	4:00	54.826	4/29/01	8:00	11.039	5/4/01	4:00	25.672	5/4/01	4:00	35.635	4/29/01	4:00	48.523	4/29/01	4:00	24.722
4/29/01	8:00	54.836	4/29/01	12:00	11.051	5/4/01	8:00	25.682	5/4/01	8:00	35.648	4/29/01	8:00	48.557	4/29/01	8:00	24.741
4/29/01	12:00	54.821	4/29/01	16:00	11.053	5/4/01	12:00	25.686	5/4/01	12:00	35.642	4/29/01	12:00	48.548	4/29/01	12:00	24.746
4/29/01	16:00	54.761	4/29/01	20:00	11.060	5/4/01	16:00	25.672	5/4/01	16:00	35.62	4/29/01	16:00	48.523	4/29/01	16:00	24.746
4/29/01	20:00	54.724	4/30/01	0:00	11.065	5/4/01	20:00	25.662	5/4/01	20:00	35.603	4/29/01	20:00	48.462	4/29/01	20:00	24.749
4/30/01	0:00	54.714	4/30/01	4:00	11.069	5/5/01	0:00	25.653	5/5/01	0:00	35.588	4/30/01	0:00	48.462	4/30/01	0:00	24.758
4/30/01	4:00	54.699	4/30/01	8:00	11.084	5/5/01	4:00	25.631	5/5/01	4:00	35.549	4/30/01	4:00	48.436	4/30/01	4:00	24.763
4/30/01	8:00	54.702	4/30/01	12:00	11.084	5/5/01	8:00	25.604	5/5/01	8:00	35.517	4/30/01	8:00	48.416	4/30/01	8:00	24.782
4/30/01	12:00	54.677	4/30/01	16:00	11.065	5/5/01	12:00	25.592	5/5/01	12:00	35.497	4/30/01	12:00	48.384	4/30/01	12:00	24.773
4/30/01	16:00	54.635	4/30/01	20:00	11.086	5/5/01	16:00	25.583	5/5/01	16:00	35.478	4/30/01	16:00	48.309	4/30/01	16:00	24.773
4/30/01	20:00	54.595	5/1/01	0:00	11.091	5/5/01	20:00	25.575	5/5/01	20:00	35.467	4/30/01	20:00	48.265	4/30/01	20:00	24.77
5/1/01	0:00	54.571	5/1/01	4:00	11.095	5/6/01	0:00	25.571	5/6/01	0:00	35.461	5/1/01	0:00	48.231	5/1/01	0:00	24.773
5/1/01	4:00	54.543	5/1/01	8:00	11.124	5/6/01	4:00	25.551	5/6/01	4:00	35.437	5/1/01	4:00	48.183	5/1/01	4:00	24.775
5/1/01	8:00	54.511	5/1/01	12:00	11.114	5/6/01	8:00	25.551	5/6/01	8:00	35.435	5/1/01	8:00	48.165	5/1/01	8:00	24.778
5/1/01	12:00	54.486	5/1/01	16:00	11.112	5/6/01	12:00	25.561	5/6/01	12:00	35.448	5/1/01	12:00	48.137	5/1/01	12:00	24.782
5/1/01	16:00	54.424	5/1/01	20:00	11.119	5/6/01	16:00	25.558	5/6/01	16:00	35.446	5/1/01	16:00	48.053	5/1/01	16:00	24.778
5/1/01	20:00	54.369	5/2/01	0:00	11.119	5/6/01	20:00	25.578	5/6/01	20:00	35.474	5/1/01	20:00	48.019	5/1/01	20:00	24.792
5/2/01	0:00	54.362	5/2/01	4:00	11.126	5/7/01	0:00	25.609	5/7/01	0:00	35.519	5/2/01	0:00	47.996	5/2/01	0:00	24.804
5/2/01	4:00	54.337	5/2/01	8:00	11.138	5/7/01	4:00	25.633	5/7/01	4:00	35.56	5/2/01	4:00	47.957	5/2/01	4:00	24.811
5/2/01	8:00	54.360	5/2/01	12:00	11.152	5/7/01	8:00	25.672	5/7/01	8:00	35.612	5/2/01	8:00	47.975	5/2/01	8:00	24.84
5/2/01	12:00	54.374	5/2/01	16:00	11.161	5/7/01	12:00	25.696	5/7/01	12:00	35.655	5/2/01	12:00	48.007	5/2/01	12:00	24.867

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
5/2/01	16:00	54.384	5/2/01	20:00	11.182	5/7/01	16:00	25.710	5/7/01	16:00	35.67	5/2/01	16:00	48.023	5/2/01	16:00	24.891
5/2/01	20:00	54.407	5/3/01	0:00	11.197	5/7/01	20:00	25.716	5/7/01	20:00	35.678	5/2/01	20:00	48.044	5/2/01	20:00	24.935
5/3/01	0:00	54.456	5/3/01	4:00	11.208	5/8/01	0:00	25.730	5/8/01	0:00	35.696	5/3/01	0:00	48.085	5/3/01	0:00	24.974
5/3/01	4:00	54.479	5/3/01	8:00	11.232	5/8/01	4:00	25.735	5/8/01	4:00	35.698	5/3/01	4:00	48.082	5/3/01	4:00	24.991
5/3/01	8:00	54.506	5/3/01	12:00	11.265	5/8/01	8:00	25.744	5/8/01	8:00	35.711	5/3/01	8:00	48.124	5/3/01	8:00	25.034
5/3/01	12:00	54.595	5/3/01	16:00	11.025	5/8/01	12:00	25.744	5/8/01	12:00	35.711	5/3/01	12:00	48.176	5/3/01	12:00	25.066
5/3/01	16:00	54.548	5/3/01	20:00	10.907	5/8/01	16:00	25.735	5/8/01	16:00	35.68	5/3/01	16:00	48.069	5/3/01	16:00	25.07
5/3/01	20:00	54.548	5/4/01	0:00	10.893	5/8/01	20:00	25.720	5/8/01	20:00	35.652	5/3/01	20:00	47.909	5/3/01	20:00	25.1
5/4/01	0:00	54.563	5/4/01	4:00	10.865	5/9/01	0:00	25.718	5/9/01	0:00	35.648	5/4/01	0:00	47.882	5/4/01	0:00	25.107
5/4/01	4:00	54.561	5/4/01	8:00	10.919	5/9/01	4:00	25.708	5/9/01	4:00	35.627	5/4/01	4:00	47.861	5/4/01	4:00	25.095
5/4/01	8:00	54.556	5/4/01	12:00	11.284	5/9/01	8:00	25.703	5/9/01	8:00	35.618	5/4/01	8:00	47.918	5/4/01	8:00	25.167
5/4/01	12:00	54.645	5/4/01	16:00	11.253	5/9/01	12:00	25.691	5/9/01	12:00	35.601	5/4/01	12:00	48.185	5/4/01	12:00	25.131
5/4/01	16:00	54.683	5/4/01	20:00	11.255	5/9/01	16:00	25.677	5/9/01	16:00	35.566	5/4/01	16:00	48.121	5/4/01	16:00	25.116
5/4/01	20:00	54.521	5/5/01	0:00	11.182	5/9/01	20:00	25.655	5/9/01	20:00	35.525	5/4/01	20:00	48.069	5/4/01	20:00	25.121
5/5/01	0:00	54.511	5/5/01	4:00	11.140	5/10/01	0:00	25.650	5/10/01	0:00	35.515	5/5/01	0:00	48.035	5/5/01	0:00	25.121
5/5/01	4:00	54.464	5/5/01	8:00	11.126	5/10/01	4:00	25.641	5/10/01	4:00	35.508	5/5/01	4:00	47.996	5/5/01	4:00	25.085
5/5/01	8:00	54.439	5/5/01	12:00	11.484	5/10/01	8:00	25.648	5/10/01	8:00	35.51	5/5/01	8:00	47.982	5/5/01	8:00	25.153
5/5/01	12:00	54.477	5/5/01	16:00	11.204	5/10/01	12:00	25.641	5/10/01	12:00	35.493	5/5/01	12:00	48.057	5/5/01	12:00	25.114
5/5/01	16:00	54.380	5/5/01	20:00	11.206	5/10/01	16:00	25.636	5/10/01	16:00	35.474	5/5/01	16:00	47.909	5/5/01	16:00	25.087
5/5/01	20:00	54.355	5/6/01	0:00	11.208	5/10/01	20:00	25.628	5/10/01	20:00	35.452	5/5/01	20:00	47.877	5/5/01	20:00	25.095
5/6/01	0:00	54.355	5/6/01	4:00	11.197	5/11/01	0:00	25.583	5/11/01	0:00	35.409	5/6/01	0:00	47.866	5/6/01	0:00	25.104
5/6/01	4:00	54.318	5/6/01	8:00	11.204	5/11/01	4:00	25.595	5/11/01	4:00	35.454	5/6/01	4:00	47.831	5/6/01	4:00	25.092
5/6/01	8:00	54.313	5/6/01	12:00	11.218	5/11/01	8:00	25.628	5/11/01	8:00	35.502	5/6/01	8:00	47.815	5/6/01	8:00	25.112
5/6/01	12:00	54.330	5/6/01	16:00	11.211	5/11/01	12:00	25.657	5/11/01	12:00	35.547	5/6/01	12:00	47.87	5/6/01	12:00	25.136
5/6/01	16:00	54.338	5/6/01	20:00	11.218	5/11/01	16:00	25.675	5/11/01	16:00	35.575	5/6/01	16:00	47.852	5/6/01	16:00	25.148
5/6/01	20:00	54.375	5/7/01	0:00	11.232	5/11/01	20:00	25.682	5/11/01	20:00	35.599	5/6/01	20:00	47.913	5/6/01	20:00	25.194
5/7/01	0:00	54.452	5/7/01	4:00	11.246	5/12/01	0:00	25.696	5/12/01	0:00	35.622	5/7/01	0:00	48	5/7/01	0:00	25.245
5/7/01	4:00	54.521	5/7/01	8:00	11.265	5/12/01	4:00	25.698	5/12/01	4:00	35.646	5/7/01	4:00	48.053	5/7/01	4:00	25.286
5/7/01	8:00	54.593	5/7/01	12:00	11.286	5/12/01	8:00	25.711	5/12/01	8:00	35.668	5/7/01	8:00	48.135	5/7/01	8:00	25.334
5/7/01	12:00	54.643	5/7/01	16:00	11.293	5/12/01	12:00	25.716	5/12/01	12:00	35.683	5/7/01	12:00	48.174	5/7/01	12:00	25.371
5/7/01	16:00	54.660	5/7/01	20:00	11.302	5/12/01	16:00	25.706	5/12/01	16:00	35.68	5/7/01	16:00	48.162	5/7/01	16:00	25.392
5/7/01	20:00	54.653	5/8/01	0:00	11.314	5/12/01	20:00	25.687	5/12/01	20:00	35.657	5/7/01	20:00	48.172	5/7/01	20:00	25.414
5/8/01	0:00	54.665	5/8/01	4:00	11.324	5/13/01	0:00	25.679	5/13/01	0:00	35.646	5/8/01	0:00	48.174	5/8/01	0:00	25.438
5/8/01	4:00	54.668	5/8/01	8:00	11.338	5/13/01	4:00	25.670	5/13/01	4:00	35.631	5/8/01	4:00	48.169	5/8/01	4:00	25.446
5/8/01	8:00	54.670	5/8/01	12:00	11.352	5/13/01	8:00	25.657	5/13/01	8:00	35.62	5/8/01	8:00	48.183	5/8/01	8:00	25.465
5/8/01	12:00	54.660	5/8/01	16:00	11.354	5/13/01	12:00	25.636	5/13/01	12:00	35.592	5/8/01	12:00	48.153	5/8/01	12:00	25.48
5/8/01	16:00	54.616	5/8/01	20:00	11.357	5/13/01	16:00	25.624	5/13/01	16:00	35.562	5/8/01	16:00	48.098	5/8/01	16:00	25.472
5/8/01	20:00	54.561	5/9/01	0:00	11.364	5/13/01	20:00	25.602	5/13/01	20:00	35.532	5/8/01	20:00	48.069	5/8/01	20:00	25.48

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
5/9/01	0:00	54.546	5/9/01	4:00	11.368	5/14/01	0:00	25.590	5/14/01	0:00	35.515	5/9/01	0:00	48.041	5/9/01	0:00	25.487
5/9/01	4:00	54.529	5/9/01	8:00	11.378	5/14/01	4:00	25.585	5/14/01	4:00	35.497	5/9/01	4:00	48.007	5/9/01	4:00	25.489
5/9/01	8:00	54.504	5/9/01	12:00	11.385	5/14/01	8:00	25.581	5/14/01	8:00	35.489	5/9/01	8:00	47.98	5/9/01	8:00	25.489
5/9/01	12:00	54.474	5/9/01	16:00	11.385	5/14/01	12:00	25.566	5/14/01	12:00	35.469	5/9/01	12:00	47.95	5/9/01	12:00	25.492
5/9/01	16:00	54.419	5/9/01	20:00	11.385	5/14/01	16:00	25.554	5/14/01	16:00	35.437	5/9/01	16:00	47.904	5/9/01	16:00	25.487
5/9/01	20:00	54.357	5/10/01	0:00	11.394	5/14/01	20:00	25.537	5/14/01	20:00	35.407	5/9/01	20:00	47.838	5/9/01	20:00	25.484
5/10/01	0:00	54.357	5/10/01	4:00	11.343	5/15/01	0:00	25.525	5/15/01	0:00	35.381	5/10/01	0:00	47.843	5/10/01	0:00	25.501
5/10/01	4:00	54.310	5/10/01	8:00	11.434	5/15/01	4:00	25.506	5/15/01	4:00	35.347	5/10/01	4:00	47.863	5/10/01	4:00	25.504
5/10/01	8:00	54.367	5/10/01	12:00	11.451	5/15/01	8:00	25.494	5/15/01	8:00	35.323	5/10/01	8:00	47.854	5/10/01	8:00	25.526
5/10/01	12:00	54.335	5/10/01	16:00	11.425	5/15/01	12:00	25.479	5/15/01	12:00	35.297	5/10/01	12:00	47.815	5/10/01	12:00	25.526
5/10/01	16:00	54.298	5/10/01	20:00	11.427	5/15/01	16:00	25.462	5/15/01	16:00	35.263	5/10/01	16:00	47.783	5/10/01	16:00	25.535
5/10/01	20:00	54.261	5/11/01	0:00	11.279	5/15/01	20:00	25.455	5/15/01	20:00	35.237	5/10/01	20:00	47.747	5/10/01	20:00	25.545
5/11/01	0:00	54.285	5/11/01	4:00	11.368	5/16/01	0:00	25.448	5/16/01	0:00	35.222	5/11/01	0:00	47.733	5/11/01	0:00	25.533
5/11/01	4:00	54.338	5/11/01	8:00	11.404	5/16/01	4:00	25.443	5/16/01	4:00	35.207	5/11/01	4:00	47.822	5/11/01	4:00	25.56
5/11/01	8:00	54.385	5/11/01	12:00	11.404	5/16/01	8:00	25.448	5/16/01	8:00	35.207	5/11/01	8:00	47.895	5/11/01	8:00	25.589
5/11/01	12:00	54.462	5/11/01	16:00	11.368	5/16/01	12:00	25.448	5/16/01	12:00	35.2	5/11/01	12:00	47.957	5/11/01	12:00	25.603
5/11/01	16:00	54.497	5/11/01	20:00	11.371	5/16/01	16:00	25.443	5/16/01	16:00	35.179	5/11/01	16:00	47.987	5/11/01	16:00	25.613
5/11/01	20:00	54.514	5/12/01	0:00	11.361	5/16/01	20:00	25.445	5/16/01	20:00	35.166	5/11/01	20:00	48.019	5/11/01	20:00	25.625
5/12/01	0:00	54.556	5/12/01	4:00	11.354	5/17/01	0:00	25.450	5/17/01	0:00	35.17	5/12/01	0:00	48.064	5/12/01	0:00	25.637
5/12/01	4:00	54.581	5/12/01	8:00	11.354	5/17/01	4:00	25.450	5/17/01	4:00	35.164	5/12/01	4:00	48.082	5/12/01	4:00	25.637
5/12/01	8:00	54.609	5/12/01	12:00	11.352	5/17/01	8:00	25.462	5/17/01	8:00	35.179	5/12/01	8:00	48.112	5/12/01	8:00	25.647
5/12/01	12:00	54.626	5/12/01	16:00	11.340	5/17/01	12:00	25.472	5/17/01	12:00	35.187	5/12/01	12:00	48.119	5/12/01	12:00	25.647
5/12/01	16:00	54.591	5/12/01	20:00	11.331	5/17/01	16:00	25.489	5/17/01	16:00	35.196	5/12/01	16:00	48.106	5/12/01	16:00	25.632
5/12/01	20:00	54.544	5/13/01	0:00	11.324	5/17/01	20:00	25.511	5/17/01	20:00	35.217	5/12/01	20:00	48.046	5/12/01	20:00	25.615
5/13/01	0:00	54.537	5/13/01	4:00	11.319	5/18/01	0:00	25.525	5/18/01	0:00	35.233	5/13/01	0:00	48.035	5/13/01	0:00	25.61
5/13/01	4:00	54.527	5/13/01	8:00	11.319	5/18/01	4:00	25.535	5/18/01	4:00	35.245	5/13/01	4:00	48.012	5/13/01	4:00	25.598
5/13/01	8:00	54.509	5/13/01	12:00	11.321	5/18/01	8:00	25.549	5/18/01	8:00	35.258	5/13/01	8:00	47.998	5/13/01	8:00	25.584
5/13/01	12:00	54.477	5/13/01	16:00	11.310	5/18/01	12:00	25.561	5/18/01	12:00	35.273	5/13/01	12:00	47.955	5/13/01	12:00	25.567
5/13/01	16:00	54.422	5/13/01	20:00	11.305	5/18/01	16:00	25.571	5/18/01	16:00	35.271	5/13/01	16:00	47.893	5/13/01	16:00	25.55
5/13/01	20:00	54.378	5/14/01	0:00	11.305	5/18/01	20:00	25.585	5/18/01	20:00	35.28	5/13/01	20:00	47.854	5/13/01	20:00	25.547
5/14/01	0:00	54.373	5/14/01	4:00	11.307	5/19/01	0:00	25.602	5/19/01	0:00	35.299	5/14/01	0:00	47.868	5/14/01	0:00	25.547
5/14/01	4:00	54.370	5/14/01	8:00	11.314	5/19/01	4:00	25.612	5/19/01	4:00	35.308	5/14/01	4:00	47.875	5/14/01	4:00	25.545
5/14/01	8:00	54.365	5/14/01	12:00	11.321	5/19/01	8:00	25.634	5/19/01	8:00	35.329	5/14/01	8:00	47.845	5/14/01	8:00	25.543
5/14/01	12:00	54.343	5/14/01	16:00	11.319	5/19/01	12:00	25.643	5/19/01	12:00	35.334	5/14/01	12:00	47.827	5/14/01	12:00	25.535
5/14/01	16:00	54.286	5/14/01	20:00	11.317	5/19/01	16:00	25.636	5/19/01	16:00	35.312	5/14/01	16:00	47.754	5/14/01	16:00	25.528
5/14/01	20:00	54.236	5/15/01	0:00	11.319	5/19/01	20:00	25.631	5/19/01	20:00	35.297	5/14/01	20:00	47.719	5/14/01	20:00	25.528
5/15/01	0:00	54.224	5/15/01	4:00	11.319	5/20/01	0:00	25.629	5/20/01	0:00	35.28	5/15/01	0:00	47.694	5/15/01	0:00	25.53
5/15/01	4:00	54.189	5/15/01	8:00	11.326	5/20/01	4:00	25.617	5/20/01	4:00	35.256	5/15/01	4:00	47.665	5/15/01	4:00	25.514

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
5/15/01	8:00	54.152	5/15/01	12:00	11.333	5/20/01	8:00	25.605	5/20/01	8:00	35.233	5/15/01	8:00	47.633	5/15/01	8:00	25.514
5/15/01	12:00	54.112	5/15/01	16:00	11.331	5/20/01	12:00	25.588	5/20/01	12:00	35.198	5/15/01	12:00	47.596	5/15/01	12:00	25.506
5/15/01	16:00	54.062	5/15/01	20:00	11.338	5/20/01	16:00	25.556	5/20/01	16:00	35.14	5/15/01	16:00	47.546	5/15/01	16:00	25.506
5/15/01	20:00	54.025	5/16/01	0:00	11.343	5/20/01	20:00	25.491	5/20/01	20:00	35.069	5/15/01	20:00	47.532	5/15/01	20:00	25.523
5/16/01	0:00	54.028	5/16/01	4:00	11.350	5/21/01	0:00	25.513	5/21/01	0:00	35.093	5/16/01	0:00	47.532	5/16/01	0:00	25.535
5/16/01	4:00	54.020	5/16/01	8:00	11.364	5/21/01	4:00	25.537	5/21/01	4:00	35.129	5/16/01	4:00	47.526	5/16/01	4:00	25.543
5/16/01	8:00	54.033	5/16/01	12:00	11.378	5/21/01	8:00	25.564	5/21/01	8:00	35.164	5/16/01	8:00	47.537	5/16/01	8:00	25.56
5/16/01	12:00	54.030	5/16/01	16:00	11.380	5/21/01	12:00	25.595	5/21/01	12:00	35.211	5/16/01	12:00	47.528	5/16/01	12:00	25.574
5/16/01	16:00	53.980	5/16/01	20:00	11.392	5/21/01	16:00	25.607	5/21/01	16:00	35.233	5/16/01	16:00	47.5	5/16/01	16:00	25.576
5/16/01	20:00	53.975	5/17/01	0:00	11.404	5/21/01	20:00	25.626	5/21/01	20:00	35.252	5/16/01	20:00	47.48	5/16/01	20:00	25.608
5/17/01	0:00	53.993	5/17/01	4:00	11.415	5/22/01	0:00	25.641	5/22/01	0:00	35.276	5/17/01	0:00	47.494	5/17/01	0:00	25.63
5/17/01	4:00	53.995	5/17/01	8:00	11.437	5/22/01	4:00	25.650	5/22/01	4:00	35.286	5/17/01	4:00	47.507	5/17/01	4:00	25.642
5/17/01	8:00	54.020	5/17/01	12:00	11.448	5/22/01	8:00	25.650	5/22/01	8:00	35.293	5/17/01	8:00	47.507	5/17/01	8:00	25.664
5/17/01	12:00	54.042	5/17/01	16:00	11.460	5/22/01	12:00	25.663	5/22/01	12:00	35.299	5/17/01	12:00	47.56	5/17/01	12:00	25.683
5/17/01	16:00	54.035	5/17/01	20:00	11.479	5/22/01	16:00	25.650	5/22/01	16:00	35.284	5/17/01	16:00	47.571	5/17/01	16:00	25.714
5/17/01	20:00	54.087	5/18/01	0:00	11.493	5/22/01	20:00	25.653	5/22/01	20:00	35.289	5/17/01	20:00	47.601	5/17/01	20:00	25.751
5/18/01	0:00	54.127	5/18/01	4:00	11.505	5/23/01	0:00	25.660	5/23/01	0:00	35.293	5/18/01	0:00	47.614	5/18/01	0:00	25.773
5/18/01	4:00	54.134	5/18/01	8:00	11.526	5/23/01	4:00	25.648	5/23/01	4:00	35.273	5/18/01	4:00	47.628	5/18/01	4:00	25.79
5/18/01	8:00	54.152	5/18/01	12:00	11.543	5/23/01	8:00	25.648	5/23/01	8:00	35.263	5/18/01	8:00	47.672	5/18/01	8:00	25.809
5/18/01	12:00	54.164	5/18/01	16:00	11.554	5/23/01	12:00	25.648	5/23/01	12:00	35.261	5/18/01	12:00	47.667	5/18/01	12:00	25.831
5/18/01	16:00	54.157	5/18/01	20:00	11.569	5/23/01	16:00	25.658	5/23/01	16:00	35.269	5/18/01	16:00	47.656	5/18/01	16:00	25.845
5/18/01	20:00	54.157	5/19/01	0:00	11.587	5/23/01	20:00	25.663	5/23/01	20:00	35.271	5/18/01	20:00	47.676	5/18/01	20:00	25.882
5/19/01	0:00	54.191	5/19/01	4:00	11.601	5/24/01	0:00	25.665	5/24/01	0:00	35.282	5/19/01	0:00	47.692	5/19/01	0:00	25.911
5/19/01	4:00	54.206	5/19/01	8:00	11.627	5/24/01	4:00	25.663	5/24/01	4:00	35.282	5/19/01	4:00	47.692	5/19/01	4:00	25.923
5/19/01	8:00	54.232	5/19/01	12:00	11.637	5/24/01	8:00	25.684	5/24/01	8:00	35.299	5/19/01	8:00	47.74	5/19/01	8:00	25.947
5/19/01	12:00	54.239	5/19/01	16:00	11.646	5/24/01	12:00	25.689	5/24/01	12:00	35.319	5/19/01	12:00	47.733	5/19/01	12:00	25.959
5/19/01	16:00	54.187	5/19/01	20:00	11.658	5/24/01	16:00	25.699	5/24/01	16:00	35.327	5/19/01	16:00	47.681	5/19/01	16:00	25.959
5/19/01	20:00	54.145	5/20/01	0:00	11.667	5/24/01	20:00	25.711	5/24/01	20:00	35.342	5/19/01	20:00	47.642	5/19/01	20:00	25.976
5/20/01	0:00	54.117	5/20/01	4:00	11.670	5/25/01	0:00	25.723	5/25/01	0:00	35.362	5/20/01	0:00	47.633	5/20/01	0:00	25.983
5/20/01	4:00	54.083	5/20/01	8:00	11.677	5/25/01	4:00	25.730	5/25/01	4:00	35.366	5/20/01	4:00	47.58	5/20/01	4:00	25.969
5/20/01	8:00	54.043	5/20/01	12:00	11.679	5/25/01	8:00	25.745	5/25/01	8:00	35.379	5/20/01	8:00	47.534	5/20/01	8:00	25.964
5/20/01	12:00	53.978	5/20/01	16:00	11.679	5/25/01	12:00	25.757	5/25/01	12:00	35.392	5/20/01	12:00	47.48	5/20/01	12:00	25.947
5/20/01	16:00	53.896	5/20/01	20:00	11.319	5/25/01	16:00	25.757	5/25/01	16:00	35.394	5/20/01	16:00	47.398	5/20/01	16:00	25.918
5/20/01	20:00	53.837	5/21/01	0:00	11.611	5/25/01	20:00	25.761	5/25/01	20:00	35.388	5/20/01	20:00	47.204	5/20/01	20:00	25.857
5/21/01	0:00	53.886	5/21/01	4:00	11.630	5/26/01	0:00	25.764	5/26/01	0:00	35.379	5/21/01	0:00	47.388	5/21/01	0:00	25.908
5/21/01	4:00	53.943	5/21/01	8:00	11.658	5/26/01	4:00	25.761	5/26/01	4:00	35.375	5/21/01	4:00	47.459	5/21/01	4:00	25.937
5/21/01	8:00	54.001	5/21/01	12:00	11.663	5/26/01	8:00	25.759	5/26/01	8:00	35.368	5/21/01	8:00	47.507	5/21/01	8:00	25.964
5/21/01	12:00	54.068	5/21/01	16:00	11.649	5/26/01	12:00	25.764	5/26/01	12:00	35.36	5/21/01	12:00	47.601	5/21/01	12:00	25.995

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
5/21/01	16:00	54.105	5/21/01	20:00	11.653	5/26/01	16:00	25.766	5/26/01	16:00	35.355	5/21/01	16:00	47.596	5/21/01	16:00	26.012
5/21/01	20:00	54.117	5/22/01	0:00	11.660	5/26/01	20:00	25.766	5/26/01	20:00	35.347	5/21/01	20:00	47.635	5/21/01	20:00	26.034
5/22/01	0:00	54.150	5/22/01	4:00	11.656	5/27/01	0:00	25.771	5/27/01	0:00	35.351	5/22/01	0:00	47.647	5/22/01	0:00	26.056
5/22/01	4:00	54.145	5/22/01	8:00	11.670	5/27/01	4:00	25.771	5/27/01	4:00	35.349	5/22/01	4:00	47.642	5/22/01	4:00	26.061
5/22/01	8:00	54.147	5/22/01	12:00	11.686	5/27/01	8:00	25.783	5/27/01	8:00	35.355	5/22/01	8:00	47.66	5/22/01	8:00	26.068
5/22/01	12:00	54.140	5/22/01	16:00	11.632	5/27/01	12:00	25.788	5/27/01	12:00	35.351	5/22/01	12:00	47.651	5/22/01	12:00	26.085
5/22/01	16:00	54.145	5/22/01	20:00	11.653	5/27/01	16:00	25.788	5/27/01	16:00	35.347	5/22/01	16:00	47.628	5/22/01	16:00	26.087
5/22/01	20:00	54.117	5/23/01	0:00	11.672	5/27/01	20:00	25.788	5/27/01	20:00	35.332	5/22/01	20:00	47.603	5/22/01	20:00	26.095
5/23/01	0:00	54.130	5/23/01	4:00	11.665	5/28/01	0:00	25.795	5/28/01	0:00	35.345	5/23/01	0:00	47.642	5/23/01	0:00	26.104
5/23/01	4:00	54.092	5/23/01	8:00	11.693	5/28/01	4:00	25.810	5/28/01	4:00	35.353	5/23/01	4:00	47.583	5/23/01	4:00	26.09
5/23/01	8:00	54.070	5/23/01	12:00	11.698	5/28/01	8:00	25.829	5/28/01	8:00	35.377	5/23/01	8:00	47.58	5/23/01	8:00	26.095
5/23/01	12:00	54.048	5/23/01	16:00	11.684	5/28/01	12:00	25.843	5/28/01	12:00	35.433	5/23/01	12:00	47.569	5/23/01	12:00	26.102
5/23/01	16:00	54.055	5/23/01	20:00	11.693	5/28/01	16:00	25.858	5/28/01	16:00	35.439	5/23/01	16:00	47.592	5/23/01	16:00	26.124
5/23/01	20:00	54.073	5/24/01	0:00	11.700	5/28/01	20:00	25.875	5/28/01	20:00	35.45	5/23/01	20:00	47.605	5/23/01	20:00	26.143
5/24/01	0:00	54.083	5/24/01	4:00	11.707	5/29/01	0:00	25.894	5/29/01	0:00	35.474	5/24/01	0:00	47.612	5/24/01	0:00	26.158
5/24/01	4:00	54.088	5/24/01	8:00	11.729	5/29/01	4:00	25.909	5/29/01	4:00	35.495	5/24/01	4:00	47.619	5/24/01	4:00	26.167
5/24/01	8:00	54.107	5/24/01	12:00	11.762	5/29/01	8:00	25.928	5/29/01	8:00	35.515	5/24/01	8:00	47.665	5/24/01	8:00	26.191
5/24/01	12:00	54.132	5/24/01	16:00	11.387	5/29/01	12:00	25.937	5/29/01	12:00	35.525	5/24/01	12:00	47.676	5/24/01	12:00	26.213
5/24/01	16:00	54.140	5/24/01	20:00	11.138	5/29/01	16:00	25.937	5/29/01	16:00	35.51	5/24/01	16:00	47.471	5/24/01	16:00	26.233
5/24/01	20:00	54.174	5/25/01	0:00	11.674	5/29/01	20:00	25.933	5/29/01	20:00	35.5	5/24/01	20:00	47.256	5/24/01	20:00	26.25
5/25/01	0:00	54.199	5/25/01	4:00	11.766	5/30/01	0:00	25.938	5/30/01	0:00	35.495	5/25/01	0:00	47.727	5/25/01	0:00	26.269
5/25/01	4:00	54.199	5/25/01	8:00	11.809	5/30/01	4:00	25.913	5/30/01	4:00	35.454	5/25/01	4:00	47.729	5/25/01	4:00	26.276
5/25/01	8:00	54.204	5/25/01	12:00	11.823	5/30/01	8:00	25.916	5/30/01	8:00	35.452	5/25/01	8:00	47.754	5/25/01	8:00	26.298
5/25/01	12:00	54.222	5/25/01	16:00	11.806	5/30/01	12:00	25.911	5/30/01	12:00	35.437	5/25/01	12:00	47.765	5/25/01	12:00	26.312
5/25/01	16:00	54.197	5/25/01	20:00	11.809	5/30/01	16:00	25.882	5/30/01	16:00	35.405	5/25/01	16:00	47.72	5/25/01	16:00	26.317
5/25/01	20:00	54.175	5/26/01	0:00	11.818	5/30/01	20:00	25.868	5/30/01	20:00	35.4	5/25/01	20:00	47.72	5/25/01	20:00	26.329
5/26/01	0:00	54.160	5/26/01	4:00	11.830	5/31/01	0:00	25.882	5/31/01	0:00	35.424	5/26/01	0:00	47.715	5/26/01	0:00	26.337
5/26/01	4:00	54.155	5/26/01	8:00	11.851	5/31/01	4:00	25.887	5/31/01	4:00	35.431	5/26/01	4:00	47.722	5/26/01	4:00	26.342
5/26/01	8:00	54.133	5/26/01	12:00	11.853	5/31/01	8:00	25.901	5/31/01	8:00	35.448	5/26/01	8:00	47.674	5/26/01	8:00	26.346
5/26/01	12:00	54.113	5/26/01	16:00	11.865	5/31/01	12:00	25.906	5/31/01	12:00	35.465	5/26/01	12:00	47.685	5/26/01	12:00	26.356
5/26/01	16:00	54.095	5/26/01	20:00	11.868	5/31/01	16:00	25.904	5/31/01	16:00	35.467	5/26/01	16:00	47.663	5/26/01	16:00	26.371
5/26/01	20:00	54.080	5/27/01	0:00	11.879	5/31/01	20:00	25.906	5/31/01	20:00	35.484	5/26/01	20:00	47.647	5/26/01	20:00	26.388
5/27/01	0:00	54.098	5/27/01	4:00	11.893	6/1/01	0:00	25.901	6/1/01	0:00	35.493	5/27/01	0:00	47.674	5/27/01	0:00	26.404
5/27/01	4:00	54.083	5/27/01	8:00	11.908	6/1/01	4:00	25.884	6/1/01	4:00	35.482	5/27/01	4:00	47.644	5/27/01	4:00	26.414
5/27/01	8:00	54.078	5/27/01	12:00	11.931	6/1/01	8:00	25.872	6/1/01	8:00	35.478	5/27/01	8:00	47.674	5/27/01	8:00	26.429
5/27/01	12:00	54.063	5/27/01	16:00	11.931	6/1/01	12:00	25.851	6/1/01	12:00	35.456	5/27/01	12:00	47.683	5/27/01	12:00	26.443
5/27/01	16:00	54.036	5/27/01	20:00	11.941	6/1/01	16:00	25.817	6/1/01	16:00	35.409	5/27/01	16:00	47.637	5/27/01	16:00	26.458
5/27/01	20:00	54.001	5/28/01	0:00	11.955	6/1/01	20:00	25.752	6/1/01	20:00	35.351	5/27/01	20:00	47.642	5/27/01	20:00	26.475

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
5/28/01	0:00	54.036	5/28/01	4:00	11.969	6/2/01	0:00	25.767	6/2/01	0:00	35.377	5/28/01	0:00	47.649	5/28/01	0:00	26.501
5/28/01	4:00	54.054	5/28/01	8:00	11.990	6/2/01	4:00	25.757	6/2/01	4:00	35.383	5/28/01	4:00	47.656	5/28/01	4:00	26.521
5/28/01	8:00	54.071	5/28/01	12:00	12.009	6/2/01	8:00	25.769	6/2/01	8:00	35.403	5/28/01	8:00	47.706	5/28/01	8:00	26.55
5/28/01	12:00	54.118	5/28/01	16:00	12.021	6/2/01	12:00	25.766	6/2/01	12:00	35.416	5/28/01	12:00	47.749	5/28/01	12:00	26.572
5/28/01	16:00	54.113	5/28/01	20:00	12.035	6/2/01	16:00	25.754	6/2/01	16:00	35.407	5/28/01	16:00	47.715	5/28/01	16:00	26.591
5/28/01	20:00	54.110	5/29/01	0:00	12.054	6/2/01	20:00	25.742	6/2/01	20:00	35.394	5/28/01	20:00	47.754	5/28/01	20:00	26.627
5/29/01	0:00	54.160	5/29/01	4:00	12.073	6/3/01	0:00	25.737	6/3/01	0:00	35.394	5/29/01	0:00	47.797	5/29/01	0:00	26.661
5/29/01	4:00	54.192	5/29/01	8:00	12.096	6/3/01	4:00	25.716	6/3/01	4:00	35.373	5/29/01	4:00	47.806	5/29/01	4:00	26.678
5/29/01	8:00	54.200	5/29/01	12:00	12.110	6/3/01	8:00	25.675	6/3/01	8:00	35.349	5/29/01	8:00	47.829	5/29/01	8:00	26.7
5/29/01	12:00	54.232	5/29/01	16:00	12.122	6/3/01	12:00	25.648	6/3/01	12:00	35.338	5/29/01	12:00	47.857	5/29/01	12:00	26.71
5/29/01	16:00	54.187	5/29/01	20:00	12.124	6/3/01	16:00	25.634	6/3/01	16:00	35.334	5/29/01	16:00	47.811	5/29/01	16:00	26.71
5/29/01	20:00	54.143	5/30/01	0:00	12.143	6/3/01	20:00	25.617	6/3/01	20:00	35.308	5/29/01	20:00	47.781	5/29/01	20:00	26.71
5/30/01	0:00	54.140	5/30/01	4:00	12.096	6/4/01	0:00	25.366	6/4/01	0:00	35.536	5/30/01	0:00	47.772	5/30/01	0:00	26.719
5/30/01	4:00	54.078	5/30/01	8:00	12.105	6/4/01	4:00	24.549	6/4/01	4:00	35.543	5/30/01	4:00	47.754	5/30/01	4:00	26.702
5/30/01	8:00	54.061	5/30/01	12:00	12.216	6/4/01	8:00	24.568	6/4/01	8:00	35.523	5/30/01	8:00	47.727	5/30/01	8:00	26.729
5/30/01	12:00	54.051	5/30/01	16:00	12.223	6/4/01	12:00	24.544	6/4/01	12:00	35.42	5/30/01	12:00	47.829	5/30/01	12:00	26.789
5/30/01	16:00	54.021	5/30/01	20:00	12.018	6/4/01	16:00	24.515	6/4/01	16:00	35.226	5/30/01	16:00	47.834	5/30/01	16:00	26.714
5/30/01	20:00	54.011	5/31/01	0:00	12.051	6/4/01	20:00	24.510	6/4/01	20:00	35.174	5/30/01	20:00	47.701	5/30/01	20:00	26.579
5/31/01	0:00	54.041	5/31/01	4:00	12.021	6/5/01	0:00	24.430	6/5/01	0:00	35.155	5/31/01	0:00	47.637	5/31/01	0:00	26.644
5/31/01	4:00	54.048	5/31/01	8:00	12.063	6/5/01	4:00	24.732	6/5/01	4:00	35.114	5/31/01	4:00	47.583	5/31/01	4:00	26.634
5/31/01	8:00	54.068	5/31/01	12:00	12.035	6/5/01	8:00	25.017	6/5/01	8:00	35.168	5/31/01	8:00	47.727	5/31/01	8:00	26.634
5/31/01	12:00	54.083	5/31/01	16:00	12.011	6/5/01	12:00	24.621	6/5/01	12:00	35.437	5/31/01	12:00	47.752	5/31/01	12:00	26.627
5/31/01	16:00	54.088	5/31/01	20:00	11.981	6/5/01	16:00	24.416	6/5/01	16:00	35.142	5/31/01	16:00	47.742	5/31/01	16:00	26.613
5/31/01	20:00	54.102	6/1/01	0:00	11.969	6/5/01	20:00	24.310	6/5/01	20:00	35.355	5/31/01	20:00	47.774	5/31/01	20:00	26.613
6/1/01	0:00	54.118	6/1/01	4:00	11.943	6/6/01	0:00	24.016	6/6/01	0:00	35.323	6/1/01	0:00	47.802	6/1/01	0:00	26.603
6/1/01	4:00	54.092	6/1/01	8:00	11.962	6/6/01	4:00	23.922	6/6/01	4:00	35.312	6/1/01	4:00	47.774	6/1/01	4:00	26.574
6/1/01	8:00	54.080	6/1/01	12:00	11.945	6/6/01	8:00	23.895	6/6/01	8:00	35.304	6/1/01	8:00	47.763	6/1/01	8:00	26.564
6/1/01	12:00	54.043	6/1/01	16:00	11.849	6/6/01	12:00	23.890	6/6/01	12:00	34.86	6/1/01	12:00	47.729	6/1/01	12:00	26.53
6/1/01	16:00	53.884	6/1/01	20:00	11.272	6/6/01	16:00	23.777	6/6/01	16:00	34.968	6/1/01	16:00	47.635	6/1/01	16:00	26.489
6/1/01	20:00	53.884	6/2/01	0:00	11.807	6/6/01	20:00	23.726	6/6/01	20:00	34.935	6/1/01	20:00	47.359	6/1/01	20:00	26.436
6/2/01	0:00	53.954	6/2/01	4:00	11.778	6/7/01	0:00	23.671	6/7/01	0:00	34.927	6/2/01	0:00	47.658	6/2/01	0:00	26.426
6/2/01	4:00	53.976	6/2/01	8:00	11.792	6/7/01	4:00	23.630	6/7/01	4:00	34.903	6/2/01	4:00	47.688	6/2/01	4:00	26.38
6/2/01	8:00	54.011	6/2/01	12:00	11.776	6/7/01	8:00	23.586	6/7/01	8:00	34.89	6/2/01	8:00	47.74	6/2/01	8:00	26.344
6/2/01	12:00	54.041	6/2/01	16:00	11.703	6/7/01	12:00	23.562	6/7/01	12:00	34.879	6/2/01	12:00	47.758	6/2/01	12:00	26.298
6/2/01	16:00	54.011	6/2/01	20:00	11.682	6/7/01	16:00	23.536	6/7/01	16:00	34.847	6/2/01	16:00	47.722	6/2/01	16:00	26.235
6/2/01	20:00	53.984	6/3/01	0:00	11.663	6/7/01	20:00	23.483	6/7/01	20:00	34.808	6/2/01	20:00	47.704	6/2/01	20:00	26.189
6/3/01	0:00	53.998	6/3/01	4:00	11.637	6/8/01	0:00	23.442	6/8/01	0:00	34.789	6/3/01	0:00	47.745	6/3/01	0:00	26.155
6/3/01	4:00	54.008	6/3/01	8:00	11.435	6/8/01	4:00	23.898	6/8/01	4:00	34.761	6/3/01	4:00	47.72	6/3/01	4:00	26.087

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
6/3/01	8:00	54.001	6/3/01	12:00	11.602	6/8/01	8:00	24.197	6/8/01	8:00	34.739	6/3/01	8:00	47.596	6/3/01	8:00	25.983
6/3/01	12:00	53.956	6/3/01	16:00	11.531	6/8/01	12:00	24.406	6/8/01	12:00	34.729	6/3/01	12:00	47.743	6/3/01	12:00	25.964
6/3/01	16:00	53.966	6/3/01	20:00	11.435	6/8/01	16:00	24.505	6/8/01	16:00	34.69	6/3/01	16:00	47.681	6/3/01	16:00	25.894
6/3/01	20:00	53.944	6/4/01	0:00	11.208	6/8/01	20:00	24.503	6/8/01	20:00	34.643	6/3/01	20:00	47.66	6/3/01	20:00	25.826
6/4/01	0:00	53.909	6/4/01	4:00	11.100	6/9/01	0:00	24.484	6/9/01	0:00	34.619	6/4/01	0:00	47.464	6/4/01	0:00	25.601
6/4/01	4:00	53.922	6/4/01	8:00	11.018	6/9/01	4:00	24.457	6/9/01	4:00	34.584	6/4/01	4:00	47.452	6/4/01	4:00	25.528
6/4/01	8:00	53.932	6/4/01	12:00	11.121	6/9/01	8:00	24.452	6/9/01	8:00	34.561	6/4/01	8:00	47.464	6/4/01	8:00	25.465
6/4/01	12:00	53.954	6/4/01	16:00	11.001	6/9/01	12:00	24.445	6/9/01	12:00	34.526	6/4/01	12:00	47.589	6/4/01	12:00	25.388
6/4/01	16:00	53.937	6/4/01	20:00	10.921	6/9/01	16:00	24.443	6/9/01	16:00	34.485	6/4/01	16:00	47.621	6/4/01	16:00	25.271
6/4/01	20:00	53.922	6/5/01	0:00	10.855	6/9/01	20:00	24.414	6/9/01	20:00	34.432	6/4/01	20:00	47.601	6/4/01	20:00	25.167
6/5/01	0:00	53.937	6/5/01	4:00	10.780	6/10/01	0:00	24.394	6/10/01	0:00	34.386	6/5/01	0:00	47.615	6/5/01	0:00	25.078
6/5/01	4:00	53.914	6/5/01	8:00	10.728	6/10/01	4:00	24.365	6/10/01	4:00	34.337	6/5/01	4:00	47.603	6/5/01	4:00	24.981
6/5/01	8:00	53.979	6/5/01	12:00	10.839	6/10/01	8:00	24.348	6/10/01	8:00	34.315	6/5/01	8:00	47.631	6/5/01	8:00	24.93
6/5/01	12:00	53.986	6/5/01	16:00	10.575	6/10/01	12:00	24.324	6/10/01	12:00	34.272	6/5/01	12:00	47.733	6/5/01	12:00	25.017
6/5/01	16:00	54.029	6/5/01	20:00	10.344	6/10/01	16:00	24.303	6/10/01	16:00	34.229	6/5/01	16:00	47.692	6/5/01	16:00	24.765
6/5/01	20:00	54.007	6/6/01	0:00	10.149	6/10/01	20:00	24.291	6/10/01	20:00	34.19	6/5/01	20:00	47.553	6/5/01	20:00	24.548
6/6/01	0:00	53.910	6/6/01	4:00	10.034	6/11/01	0:00	24.274	6/11/01	0:00	34.165	6/6/01	0:00	47.45	6/6/01	0:00	24.395
6/6/01	4:00	53.825	6/6/01	8:00	10.050	6/11/01	4:00	24.254	6/11/01	4:00	34.143	6/6/01	4:00	47.432	6/6/01	4:00	24.303
6/6/01	8:00	53.885	6/6/01	12:00	10.156	6/11/01	8:00	24.254	6/11/01	8:00	34.124	6/6/01	8:00	47.484	6/6/01	8:00	24.33
6/6/01	12:00	53.967	6/6/01	16:00	10.060	6/11/01	12:00	24.242	6/11/01	12:00	34.098	6/6/01	12:00	47.669	6/6/01	12:00	24.276
6/6/01	16:00	53.991	6/6/01	20:00	9.996							6/6/01	16:00	47.656	6/6/01	16:00	24.175
6/6/01	20:00	53.996	6/7/01	0:00	9.935							6/6/01	20:00	47.626	6/6/01	20:00	24.09
6/7/01	0:00	54.036	6/7/01	4:00	9.897							6/7/01	0:00	47.615	6/7/01	0:00	24.017
6/7/01	4:00	54.041	6/7/01	8:00	9.864							6/7/01	4:00	47.61	6/7/01	4:00	23.95
6/7/01	8:00	54.066	6/7/01	12:00	9.838							6/7/01	8:00	47.635	6/7/01	8:00	23.894
6/7/01	12:00	54.086	6/7/01	16:00	9.746							6/7/01	12:00	47.663	6/7/01	12:00	23.843
6/7/01	16:00	54.076	6/7/01	20:00	9.732							6/7/01	16:00	47.596	6/7/01	16:00	23.787
6/7/01	20:00	54.056	6/8/01	0:00	9.709							6/7/01	20:00	47.587	6/7/01	20:00	23.734
6/8/01	0:00	54.061	6/8/01	4:00	9.687							6/8/01	0:00	47.574	6/8/01	0:00	23.698
6/8/01	4:00	54.051	6/8/01	8:00	9.680							6/8/01	4:00	47.558	6/8/01	4:00	23.652
6/8/01	8:00	54.059	6/8/01	12:00	9.673							6/8/01	8:00	47.562	6/8/01	8:00	23.62
6/8/01	12:00	54.079	6/8/01	16:00	9.638							6/8/01	12:00	47.549	6/8/01	12:00	23.591
6/8/01	16:00	54.059	6/8/01	20:00	9.624							6/8/01	16:00	47.5	6/8/01	16:00	23.557
6/8/01	20:00	54.007	6/9/01	0:00	9.617							6/8/01	20:00	47.439	6/8/01	20:00	23.521
6/9/01	0:00	54.002	6/9/01	4:00	9.610							6/9/01	0:00	47.416	6/9/01	0:00	23.504
6/9/01	4:00	53.992	6/9/01	8:00	9.610							6/9/01	4:00	47.4	6/9/01	4:00	23.48
6/9/01	8:00	53.980	6/9/01	12:00	9.610							6/9/01	8:00	47.393	6/9/01	8:00	23.461
6/9/01	12:00	53.970	6/9/01	16:00	9.589							6/9/01	12:00	47.357	6/9/01	12:00	23.441

TABLE D.3 (Cont.)

DW06			SB01			SB09			SB16			SB18			SB19		
Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth	Date	Time	Depth
6/9/01	16:00	53.920	6/9/01	20:00	9.584							6/9/01	16:00	47.288	6/9/01	16:00	23.415
6/9/01	20:00	53.856	6/10/01	0:00	9.582							6/9/01	20:00	47.224	6/9/01	20:00	23.393
6/10/01	0:00	53.825	6/10/01	4:00	9.577							6/10/01	0:00	47.188	6/10/01	0:00	23.373
6/10/01	4:00	53.783	6/10/01	8:00	9.591							6/10/01	4:00	47.128	6/10/01	4:00	23.352
6/10/01	8:00	53.788	6/10/01	12:00	9.624							6/10/01	8:00	47.128	6/10/01	8:00	23.352
6/10/01	12:00	53.741	6/10/01	16:00	9.549							6/10/01	12:00	47.078	6/10/01	12:00	23.327
6/10/01	16:00	53.689	6/10/01	20:00	9.572							6/10/01	16:00	46.996	6/10/01	16:00	23.318
6/10/01	20:00	53.652	6/11/01	0:00	9.579							6/10/01	20:00	46.982	6/10/01	20:00	23.318
6/11/01	0:00	53.647	6/11/01	4:00	9.584							6/11/01	0:00	46.959	6/11/01	0:00	23.323
6/11/01	4:00	53.637	6/11/01	8:00	9.600							6/11/01	4:00	46.936	6/11/01	4:00	23.325
6/11/01	8:00	53.639										6/11/01	8:00	46.92	6/11/01	8:00	23.33
6/11/01	12:00	53.627													6/11/01	12:00	23.335

TABLE D.4 Water level depths in piezometers for the period of automated monitoring from May 8, 2001, to June 11, 2001.

		Depth (ft BGL)		
Date	Time	SB22	SB31	SB34
5/8/01	12:00	33.521	24.621	14.117
5/8/01	16:00	33.491	24.632	14.131
5/8/01	20:00	33.466	24.636	14.124
5/9/01	0:00	33.462	24.643	14.131
5/9/01	4:00	33.443	24.649	14.138
5/9/01	8:00	33.439	24.656	14.145
5/9/01	12:00	33.416	24.667	14.156
5/9/01	16:00	33.386	24.674	14.154
5/9/01	20:00	33.345	24.671	14.154
5/10/01	0:00	33.357	24.680	14.161
5/10/01	4:00	33.382	24.722	14.174
5/10/01	8:00	33.357	24.689	14.172
5/10/01	12:00	33.334	24.700	14.191
5/10/01	16:00	33.318	24.711	14.195
5/10/01	20:00	33.306	24.716	14.198
5/11/01	0:00	33.268	24.665	14.179
5/11/01	4:00	33.329	24.678	14.147
5/11/01	8:00	33.366	24.687	14.156
5/11/01	12:00	33.402	24.687	14.153
5/11/01	16:00	33.414	24.682	14.156
5/11/01	20:00	33.420	24.669	14.138
5/12/01	0:00	33.446	24.660	14.133
5/12/01	4:00	33.450	24.649	14.124
5/12/01	8:00	33.462	24.640	14.117
5/12/01	12:00	33.473	24.638	14.119
5/12/01	16:00	33.455	24.634	14.117
5/12/01	20:00	33.418	24.623	14.103
5/13/01	0:00	33.416	24.614	14.096
5/13/01	4:00	33.402	24.610	14.094
5/13/01	8:00	33.395	24.607	14.089
5/13/01	12:00	33.370	24.607	14.089
5/13/01	16:00	33.340	24.605	14.089
5/13/01	20:00	33.320	24.598	14.082
5/14/01	0:00	33.315	24.598	14.082
5/14/01	4:00	33.313	24.601	14.082
5/14/01	8:00	33.313	24.603	14.084
5/14/01	12:00	33.302	24.607	14.091
5/14/01	16:00	33.268	24.612	14.093
5/14/01	20:00	33.245	24.612	14.093
5/15/01	0:00	33.236	24.614	14.096
5/15/01	4:00	33.211	24.614	14.096
5/15/01	8:00	33.192	24.616	14.098
5/15/01	12:00	33.183	24.623	14.109
5/15/01	16:00	33.151	24.629	14.112
5/15/01	20:00	33.140	24.636	14.114

TABLE D.4 (Cont.)

		Depth (ft BGL)		
Date	Time	SB22	SB31	SB34
5/16/01	0:00	33.142	24.640	14.121
5/16/01	4:00	33.137	24.647	14.130
5/16/01	8:00	33.149	24.658	14.141
5/16/01	12:00	33.149	24.669	14.148
5/16/01	16:00	33.126	24.680	14.167
5/16/01	20:00	33.126	24.691	14.174
5/17/01	0:00	33.131	24.702	14.178
5/17/01	4:00	33.135	24.713	14.194
5/17/01	8:00	33.153	24.727	14.213
5/17/01	12:00	33.172	24.742	14.231
5/17/01	16:00	33.163	24.758	14.238
5/17/01	20:00	33.206	24.778	14.263
5/18/01	0:00	33.222	24.793	14.280
5/18/01	4:00	33.222	24.806	14.291
5/18/01	8:00	33.236	24.824	14.312
5/18/01	12:00	33.247	24.842	14.332
5/18/01	16:00	33.242	24.855	14.344
5/18/01	20:00	33.249	24.870	14.357
5/19/01	0:00	33.274	24.890	14.376
5/19/01	4:00	33.281	24.901	14.392
5/19/01	8:00	33.302	24.919	14.406
5/19/01	12:00	33.315	24.939	14.436
5/19/01	16:00	33.279	24.946	14.443
5/19/01	20:00	33.263	24.957	14.447
5/20/01	0:00	33.258	24.968	14.459
5/20/01	4:00	33.231	24.972	14.466
5/20/01	8:00	33.215	24.979	14.468
5/20/01	12:00	33.179	24.985	14.477
5/20/01	16:00	33.144	24.983	14.488
5/20/01	20:00	33.069	24.877	14.412
5/21/01	0:00	33.137	24.937	14.419
5/21/01	4:00	33.179	24.941	14.422
5/21/01	8:00	33.220	24.946	14.433
5/21/01	12:00	33.256	24.954	14.449
5/21/01	16:00	33.265	24.957	14.447
5/21/01	20:00	33.274	24.959	14.445
5/22/01	0:00	33.293	24.968	14.458
5/22/01	4:00	33.290	24.968	14.461
5/22/01	8:00	33.288	24.970	14.460
5/22/01	12:00	33.295	24.976	14.474
5/22/01	16:00	33.311	25.001	14.479
5/22/01	20:00	33.277	24.972	14.456
5/23/01	0:00	33.290	24.979	14.465
5/23/01	4:00	33.263	24.977	14.470
5/23/01	8:00	33.256	24.979	14.470
5/23/01	12:00	33.256	24.988	14.488
5/23/01	16:00	33.270	24.994	14.486

TABLE D.4 (Cont.)

		Depth (ft BGL)		
Date	Time	SB22	SB31	SB34
5/23/01	20:00	33.279	25.001	14.488
5/24/01	0:00	33.290	25.010	14.497
5/24/01	4:00	33.288	25.016	14.504
5/24/01	8:00	33.306	25.027	14.522
5/24/01	12:00	33.329	25.041	14.534
5/24/01	16:00	33.322	24.996	14.543
5/24/01	20:00	33.338	25.025	14.543
5/25/01	0:00	33.368	25.069	14.564
5/25/01	4:00	33.366	25.080	14.564
5/25/01	8:00	33.377	25.092	14.575
5/25/01	12:00	33.395	25.109	14.598
5/25/01	16:00	33.384	25.123	14.605
5/25/01	20:00	33.377	25.131	14.612
5/26/01	0:00	33.377	25.138	14.617
5/26/01	4:00	33.373	25.149	14.626
5/26/01	8:00	33.368	25.156	14.639
5/26/01	12:00	33.373	25.171	14.656
5/26/01	16:00	33.366	25.180	14.665
5/26/01	20:00	33.366	25.187	14.662
5/27/01	0:00	33.379	25.198	14.681
5/27/01	4:00	33.375	25.211	14.688
5/27/01	8:00	33.393	25.222	14.702
5/27/01	12:00	33.398	25.235	14.720
5/27/01	16:00	33.386	25.251	14.741
5/27/01	20:00	33.386	25.260	14.745
5/28/01	0:00	33.400	25.271	14.755
5/28/01	4:00	33.411	25.286	14.771
5/28/01	8:00	33.446	25.302	14.789
5/28/01	12:00	33.473	25.324	14.817
5/28/01	16:00	33.468	25.339	14.830
5/28/01	20:00	33.480	25.357	14.839
5/29/01	0:00	33.516	25.374	14.853
5/29/01	4:00	33.530	25.390	14.869
5/29/01	8:00	33.557	25.408	14.895
5/29/01	12:00	33.571	25.425	14.911
5/29/01	16:00	33.539	25.436	14.920
5/29/01	20:00	33.528	25.443	14.927
5/30/01	0:00	33.546	25.454	14.941
5/30/01	4:00	33.493	25.450	14.929
5/30/01	8:00	33.509	25.461	14.945
5/30/01	12:00	33.509	25.489	14.943
5/30/01	16:00	33.484	25.470	14.931
5/30/01	20:00	33.459	25.408	14.899
5/31/01	0:00	33.512	25.412	14.899
5/31/01	4:00	33.507	25.390	14.878
5/31/01	8:00	33.537	25.386	14.867
5/31/01	12:00	33.544	25.363	14.846

TABLE D.4 (Cont.)

		Depth (ft BGL)		
Date	Time	SB22	SB31	SB34
5/31/01	16:00	33.544	25.337	14.823
5/31/01	20:00	33.555	25.317	14.798
6/1/01	0:00	33.564	25.293	14.784
6/1/01	4:00	33.546	25.268	14.754
6/1/01	8:00	33.541	25.253	14.740
6/1/01	12:00	33.519	25.233	14.733
6/1/01	16:00	33.466	25.213	14.712
6/1/01	20:00	33.414	25.133	14.634
6/2/01	0:00	33.484	25.138	14.622
6/2/01	4:00	33.484	25.102	14.599
6/2/01	8:00	33.509	25.074	14.581
6/2/01	12:00	33.521	25.045	14.572
6/2/01	16:00	33.507	25.014	14.542
6/2/01	20:00	33.487	24.983	14.512
6/3/01	0:00	33.503	24.961	14.491
6/3/01	4:00	33.491	24.932	14.477
6/3/01	8:00	33.455	24.857	14.427
6/3/01	12:00	33.439	24.857	14.402
6/3/01	16:00	33.457	24.819	14.358
6/3/01	20:00	33.430	24.777	14.307
6/4/01	0:00	33.341	24.634	14.185
6/4/01	4:00	33.345	24.565	14.116
6/4/01	8:00	33.270	24.444	14.079
6/4/01	12:00	33.265	24.448	13.966
6/4/01	16:00	33.142	24.309	13.844
6/4/01	20:00	33.090	24.218	13.773
6/5/01	0:00	33.058	24.136	13.709
6/5/01	4:00	33.005	24.059	13.637
6/5/01	8:00	32.994	24.004	13.554
6/5/01	12:00	33.012	23.955	13.540
6/5/01	16:00	32.957	23.862	13.435
6/5/01	20:00	32.880	23.736	13.223
6/6/01	0:00	32.807	23.564	13.094
6/6/01	4:00	32.734	23.488	13.013
6/6/01	8:00	32.661	23.484	12.942
6/6/01	12:00	32.718	23.431	12.983
6/6/01	16:00	32.647	23.351	12.910
6/6/01	20:00	32.592	23.281	12.836
6/7/01	0:00	32.560	23.219	12.785
6/7/01	4:00	32.521	23.166	12.746
6/7/01	8:00	32.492	23.117	12.707
6/7/01	12:00	32.464	23.077	12.691
6/7/01	16:00	32.421	23.042	12.641
6/7/01	20:00	32.378	23.006	12.594
6/8/01	0:00	32.357	22.975	12.569
6/8/01	4:00	32.325	22.951	12.548
6/8/01	8:00	32.311	22.931	12.527

TABLE D.4 (Cont.)

		Depth (ft BGL)		
Date	Time	SB22	SB31	SB34
6/8/01	12:00	32.296	22.918	12.525
6/8/01	16:00	32.261	22.902	12.504
6/8/01	20:00	32.216	22.887	12.486
6/9/01	0:00	32.207	22.878	12.475
6/9/01	4:00	32.181	22.869	12.463
6/9/01	8:00	32.165	22.863	12.465
6/9/01	12:00	32.145	22.863	12.468
6/9/01	16:00	32.104	22.863	12.461
6/9/01	20:00	32.065	22.856	12.445
6/10/01	0:00	32.035	22.852	12.442
6/10/01	4:00	31.994	22.849	12.437
6/10/01	8:00	31.962	22.803	12.417
6/10/01	12:00	31.953	22.847	12.447
6/10/01	16:00	31.919	22.854	12.440
6/10/01	20:00	31.899	22.858	12.428
6/11/01	0:00	31.887	22.860	12.431
6/11/01	4:00	31.873	22.867	12.435
6/11/01	8:00	31.869	22.876	12.442
6/11/01	12:00		22.887	12.458

TABLE D.5 Water level depths in piezometers for the period of automated monitoring from November 21, 2002, to January 17, 2003.

		Depth (ft BGL)						
Date	Time	SB09	SB16	SB49	SB60	SB62	SB63	SB64
11/21/02	16:00	32.182	39.875	43.143	54.053	33.265	21.309	21.762
11/21/02	20:00	32.208	39.905	43.206	54.124	33.286	21.347	21.784
11/22/02	0:00	32.228	39.926	43.173	54.106	33.247	21.334	21.760
11/22/02	4:00	32.234	39.931	43.157	54.088	33.240	21.352	21.750
11/22/02	8:00	32.243	39.938	43.161	54.095	33.247	21.336	21.769
11/22/02	12:00	32.247	39.942	43.112	54.044	33.200	21.299	21.731
11/22/02	16:00	32.234	39.917	43.008	53.928	33.154	21.236	21.701
11/22/02	20:00	32.219	39.880	42.937	53.841	33.131	21.185	21.687
11/23/02	0:00	32.208	39.850	42.902	53.784	33.127	21.123	21.680
11/23/02	4:00	32.206	39.843	42.963	53.846	33.191	21.149	21.718
11/23/02	8:00	32.221	39.864	43.072	53.964	33.260	21.224	21.762
11/23/02	12:00	32.238	39.887	43.091	53.987	33.233	21.252	21.745
11/23/02	16:00	32.245	39.889	43.058	53.957	33.219	21.247	21.740
11/23/02	20:00	32.254	39.894	43.067	53.971	33.228	21.238	21.740
11/24/02	0:00	32.265	39.908	43.081	53.983	33.228	21.258	21.738
11/24/02	4:00	32.276	39.917	43.098	54.001	33.237	21.277	21.740
11/24/02	8:00	32.284	39.928	43.140	54.047	33.267	21.288	21.762
11/24/02	16:00	32.328	39.982	43.239	54.168	33.309	21.387	21.784
11/24/02	20:00	32.356	40.021	43.291	54.238	33.318	21.433	21.801
11/25/02	0:00	32.385	40.053	43.293	54.254	33.290	21.458	21.782
11/25/02	4:00	32.402	40.079	43.298	54.273	33.297	21.478	21.789
11/25/02	8:00	32.413	40.086	43.260	54.234	33.270	21.462	21.762
11/25/02	12:00	32.424	40.100	43.249	54.225	33.265	21.444	21.757
11/25/02	16:00	32.420	40.088	43.164	54.131	33.230	21.378	21.733
11/25/02	20:00	32.418	40.083	43.152	54.108	33.235	21.355	21.733
11/26/02	0:00	32.422	40.083	43.147	54.099	33.240	21.339	21.733
11/26/02	4:00	32.422	40.079	43.121	54.063	33.242	21.320	21.731
11/26/02	8:00	32.428	40.079	43.154	54.099	33.270	21.362	21.753
11/26/02	12:00	32.446	40.100	43.220	54.163	33.293	21.392	21.765
11/26/02	16:00	32.463	40.120	43.260	54.211	33.313	21.426	21.782
11/26/02	20:00	32.483	40.141	43.258	54.218	33.295	21.433	21.753
11/27/02	0:00	32.496	40.155	43.258	54.222	33.288	21.442	21.758
11/27/02	4:00	32.502	40.162	43.220	54.181	33.263	21.410	21.745
11/27/02	8:00	32.504	40.162	43.206	54.168	33.272	21.415	21.748
11/27/02	12:00	32.502	40.153	43.147	54.095	33.226	21.350	21.716
11/27/02	16:00	32.483	40.114	43.036	53.973	33.191	21.270	21.692
11/27/02	20:00	32.478	40.097	43.051	53.971	33.217	21.264	21.707
11/28/02	0:00	32.472	40.079	43.034	53.941	33.212	21.243	21.702
11/28/02	4:00	32.470	40.070	43.043	53.944	33.226	21.227	21.714
11/28/02	8:00	32.476	40.077	43.088	53.992	33.260	21.271	21.736
11/28/02	12:00	32.479	40.072	43.067	53.967	33.230	21.264	21.714
11/28/02	16:00	32.463	40.037	42.982	53.871	33.198	21.179	21.685
11/28/02	20:00	32.444	39.993	42.909	53.779	33.157	21.108	21.665
11/29/02	0:00	32.415	39.940	42.845	53.697	33.134	21.037	21.656
11/29/02	4:00	32.380	39.880	42.775	53.596	33.120	20.985	21.644
11/29/02	8:00	32.365	39.857	42.815	53.626	33.166	20.964	21.675

TABLE D.5 (Cont.)

		Depth (ft BGL)						
Date	Time	SB09	SB16	SB49	SB60	SB62	SB63	SB64
11/29/02	12:00	32.363	39.854	42.859	53.676	33.182	21.019	21.673
11/29/02	16:00	32.354	39.843	42.852	53.663	33.180	20.998	21.687
11/29/02	20:00	32.363	39.854	42.918	53.740	33.224	21.044	21.709
11/30/02	0:00	32.378	39.868	42.980	53.816	33.249	21.090	21.726
11/30/02	4:00	32.407	39.912	43.121	53.980	33.327	21.207	21.782
11/30/02	8:00	32.448	39.970	43.220	54.108	33.362	21.289	21.797
11/30/02	12:00	32.483	40.019	43.249	54.159	33.339	21.333	21.785
11/30/02	16:00	32.496	40.035	43.216	54.133	33.314	21.326	21.765
11/30/02	20:00	32.518	40.058	43.227	54.149	33.309	21.333	21.760
12/1/02	0:00	32.528	40.074	43.213	54.140	33.298	21.342	21.753
12/1/02	4:00	32.526	40.067	43.147	54.069	33.254	21.298	21.729
12/1/02	8:00	32.517	40.053	43.076	53.985	33.233	21.241	21.712
12/1/02	12:00	32.502	40.021	42.977	53.859	33.173	21.141	21.675
12/1/02	16:00	32.470	39.961	42.876	53.738	33.150	21.060	21.656
12/1/02	20:00	32.455	39.933	42.885	53.729	33.175	21.035	21.675
12/2/02	0:00	32.439	39.903	42.855	53.688	33.159	21.022	21.666
12/2/02	4:00	32.413	39.861	42.810	53.628	33.141	20.951	21.654
12/2/02	8:00	32.404	39.847	42.866	53.679	33.196	21.003	21.690
12/2/02	12:00	32.428	39.884	43.034	53.857	33.293	21.113	21.751
12/2/02	16:00	32.465	39.938	43.173	54.040	33.364	21.214	21.797
12/2/02	20:00	32.517	40.014	43.305	54.206	33.397	21.360	21.809
12/3/02	0:00	32.561	40.077	43.352	54.289	33.390	21.411	21.814
12/3/02	4:00	32.596	40.123	43.385	54.346	33.385	21.459	21.814
12/3/02	8:00	32.629	40.169	43.409	54.392	33.390	21.504	21.821
12/3/02	12:00	32.651	40.201	43.369	54.362	33.339	21.488	21.780
12/3/02	16:00	32.653	40.206	43.296	54.284	33.316	21.441	21.758
12/3/02	20:00	32.670	40.225	43.322	54.302	33.334	21.470	21.770
12/4/02	0:00	32.677	40.234	43.272	54.243	33.298	21.429	21.746
12/4/02	4:00	32.670	40.222	43.223	54.188	33.288	21.402	21.739
12/4/02	8:00	32.679	40.227	43.263	54.225	33.328	21.416	21.761
12/4/02	12:00	32.688	40.238	43.230	54.184	33.298	21.386	21.744
12/4/02	16:00	32.683	40.229	43.199	54.147	33.295	21.377	21.739
12/4/02	20:00	32.690	40.234	43.223	54.163	33.328	21.370	21.748
12/5/02	0:00	32.705	40.250	43.253	54.202	33.339	21.393	21.761
12/5/02	4:00	32.709	40.257	43.237	54.186	33.321	21.383	21.751
12/5/02	8:00	32.714	40.262	43.258	54.206	33.334	21.400	21.758
12/5/02	12:00	32.722	40.271	43.232	54.188	33.309	21.404	21.746
12/5/02	16:00	32.712	40.252	43.161	54.101	33.288	21.322	21.724
12/5/02	20:00	32.712	40.243	43.159	54.092	33.302	21.313	21.732
12/6/02	0:00	32.716	40.248	43.168	54.092	33.307	21.311	21.736
12/6/02	4:00	32.714	40.238	43.147	54.067	33.300	21.290	21.715
12/6/02	8:00	32.709	40.227	43.138	54.056	33.298	21.269	21.724
12/6/02	12:00	32.703	40.210	43.074	53.980	33.251	21.230	21.700
12/6/02	16:00	32.681	40.171	42.999	53.889	33.238	21.160	21.678
12/6/02	20:00	32.668	40.151	43.027	53.903	33.268	21.171	21.702
12/7/02	0:00	32.674	40.153	43.074	53.948	33.293	21.178	21.702
12/7/02	4:00	32.677	40.153	43.083	53.960	33.300	21.180	21.715
12/7/02	8:00	32.683	40.159	43.133	54.021	33.330	21.237	21.744

TABLE D.5 (Cont.)

		Depth (ft BGL)						
Date	Time	SB09	SB16	SB49	SB60	SB62	SB63	SB64
12/7/02	12:00	32.696	40.173	43.140	54.033	33.316	21.246	21.736
12/7/02	16:00	32.692	40.166	43.102	53.994	33.307	21.208	21.724
12/7/02	20:00	32.701	40.171	43.142	54.035	33.328	21.247	21.741
12/8/02	0:00	32.716	40.192	43.194	54.092	33.358	21.125	21.753
12/8/02	4:00	32.736	40.215	43.249	54.159	33.376	21.302	21.773
12/8/02	8:00	32.762	40.252	43.343	54.273	33.422	21.391	21.802
12/8/02	12:00	32.797	40.301	43.388	54.339	33.397	21.443	21.790
12/8/02	16:00	32.814	40.324	43.378	54.344	33.397	21.466	21.790
12/8/02	20:00	32.836	40.349	43.388	54.366	33.390	21.471	21.785
12/9/02	0:00	32.847	40.363	43.338	54.316	33.353	21.469	21.758
12/9/02	4:00	32.849	40.363	43.296	54.266	33.344	21.427	21.751
12/9/02	8:00	32.847	40.356	43.258	54.220	33.339	21.400	21.746
12/9/02	12:00	32.840	40.345	43.185	54.133	33.293	21.350	21.712
12/9/02	16:00	32.823	40.308	43.116	54.042	33.284	21.276	21.686
12/9/02	20:00	32.810	40.284	43.105	54.014	33.289	21.270	21.705
12/10/02	0:00	32.801	40.264	43.098	53.996	33.296	21.224	21.710
12/10/02	4:00	32.790	40.240	43.058	53.948	33.277	21.197	21.695
12/10/02	8:00	32.784	40.224	43.067	53.951	33.296	21.192	21.705
12/10/02	12:00	32.777	40.213	43.055	53.932	33.284	21.203	21.700
12/10/02	16:00	32.762	40.183	43.017	53.882	33.275	21.137	21.693
12/10/02	20:00	32.753	40.169	43.024	53.882	33.286	21.133	21.700
12/11/02	0:00	32.744	40.155	43.013	53.864	33.277	21.128	21.695
12/11/02	4:00	32.738	40.136	43.006	53.855	33.277	21.105	21.698
12/11/02	8:00	32.733	40.127	43.020	53.868	33.298	21.105	21.710
12/11/02	12:00	32.733	40.125	43.024	53.871	33.286	21.094	21.703
12/11/02	16:00	32.729	40.113	43.020	53.868	33.300	21.073	21.708
12/11/02	20:00	32.733	40.120	43.053	53.905	33.312	21.114	21.715
12/12/02	0:00	32.740	40.125	43.074	53.932	33.326	21.144	21.720
12/12/02	4:00	32.746	40.134	43.095	53.960	33.339	21.144	21.727
12/12/02	8:00	32.757	40.143	43.123	53.992	33.351	21.160	21.737
12/12/02	12:00	32.768	40.155	43.116	53.994	33.332	21.165	21.722
12/12/02	16:00	32.768	40.155	43.121	53.998	33.355	21.153	21.739
12/12/02	20:00	32.777	40.164	43.128	54.005	33.346	21.167	21.732
12/13/02	0:00	32.779	40.164	43.112	53.989	33.337	21.179	21.722
12/13/02	4:00	32.779	40.162	43.114	53.985	33.340	21.147	21.725
12/13/02	8:00	32.779	40.153	43.093	53.962	33.332	21.133	21.717
12/13/02	12:00	32.788	40.164	43.119	53.992	33.340	21.149	21.727
12/13/02	16:00	32.788	40.162	43.116	53.992	33.349	21.160	21.727
12/13/02	20:00	32.799	40.171	43.140	54.019	33.355	21.195	21.739
12/14/02	0:00	32.810	40.185	43.175	54.060	33.374	21.208	21.744
12/14/02	4:00	32.818	40.192	43.161	54.046	33.351	21.195	21.730
12/14/02	8:00	32.821	40.196	43.147	54.042	33.356	21.176	21.734
12/14/02	12:00	32.827	40.199	43.135	54.021	33.330	21.201	21.720
12/14/02	16:00	32.816	40.180	43.112	53.994	33.344	21.153	21.727
12/14/02	20:00	32.823	40.187	43.147	54.026	33.365	21.183	21.739
12/15/02	0:00	32.825	40.183	43.109	53.992	33.335	21.158	21.727
12/15/02	4:00	32.818	40.166	43.081	53.953	33.321	21.126	21.713
12/15/02	8:00	32.816	40.164	43.095	53.969	33.342	21.126	21.725

TABLE D.5 (Cont.)

		Depth (ft BGL)						
Date	Time	SB09	SB16	SB49	SB60	SB62	SB63	SB64
12/15/02	12:00	32.810	40.143	43.031	53.893	33.289	21.092	21.683
12/15/02	16:00	32.792	40.115	43.005	53.864	33.303	21.039	21.698
12/15/02	20:00	32.792	40.115	43.032	53.887	33.342	21.053	21.713
12/16/02	0:00	32.801	40.125	43.074	53.935	33.356	21.106	21.717
12/16/02	4:00	32.797	40.115	43.032	53.887	33.307	21.064	21.698
12/16/02	8:00	32.801	40.120	43.076	53.941	33.360	21.060	21.732
12/16/02	12:00	32.810	40.134	43.090	53.951	33.344	21.099	21.717
12/16/02	16:00	32.810	40.129	43.079	53.944	33.349	21.080	21.722
12/16/02	20:00	32.821	40.141	43.114	53.978	33.360	21.103	21.737
12/17/02	0:00	32.825	40.143	43.090	53.953	33.335	21.115	21.722
12/17/02	4:00	32.812	40.115	43.034	53.891	33.303	21.044	21.703
12/17/02	8:00	32.790	40.076	42.963	53.807	33.270	20.989	21.679
12/17/02	12:00	32.760	40.016	42.852	53.676	33.208	20.943	21.640
12/17/02	16:00	32.712	39.951	42.800	53.596	33.229	20.824	21.657
12/17/02	20:00	32.703	39.942	42.855	53.642	33.266	20.840	21.679
12/18/02	0:00	32.699	39.937	42.857	53.651	33.257	20.847	21.667
12/18/02	4:00	32.692	39.928	42.892	53.688	33.291	20.852	21.698
12/18/02	8:00	32.698	39.940	42.975	53.777	33.342	20.879	21.727
12/18/02	12:00	32.723	39.972	43.029	53.850	33.347	20.959	21.737
12/18/02	16:00	32.749	40.009	43.119	53.960	33.400	21.019	21.761
12/18/02	20:00	32.790	40.069	43.225	54.097	33.436	21.120	21.786
12/19/02	0:00	32.825	40.115	43.258	54.154	33.432	21.172	21.790
12/19/02	4:00	32.855	40.159	43.312	54.229	33.450	21.223	21.805
12/19/02	8:00	32.882	40.194	43.312	54.241	33.427	21.243	21.786
12/19/02	12:00	32.903	40.224	43.284	54.213	33.386	21.252	21.759
12/19/02	16:00	32.912	40.229	43.248	54.177	33.393	21.218	21.752
12/19/02	20:00	32.932	40.252	43.279	54.211	33.409	21.248	21.761
12/20/02	0:00	32.949	40.275	43.274	54.202	33.393	21.248	21.754
12/20/02	4:00	32.962	40.287	43.272	54.204	33.397	21.259	21.752
12/20/02	8:00	32.973	40.298	43.274	54.206	33.400	21.261	21.759
12/20/02	12:00	32.984	40.315	43.263	54.188	33.377	21.268	21.747
12/20/02	16:00	32.993	40.324	43.263	54.190	33.400	21.245	21.735
12/20/02	20:00	33.011	40.345	43.300	54.236	33.420	21.291	21.761
12/21/02	0:00	33.030	40.368	43.293	54.238	33.402	21.287	21.752
12/21/02	4:00	33.039	40.377	43.288	54.227	33.393	21.285	21.749
12/21/02	8:00	33.041	40.379	43.265	54.204	33.390	21.287	21.742
12/21/02	12:00	33.039	40.370	43.178	54.106	33.326	21.230	21.706
12/21/02	16:00	33.026	40.352	43.197	54.115	33.386	21.186	21.740
12/21/02	20:00	33.047	40.379	43.305	54.234	33.444	21.273	21.774
12/22/02	0:00	33.082	40.426	43.397	54.346	33.469	21.365	21.793
12/22/02	4:00	33.111	40.465	43.425	54.396	33.471	21.390	21.798
12/22/02	8:00	33.144	40.509	43.482	54.474	33.485	21.454	21.796
12/22/02	12:00	33.174	40.551	43.470	54.476	33.453	21.472	21.783
12/22/02	16:00	33.191	40.571	43.456	54.474	33.462	21.472	21.788
12/22/02	20:00	33.213	40.597	43.470	54.499	33.467	21.506	21.796
12/23/02	0:00	33.239	40.632	43.487	54.515	33.471	21.513	21.791
12/23/02	4:00	33.259	40.659	43.489	54.526	33.471	21.532	21.796
12/23/02	8:00	33.270	40.671	43.461	54.492	33.439	21.509	21.776

TABLE D.5 (Cont.)

		Depth (ft BGL)						
Date	Time	SB09	SB16	SB49	SB60	SB62	SB63	SB64
12/23/02	12:00	33.289	40.692	43.444	54.474	33.414	21.541	21.754
12/23/02	16:00	33.287	40.687	43.390	54.414	33.425	21.463	21.757
12/23/02	20:00	33.292	40.687	43.359	54.371	33.414	21.458	21.742
12/24/02	0:00	33.296	40.687	43.347	54.339	33.407	21.440	21.723
12/24/02	4:00	33.292	40.673	43.284	54.273	33.391	21.385	21.725
12/24/02	8:00	33.285	40.659	43.265	54.243	33.393	21.376	21.728
12/24/02	12:00	33.285	40.650	43.246	54.209	33.379	21.328	21.713
12/24/02	16:00	33.265	40.620	43.199	54.142	33.374	21.275	21.715
12/24/02	20:00	33.268	40.615	43.246	54.190	33.418	21.292	21.735
12/25/02	0:00	33.276	40.622	43.274	54.227	33.427	21.312	21.742
12/25/02	4:00	33.289	40.636	43.310	54.264	33.446	21.344	21.759
12/25/02	8:00	33.307	40.657	43.373	54.341	33.481	21.383	21.786
12/25/02	12:00	33.325	40.678	43.376	54.346	33.448	21.392	21.764
12/25/02	16:00	33.335	40.689	43.380	54.355	33.467	21.401	21.769
12/25/02	20:00	33.353	40.710	43.421	54.403	33.485	21.438	21.788
12/26/02	0:00	33.370	40.731	43.432	54.421	33.474	21.443	21.779
12/26/02	4:00	33.385	40.750	43.439	54.430	33.467	21.456	21.783
12/26/02	8:00	33.401	40.763	43.442	54.446	33.481	21.459	21.786
12/26/02	12:00	33.412	40.777	43.421	54.419	33.446	21.475	21.759
12/26/02	16:00	33.412	40.773	43.385	54.378	33.453	21.424	21.762
12/26/02	20:00	33.418	40.777	43.395	54.380	33.467	21.440	21.769
12/27/02	0:00	33.420	40.775	43.355	54.334	33.437	21.401	21.749
12/27/02	4:00	33.423	40.775	43.364	54.334	33.462	21.411	21.762
12/27/02	8:00	33.420	40.766	43.331	54.300	33.446	21.385	21.747
12/27/02	12:00	33.425	40.768	43.331	54.293	33.430	21.385	21.733
12/27/02	16:00	33.418	40.757	43.319	54.280	33.453	21.335	21.752
12/27/02	20:00	33.425	40.757	43.336	54.298	33.460	21.374	21.754
12/28/02	0:00	33.414	40.733	43.272	54.216	33.419	21.310	21.730
12/28/02	4:00	33.394	40.699	43.227	54.158	33.411	21.253	21.716
12/28/02	8:00	33.383	40.678	43.234	54.152	33.427	21.246	21.730
12/28/02	12:00	33.386	40.676	43.234	54.152	33.418	21.251	21.723
12/28/02	16:00	33.377	40.657	43.218	54.129	33.427	21.223	21.720
12/28/02	20:00	33.383	40.659	43.248	54.167	33.448	21.253	21.740
12/29/02	0:00	33.379	40.650	43.218	54.129	33.423	21.200	21.723
12/29/02	4:00	33.357	40.606	43.149	54.046	33.386	21.148	21.701
12/29/02	8:00	33.335	40.569	43.107	53.987	33.372	21.127	21.694
12/29/02	12:00	33.305	40.520	43.046	53.900	33.336	21.059	21.665
12/29/02	16:00	33.261	40.458	42.989	53.823	33.340	20.979	21.667
12/29/02	20:00	33.242	40.426	42.975	53.793	33.331	20.967	21.660
12/30/02	0:00	33.220	40.396	42.980	53.788	33.345	20.933	21.672
12/30/02	4:00	33.211	40.379	43.010	53.825	33.366	20.924	21.686
12/30/02	8:00	33.224	40.398	43.130	53.960	33.449	20.983	21.742
12/30/02	12:00	33.268	40.458	43.277	54.136	33.495	21.139	21.781
12/30/02	16:00	33.307	40.514	43.378	54.280	33.538	21.228	21.808
12/30/02	20:00	33.357	40.581	43.458	54.401	33.552	21.303	21.820
12/31/02	0:00	33.399	40.636	43.484	54.451	33.534	21.390	21.805
12/31/02	4:00	33.423	40.666	43.479	54.458	33.513	21.404	21.798
12/31/02	8:00	33.442	40.692	43.470	54.458	33.508	21.418	21.801

TABLE D.5 (Cont.)

		Depth (ft BGL)						
Date	Time	SB09	SB16	SB49	SB60	SB62	SB63	SB64
12/31/02	12:00	33.458	40.710	43.413	54.394	33.469	21.402	21.769
12/31/02	16:00	33.453	40.699	43.347	54.312	33.455	21.340	21.755
12/31/02	20:00	33.462	40.701	43.329	54.284	33.453	21.319	21.750
1/1/03	0:00	33.464	40.699	43.296	54.238	33.430	21.287	21.730
1/1/03	4:00	33.464	40.694	43.303	54.243	33.453	21.278	21.747
1/1/03	8:00	33.469	40.699	43.336	54.268	33.478	21.310	21.757
1/1/03	12:00	33.486	40.719	43.350	54.284	33.462	21.313	21.750
1/1/03	16:00	33.497	40.733	43.378	54.323	33.499	21.345	21.776
1/1/03	20:00	33.512	40.754	43.413	54.359	33.513	21.351	21.784
1/2/03	0:00	33.536	40.782	43.454	54.410	33.525	21.395	21.791
1/2/03	4:00	33.549	40.798	43.456	54.423	33.515	21.425	21.789
1/2/03	8:00	33.564	40.817	43.472	54.451	33.525	21.454	21.791
1/2/03	12:00	33.584	40.842	43.461	54.449	33.497	21.454	21.779
1/2/03	16:00	33.588	40.847	43.435	54.417	33.506	21.420	21.774
1/2/03	20:00	33.606	40.865	43.470	54.462	33.527	21.441	21.791
1/3/03	0:00	33.623	40.891	43.482	54.476	33.525	21.464	21.776
1/3/03	4:00	33.630	40.898	43.461	54.451	33.504	21.464	21.776
1/3/03	8:00	33.636	40.900	43.439	54.423	33.483	21.448	21.762
1/3/03	12:00	33.639	40.905	43.397	54.375	33.472	21.429	21.752
1/3/03	16:00	33.608	40.868	43.291	54.254	33.439	21.324	21.725
1/3/03	20:00	33.595	40.847	43.286	54.236	33.463	21.310	21.735
1/4/03	0:00	33.584	40.824	43.255	54.188	33.442	21.262	21.718
1/4/03	4:00	33.571	40.798	43.248	54.172	33.447	21.251	21.723
1/4/03	8:00	33.575	40.798	43.321	54.238	33.502	21.285	21.757
1/4/03	12:00	33.578	40.794	43.255	54.170	33.430	21.240	21.716
1/4/03	16:00	33.560	40.768	43.270	54.181	33.488	21.224	21.747
1/4/03	20:00	33.586	40.798	43.383	54.312	33.539	21.308	21.764
1/5/03	0:00	33.606	40.819	43.383	54.325	33.518	21.315	21.776
1/5/03	4:00	33.619	40.831	43.404	54.350	33.532	21.333	21.789
1/5/03	8:00	33.632	40.842	43.409	54.359	33.523	21.343	21.774
1/5/03	12:00	33.649	40.868	43.435	54.391	33.529	21.381	21.784
1/5/03	16:00	33.671	40.891	43.489	54.455	33.571	21.411	21.806
1/5/03	20:00	33.706	40.942	43.590	54.581	33.606	21.496	21.830
1/6/03	0:00	33.752	41.006	43.659	54.688	33.615	21.580	21.849
1/6/03	4:00	33.789	41.055	43.675	54.739	33.608	21.649	21.842
1/6/03	8:00	33.822	41.101	43.696	54.782	33.617	21.677	21.849
1/6/03	12:00	33.854	41.147	43.685	54.784	33.578	21.736	21.825
1/6/03	16:00	33.859	41.157	43.619	54.709	33.566	21.661	21.815
1/6/03	20:00	33.861	41.152	43.555	54.627	33.534	21.656	21.784
1/7/03	0:00	33.859	41.145	43.479	54.533	33.504	21.608	21.757
1/7/03	4:00	33.846	41.122	43.416	54.446	33.479	21.537	21.738
1/7/03	8:00	33.826	41.092	43.371	54.375	33.490	21.475	21.742
1/7/03	12:00	33.815	41.069	43.333	54.312	33.458	21.434	21.725
1/7/03	16:00	33.774	41.011	43.248	54.200	33.442	21.306	21.704
1/7/03	20:00	33.756	40.979	43.244	54.181	33.451	21.299	21.708
1/8/03	0:00	33.739	40.944	43.230	54.149	33.449	21.244	21.708
1/8/03	4:00	33.719	40.907	43.199	54.113	33.442	21.203	21.699
1/8/03	8:00	33.691	40.861	43.161	54.051	33.428	21.171	21.691

TABLE D.5 (Cont.)

		Depth (ft BGL)						
Date	Time	SB09	SB16	SB49	SB60	SB62	SB63	SB64
1/8/03	12:00	33.660	40.807	43.105	53.971	33.391	21.118	21.667
1/8/03	16:00	33.628	40.759	43.095	53.941	33.421	21.061	21.677
1/8/03	20:00	33.626	40.754	43.171	54.024	33.463	21.073	21.713
1/9/03	0:00	33.641	40.768	43.227	54.094	33.486	21.121	21.735
1/9/03	4:00	33.656	40.780	43.260	54.142	33.493	21.146	21.740
1/9/03	8:00	33.678	40.810	43.355	54.259	33.553	21.203	21.786
1/9/03	12:00	33.711	40.854	43.416	54.343	33.551	21.304	21.772
1/9/03	16:00	33.730	40.875	43.409	54.350	33.548	21.299	21.779
1/9/03	20:00	33.759	40.909	43.465	54.433	33.578	21.377	21.803
1/10/03	0:00	33.785	40.939	43.482	54.460	33.571	21.393	21.798
1/10/03	4:00	33.804	40.965	43.489	54.474	33.571	21.397	21.803
1/10/03	8:00	33.835	41.009	43.571	54.567	33.617	21.464	21.832
1/10/03	12:00	33.863	41.046	43.569	54.579	33.585	21.510	21.808
1/10/03	16:00	33.878	41.062	43.548	54.558	33.583	21.514	21.806
1/10/03	20:00	33.894	41.083	43.557	54.570	33.585	21.523	21.813
1/11/03	0:00	33.909	41.101	43.560	54.572	33.580	21.530	21.806
1/11/03	4:00	33.922	41.118	43.555	54.567	33.571	21.535	21.784
1/11/03	8:00	33.935	41.134	43.553	54.563	33.578	21.551	21.803
1/11/03	12:00	33.950	41.152	43.555	54.572	33.567	21.567	21.798
1/11/03	16:00	33.948	41.152	43.508	54.517	33.560	21.516	21.786
1/11/03	20:00	33.963	41.168	43.553	54.561	33.597	21.539	21.810
1/12/03	0:00	33.977	41.184	43.567	54.583	33.590	21.562	21.813
1/12/03	4:00	33.979	41.189	43.517	54.524	33.555	21.526	21.786
1/12/03	8:00	33.977	41.187	43.496	54.499	33.564	21.516	21.786
1/12/03	12:00	33.966	41.175	43.442	54.426	33.525	21.466	21.752
1/12/03	16:00	33.935	41.141	43.357	54.321	33.502	21.384	21.733
1/12/03	20:00	33.929	41.127	43.406	54.362	33.553	21.413	21.764
1/13/03	0:00	33.933	41.124	43.421	54.375	33.557	21.413	21.769
1/13/03	4:00	33.942	41.127	43.435	54.394	33.564	21.427	21.774
1/13/03	8:00	33.957	41.138	43.482	54.446	33.580	21.457	21.789
1/13/03	12:00	33.963	41.143	43.449	54.410	33.555	21.450	21.772
1/13/03	16:00	33.929	41.108	43.352	54.293	33.516	21.349	21.740
1/13/03	20:00	33.931	41.104	43.404	54.343	33.557	21.352	21.767
1/14/03	0:00	33.948	41.115	43.477	54.428	33.604	21.413	21.796
1/14/03	4:00	33.979	41.150	43.581	54.554	33.638	21.505	21.835
1/14/03	8:00	34.016	41.203	43.668	54.670	33.661	21.590	21.852
1/14/03	12:00	34.046	41.240	43.656	54.682	33.622	21.619	21.823
1/14/03	16:00	34.049	41.238	43.557	54.579	33.578	21.551	21.786
1/14/03	20:00	34.062	41.252	43.581	54.593	33.615	21.572	21.810
1/15/03	0:00	34.073	41.266	43.574	54.586	33.601	21.585	21.798
1/15/03	4:00	34.073	41.263	43.543	54.551	33.583	21.551	21.791
1/15/03	8:00	34.073	41.261	43.524	54.522	33.580	21.500	21.772
1/15/03	12:00	34.066	41.254	43.470	54.455	33.537	21.503	21.762
1/15/03	16:00	34.016	41.189	43.350	54.300	33.507	21.407	21.730
1/15/03	20:00	34.007	41.173	43.404	54.341	33.569	21.384	21.767
1/16/03	0:00	33.998	41.152	43.392	54.325	33.542	21.370	21.750
1/16/03	4:00	33.990	41.138	43.413	54.341	33.576	21.370	21.772
1/16/03	8:00	34.009	41.157	43.522	54.467	33.631	21.439	21.818

TABLE D.5 (Cont.)

		Depth (ft BGL)						
Date	Time	SB09	SB16	SB49	SB60	SB62	SB63	SB64
1/16/03	12:00	34.046	41.203	43.595	54.567	33.648	21.501	21.825
1/16/03	16:00	34.066	41.224	43.595	54.579	33.634	21.533	21.820
1/16/03	20:00	34.086	41.244	43.593	54.588	33.625	21.553	21.813
1/17/03	0:00	34.101	41.261	43.578	54.567	33.611	21.549	21.806
1/17/03	4:00	34.112	41.273	43.585	54.581	33.622	21.551	21.808
1/17/03	8:00	34.120	41.284	43.588	54.590	33.627	21.567	21.813

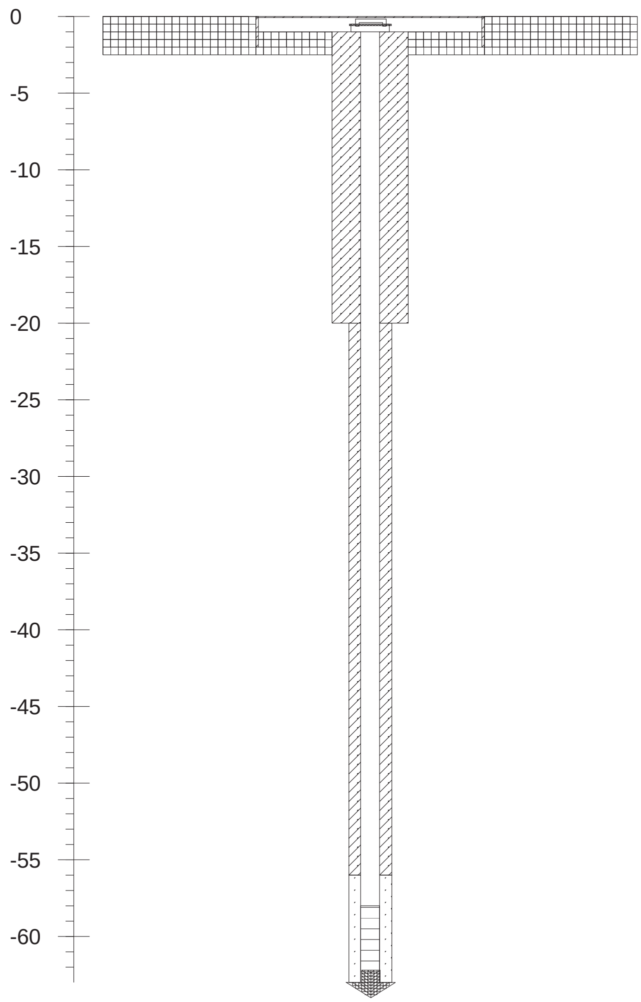
Appendix E:

Piezometer Construction Diagrams

Argonne National Laboratory **Sand Point ID: SB22**

Project: Everest	**Ground Elevation: 1148.3 ft**	**Rig: Argonne 40-ton CPT**
Depth in Feet: 63	**Reference Elevation: 1147.87 ft**	**Driller: Kurt Spokas**
Completion Date: 3/26/2001	**Location: Easting: 2036116.87**	**Northing: 500456.09**

Depth in Feet **Well Construction** **Construction Details**



12-inch Diameter Cast Iron Cover Bolted to Flange with Rubber Gasket

2-inch "J" Type Locking Cap on 2x6-inch PVC Adapter on 2-inch Diameter Riser

12-inch Diameter x 24-inch Deep Galvanized Steel Cylinder (Skirt)

28-inch Diameter x 30-inch Deep Concrete Vault

Tremie Grouted Bentonite Slurry in 4-inch Annulus from Surface to 20 ft BGL

1-inch Schedule 40, Threaded PVC Riser from Surface to 58 ft BGL

Tremie Grouted Bentonite Slurry in 2.25-inch Annulus from 20-56 ft BGL

Sand Pack from 56-63 ft BGL

1-inch Slotted (0.10") Schedule 40 PVC Well Screen from 58-63 ft BGL

Sacrificial CPT Tip Plug

WATER WELL RECORD Form WWC-5 KSA 82a-1212 ID No. EVSB-22

1 LOCATION OF WATER WELL: County: Brown | Fraction SW ¼ NE ¼ NW ¼ | Section Number 29 | Township Number T 4 S | Range Number R 18 E/W

Distance and direction from nearest town or city street address of well if located within city?
NW corner of 8th and Locust Street, Everest, KS

2 WATER WELL OWNER: USDA/CCC
RR#, St. Address, Box # : STOP 0513-Room 4714-S, 1400 Independece Ave. SW
City, State, ZIP Code : Washington, DC 20250-0513
Board of Agriculture, Division of Water Resources
Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:
N — NW — X NE — W E — SW — SE — S — 1 Mile

4 DEPTH OF COMPLETED WELL ....63..... ft. ELEVATION: 1148.32
Depth(s) Groundwater Encountered 1. ......60........ ft. 2. .... ft. 3. .... ft.
WELL'S STATIC WATER LEVEL ... 36.0 .. ft. below land surface measured on mo/day/yr .. 04/05/01
Pump test data: Well water was .... ft. after .... hours pumping .... gpm
Est. Yield ....N/A.. gpm: Well water was .... ft. after .... hours pumping .... gpm
Bore Hole Diameter.. 5.25 .... in. to ...... 22.68 ..... ft., and .... 3.25 .... in. to .... 63 ...... ft.
WELL WATER TO BE USED AS: 5 Public water supply 8 Air conditioning 11 Injection well
1 Domestic 3 Feedlot 6 Oil field water supply 9 Dewatering 12 Other (Specify below)
2 Irrigation 4 Industrial 7 Domestic (lawn & garden) 10 Monitoring well ..... Water Level Monitoring
Was a chemical/bacteriological sample submitted to Department? Yes....... No. X...; If yes, mo/day/yrs sample was submitted
Water Well Disinfected? Yes No X

5 TYPE OF BLANK CASING USED: 1 Steel 2 PVC 3 RMP (SR) 4 ABS 5 Wrought iron 6 Asbestos-Cement 7 Fiberglass 8 Concrete tile 9 Other (specify below)
CASING JOINTS: Glued...... Clamped...... Welded.......... Threaded.
Blank casing diameter ....1...in. to .... 58.... ft., Dia .... in. to .... ft., Dia .... in. to .... ft.
Casing height above land surface Flush Mount. in., weight .... lbs./ft. Wall thickness or gauge No. . Sch. 40. PVC. ....
TYPE OF SCREEN OR PERFORATION MATERIAL: 1 Steel 2 Brass 3 Stainless steel 4 Galvanized steel 5 Fiberglass 6 Concrete tile 7 PVC 8 RMP (SR) 9 ABS 10 Asbestos-cement 11 Other (specify) 12 None used (open hole)
SCREEN OR PERFORATION OPENINGS ARE: 1 Continuous slot 2 Louvered shutter 3 Mill slot 4 Key punched 5 Gauzed wrapped 6 Wire wrapped 7 Torch cut 8 Saw cut 9 Drilled holes 10 Other (specify) .... ft. 11 None (open hole)
SCREEN-PERFORATED INTERVALS: From..........58.... ft. to ....63.... ft., From ......-...... ft. to. ....-...... ft.
From.............. ft. to .... ft., From .... ft. to.............. ft.
GRAVEL PACK INTERVALS: From..........56.... ft. to ....63.... ft., From ......-...... ft. to. ....-...... ft.
From.............. ft. to .... ft., From .... ft. to.............. ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other ....
Grout Intervals: From.........0.. ft. to ......56.... ft., From .... ft. to............ ft., From .... ft. to............ ft.
What is the nearest source of possible contamination:
1 Septic tank 2 Sewer lines 3 Watertight sewer lines 4 Lateral lines 5 Cess pool 6 Seepage pit 7 Pit privy 8 Sewage lagoon 9 Feedyard 10 Livestock pens 11 Fuel storage 12 Fertilizer storage 13 Insecticide storage 14 Abandoned water well 15 Oil well/Gas well 16 Other (specify below) Field & Road Run-off.
Direction from well? North How many feet? 30'

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	3'	Top Soil			
3'	12'	Clay			
12'	30'	Sand and Clay			
30'	40'	Silty Clay, (Dry)			
40'	60'	Silt (Dry)			
60'	61.5	Silty Sand (Wet)			
61.5	62	Sandy Clay (Wet)			
62	63	Silty Clay, Bluish (Dry)			

Mr. Don Taylor
Kansas Dept. of Health & Enviro.
Forbes Field Bldg. 283
Topeka, KS 66620-0001

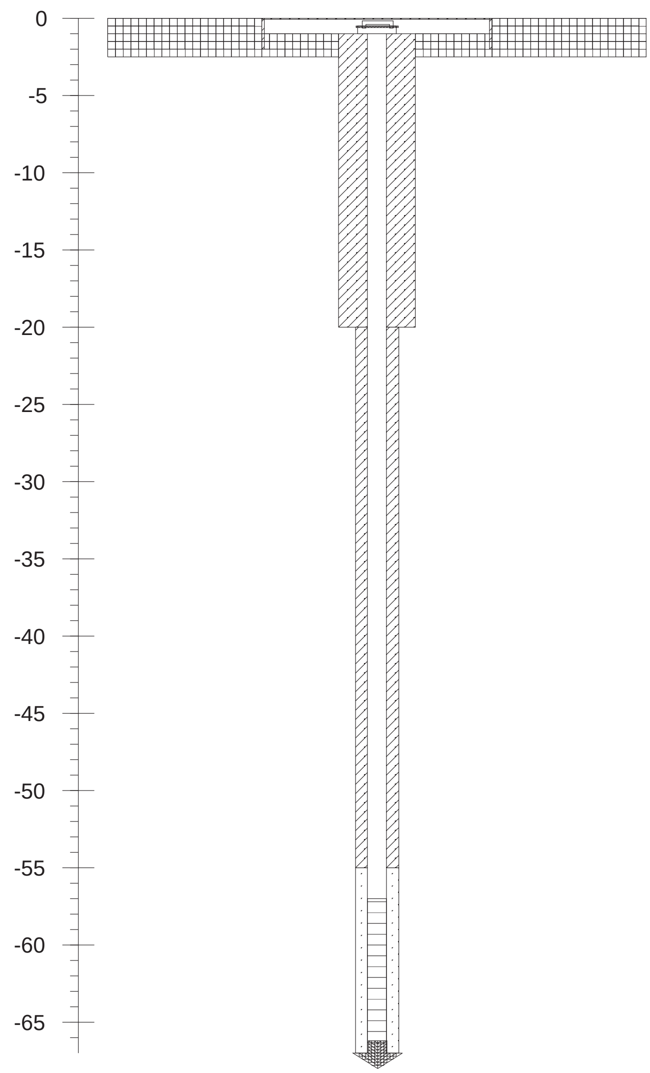
7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) .... 03/26/01 .... and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's Licence No. . 680 .... This Water Well Record was completed on (mo/day/yr) 04/13/01 ....
under the business name of Delta Environmental by (signature)

INSTRUCTIONS: Use typewriter or ball point pen. PLEASE PRESS FIRMLY and PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone 785-296-5524. Send one to WATER WELL OWNER and retain one for your records. Fee of $5.00 for each constructed well.

Argonne National Laboratory **Sand Point ID: SB31**

Project: Everest	**Ground Elevation: 1142.76 ft**	**Rig: Argonne 40-ton CPT**
Depth in Feet: 67	**Reference Elevation: 1142.26 ft**	**Driller: Kurt Spokas**
Completion Date: 3/26/2001	**Location: Easting: 2035907.34**	**Northing: 499045.20**

Depth in Feet **Well Construction** **Construction Details**



12-inch Diameter Cast Iron Cover Bolted to Flange with Rubber Gasket

2-inch "J" Type Locking Cap on 2x6-inch PVC Adapter on 2-inch Diameter Riser

12-inch Diameter x 24-inch Deep Galvanized Steel Cylinder (Skirt)

28-inch Diameter x 30-inch Deep Concrete Vault

Tremie Grouted Bentonite Slurry in 4-inch Annulus from Surface to 20 ft BGL

1-inch Schedule 40, Threaded PVC Riser from Surface to 57 ft BGL

Tremie Grouted Bentonite Slurry in 2.25-inch Annulus from 20-55 ft BGL

Sand Pack from 55-67 ft BGL

1-inch Slotted (0.10") Schedule 40 PVC Well Screen from 57-67 ft BGL

Sacrificial CPT Tip Plug

WATER WELL RECORD Form WWC-5 KSA 82a-1212 ID No. EVSB-31

1 LOCATION OF WATER WELL: County: Brown | Fraction: SW ¼ SE ¼ NW ¼ | Section Number: 29 | Township Number: T 4 S | Range Number: R 18 E/W

Distance and direction from nearest town or city street address of well if located within city?
North side of Pine street & 370' West of 8th Street, Everest, KS

2 WATER WELL OWNER: USDA/CCC
RR#, St. Address, Box #: STOP 0513-Room 4714-s, 1400 Independence Ave, SW
City, State, ZIP Code: Washington, DC 20250-0513
Board of Agriculture, Division of Water Resources
Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:
N; W; E; S; NW; NE; SW; SE; 1 Mile; X

4 DEPTH OF COMPLETED WELL ....67..... ft. ELEVATION: ..1142.76'........
Depth(s) Groundwater Encountered 1. ....57..... ft. 2. .... ft. 3. .... ft.
WELL'S STATIC WATER LEVEL ..26.16'. ft. below land surface measured on mo/day/yr ..04/05/01........
Pump test data: Well water was .N/A...... ft. after .... hours pumping .... gpm
Est. Yield ....gpm: Well water was .... ft. after .... hours pumping .... gpm
Bore Hole Diameter.....5.25. in. to ....21..... ft., and.......3.25........ in. to ...67....... ft.
WELL WATER TO BE USED AS: 1 Domestic; 2 Irrigation; 3 Feedlot; 4 Industrial; 5 Public water supply; 6 Oil field water supply; 7 Domestic (lawn & garden); 8 Air conditioning; 9 Dewatering; 10 Monitoring well; 11 Injection well; 12 Other (Specify below) Water Level Monitoring
Was a chemical/bacteriological sample submitted to Department? Yes....... No...X..; If yes, mo/day/yrs sample was submitted
Water Well Disinfected? Yes No X

5 TYPE OF BLANK CASING USED: 1 Steel; 2 PVC; 3 RMP (SR); 4 ABS; 5 Wrought iron; 6 Asbestos-Cement; 7 Fiberglass; 8 Concrete tile; 9 Other (specify below)
CASING JOINTS: Glued...... Clamped...... Welded........ Threaded........
Blank casing diameter ....1...... in. to .....57...... ft., Dia .... in. to .... ft., Dia .... in. to .... ft.
Casing height above land surface. Flush Mount in., weight .... lbs./ft. Wall thickness or gauge No. Sch. 40. PVC.....
TYPE OF SCREEN OR PERFORATION MATERIAL: 1 Steel; 2 Brass; 3 Stainless steel; 4 Galvanized steel; 5 Fiberglass; 6 Concrete tile; 7 PVC; 8 RMP (SR); 9 ABS; 10 Asbestos-cement; 11 Other (specify) ....; 12 None used (open hole)
SCREEN OR PERFORATION OPENINGS ARE: 1 Continuous slot; 2 Louvered shutter; 3 Mill slot; 4 Key punched; 5 Gauzed wrapped; 6 Wire wrapped; 7 Torch cut; 8 Saw cut; 9 Drilled holes; 10 Other (specify) .... ft.; 11 None (open hole)
SCREEN-PERFORATED INTERVALS: From.........57..... ft. to ....67.... ft., From .... ft. to.................. ft.
From.................. ft. to .... ft., From .... ft. to.................. ft.
GRAVEL PACK INTERVALS: From.........55..... ft. to ....67.... ft., From .... ft. to.................. ft.
From.................. ft. to .... ft., From .... ft. to.................. ft.

6 GROUT MATERIAL: 1 Neat cement; 2 Cement grout; 3 Bentonite; 4 Other ....
Grout Intervals: From.........0... ft. to ....55... ft., From .... ft. to............ ft., From .... ft. to............ ft.
What is the nearest source of possible contamination: 1 Septic tank; 2 Sewer lines; 3 Watertight sewer lines; 4 Lateral lines; 5 Cess pool; 6 Seepage pit; 7 Pit privy; 8 Sewage lagoon; 9 Feedyard; 10 Livestock pens; 11 Fuel storage; 12 Fertilizer storage; 13 Insecticide storage; 14 Abandoned water well; 15 Oil well/Gas well; 16 Other (specify below)
Direction from well? East How many feet? 365'

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	3	Top Soil			
~~3~~	~~Clay~~				
3	20	Clay			
20	40	Clay & Sand			
40	52.5	Silty Clay			
52.5	57	Sandy Clay			
57	67	Sand (Wet)			

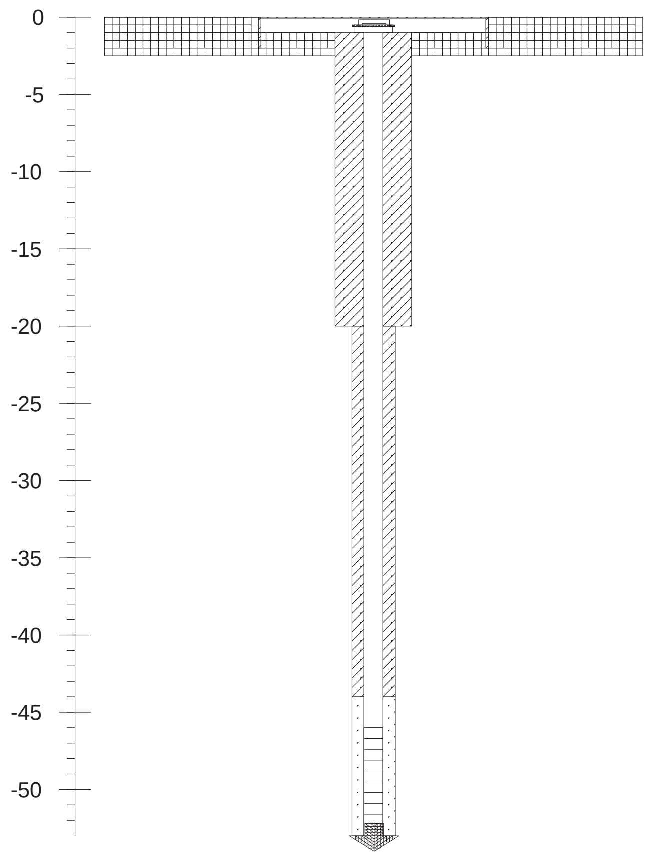
7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) ...03/26/01..................... and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's Licence No. ..680............. This Water Well Record was completed on (mo/day/yr) ..04/16/01..........
under the business name of Delta Environmental by (signature)

INSTRUCTIONS: Use typewriter or ball point pen. PLEASE PRESS FIRMLY and PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone 785-296-5524. Send one to WATER WELL OWNER and retain one for your records. Fee of $5.00 for each constructed well.

Argonne National Laboratory **Sand Point ID: SB34**

Project: Everest	**Ground Elevation: 1132.1 ft**	**Rig: Argonne 40-ton CPT**
Depth in Feet: 53	**Reference Elevation: 1131.73 ft**	**Driller: Kurt Spokas**
Completion Date: 3/29/2001	**Location: Easting: 2035807.43**	**Northing: 499722.40**

Depth in Feet **Well Construction** **Construction Details**



12-inch Diameter Cast Iron Cover Bolted to Flange with Rubber Gasket

2-inch "J" Type Locking Cap on 2x6-inch PVC Adapter on 2-inch Diameter Riser

12-inch Diameter x 24-inch Deep Galvanized Steel Cylinder (Skirt)

28-inch Diameter x 30-inch Deep Concrete Vault

Tremie Grouted Bentonite Slurry in 4-inch Annulus from Surface to 20 ft BGL

1-inch Schedule 40, Threaded PVC Riser from Surface to 46 ft BGL

Tremie Grouted Bentonite Slurry in 2.25-inch Annulus from 20-44 ft BGL

Sand Pack from 44-53 ft BGL

1-inch Slotted (0.10") Schedule 40 PVC Well Screen from 46-53 ft BGL

Sacrificial CPT Tip Plug

WATER WELL RECORD Form WWC-5 KSA 82a-1212 ID No. EVSB-34

1 LOCATION OF WATER WELL: County: Brown | Fraction: NW ¼ SE ¼ NW ¼ | Section Number: 29 | Township Number: T 4 S | Range Number: R 18 E/W

Distance and direction from nearest town or city street address of well if located within city?
30' South of Main Street & 405' West of 8th Street, Everest, KS

2 WATER WELL OWNER: USDA/CCC
RR#, St. Address, Box # : STOP 0513-Room 4717-S, 1400 Independence Ave, SW
City, State, ZIP Code : Washington, DC 20250-0513
Board of Agriculture, Division of Water Resources
Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:
N / W / E / S — NW (X), NE, SW, SE — 1 Mile

4 DEPTH OF COMPLETED WELL 53 ft. ELEVATION: 1132.15'
Depth(s) Groundwater Encountered 1. 46 ft. 2. ft. 3. ft.
WELL'S STATIC WATER LEVEL 15.69 ft. below land surface measured on mo/day/yr 04/05/01
Pump test data: Well water was N/A ft. after hours pumping gpm
Est. Yield gpm: Well water was ft. after hours pumping gpm
Bore Hole Diameter 5.25 in. to 21 ft., and 3.25 in. to 53 ft.
WELL WATER TO BE USED AS: 5 Public water supply 8 Air conditioning 11 Injection well
1 Domestic 3 Feedlot 6 Oil field water supply 9 Dewatering 12 Other (Specify below)
2 Irrigation 4 Industrial 7 Domestic (lawn & garden) 10 Monitoring well Water Level Monitoring
Was a chemical/bacteriological sample submitted to Department? Yes No X ; If yes, mo/day/yrs sample was submitted
Water Well Disinfected? Yes No X

5 TYPE OF BLANK CASING USED: 1 Steel 2 PVC 3 RMP (SR) 4 ABS 5 Wrought iron 6 Asbestos-Cement 7 Fiberglass 8 Concrete tile 9 Other (specify below)
CASING JOINTS: Glued Clamped Welded Threaded
Blank casing diameter 1 in. to 46 ft., Dia in. to ft., Dia in. to ft.
Casing height above land surface in., weight lbs./ft. Wall thickness or gauge No. Sch 40 PVC
TYPE OF SCREEN OR PERFORATION MATERIAL: 1 Steel 2 Brass 3 Stainless steel 4 Galvanized steel 5 Fiberglass 6 Concrete tile 7 PVC 8 RMP (SR) 9 ABS 10 Asbestos-cement 11 Other (specify) 12 None used (open hole)
SCREEN OR PERFORATION OPENINGS ARE: 1 Continuous slot 2 Louvered shutter 3 Mill slot 4 Key punched 5 Gauzed wrapped 6 Wire wrapped 7 Torch cut 8 Saw cut 9 Drilled holes 10 Other (specify) 11 None (open hole)
SCREEN-PERFORATED INTERVALS: From 46 ft. to 53 ft., From ft. to ft.
From ft. to ft., From ft. to ft.
GRAVEL PACK INTERVALS: From 44 ft. to 53 ft., From ft. to ft.
From ft. to ft., From ft. to ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other
Grout Intervals: From 0 ft. to 44 ft., From ft. to ft., From ft. to ft.
What is the nearest source of possible contamination:
1 Septic tank 2 Sewer lines 3 Watertight sewer lines 4 Lateral lines 5 Cess pool 6 Seepage pit 7 Pit privy 8 Sewage lagoon 9 Feedyard 10 Livestock pens 11 Fuel storage 12 Fertilizer storage 13 Insecticide storage 14 Abandoned water well 15 Oil well/Gas well 16 Other (specify below)
Direction from well? East How many feet? 52'

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
~~03~~		~~xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx~~			
0	3'	Top Soil			
3'	42	Silty Clay			
42	46'	Sandy to Silty Clay			
46	53'	Sand (Wet)			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 03/29/01 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's Licence No. 680 This Water Well Record was completed on (mo/day/yr) 04/16/01
under the business name of Delta Environmental by (signature)

INSTRUCTIONS: Use typewriter or ball point pen. PLEASE PRESS FIRMLY and PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone 785-296-5524. Send one to WATER WELL OWNER and retain one for your records. Fee of $5.00 for each constructed well.

Piezometer SB49: Everest, KS

NE 1/4 of NE 1/4 of NE 1/4 of Section 30, Twp. 4 South, Rge. 18 East
Brown County, State of Kansas

Date: 11/12/02

WELL HEAD PROTECTION
12" Morrison Brothers, Co. Model 418XA flush mount cover. Top of casing fitted with a (J-Plug) Morrison Brothers, Co. Model 678XA and a screened vent with a locking pipe plug and padlock.

CONCRETE PAD
Must be a minimum of 8" thick and extend at least 8" larger than the flush mount (28" minimum). Sloped to prevent pooling of water and vegetation around well and to allow for placement of a surveyor pin.

IMPERVIOUS GROUT
The well must be grouted with impervious grout and must be tremied in the hole, with clean fresh water, to have a minimum density of 9.4 lbs. per gallon.

WELL CASING
Well casing shall terminate as high as possible inside the flush mount and be capped with a (J-Plug) Morrison Brothers, Co. Model 678XA locking plug and padlock.

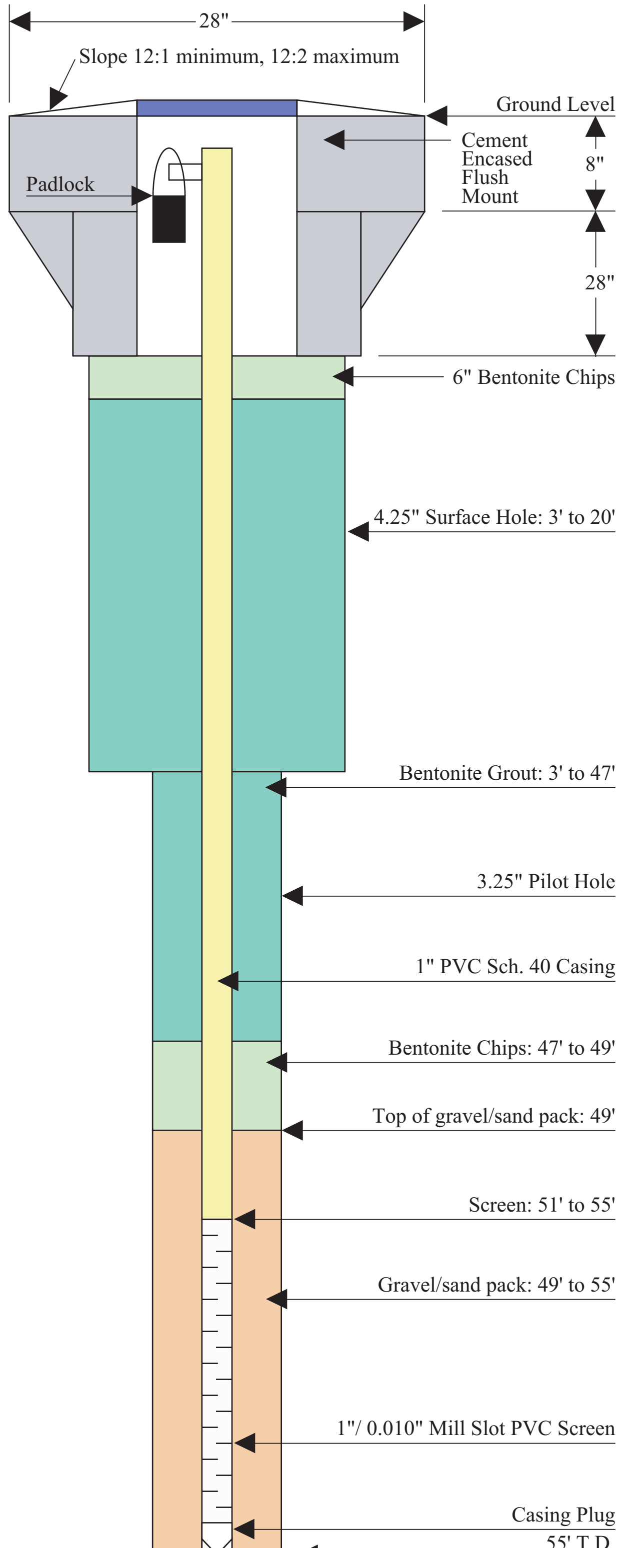
1" PVC 160 psi (SDR) 26 or thicker threaded casing and Mill Slot (0.010") well screen.

HOLE SIZE
The hole must be at least 4" in diameter for the top 20' and grouted to the base of the flush mount.

GRAVEL / SAND PACK
Gravel/sand pack screen size and gradation shall be determined based upon the grain size and gradation of portion or portions of the aquifer to be screened. Gravel pack shall be designed to stabilize the aquifer material and permit the fine fraction to move into the well during development. Gravel/sand pack shall extend to at least 2' above screen.

CONTRACTOR LICENSING
All wells must be constructed under the direction of a licensed water well contractor as specified under the Kansas Department of Health and Environment.

REGISTRATION
All wells must be registered with the Kansas Department of Health and Environment on form WWC-5 provided by that Department.



(NOT TO SCALE)

D. Surgnier for ANL

Piezometer SB60: Everest, KS

NE 1/4 of NE 1/4 of NE 1/4 of Section 30, Twp. 4 South, Rge. 18 East
Brown County, State of Kansas

Date: 11/10/02 and 11/11/02

WELL HEAD PROTECTION
12" Morrison Brothers, Co. Model 418XA flush mount cover. Top of casing fitted with a (J-Plug) Morrison Brothers, Co. Model 678XA and a screened vent with a locking pipe plug and padlock.

CONCRETE PAD
Must be a minimum of 8" thick and extend at least 8" larger than the flush mount (28" minimum). Sloped to prevent pooling of water and vegetation around well and to allow for placement of a surveyor pin.

IMPERVIOUS GROUT
The well must be grouted with impervious grout and must be tremied in the hole, with clean fresh water, to have a minimum density of 9.4 lbs. per gallon.

WELL CASING
Well casing shall terminate as high as possible inside the flush mount and be capped with a (J-Plug) Morrison Brothers, Co. Model 678XA locking plug and padlock.

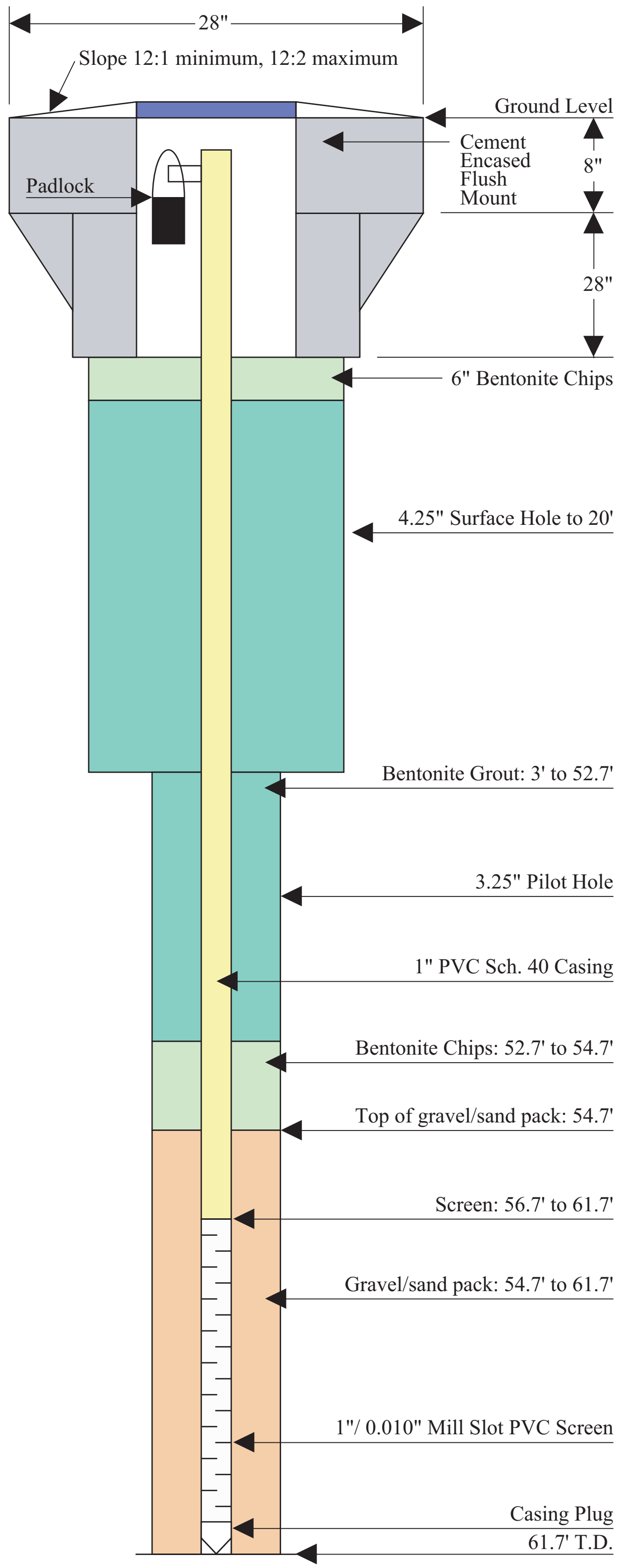
1" PVC 160 psi (SDR) 26 or thicker threaded casing and Mill Slot (0.010") well screen.

HOLE SIZE
The hole must be at least 4" in diameter for the top 20' and grouted to the base of the flush mount.

GRAVEL / SAND PACK
Gravel/sand pack screen size and gradation shall be determined based upon the grain size and gradation of portion or portions of the aquifer to be screened. Gravel pack shall be designed to stabilize the aquifer material and permit the fine fraction to move into the well during development. Gravel/sand pack shall extend to at least 2' above screen.

CONTRACTOR LICENSING
All wells must be constructed under the direction of a licensed water well contractor as specified under the Kansas Department of Health and Environment.

REGISTRATION
All wells must be registered with the Kansas Department of Health and Environment on form WWC-5 provided by that Department.



(NOT TO SCALE)

D. Surgnier for ANL

Piezometer SB62: Everest, KS

NE 1/4 of NW 1/4 of NE 1/4 of Section 30, Twp. 4 North, Rge. 18 East
Brown County, State of Kansas

Date: 11/12/02

WELL HEAD PROTECTION
8" PVC Casing extending 3' AGL with a locking cap. Top of casing fitted with a (J-Plug) Morrison Brothers, Co. Model 678XA and a screened vent with a locking pipe plug and padlock.

CONCRETE PAD
Must be a minimum of 8" thick and extend at least 8" larger than the mount (28" minimum). Sloped to prevent pooling of water and vegetation around well and to allow for placement of a surveyor pin.

IMPERVIOUS GROUT
The well must be grouted with impervious grout that must be tremied in the hole, with clean fresh water, to have a minimum density of 9.4 lbs. per gallon. Grout must extend from the top of the bentonite chips to 3' BGL.

WELL CASING
Well casing shall terminate as high as possible inside the mount and be capped with a (J-Plug) Morrison Brothers, Co. Model 678XA locking plug and padlock.

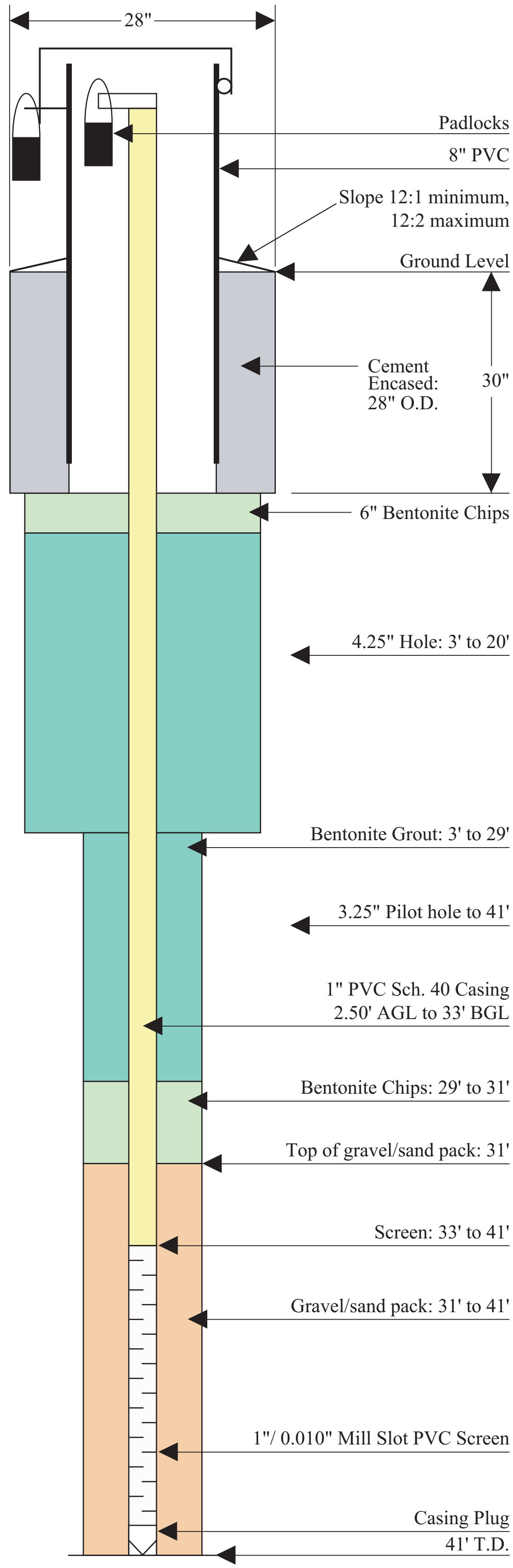
1" PVC 160 psi(SDR) 26 or thicker threaded casing and Mill Slot (0.010") well screen.

HOLE SIZE
The hole must be at least 4" in diameter for the top 20' and grouted to the base of the surface mount.

GRAVEL / SAND PACK
Gravel/sand pack screen size and gradation shall be determined based upon the grain size and gradation of portion or portions of the aquifer to be screened. Gravel/sand pack shall be designed to stabilize the aquifer material and permit the fine fraction to move into the well during development. Gravel/sand pack shall extend to at least 2' above the screen apertures.

CONTRACTOR LICENSING
All wells must be constructed under the direction of a licensed water well contractor as specified under the Kansas Department of Health and Environment.

REGISTRATION
All wells must be registered with the Kansas Department of Health and Environment on form WWC-5 provided by that Department.



(NOT TO SCALE)

D. Surgnier for ANL

Piezometer SB63: Everest, KS

NE 1/4 of NW 1/4 of NE 1/4 of Section 30, Twp. 4 North, Rge. 18 East
Brown County, State of Kansas

Date: 11/12/02

WELL HEAD PROTECTION
8" PVC Casing extending 3' AGL with a locking cap. Top of casing fitted with a (J-Plug) Morrison Brothers, Co. Model 678XA and a screened vent with a locking pipe plug and padlock.

CONCRETE PAD
Must be a minimum of 8" thick and extend at least 8" larger than the mount (28" minimum). Sloped to prevent pooling of water and vegetation around well and to allow for placement of a surveyor pin.

IMPERVIOUS GROUT
The well must be grouted with impervious grout that must be tremied in the hole, with clean fresh water, to have a minimum density of 9.4 lbs. per gallon. Grout must extend from the top of the bentonite chips to 3' BGL.

WELL CASING
Well casing shall terminate as high as possible inside the mount and be capped with a (J-Plug) Morrison Brothers, Co. Model 678XA locking plug and padlock.

1" PVC 160 psi(SDR) 26 or thicker threaded casing and Mill Slot (0.010") well screen.

HOLE SIZE
The hole must be at least 4" in diameter for the top 20' and grouted to the base of the surface mount.

GRAVEL / SAND PACK
Gravel/sand pack screen size and gradation shall be determined based upon the grain size and gradation of portion or portions of the aquifer to be screened. Gravel/sand pack shall be designed to stabilize the aquifer material and permit the fine fraction to move into the well during development. Gravel/sand pack shall extend to at least 2' above the screen apertures.

CONTRACTOR LICENSING
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REGISTRATION
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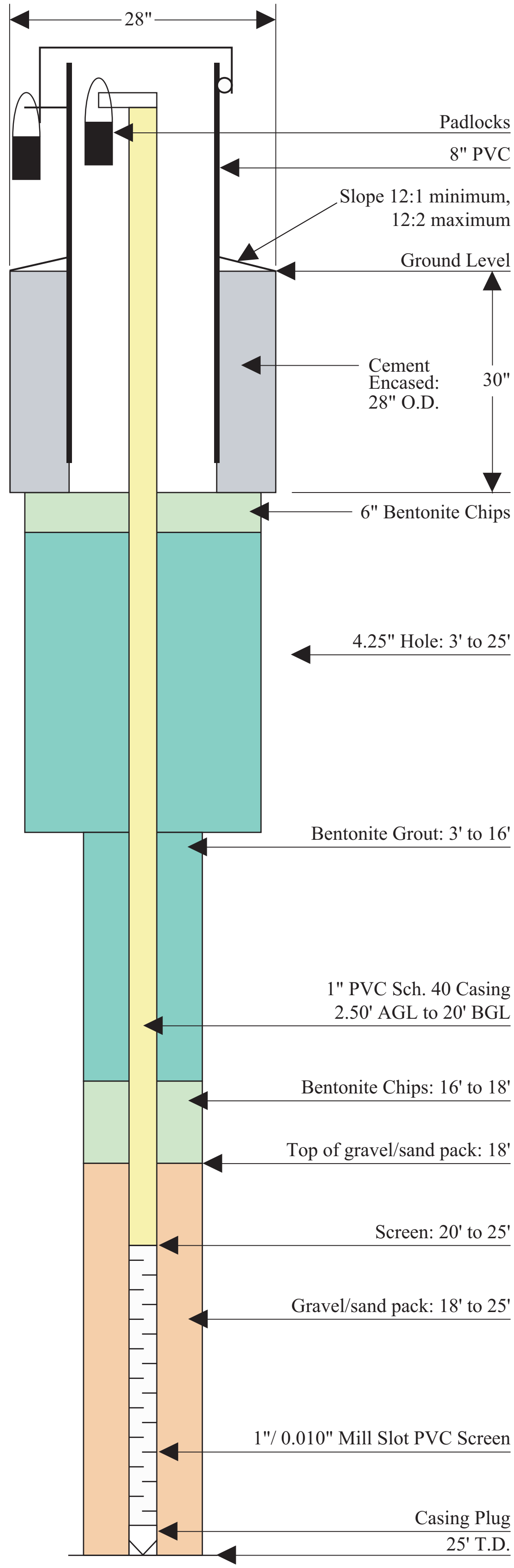


(NOT TO SCALE)

D. Surgnier for ANL

Piezometer SB64: Everest, KS

SW 1/4 of NW 1/4 of NE 1/4 of Section 30, Twp. 4 North, Rge. 18 East
Brown County, State of Kansas

Date: 11/12/02

WELL HEAD PROTECTION
8" PVC Casing extending 3' AGL with a locking cap. Top of casing fitted with a (J-Plug) Morrison Brothers, Co. Model 678XA and a screened vent with a locking pipe plug and padlock.

CONCRETE PAD
Must be a minimum of 8" thick and extend at least 8" larger than the mount (28" minimum). Sloped to prevent pooling of water and vegetation around well and to allow for placement of a surveyor pin.

IMPERVIOUS GROUT
The well must be grouted with impervious grout that must be tremied in the hole, with clean fresh water, to have a minimum density of 9.4 lbs. per gallon. Grout must extend from the top of the bentonite chips to 3' BGL.

WELL CASING
Well casing shall terminate as high as possible inside the mount and be capped with a (J-Plug) Morrison Brothers, Co. Model 678XA locking plug and padlock.

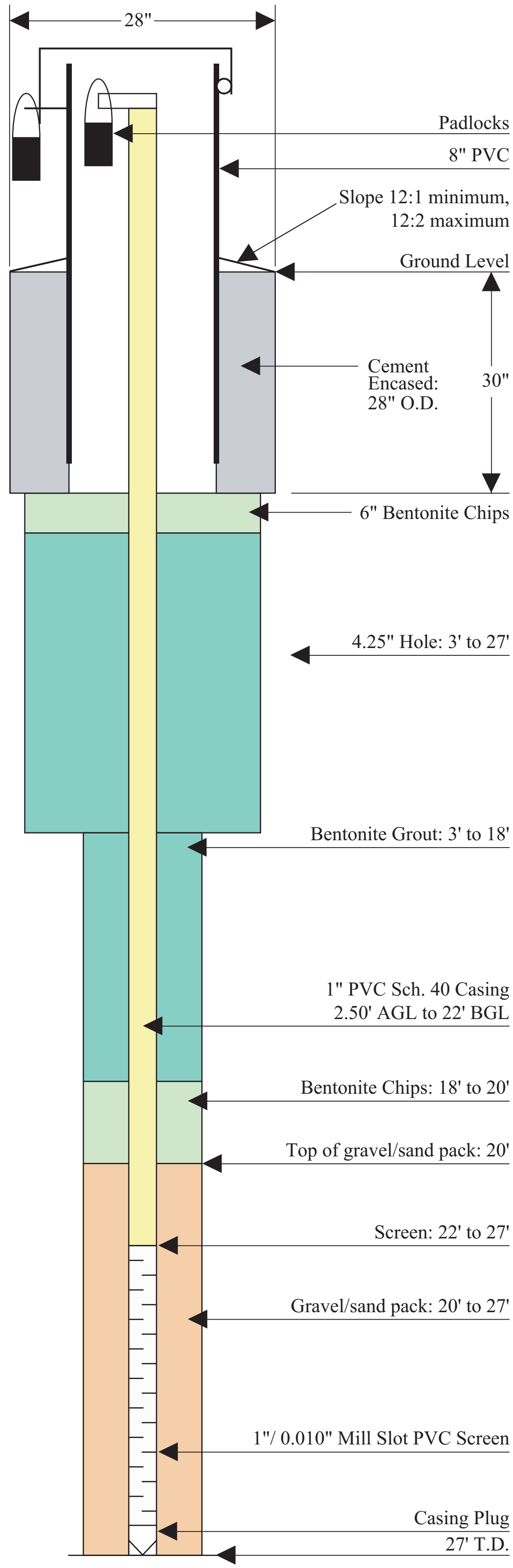
1" PVC 160 psi(SDR) 26 or thicker threaded casing and Mill Slot (0.010") well screen.

HOLE SIZE
The hole must be at least 4" in diameter for the top 20' and grouted to the base of the surface mount.

GRAVEL / SAND PACK
Gravel/sand pack screen size and gradation shall be determined based upon the grain size and gradation of portion or portions of the aquifer to be screened. Gravel/sand pack shall be designed to stabilize the aquifer material and permit the fine fraction to move into the well during development. Gravel/sand pack shall extend to at least 2' above the screen apertures.

CONTRACTOR LICENSING
All wells must be constructed under the direction of a licensed water well contractor as specified under the Kansas Department of Health and Environment.

REGISTRATION
All wells must be registered with the Kansas Department of Health and Environment on form WWC-5 provided by that Department.



(NOT TO SCALE)

D. Surgnier for ANL

Appendix F:

Groundwater and Surface Water Sample Data

TABLE F.1 Groundwater and surface water samples collected during the second and third sessions of the Phase II investigation at Everest, Kansas.

Location	Sample	Depth (ft BGL)	Sample Date	Sample Description
Groundwater samples collected in March-April 2001 (second session of Phase II work)				
SB20	EVSB20-W-12063	56.0-58.0	3/7/01	Good water recovery.
SB20	EVSB20-W-12064	58.0-60.5	3/7/01	Good water recovery.
SB20	EVSB20-W-12067	60.0-61.5	3/7/01	No description recorded.
SB20	EVSB20-W-12068	61.5-65.0	3/8/01	No description recorded.
SB21	EVSB21-W-12072	60.0-62.0	3/9/01	Very cold morning with muddy field conditions. Ample, quick water recovery. Water cleared quickly.
SB21	EVSB21-W-12074	64.0-66.0	3/9/01	Good water recovery.
SB21	EV12076 - no sample	72.0-74.0	3/9/01	No water at sampling interval; sample not collected.
SB22	EVSB22-W-11985	59.0-62.0	3/7/01	39°N 40.755 ft; 95°W 25.686 ft.
SB23	EVSB23-W-12799	44.0-48.0	3/19/01	No description recorded.
SB23	EVSB23-W-12795	48.5-52.9	3/19/01	No description recorded.
SB24	EVSB24-W-12762	40.0-43.0	3/14/01	No description recorded.
SB24	EVSB24-W-12763	44.0-48.5	3/14/01	No description recorded.
SB24	EVSB24-W-12767	48.0-53.0	3/15/01	Deepest water samples through well-developed fluvial system.
SB25	EVSB25-W-12077	46.0-51.0	3/13/01	No description recorded.
SB26	EVSB26-W-12801	58.0-63.0	3/20/01	Much suspended sediment.
SB28	EVSB28-W-12812	56.0-61.0	3/22/01	Abundant, immediate water recovery.
SB28	EVSB28-W-12815	62.0-64.9	3/23/01	Difficulty pushing from 63.7 to 64.9 ft BGL. Recovered dark brown water with heavy sediment load. Water level = 47.35 ft BGL.
SB29	EVSB29-W-12042	53.5-56.5	3/27/01	Slow getting water.
SB29	EVSB29-W-12045	62.2-65.2	3/28/01	Water level = 61.2 ft BGL. Total hole depth = 65.2 ft BGL. Water in hole after 11.5 hr, but very little. Insufficient water for field measurements.

TABLE F.1 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Sample Description
Groundwater samples collected in March-April 2001 (second session of Phase II work) (Cont.)				
SB30	EVSB30-W-12807	59.5-61.0	3/22/01	Sample collected manually with bailer down well. Water level = 46.05 ft BGL.
SB30	EVSB30-W-12803	62.0-64.5	3/21/01	Abundant water.
SB30	EVSB30-W-12808	66.0-68.5	3/22/01	Abundant water recovery after sitting overnight (12 hr).
SB31	EVSB31-W-11989	57.0-61.0	3/26/01	No description recorded.
SB31	EVSB31-W-12039	62.0-67.0	3/26/01	No description recorded.
SB32	EVSB32-W-12868	32.8-37.8	3/28/01	Water entered hole quickly. Sample hand-carried to laboratory.
SB32	EVSB32-W-12870	37.8-42.8	3/28/01	Abundant water. Hand-carried to laboratory.
SB33	EVSB33-W-12880	64.0-68.0	3/29/01	No description recorded.
SB34	EVSB34-W-12857	46.0-49.0	3/28/01	KDHE took 80-mL sample.
SB34	EVSB34-W-12854	49.0-53.0	3/28/01	KDHE took 80-mL sample.
SB35	EVSB35-W-12874	56.0-59.0	3/31/01	Water in 1.5 hr at approximately 50 ft BGL.
SB36	EVSB36-W-12884	51.5-54.5	3/30/01	No description recorded.
SB37	EVSB37-W-12907	65.5-70.0	4/3/01	Sand point; temporary set. Oxidized water; sediment settled quickly.
SB37	EVSB37-W-12909	70.0-74.0	4/4/01	Limited water recovery; bailed dry. Sampled after waiting overnight.
SB37	EVSB37-W-12910	74.0-76.0	4/4/01	Very limited water recovery. About 20 mL recovered. No field measurements.
SB38	EVSB38-W-12892	54.5-58.5	4/1/01	Very difficult, slow water recovery. Water milky gray, settling out quickly. Insufficient water for field parameters.
SB38	EVSB38-W-12888	63.5-67.5	3/31/01	Stainless steel bailer.
SB38	EVSB38-W-12893	68.9-72.9	4/1/01	Slow water recovery although initially abundant water. Reddish brown, oxidized in color with heavy silt fraction.
SB39	EVSB39-W-12897	68.2-72.2	4/1/01	From pronounced sand zone on ECPT profile.

TABLE F.1 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Sample Description
Groundwater samples collected in March-April 2001 (second session of Phase II work) (Cont.)				
SB40	EVSB40-W-12053	60.0-65.0	4/2/01	Water level = 56.5 ft BGL, rising when measured.
SB40	EVSB40-W-12056	64.9-69.9	4/2/01	No description recorded.
SB41	EVSB41-W-12898	68.0-72.8	4/2/01	Abundant water recovery.
SB42	EVSB42-W-12905	55.5-60.0	4/3/01	Water very slow coming into hole. Set temporary screen and moved rig. Bailed after crawler moved. Nine feet of water in hole when bailing began. Milky gray water; sediment settled quickly.
SB42	EVSB42-W-12901	60.5-65.0	4/3/01	No description recorded.
SB42	EVSB42-W-12903	65.5-70.0	4/3/01	Abundant water; oxidized.
SB43	EVSB43-W-12060	39.0-44.0	4/3/01	Much water.
SB43	EVSB43-W-12048	44.0-49.0	4/3/01	Slower water.
SB43	EVSB43-W-12051	49.0-52.6	4/3/01	Much water, but then none. More water after sitting for a while.
SB44	EVSB44-W-12940	52.0-57.0	4/4/01	Poor water recovery. Milky gray color. Piezometer.
SB44	EVSB44-W-12939	57.0-62.0	4/4/01	Good water recovery. Oxidized; sediment settled quickly.
SB44	EVSB44-W-12915	62.0-65.0	4/4/01	Moderate water recovery.
SB44	EVSB44-W-12911	64.6-67.0	4/4/01	Abundant water recovery.
SB45	12934 - no sample	47.0-52.0	4/5/01	Sample not collected: no water at depth. Sample ID 12935 (intended as replicate) also voided.
SB45	EVSB45-W-12932	52.0-56.0	4/5/01	Slow water flow. Silty brown.
SB45	EVSB45-W-12930	56.0-60.0	4/5/01	Much water, muddy with silt.
SB46	EVSB46-W-12862	55.0-60.0	4/4/01	Much water.
SB46	EVSB46-W-12864	60.0-65.0	4/4/01	Much water.
SB46	EVSB46-W-12918	65.0-70.0	4/4/01	Much water.

TABLE F.1 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Sample Description
Groundwater samples collected in March-April 2001 (second session of Phase II work) (Cont.)				
SB47	EVSB47-W-12921	62.0-67.0	4/4/01	Much water. Slightly milky appearance.
SB47	EVSB47-W-12924	67.0-72.0	4/5/01	Very slow water flow. Silty water, brown.
SB47	EVSB47-W-12928	72.0-76.0	4/5/01	Much water, sandy/silty, brown color.
SB48	EVSB48-W-12941	59.4-64.4	4/5/01	Very slow water. Sediment load heavy, but settled out quickly. Oxidized water.
Groundwater samples collected in November 2002 (third session of Phase II work)				
SB49	EVSB49-W-15854	46.0-51.0	11/4/02	Screened hole. Water level at 43 ft BGL, with hole pushed to 51 ft BGL and 5-ft screen exposed.
SB49	EVSB49-W-13170	51.0-55.0	11/8/02	Ample water recovery, oxidized, moderately turbid.
SB49	EVSB49-W-15855	55.0-60.0	11/5/02	Screened hole. Water level at 43.3 ft BGL, with hole pushed to 60 ft BGL and 5-ft screen exposed. Location 5 ft north of 46-51 ft BGL sampling location.
SB50	EVSB50-W-13160	44.2-49.2	11/4/02	Approximately 10 ft of water entered rods immediately upon opening. Highly turbid, oxidized water with fine sediment. Collected aliquots immediately for VOC and semivolatiles analyses. Aliquots for tritium and metals collected the following morning due to slow recovery.
SB50	EVSB50-W-13158	51.0-54.0	11/4/02	Screen (3 ft) open to the formation. Water collected about 4 ft above screen. Abundant recovery. Water dark reddish brown, highly turbid, oxidized.
SB50	EVSB50-W-13169	54.0-56.8	11/7/02	Dark brown, highly turbid water. Good recovery.
SB51	EVSB51-W-13166	54.1-59.1	11/6/02	Slow recovery, but consistent. High level of turbidity, oxidized.
SB51	EVSB51-W-13167	59.0-64.0	11/7/02	Middle sand zone. Good recovery. Water dark brown, not oxidized.
SB52	EVSB52-W-13164	46.0-51.0	11/5/02	Slow, steady water production from this upper zone. Bailing dry during sampling.
SB52	EVSB52-W-13173	52.0-57.0	11/8/02	Abundant oxidized, turbid water.
SB52	EVSB52-W-13163	58.0-60.5	11/5/02	Sampling interval based on electronic profile. Refusal at depth of 60.5 ft BGL, probably bedrock. Sampled sand zone above bedrock.

TABLE F.1 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Sample Description
Groundwater samples collected in November 2002 (third session of Phase II work) (Cont.)				
SB53	EVSB53-W-15868	21.0-26.0	11/5/02	Screened hole. Water encountered at 21 ft BGL during push. Set screen at indicated depth. Water level prior to sampling at 19.1 ft BGL.
SB54	EVSB54-W-15871	17.0-22.0	11/6/02	Screened hole. Water level at 20.1 ft BGL prior to sampling.
SB54	EVSB54-W-15874	22.0-27.0	11/6/02	Screened hole. Water level at 18.92 ft BGL prior to sampling.
SB56	EVSB56-W-15884	15.0-20.0	11/8/02	Screened hole west of Nigh property, near stream. Water level prior to sampling at 17.4 ft BGL.
SB56	EVSB56-W-15881	22.0-27.0	11/7/02	Screened hole.
SB57	EVSB57-W-13175	32.8-37.8	11/9/02	Ample water recovery. Oxidized, highly turbid, with sediment settling out quickly.
SB57	EVSB57-W-15891	39.0-44.0	11/9/02	Sample from intermediate zone according to electronic profile. Dry 30 min after opening screen. Set riser to surface, and sampled about 3 hr later. Water slow to recover. Water level prior to sampling at 31.45 ft BGL.
SB57	EVSB57-W-13177	44.2-48.0	11/9/02	Best water recovery to date, with water about 6 ft above screen.
SB58	EVSB58-W-13180	26.5-31.5	11/9/02	No sample description.
SB58	EVSB58-W-13181	33.0-38.0	11/9/02	No sample description.
SB58	EVSB58-W-13183	38.3-41.3	11/10/02	Dark brown, highly turbid water. Very good recovery.
SB61	EVSB61-W-13187	42.9-47.9	11/11/02	Shallow sand zone. Highly turbid, heavy sediment volume, oxidized. Good recovery.
SB61	EVSB61-W-13191	50.1-55.1	11/11/02	Intermediate sand zone. Dark brown water, highly turbid, good recovery.
SB61	EVSB61-W-13188	56.4-59.3	11/11/02	Deep sand zone. Highly turbid, high sediment content, oxidized. Good recovery.
Surface water samples collected in March-April 2001 (second session of Phase II work)				
SW01	EVSW01-W-12838	-	3/27/01	South (discharge) end of 3-ft-wide culvert under Main Street, exiting near the bridge abutment near former CCC/USDA facility. Considered to represent water entering former CCC/USDA facility. Background sample. Clear and cold.

TABLE F.1 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Sample Description
Surface water samples collected in March-April 2001 (second session of Phase II work) (Cont.)				
SW02	EVSW02-W-12839	-	3/27/01	South end of 2.5-ft water passage beneath bridge near former CCC/USDA facility. Water stagnant with algae.
SW03	EVSW03-W-12840	-	3/27/01	West end of ditch running east-west along south end of former CCC/USDA facility. Standing water, warm, with algae.
SW04	EVSW04-W-12841	-	3/27/01	About 100 ft south of road in grassy waterway. Water visibly moving, 0.5 in. deep.
SW05	EVSW05-W-12842	-	3/27/01	About 50 ft south of first tree in the waterway south of the former CCC/USDA facility. Sampling point: first pooled water in temporary stream at discharge end of grassy waterway. Very little flow, ice on surface.
SW06	EVSW06-W-12843	-	3/27/01	About 220 ft north of the northern east-west line of fence enclosing the sewage lagoon. About 25 ft north of fence post marking corrugated pipe outflow.
SW07	EVSW07-W-12844	-	3/27/01	Discharge from large metal culvert under Prairie Road. Downgradient from former CCC/USDA facility. Unnamed tributary of Otter Creek. Flow rate: 1 gallon per second.
Surface water samples collected in November 2002 (third session of Phase II work)				
SW08	EVSW08-W-15848	-	11/4/02	First in series of surface water samples collected from the intermittent stream west of the Nigh property.
SW09	EVSW09-W-15849	-	11/4/02	Approximately 100 ft downstream from SW08.
SW10	EVSW10-W-15850	-	11/4/02	Approximately 100 ft downstream from SW09.
SW11	EVSW11-W-15851	-	11/4/02	Approximately 100 ft downstream from SW10.
SW12	EVSW12-W-15852	-	11/4/02	Approximately 100 ft downstream from SW11.

TABLE F.2 Field measurements made during collection of groundwater samples and replicates in Phase II at Everest, Kansas.

Location	Sample	Depth (ft BGL)	Sample Date	Temperature (°C)	pH	Conductivity (µS/cm)	Alkalinity (mg/L)	Nitrate (mg/L)
Groundwater samples collected in March-April 2001 (second session of Phase II work)								
SB20	EVSB20-W-12063	56.0-58.0	3/7/01	14.4	6.89	730	500+	10
SB20	EVSB20-W-12064	58.0-60.5	3/7/01	15.1	7.12	768	225	10
SB20	EVSB20-W-12067	60.0-61.5	3/7/01	14.1	7.21	598	275	10
SB20	EVSB20-W-12068	61.5-65.0	3/8/01	21.7	7.32	704	300	10
SB21	EVSB21-W-12072	60.0-62.0	3/9/01	12.0	7.13	712	210	10
SB21	EVSB21-W-12074	64.0-66.0	3/9/01	15.8	7.24	648	250	10
SB22	EVSB22-W-11985	59.0-62.0	3/7/01	13.1	7.53	780	260	7.5
SB23	EVSB23-W-12799	44.0-48.0	3/19/01	16.3	7.24	724	230	10
SB23	EVSB23-W-12795	48.5-52.9	3/19/01	15.9	6.98	760	230	< 5
SB23	EVSB23-W-12796[a]	48.5-52.9	3/19/01	16.1	7.18	777	230	NR[b]
SB24	EVSB24-W-12762	40.0-43.0	3/14/01	17.5	7.01	766	330	5
SB24	EVSB24-W-12763	44.0-48.5	3/14/01	17.4	7.27	739	325	5
SB24	EVSB24-W-12767	48.0-53.0	3/15/01	18.0	7.27	753	500+	< 10
SB24	EVSB24-W-12768[a]	48.0-53.0	3/15/01	17.4	7.31	710	500	< 10
SB25	EVSB25-W-12077	46.0-51.0	3/13/01	20.2	7.23	698	225	10
SB26	EVSB26-W-12801	58.0-63.0	3/20/01	17.9	7.24	322	NR	8
SB26	EVSB26-W-12802[a]	58.0-63.0	3/20/01	15.9	7.33	313	NR	NR
SB28	EVSB28-W-12812	56.0-61.0	3/22/01	18.4	7.42	698	300	5
SB28	EVSB28-W-12813[a]	56.0-61.0	3/22/01	16.9	7.51	690	350	NR
SB28	EVSB28-W-12815	62.0-64.9	3/23/01	9.4	8.27	683	130	10
SB28	EVSB28-W-12816[a]	62.0-64.9	3/23/01	10.8	8.00	674	160	NR

TABLE F.2 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Temperature (°C)	pH	Conductivity (µS/cm)	Alkalinity (mg/L)	Nitrate (mg/L)
Groundwater samples collected in March-April 2001 (second session of Phase II work) (Cont.)								
SB29	EVSB29-W-12042	53.5-56.5	3/27/01	17.3	7.21	811	280	10
SB29	EVSB29-W-12043[a]	53.5-56.6	3/27/01	16.8	7.35	826	250+	10
SB29	EVSB29-W-12045	62.2-65.2	3/28/01	c	c	c	c	c
SB30	EVSB30-W-12807	59.5-61.0	3/22/01	11.2	7.49	741	240	10
SB30	EVSB30-W-12811[a]	59.5-61.0	3/22/01	12.6	7.59	720	350	10
SB30	EVSB30-W-12803	62.0-64.5	3/21/01	18.8	7.46	660	340	10
SB30	EVSB30-W-12804[a]	62.0-64.5	3/21/01	17.7	7.60	693	250	10+
SB30	EVSB30-W-12808	66.0-68.5	3/22/01	10.7	8.21	682	135	10
SB30	EVSB30-W-12809[a]	66.0-68.5	3/22/01	11.3	8.11	633	NR	10
SB31	EVSB31-W-11989	57.0-61.0	3/26/01	14.2	7.72	764	250	10
SB31	EVSB31-W-12039	62.0-67.0	3/26/01	16.8	7.93	793	320	4.9
SB31	EVSB31-W-12040[a]	62.0-67.0	3/26/01	16.5	7.89	772	300	5
SB32	EVSB32-W-12868	32.8-37.8	3/28/01	12.1	7.53	774	300	10
SB32	EVSB32-W-12870	37.8-42.8	3/28/01	14.7	7.48	823	500	5
SB33	EVSB33-W-12880	64.0-68.0	3/29/01	17.7	7.41	763	280	9
SB33	EVSB33-W-12881[a]	64.0-68.0	3/29/01	16.4	7.59	747	320	< 10
SB34	EVSB34-W-12857	46.0-49.0	3/28/01	14.7	7.87	767	310	2
SB34	EVSB34-W-12858[a]	46.0-49.0	3/28/01	14.4	7.98	749	320	2
SB34	EVSB34-W-12854	49.0-53.0	3/28/01	13.2	7.57	757	500	2
SB34	EVSB34-W-12855[a]	49.0-53.0	3/28/01	13.3	7.64	718	500	2
SB35	EVSB35-W-12874	56.0-59.0	3/31/01	13.6	7.66	740	190	< 10
SB36	EVSB36-W-12884	51.5-54.5	3/30/01	13.3	7.35	748	375	10

TABLE F.2 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Temperature (°C)	pH	Conductivity (μS/cm)	Alkalinity (mg/L)	Nitrate (mg/L)
Groundwater samples collected in March-April 2001 (second session of Phase II work) (Cont.)								
SB37	EVSB37-W-12907	65.5-70.0	4/3/01	15.5	7.61	682	255	10+
SB37	EVSB37-W-12909	70.0-74.0	4/4/01	16.1	7.88	597	225	7
SB37	EVSB37-W-12910	74.0-76.0	4/4/01	c	c	c	c	c
SB38	EVSB38-W-12892	54.5-58.5	4/1/01	c	c	c	c	c
SB38	EVSB38-W-12888	63.5-67.5	3/31/01	18.1	7.32	647	250	10
SB38	EVSB38-W-12893	68.9-72.9	4/1/01	12.8	7.83	665	250	10
SB39	EVSB39-W-12897	68.2-72.2	4/1/01	15.1	7.65	773	300	10
SB40	EVSB40-W-12053	60.0-65.0	4/2/01	15.5	7.19	722	500	3
SB40	EVSB40-W-12054[a]	60.0-65.0	4/2/01	16.5	7.25	721	500+	3
SB40	EVSB40-W-12056	64.9-69.9	4/2/01	16.8	7.06	698	500	3
SB40	EVSB40-W-12057[a]	64.9-65.9	4/2/01	17.8	7.18	702	375	4
SB41	EVSB41-W-12898	68.0-72.8	4/2/01	18.2	7.41	716	225	5
SB42	EVSB42-W-12905	55.5-60.0	4/3/01	15.3	7.66	582	190	10
SB42	EVSB42-W-12901	60.5-65.0	4/3/01	13.3	7.46	778	275	7
SB42	EVSB42-W-12903	65.5-70.0	4/3/01	17.0	7.78	714	270	5
SB43	EVSB43-W-12060	39.0-44.0	4/3/01	15.8	7.86	690	450	2
SB43	EVSB43-W-12061[a]	39.0-44.0	4/3/01	15.6	7.89	692	350	2
SB43	EVSB43-W-12048	44.0-49.0	4/3/01	16.0	8.06	604	425	NR
SB43	EVSB43-W-12049[a]	44.0-49.0	4/3/01	15.5	8.07	604	300	2
SB43	EVSB43-W-12051	49.0-52.6	4/3/01	15.5	7.91	636	500+	0
SB43	EVSB43-W-12052[a]	49.0-52.6	4/3/01	15.1	7.77	633	500+	0
SB44	EVSB44-W-12940	52.0-57.0	4/4/01	c	c	c	c	c
SB44	EVSB44-W-12939	57.0-62.0	4/4/01	16.8	7.75	642	200	5

TABLE F.2 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Temperature (°C)	pH	Conductivity (μS/cm)	Alkalinity (mg/L)	Nitrate (mg/L)
Groundwater samples collected in March-April 2001 (second session of Phase II work) (Cont.)								
SB44	EVSB44-W-12915	62.0-65.0	4/4/01	15.3	7.72	617	250	5
SB44	EVSB44-W-12911	64.6-67.0	4/4/01	16.7	7.52	581	190	5
SB45	EVSB45-W-12932	52.0-56.0	4/5/01	18.5	7.03	734	400	trace
SB45	EVSB45-W-12933[a]	52.0-56.0	4/5/01	18.5	6.91	713	500+	trace
SB45	EVSB45-W-12930	56.0-60.0	4/5/01	19.2	7.06	649	260	2
SB45	EVSB45-W-12931[a]	56.0-60.0	4/5/01	18.5	7.32	580	350	2
SB46	EVSB46-W-12862	55.0-60.0	4/4/01	13.6	6.90	546	210	1
SB46	EVSB46-W-12863[a]	55.0-60.0	4/4/01	13.6	6.92	537	225	2
SB46	EVSB46-W-12864	60.0-65.0	4/4/01	14.3	7.39	630	500	1
SB46	EVSB46-W-12865[a]	60.0-65.0	4/4/01	14.8	7.14	662	350	2
SB46	EVSB46-W-12918	65.0-70.0	4/4/01	14.7	7.09	728	500	2
SB46	EVSB46-W-12919[a]	65.0-70.0	4/4/01	15.2	7.16	718	450	2
SB47	EVSB47-W-12921	62.0-67.0	4/4/01	16.0	7.16	595	425	0.5
SB47	EVSB47-W-12924	67.0-72.0	4/5/01	16.9	7.31	678	350	2
SB47	EVSB47-W-12925[a]	67.0-72.0	4/5/01	17.4	7.42	584	250	2
SB47	EVSB47-W-12928	72.0-76.0	4/5/01	18.8	7.09	643	250	2
SB47	EVSB47-W-12929[a]	72.0-76.0	4/5/01	17.8	7.24	637	300	2
SB48	EVSB48-W-12941	59.4-64.4	4/5/01	23.1	7.52	748	250	5
Groundwater samples collected in November 2002 (third session of Phase II work)								
SB49	EVSB49-W-15854	46.0-51.0	11/4/02	14.5	7.23	639	350	5
SB49	EVSB49-W-13170	51.0-55.0	11/8/02	18.6	7.78	641	NR	NR
SB49	EVSB49-W-15855	55.0-60.0	11/5/02	NR	7.05	509	500	5

TABLE F.2 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Temperature (°C)	pH	Conductivity (µS/cm)	Alkalinity (mg/L)	Nitrate (mg/L)
Groundwater samples collected in November 2002 (third session of Phase II work) (Cont.)								
SB50	EVSB50-W-13160	44.2-49.2	11/4/02	15.3	7.55	691	NR	NR
SB50	EVSB50-W-13158	51.0-54.0	11/4/02	17.3	7.23	731	NR	NR
SB50	EVSB50-W-13169	54.0-56.8	11/7/02	16.2	7.71	688	NR	NR
SB51	EVSB51-W-13166	54.1-59.1	11/6/02	15.6	7.44	766	NR	NR
SB51	EVSB51-W-13167	59.0-64.0	11/7/02	16.6	7.42	746	NR	NR
SB52	EVSB52-W-13164	46.0-51.0	11/5/02	16.6	7.76	660	NR	NR
SB52	EVSB52-W-13173	52.0-57.0	11/8/02	17.7	7.23	669	NR	NR
SB52	EVSB52-W-13163	58.0-60.5	11/5/02	16.2	7.64	734	NR	NR
SB53	EVSB53-W-15868	21.0-26.0	11/5/02	15.8	6.44	821	350	0
SB54	EVSB54-W-15871	17.0-22.0	11/6/02	NR	NR	NR	NR	NR
SB54	EVSB54-W-15874	22.0-27.0	11/6/02	13.2	7.06	554	250	0
SB56	EVSB56-W-15884	15.0-20.0	11/8/02	NR	6.86	613	250	5
SB56	EVSB56-W-15881	22.0-27.0	11/7/02	19.0	7.13	781	250	0
SB57	EVSB57-W-13175	32.8-37.8	11/9/02	15.6	7.67	733	NR	NR
SB57	EVSB57-W-15891	39.0-44.0	11/9/02	NR	8.00	655	NR	15
SB57	EVSB57-W-13177	44.2-48.0	11/9/02	15.3	7.66	688	NR	NR
SB58	EVSB58-W-13180	26.5-31.5	11/9/02	16.8	7.68	761	NR	NR
SB58	EVSB58-W-13181	33.0-38.0	11/9/02	17.1	7.77	720	NR	NR
SB58	EVSB58-W-13183	38.3-41.3	11/10/02	17.7	7.27	703	NR	NR

TABLE F.2 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Temperature (°C)	pH	Conductivity (μS/cm)	Alkalinity (mg/L)	Nitrate (mg/L)
Groundwater samples collected in November 2002 (third session of Phase II work) (Cont.)								
SB61	EVSB61-W-13187	42.9-47.9	11/11/02	16.9	7.30	636	NR	NR
SB61	EVSB61-W-13191	50.1-55.1	11/11/02	16.5	7.66	629	NR	NR
SB61	EVSB61-W-13188	56.4-59.3	11/11/02	18.0	7.58	645	NR	NR

[a] Replicate sample at indicated depth.

[b] NR, not recorded.

[c] Insufficient sample for this analysis.

TABLE F.3 Analytical results for nitrate analyses on groundwater samples collected during the second session of Phase II work at Everest, Kansas.

Location	Sample	Depth (ft BGL)	Sample Date	Nitrate (mg/L)
SB20	EVSB20-W-12063	56.0-58.0	3/7/01	15.8
SB20	EVSB20-W-12064	58.0-60.5	3/7/01	15.2[a]
SB20	EVSB20-W-12068	61.5-65.0	3/8/01	15.7[a]
SB21	EVSB21-W-12072	60.0-62.0	3/9/01	11.5[a]
SB21	EVSB21-W-12074	64.0-66.0	3/9/01	11.7[a]
SB22	EVSB22-W-11985	59.0-62.0	3/7/01	10.8
SB23	EVSB23-W-12799	44.0-48.0	3/19/01	9.02
SB23	EVSB23-W-12795	48.5-52.9	3/19/01	6.81
SB24	EVSB24-W-12762	40.0-43.0	3/14/01	10.4
SB24	EVSB24-W-12763	44.0-48.5	3/14/01	9.81
SB24	EVSB24-W-12767	48.0-53.0	3/15/01	12.4
SB25	EVSB25-W-12077	46.0-51.0	3/13/01	11.8
SB26	EVSB26-W-12801	58.0-63.0	3/20/01	8.41
SB28	EVSB28-W-12812	56.0-61.0	3/22/01	10.3
SB28	EVSB28-W-12815	62.0-64.9	3/23/01	10.5
SB29	EVSB29-W-12042	53.5-56.5	3/27/01	14.5
SB30	EVSB30-W-12807	59.5-61.0	3/22/01	14.7
SB30	EVSB30-W-12803	62.0-64.5	3/21/01	14.2
SB30	EVSB30-W-12808	66.0-68.5	3/22/01	13.5
SB31	EVSB31-W-11989	57.0-61.0	3/26/01	7.23
SB31	EVSB31-W-12039	62.0-67.0	3/26/01	8.33
SB32	EVSB32-W-12868	32.8-37.8	3/28/01	8.49
SB32	EVSB32-W-12870	37.8-42.8	3/28/01	9.09
SB33	EVSB33-W-12880	64.0-68.0	3/29/01	14.1
SB34	EVSB34-W-12857	46.0-49.0	3/28/01	6.38
SB34	EVSB34-W-12854	49.0-53.0	3/28/01	6.29
SB37	EVSB37-W-12907	65.5-70.0	4/3/01	13.1
SB37	EVSB37-W-12909	70.0-74.0	4/4/01	11.2
SB40	EVSB40-W-12053	60.0-65.0	4/2/01	13.1
SB40	EVSB40-W-12056	64.9-69.9	4/2/01	13.3

TABLE F.3 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Nitrate (mg/L)
SB41	EVSB41-W-12898	68.0-72.8	4/2/01	14.6
SB42	EVSB42-W-12905	55.5-60.0	4/3/01	9.98
SB42	EVSB42-W-12901	60.5-65.0	4/3/01	15.6
SB42	EVSB42-W-12903	65.5-70.0	4/3/01	15.6
SB43	EVSB43-W-12060	39.0-44.0	4/3/01	8.66
SB43	EVSB43-W-12048	44.0-49.0	4/3/01	9.61
SB43	EVSB43-W-12051	49.0-52.6	4/3/01	0.97
SB44	EVSB44-W-12939	57.0-62.0	4/4/01	10.1
SB44	EVSB44-W-12915	62.0-65.0	4/4/01	9.84
SB44	EVSB44-W-12911	64.6-67.0	4/4/01	9.89
SB45	EVSB45-W-12932	52.0-56.0	4/5/01	1.96
SB45	EVSB45-W-12930	56.0-60.0	4/5/01	9.37
SB46	EVSB46-W-12862	55.0-60.0	4/4/01	8.18
SB46	EVSB46-W-12864	60.0-65.0	4/4/01	12.3
SB46	EVSB46-W-12918	65.0-70.0	4/4/01	14.5
SB47	EVSB47-W-12921	62.0-67.0	4/4/01	4.26
SB47	EVSB47-W-12924	67.0-72.0	4/5/01	10.9
SB47	EVSB47-W-12928	72.0-76.0	4/5/01	12.6

[a] Because of a shipping delay, preparation of the sample for analysis was performed after the recommended holding time of 48 hr.

TABLE F.4 Analytical results for tritium in water samples collected during Phase I and Phase II work at Everest, Kansas.

Location	Sample	Depth (ft BGL)	Sample Date	Tritium (TU)
Phase I samples with results received too late for Phase I report				
DW07	EVDW07-W-11767	Unknown-59.9	5/23/00	3.75 ± 0.22
DW10	EVDW10-W-11771	Unknown-57.4	5/24/00	6.66 ± 0.24
SB09	EVSB09-W-11741	50.4-56.4	5/22/00	5.27 ± 0.20
SB11	EVSB11-W-11748	48.5-52.5	5/21/00	1.76 ± 0.09
Phase II groundwater samples				
SB20	EVSB20-W-12063	56.0-58.0	3/7/01	6.78 ± 0.24
SB20	EVSB20-W-12068	61.5-65.0	3/8/01	6.67 ± 0.24
SB21	EVSB21-W-12072	60.0-62.0	3/9/01	1.07 ± 0.13
SB21	EVSB21-W-12074	64.0-66.0	3/9/01	0.61 ± 0.10
SB22	EVSB22-W-11985	59.0-62.0	3/7/01	6.4 ± 0.40
SB24	EVSB24-W-12763	44.0-48.5	3/14/01	8.7 ± 0.30
SB25	EVSB25-W-12077	46.0-51.0	3/13/01	6.08 ± 0.23
SB26	EVSB26-W-12801	58.0-63.0	3/20/01	7.3 ± 0.30
SB28	EVSB28-W-12812	56.0-61.0	3/22/01	4.37 ± 0.20
SB28	EVSB28-W-12815	62.0-68.5	3/23/01	2.18 ± 0.12
SB29	EVSB29-W-12042	53.5-56.5	3/27/01	7.57 ± 0.28
SB30	EVSB30-W-12807	59.5-61.0	3/22/01	4.12 ± 0.15
SB30	EVSB30-W-12808	66.0-68.5	3/22/01	3.20 ± 0.15
SB31	EVSB31-W-11989	57.0-61.0	3/26/01	7.2 ± 0.27
SB32	EVSB33-W-12868	32.8-37.8	3/28/01	5.19 ± 0.19
SB33	EVSB33-W-12880	64.0-68.0	3/29/01	3.56 ± 0.15
SB35	EVSB35-W-12874	56.0-59.0	3/31/01	0.96 ± 0.09
SB36	EVSB36-W-12884	51.5-54.5	3/30/01	2.55 ± 0.15
SB37	EVSB37-W-12907	65.5-70.0	4/3/01	2.58 ± 0.15
SB38	EVSB38-W-12888	63.5-67.5	3/31/01	0.37 ± 0.10
SB39	EVSB39-W-12897	68.2-72.2	4/1/01	2.35 ± 0.13

TABLE F.4 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Tritium (TU)
Phase II groundwater samples (Cont.)				
SB40	EVSB40-W-12053	60.0-65.0	4/2/01	0.72 ± 0.10
SB40	EVSB40-W-12056	64.9-69.9	4/2/01	0.99 ± 0.10
SB41	EVSB41-W-12898	68.0-72.8	4/2/01	3.52 ± 0.17
SB42	EVSB42-W-12905	55.5-60.0	4/3/01	1.07 ± 0.12
SB42	EVSB42-W-12903	65.5-70.0	4/3/01	2.67 ± 0.13
SB43	EVSB43-W-12060	39.0-44.0	4/3/01	8.43 ± 0.28
SB43	EVSB43-W-12051	49.0-52.6	4/3/01	0.33 ± 0.10
SB44	EVSB44-W-12915	62.0-65.0	4/4/01	0.19 ± 0.11
SB44	EVSB44-W-12911	64.6-67.0	4/4/01	-[b]
SB45	EVSB45-W-12930	56.0-60.0	4/5/01	5.97 ± 0.20
SB46	EVSB46-W-12862	55.0-60.0	4/4/01	17.7 ± 0.60
SB46	EVSB46-W-12918	65.0-70.0	4/4/01	1.03 ± 0.09
SB47	EVSB47-W-12921	62.0-67.0	4/4/01	0.45 ± 0.09
SB47	EVSB47-W-12928	72.0-76.0	4/5/01	3.12 ± 0.10
SB49	EVSB49-W-15855	55.0-60.0	11/5/02	3.75 ± 0.12
SB50	EVSB50-W-13158	51.0-54.0	11/4/02	0.76 ± 0.09
SB51	EVSB51-W-13166	54.1-59.1	11/6/02	1.53 ± 0.09
SB52	EVSB52-W-13164	46.0-51.0	11/5/02	4.20 ± 0.14
SB52	EVSB52-W-13163	58.0-60.5	11/5/02	1.72 ± 0.09
SB53	EVSB53-W-15868	21.0-26.0	11/5/02	17.3 ± 0.60
SB54	EVQCDU-W-15875	22.0-27.0	11/6/02	8.54 ± 0.28
SB56	EVSB56-W-15881	22.0-27.0	11/7/02	1.76 ± 0.09
SB61	EVSB61-W-13188	56.4-59.3	11/11/02	2.49 ± 0.09
Phase II surface water sample				
SW08	EVSW08-W-15848	NA[a]	11/4/02	7.84 ± 0.26

[a] NA, not applicable.

[b] Unresolved discrepancy about sample identity. Result not reported.

TABLE F.5 Results of organic analyses by the purge-and-trap method on groundwater and surface water samples collected during the second and third sessions of the Phase II investigation at Everest, Kansas.

			Concentration (µg/L)	
Location	Sample	Depth (ft BGL)	Carbon Tetrachloride	Chloroform
Groundwater samples collected in March-April 2001 (second session of Phase II work)				
SB20	EVSB20-W-12063	56.0-58.0	15	< 5 (1.4)
SB20	EVSB20-W-12065	58.0-60.5	13[a]	< 5 (1.5)
SB20	EVSB20-W-12067	60.0-61.5	14	< 5 (1.4)
SB20	EVSB20-W-12068	61.5-65.0	8.9	< 5 (1.4)
SB21	EVSB21-W-12072	60.0-62.0	ND[b]	ND
SB21	EVSB21-W-12074	64.0-66.0	ND	ND
SB22	EVSB22-W-11985	59.0-62.0	ND	ND
SB23	EVSB23-W-12799	44.0-48.0	41	8.5
SB23	EVSB23-W-12795	48.5-52.9	< 5 (1.4)	ND
SB24	EVSB24-W-12762	40.0-43.0	21	< 5 (3.9)
SB24	EVSB24-W-12763	44.0-48.5	101	10
SB24	EVSB24-W-12768	48.0-53.0	145[c]	13
SB25	EVSB25-W-12077	46.0-51.0	ND	ND
SB26	EVSB26-W-12801	58.0-63.0	ND	ND
SB28	EVSB28-W-12812	56.0-61.0	5.4	ND
SB28	EVSB28-W-12815	62.0-64.9	Broken	Broken
SB29	EVSB29-W-12042	53.5-56.5	311	17
SB29	EVSB29-W-12045	62.2-65.2	84	61
SB30	EVSB30-W-12807	59.5-61.0	ND	ND
SB30	EVSB30-W-12803	62.0-64.5	ND	ND
SB30	EVSB30-W-12808	66.0-68.5	ND	ND
SB31	EVSB31-W-11989	57.0-61.0	ND	ND
SB31	EVSB31-W-12039	62.0-67.0	ND	ND
SB32	EVSB32-W-12868	32.8-37.8	ND	ND
SB32	EVSB32-W-12870	37.8-42.8	ND	ND
SB33	EVSB33-W-12881	64.0-68.0	919[d]	36

TABLE F.5 (Cont.)

Location	Sample	Depth (ft BGL)	Concentration (µg/L) Carbon Tetrachloride	Chloroform
Groundwater samples collected in March-April 2001 (second session of Phase II work) (Cont.)				
SB34	EVSB34-W-12857	46.0-49.0	< 5 (2.2)	< 5 (1.3)
SB34	EVSB34-W-12854	49.0-53.0	ND	ND
SB35	EVSB35-W-12874	56.0-59.0	ND	ND
SB36	EVSB36-W-12884	51.5-54.5	ND	ND
SB37	EVSB37-W-12907	65.5-70.0	16	ND
SB37	EVSB37-W-12909	70.0-74.0	ND	< 5 (1.5)
SB37	EVSB37-W-12910	74.0-76.0	7.6	ND
SB38	EVSB38-W-12892	54.5-58.5	11	< 5 (1.4)
SB38	EVSB38-W-12888	63.5-67.5	18	ND
SB38	EVSB38-W-12893	68.9-72.9	9.6	< 5 (1.4)
SB39	EVSB39-W-12897	68.2-72.2	303	11
SB40	EVSB40-W-12054	60.0-65.0	136[e]	< 5 (3.1)
SB40	EVSB40-W-12057	64.9-65.9	160[f]	< 5 (3.9)
SB41	EVSB41-W-12898	68.0-72.8	615	19
SB42	EVSB42-W-12905	55.5-60.0	35	< 5 (1.1)
SB42	EVSB42-W-12901	60.5-65.0	123	< 5 (3.4)
SB42	EVSB42-W-12903	65.5-70.0	159	7.4
SB43	EVSB43-W-12060	39.0-44.0	ND	ND
SB43	EVSB43-W-12048	44.0-49.0	ND	ND
SB43	EVSB43-W-12051	49.0-52.6	ND	ND
SB44	EVSB44-W-12940	52.0-57.0	< 5 (4.3)	ND
SB44	EVSB44-W-12939	57.0-62.0	< 5 (1.8)	ND
SB44	EVSB44-W-12915	62.0-65.0	< 5 (1.8)	ND
SB44	EVSB44-W-12911	64.6-67.0	< 5 (1.6)	ND
SB45	EVSB45-W-12932	52.0-56.0	ND	ND
SB45	EVSB45-W-12930	56.0-60.0	ND	ND
SB46	EVSB46-W-12862	55.0-60.0	ND	ND
SB46	EVSB46-W-12864	60.0-65.0	ND	ND
SB46	EVSB46-W-12919	65.0-70.0	12[g]	ND

TABLE F.5 (Cont.)

			Concentration (µg/L)	
Location	Sample	Depth (ft BGL)	Carbon Tetrachloride	Chloroform
Groundwater samples collected in March-April 2001 (second session of Phase II work) (Cont.)				
SB47	EVSB47-W-12921	62.0-67.0	ND	ND
SB47	EVSB47-W-12924	67.0-72.0	ND	ND
SB47	EVSB47-W-12928	72.0-76.0	ND	ND
SB48	EVSB48-W-12941	59.4-64.4	230	8.8
Groundwater samples collected in November 2002 (third session of Phase II work)				
SB49	EVSB49-W-15854	46.0-51.0	ND	ND
SB49	EVSB49-W-13170	51.0-55.0	ND	ND
SB49	EVSB49-W-15855	55.0-60.0	ND	ND
SB50	EVSB50-W-13160	44.2-49.2	ND	ND
SB50	EVSB50-W-13158	51.0-54.0	ND	ND
SB50	EVSB50-W-13169	54.0-56.8	ND	ND
SB51	EVSB51-W-13166	54.1-59.1	52	< 5 (1.3)
SB51	EVSB51-W-13167	59.0-64.0	32	< 5 (3)
SB52	EVSB52-W-13164	46.0-51.0	8	ND
SB52	EVSB52-W-13173	52.0-57.0	18	ND
SB52	EVSB52-W-13163	58.0-60.5	21	ND
SB53	EVSB53-W-15868	21.0-26.0	ND	ND
SB54	EVSB54-W-15871	17.0-22.0	ND	ND
SB54	EVSB54-W-15874	22.0-27.0	ND	ND
SB56	EVSB56-W-15884	15.0-20.0	ND	ND
SB56	EVSB56-W-15881	22.0-27.0	ND	ND
SB57	EVSB57-W-13175	32.8-37.8	ND	ND
SB57	EVSB57-W-15891	39.0-44.0	ND	ND
SB57	EVSB57-W-13177	44.2-48.0	< 5 (2.3)	ND
SB58	EVSB58-W-13180	26.5-31.5	ND	ND
SB58	EVSB58-W-13181	33.0-38.0	ND	ND
SB58	EVSB58-W-13183	38.3-41.3	ND	ND
SB61	EVSB61-W-13187	42.9-47.9	ND	ND
SB61	EVSB61-W-13191	50.1-55.1	ND	ND
SB61	EVSB61-W-13188	56.4-59.3	ND	ND

TABLE F.5 (Cont.)

			Concentration (µg/L)	
Location	Sample	Depth (ft BGL)	Carbon Tetrachloride	Chloroform
Surface water samples collected in March 2001(second session of Phase II work)				
SW01	EVSW01-W-12838	-	ND	ND
SW02	EVSW02-W-12839	-	ND	ND
SW03	EVSW03-W-12840	-	ND	ND
SW04	EVSW04-W-12841	-	ND	ND
SW05	EVSW05-W-12842	-	ND	ND
SW06	EVSW06-W-12843	-	ND	ND
SW07	EVSW07-W-12844	-	ND	ND
Surface water samples collected in November 2002 (third session of Phase II work)				
SW08	EVSW08-W-15848	-	ND	ND
SW09	EVSW09-W-15849	-	ND	ND
SW10	EVSW10-W-15850	-	ND	ND
SW11	EVSW11-W-15851	-	ND	ND
SW12	EVSW12-W-15852	-	ND	ND

[a] The higher concentration detected in the replicate sample is reported. Sample EVSB20-W-12064, collected at the same depth, had an analytical result of 9.9 µg/L for carbon tetrachloride.

[b] ND, not detected at the quantitation limit of 1 µg/L.

[c] The higher concentration detected in the replicate sample is reported. Sample EVSB24-W-12767, collected at the same depth, had an analytical result of 117 µg/L for carbon tetrachloride.

[d] The higher concentration detected in the replicate sample is reported. Sample EVSB33-W-12880, collected at the same depth, had an analytical result of 396 µg/L for carbon tetrachloride.

[e] The higher concentration detected in the replicate sample is reported. Sample EVSB40-W-12053, collected at the same depth, had an analytical result of 120 µg/L for carbon tetrachloride.

[f] The higher concentration detected in the replicate sample is reported. Sample EVSB40-W-12056, collected at the same depth, had an analytical result of 151 µg/L for carbon tetrachloride.

[g] The higher concentration detected in the replicate sample is reported. Sample EVSB46-W-12918, collected at the same depth, had an analytical result of 10 µg/L for carbon tetrachloride.

TABLE F.6 Results of total petroleum hydrocarbon analyses on groundwater samples collected during the third session of the Phase II investigation at Everest, Kansas.

Location	Sample	Depth (ft BGL)	Sample Date	Diesel Fuel (mg/L)	Motor Oil (mg/L)
SB49	EVSB49-W-15854	46.0-51.0	11/4/02	0.62	ND[a]
SB49	EVSB49-W-15855	55.0-60.0	11/5/02	0.67	2.00
SB50	EVSB50-W-13160	44.2-49.2	11/4/02	0.70	1.30 L[b]
SB50	EVSB50-W-13158	51.0-54.0	11/4/02	1.60	5.80 L
SB51	EVSB51-W-13166	54.1-59.1	11/6/02	0.76	1.20
SB52	EVSB52-W-13164	46.0-51.0	11/5/02	1.00	2.40 L
SB52	EVSB52-W-13163	58.0-60.5	11/5/02	0.60	1.40
SB53	EVSB53-W-15868	21.0-26.0	11/5/02	0.43	0.36

[a] ND, not detected at quantitation limit of 0.13 mg/L.

[b] L, recovery of surrogate compound *o*-terphenyl below QC range of 60-140% for this sample.

TABLE F.7 Results of trace metals analyses on groundwater samples collected during the third session of the Phase II field investigation at Everest, Kansas.

Location	Sample	Depth (ft BGL)	Sample Date	Concentration (µg/L) Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead
SB49	EVSB49-W-15854	46.0-51.0	11/4/02	3.5 U[a]	3.2 U	267	0.2 U	0.3 U	4.6 U	2.2 U	1.8 U	1.1 U
SB49	EVSB49-W-15855	55.0-60.0	11/5/02	3.5 U	3.2 U	177 B[b]	0.2 U	0.3 U	4.6 U	2.2 U	2.7 B	1.1 U
SB50	EVSB50-W-13160	44.2-49.2	11/4/02	3.5 U	12.4	195 B	0.2 U	0.3 U	4.6 U	2.2 U	1.9 B	1.1 U
SB51	EVSB51-W-13166	54.1-59.1	11/6/02	3.5 U	3.2 U	320	0.2 U	0.3 U	4.6 U	2.2 U	1.8 U	1.1 U
SB52	EVSB52-W-13164	46.0-51.0	11/5/02	3.5 U	3.2 U	291	0.2 U	0.3 U	4.6 U	2.2 U	1.8 U	1.1 U
SB52	EVSB52-W-13163	58.0-60.5	11/5/02	3.5 U	3.2 U	172 B	0.2 U	0.6 B	4.6 U	2.2 U	1.9 B	1.1 U
Contract-required detection limit				60	10	200	5	5	10	50	25	3

Location	Sample	Depth (ft BGL)	Sample Date	Concentration (µg/L) Molybdenum	Nickel	Selenium	Silver	Thallium	Tin	Vanadium	Zinc
SB49	EVSB49-W-15854	46.0-51.0	11/4/02	12.6	13.5 U	3.9 U	1.4 U	3 U	4.1 B	2.8 U	6.9 U
SB49	EVSB49-W-15855	55.0-60.0	11/5/02	12.0	13.5 U	3.9 U	1.4 U	3 U	3.6 U	2.8 U	6.9 U
SB50	EVSB50-W-13160	44.2-49.2	11/4/02	12.5	13.5 U	3.9 U	1.4 U	3 U	3.6 U	3.0 B	6.9 U
SB51	EVSB51-W-13166	54.1-59.1	11/6/02	5.1 B	13.5 U	3.9 U	1.4 U	3 U	3.6 U	4.2 B	6.9 U
SB52	EVSB52-W-13164	46.0-51.0	11/5/02	6.8 B	13.5 U	3.9 U	1.4 U	3 U	3.9 B	3.5 B	6.9 U
SB52	EVSB52-W-13163	58.0-60.5	11/5/02	10.2	13.5 U	3.9 U	1.4 U	3 U	3.6 U	2.8 U	15.9 B
Contract-required detection limit				10	40	5	10	10	20	50	20

[a] U, not detected above the indicated instrument detection limit.

[b] B, estimated concentration above the instrument detection limit but below the contract-required detection limit or the practical quantitation limit.

Appendix G:

Quality Control for Sample Collection, Handling, and Analysis

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Quality Control for Sample Collection, Handling, and Analysis

Soil, surface water, and groundwater sampling was conducted during the Phase II investigation at Everest, Kansas, to delineate the distribution of carbon tetrachloride contamination in the near-surface and vadose zone soils at the former Everest CCC/USDA facility and within the affected aquifer unit. Sampling was conducted in October 2000, March-April 2001, and November 2002.

Quality assurance/quality control samples were collected throughout the investigation to monitor sample collection, handling, and analysis activities. The QA/QC procedures followed are described in detail in the *Master Work Plan* (Argonne 2002). Evaluation of the analytical data was consistent with EPA guidelines (EPA 1994a,b).

G.1 Sampling to Monitor Sample Collection, Handling, and Analysis Procedures

Sample collection and handling activities were monitored by the documentation of samples as they were collected and the use of chain-of-custody (COC) forms and custody seals to ensure sample integrity during handling and shipment. The COC records and complete QA/QC documentation are on file at Argonne. The QC samples collected to monitor sample collection and handling procedures included equipment rinsates, trip blanks, and field blanks. A background near-surface soil sample and a background surface water sample were collected to provide a baseline for the respective contaminant distribution surveys. Replicate samples were collected, and other samples were selected for duplicate analyses as a measure of analytical precision. The QA/QC samples are listed in Table G.1. Analytical results for carbon tetrachloride and chloroform in QA/QC samples collected to monitor sample collection and handling activities are in Table G.2.

G.1.1 Equipment Rinsates

Reusable sampling bailers were used during the collection of groundwater samples by the ECPT vehicles and Geoprobe. Rinsates from the decontaminated bailers and push rods were collected periodically to ensure that cross-contamination had not occurred during sample collection.

Disposable sampling equipment was used during collection of other samples. Equipment rinsates showed no carbon tetrachloride contamination, indicating that equipment decontamination procedures were followed as specified in the *Master Work Plan* (Argonne 2002). The presence of chloroform at very low concentrations in some rinsates collected during the March-April 2001 field investigation is consistent with the concentrations found in the commercial distilled water used for equipment decontamination. This problem was not evident during the November 2002 field investigation, when Argonne used rinsate water from its own deionizing filtration system.

G.1.2 Trip Blanks

Trip blanks were prepared and included in shipments of soil or water samples submitted for organic analysis, as an indicator of cross-contamination during shipment. Trip blanks showed no carbon tetrachloride contamination, indicating that cross-contamination did not occur during shipment.

G.1.3 Other Blanks

Blanks of the methanol used in preparation of the soil samples for analysis were included in shipments of soil samples submitted for verification organic analysis. The methanol blanks showed no carbon tetrachloride contamination. Blanks of water used for equipment decontamination also showed no carbon tetrachloride contamination.

G.1.4 Background Sampling

A background near-surface soil sample was collected to establish a baseline for contamination potentially found in the October 2000 near-surface soil survey. A background surface water sample was collected to establish a baseline for contamination potentially found in the April 2001 surface water survey. Neither carbon tetrachloride nor chloroform was detected in either background sample.

G.1.5 Replicate Samples and Duplicate Analyses

As an indicator of the consistency of the sampling methodology followed and to provide a measure of analytical precision, blind replicate soil and water samples were collected, and other samples were selected by the analytical laboratory for duplicate analyses. To verify the results of organic analyses on soil and water samples at the AGEM Laboratory (the primary analytical laboratory for organic analysis), selected samples were subjected to verification analysis at a second laboratory. Replicate samples and samples selected for duplicate analyses are identified in Table G.1.

G.1.6 Sample Labeling Irregularities

Minor discrepancies in sample identifiers for some samples as listed on the COC records and sample containers were resolved by comparison of the various records. Such a discrepancy could not be resolved for one sample submitted for tritium analysis; the analytical result for that sample is not reported (Table F.4, Appendix F).

G.1.7 Sample Collection and Handling Irregularities

Sampling of subsurface soils at some depths (identified in Table A.1, Appendix A) was unsuccessful because of a lack of soil recovery. Low water recovery at some groundwater sampling locations (identified in Table F.1, Appendix F) made collection of sufficient sample volume difficult.

Inconsistencies in the reported results of organic analyses on individual aliquots of some groundwater samples (Table F.5, Appendix F) might have resulted from the sampling difficulties. The inconsistencies (discussed in Section G.3.1) probably resulted primarily from the heterogeneity of the sampled aquifer, rather than a failure of the analytical methodology. The higher concentration measured at each sample location is reported.

Groundwater sample EVSB28-W-12815, collected for organic analysis at the AGEM Laboratory, was broken during shipment. The sample vial for the replicate sample at that location, EVSB28-W-12816, contained a bubble. No organic result is reported for depth 62.0-64.9 ft BGL at sample location SB28 (Table F.5, Appendix F).

No designated trip blank was included in 6 of the 33 shipments of water samples sent to the AGEM Laboratory for organic analysis, as specified in the *Master Work Plan* (Argonne 2002). The affected shipments are those under COC 1963 on March 15, 2001; COC 502 on March 22, 2001; COCs 205 and 207 on March 28, 2001; COC 208 on March 30, 2001; COC 1084 on April 3, 2001; and COC 1887 on April 4, 2001. One or more equipment rinsates were included in each of these shipments. In none of these shipments did the samples show a consistent pattern of contamination, and no contamination was detected in the equipment rinsates. These observations indicate that cross-contamination did not occur during shipment.

Four groundwater samples collected for nitrate analysis were delayed in shipment and were prepared for analysis by the analytical laboratory after the recommended 48-hr holding time had elapsed. The affected samples are EVSB20-W-12064, EVSB20-W-12068, EVSB21-W-12072, and EVSB21-W-12074 (Table F.3, Appendix F).

G.1.8 Sampling Conducted by the KDHE

Limited sampling was conducted by the KDHE during the March-April 2001 field mobilization. Argonne provided to the KDHE split groundwater samples from two Argonne sampling locations: (1) sample EVSB34-W-12857, collected at location SB34 at a depth of 46.0-49.0 ft BGL, and (2) sample EVSB34-W-12854, collected at location SB34 at a depth of 49.0-53.0 ft BGL. In addition, at the request of the KDHE, Argonne used the Geoprobe to collect groundwater samples at a location near SB49. Analytical results for the KDHE sampling were not provided for review in conjunction with Argonne's site investigation, and they are not included in the sampling and analytical database for the site investigation.

G.2 Quality Control for Organic Analysis of Soil Samples

Near-surface soil sampling was conducted in October 2000 at 38 locations at the former CCC/USDA facility. Seventy-six near-surface soil samples (two samples from each of the 38 sampling locations), 1 background sample, and 10 blind field replicates were collected for carbon tetrachloride and chloroform analysis at the AGEM Laboratory with a modification of EPA Method 5021 (headspace analysis by GC-ECD) to determine whether a pattern of carbon tetrachloride concentrations was evident that might indicate potential subsurface zones of contamination. Typical detection limits achieved were 0.10 μg/kg for carbon tetrachloride and 0.75 μg/kg for chloroform.

Subsurface soil sampling was conducted in March 2001 at three soil boring locations (SB23, SB24, and SB34); 68 subsurface soil samples were collected. The near-surface and subsurface soil samples were prepared at the AGEM Laboratory and analyzed for VOCs, including carbon tetrachloride and chloroform, with EPA Methods 5030B and 8260B (purge-and-trap GC-MS method), as referenced in the EPA's SW-846 (http://www.epa.gov/epaoswer/hazwaste/test/main/htm), to achieve a detection limit of 10 μg/kg. To verify the accuracy of the analytical results, random soil samples were split and prepared for verification analysis at Severn-Trent Laboratory, Colchester, Vermont, with the same analytical method. On the basis of the results it obtained, the AGEM Laboratory selected duplicate samples for verification analysis.

The following sections describe QC measures followed during analysis of the soil samples and discuss the quality of the organic analytical data from each laboratory. Analytical data from the AGEM Laboratory are discussed in Section G.2.1, and analytical data from Severn-Trent Laboratory are discussed in Section G.2.2. The analytical results from the two laboratories are compared in Section G.2.3.

G.2.1 Analysis of Soil Samples at the AGEM Laboratory

Soil samples were quick-frozen on dry ice as they were collected. At the laboratory, the VOCs present in each soil sample were extracted with methanol from the sample matrix.

For the headspace soil analyses, the methanol extract was placed in a sealed headspace vial with the internal standard solution. The samples were placed in a headspace sampler and analyzed with a modification of EPA Method 5021. An 11-point calibration of the GC system was established on the basis of the mass of known quantities of carbon tetrachloride and chloroform ranging in concentration from 0.125 ng to 4 ng. A limitation of the chloroform analysis is the presence of chloroform (at very low concentrations) in the methanol solvent used in standard preparation. Dual analyses were performed for 18 near-surface soil sampling locations through the analysis of blind field replicate samples or the duplicate analysis of samples selected by the laboratory. Table G.3 summarizes the analytical results for the dual analyses. Consistency is evident in these results, and the analytical data obtained with the headspace method are acceptable for qualitative determination of contaminant distribution.

For the purge-and-trap soil analyses, an aliquot of the methanol extract was purged, and the volatile species were transferred to a sorbent tube. After purging, the sorbent tube was heated and backflushed with an inert gas to desorb the components into the GC-MS system. The compounds eluting from the GC column were identified by retention time and by comparison with reference library spectra. The concentration of each component was calculated by comparison of the MS response for the quantitation ion to the response on corresponding calibration curves, for internal standards, or both.

Soil samples were analyzed at the AGEM Laboratory with the purge-and-trap method in 21 sample delivery groups (SDGs), as shown in Table G.4. The QA/QC procedures followed included initial and continuing calibration of instruments, analysis of laboratory blanks, monitoring of surrogate spike recovery, analysis of replicate samples, and duplicate analyses of selected samples. Significant results include the following:

- Soil samples were received with custody seals intact and at the appropriate temperature. All samples were analyzed within required holding times.

- Contaminants of concern were not detected in the laboratory method blanks.

- For each SDG, analytical instrument calibration was monitored by the analysis of calibration check standards. Table G.4 shows the relative percent difference (RPD) between the known and calculated concentrations of the standards. The concentrations of calibration check standards measured in all SDGs were within the acceptable range of ±20%.

- Surrogate standard determinations were performed on the samples and blanks by using the surrogate spike compounds fluorobenzene, 4-bromofluorobenzene, and 1,2-dichlorobenzene-d4. Table G.4 shows the percent recoveries of these system-monitoring compounds for each of the analyses. In the analysis of two soil samples, the surrogate recovery limit of 80% was not met:

  - In the analysis of near-surface soil sample EV-HC23-S-11997 in SDG 00-11-07, the recoveries of surrogate compound fluorobenzene (at 66%) and 4-bromofluorobenzene (at 75%) were below the specified limit of 80%. The sample was not reanalyzed. The result for the sample analysis (no contaminants detected) is consistent with results for adjacent samples. No loss of contamination is indicated, and the result is accepted.

- In the analysis of subsurface soil sample EVSB23-S-12772 in SDG 01-03-22, the recovery of surrogate compound fluorobenzene (at 78%) was below the specified limit of 80%. The sample was not reanalyzed. The result for the sample analysis (no contaminants detected) is consistent with results for adjacent samples. No loss of contamination is indicated, and the result is accepted.

- In the analysis of subsurface soil sample EVSB34-S-12831 in SDG 01-04-01, the recovery of surrogate compound 1-2-dichlorobenzene-d_4 (at 75%) was below the specified limit of 80%. The sample was not reanalyzed. The result for the sample analysis (no contaminants detected) is consistent with results for adjacent samples. No loss of contamination is indicated, and the result is accepted.

• Replicates of ten near-surface soil samples were collected in the field, and seven near-surface soil samples were selected by the AGEM Laboratory for duplicate organic analyses by the purge-and-trap method. Contaminant concentrations were below the quantitation limit of 10 μg/kg in the analyses of all near-surface soil samples, their replicates, and their laboratory duplicates.

• Nine subsurface soil samples were selected by the AGEM Laboratory for duplicate organic analyses. Table G.5 compares the results for the sample and duplicate analyses. Samples in which contamination was not detected or was detected at a concentration below the quantitation limit of 10 μg/kg were reanalyzed with a similar result. For three of the four samples in which contamination was detected above the quantitation limit, the sample and duplicate result show good agreement. For one sample in which carbon tetrachloride and chloroform were detected above the quantitation limit (EVSB23-S-12781), the compounds were detected at concentrations below the quantitation limit in the duplicate analysis. This discrepancy is considered a reflection of the heterogeneity of the sample matrix and not the analytical methodology.

The analytical data from the AGEM Laboratory are acceptable for quantitative determination of contaminant distribution in the near-surface and subsurface soils.

G.2.2 Analysis of Soil Samples at Severn-Trent Laboratory

In accordance with the QA/QC procedures defined in the *Master Work Plan* (Argonne 2002), selected soil samples analyzed at the AGEM Laboratory for carbon tetrachloride and chloroform with the purge-and-trap GC-MS method (EPA Methods 5030B and 8260B) were subjected to verification analysis at a second laboratory. The analytical results from the two laboratories are compared in Section G.2.3. Below is a discussion of the quality of the organic analytical data from Severn-Trent Laboratory.

Twenty replicate soil samples (including ten near-surface soil samples and ten subsurface soil samples) were shipped to Severn-Trent Laboratory in three shipments, each with a blank of the methanol used for sample extraction. Complete data packages were provided. The QA/QC procedures followed included initial and continuing calibration of instruments, analysis of laboratory blanks, monitoring of surrogate spike recovery, and matrix spike/matrix spike duplicate analyses. Significant results include the following:

- Soil samples shipped to the Severn-Trent Laboratory were received with custody seals intact and at the appropriate temperature. All samples were analyzed within required holding times.

- Analytical instruments were properly tuned; initial and continuing calibration checks remained within the allowable range.

- Contaminants of concern were not detected in the methanol blanks or laboratory method blanks.

- Surrogate standard determinations were performed on samples and blanks by using the surrogate spike compounds toluene-d_8, 1,2-dichloroethane-d_4, 4-bromofluorobenzene, and 1,2-dichlorobenzene-d_4. Table G.6 shows the percent recoveries of the system-monitoring compounds for each of the analyses. Except for three near-surface soil samples and one laboratory QC sample analyzed in SDG 80582, the recovery of the surrogate spikes was within the acceptable range (identified in Table G.6) specific to each surrogate. For samples with surrogate recovery outside the desired range, the recovery of one or two of the four surrogate compounds was outside the QC limits but within 90-99% of the limits.

- To evaluate the matrix effect of samples on the analytical methodology, matrix spike/matrix spike duplicate analyses were performed by using a suite of matrix spike compounds that included carbon tetrachloride and chloroform. Table G.7 shows the percent recovery for carbon tetrachloride and chloroform in the three spike/spike duplicate analyses, as well as the calculated RPD between the analytical results. The QC limits (identified in Table G.7) were met for the spike/spike duplicate analyses.

The organic analytical data from Severn-Trent Laboratory for the replicate soil samples are acceptable for comparison to the AGEM Laboratory data.

G.2.3 Verification Analysis of Soil Samples

In accordance with the QA/QC procedures defined in the *Master Work Plan* (Argonne 2002), selected replicates of the soil samples analyzed at the AGEM Laboratory for carbon tetrachloride and chloroform with the purge-and-trap GC-MS method were subjected to verification analysis at a second laboratory. Twenty of the 144 soil samples analyzed at the AGEM Laboratory for carbon tetrachloride and chloroform (14% of the soil samples) were subjected to the verification analysis. Table G.8 compares the analytical results for the soil samples analyzed at both laboratories.

Results from the two analytical laboratories are consistent over the range of carbon tetrachloride concentrations detected during the Phase II investigation. For the three samples analyzed at the AGEM Laboratory in which carbon tetrachloride was detected above the quantitation limit, similar concentrations were reported by Severn-Trent Laboratory. Samples analyzed at the AGEM Laboratory in which no carbon tetrachloride was detected were analyzed at Severn-Trent Laboratory with similar results, although for sample EVSB23-S-12784 Severn-Trent Laboratory reported an estimated concentration below the quantitation limit. Analytical data obtained by the AGEM Laboratory with the purge-and-trap GC-MS method are supported by the data from Severn-Trent Laboratory.

G.3 Quality Control for Organic Analysis of Water Samples

Eighty-four groundwater and 12 surface water samples (including 1 background surface water sample) were collected during the Phase II investigation for organic analysis at the AGEM Laboratory with EPA Method 524.2. In addition, 49 replicate groundwater samples, 2 replicate surface water samples, 49 equipment rinsates, and 27 trip blanks were collected. As one measure of the precision of the analytical process, blind replicate (split) samples were collected for analysis, and other samples were selected by the laboratory for duplicate analyses. To verify the accuracy of the analytical results obtained with EPA Method 524.2, replicate (split) samples were also collected for verification analysis at Clayton Laboratory, Novi, Michigan, with CLP methodology. On the basis of the results it obtained, the AGEM Laboratory selected replicate samples for the verification analysis.

The following sections describe QC measures followed during analysis of water samples and discuss the quality of the organic analytical data from each laboratory. Analytical data from the AGEM Laboratory are discussed in Section G.3.1, and analytical data from Clayton Laboratory are discussed in Section G.3.2. The results from the two laboratories are compared in Section G.3.3.

G.3.1 Analysis of Water Samples at the AGEM Laboratory

Water samples shipped to the AGEM Laboratory were analyzed by the purge-and-trap GC-MS method. For these analyses, VOCs present in the groundwater sample were extracted (purged) from the sample matrix by bubbling an inert gas through the sample. The purged components were trapped in a specified sorbent tube. After the purging, the sorbent tube was heated and backflushed with an inert gas to desorb the components into the GC-MS system. The compounds eluting from the GC column were identified by retention time and by comparison with reference library spectra. The concentration of each component was calculated by comparison of the MS response for the quantitation ion to the response for corresponding calibration curves and/or internal standards. The internal standard recovery limits were 80-120%. Calibration checks with each SDG were required to be within ±20% of the standard.

Water samples submitted to the AGEM Laboratory for organic analysis were analyzed in 31 SDGs. Table G.9 identifies the groundwater, surface water, and associated QA/QC samples analyzed in each of the SDGs. The QA/QC procedures followed included analysis of instrument calibration check standards, analysis of laboratory blanks, monitoring of surrogate spike recovery, and duplicate laboratory analyses. Significant results include the following:

- Samples shipped to the AGEM Laboratory were received with custody seals intact and at the appropriate temperature. All samples were analyzed within required holding times.

- Groundwater sample EVSB28-W-12815, collected for organic analysis at the AGEM Laboratory, was broken during shipment, and the vial for the replicate, EVSB28-W-12816, contained a bubble. No result is reported for depth interval 62.0-64.9 ft BGL at sample location SB28 (Table F.5, Appendix F).

- Carbon tetrachloride was not detected in field blanks, equipment rinsates, or trip blanks shipped with the samples or in laboratory method blanks analyzed with the samples. Chloroform was detected at low concentrations in some rinsates and trip blanks collected during the March-April 2001 sampling event at levels consistent with the commercial distilled water used for the preparation of those samples. This problem was not evident during the November 2002 sampling, when Argonne used water from its own deionizing filtration system.

- For each SDG, analytical instrument calibration was monitored by the analysis of calibration check standards. Table G.9 shows the RPD values between the known and calculated concentrations of the standards. The concentrations of calibration check standards measured in all SDGs were within the acceptable range of ±20%.

- Surrogate standard determinations were performed on samples and blanks by using surrogate spike compounds fluorobenzene, 1,2-dichlorobenzene-d_4, and 4-bromofluorobenzene. Table G.9 shows the percent recoveries of these system-monitoring compounds for each of the analyses. In the analysis of two groundwater samples, one equipment rinsate, and one surface water sample, the minimum surrogate recovery limit of 80% was not met, as follows:

  - SDG 01-03-23: In the analysis of groundwater sample EVSB30-W-12807, the recovery of surrogate compound 1,2-dichlorobenzene-d_4 (at 76%) was below the QC limit of 80%. The sample was not reanalyzed. A blind replicate of the sample, EVSB30-W-12811, was analyzed in the same SDG without error. Neither sample contained carbon tetrachloride or chloroform. The analytical result for sample EVSB30-W-12807 is accepted without qualification (Table F.5, Appendix F).

- SDG 01-03-27: In the analysis of groundwater sample EVSB31-W-11989, the recoveries of the three surrogate compounds (at 74-75%) were below the QC limit of 80%. The sample was not reanalyzed. A blind replicate of the sample, EVSB31-W-11990, was analyzed in the same SDG without error. Neither sample contained carbon tetrachloride or chloroform. The analytical result for sample EVSB31-W-11989 is accepted without qualification (Table F.5, Appendix F).

- SDG 01-04-06: In the analysis of equipment rinsate EVSB47-W-12926, the recovery of surrogate compound fluorobenzene (at 77%) was below the QC limit of 80%. The rinsate was not reanalyzed. None of the groundwater samples collected at ECPT location SB47 (where the rinsate was collected) contained carbon tetrachloride or chloroform contamination (Table F.5, Appendix F). The analytical result for rinsate EVSB47-W-12926 is accepted without qualification.

- SDG 02-11-06: In the analysis of surface water replicate sample EVQCDU-W-15853, a blind replicate of sample EVSW12-W-15852, the recovery of surrogate compound 4-bromofluorobenzene (at 76%) was below the QC limit of 80%. The replicate sample was not reanalyzed. Neither carbon tetrachloride nor chloroform was detected in either sample EVSW12-W-15852 or replicate EVQCDU-W-15853 (Table G.10). The analytical result for replicate sample EVQCDU-W-15853 is accepted without qualification.

• To provide a measure of consistency in sample collection and analytical precision, 49 blind replicate groundwater samples and 2 blind replicate surface water samples were collected for organic analysis at the AGEM Laboratory, and other water samples were selected by the AGEM Laboratory for duplicate organic analyses. In total, dual analyses were conducted for 58 groundwater sampling locations and 3 surface water locations. In addition, 3 equipment rinsates were selected for duplicate analyses. Table G.10 shows the carbon tetrachloride and chloroform concentrations detected in the samples and in the replicate and duplicate analyses. Good agreement is apparent for samples with no contamination and for samples with low to moderate contamination. Variability is seen in some samples with high concentrations of carbon tetrachloride, especially at groundwater sample location SB33 at the depth 64.0-68.0 ft BGL, with a calculated RPD value of 80% over the range of detected concentrations.

The analytical data from the AGEM Laboratory are acceptable for quantitative determination of contaminant distribution in water samples.

G.3.2 Analysis of Water Samples at Clayton Laboratory

In accordance with the QA/QC procedures defined in the *Master Work Plan* (Argonne 2002), replicates of groundwater samples analyzed at the AGEM Laboratory for carbon tetrachloride and chloroform with EPA Method 524.2 were also analyzed with EPA-defined CLP methodology. On the basis of its results, the AGEM Laboratory selected replicate samples (identified in Table G.1) for the verification analysis. The results from the two laboratories are compared in Section G.3.3. Below is a discussion of the quality of the organic analytical data obtained with CLP methodology.

Twenty-four replicate groundwater samples were shipped to Clayton Laboratory for verification organic analysis with CLP methodology. The samples were sent in four shipments with a trip blank in each. Complete CLP data packages were provided. The QA/QC procedures followed included initial and continuing calibration of instruments, analysis of laboratory blanks, monitoring of surrogate spike recovery, and matrix spike/matrix spike duplicate analyses. Significant results include the following:

- Samples shipped to the CLP laboratory were received with custody seals intact and at the appropriate temperature. All samples were analyzed within required holding times.

- Analytical instruments were properly tuned; initial and continuing calibration checks remained within the allowable range.

- Contaminants of concern were not detected in trip blanks or laboratory method blanks.

- Surrogate standard determinations were performed on samples and blanks by using the surrogate spike compounds toluene-d_8, 4-bromofluorobenzene, and 1,2-dichloroethane-d_4. Table G.11 shows the percent recoveries of the system-monitoring compounds for each of the CLP analyses. Recovery of the surrogate spikes was within the acceptable range (identified in Table G.11) specific to each surrogate for all analyses.

- To evaluate the matrix effect of samples on the analytical methodology, matrix spike/matrix spike duplicate analyses were performed in accordance with CLP protocol by using matrix spike compounds 1,1-dichloroethene, trichloroethene, chlorobenzene, toluene, and benzene. Table G.12 shows the percent recovery of each spike compound in the three spike/spike duplicate analyses, as well as the calculated RPD value between the analytical results. The recoveries of spike compounds were within QC limits for the three spike/spike duplicate analyses. In the analysis conducted with SDG 1040080-ARG104, the RPD between spike and spike duplicate results was outside the acceptable range for spike compound 1,1-dichloroethene (Table G.12). The reported results for the affected samples (EVSB33-W-12880, EVSB33-W-12881, EVSB38-W-12893, EVSB39-W-12897, EVSB40-W-12053, EVSB41-W-12898, EVSB41-W-12900) are qualified (Table G.13).

Organic analytical data from Clayton Laboratory for the replicate groundwater samples are acceptable for comparison to the AGEM Laboratory data, with the qualification described.

G.3.3 Verification Analysis of Water Samples

In accordance with the QA/QC procedures defined in the *Master Work Plan* (Argonne 2002), selected replicates of the groundwater samples analyzed at the AGEM Laboratory for carbon tetrachloride and chloroform with EPA Method 524.2 were subjected to verification analysis with EPA-defined CLP methodology. Twenty-four of the 84 groundwater samples analyzed at the AGEM Laboratory for carbon tetrachloride and chloroform (28% of the groundwater samples) were also analyzed with CLP methodology. Table G.13 compares the analytical results for groundwater samples obtained with the two methods.

For all verification samples analyzed at the AGEM Laboratory in which no contamination was detected, Clayton Laboratory reported a similar lack of contamination. For samples with low to moderate contaminant levels, the concentrations reported by the two laboratories are also similar. However, for samples with substantial carbon tetrachloride levels, inconsistency is evident in the concentrations reported by the two laboratories. Two factors warrant discussion:

- The analytical results from Clayton Laboratory for the verification samples with the highest variability are qualified on the basis of the high RPD achieved in the associated matrix spike/matrix spike duplicate analysis.

- Variability was also evident in the concentrations reported by the AGEM Laboratory for separate aliquots collected at these sampling locations. This variability is attributed to the heterogeneity of the sampled aquifer. Results were affected by low water recovery documented during collection and the difficulty in obtaining sufficient sample volumes.

In general, the analytical data from the AGEM Laboratory with EPA Method 524.2 are supported by the CLP data from Clayton Laboratory.

G.4 Quality Control for Nitrate Analyses of Groundwater Samples

To aid in geochemical characterization of the water-bearing zone, groundwater samples collected during the Phase II investigation were analyzed for nitrate by using EPA Method 300. These samples were shipped immediately to Severn-Trent Laboratory for filtration, preservation, and analysis. A delay in shipment caused four samples (EVSB20-W-12064, EVSB20-W-12068, EVSB21-W-12072, and EVSB21-W-12074) to be prepared for analysis after the recommended 48-hr holding time had expired. The results reported for these samples are qualified (Table F.3, Appendix F).

Nitrate analyses of the groundwater samples were conducted in 18 SDGs. The QA/QC procedures followed included initial and continuing instrument calibration through analysis of spiked calibration check standards, analysis of laboratory QC samples, and duplicate analyses of selected samples. Significant points are the following:

- Initial and continuing calibration of analytical equipment was verified, according to method protocol, by the analysis of instrument check standards to determine instrument drift. Accuracy was measured by the percent recovery of known concentrations of nitrate added to the calibration check standards. Recovery of nitrate in the calibration check standards was within the range of 90-110% for each SDG.

- Accuracy in the analytical methodology followed was measured by the analysis of laboratory QC samples with each SDG. The recoveries of known concentrations of nitrate in spiked laboratory QC samples, shown in Table G.14, were within the allowable range of 80-120%.

- Precision was measured by duplicate analyses of five samples. Good precision in the nitrate analyses is indicated by low RPD values of 0-2.3% between the initial and duplicate analyses (Table G.15).

The nitrate results for groundwater samples from Severn-Trent Laboratory are acceptable (with the holding time qualification for four samples) on the basis of the recovery of known concentrations of the analytes of concern in laboratory QC samples analyzed with the groundwater samples and RPD values for duplicate analyses.

G.5 Quality Control for Total Petroleum Hydrocarbon Analyses of Groundwater Samples

Eight groundwater samples collected during the Phase II investigation were analyzed at Severn-Trent Laboratory for TPH with EPA Method 8015B. Sulfuric acid was added as a preservative to each sample at the time of collection. During analysis, the compound *o*-terphenyl was used as a surrogate. Surrogate recovery (at approximately 30%), shown in Table G.16, was below the QC limit of 60% for sample EVSB50-W-13160 and EVSB50-W-13158. The surrogate was recovered well in the analyses of the method blank and laboratory QC samples. Insufficient sample volume was available to reanalyze the field samples. The spiked fuel mixture was recovered well in the laboratory QC sample and its duplicate. The method blank was free of contamination.

The laboratory used a system of qualifiers to note whether a reported result reasonably matched the pattern for diesel fuel (D) or motor oil (M), or whether the result was derived from a response that was in the low end (L) or high end (H) of the range defined by the analytical standards.

The TPH data from Severn-Trent Laboratory are acceptable for determination of contaminant distribution in groundwater.

G.6 Quality Control for Trace Metals Analyses of Groundwater Samples

Six groundwater samples collected during the Phase II investigation were analyzed for trace metals at Severn-Trent Laboratory with EPA Methods 3010A and 6010B. The target analytes (antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, selenium, silver, thallium, tin, vanadium, and zinc) were recovered well in the analyses of two laboratory QC samples, as shown in Table G.17. A serial-dilution analysis on sample EVSB49-W-15854 gave no indication of matrix interferences specific to the target analytes. Trace concentrations of molybdenum and thallium were identified in the analysis of the method blank. These data are accepted, on the basis of satisfactory recovery and the absence of interferences in the serial dilution, for determination of contaminant distribution in groundwater.

G.7 Quality Control for Isotope Analyses of Groundwater Samples

Selected groundwater samples and one surface water sample were analyzed for tritium at the University of Miami Tritium Laboratory in Miami, Florida. Tritium concentrations were reported on the basis of the U.S. National Institute of Science and Technology tritium water standard #4926, as measured on September 3, 1961, and again on September 3, 1978, with a half-life of 12.43 years. Concentrations were reported in tritium units, equivalent to 3.193 picocuries per kilogram of water. Because counting efficiency and background concentration are different for each instrument, the reported concentrations were corrected for cosmic intensity and gas pressure. Typical efficiencies are equivalent to 1 count per minute (cpm) per TU. Background is about 0.3 cpm, known to ±0.02 cpm. The RPD values for duplicate analyses are typically < 5%. The tritium data are acceptable for age dating of groundwaters.

TABLE G.1 Quality control samples collected during the Phase II investigation at Everest, Kansas.

Location	Sample	Depth (ft BGL)	Sample Date	Sample Description
Field blanks				
QC	EVQCFB-W-15873	-	11/6/02	Field blank representing deionized rinse water used during the Phase II investigation (third session) for equipment decontamination.
QC	EVQCFB-W-15892	-	11/11/02	Field blank representing water used during the Phase II investigation (third session) for equipment decontamination, grout preparation, etc. Obtained from city fire hydrant.
Equipment rinsates				
QC	EVBR01-W-11987	-	3/7/01	Rinsate of decontaminated bailer after collection of sample EVSB22-W-11985.
QC	EVRR01-W-11988	-	3/7/01	Rinsate of push rods after collection of sample EVSB22-W-11985.
QC	EVSB20-W-12070	-	3/8/01	Rinsate of bailer after collection of sample EVSB20-W-12068 and replicate EVSB20-W-12069.
QC	EVRR02-W-12075	-	3/9/01	Rinsate of bailer before collection of sample EVSB21-W-12073.
QC	EVSB25-W-12079	-	3/13/01	Rinsate of push rods after collection of sample EVSB25-W-12077 and replicate EVSB25-W-12078.
QC	EVSB25-W-12080	-	3/13/01	Rinsate of bailer after collection of sample EVSB25-W-12077 and replicate EVSB25-W-12078.
QC	EVSB24-W-12765	-	3/14/01	Rinsate of bailer prior to collection of sample EVSB24-W-12763 and replicate EVSB24-W-12764.
QC	EVSB24-W-12769	-	3/15/01	Rinsate of push rods after collection of sample EVSB24-W-12767 and replicate EVSB24-W-12768.
QC	EVSB23-W-12797	-	3/19/01	Rinsate of push rods after collection of sample EVSB23-W-12795 and replicate EVSB23-W-12796.
QC	EVSB23-W-12800	-	3/19/01	Rinsate of bailer after collection of sample EVSB23-W-12799.
QC	EVSB30-W-12805	-	3/21/01	Rinsate of bailer after collection of sample EVSB30-W-12803 and replicate EVSB30-W-12804.
QC	EVSB28-W-12814	-	3/22/01	Rinsate of push rods after collection of sample EVSB28-W-12812 and replicate EVSB28-W-12813.
QC	EVSB30-W-12810	-	3/22/01	Rinsate of bailer after collection of sample EVSB30-W-12808 and replicate EVSB30-W-12809.

TABLE G.1 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Sample Description
Equipment rinsates (Cont.)				
QC	EVSB31-W-12037	-	3/26/01	Rinsate of bailer after collection of sample EVSB31-W-11989 and replicate EVSB31-W-11990.
QC	EVSB31-W-12038	-	3/26/01	Rinsate of push rods after collection of sample EVSB31-W-11989 and replicate EVSB31-W-11990.
QC	EVSB32-W-12871	-	3/28/01	Rinsate of bailer prior to collection of sample EVSB32-W-11870.
QC	EVSB34-W-12856	-	3/28/01	Rinsate of bailer after collection of sample EVSB34-W-12854 and replicate EVSB34-W-12855.
QC	EVSB34-W-12859	-	3/28/01	Rinsate of push rods after collection of sample EVSB34-W-12857 and replicate EVSB34-W-12858.
QC	EVSB33-W-12882	-	3/29/01	Rinsate of bailer after collection of sample EVSB33-W-12880 and replicate EVSB33-W-12881.
QC	EVSB36-W-12886	-	3/30/01	Rinsate of bailer after collection of sample EVSB36-W-12884 and replicate EVSB36-W-12885.
QC	EVSB35-W-12876	-	3/31/01	Rinsate of bailer after collection of sample EVSB35-W-12874 and replicate EVSB35-W-12875.
QC	EVSB38-W-12890	-	3/31/01	Rinsate of bailer after collection of sample EVSB38-W-12888 and replicate EVSB38-W-12889.
QC	EVSB38-W-12894	-	4/1/01	Rinsate of bailer after collection of sample EVSB38-W-12893.
QC	EVSB40-W-12055	-	4/2/01	Rinsate of bailer after collection of sample EVSB40-W-12053 and replicate EVSB40-W-12054.
QC	EVSB40-W-12058	-	4/2/01	Rinsate of push rods after collection of sample EVSB40-W-12056 and replicate EVSB40-W-12057.
QC	EVSB41-W-12899	-	4/2/01	Rinsate of bailer after collection of sample EVSB341-W-12898.
QC	EVSB42-W-12904	-	4/3/01	Rinsate of bailer after collection of sample EVSB42-W-12903.
QC	EVSB43-W-12050	-	4/3/01	Rinsate of push rods after collection of sample EVSB43-W-12048 and replicate EVSB43-W-12049.
QC	EVSB43-W-12062	-	4/3/01	Rinsate of bailer after collection of sample EVSB43-W-12060 and replicate EVSB43-W-12061.
QC	EVSB37-W-12912	-	4/4/01	Rinsate of push rods after collection of sample EVSB37-W-12910.
QC	EVSB37-W-12913	-	4/4/01	Rinsate of bailer after collection of sample EVSB37-W-12910.
QC	EVSB44-W-12938	-	4/4/01	Rinsate of bailer after collection of sample EVSB44-W-12915.

TABLE G.1 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Sample Description
Equipment rinsates (Cont.)				
QC	EVSB46-W-12867	-	4/4/01	Rinsate of push rods after collection of sample EVSB46-W-12864 and replicate EVSB46-W-12865.
QC	EVSB46-W-12920	-	4/4/01	Rinsate of push rods after collection of sample EVSB46-W-12918 and replicate EVSB46-W-12919.
QC	EVSB47-W-12923	-	4/4/01	Rinsate of bailer after collection of sample EVSB47-W-12921 and replicate EVSB47-W-12922.
QC	EVSB47-W-12926	-	4/5/01	Rinsate of push rods after collection of sample EVSB47-W-12924 and replicate EVSB47-W-12925.
QC	EVQCRI-W-15856	-	11/5/02	Rinsate of bailer after collection of sample EVSB49-W-15855.
QC	EVQCRI-W-15869	-	11/5/02	Rinsate of bailer prior to collection of sample EVSB53-W-15868 and replicate EVQCDU-W-15870.
QC	EVSB50-W-13162	-	11/5/02	Rinsate of bailer after collection of sample EVSB50-W-13160. Sampling procedure not followed. Collected after overnight delay following sampling.
QC	EVQCRI-W-15872	-	11/6/02	Rinsate of bailer prior to collection of sample EVSB54-W-15871.
QC	EVQCRI-W-15877	-	11/6/02	Rinsate of bailer prior to collection of sample EVSB54-W-15874.
QC	EVQCRI-W-15883		11/7/02	Rinsate of bailer prior to collection of sample EVSB56-W-15881.
QC	EVSB51-W-13168	-	11/7/02	Rinsate of bailer after collection of sample EVSB51-W-13167.
QC	EVQCRI-W-15885	-	11/8/02	Rinsate of bailer prior to collection of sample EVSB56-W-15884.
QC	EVSB49-W-13172	-	11/8/02	Rinsate of bailer after collection of sample EVSB49-W-13170 and replicate EVSB49-W-13171.
QC	EVSB52-W-13174	-	11/8/02	Rinsate of push rod after collection of sample EVSB52-W-13173.
QC	EVSB57-W-13178	-	11/9/02	Rinsate of bailer after collection of sample EVSB57-W-13177.
QC	EVSB58-W-13185	-	11/10/02	Rinsate of bailer after collection of sample EVSB58-W-13183 and replicate EVSB58-W-13184.
QC	EVSB61-W-13190	-	11/11/02	Rinsate of bailer after collection of sample EVSB61-W-13188 and replicate EVSB61-W-13189.

TABLE G.1 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Sample Description
Trip blanks sent to AGEM Laboratory with soil samples for organic analysis				
QC	EV-TRIP102000-14	-	10/25/00	Trip blank sent to AGEM Laboratory in Cooler B with near-surface soil samples under COCs 2043-2048.
QC	EV-TRIP102000-17	-	10/25/00	Trip blank sent to AGEM Laboratory in Cooler A with near-surface soil samples under COCs 2043-2048.
QC	EV-TRIP102000-32	-	10/25/00	Trip blank sent to AGEM Laboratory in Cooler C with near-surface soil samples under COCs 2043-2048.
QC	EVSB24-S-12761	-	3/14/01	Trip blank for SB24 soil samples, shipped to AGEM Laboratory and listed on COCs 1971 and 1967.
QC	EVSB23-S-12792	-	3/19/01	Trip blank with SB23 series soil samples, shipped to AGEM Laboratory and listed on COCs 1362 and 1363.
Trip blanks sent to AGEM Laboratory with water samples for organic analysis				
QC	EVTB01-W-12066	-	3/7/01	Trip blank sent to AGEM Laboratory with samples listed on COC 513.
QC	EVTB-W-12036	-	3/7/01	Trip blank sent to AGEM Laboratory with samples listed on COC 1958.
QC	EVSB21-W-12071	-	3/8/01	Trip blank sent to AGEM Laboratory with samples listed on COC 1975.
QC	EVTB02-W-12073	-	3/9/01	Trip blank sent to AGEM Laboratory with samples listed on COC 1970.
QC	EVSB25-W-12081	-	3/13/01	Trip blank sent to AGEM Laboratory with samples listed on COC 1979. Trip blank batch 92000, vials #2 and #17.
QC	EVSB24-W-12766	-	3/14/01	Trip blank sent to AGEM Laboratory with samples listed on COC 1964.
QC	EVSB23-W-12798	-	3/19/01	Trip blank sent to AGEM Laboratory with samples listed on COC 1962.
QC	EVSB30-W-12806	-	3/21/01	Trip blank sent to AGEM Laboratory with samples listed on COC 2021.
QC	EVSB28-W-12817	-	3/23/01	Trip blank sent to AGEM Laboratory with two samples listed on COC 201. (Broken EVSB28-W-12815 and replicate EVSB28-W-12816 with bubble.) Trip blank not applicable.
QC	EVSB31-W-12041	-	3/26/01	Trip blank sent to AGEM Laboratory with samples listed on COC 475.
QC	EVSB29-W-12044	-	3/27/01	Trip blank sent to AGEM Laboratory with samples listed on COC 478.
QC	EVQCTB-W-12846	-	3/28/01	Trip blank sent to AGEM Laboratory with surface water samples listed on COC 1898.
QC	EVSB32-W-12872	-	3/28/01	Trip blank sent with samples hand-carried to AGEM Laboratory, listed on COC 207. Not received by Laboratory.
QC	EVSB34-W-12860	-	3/28/01	Trip blank sent to AGEM Laboratory with samples listed on COC 1909.

TABLE G.1 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Sample Description
Trip blanks sent to AGEM Laboratory with water samples for organic analysis (Cont.)				
QC	EVSB33-W-12883	-	3/29/01	Trip blank sent to AGEM Laboratory with samples listed on COC 212.
QC	EVSB38-W-12891	-	3/31/01	Trip blank sent to AGEM Laboratory with samples listed on COC 1914.
QC	EVSB38-W-12895	-	4/1/01	Trip blank sent to AGEM Laboratory with samples listed on COC 1900.
QC	EVSB40-W-12059	-	4/2/01	Trip blank sent to AGEM Laboratory with samples listed on COCs 1915 and 1903.
QC	EVSB42-W-12906	-	4/3/01	Trip blank sent to AGEM Laboratory with samples listed on COC 1884.
QC	EVSB46-W-12866	-	4/4/01	Trip blank sent to AGEM Laboratory with samples listed on COC 2068. Also serves as field blank for water used for equipment rinsates, beginning on this date.
QC	EVSB47-W-12927	-	4/5/01	Trip blank sent to AGEM Laboratory with samples listed on COCs 481, 1087, and 1890.
QC	EVTB01-W-13161	-	11/4/02	Trip blank with samples sent to AGEM Laboratory for organic analysis and listed on COCs 1098 and 3210.
QC	EVQCTB-W-15857	-	11/5/02	Trip blank sent to AGEM Laboratory for organic analysis with samples listed on COC 3213.
QC	EVQCTB-W-15876	-	11/6/02	Trip blank sent to AGEM Laboratory for organic analysis with samples listed on COC 1100.
QC	EVQCTB-W-15879	-	11/7/02	Trip blank sent to AGEM Laboratory for organic analysis with samples listed on COC 2113.
QC	EVQCTB-W-15890	-	11/8/02	Trip blank sent to AGEM Laboratory for organic analysis with samples listed on COC 3423.
QC	EVTB58-W-13182	-	11/9/02	Trip blank sent to AGEM Laboratory for organic analysis with samples listed on COC 3220.
QC	EVTB60-W-13186	-	11/10/02	Trip blank sent to AGEM Laboratory for organic analysis with samples listed on COCs 3221 and 3615.
Trip blanks sent to Severn-Trent Laboratory with soil samples for verification organic analysis				
QC	MeOH Blank	-	11/6/00	Methanol blank sent to Severn-Trent Laboratory with soil samples listed on COC 105.
QC	EV-MeOH Blank	-	3/20/01	Methanol blank sent to Severn-Trent Laboratory with soil samples listed on COC 1197.
QC	EVS-MeOH	-	4/5/01	Methanol blank sent to Severn-Trent Laboratory with soil samples listed on COC 1201.

TABLE G.1 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Sample Description
Trip blanks sent to Clayton Laboratory with water samples for verification organic analysis				
QC	EV-TB-031501	-	3/15/01	Trip blank sent to Clayton Laboratory with verification groundwater samples listed on COC 1195.
QC	EV-TB-032701	-	3/27/01	Trip blank sent to Clayton Laboratory with verification groundwater samples listed on COC 1198.
QC	EV-TB-032901	-	3/29/01	Trip blank sent to Clayton Laboratory with verification groundwater samples listed on COC 1199.
QC	EV-TB-W-12000	-	4/3/01	Trip blank sent to Clayton Laboratory with verification groundwater samples listed on COC 1200.
QC	EV-TB-111102	-	11/11/02	Trip blank sent to Clayton Laboratory with samples for verification organic analysis listed on COC 1014.
Background samples				
QC	EV-QCBG-S-12035	0.8-1.0	10/25/00	Regional background near-surface soil sample.
SW01	EVSW01-W-12838	-	3/27/01	Background surface water sample. Collected at south (discharge) end of 3-ft-wide culvert under Main Street, exiting near the bridge abutment near the former CCC/USDA facility. Considered to represent water entering the former facility.
Blind replicate soil samples				
HC18	EV-QCDU-S-11981	0.9-1.2	10/24/00	Replicate of near-surface soil sample EV-HC18-S-11977.
HC18	EV-QCDU-S-11982	5.5-6.0	10/24/00	Replicate of near-surface soil sample EV-HC18-S-11978.
HC20	EV-QCDU-S-11991	0.9-1.2	10/24/00	Replicate of near-surface soil sample EV-HC20-S-11983.
HC20	EV-QCDU-S-11992	5.5-6.0	10/24/00	Replicate of near-surface soil sample EV-HC20-S-11984.
HC29	EV-QCDU-S-12011	0.9-1.2	10/25/00	Replicate of near-surface soil sample EV-HC29-S-12009.
HC29	EV-QCDU-S-12012	5.5-6.0	10/25/00	Replicate of near-surface soil sample EV-HC29-S-12010.
HC36	EV-QCDU-S-12027	0.9-1.2	10/25/00	Replicate of near-surface soil sample EV-HC36-S-12025.
HC36	EV-QCDU-S-12028	5.5-6.0	10/25/00	Replicate of near-surface soil sample EV-HC36-S-12026.
HC37	EV-QCDU-S-12031	0.9-1.2	10/25/00	Replicate of near-surface soil sample EV-HC37-S-12029.
HC37	EV-QCDU-S-12032	5.5-6.0	10/25/00	Replicate of near-surface soil sample EV-HC37-S-12030.

TABLE G.1 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Sample Description
Blind replicate water samples				
SB20	EVSB20-W-12065	58.0-60.5	3/7/01	Replicate of groundwater sample EVSB20-W-12064.
SB20	EVSB20-W-12069	61.5-65.0	3/8/01	Replicate of groundwater sample EVSB20-W-12068.
SB22	EVSB22-W-11986	59.0-62.0	3/7/01	Replicate of groundwater sample EVSB22-W-11985.
SB23	EVSB23-W-12796	48.5-52.9	3/19/01	Replicate of groundwater sample EVSB23-W-12795.
SB24	EVSB24-W-12764	44.0-48.5	3/14/01	Replicate of groundwater sample EVSB24-W-12763.
SB24	EVSB24-W-12768	48.0-53.0	3/15/01	Replicate of groundwater sample EVSB24-W-12767.
SB25	EVSB25-W-12078	46.0-51.0	3/13/01	Replicate of groundwater sample EVSB25-W-12077.
SB26	EVSB26-W-12802	58.0-63.0	3/20/01	Replicate of groundwater sample EVSB26-W-12801.
SB28	EVSB28-W-12813	56.0-61.0	3/22/01	Replicate of groundwater sample EVSB28-W-12812.
SB28	EVSB28-W-12816	62.0-64.9	3/23/01	Replicate of groundwater sample EVSB28-W-12815, which was broken during shipment. Analysis of the replicate sample was unacceptable because of a bubble in the sample vial.
SB29	EVSB29-W-12043	53.5-56.6	3/27/01	Replicate of groundwater sample EVSB29-W-12042.
SB30	EVSB30-W-12811	59.5-61.0	3/22/01	Replicate of groundwater sample EVSB30-W-12807.
SB30	EVSB30-W-12804	62.0-64.5	3/21/01	Replicate of groundwater sample EVSB30-W-12803.
SB30	EVSB30-W-12809	66.0-68.5	3/22/01	Replicate of groundwater sample EVSB30-W-12808.
SB31	EVSB31-W-11990	57.0-61.0	3/26/01	Replicate of groundwater sample EVSB31-W-11989.
SB31	EVSB31-W-12040	62.0-67.0	3/26/01	Replicate of groundwater sample EVSB31-W-12039.
SB32	EVSB32-W-12869	32.8-37.8	3/28/01	Replicate of groundwater sample EVSB32-W-12868.
SB32	EVSB32-W-12873	37.8-42.8	3/28/01	Replicate of groundwater sample EVSB32-W-12870.
SB33	EVSB33-W-12881	64.0-68.0	3/29/01	Replicate of groundwater sample EVSB33-W-12880.
SB34	EVSB34-W-12858	46.0-49.0	3/28/01	Replicate of groundwater sample EVSB34-W-12857.
SB34	EVSB34-W-12855	49.0-53.0	3/28/01	Replicate of groundwater sample EVSB34-W-12854.
SB35	EVSB35-W-12875	56.0-59.0	3/31/01	Replicate of groundwater sample EVSB35-W-12874.
SB36	EVSB36-W-12885	51.5-54.5	3/30/01	Replicate of groundwater sample EVSB36-W-12884.
SB37	EVSB37-W-12908	65.5-70.0	4/3/01	Replicate of groundwater sample EVSB37-W-12907.
SB38	EVSB38-W-12889	63.5-67.5	3/31/01	Replicate of groundwater sample EVSB38-W-12888.
SB40	EVSB40-W-12054	60.0-65.0	4/2/01	Replicate of groundwater sample EVSB40-W-12053.
SB40	EVSB40-W-12057	64.9-65.9	4/2/01	Replicate of groundwater sample EVSB40-W-12056.
SB41	EVSB41-W-12900	68.0-72.8	4/2/01	Replicate of groundwater sample EVSB41-W-12898.
SB42	EVSB42-W-12902	60.5-65.0	4/3/01	Replicate of groundwater sample EVSB42-W-12901.

TABLE G.1 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Sample Description
Blind replicate water samples (Cont.)				
SB43	EVSB43-W-12061	39.0-44.0	4/3/01	Replicate of groundwater sample EVSB43-W-12060.
SB43	EVSB43-W-12049	44.0-49.0	4/3/01	Replicate of groundwater sample EVSB43-W-12048.
SB43	EVSB43-W-12052	49.0-52.6	4/3/01	Replicate of groundwater sample EVSB43-W-12051.
SB44	EVSB44-W-12914	64.6-67.0	4/4/01	Replicate of groundwater sample EVSB44-W-12911.
SB45	EVSB45-W-12933	52.0-56.0	4/5/01	Replicate of groundwater sample EVSB45-W-12932.
SB45	EVSB45-W-12931	56.0-60.0	4/5/01	Replicate of groundwater sample EVSB45-W-12903.
SB46	EVSB46-W-12863	55.0-60.0	4/4/01	Replicate of groundwater sample EVSB46-W-12862.
SB46	EVSB46-W-12865	60.0-65.0	4/4/01	Replicate of groundwater sample EVSB46-W-12864.
SB46	EVSB46-W-12919	65.0-70.0	4/4/01	Replicate of groundwater sample EVSB46-W-12918.
SB47	EVSB47-W-12922	62.0-67.0	4/4/01	Replicate of groundwater sample EVSB47-W-12921.
SB47	EVSB47-W-12925	67.0-72.0	4/5/01	Replicate of groundwater sample EVSB47-W-12924.
SB47	EVSB47-W-12929	72.0-76.0	4/5/01	Replicate of groundwater sample EVSB47-W-12928.
SB49	EVSB49-W-13171	51.0-55.0	11/8/02	Replicate of groundwater sample EVSB49-W-13170.
SB50	EVSB50-W-13159	51.0-54.0	11/4/02	Replicate of groundwater sample EVSB50-W-13158.
SB52	EVSB52-W-13165	46.0-51.0	11/5/02	Replicate of groundwater sample EVSB52-W-13164.
SB53	EVQCDU-W-15870	21.0-26.0	11/5/02	Replicate of groundwater sample EVSB53-W-15868.
SB54	EVQCDU-W-15875	22.0-27.0	11/6/02	Replicate of groundwater sample EVSB54-W-15874.
SB57	EVSB57-W-13176	32.8-37.8	11/9/02	Replicate of groundwater sample EVSB57-W-13175.
SB58	EVSB58-W-13184	38.3-41.3	11/10/02	Replicate of groundwater sample EVSB58-W-13183.
SB61	EVSB61-W-13189	56.4-59.3	11/11/02	Replicate of groundwater sample EVSB61-W-13188.
SW12	EVQCDU-W-15853		11/4/02	Replicate of surface water sample EVSW12-W-15852.
SW07	EVQCDU-W-12845	-	3/27/01	Replicate of surface water sample EVSW07-W-12844.
Soil samples selected by AGEM Laboratory for duplicate organic analyses by the purge-and-trap method				
HC17	EV-HC17-S-11976	5.5-6.0	10/24/00	Near-surface soil sample.
HC25	EV-HC25-S-12001	0.9-1.2	10/25/00	Near-surface soil sample.
HC29	EV-HC29-S-12009	0.9-1.2	10/25/00	Near-surface soil sample.
HC30	EV-HC30-S-12014	5.5-6.0	10/25/00	Near-surface soil sample.
HC36	EV-HC36-S-12025	0.9-1.2	10/25/00	Near-surface soil sample.

TABLE G.1 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Sample Description
Soil samples selected by AGEM Laboratory for duplicate organic analyses by the purge-and-trap method (Cont.)				
HC36	EV-HC36-S-12026	5.5-6.0	10/25/00	Near-surface soil sample.
HC37	EV-QCDU-S-12032	5.5-6.0	10/25/00	Near-surface soil replicate sample.
SB23	EVSB23-S-12770	1.0	3/19/01	Subsurface soil sample.
SB23	EVSB23-S-12778	17.0	3/19/01	Subsurface soil sample.
SB23	EVSB23-S-12780	21.0	3/19/01	Subsurface soil sample.
SB23	EVSB23-S-12781	23.0	3/19/01	Subsurface soil sample.
SB23	EVSB23-S-12782	25.0	3/19/01	Subsurface soil sample.
SB23	EVSB23-S-12785	31.0	3/19/01	Subsurface soil sample.
SB23	EVSB23-S-12788	37.0	3/19/01	Subsurface soil sample.
SB24	EVSB24-S-12099	35.0	3/14/01	Subsurface soil sample.
SB24	EVSB24-S-12758	43.0	3/14/01	Subsurface soil sample.
Soil samples submitted for verification organic analysis at Severn-Trent Laboratory				
HC07	EV-HC07-S-11955	0.8-1.2	10/24/00	Near-surface soil sample.
HC10	EV-HC10-S-11962	5.5-6.0	10/24/00	Near-surface soil sample.
HC12	EV-HC12-S-11965	0.9-1.2	10/24/00	Near-surface soil sample.
HC15	EV-HC15-S-11972	5.5-6.0	10/24/00	Near-surface soil sample.
HC26	EV-HC26-S-12003	0.9-1.2	10/25/00	Near-surface soil sample.
HC29	EV-HC29-S-12009	0.9-1.2	10/25/00	Near-surface soil sample.
HC30	EV-HC30-S-12014	5.5-6.0	10/25/00	Near-surface soil sample.
HC34	EV-HC34-S-12021	0.9-1.2	10/25/00	Near-surface soil sample.
HC36	EV-HC36-S-12026	5.5-6.0	10/25/00	Near-surface soil sample.
HC38	EV-HC38-S-12034	5.5-6.0	10/25/00	Near-surface soil sample.
SB23	EVSB23-S-12777	15.0	3/19/01	Subsurface soil sample.
SB23	EVSB23-S-12784	29.0	3/19/01	Subsurface soil sample.
SB23	EVSB23-S-12788	37.0	3/19/01	Subsurface soil sample.
SB24	EVSB24-S-12082	1.0	3/14/01	Subsurface soil sample.
SB24	EVSB24-S-12095	27.0	3/14/01	Subsurface soil sample.
SB24	EVSB24-S-12102	41.0	3/14/01	Subsurface soil sample.

TABLE G.1 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Sample Description
Soil samples submitted for verification organic analysis at Severn-Trent Laboratory (Cont.)				
SB24	EVSB24-S-12758	43.0	3/14/01	Subsurface soil sample.
SB34	EVSB34-S-12821	7.0	3/27/01	Subsurface soil sample.
SB34	EVSB34-S-12827	19.0	3/27/01	Subsurface soil sample.
SB34	EVSB34-S-12851	47.0	3/27/01	Subsurface soil sample.
Water samples selected by AGEM Laboratory for duplicate organic analyses by the purge-and-trap method				
SB20	EVSB20-W-12063	56.0-58.0	3/7/01	ECPT groundwater sample.
SB20	EVSB20-W-12068	61.5-65.0	3/8/01	ECPT groundwater sample.
SB23	EVSB23-W-12799	44.0-48.0	3/19/01	ECPT groundwater sample.
SB23	EVSB23-W-12795	48.5-52.9	3/19/01	ECPT groundwater sample.
SB24	EVSB24-W-12763	44.0-48.5	3/14/01	ECPT groundwater sample. (Duplicate analyses on 3/15/01 and 3/22/01.)
SB24	EVSB24-W-12764	44.0-48.5	3/14/01	ECPT groundwater replicate sample.
SB24	EVSB24-W-12767	48.0-53.0	3/15/01	ECPT groundwater sample.
SB24	EVSB24-W-12768	48.0-53.0	3/15/01	ECPT groundwater replicate sample.
SB29	EVSB29-W-12042	53.5-56.5	3/27/01	ECPT groundwater sample.
SB29	EVSB29-W-12043	53.5-56.6	3/27/01	ECPT groundwater replicate sample.
SB33	EVSB33-W-12881	64.0-68.0	3/29/01	ECPT groundwater replicate sample.
SB38	EVSB38-W-12893	68.9-72.9	4/1/01	ECPT groundwater sample.
SB40	EVSB40-W-12053	60.0-65.0	4/2/01	ECPT groundwater sample.
SB40	EVSB40-W-12054	60.0-65.0	4/2/01	ECPT groundwater replicate sample.
SB42	EVSB42-W-12901	60.5-65.0	4/3/01	ECPT groundwater sample.
SB42	EVSB42-W-12902	60.5-65.0	4/3/01	ECPT groundwater replicate sample.
SB44	EVSB44-W-12914	64.6-67.0	4/4/01	ECPT groundwater replicate sample.
SB47	EVSB47-W-12925	67.0-72.0	4/5/01	ECPT groundwater replicate sample.
SB48	EVSB48-W-12941	59.4-64.4	4/5/01	ECPT groundwater sample.
SB49	EVSB49-W-13171	51.0-55.0	11/8/02	ECPT groundwater sample.
SB50	EVSB50-W-13169	54.0-56.8	11/7/02	ECPT groundwater sample.
SB51	EVSB51-W-13166	54.1-59.1	11/6/02	ECPT groundwater sample.
SB52	EVSB52-W-13163	58.0-60.5	11/5/02	ECPT groundwater sample.
SB54	EVSB54-W-15874	22.0-27.0	11/6/02	Screened Geoprobe sample.

TABLE G.1 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Sample Description
Water samples selected by AGEM Laboratory for duplicate organic analyses by the purge-and-trap method (Cont.)				
SB56	EVSB56-W-15881	22.0-27.0	11/7/02	Screened Geoprobe sample.
SB58	EVSB58-W-13181	33.0-38.0	11/9/02	ECPT groundwater sample.
SB61	EVSB61-W-13191	50.1-55.1	11/11/02	ECPT groundwater sample.
SB61	EVSB61-W-13189	56.4-59.3	11/11/02	ECPT groundwater sample.
SW09	EVSW09-W-15849	-	11/4/02	Surface water sample.
QC	EVSB24-W-12769	-	3/15/01	Equipment rinsate.
QC	EVSB31-W-12038	-	3/26/01	Equipment rinsate.
QC	EVSB33-W-12882	-	3/29/02	Equipment rinsate.
Groundwater samples submitted for verification organic analysis at Clayton Laboratory				
SB24	EVSB24-W-12762	40.0-43.0	3/14/01	ECPT groundwater sample.
SB24	EVSB24-W-12763	44.0-48.5	3/14/01	ECPT groundwater sample.
SB24	EVSB24-W-12764	44.0-48.5	3/14/01	ECPT groundwater replicate sample.
SB30	EVSB30-W-12811	59.5-61.0	3/22/01	ECPT groundwater replicate sample.
SB30	EVSB30-W-12808	66.0-68.5	3/22/01	ECPT groundwater sample.
SB31	EVSB31-W-11990	57.0-61.0	3/26/01	ECPT groundwater replicate sample.
SB31	EVSB31-W-12039	62.0-67.0	3/26/01	ECPT groundwater sample.
SB31	EVSB31-W-12040	62.0-67.0	3/26/01	ECPT groundwater replicate sample.
SB32	EVSB32-W-12869	32.8-37.8	3/28/01	ECPT groundwater replicate sample.
SB32	EVSB32-W-12870	37.8-42.8	3/28/01	ECPT groundwater sample.
SB33	EVSB33-W-12880	64.0-68.0	3/29/01	ECPT groundwater sample.
SB33	EVSB33-W-12881	64.0-68.0	3/29/01	ECPT groundwater replicate sample.
SB34	EVSB34-W-12858	46.0-49.0	3/28/01	ECPT groundwater replicate sample.
SB34	EVSB34-W-12854	49.0-53.0	3/28/01	ECPT groundwater sample.
SB34	EVSB34-W-12855	49.0-53.0	3/28/01	ECPT groundwater replicate sample.
SB38	EVSB38-W-12893	68.9-72.9	4/1/01	ECPT groundwater sample.
SB39	EVSB39-W-12897	68.2-72.2	4/1/01	ECPT groundwater sample.
SB41	EVSB40-W-12053	60.0-65.0	4/2/01	ECPT groundwater sample.
SB41	EVSB41-W-12898	68.0-72.8	4/2/01	ECPT groundwater sample.
SB41	EVSB41-W-12900	68.0-72.8	4/2/01	ECPT groundwater replicate sample.

TABLE G.1 (Cont.)

Location	Sample	Depth (ft BGL)	Sample Date	Sample Description
Groundwater samples submitted for verification organic analysis at Clayton Laboratory (Cont.)				
SB49	EVSB49-W-13170	51.0-55.0	11/8/02	Ample water recovery, oxidized, moderately turbid.
SB51	EVSB51-W-13166	54.1-59.1	11/6/02	Slow recovery but consistent. High level of turbidity, oxidized.
SB51	EVSB51-W-13167	59.0-64.0	11/7/02	Middle sand zone. Good recovery. Water dark brown, not oxidized.
SB52	EVSB52-W-13173	52.0-57.0	11/8/02	Abundant, oxidized, turbid.
Groundwater samples selected by Severn-Trent Laboratory for duplicate nitrate analyses				
SB20	EVSB20-W-12063	56.0-58.0	3/7/01	ECPT groundwater sample.
SB22	EVSB22-W-11985	59.0-62.0	3/7/01	ECPT groundwater sample.
SB24	EVSB24-W-12762	40.0-43.0	3/14/01	ECPT groundwater sample.
SB30	EVSB30-W-12808	66.0-68.5	3/22/01	ECPT groundwater sample.
SB37	EVSB37-W-12907	65.5-70.0	4/3/01	ECPT groundwater sample.

TABLE G.2 Results of organic analyses on quality control samples collected to monitor sample collection and handling activities.

		Units (μg/L in water; μg/kg in soil)		
		Concentration		
Sample	Sample Date	Carbon Tetrachloride	Chloroform	Quantitation Limit
Field blanks				
EVQCFB-W-15873	11/6/02	ND[a]	ND	1.0
EVQCFB-W-15892	11/11/02	ND	0.6 J[b]	1.0
Equipment rinsates				
EVBR01-W-11987	3/7/01	ND	ND	1.0
EVRR01-W-11988	3/7/01	ND	ND	1.0
EVSB20-W-12070	3/8/01	ND	ND	1.0
EVRR02-W-12075	3/9/01	ND	ND	1.0
EVSB25-W-12079	3/13/01	ND	1.7	1.0
EVSB25-W-12080	3/13/01	ND	1.7	1.0
EVSB24-W-12765	3/14/01	ND	1.7	1.0
EVSB24-W-12769	3/15/01	ND	1.9	1.0
EVSB23-W-12797	3/19/01	ND	ND	1.0
EVSB23-W-12800	3/19/01	ND	ND	1.0
EVSB30-W-12805	3/21/01	ND	ND	1.0
EVSB28-W-12814	3/22/01	ND	ND	1.0
EVSB30-W-12810	3/22/01	ND	ND	1.0
EVSB31-W-12037	3/26/01	ND	ND	1.0
EVSB31-W-12038	3/26/01	ND	ND	1.0
EVSB32-W-12871	3/28/01	ND	ND	1.0
EVSB34-W-12856	3/28/01	ND	ND	1.0
EVSB34-W-12859	3/28/01	ND	ND	1.0
EVSB33-W-12882	3/29/01	ND	ND	1.0
EVSB36-W-12886	3/30/01	ND	ND	1.0
EVSB35-W-12876	3/31/01	ND	ND	1.0
EVSB38-W-12890	3/31/01	ND	ND	1.0
EVSB38-W-12894	4/1/01	ND	ND	1.0
EVSB40-W-12055	4/2/01	ND	ND	1.0
EVSB40-W-12058	4/2/01	ND	ND	1.0
EVSB41-W-12899	4/2/01	ND	ND	1.0
EVSB42-W-12904	4/3/01	ND	ND	1.0
EVSB43-W-12050	4/3/01	ND	ND	1.0
EVSB43-W-12062	4/3/01	ND	ND	1.0
EVSB37-W-12912	4/4/01	ND	ND	1.0
EVSB37-W-12913	4/4/01	ND	ND	1.0
EVSB44-W-12938	4/4/01	ND	ND	1.0
EVSB46-W-12867	4/4/01	ND	ND	1.0
EVSB46-W-12920	4/4/01	ND	ND	1.0
EVSB47-W-12923	4/4/01	ND	ND	1.0

TABLE G.2 (Cont.)

		Units (μg/L in water; μg/kg in soil)		
		Concentration		
Sample	Sample Date	Carbon Tetrachloride	Chloroform	Quantitation Limit
Equipment rinsates (Cont.)				
EVSB47-W-12926	4/5/01	ND	ND	1.0
EVQCRI-W-15856	11/5/02	ND	ND	1.0
EVQCRI-W-15869	11/5/02	ND	ND	1.0
EVSB50-W-13162	11/5/02	ND	ND	1.0
EVQCRI-W-15872	11/6/02	ND	ND	1.0
EVQCRI-W-15877	11/6/02	ND	ND	1.0
EVQCRI-W-15883	11/7/02	ND	ND	1.0
EVSB51-W-13168	11/7/02	ND	ND	1.0
EVQCRI-W-15885	11/8/02	ND	ND	1.0
EVSB49-W-13172	11/8/02	ND	ND	1.0
EVSB52-W-13174	11/8/02	ND	ND	1.0
EVSB57-W-13178	11/9/02	ND	ND	1.0
EVSB58-W-13185	11/10/02	ND	ND	1.0
EVSB61-W-13190	11/11/02	ND	ND	1.0
Trip blanks sent to AGEM Laboratory with soil samples for organic analysis				
EV-TRIP102000-14	10/25/00	ND	ND	10.0
EV-TRIP102000-17	10/25/00	ND	ND	10.0
EV-TRIP102000-32	10/25/00	ND	ND	10.0
EVSB24-S-12761	3/14/01	ND	ND	10.0
EVSB23-S-12792	3/19/01	ND	3.7 J	10.0
Trip blanks sent to AGEM Laboratory with water samples for organic analysis				
EVTB01-W-12066	3/7/01	ND	ND	1.0
EVTB-W-12036	3/7/01	ND	ND	1.0
EVSB21-W-12071	3/8/01	ND	ND	1.0
EVTB02-W-12073	3/9/01	ND	ND	1.0
EVSB25-W-12081	3/13/01	ND	ND	1.0
EVSB24-W-12766	3/14/01	ND	ND	1.0
EVSB23-W-12798	3/19/01	ND	4.6	1.0
EVSB30-W-12806	3/21/01	ND	4.7	1.0
EVSB28-W-12817	3/23/01	ND	5.2	1.0
EVSB31-W-12041	3/26/01	ND	4.4	1.0
EVSB29-W-12044	3/27/01	ND	4.7	1.0
EVQCTB-W-12846	3/28/01	ND	ND	1.0
EVSB34-W-12860	3/28/01	ND	5.4	1.0
EVSB33-W-12883	3/29/01	ND	4.6	1.0
EVSB38-W-12891	3/31/01	ND	4.3	1.0

TABLE G.2 (Cont.)

		Units (μg/L in water; μg/kg in soil)		
		Concentration		
Sample	Sample Date	Carbon Tetrachloride	Chloroform	Quantitation Limit
Trip blanks sent to AGEM Laboratory with water samples for organic analysis (Cont.)				
EVSB38-W-12895	4/1/01	ND	4.6	1.0
EVSB40-W-12059	4/2/01	ND	5.1	1.0
EVSB42-W-12906	4/3/01	ND	3.9	1.0
EVSB46-W-12866	4/4/01	ND	ND	1.0
EVSB47-W-12927	4/5/01	ND	ND	1.0
EVTB01-W-13161	11/4/02	ND	ND	1.0
EVQCTB-W-15857	11/5/02	ND	ND	1.0
EVQCTB-W-15876	11/6/02	ND	ND	1.0
EVQCTB-W-15879	11/7/02	ND	ND	1.0
EVQCTB-W-15890	11/8/02	ND	ND	1.0
EVTB58-W-13182	11/9/02	ND	ND	1.0
EVTB60-W-13186	11/10/02	ND	ND	1.0
Trip blanks sent to Severn-Trent Laboratory with soil samples for verification organic analysis				
MeOH Blank	11/6/00	ND	ND	10.0
EV-MeOH Blank	3/20/01	ND	ND	10.0
EVS-MeOH	4/5/01	ND	ND	10.0
Trip blanks sent to Clayton Laboratory with water samples for verification organic analysis				
EV-TB-031501	3/15/01	ND	ND	5.0
EV-TB-032701	3/27/01	ND	ND	5.0
EV-TB-032901	3/29/01	ND	ND	5.0
EV-TB-W-12000	4/3/01	ND	ND	5.0
EV-TB-111102	11/11/02	ND	ND	5.0
Background samples				
EV-QCBG-S-12035	10/25/00	ND	ND	10.0
EVSW01-W-12838	3/27/01	ND	ND	1.0

[a] ND, not detected at the quantitation limit indicated.

[b] J, estimated concentration below the quantitation limit.

TABLE G.3 Comparison of carbon tetrachloride and chloroform concentrations for dual analyses of near-surface soil samples at AGEM Laboratory by the headspace method.

Location	Depth (ft BGL)	Sample	Type	Concentration (μg/kg) Carbon Tetrachloride	Chloroform
HC05	5.5-6.0	EV-HC05-S-11952	Sample	ND[a]	ND
		EV-HC05-S-11952DUP	Duplicate analysis	ND	ND
HC06	0.9-1.2	EV-HC06-S-11953	Sample	ND	ND
		EV-HC06-S-11953DUP	Duplicate analysis	ND	ND
HC06	5.5-6.0	EV-HC06-S-11954	Sample	ND	ND
		EV-HC06-S-11954DUP	Duplicate analysis	ND	ND
HC08	5.5-6.0	EV-HC08-S-11958	Sample	ND	ND
		EV-HC08-S-11958DUP	Duplicate analysis	0.71	ND
HC09	0.8-1.2	EV-HC09-S-11959	Sample	ND	ND
		EV-HC09-S-11959DUP	Duplicate analysis	ND	ND
HC18	0.9-1.2	EV-HC18-S-11977	Sample	0.11	ND
		EV-QCDU-S-11981	Replicate	ND	ND
HC18	5.5-6.0	EV-HC18-S-11978	Sample	ND	ND
		EV-QCDU-S-11982	Replicate	ND	ND
HC20	0.9-1.2	EV-HC20-S-11983	Sample	ND	ND
		EV-QCDU-S-11991	Replicate	ND	ND
HC20	5.5-6.0	EV-HC20-S-11984	Sample	ND	ND
		EV-QCDU-S-11992	Replicate	ND	ND
HC24	0.9-1.2	EV-HC24-S-11999	Sample	0.28	ND
		EV-HC24-S-11999DUP	Duplicate analysis	ND	ND
HC24	5.5-6.0	EV-HC24-S-12000	Sample	ND	ND
		EV-HC24-S-12000DUP	Duplicate analysis	ND	ND
HC26	5.5-6.0	EV-HC26-S-12004	Sample	ND	ND
		EV-HC26-S-12004DUP	Duplicate analysis	ND	ND
HC29	0.9-1.2	EV-HC29-S-12009	Sample	0.33	ND
		EV-HC29-S-12009DUP	Duplicate analysis	0.26	ND
HC29	5.5-6.0	EV-HC29-S-12010	Sample	ND	ND
		EV-QCDU-S-12012	Replicate	ND	ND
		EV-QCDU-S-12012DUP	Duplicate analysis	ND	ND

TABLE G.3 (Cont.)

Location	Depth (ft BGL)	Sample	Type	Concentration (µg/kg) Carbon Tetrachloride	Chloroform
HC36	0.9-1.2	EV-HC36-S-12025	Sample	0.25	ND
		EV-QCDU-S-12027	Replicate	ND	ND
HC36	5.5-6.0	EV-HC36-S-12026	Sample	1.36	ND
		EV-QCDU-S-12028	Replicate	1.15	ND
HC37	0.9-1.2	EV-HC37-S-12029	Sample	2.19	ND
		EV-QCDU-S-12031	Replicate	2.31	ND
HC37	5.5-6.0	EV-HC37-S-12030	Sample	0.14	ND
		EV-QCDU-S-12032	Replicate	0.17	ND

[a] ND, not detected at limit of 0.1 µg/kg for carbon tetrachloride and 0.75 µg/kg for chloroform.

TABLE G.4 Results of organic analyses on quality control samples collected to monitor soil analyses at the AGEM Laboratory by the purge-and-trap method.

	Recovery of Surrogate Compounds[a] (%)			Measured Values for Calibration Check Standards			
				Carbon Tetrachloride		Chloroform	
Sample	Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Concentration (µg/kg)	RPD[b]	Concentration (µg/kg)	RPD[b]
SDG 00-11-01, analysis date November 1, 2000							
20-µg/kg standard	94	116	112	22.73	12.8	22.87	13.4
Laboratory blank	100	100	100				
EV-HC10-S-11962	105	100	98				
EV-QCDU-S-12027	118	115	115				
EV-HC27-S-12005	118	115	115				
EV-HC26-S-12003	111	106	107				
EV-HC01-S-11943	109	101	103				
EV-HC01-S-11944	107	101	100				
EV-HC09-S-11960	106	103	101				
EV-HC22-S-11995	102	99	93				
EV-HC20-S-11984	98	104	90				
EV-HC15-S-11972	105	103	100				
EV-HC36-S-12025	103	105	97				
EV-HC36-S-12025DUP	104	109	100				
EV-HC38-S-12034	104	106	99				
EV-HC32-S-12018	102	100	95				
EV-HC34-S-12021	100	101	94				
SDG 00-11-02, analysis date November 2, 2000							
20-µg/kg standard	100	100	100	20.58	2.9	20.04	0.2
Laboratory blank	100	100	100				
EV-HC19-S-11979	108	105	108				
EV-HC20-S-11983	110	108	111				

TABLE G.4 (Cont.)

Sample	Recovery of Surrogate Compounds[a] (%)			Measured Values for Calibration Check Standards			
				Carbon Tetrachloride		Chloroform	
	Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Concentration (μg/kg)	RPD[b]	Concentration (μg/kg)	RPD[b]
SDG 00-11-02, analysis date November 2, 2000 (Cont.)							
EV-QCDU-S-11992	108	103	107				
EV-HC07-S-11955	106	104	108				
EV-102000-vial17	107	104	111				
EV-HC28-S-12008	108	104	111				
EV-HC21-S-11993	105	102	107				
EV-HC29-S-12009DUP	105	104	106				
EV-HC29-S-12009	103	93	99				
EV-HC37-S-12029	113	105	113				
EV-102000-vial14	103	93	102				
EV-HC32-S-12017	108	108	112				
EV-HC24-S-12000	105	107	110				
EV-HC30-S-12014	116	113	120				
EV-HC30-S-12014DUP	114	105	112				
SDG 00-11-03, analysis date November 3, 2000							
20-μg/kg standard	98	109	105	21.7	8.2	20.75	3.7
Laboratory blank	100	100	100				
EV-HC33-S-12019	101	95	100				
EV-QCDU-S-12028	97	95	96				
EV-HC35-S-12024	94	92	95				
EV-HC12-S-11965	98	93	99				
EV-HC29-S-12010	94	90	93				
EV-QCDU-S-11982	98	91	97				
EV-HC31-S-12015	94	90	94				
EV-HC14-S-11970	89	85	90				

TABLE G.4 (Cont.)

Sample	Recovery of Surrogate Compounds[a] (%)			Measured Values for Calibration Check Standards			
				Carbon Tetrachloride		Chloroform	
	Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Concentration (μg/kg)	RPD[b]	Concentration (μg/kg)	RPD[b]
SDG 00-11-03, analysis date November 3, 2000 (Cont.)							
EV-HC17-S-11976	78[c]	73[c]	75[c]	Reanalyzed in SDG 00-11-09 without error.			
EV-HC13-S-11968	91	87	93				
EV-QCDU-S-11981	89	85	88				
EV-HC14-S-11969	89	89	92				
EV-HC21-S-11994	92	92	93				
EV-HC36-S-12026	91	90	93				
EV-HC36-S-12026DUP	90	90	95				
SDG 00-11-04, analysis date November 4, 2000							
20-μg/kg standard	95	103	100	23.37	15.5	20.75	3.7
Laboratory blank	105	97	100				
EV-HC37-S-12030	98	95	95				
EV-HC17-S-11975	97	95	96				
EV-HC18-S-11977	94	95	95				
EV-HC16-S-11974	97	93	97				
EV-HC11-S-11964	96	98	100				
EV-HC03-S-11947	91	89	91				
EV-HC08-S-11957	93	92	93				
EV-QCDU-S-12031	87	84	86				
EV-HC19-S-11980	82	72[c]	75[c]	Reanalyzed in SDG 00-11-09 without error.			
EV-HC12-S-11966	89	90	90				
EV-HC38-S-12033	88	91	92				
EV-HC34-S-12022	88	88	90				
EV-HC16-S-11973	86	92	90				

TABLE G.4 (Cont.)

Sample	Recovery of Surrogate Compounds[a] (%): Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Measured Values for Calibration Check Standards: Carbon Tetrachloride Concentration (µg/kg)	RPD[b]	Chloroform Concentration (µg/kg)	RPD[b]
SDG 00-11-04, analysis date November 4, 2000 (Cont.)							
EV-QCDU-S-12032	89	88	89				
EV-QCDU-S-12032DUP	80	85	82				
SDG 00-11-07, analysis date November 7, 2000							
20-µg/kg standard	96	111	102	19.79	1.1	18.99	5.2
Laboratory blank	100	100	100				
EV-HC22-S-11996	102	107	100				
EV-HC25-S-12002	100	118	111				
EV-HC27-S-12006	102	108	104				
EV-HC30-S-12013	92	94	90				
EV-HC28-S-12007	99	104	98				
EV-HC33-S-12020	80	88	82				
EV-HC26-S-12004	97	101	96				
EV-HC24-S-11999	89	90	84				
EV-HC23-S-11998	90	84	82				
EV-HC10-S-11961	84	91	85				
EV-QCDU-S-12012	96	102	99				
EV-HC23-S-11997	66[c]	84	75[c]	Not reanalyzed.			
EV-HC07-S-11956	93	102	98				
EV-HC25-S-12001	91	103	97				
EV-HC25-S-12001DUP	80	86	81				

TABLE G.4 (Cont.)

Sample	Recovery of Surrogate Compounds[a] (%)			Measured Values for Calibration Check Standards			
				Carbon Tetrachloride		Chloroform	
	Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Concentration (µg/kg)	RPD[b]	Concentration (µg/kg)	RPD[b]
SDG 00-11-09, analysis date November 9, 2000							
20-µg/kg standard	108	117	116	21.45	7	20.36	1.8
Laboratory blank	100	100	100				
EV-HC15-S-11971	115	111	117				
EV-HC11-S-11963	113	110	113				
EV-HC35-S-12023	112	109	115				
EV-HC18-S-11978	95	98	99				
EV-HC13-S-11967	108	104	110				
EV-QCBG-S-12035	106	106	110				
EV-HC31-S-12016	106	104	110				
EV-HC04-S-11949	116	114	119				
EV-HC05-S-11951	95	85	91				
EV-HC02-S-11945	108	107	112				
EV-HC05-S-11952	109	109	113				
EV-HC09-S-11959	83	92	93				
EV-HC19-S-11980	98	103	105				
EV-HC17-S-11976	107	107	114				
EV-HC17-S-11976DUP	100	101	108				
SDG 00-11-14, analysis date November 14, 2000							
20-µg/kg standard	107	112	108	22.87	13.4	19.35	3.3
Laboratory blank	100	100	100				
EV-HC06-S-11953	116	112	114				
EV-HC03-S-11948	109	103	105				
EV-HC04-S-11950	110	100	106				

TABLE G.4 (Cont.)

Sample	Recovery of Surrogate Compounds[a] (%) Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Measured Values for Calibration Check Standards: Carbon Tetrachloride Concentration (μg/kg)	RPD[b]	Chloroform Concentration (μg/kg)	RPD[b]
SDG 00-11-14, analysis date November 14, 2000 (Cont.)							
EV-HC08-S-11958	88	87	90				
EV-HC02-S-11946	107	103	105				
EV-QCDU-S-11991	104	99	101				
EV-HC06-S-11954	105	100	101				
EV-TRIP102000-32	96	91	95				
SDG 01-03-16, analysis date March 16, 2001							
20-μg/kg standard	103	96	100	16.41	19.7	16.78	17.5
Laboratory blank	100	100	100				
EVSB24-S-12758	96	82	91				
EVSB24-S-12758DUP	83	85	93				
EVSB24-S-12092	91	92	100				
EVSB24-S-12088	90	89	98				
EVSB24-S-12087	81	84	92				
EVSB24-S-12085	84	85	94				
EVSB24-S-12082	85	87	96				
SDG 01-03-19, analysis date March 19, 2001							
20-μg/kg standard	100	97	97	23.07	14.3	22.1	10
Laboratory blank	100	100	100				
EVSB24-S-12095	95	88	88				
EVSB24-S-12083	98	110	105				
EVSB24-S-12089	100	103	102				

TABLE G.4 (Cont.)

Sample	Recovery of Surrogate Compounds[a] (%)			Measured Values for Calibration Check Standards			
				Carbon Tetrachloride		Chloroform	
	Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Concentration (µg/kg)	RPD[b]	Concentration (µg/kg)	RPD[b]
SDG 01-03-19, analysis date March 19, 2001 (Cont.)							
EVSB24-S-12086	105	109	108				
EVSB24-S-12090	102	108	106				
EVSB24-S-12100	105	108	105				
EVSB24-S-12098	90	101	97				
SDG 01-03-20, analysis date March 20, 2001							
20-µg/kg standard	100	100	100	21.52	7.3	21.06	5.2
Laboratory blank	100	100	100				
EVSB24-S-12097	98	103	102				
EVSB24-S-12761	86	80	83				
EVSB24-S-12102	101	108	104				
EVSB24-S-12093	100	109	105				
EVSB24-S-12091	103	110	107				
EVSB24-S-12084	102	112	109				
EVSB24-S-12094	100	105	101				
EVSB24-S-12101	101	109	107				
EVSB24-S-12096	86	103	101				
EVSB24-S-12099	100	116	116				
EVSB24-S-12099DUP	100	120	114				

TABLE G.4 (Cont.)

				Measured Values for Calibration Check Standards			
	Recovery of Surrogate Compounds[a] (%)			Carbon Tetrachloride		Chloroform	
Sample	Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Concentration (μg/kg)	RPD[b]	Concentration (μg/kg)	RPD[b]
SDG 01-03-22, analysis date March 22, 2001							
20-μg/kg standard	106	103	101	20.71	3.5	21.57	7.6
Laboratory blank	108	104	106				
EVSB23-S-12787	89	93	90				
EVSB23-S-12771	100	102	100				
EVSB23-S-12776	99	102	98				
EVSB23-S-12784	96	100	97				
EVSB23-S-12772	78[c]	85	81	Not reanalyzed.			
SDG 01-03-23, analysis date March 23, 2001							
20-μg/kg standard	95	92	95	18.98	5.2	21.25	6.1
Laboratory blank	113	110	111				
EVSB23-S-12775	101	87	96				
EVSB23-S-12783	104	91	100				
EVSB23-S-12773	101	87	96				
EVSB23-S-12777	108	93	101				
EVSB23-S-12791	94	86	93				
EVSB23-S-12790	83	82	84				
SDG 01-03-26, analysis date March 26, 2001							
20-μg/kg standard	97	110	102	19.81	0.9	21.66	7.9
Laboratory blank	100	100	100				
EVSB23-S-12774	50[c]	58[c]	55[c]	Reanalyzed in SDG 01-03-28 without error.			

TABLE G.4 (Cont.)

	Recovery of Surrogate Compounds[a] (%)			Measured Values for Calibration Check Standards			
				Carbon Tetrachloride		Chloroform	
Sample	Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Concentration (µg/kg)	RPD[b]	Concentration (µg/kg)	RPD[b]
SDG 01-03-26, analysis date March 26, 2001 (Cont.)							
EVSB23-S-12789	100	97	100				
EVSB23-S-12786	98	98	98				
EVSB23-S-12779	88	80	82				
EVSB23-S-12780	98	101	100				
EVSB23-S-12781	99	100	100				
EVSB23-S-12782	43[c]	53[c]	50[c]	Reanalyzed in SDG 01-03-28 without error.			
EVSB23-S-12770	100	102	104				
EVSB23-S-12778	94	93	92				
EVSB23-S-12778DUP	95	97	94				
SDG 01-03-27, analysis date March 27, 2001							
20-µg/kg standard	103	99	100	21.87	8.9	23.37	15.5
Laboratory blank	100	100	100				
EVSB23-S-12788	113	91	105				
EVSB23-S-12785	106	89	98				
EVSB23-S-12792	95	82	92				
SDG 01-03-28, analysis date March 28, 2001							
20-µg/kg standard	96	91	95	20.09	0.4	22.21	10.5
Laboratory blank	100	100	100				
EVSB23-S-12782	102	100	102				
EVSB23-S-12774	99	94	99				

TABLE G.4 (Cont.)

	Recovery of Surrogate Compounds[a] (%)			Measured Values for Calibration Check Standards			
				Carbon Tetrachloride		Chloroform	
Sample	Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Concentration (µg/kg)	RPD[b]	Concentration (µg/kg)	RPD[b]
SDG 01-04-01, analysis date April 1, 2001							
20-µg/kg standard	95	87	90	20.54	2.7	21.31	6.3
Laboratory blank	100	100	100				
EVSB34-S-12835	94	91	89				
EVSB34-S-12834	105	111	105				
EVSB34-S-12819	90	98	97				
EVSB34-S-12829	102	110	109				
EVSB34-S-12832	103	110	110				
EVSB34-S-12833	100	107	106				
EVSB34-S-12831	81	75[c]	81	Accepted.			
SDG 01-04-02, analysis date April 2, 2001							
20-µg/kg standard	101	94	99	19.72	1.4	21.21	5.9
Laboratory blank	100	100	100				
EVSB34-S-12827	95	94	93				
EVSB34-S-12821	99	115	108				
EVSB34-S-12823	99	109	105				
EVSB34-S-12825	99	110	105				
EVSB34-S-12830	95	107	100				
EVSB34-S-12850	94	106	101				
EVSB34-S-12820	98	110	106				

TABLE G.4 (Cont.)

Sample	Recovery of Surrogate Compounds[a] (%)			Measured Values for Calibration Check Standards			
				Carbon Tetrachloride		Chloroform	
	Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Concentration (μg/kg)	RPD[b]	Concentration (μg/kg)	RPD[b]
SDG 01-04-04, analysis date April 4, 2001							
20-μg/kg standard	88	101	102	18.35	8.5	17.81	11.6
Laboratory blank	100	100	100				
EVSB23-S-12782DUP	90	91	92				
EVSB23-S-12780DUP	87	87	89				
SDG 01-04-17, analysis date April 17, 2001							
20-μg/kg standard	87	87	92	21.73	8.3	22.08	9.9
Laboratory blank	100	100	100				
EVSB23-S-12781DUP	87	109	91				
EVSB23-S-12788DUP	103	111	107				
EVSB23-S-12785DUP	103	107	105				
EVSB34-S-12828	90	101	98				
EVSB34-S-12824	103	104	105				
EVSB34-S-12848	94	97	96				
EVSB34-S-12818	96	100	97				
SDG 01-04-18, analysis date April 18, 2001							
20-μg/kg standard	115	117	115	19.14	4.4	20.53	2.6
Laboratory blank	100	100	100				
EVSB34-S-12837	108	111	109				
EVSB34-S-12851	102	109	105				

TABLE G.4 (Cont.)

	Recovery of Surrogate Compounds[a] (%)			Measured Values for Calibration Check Standards			
				Carbon Tetrachloride		Chloroform	
Sample	Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Concentration (µg/kg)	RPD[b]	Concentration (µg/kg)	RPD[b]
SDG 01-04-18, analysis date April 18, 2001 (Cont.)							
EVSB34-S-12849	107	110	109				
EVSB34-S-12822	105	109	107				
SDG 01-04-23, analysis date April 23, 2001							
20-µg/kg standard	86	91	94	20.13	0.6	21.37	6.6
Laboratory blank	100	100	100				
EVSB34-S-12826	99	103	101				
EVSB34-S-12836	98	104	102				
EVSB23-S-12770DUP	97	100	98				

[a] Quality control limits for recovery of surrogate compounds: 80-120%.

[b] Quality control limits for RPD for calibration check standards: ±20%.

[c] Surrogate recovery outside the quality control limit.

TABLE G.5 Comparison of carbon tetrachloride and chloroform concentrations in duplicate analyses of subsurface soil samples at AGEM Laboratory by the purge-and-trap method.

		Concentration (μg/kg)			
		Carbon Tetrachloride		Chloroform	
Sample	Depth (ft BGL)	Sample Analysis	Duplicate Analysis	Sample Analysis	Duplicate Analysis
EVSB23-S-12770	1.0	ND[a]	ND	3.9 J[b]	2.8 J
EVSB23-S-12778	17.0	17	17	10	10
EVSB23-S-12780	21.0	19	12	5.9 J	4.7 J
EVSB23-S-12781	23.0	23	ND	11	2.4 J
EVSB23-S-12782	25.0	8.2 J	7.9 J	6.8 J	7.1 J
EVSB23-S-12785	31.0	3.4 J	2.9 J	2.8 J	2.7 J
EVSB23-S-12788	37.0	5.1 J	4.5 J	6.6 J	6.2 J
EVSB24-S-12099	35.0	ND	ND	ND	ND
EVSB24-S-12758	43.0	16	15	3.8 J	3.6 J

[a] ND, not detected.

[b] J, estimated concentration below the method quantitation limit of 10 μg/kg.

TABLE G.6 Recovery of system-monitoring compounds in verification organic analyses of soil samples at Severn-Trent Laboratory with the purge-and-trap GC-MS method.

Sample	Analysis Date	Sample Delivery Group	Recovery[a] (%) Toluene-d_8	1,2-Dichloro-ethane-d_4	Bromofluoro-benzene	1,2-Dichloro-benzene-d_4
LTPI LCS	11/15/00	80582	106	88	107	104
VBLKO3	11/15/00	80582	107	98	117	107
LTPJ LCS	11/16/00	80582	102	94	109	105
VBLKO7	11/16/00	80582	99	87	103	104
LTPI MeOH LCS	11/15/00	80582	118[b]	97	122[b]	111
MeOH Blank	11/15/00	80582	102	80	110	101
EV-HC26-S-12003	11/15/00	80582	113	93	124[b]	114
EV-HC34-S-12021	11/15/00	80582	102	87	110	100
EV-HC07-S-11955	11/15/00	80582	109	72[b]	116	106
EV-HC15-S-11972	11/15/00	80582	95	90	112	102
EV-HC30-S-12014	11/15/00	80582	111	96	127[b]	116
EV-HC12-S-11965	11/15/00	80582	90	81	106	96
EV-HC36-S-12026	11/15/00	80582	105	85	111	105
EV-HC38-S-12034	11/15/00	80582	102	82	112	106
EV-HC29-S-12009	11/15/00	80582	101	82	108	99
LTPJ MeOH LCS	11/16/00	80582	94	88	107	103
MeOH Blank 2	11/16/00	80582	84	85	106	104
EV-HC10-S-11962	11/16/00	80582	96	90	108	112
EV-HC10-S-11962MS	11/16/00	80582	97	93	107	105
EV-HC10-S-11962MSD	11/16/00	80582	97	97	105	104
MeOH CCALLCS	3/27/01	82178	95	90	91	96
MeOH Blank	3/27/01	82178	94	94	99	101
EVSB23-S-12784	3/27/01	82178	91	97	92	102
EVSB23-S-12784MS	3/27/01	82178	96	102	94	105
EVSB23-S-12784MSD	3/27/01	82178	92	103	88	96
EVSB23-S-12788	3/27/01	82178	92	94	99	103
EVSB23-S-12777	3/27/01	82178	100	98	102	107
EVSB24-S-12095	3/27/01	82178	98	98	105	108
EVSB24-S-12082	3/27/01	82178	93	93	97	100
EVSB24-S-12758	3/27/01	82178	99	95	104	105
EVSB24-S-12102	3/27/01	82178	98	96	101	108
EV-MeOH Blank	3/27/01	82178	93	92	102	104
MULF LCS	3/27/01	82178	95	95	101	109
MULF LCSD	3/27/01	82178	98	100	102	108
VBLKE4	3/27/01	82178	99	95	103	104
MeOH Blank	4/6/01	82381	88	86	94	100
MeOH CCALLCS	4/6/01	82381	101	104	100	103
EVSB34-S-12851	4/6/01	82381	87	89	89	97
EVSB34-S-12827	4/6/01	82381	97	94	98	104
EVSB34-S-12821	4/6/01	82381	92	93	96	102
EVS-MeOH	4/6/01	82381	95	91	95	102

TABLE G.6 (Cont.)

Sample	Analysis Date	Sample Delivery Group	Recovery[a] (%)			
			Toluene-d_8	1,2-Dichloro-ethane-d_4	Bromofluoro-benzene	1,2-Dichloro-benzene-d_4
MULF LCS	4/6/01	82381	92	90	93	98
MULF LCSD	4/6/01	82381	96	90	97	103
VBLKE4	4/6/01	82381	93	97	98	103

[a] Quality control limits for recovery are as follows:

Analyte	QC Limits (%)
Toluene-d_8	81-117
1,2-Dichloroethane-d_4	80-120
Bromofluorobenzene	74-121
1,2-Dichlorobenzene-d_4	80-120

[b] Recovery outside the quality control limit for this analyte.

TABLE G.7 Recovery and relative percent difference values for spike/spike duplicate organic analyses of soil samples at Severn-Trent Laboratory.

	Concentration (μg/kg)				Recovery (%)			Difference (%)	
Compound	Sample	Spike Added	Spike Analysis	Duplicate Analysis	Spike Analysis	Duplicate Analysis	QC Limit	RPD	QC Limit
Spike/spike duplicate analysis of EV-HC10-S-11962 in SDG 80582									
Chloroform	0	59	54	54	92	92	74-106	0	40
Carbon tetrachloride	0	59	57	59	97	100	62-106	3	40
Spike/spike duplicate analysis of EVSB24-S-12784 in SDG 82178									
Chloroform	2.6	72	67	70	89	94	74-106	5	40
Carbon tetrachloride	2	72	65	68	88	92	62-106	4	40
Spike/spike duplicate analysis of laboratory quality control sample MULF LCS in SDG 82381									
Chloroform	0	10	9.3	9.6	93	96	74-106	3	40
Carbon tetrachloride	0	10	9.3	9.4	93	94	62-106	1	40

TABLE G.8 Results of organic analyses on soil samples analyzed both at the AGEM Laboratory and at Severn-Trent Laboratory.

			Concentration (μg/kg)			
			Carbon Tetrachloride		Chloroform	
Location	Sample	Depth (ft BGL)	AGEM	STL	AGEM	STL
Near-surface soil samples collected in October 2000						
HC07	EV-HC07-S-11955	0.8 -1.2	ND[a]	ND	ND	ND
HC10	EV-HC10-S-11962	5.5 -6.0	ND	ND	ND	ND
HC12	EV-HC12-S-11965	0.9 -1.2	ND	ND	ND	11
HC15	EV-HC15-S-11972	5.5 -6.0	ND	ND	ND	ND
HC26	EV-HC26-S-12003	0.9 -1.2	ND	ND	ND	ND
HC29	EV-HC29-S-12009	0.9 -1.2	ND	ND	ND	12
HC30	EV-HC30-S-12014	5.5 -6.0	ND	ND	ND	ND
HC34	EV-HC34-S-12021	0.9 -1.2	ND	ND	ND	ND
HC36	EV-HC36-S-12026	5.5 -6.0	ND	ND	ND	4.8 J[b]
HC38	EV-HC38-S-12034	5.5 -6.0	ND	ND	ND	ND
Subsurface soil samples collected in March 2001						
SB23	EVSB23-S-12777	15.0	12	10	5.4 J	6.6 J
SB23	EVSB23-S-12784	29.0	ND	2 J	2.1 J	2.6 J
SB23	EVSB23-S-12788	37.0	5.1 J	2.8 J	6.6 J	6.4 J
SB24	EVSB24-S-12082	1.0	ND	ND	ND	1.7 J
SB24	EVSB24-S-12095	27.0	ND	ND	ND	1.9 J
SB24	EVSB24-S-12102	41.0	ND	ND	ND	ND
SB24	EVSB24-S-12758	43.0	16	9.3 J	3.8 J	3 J
SB34	EVSB34-S-12821	7.0	ND	ND	2.9 J	2.5 J
SB34	EVSB34-S-12827	19.0	ND	ND	ND	ND
SB34	EVSB34-S-12851	47.0	15	9 J	3.5 J	3 J

[a] ND, contaminant not detected.

[b] Qualifier J indicates an estimated concentration below the method quantitation limit of 10 μg/kg.

TABLE G.9 Results of organic analyses on quality control samples collected to monitor water analyses at the AGEM Laboratory by the purge-and-trap method.

	Recovery of Surrogate Compounds[a] (%)			Measured Values for Calibration Check Standards			
				Carbon Tetrachloride		Chloroform	
Sample	Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Concentration (µg/L)	RPD[b]	Concentration (µg/L)	RPD[b]
SDG 01-03-08, analysis date March 8, 2001							
20-µg/L standard	95	88	93	18.92	5.5	20.53	2.6
Laboratory blank	100	100	100				
EVSB20-W-12063	111	108	109				
EVSB22-W-11985	100	97	97				
EVSB22-W-11986	98	93	94				
EVBR01-W-11987	94	87	90				
EVRR01-W-11988	95	90	92				
EVTB01-W-12066	90	83	85				
SDG 01-03-09, analysis date March 9, 2001							
20-µg/L standard	94	87	91	18.09	10	18.12	9.9
Laboratory blank	100	100	100				
EVSB20-W-12064	115	118	118				
EVSB20-W-12065	83	97	94				
EVSB20-W-12067	112	112	111				
EVSB20-W-12068	97	100	100				
EVSB20-W-12068DUP	109	105	108				
EVSB20-W-12069	109	110	111				
EVSB20-W-12070	105	111	111				
EVSB20-W-12071	97	98	97				
EVSB20-W-12063DUP	101	91	95				
EVTB-W-12036	104	107	107				

TABLE G.9 (Cont.)

Sample	Recovery of Surrogate Compounds[a] (%)			Measured Values for Calibration Check Standards			
				Carbon Tetrachloride		Chloroform	
	Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Concentration (µg/L)	RPD[b]	Concentration (µg/L)	RPD[b]
SDG 01-03-12, analysis date March 12, 2001							
20-µg/L standard	94	89	96	22.31	10.9	21.92	9.2
Laboratory blank	100	100	100				
EVSB21-W-12072	98	103	105				
EVTB02-W-12073	100	100	100				
EVSB21-W-12074	90	96	96				
EVRR02-W-12075	93	96	95				
SDG 01-03-14, analysis date March 14, 2001							
20-µg/L standard	96	90	87	20.25	1.2	20.25	1.2
Laboratory blank	100	100	100				
EVSB25-W-12077	115	116	106				
EVSB25-W-12078	99	97	98				
EVSB25-W-12079	112	109	110				
EVSB25-W-12080	101	99	103				
EVSB25-W-12081	101	98	99				
EV-TB-92000#17	100	100	100				
SDG 01-03-15, analysis date March 15, 2001							
20-µg/L standard	88	82	86	17.56	13	17.72	12.1
Laboratory blank	100	100	100				
EVSB24-W-12762	109	106	109				
EVSB24-W-12763DUP	101	97	99				
EVSB24-W-12764DUP	105	101	100				

TABLE G.9 (Cont.)

Sample	Recovery of Surrogate Compounds[a] (%)			Measured Values for Calibration Check Standards			
				Carbon Tetrachloride		Chloroform	
	Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Concentration (μg/L)	RPD[b]	Concentration (μg/L)	RPD[b]
SDG 01-03-15, analysis date March 15, 2001 (Cont.)							
EVSB24-W-12765	89	85	85				
EVSB24-W-12766	100	100	100				
SDG 01-03-16, analysis date March 16, 2001							
20-μg/L standard	103	96	100	16.41	19.7	16.78	17.5
Laboratory blank	100	100	100				
EVSB24-W-12768DUP	105	105	108				
EVSB24-W-12767DUP	94	96	98				
EVSB24-W-12769DUP	86	89	88				
EVSB24-W-12768	90	91	98				
EVSB24-W-12767	80	81	81				
EVSB24-W-12769	89	91	92				
SDG 01-03-19, analysis date March 19, 2001							
20-μg/L standard	100	97	97	23.07	14.3	22.1	10
Laboratory blank	100	100	100				
EVSB24-W-12763DUP2	100	97	97				
SDG 01-03-20, analysis date March 20, 2001							
20-μg/L standard	100	100	100	21.52	7.3	21.06	5.2
Laboratory blank	100	100	100				
EVSB23-W-12795	103	105	106				
EVSB23-W-12795DUP	98	101	100				

TABLE G.9 (Cont.)

Sample	Recovery of Surrogate Compounds[a] (%): Fluorobenzene	Recovery of Surrogate Compounds[a] (%): 1,2-Dichloro-benzene-d_4	Recovery of Surrogate Compounds[a] (%): 4-Bromo-fluorobenzene	Measured Values for Calibration Check Standards: Carbon Tetrachloride Concentration (µg/L)	Carbon Tetrachloride RPD[b]	Chloroform Concentration (µg/L)	Chloroform RPD[b]
SDG 01-03-20, analysis date March 20, 2001 (Cont.)							
EVSB23-W-12796	97	102	100				
EVSB23-W-12799	88	93	92	Carbon tetrachloride outside calibration range. Reanalyzed in SDG 01-03-22.			
EVSB23-W-12798	91	94	93				
EVSB23-W-12799DUP	90	105	106				
EVSB23-W-12797	79[c]	84	80	Reanalyzed in SDG 01-03-22 without error.			
SDG 01-03-22, analysis date March 22, 2001							
20-µg/L standard	106	103	101	20.71	3.5	21.57	7.6
Laboratory blank	108	104	106				
EVSB30-W-12804	107	112	111				
EVSB30-W-12803	102	108	106				
EVSB26-W-12801	100	103	95				
EVSB26-W-12802	69[c]	75[c]	67[c]	Reanalyzed in SDG 01-03-26 without error.			
EVSB30-W-12806	97	99	100				
EVSB23-W-12800	86	87	88				
EVSB30-W-12805	82	85	85				
EVSB23-W-12799	100	102	102				
EVSB23-W-12797	92	96	94				
EVSB24-W-12763	100	100	98				
EVSB24-W-12764	104	105	104				

TABLE G.9 (Cont.)

Sample	Recovery of Surrogate Compounds[a] (%)			Measured Values for Calibration Check Standards			
				Carbon Tetrachloride		Chloroform	
	Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Concentration (μg/L)	RPD[b]	Concentration (μg/L)	RPD[b]
SDG 01-03-23, analysis date March 23, 2001							
20-μg/L standard	95	92	95	18.98	5.2	21.25	6.1
Laboratory blank	113	110	111				
EVSB30-W-12807	89	76[c]	84	Not reanalyzed.			
EVSB30-W-12808	96	99	99				
EVSB30-W-12809	95	94	95				
EVSB30-W-12810	81	82	82				
EVSB30-W-12811	99	104	104				
EVSB28-W-12812	94	95	96				
EVSB28-W-12813	99	101	102				
EVSB28-W-12814	98	98	99				
SDG 01-03-26, analysis date March 26, 2001							
20-μg/L standard	97	110	102	19.81	0.9	21.66	7.9
Laboratory blank	100	100	100				
EVSB26-W-12802	104	113	105				
EVSB28-W-12816	100	113	104				
EVSB28-W-12817	91	108	99				
SDG 01-03-27, analysis date March 27, 2001							
20-μg/L standard	103	99	100	21.87	8.9	23.37	15.5
Laboratory blank	100	100	100				
EVSB31-W-11990	99	96	99				
EVSB31-W-12040	112	115	114				

TABLE G.9 (Cont.)

	Recovery of Surrogate Compounds[a] (%)			Measured Values for Calibration Check Standards			
				Carbon Tetrachloride		Chloroform	
Sample	Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Concentration (μg/L)	RPD[b]	Concentration (μg/L)	RPD[b]
SDG 01-03-27, analysis date March 27, 2001 (Cont.)							
EVSB31-W-12041	103	102	105				
EVSB31-W-11989	75[c]	75[c]	74[c]	Not reanalyzed.			
EVSB31-W-12038	89	92	92				
EVSB31-W-12038DUP	97	92	94				
EVSB31-W-12037	87	83	84				
SDG 01-03-28, analysis date March 28, 2001							
20-μg/L standard	96	91	95	20.09	0.4	22.21	10.5
Laboratory blank	100	100	100				
EVSB29-W-12044	96	107	104				
EVSB31-W-12039	100	102	104				
EVSB29-W-12043DUP	93	100	97				
EVSB29-W-12043	94	102	98				
EVSB32-W-12868	90	93	93				
EVSB32-W-12870	107	117	114				
EVSB29-W-12042DUP	107	113	110				
EVSB29-W-12042	98	100	96				
SDG 01-03-29, analysis date March 29, 2001							
20-μg/L standard	115	108	115	19.56	2.2	21.95	9.3
Laboratory blank	100	100	100				
EVSW07-W-12844	99	100	103				
EVSW01-W-12838	97	103	102				
EVSB29-W-12045	86	87	90				

TABLE G.9 (Cont.)

Sample	Recovery of Surrogate Compounds[a] (%)			Measured Values for Calibration Check Standards			
				Carbon Tetrachloride		Chloroform	
	Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Concentration (μg/L)	RPD[b]	Concentration (μg/L)	RPD[b]
SDG 01-03-29, analysis date March 29, 2001 (Cont.)							
EVSW06-W-12843	95	97	97				
EVSW03-W-12840	92	97	98				
EVSW04-W-12841	91	91	93				
EVQCDU-W-12845	92	94	95				
EVSW02-W-12839	74[c]	69[c]	70[c]	Reanalyzed in SDG 01-04-03 without error.			
EVQCTB-W-12846	87	88	89				
EVSW05-W-12842	87	90	91				
EVSB32-W-12873	90	91	91				
EVSB34-W-12855	86	89	89				
EVSB34-W-12854	81	86	84				
EVSB34-W-12857	85	86	86				
EVSB34-W-12858	91	95	95				
EVSB32-W-12869	91	94	94				
EVSB32-W-12871	83	87	87				
EVSB34-W-12860	89	86	88				
EVSB34-W-12856	87	85	84				
EVSB34-W-12859	85	84	85				
SDG 01-03-30, analysis date March 30, 2001							
20-μg/L standard	100	95	103	19.72	1.4	21.52	7.3
Laboratory blank	108	106	107				
EVSB33-W-12882	80	87	88				
EVSB33-W-12883	93	91	94				
EVSB33-W-12880DUP	104	105	109				
EVSB33-W-12881	96	93	99				
EVSB33-W-12880	102	103	104				

TABLE G.9 (Cont.)

	Recovery of Surrogate Compounds[a] (%)			Measured Values for Calibration Check Standards			
				Carbon Tetrachloride		Chloroform	
Sample	Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Concentration (µg/L)	RPD[b]	Concentration (µg/L)	RPD[b]
SDG 01-03-30, analysis date March 30, 2001 (Cont.)							
EVSB36-W-12884	96	94	95				
EVSB36-W-12885	94	94	94				
EVSB36-W-12886	90	88	90				
SDG 01-04-01, analysis date April 1, 2001							
20-µg/L standard	95	87	90	20.54	2.7	21.31	6.3
Laboratory blank	100	100	100				
EVSB38-W-12888	91	88	81				
EVSB35-W-12874	103	104	105				
EVSB38-W-12889	97	98	101				
EVSB35-W-12875	83	87	86				
EVSB35-W-12876	97	94	97				
EVSB38-W-12890	93	93	93				
EVSB38-W-12891	94	94	94				
SDG 01-04-02, analysis date April 2, 2001							
20-µg/L standard	101	94	99	19.72	1.4	21.21	5.9
Laboratory blank	100	100	100				
EVSB38-W-12893	88	83	80				
EVSB39-W-12897 DF1[d]	100	93	94				
EVSB38-W-12892	100	104	101				
EVSB38-W-12895	98	97	98				
EVSB38-W-12894	93	94	93				

TABLE G.9 (Cont.)

Sample		Recovery of Surrogate Compounds[a] (%) Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Measured Values for Calibration Check Standards: Carbon Tetrachloride Concentration (μg/L)	RPD[b]	Chloroform Concentration (μg/L)	RPD[b]
SDG 01-04-02, analysis date April 2, 2001 (Cont.)								
EVSB38-W-12893DUP		89	91	89				
EVSB39-W-12897	DF10	88	84	81				
SDG 01-04-03, analysis date April 3, 2001								
20-μg/L standard		116	105	112	20.78	3.8	22.78	13
Laboratory blank		101	104	104				
EVSB41-W-12898	DF1	108	108	111	Carbon tetrachloride outside calibration range; chloroform result reported.			
EVSB40-W-12056	DF1	110	108	110	Carbon tetrachloride outside calibration range; chloroform result reported.			
EVSB40-W-12053	DF1	98	98	100	Carbon tetrachloride outside calibration range; chloroform result reported.			
EVSB40-W-12054	DF1	105	104	105	Carbon tetrachloride outside calibration range; chloroform result reported.			
EVSB40-W-12057	DF1	105	105	106	Carbon tetrachloride outside calibration range; chloroform result reported.			
EVSB41-W-12900	DF1	91	95	94	Carbon tetrachloride outside calibration range; chloroform result reported.			
EVSB33-W-12881DUP	DF10	85	85	85				
EVSB33-W-12882DUP		96	91	94				
EVSB40-W-12055		96	94	94				
EVSB40-W-12058		99	96	96				
EVSB41-W-12899		93	92	93				
EVSW02-W-12839		91	88	88				
EVSB40-W-12059		89	83	82				
EVSB41-W-12898	DF10	88	86	85				

TABLE G.9 (Cont.)

Sample		Recovery of Surrogate Compounds[a] (%)			Measured Values for Calibration Check Standards			
					Carbon Tetrachloride		Chloroform	
		Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Concentration (μg/L)	RPD[b]	Concentration (μg/L)	RPD[b]
SDG 01-04-03, analysis date April 3, 2001 (Cont.)								
EVSB41-W-12900	DF10	95	93	93				
EVSB40-W-12053	DF5	90	88	89				
EVSB40-W-12054	DF5	88	86	86				
EVSB40-W-12056	DF5	92	89	89				
EVSB40-W-12057	DF5	94	92	91				
SDG 01-04-04, analysis date April 4, 2001								
20-μg/L standard		88	101	102	18.35	8.5	17.81	11.6
Laboratory blank		100	100	100				
EVSB42-W-12901	DF1	96	89	92				
EVSB42-W-12903	DF1	107	107	105				
EVSB42-W-12905		106	108	107				
EVSB43-W-12060		102	101	100				
EVSB43-W-12049		82	85	83				
EVSB43-W-12052		92	95	94				
EVSB43-W-12048		76[c]	82	78[c]	Reanalyzed in SDG 01-04-05 without error.			
EVSB43-W-12051		94	97	96				
EVSB37-W-12907		97	96	94				
EVSB43-W-12061		81	72[c]	72[c]	Reanalyzed in SDG 01-04-05 without error.			
EVSB42-W-12902		95	98	93				
EVSB42-W-12902DUP		95	97	96				
EVSB43-W-12050		86	89	87				
EVSB42-W-12904		103	102	102				
EVSB43-W-12062		99	93	92				
EVSB42-W-12906		103	103	102				

TABLE G.9 (Cont.)

Sample		Recovery of Surrogate Compounds[a] (%)			Measured Values for Calibration Check Standards			
					Carbon Tetrachloride		Chloroform	
		Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Concentration (µg/L)	RPD[b]	Concentration (µg/L)	RPD[b]
SDG 01-04-04, analysis date April 4, 2001 (Cont.)								
EVSB42-W-12901DUP	DF5	98	96	94				
EVSB42-W-12903	DF5	108	107	108				
SDG 01-04-05, analysis date April 5, 2001								
20-µg/L standard		88	81	87	21.72	8.2	21.45	7
Laboratory blank		101	101	100				
EVSB46-W-12862		100	90	96				
EVSB46-W-12864		99	101	102				
EVSB46-W-12918		105	108	108				
EVSB46-W-12863		102	100	103				
EVSB44-W-12915		98	101	101				
EVSB46-W-12919		94	94	93				
EVSB37-W-12908		89	88	89				
EVSB37-W-12909		85	85	85				
EVSB37-W-12910		101	101	105				
EVSB44-W-12911		97	85	89				
EVSB46-W-12865		83	80	79[c]	Reanalyzed in SDG 01-04-09 without error.			
EVSB44-W-12914		91	90	94				
EVSB43-W-12061		96	98	98				
EVSB43-W-12048		97	96	98				
EVSB40-W-12053DUP		98	94	95				
EVSB40-W-12054DUP		97	96	96				
EVSB37-W-12912		84	85	83				
EVSB46-W-12920		84	85	83				
EVSB46-W-12867		101	103	105				
EVSB44-W-12938		101	101	101				

TABLE G.9 (Cont.)

	Recovery of Surrogate Compounds[a] (%)			Measured Values for Calibration Check Standards			
				Carbon Tetrachloride		Chloroform	
Sample	Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Concentration (μg/L)	RPD[b]	Concentration (μg/L)	RPD[b]
SDG 01-04-05, analysis date April 5, 2001 (Cont.)							
EVSB37-W-12913	95	85	88				
EVSB46-W-12866	100	103	102				
SDG 01-04-06, analysis date April 6, 2001							
20-μg/L standard	100	100	100	19.56	2.2	18.94	5.4
Laboratory blank	100	100	100				
EVSB47-W-12921	106	108	107				
EVSB47-W-12924	72[c]	86	81	Reanalyzed in SDG 01-04-09 without error)			
EVSB47-W-12928	99	103	100				
EVSB45-W-12930	100	103	105				
EVSB45-W-12932	100	105	104				
EVSB44-W-12939	102	106	107				
EVSB48-W-12941	101	103	102	Outside calibration range for carbon tetrachloride; reanalyzed in SDG 01-04-09.			
EVSB47-W-12925	84	79[c]	78[c]	Reanalyzed in SDG 01-04-09.			
EVSB47-W-12925DUP	82	83	80				
EVSB47-W-12927	95	100	100				
EVSB47-W-12929	98	100	98				
EVSB45-W-12931	57[c]	67[c]	62[c]	Reanalyzed in SDG 01-04-09 without error.			
EVSB45-W-12933	89	91	91				
EVSB44-W-12940	91	88	86				
EVSB47-W-12923	85	86	83				
EVSB47-W-12926	77[c]	93	92	Not reanalyzed.			
EVSB47-W-12922	91	89	90				

TABLE G.9 (Cont.)

Sample	Recovery of Surrogate Compounds[a] (%) Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Measured Values for Calibration Check Standards: Carbon Tetrachloride Concentration (μg/L)	Carbon Tetrachloride RPD[b]	Chloroform Concentration (μg/L)	Chloroform RPD[b]
SDG 01-04-09, analysis date April 9, 2001							
20-μg/L standard	108	102	107	17.37	14.1	17.42	13.8
Laboratory blank	100	100	100				
EVSB48-W-12941	103	100	101				
EVSB48-W-12941DUP	106	106	101				
EVSB47-W-12924	99	98	99				
EVSB47-W-12925	79[c]	82	82	Accepted. Consistent with replicate EVSB47-W-12924 in this SDG.			
EVSB45-W-12931	86	86	87				
EVSB46-W-12865	96	101	101				
EVSB44-W-12914DUP	90	95	93				
SDG 02-11-05, analysis date November 5, 2002							
20-μg/L standard	107	192[c]	202[c]	19.02	5	19.31	3.5
Laboratory blank	100	100	100				
EVSB49-W-15855	106	138[c]	135[c]	Reanalyzed in SDG 02-11-07 without error.			
EVSB50-W-13163	97	115	114				
EVSB50-W-13163DUP	102	114	112				
EVSB52-W-13164	108	118	117				
EVSB52-W-13165	105	112	111				
EVSB53-W-15868	111	112	111				
EVQCDU-W-15870	107	106	108				
EVQCRI-W-15856	97	90	91				
EVQCRI-W-15869	103	98	98				
EVQCTB-W-15857	88	88	84				
EVSB50-W-13162	99	92	92				

TABLE G.9 (Cont.)

	Recovery of Surrogate Compounds[a] (%)			Measured Values for Calibration Check Standards			
				Carbon Tetrachloride		Chloroform	
Sample	Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Concentration (µg/L)	RPD[b]	Concentration (µg/L)	RPD[b]
SDG 02-11-06, analysis date November 6, 2002							
20-µg/L standard	105	96	107	20.24	1.2	19.98	0.1
Laboratory blank	97	92	90				
EVSB50-W-13158	95	96	107				
EVSB50-W-13159	102	92	90				
EVSB50-W-13160	102	95	98				
EVSB49-W-15854	103	108	109				
EVTB01-W-13161	90	105	106				
EVSW12-W-15852	92	99	100				
EVQCDU-W-15853	80	91	89				
EVSW09-W-15849	100	96	93				
EVSW09-W-15849DUP	93	80	76[c]	Accepted. Replicate consistent with initial sample.			
EVSW08-W-15848	99	93	93				
EVSW10-W-15850	100	95	96				
EVSW11-W-15851	92	92	90				
SDG 02-11-07, analysis date November 7, 2002							
20-µg/L standard	117	111	131[c]	21.71	8.2	20.52	2.6
Laboratory blank	107	102	108				
EVSB51-W-13166	120	105	121[c]	Accepted. Duplicate analysis in this SDG without error.			
EVSB51-W-13166DUP	111	112	119				
EVSB54-W-15871	115	120	125[c]	Reanalyzed in SDG 02-11-12 without error.			
EVSB54-W-15874	111	117	120				
EVSB54-W-15874DUP	107	108	110				
EVQCDU-W-15875	114	111	115				

TABLE G.9 (Cont.)

Sample	Recovery of Surrogate Compounds[a] (%)			Measured Values for Calibration Check Standards			
				Carbon Tetrachloride		Chloroform	
	Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Concentration (μg/L)	RPD[b]	Concentration (μg/L)	RPD[b]
SDG 02-11-07, analysis date November 7, 2002 (Cont.)							
EVQCFB-W-15873	106	102	106				
EVQCRI-W-15877	107	104	106				
EVQCRI-W-15872	107	107	107				
EVQCTB-W-15876	105	103	105				
EVSB49-W-15855	98	104	104				
SDG 02-11-08, analysis date November 8, 2002							
20-μg/L standard	100	96	104	20.9	4.4	19.65	1.8
Laboratory blank	100	100	100				
EVSB51-W-13167	96	105	108				
EVSB51-W-13168	100	101	103				
EVSB50-W-13169	96	103	100				
EVSB56-W-15881	101	108	109				
EVSB56-W-15881DUP	100	106	105				
EVQCRI-W-15883	98	98	98				
EVQCTB-W-15879	93	98	98				
EVSB50-W-13169DUP	96	101	99				
SDG 02-11-09, analysis date November 9, 2002							
20-μg/L standard	103	102	114	19.35	3.3	18.88	6.2
Laboratory blank	100	100	100				
EVSB49-W-15854	110	100	109				
EVSB52-W-13173	114	118	103				

TABLE G.9 (Cont.)

Sample	Recovery of Surrogate Compounds[a] (%) Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Carbon Tetrachloride Concentration (µg/L)	Carbon Tetrachloride RPD[b]	Chloroform Concentration (µg/L)	Chloroform RPD[b]
SDG 02-11-09, analysis date November 9, 2002 (Cont.)							
EVSB49-W-13170	107	118	115				
EVSB49-W-13171	108	119	119				
EVSB49-W-13171DUP	101	111	110				
EVQCRI-W-15885	104	107	105				
EVSB49-W-13172	104	105	106				
EVSB52-W-13174	101	102	99				
EVQCTB-W-15890	100	97	97				
SDG 02-11-10, analysis date November 10, 2002							
20-µg/L standard	76[c]	80	81	21.26	6.1	19.7	1.5
Laboratory blank	100	103	98				
EVSB57-W-13175	92	98	99				
EVSB57-W-13177	102	115	110				
EVSB58-W-13180	92	111	107				
EVSB57-W-15891	89	98	96				
EVSB58-W-13181	100	115	109				
EVSB58-W-13181DUP	99	108	107				
EVSB57-W-13176	95	106	102				
EVTB58-W-13182	99	97	97				
EVSB57-W-13178	81	84	81				

TABLE G.9 (Cont.)

	Recovery of Surrogate Compounds[a] (%)			Measured Values for Calibration Check Standards			
				Carbon Tetrachloride		Chloroform	
Sample	Fluorobenzene	1,2-Dichloro-benzene-d_4	4-Bromo-fluorobenzene	Concentration (µg/L)	RPD[b]	Concentration (µg/L)	RPD[b]
SDG 02-11-12, analysis date November 12, 2002							
20-µg/L standard	105	103	117	22.28	10.8	20.29	1.4
Laboratory blank	96	96	91				
EVSB61-W-13187	103	93	102				
EVSB61-W-13188	108	122[c]	121[c]	Reanalyzed in SDG 02-11-14 without error.			
EVSB58-W-13191	110	121[c]	121[c]	Reanalyzed in SDG 02-11-13 without error.			
EVSB61-W-13189	103	114	111				
EVSB61-W-13189DUP	107	120	116				
EVSB58-W-13183	112	128[c]	126[c]	Reanalyzed in SDG 02-11-13 without error.			
EVSB58-W-13184	108	124[c]	120	Reanalyzed in SDG 02-11-14 without error.			
EVSB61-W-13190	107	111	109				
EVSB58-W-13185	107	105	104				
EVQCFB-W-15892	100	103	101				
EVTB60-W-13186	93	97	95				
EVSB54-W-15871	103	108	108				
SDG 02-11-13, analysis date November 13, 2002							
20-µg/L standard	101	95	106	22.53	11.9	21.51	7.3
Laboratory blank	100	100	100				
EVSB58-W-13183	109	108	112				
EVSB58-W-13184	118	119	123[c]	Reanalyzed in SDG 02-11-14 without error.			
EVSB61-W-13188	113	121[c]	120[c]	Reanalyzed in SDG 02-11-14 without error.			
EVSB58-W-13191	106	108	112				
EVSB58-W-13191DUP	105	108	108				

TABLE G.9 (Cont.)

Sample	Recovery of Surrogate Compounds[a] (%): Fluorobenzene	Recovery of Surrogate Compounds[a] (%): 1,2-Dichloro-benzene-d_4	Recovery of Surrogate Compounds[a] (%): 4-Bromo-fluorobenzene	Measured Values for Calibration Check Standards: Carbon Tetrachloride Concentration (µg/L)	Carbon Tetrachloride RPD[b]	Chloroform Concentration (µg/L)	Chloroform RPD[b]
SDG 02-11-14, analysis date November 14, 2002							
20-µg/L standard	103	90	98	21.96	9.3	21.36	6.6
Laboratory blank	110	108	108				
EVSB58-W-13184	108	104	106				
EVSB61-W-13188	109	119	114				

[a] Quality control limits for recovery of surrogate compounds: 80-120%.

[b] Quality control limits for RPD for calibration check standards: ±20%.

[c] Surrogate recovery outside the quality control limit.

[d] Analyzed at dilution factor (DF) indicated.

TABLE G.10 Results of dual analyses for carbon tetrachloride and chloroform on water samples at the AGEM Laboratory by the purge-and-trap GC-MS method.

			Concentration (μg/L)	
Location	Depth (ft BGL)	Sample	Carbon Tetrachloride	Chloroform
Groundwater samples				
SB20	56.0-58.0	EVSB20-W-12063	15	1.4
		EVSB20-W-12063DUP	11	1.1
SB20	58.0-60.5	EVSB20-W-12064	9.9	1.1
		EVSB20-W-12065	13	1.5
SB20	61.5-65.0	EVSB20-W-12068	8.9	1.4
		EVSB20-W-12068DUP	7.7	1.3
		EVSB20-W-12069	7.8	1.3
SB22	59.0-62.0	EVSB22-W-11985	ND[a]	ND
		EVSB22-W-11986	ND	ND
SB23	44.0-48.0	EVSB23-W-12799	41	8.5
		EVSB23-W-12799DUP	38	7.9
SB23	48.5-52.9	EVSB23-W-12795	1.4	ND
		EVSB23-W-12795DUP	1.4	ND
		EVSB23-W-12796	1.6	ND
SB24	44.0-48.5	EVSB24-W-12763	101	10
		EVSB24-W-12763DUP	75	7.1
		EVSB24-W-12763DUP2	81	9.0
		EVSB24-W-12764	76	7.8
		EVSB24-W-12764DUP	70	6.7
SB24	48.0-53.0	EVSB24-W-12767	117	11
		EVSB24-W-12767DUP	100	9.9
		EVSB24-W-12768	145	13
		EVSB24-W-12768DUP	125	11
SB25	46..0-51.0	EVSB25-W-12077	ND	ND
		EVSB25-W-12078	ND	ND
SB26	58.0-63.0	EVSB26-W-12801	ND	ND
		EVSB26-W-12802	ND	ND
SB28	56.0-61.0	EVSB28-W-12812	5.4	ND
		EVSB28-W-12813	5.1	ND

TABLE G.10 (Cont.)

Location	Depth (ft BGL)	Sample	Concentration (µg/L) Carbon Tetrachloride	Chloroform
Groundwater samples (Cont.)				
SB29	53.5-56.5	EVSB29-W-12042	311	17
		EVSB29-W-12042DUP	303	17
		EVSB29-W-12043	283	17
		EVSB29-W-12043DUP	264	16
SB30	59.5-61.0	EVSB30-W-12807	ND	ND
		EVSB30-W-12811	ND	ND
SB30	62.0-64.5	EVSB30-W-12803	ND	ND
		EVSB30-W-12804	ND	ND
SB30	66.0-68.5	EVSB30-W-12808	ND	ND
		EVSB30-W-12809	ND	ND
SB31	57.0-61.0	EVSB31-W-11989	ND	ND
		EVSB31-W-11990	ND	ND
SB31	62.0-67.0	EVSB31-W-12039	ND	ND
		EVSB31-W-12040	ND	ND
SB32	32.8-37.8	EVSB32-W-12868	ND	ND
		EVSB32-W-12869	ND	ND
SB32	37.8-42.8	EVSB32-W-12870	ND	ND
		EVSB32-W-12873	ND	ND
SB33	64.0-68.0	EVSB33-W-12880	396	17
		EVSB33-W-12881	919	36
		EVSB33-W-12881DUP	521	23
SB34	46.0-49.0	EVSB34-W-12857	2.2	1.3
		EVSB34-W-12858	3.1	1.7
SB34	49.0-53.0	EVSB34-W-12854	ND	ND
		EVSB34-W-12855	ND	ND
SB35	56.0-59.0	EVSB35-W-12874	ND	ND
		EVSB35-W-12875	ND	ND
SB36	51.5-54.5	EVSB36-W-12884	ND	ND
		EVSB36-W-12885	ND	ND
SB37	65.5-70.0	EVSB37-W-12907	16	ND
		EVSB37-W-12908	15	ND

TABLE G.10 (Cont.)

			Concentration (μg/L)	
Location	Depth (ft BGL)	Sample	Carbon Tetrachloride	Chloroform
Groundwater samples (Cont.)				
SB38	63.5-67.5	EVSB38-W-12888	18	ND
		EVSB38-W-12889	17	ND
SB38	68.9-72.9	EVSB38-W-12893	9.6	1.4
		EVSB38-W-12893DUP	8.9	1.4
SB40	60.0-65.0	EVSB40-W-12053	120	3.1
		EVSB40-W-12053DUP	98	2.6
		EVSB40-W-12054	136	3.1
		EVSB40-W-12054DUP	101	2.7
SB40	64.9-65.9	EVSB40-W-12056	151	3.6
		EVSB40-W-12057	160	3.9
SB41	68.0-72.8	EVSB41-W-12898	615	19
		EVSB41-W-12900	572	23
SB42	60.5-65.0	EVSB42-W-12901	123	3.4
		EVSB42-W-12901DUP	111	3.2
		EVSB42-W-12902	109	3.4
		EVSB42-W-12902DUP	108	3.3
SB43	39.0-44.0	EVSB43-W-12060	ND	ND
		EVSB43-W-12061	ND	ND
SB43	44.0-49.0	EVSB43-W-12048	ND	ND
		EVSB43-W-12049	ND	ND
SB43	49.0-52.6	EVSB43-W-12051	ND	ND
		EVSB43-W-12052	ND	ND
SB44	64.6-67.0	EVSB44-W-12911	1.6	ND
		EVSB44-W-12914	1.5	ND
		EVSB44-W-12914DUP	ND	ND
SB45	52.0-56.0	EVSB45-W-12932	ND	ND
		EVSB45-W-12933	ND	ND
SB45	56.0-60.0	EVSB45-W-12930	ND	ND
		EVSB45-W-12931	ND	ND
SB46	55.0-60.0	EVSB46-W-12862	ND	ND
		EVSB46-W-12863	ND	ND

TABLE G.10 (Cont.)

Location	Depth (ft BGL)	Sample	Concentration (μg/L) Carbon Tetrachloride	Chloroform
Groundwater samples (Cont.)				
SB46	60.0-65.0	EVSB46-W-12864	ND	ND
		EVSB46-W-12865	ND	ND
SB46	65.0-70.0	EVSB46-W-12918	10	ND
		EVSB46-W-12919	12	ND
SB47	62.0-67.0	EVSB47-W-12921	ND	ND
		EVSB47-W-12922	ND	ND
SB47	67.0-72.0	EVSB47-W-12924	ND	ND
		EVSB47-W-12925	ND	ND
		EVSB47-W-12925DUP	ND	ND
SB47	72.0-76.0	EVSB47-W-12928	ND	ND
		EVSB47-W-12929	ND	ND
SB48	59.4-64.4	EVSB48-W-12941	230	8.8
		EVSB48-W-12941DUP	221	8.4
SB49	51.0-55.0	EVSB49-W-13170	ND	ND
	51.0-55.0	EVSB49-W-13171	ND	ND
	51.0-55.0	EVSB49-W-13171DUP	ND	ND
SB50	51.0-54.0	EVSB50-W-13158	ND	ND
	51.0-54.0	EVSB50-W-13159	ND	ND
SB50	54.0-56.8	EVSB50-W-13169	ND	ND
	54.0-56.8	EVSB50-W-13169DUP	ND	ND
SB51	54.1-59.1	EVSB51-W-13166	52	1.3
	54.1-59.1	EVSB51-W-13166DUP	52	1.3
SB52	58.0-60.5	EVSB52-W-13164	8.0	ND
	58.0-60.5	EVSB52-W-13165	8.0	ND
SB52	21.0-26.0	EVSB52-W-13163	21	ND
	21.0-26.0	EVSB52-W-13163DUP	19	ND
SB53	21.0-26.0	EVQCDU-W-15870	ND	ND
	21.0-26.0	EVSB53-W-15868	ND	ND
SB54	22.0-27.0	EVQCDU-W-15875	ND	ND
	22.0-27.0	EVSB54-W-15874	ND	ND
	22.0-27.0	EVSB54-W-15874DUP	ND	ND

TABLE G.10 (Cont.)

			Concentration (μg/L)	
Location	Depth (ft BGL)	Sample	Carbon Tetrachloride	Chloroform
Groundwater samples (Cont.)				
SB56	22.0-27.0	EVSB56-W-15881	ND	ND
	22.0-27.0	EVSB56-W-15881DUP	ND	ND
SB57	32.8-37.8	EVSB57-W-13175	ND	ND
	32.8-37.8	EVSB57-W-13176	ND	ND
SB58	33.0-38.0	EVSB58-W-13181	ND	ND
	33.0-38.0	EVSB58-W-13181DUP	ND	ND
SB58	38.3-41.3	EVSB58-W-13183	ND	ND
	38.3-41.3	EVSB58-W-13184	ND	ND
SB61	50.1-55.1	EVSB61-W-13191	ND	ND
	50.1-55.1	EVSB61-W-13191DUP	ND	ND
SB61	56.4-59.3	EVSB61-W-13188	ND	ND
	56.4-59.3	EVSB61-W-13189	ND	ND
	56.4-59.3	EVSB61-W-13189DUP	ND	ND
Surface water samples				
SW07	-	EVSW07-W-12844	ND	ND
		EVQCDU-W-12845	ND	ND
SW09	-	EVSW09-W-15849	ND	ND
	-	EVSW09-W-15849DUP	ND	ND
SW12	-	EVQCDU-W-15853	ND	ND
		EVSW12-W-15852	ND	ND
Equipment rinsates				
QC	-	EVSB24-W-12769	ND	1.9
		EVSB24-W-12769DUP	ND	1.9
QC	-	EVSB31-W-12038	ND	ND
		EVSB31-W-12038DUP	ND	ND
QC	-	EVSB33-W-12882	ND	ND
		EVSB33-W-12882DUP	ND	ND

[a] ND, not detected at the quantitation limit of 1.0 μg/L.

TABLE G.11 Recovery of system-monitoring compounds in organic analyses of water samples at Clayton Laboratory with CLP methodology.

Sample	Analysis Date	Sample Delivery Group	Recovery[a] (%) Toluene-d_8	Bromofluoro-benzene	1,2-Dichloro-ethane-d_4
VBLKAR	3/16/01	1030441-ARG102	100	100	98
WA-9-12192MS[b]	3/16/01	1030441-ARG102	104	98	98
WA-9-12192MSD[b]	3/16/01	1030441-ARG102	102	98	98
EVSB24-W-12762	3/16/01	1030441-ARG102	102	98	104
EVSB24-W-12763	3/16/01	1030441-ARG102	102	98	104
EVSB24-W-12764	3/16/01	1030441-ARG102	104	100	100
EV-TB-031501	3/16/01	1030441-ARG102	102	100	104
VBLKAS	3/16/01	1030441-ARG102	100	96	98
VBLKAV	3/30/01	1030905-ARG103	98	98	104
EVSB30-W-12811	3/30/01	1030905-ARG103	98	98	102
EVSB30-W-12811MS	3/30/01	1030905-ARG103	98	96	102
EVSB30-W-12811MSD	3/30/01	1030905-ARG103	98	98	106
EV-TB-032701	3/30/01	1030905-ARG103	100	100	104
EV-TB-032901	3/30/01	1030905-ARG103	100	98	102
EVSB31-W-11900	3/30/01	1030905-ARG103	98	98	104
EVSB31-W-12039	3/30/01	1030905-ARG103	100	100	106
EVSB31-W-12040	3/30/01	1030905-ARG103	98	100	106
EVSB30-W-12808	3/30/01	1030905-ARG103	100	98	106
EVSB32-W-12870	3/30/01	1030905-ARG103	100	98	106
EVSB32-W-12869	3/30/01	1030905-ARG103	100	98	106
EVSB34-W-12854	3/30/01	1030905-ARG103	100	100	106
EVSB34-W-12855	3/30/01	1030905-ARG103	102	100	106
EVSB34-W-12858	3/30/01	1030905-ARG103	102	96	108
VHBLKAA	3/30/01	1030905-ARG103	98	98	104
VBLKAY	4/5/01	1040080-ARG104	100	100	98
EVSB38-W-12893	4/5/01	1040080-ARG104	100	98	98
EVSB38-W-12893MS	4/5/01	1040080-ARG104	104	104	98
EVSB38-W-12893MSD	4/5/01	1040080-ARG104	102	102	102
EVSB39-W-12897DL	4/5/01	1040080-ARG104	102	102	99
EV-TB-W-12000	4/5/01	1040080-ARG104	104	100	100
EVSB40-W-12053	4/5/01	1040080-ARG104	102	100	100
EVSB39-W-12897	4/5/01	1040080-ARG104	104	100	102
VBLKAZ	4/6/01	1040080-ARG104	98	98	94
EVSB41-W-12898	4/6/01	1040080-ARG104	98	100	94
EVSB33-W-12881	4/6/01	1040080-ARG104	102	99	101

TABLE G.11 (Cont.)

Sample	Analysis Date	Sample Delivery Group	Recovery[a] (%)		
			Toluene-d_8	Bromofluoro-benzene	1,2-Dichloro-ethane-d_4
EVSB33-W-12880	4/6/01	1040080-ARG104	100	98	96
EVSB41-W-12900	4/6/01	1040080-ARG104	103	96	104
VHBLKAA	4/6/01	1040080-ARG104	99	97	99
VBLKJU	11/13/02	2110318-ARG151	104	98	102
EVSB51-W-13166	11/13/02	2110318-ARG151	104	96	102
EVSB51-W-13166MS	11/13/02	2110318-ARG151	102	96	104
EVSB51-W-13166MSD	11/13/02	2110318-ARG151	102	96	104
EVSB49-W-13170	11/13/02	2110318-ARG151	104	98	100
EVSB52-W-13173	11/13/02	2110318-ARG151	106	96	102
EVSB51-W-13167	11/13/02	2110318-ARG151	104	98	104
EV-TB-111102	11/14/02	2110318-ARG151	104	96	102
VHBLKJA	11/14/02	2110318-ARG151	104	96	104

a Quality control limits for recovery are as follows:

Analyte	QC Limits (%)
Toluene-d_8	88-110
Bromofluorobenzene	86-115
1,2-Dichloroethane-d_4	76-114

[b] A groundwater sample from another former CCC/USDA facility being analyzed by the laboratory with the Everest samples was selected by the laboratory for matrix spike/matrix spike duplicate analysis.

TABLE G.12 Recovery and relative percent difference values for spike/spike duplicate organic analyses of water samples at Clayton Laboratory with CLP methodology.

	Concentration (μg/L)				Recovery (%)			Difference (%)	
Compound	Sample	Spike Added	Spike Analysis	Duplicate Analysis	Spike Analysis	Duplicate Analysis	QC Limit	RPD	QC Limit
MS/MSD analysis of WA-9-12192 in SDG 1030441-ARG102									
1,1-Dichloroethene	0	50	60	61	120	122	61-145	2	14
Trichloroethene	0	50	49	51	98	102	71-120	4	14
Benzene	0	50	48	50	96	100	76-127	4	11
Toluene	0	50	51	51	102	102	76-125	0	13
Chlorobenzene	0	50	49	50	98	100	75-130	2	13
MS/MSD analysis of EVSB30-W-12811 in SDG 1030905-ARG103									
1,1-Dichloroethene	0	100	88	94	88	94	61-145	7	14
Trichloroethene	0	100	93	98	93	98	71-120	5	14
Benzene	0	100	92	99	92	99	76-127	7	11
Toluene	230	100	320	280	97	85	76-125	13	13
Chlorobenzene	0	100	96	100	96	100	75-130	4	13
MS/MSD analysis of EVSB38-W-12893 in SDG 1040080-ARG104									
1,1-Dichloroethene	0	50	45	53	90	106	61-145	16[a]	14
Trichloroethene	0	50	42	45	84	90	71-120	7	14
Benzene	0	50	43	46	86	92	76-127	7	11
Toluene	0	50	43	45	86	90	76-125	5	13
Chlorobenzene	0	50	43	46	86	92	75-130	7	13

TABLE G.12 (Cont.)

Compound	Concentration (μg/L)				Recovery (%)			Difference (%)	
	Sample	Spike Added	Spike Analysis	Duplicate Analysis	Spike Analysis	Duplicate Analysis	QC Limit	RPD	QC Limit
MS/MSD analysis of EVSB51-W-13166 with SDG 2110318-ARG151									
1,1-Dichloroethene	0	50	43	40	86	80	61-145	7	14
Trichloroethene	0	50	43	40	86	80	71-120	7	14
Benzene	0	50	49	46	98	92	76-127	6	11
Toluene	0	50	48	47	96	94	76-125	2	13
Chlorobenzene	0	50	47	45	94	90	75-130	4	13

[a] Value outside indicated quality control limit.

TABLE G.13 Results of carbon tetrachloride and chloroform analyses on samples analyzed both at the AGEM Laboratory and at Clayton Laboratory.

			Concentration (μg/L)			
			Carbon Tetrachloride		Chloroform	
Location	Sample	Depth (ft BGL)	AGEM	Clayton	AGEM	Clayton
SB24	EVSB24-W-12762	40.0-43.0	21	25.2	3.9	5.0
SB24	EVSB24-W-12763	44.0-48.5	101	97.6	10	9.6
	EVSB24-W-12764		76	102.8	7.8	10.2
SB30	EVSB30-W-12811	59.5-61.0	ND[a]	ND	ND	ND
SB30	EVSB30-W-12808	66.0-68.5	ND	ND	ND	ND
SB31	EVSB31-W-11990	57.0-61.0	ND	ND	ND	ND
SB31	EVSB31-W-12039	62.0-67.0	ND	ND	ND	ND
	EVSB31-W-12040		ND	ND	ND	ND
SB32	EVSB32-W-12869	32.8-37.8	ND	ND	ND	ND
SB32	EVSB32-W-12870	37.8-42.8	ND	ND	ND	ND
SB33	EVSB33-W-12880	64.0-68.0	396	190[b]	17	33[b]
	EVSB33-W-12881		919	180[b]	36	32[b]
SB34	EVSB34-W-12858	46.0-49.0	3.1	1.2 J[c]	1.7	1.2 J
SB34	EVSB34-W-12854	49.0-53.0	ND	ND	ND	ND
	EVSB34-W-12855		ND	ND	ND	ND
SB38	EVSB38-W-12893	68.9-72.9	9.6	8.0[b]	1.4	1.2 J[b]
SB39	EVSB39-W-12897	68.2-72.2	303	150[b]	11	11[b]
SB40	EVSB40-W-12053	60.0-65.0	120	110[b]	3.1	3 J[b]
SB41	EVSB41-W-12898	68.0-72.8	615	280[b]	19	18[b]
	EVSB41-W-12900		572	280[b]	23	18[b]
SB49	EVSB49-W-13170	51.0-55.0	ND	ND	ND	ND
SB51	EVSB51-W-13166	54.1-59.1	52	59	1.3	2 J
SB51	EVSB51-W-13167	59.0-64.0	32	28	3.0	3 J
SB52	EVSB52-W-13173	52.0-57.0	18	18	ND	ND

[a] ND, contaminant not detected.

[b] During analysis of this sample at Clayton Laboratory, the relative percent difference in the spike/spike duplicate analysis was outside the quality control limit.

[c] J, estimated concentration below the quantitation limit of 5 μg/L for the CLP analysis.

TABLE G.14 Recovery of known concentrations of nitrate during analysis of laboratory quality control samples at Severn-Trent Laboratory.

Sample Delivery Group	Recovery[a] (%)	Sample Delivery Group	Recovery[a] (%)
SDG 82012	94	SDG 82201	90
SDG 82036	91	SDG 82221	90
SDG 82037	91	SDG 82234	89
SDG 82071	91	SDG 82248	89
SDG 82090	89	SDG 82272	92
SDG 82103	89	SDG 82320	97
SDG 82143	93	SDG 82336	95
SDG 82172	91	SDG 82367	97
SDG 82185	92	SDG 82379	97

[a] Quality control limits for recovery: 80-120%.

TABLE G.15 Calculated relative percent difference in duplicate nitrate analyses of groundwater samples at Severn-Trent Laboratory

	Concentration (μg/L)		
	Sample Analysis	Duplicate Analysis	Relative Percent Difference
EVSB20-W-12063 in SDG 82012			
	15800	15800	0
EVSB22-W-11985 in SDG 82012			
	10800	10800	0
EVSB24-W-12762 in SDG 82090			
	10400	10400	0
EVSB30-W-12808 in SDG 82185			
	13500	13500	0
EVSB37-W-12907 in SDG 82336			
	13100	12800	2.3

TABLE G.16 Recovery of system monitoring compounds in total petroleum hydrocarbon analyses of water samples at Severn-Trent Laboratory with EPA Method SW8015B.

Sample	Analysis Date	Sample Delivery Group	Recovery (%)
			o-Terphenyl
EBLKM5	11/19/02	90922	92
M5LCS	11/19/02	90922	96
M5LCSD	11/19/02	90922	96
EVSB51-W-13166	11/19/02	90922	62
EVSB52-W-13164	11/20/02	90922	59[a]
EVSB52-W-13163	11/20/02	90922	61
EVSB53-W-15868	11/20/02	90922	65
EVSB49-W-15854	11/20/02	90922	101
EVSB50-W-13160	11/20/02	90922	35[a]
EVSB49-W-15855	11/20/02	90922	60
EVSB50-W-13158	11/21/02	90922	30[a]

[a] Limits for *o*-terphenyl recovery = 60-140%.

TABLE G.17 Percent recovery of system monitoring compounds in two laboratory control samples during inorganic analyses of water samples
at Severn-Trent Laboratory by EPA Methods 3010A and 6010B.

	Sample 1			Sample 2		
	Concentration (μg/L)			Concentration (μg/L)		
Analyte	Actual	Detected	Recovery (%)	Actual	Detected	Recovery (%)
Antimony	2,000	2,171	108.6	2,000	2,181	109.0
Arsenic	1,050	1,093	104.1	1,050	1,096	104.4
Barium	500	512.1	102.4	500	516.2	103.2
Beryllium	500	532.4	106.5	500	533.2	106.6
Cadmium	525	526.7	100.3	525	527.2	100.4
Chromium	500	511.8	102.4	500	514.1	102.8
Cobalt	500	503.4	100.7	500	504.9	101.0
Copper	500	526.7	105.3	500	533.7	106.7
Lead	1,015	1,025	101.0	1,015	1,027	101.2
Molybdenum	1,000	1,024	102.4	1,000	1,027	102.7
Nickel	500	502.1	100.4	500	503.5	100.7
Selenium	525	553.8	105.5	525	551.5	105.0
Silver	500	470.5	94.1	500	472	94.4
Thallium	550	553.5	100.6	550	555.9	101.1
Tin	1,000	1,066	106.6	1,000	1,071	107.1
Vanadium	500	512.9	102.6	500	514.9	103.0
Zinc	500	513.4	102.7	500	513.4	102.7