

HYDROLOGICAL AND METEOROLOGICAL DATA FOR AN UNSATURATED-ZONE STUDY AREA NEAR THE RADIOACTIVE WASTE MANAGEMENT COMPLEX, IDAHO NATIONAL ENGINEERING LABORATORY, IDAHO, 1988 AND 1989

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CONVERSION FACTORS AND VERTICAL DATUM

<u>Multiply</u>	<u>By</u>	<u>To obtain</u>
millimeter (mm)	0.03937	inch
centimeter (cm)	0.3937	inch
meter (m)	3.281	foot
kilometer (km)	0.6214	mile
square kilometer (km ²)	0.3861	square mile
liter (L)	3.79	gallon
cubic meter (m ³)	35.31	cubic foot
meter per second (m/s)	2.237	mile per hour
gram (g)	0.03527	ounce, avoirdupois
gram per cubic centimeter (g/cm ³)	0.03613	pound per cubic inch
watt per square meter (W/m ²)	2.064	calorie per square centimeter per day
Kilopascal (KPa)	.01	bar

For temperature, degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) by using the formula
 $^{\circ}\text{F} = [(1.8)(^{\circ}\text{C})] + 32.$

Sea level: In this report "sea level" refers to the National Geodetic Vertical Datum of 1929—a geodetic datum derived from a general adjustment of the first-order level nets of the United States and Canada, formerly called Sea Level Datum of 1929.

Hydrological and Meteorological Data for an Unsaturated-Zone Study Area near the Radioactive Waste Management Complex, Idaho National Engineering Laboratory, Idaho, 1988 and 1989

By John R. Pittman

Abstract

Trenches and pits at the Radioactive Waste Management Complex (RWMC) at the Idaho National Engineering Laboratory have been used for burial of radioactive waste since 1952. In 1985, the U.S. Geological Survey, in cooperation with the U.S. Department of Energy, began a multi-phase study of the geohydrology of the RWMC to provide a basis for estimating the extent of and the potential for migration of radionuclides in the unsaturated zone beneath the waste trenches and pits. This phase of the study is being conducted to provide hydrological and meteorological data for an area adjacent to the northern boundary of the RWMC.

Two culvert assemblies designated east test trench and west test trench were placed in the subsurface of the study area to allow the horizontal installation of sensors. Instruments were installed at the test trench area during 1985-88. Hydrological data presented in this report were collected during 1988-89 from both disturbed and undisturbed soil; these data included daily measurements of soil temperature and soil-water potential from thermocouple psychrometers placed at selected depths to about 5 meters at the east test trench. Soil-moisture content measurements from undisturbed soil were collected monthly from 12 neutron-probe access holes with a neutron moisture gage.

A simulated-waste trench was completed adjacent to the east test trench in the spring of 1988. Instrumentation within the simulated-waste

trench consisted of thermocouple psychrometers with temperature sensors, suction lysimeters, and neutron-probe access holes. Containers were packed with simulated waste and a potassium bromide tracer and were placed within the trench. Three additional benzoic acid tracers were applied at three depths within the trench as it was backfilled.

For most of 1988, a meteorological station inside the test trench area was in operation to collect data for determination of evapotranspiration rates. This station measured soil-surface temperature, net radiation, air temperature, relative humidity, windspeed, wind direction, and precipitation.

INTRODUCTION

The Radioactive Waste Management Complex (RWMC) occupies about 0.6 km² of the Idaho National Engineering Laboratory (INEL) in southeastern Idaho (fig. 1). The RWMC is managed by the U.S. Department of Energy (DOE) and was operated by EG&G Idaho, Inc., a DOE contractor at the INEL, during 1988-89. From 1952 to 1970, low-level radioactive and transuranic wastes were buried in trenches and pits excavated into a thin layer of surficial sediment at the RWMC Subsurface Disposal Area (SDA). Since 1970, only low-level radioactive wastes have been buried; transuranic wastes have been stored on above-ground asphalt pads in retrievable containers. As of 1986, about 180,000 m³ of radioactive wastes had been buried at the RWMC SDA. This waste included the transuranic wastes buried prior to 1970. An estimated 335,000 L of organic wastes

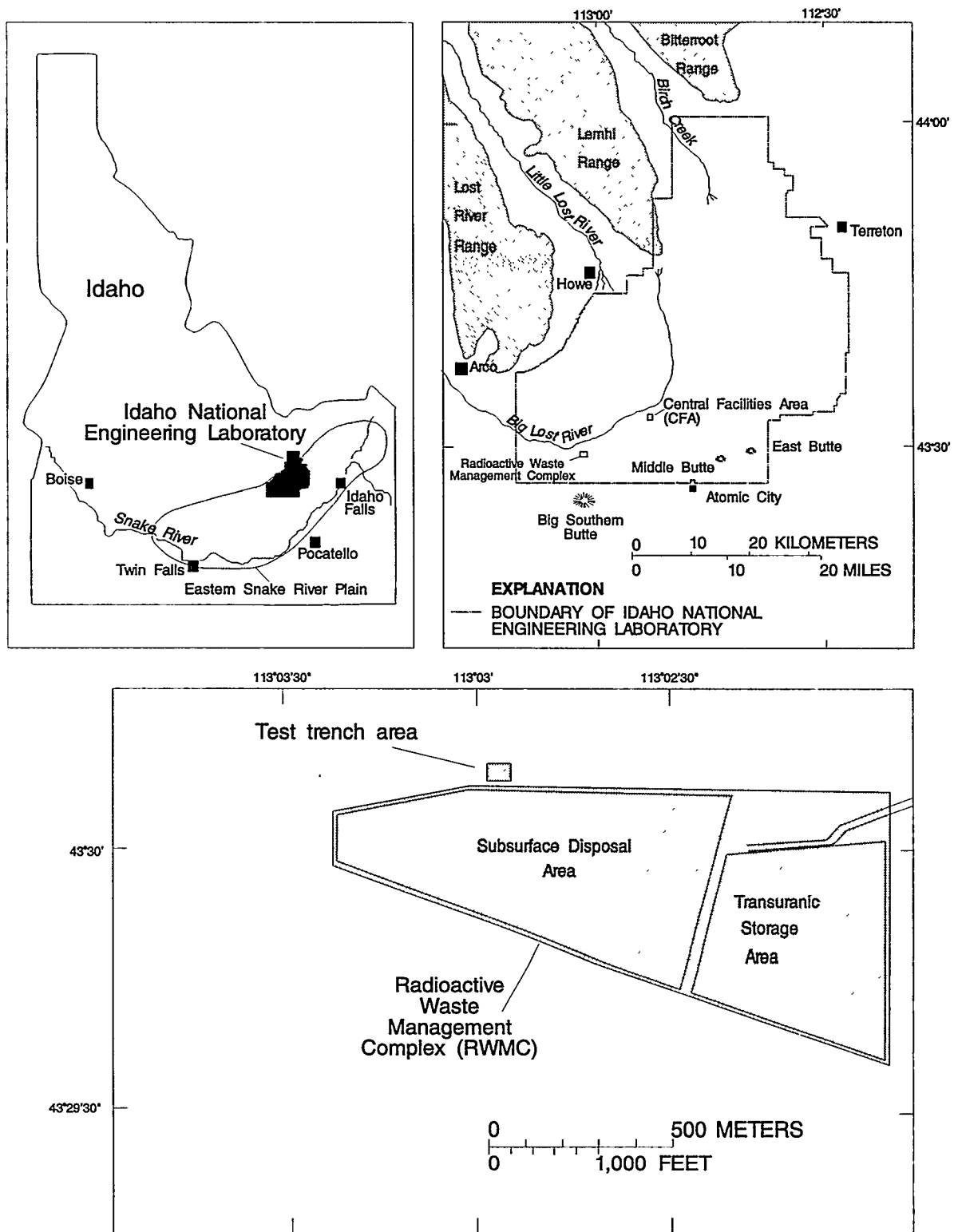


Figure 1.—Location of the eastern Snake River Plain, Idaho National Engineering Laboratory, and the relation of the test trench area to the Radioactive Waste Management Complex Subsurface Disposal Area.

also were buried before 1970 (D.E. Kudera, EG&G Idaho, Inc., written commun., 1987).

Radionuclides have been detected in core and drill cuttings from several boreholes drilled into the surficial sediment and underlying rock units at the RWMC. Because of the potential for the migration of radionuclides from the RWMC to the Snake River Plain aquifer which is about 177 m below land surface, a multiphase study to determine the extent of and the potential for future migration of the radionuclides and hazardous wastes was begun in 1985 by the U.S. Geological Survey (USGS), in cooperation with the DOE. The objectives and methods used in the study are described in a two-volume planning document by the DOE, the USGS, and EG&G Idaho, Inc. (1983).

Purpose and Scope

The purpose of this report is to provide site-specific data needed to estimate the amount of precipitation that moves downward through the surficial sediment and eventually recharges the Snake River Plain aquifer. This amount of precipitation is one of the primary factors influencing the migration of radionuclides in the unsaturated zone. The quantity of water that moves through the buried waste depends on the timing and amount of rainfall, snowmelt, soil structure, and soil hydraulic properties.

The study of the movement of water through the unsaturated surficial sediment is one of several studies included in a comprehensive program of studies of the subsurface at the RWMC. This study will determine the potential for downward movement of water through the surficial sediment and waste by quantifying soil-moisture content and variability with depth and time, soil temperature, physical properties of soil, hydraulic conductivities, soil-moisture flux, and evapotranspiration rates. Data were collected in two different subsurface environments: (1) undisturbed native surficial sediment, and (2) disturbed sediment in a simulated-waste trench. This report presents hydrological and meteorological data collected during 1988-89 as part of the test trench study.

Prior reports present data for 1985-86 (Pittman, 1989) and 1987 (Davis and Pittman, 1990).

Physical and Geologic Setting

The eastern Snake River Plain is a structural basin about 325 km long and 80 to 110 km wide and is bounded on all sides by mountain ranges and high plateaus. Altitudes of many of the high peaks in these ranges exceed 3,500 m above sea level. Streams within alluvial valleys separating the mountain ranges to the north and northwest flow onto the plain and the INEL in response to rainfall and snowmelt.

The eastern Snake River Plain is underlain by a sequence of basaltic lava flows interbedded with sedimentary deposits. Rhyolitic lava flows and tuffs crop out locally at the surface and occur at depth below the basalt-sediment sequence (Mann, 1986). The INEL occupies about 2,300 km² of semiarid sagebrush-covered terrain on the northwestern side of the plain (fig. 1). According to the National Oceanic and Atmospheric Administration (NOAA), from 1950 to 1988, the Central Facilities Area (CFA) at the INEL had an average annual air temperature of 5.6°C, an average annual total precipitation of 221 mm, and an average annual snowfall depth of about 70 cm (Clawson and others, 1989).

The RWMC is in the southwestern part of the INEL in a shallow topographic depression (fig. 1). The surficial sediment at the RWMC consists of about 0.6 to 7.0 m of clay, silt, sand, and gravel. The surficial sediment is underlain by a thick sequence of basaltic lava intercalated with sedimentary deposits (Anderson and Lewis, 1989). Sedimentary deposits occur at depths of about 9, 34, and 73 m below land surface. The 73-m deposit underlies all of the RWMC and may underlie a large part of the INEL. The 9- and 34-m deposits are discontinuous at the RWMC, although the 34-m deposit underlies a large part of the RWMC. Other sedimentary deposits of lesser areal extent occur at depth at the RWMC. Boreholes and wells at the RWMC penetrate about 215 m of basaltic lava flows and sedimentary deposits. Most boreholes are completed in the upper 90 m of the unsaturated zone; thus, the extent of the 9-, 34-,

and 73-m deposits are better defined than the deeper interbeds. Well INEL-1 (total depth 3,519 m), 16 km north-northeast of the RWMC, penetrates 658 m of basalt flows and sedimentary deposits before penetrating a series of tuffaceous interbeds, welded tuffs, and rhyodacite ash flows (Mann, 1986). The basaltic lava flows and sedimentary deposits form the Snake River Plain aquifer.

The study area for this project, designated the test trench area, is adjacent to the northern boundary of the RWMC SDA (fig. 1). Dominant vegetation in the test trench area consists of big sagebrush (*Artemisia tridentata ssp. wyomingensis*) and crested wheatgrass (*Agropyron cristatum*). The thickness of the surficial sediment ranges from about 3 to 6 m. This sediment is underlain by basaltic lava flows intercalated with other sedimentary deposits.

HYDROLOGICAL AND METEOROLOGICAL INSTRUMENTATION AT THE STUDY AREA

In 1985, two 1.8-m-diameter culvert assemblies, designated as the east test trench and the west test trench, were installed in surficial sediment in the test trench area adjacent to the northern boundary of the RWMC SDA (fig. 2). A 61- by 46-m area was fenced around the test trench area to preserve natural vegetation and to prevent vehicular traffic. The test trenches near the RWMC are modeled after those described by Morgan and Fischer (1984).

The conceptual design for the test trenches permits the placement of retrievable instruments in the unsaturated zone (Foster and Erickson, 1980; Cahill, 1982; Nichols, 1982; Lewis, 1984). Pittman (1989) described in detail the installation design and procedures used at the test trenches. Retrievable instruments were installed horizontally from the vertical culverts into undisturbed soil and vertically from the horizontal culverts into undisturbed and disturbed soil (fig. 3). Disturbance of the vertical soil column was minimized by installing the instruments horizontally from the vertical culvert through augered holes. Vertically

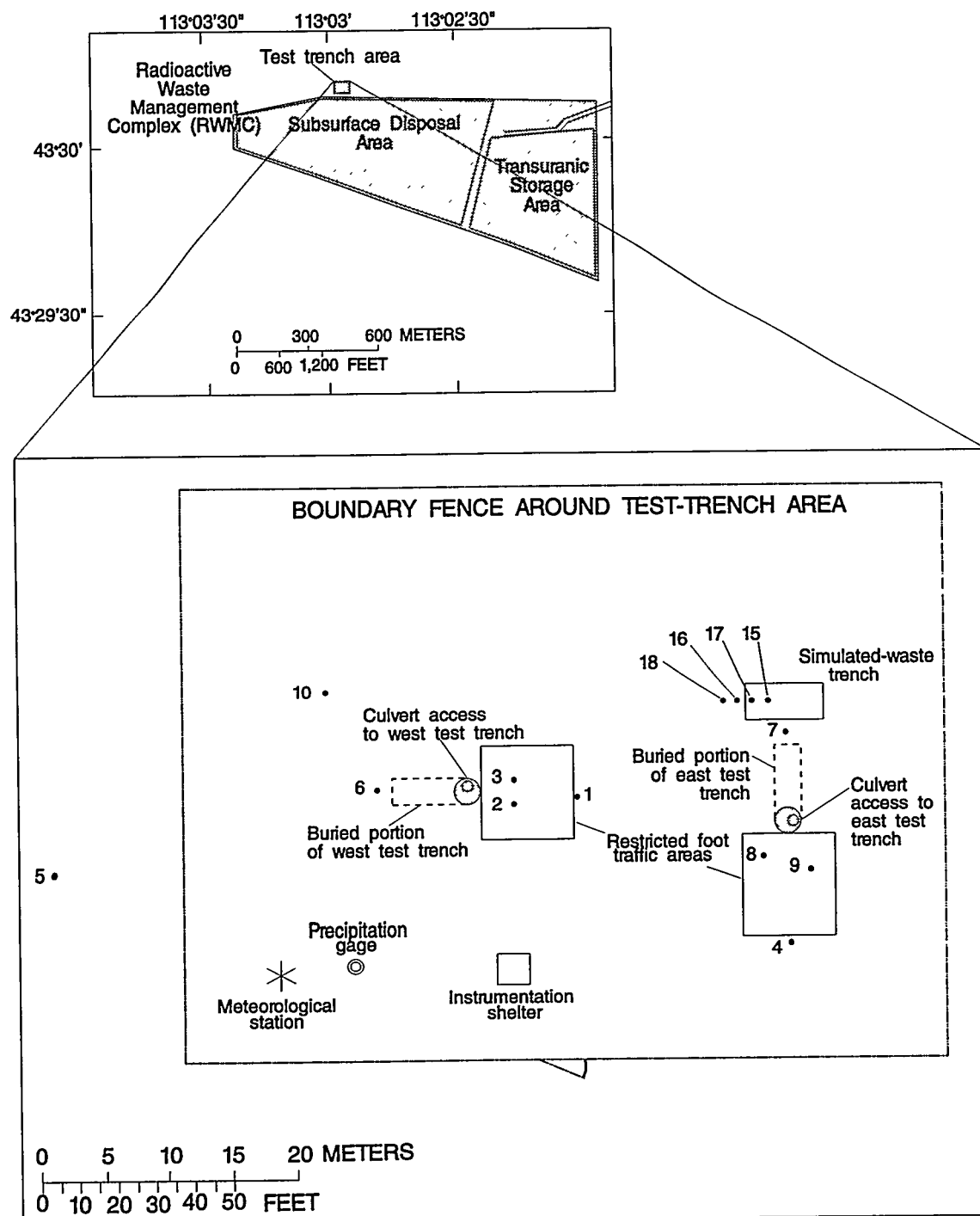
installed sensors beneath the culverts are shielded from direct downward movement of water by the culverts. These sensors are used to study flow characteristics at and near the sediment-basalt interface. Instruments installed in the test trenches include thermocouple psychrometers with soil-temperature sensors and tensiometers. Data are recorded and stored on data loggers at each test trench. Neutron-probe access holes were installed near the perimeter of the test trenches to collect spatially distributed soil-moisture profiles.

Simulated-Waste Trench

A trench designed to contain simulated waste and tracers was constructed adjacent to the east test trench in late 1987 and instrumented in early 1988 (fig. 4). This trench, designated as the simulated-waste trench, is used to compare infiltration rates and soil-moisture storage capacity in undisturbed soil and disturbed soil. The trench dimensions are 3 by 6 by 3.7 m (depth to the basalt contact). The trench contains thirteen 208-liter waste containers packed with simulated waste and a potassium bromide tracer. This tracer is used to determine the duration of container integrity.

The trench was backfilled to a 3-m depth with material excavated from the trench; a tracer solution of 2,6-difluorobenzoic acid was applied to the soil, and the containers were placed horizontally. The trench then was backfilled to a 1.5-m depth and a solution of 2-trifluoromethylbenzoic acid was applied. The trench was backfilled to a 0.3-m depth and a solution of pentafluorobenzoic acid was applied. The trench then was backfilled to land surface. These tracers are being used to determine vertical and areal redistribution of water within and adjacent to the trench.

Eight suction lysimeters were installed within, beneath, and adjacent to the simulated-waste trench. Four of these lysimeters were installed beneath the trench prior to backfilling. Two lysimeters were installed within the trench and two lysimeters were installed adjacent to the trench in undisturbed soil. The ceramic tips of the lysimeters were placed in silica sand. Bentonite plugs were placed above each lysimeter. Soil moisture was



EXPLANATION

5 • NEUTRON-PROBE ACCESS HOLE

Figure 2.—Location of the test trenches and facilities near the Radioactive Waste Management Complex.

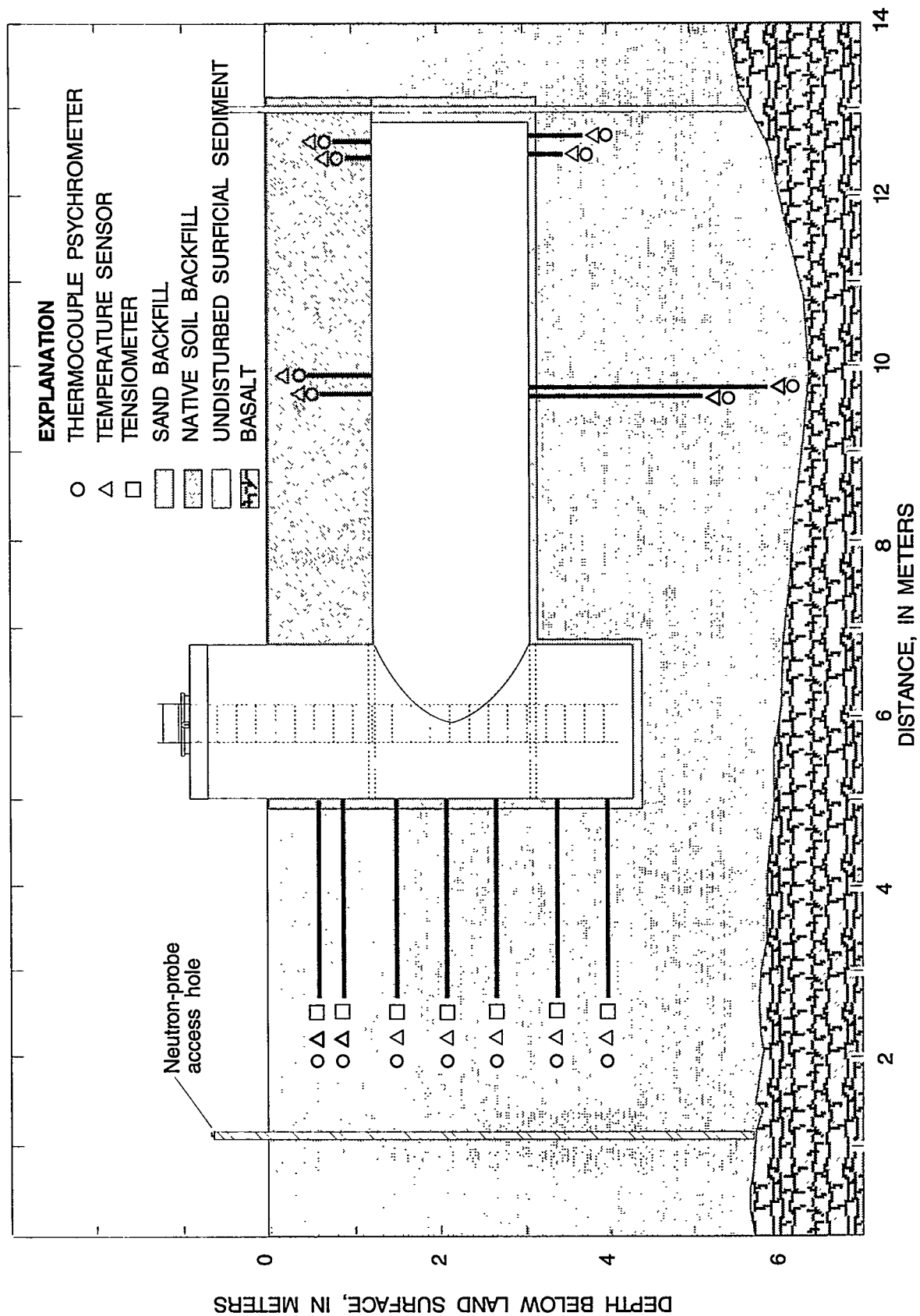


Figure 3.—Cross section of the west test trench.

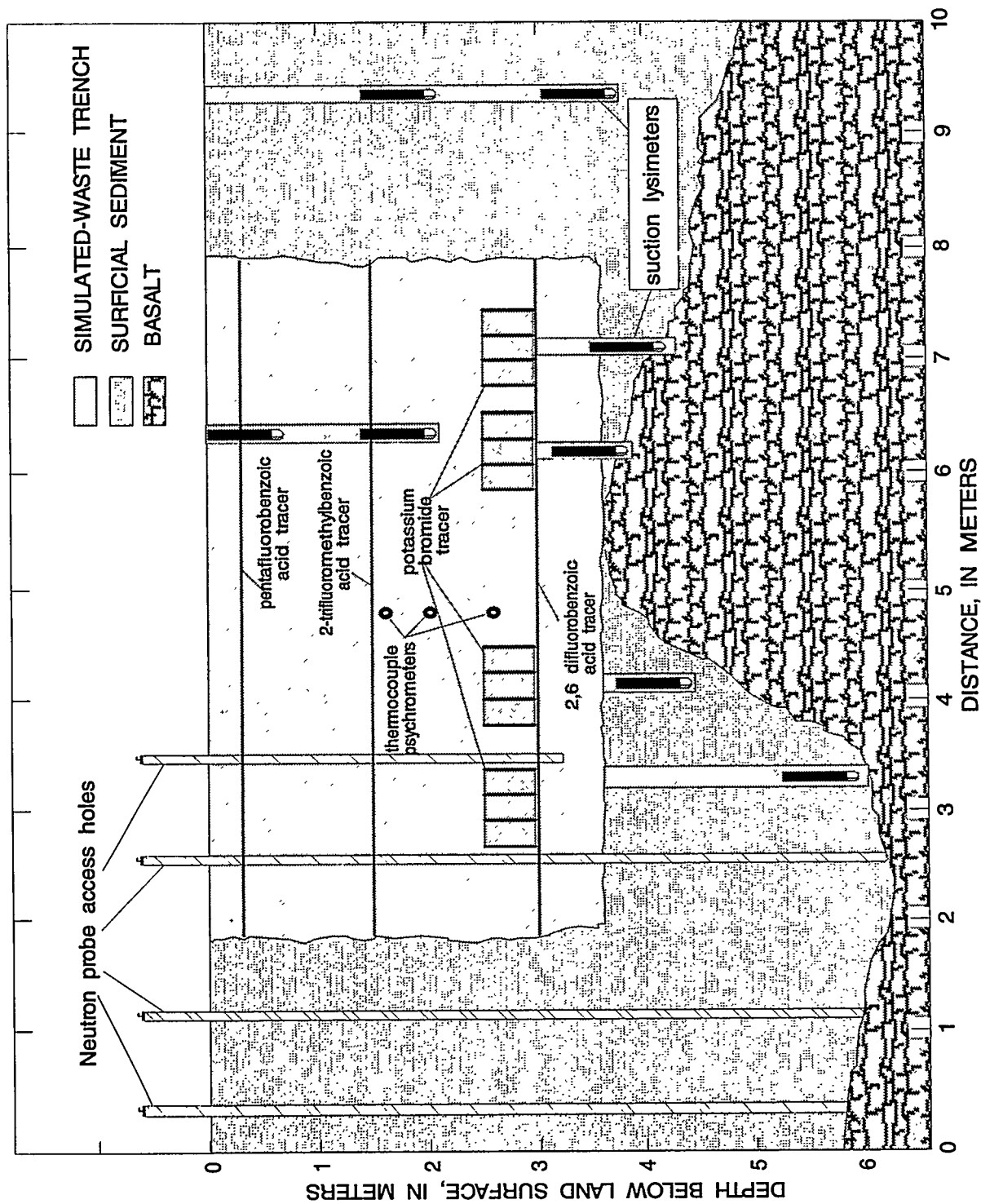


Figure 4.-Cross section of the simulated-waste trench.

insufficient in 1988-89 to permit lysimeter samples from being collected.

Thermocouple Psychrometers

In 1985, 15 thermocouple psychrometers were installed in the east test trench and 15 were installed in the west test trench. In 1988, four more psychrometers were installed at the simulated waste trench. Thermocouple psychrometers installed at the test trenches were of the screen-caged, Spanner type and were calibrated prior to installation using methods described by Meyn and White (1972). The theory of psychrometric measurement of soil-water potential is discussed by Rawlins (1966, 1972) and by Van Haveren and Brown (1972).

Regression equations were developed for each psychrometer from calibrations and were used to convert the psychrometer voltage output to soil-water potential. The average standard error of the soil-water potentials calculated using the regression equations was ± 2.3 KPa. Soil temperature also was measured by the thermocouple psychrometers.

During 1986-87, four psychrometers at the east test trench failed to function properly. In 1988, one of the four psychrometers at the simulated-waste trench failed. Inspection of the failed psychrometers showed that the sensing junctions had been destroyed by corrosion. Recalibration of the psychrometers also showed that sensor accuracy was being degraded by this corrosion. These psychrometers continued to provide soil temperature data. In February 1988, collection of data from psychrometers in the west test trench was suspended to study the psychrometer failure rates and deterioration of psychrometer accuracy with time.

Subsequent studies showed that several factors contributed to these failures and decreases in accuracy. Although the psychrometer's screen size (20 to 30 microns) was small enough to prevent most soil particles from passing through to the sensing junction, dissolved salts could pass through. Most psychrometer failure occurred during periods of high soil-moisture content—during spring snow melt and subsequent infiltration. It also was discovered that increasing the

measurement frequency decreased the lifespan of the psychrometer. As a result of these findings, two changes were made in the use of the thermocouple psychrometers. The measurement intervals for the psychrometers in the east test trench were changed from hourly to daily, and the sensing junctions were cleaned as necessary to prolong the accuracy and lifespan of the sensor.

Tensiometers

Tensiometers were installed in the west test trench (fig. 3) in the same manner as the psychrometers (Pittman, 1989), 3.2 m horizontally from the vertical culverts. When soil-water potentials were larger than the -100 KPa calibration limit of the thermocouple psychrometers (close to the 0.0 to -60 KPa range of the tensiometers), attempts were made to take measurements with the tensiometers. During 1988, soil conditions were too dry (less than -60 KPa) to measure soil-water tension. In the spring of 1989, one group of measurements was made.

Neutron Probe

In 1985, neutron-probe access holes 1-9 (fig. 2) were installed to the base of the surficial sediment in and near the test trench area for collection of spatially distributed soil-water profile data. Soil cores taken when the access holes were installed were used for calibration of the neutron probe, analysis of particle size, and determination of soil hydraulic properties (Pittman, 1989, p. 12). During 1987, neutron-probe access hole 10 was installed in undisturbed soil (fig. 2) to extend the area over which soil-moisture measurements were taken. In September 1988, four additional access holes, 15, 16, 17, and 18, were installed inside and adjacent to the simulated-waste trench (fig. 2). Holes 15 and 17 were completed in the disturbed soil of the trench

The neutron moisture depth gage, usually called a neutron probe, contains a source of fast high-energy neutrons and a slow (thermal) neutron detector. The probe is lowered into a cased hole to a specified depth and measurements are taken. Hydrogen present in the soil water slows the movement of neutrons for detection by the probe.

The measurements taken from the neutron-probe access holes are raw neutron counts that can be correlated with the volumetric water content of the cores (Campbell Pacific Nuclear, 1984, p. 1).

The soil cores were analyzed to determine the weight of the water, the dry weight, the oven-dry bulk densities, and the volumetric water content of the soil cores. Volumetric water content was calculated for each core by

$$\theta = \frac{W_w \times Y_d}{W_d \times Y_w} \times 100$$

where θ = volumetric water content (percent),

W_w = weight of water (grams),

W_d = dry weight of soil (grams)

Y_d = oven-dry bulk density (grams per cubic centimeter), and

Y_w = water density (grams per cubic centimeter).

Calibration equations based on linear regressions of the neutron-probe data were developed using the calculated volumetric water content of the soil cores and the ratio of the raw neutron count to the standard count computed by the neutron probe. A single calibration equation for undisturbed soil was developed for field data from the neutron probe (Pittman, 1989, p. 12). The raw counts were converted to volumetric water content using this calibration equation. The standard error of the volumetric water content, which was based on the calibration equation, was ± 2.8 percent. An equation was not developed for disturbed soil.

Meteorological Station

The amount of infiltrated precipitation lost to evapotranspiration is one of the factors affecting the amount of water that infiltrates the surficial sediment and eventually recharges the aquifer. In 1985 and 1986, a meteorological station provided data required for the ET equation of Idso and others (1979). The Idso ET equation, detailed in the original study plan (U.S. Department of Energy and others, 1983), proved to be inapplicable in a semiarid environment (Novak and Black, 1982). In January 1987, the existing meteorological station was disassembled and the instruments were sent to

the manufacturer for repairs and recalibration. The heated rain gage remained in operation.

A new meteorological station was configured at the test trench area in August 1987 to provide data required for several methods of determining evapotranspiration (Bowen, 1926; Penman, 1948; Jensen and Haise, 1963; Ritchie, 1972). The instruments were:

- (1) infrared sensors used to measure soil surface temperature;
- (2) precision spectral pyranometers used to measure incoming and reflected shortwave radiation;
- (3) precision infrared radiometers used to measure incoming and emitted longwave radiation;
- (4) two chemical adsorption hygrometers and thermistors used to measure relative humidity and air temperature at 1 and 2 m above land surface;
- (5) two anemometers used to measure windspeed at 1 and 2 m above land surface;
- (6) a wind vane used to measure wind direction;
- (7) a heated rain gage used to measure precipitation.

Data from these instruments were collected hourly.

In January 1988, the separate pyranometers and radiometers were replaced by a net radiometer. In January 1989, the meteorological station was disassembled and meteorological data collection at the test trench area was suspended for the remainder of the year. Precipitation data for 1989 were obtained from the nearest NOAA meteorological station, located at the CFA, 10 km from the RWMC.

HYDROLOGICAL DATA

During 1988-89, the temperatures of undisturbed soil located horizontally from the vertical culvert at the east test trench were measured by 7 thermocouple psychrometers at selected depths ranging from 0.6 to 3.9 m below land surface. Temperatures of undisturbed soil measured daily by the horizontally installed psychrometers ranged

Table 1. Temperature statistics for undisturbed and disturbed soil at the east test trench

Sensor depth	Undisturbed soil		Disturbed soil	
	0.6 m	0.9 m	0.6 m	0.9 m
Average	9.4°C	9.6°C	9.7°C	9.8°C
Maximum	22.0°C	19.2°C	22.0°C	20.3°C
Minimum	-1.8°C	0.0°C	-1.9°C	0.4°C
Range	23.8°C	19.2°C	23.9°C	19.9°C

from 22.0 to -1.8°C at 0.6 m below land surface, and from 11.3 to 7.1°C at 3.9 m (fig. 5). This is a decrease in the range of seasonal temperature fluctuation from 23.8°C at 0.6 m to 4.2°C at 3.9 m.

The temperatures of disturbed soil above the horizontal culvert at the east test trench were measured by four psychrometers at depths ranging from 0.5 to 0.9 m below land surface. Temperatures of disturbed soil ranged from 23.6 to -3.8°C at 0.5 m below land surface and from 20.3 to 0.4°C at 0.9 m. Temperature statistics for undisturbed and disturbed soil at the east test trench at 0.6 and 0.9 m are given in table 1. The temperatures of undisturbed soil below the horizontal culvert were measured by four psychrometers at depths ranging from 3.8 to 5.0 m below land surface. Soil temperatures ranged from 18.3 to 2.2°C at 3.8 m below land surface. Mean daily soil temperatures at the east test trench during 1988-89 are listed in table 2 (located at the end of this report).

During 1988-89, soil-water potential was measured in 11 of the 15 thermocouple psychrometers at the east test trench. Fluctuations in soil-water potential were largest in the shallow, disturbed sediment overlying the horizontal culvert and ranged from -100 KPa, the calibration limit, to about -8,500 KPa. Fluctuations were smaller in the undisturbed sediment 3.2 m horizontally from the vertical culverts, and ranged from -100 to about -3,100 KPa. Soil-water potentials at selected depths in undisturbed soil at the east test trench are shown in figure 6. Daily soil-water potentials at the

east test trench during 1988-89 are listed in table 3 (located at the end of this report).

During 1988-89, temperatures and soil-water potentials also were measured at depths of 1.6, 2, and 2.6 m in the backfilled soil within the simulated-waste trench. Soil temperatures ranged from 1.1 to 18.7°C at the 1.6-m depth, and from 2.9 to 14.1°C at the 2.6-m depth. Soil-water potentials ranged from -1 to -19.4 KPa at the 1.6-m depth and from -24 to -930 KPa at the 2.6-m depth. Temperatures and soil-water potentials at the simulated-waste trench are listed in table 4 (located at the end of this report).

During 1988-89, soil-water content generally was measured monthly in neutron-probe access holes 1-10, 16, and 18, listed in tables 5-16 (located at the end of this report). These holes are completed in undisturbed soil. No data are presented for neutron probe access holes 15 and 17 because they are completed in disturbed soil. Soil-water profiles generally were driest in September and wettest in April or May after infiltration from snowmelt or rainfall (tables 5-16, located at the end of this report). Variations in water content were greatest at shallow depths and decreased with increasing depth (figs. 7-17). Few variations were observed in moisture content of soil from depths below 3 m.

METEOROLOGICAL DATA

During 1950-88, the average annual precipitation at the CFA meteorological station was

221 mm (Clawson and others, 1989). Precipitation at the test trench area during 1988 was 95.3 mm, about 40 percent of the average annual precipitation (fig. 18). Precipitation at CFA during 1989 was 176.5 mm (K.L. Clawson, NOAA, written commun., 1989), 80 percent of the average annual precipitation (fig. 19). The maximum monthly precipitation at the test trench area during 1988 was 25.6 mm and occurred in November (fig. 18). The maximum monthly precipitation at the CFA weather station during 1989 was 47.2 mm and occurred in September (fig. 19). During 1988, the mean daily air temperature at 2 m above land surface ranged from 26.7°C on August 6 to -14.6°C on December 25. Selected meteorological data for 1988 at the test trench area are listed in table 17 (located at the end of this report).

SUMMARY

The RWMC occupies about 0.6 km² of the INEL in southeastern Idaho. The RWMC has been used for burial of radioactive wastes since 1952. Radionuclides have been detected in core and drill cuttings from several boreholes drilled into the surficial sediment and underlying rock units at the RWMC. In 1985, the U.S. Geological Survey, in cooperation with the U.S. Department of Energy, began a comprehensive study at the RWMC to determine the potential for and extent of migration of radionuclides from waste pits and trenches through the unsaturated zone to the Snake River Plain aquifer, 177 m below land surface.

Two test trenches and a simulated-waste trench were installed in the surficial sediment adjacent to the RWMC SDA and were instrumented for collection of hydrologic data from undisturbed and disturbed soil. These data and data collected at a meteorological station are being used to quantify soil water content and variability with depth and time, soil temperature, physical properties of the soil, hydraulic conductivities, and evapotranspiration. Quantification of these properties will allow the estimation and comparison of soil water flux in two different subsurface environments: (1) undisturbed native surficial sediment, and (2) disturbed sediment in a simulated-waste trench.

During 1988-89, soil temperatures were measured daily by 15 thermocouple psychrometers

at the east test trench. Little or no difference in soil temperature profiles was observed between the undisturbed and disturbed soil. Soil-water potentials were measured daily at the east test trench from 11 of these psychrometers installed at selected depths from 0.5 to 4.4 m. Soil temperatures and soil-water potentials were measured by psychrometers at depths of 1.6, 2.0, and 2.6 m at the simulated-waste trench during 1988-89. Soil-water content was measured monthly in 12 neutron-probe access holes using a neutron moisture gage. Meteorological data collected at the test trench area in 1988 included soil-surface temperature, net radiation, air temperature, relative humidity, windspeed, wind direction, and precipitation.

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Table 2. Mean daily soil temperatures at east trench area

[Soil temperature in degrees celsius; --, no data]

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert										Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
	Depth below land surface, in meters										3.8					0.5				
	0.6	0.9	1.5	2.1	2.7	3.4	3.9	3.8	4.1	4.4	5.0									
01/01/88	-0.5	2.5	6.1	8.2	9.6	10.1	10.4	9.0	9.4	9.8	10.0					-3.5	-0.4	-0.2	0.8	0.9
01/02/88	-0.5	2.4	6.0	8.2	9.6	10.1	10.4	8.9	9.4	9.9	10.0					-3.4	-0.4	-0.2	2.1	2.1
01/03/88	-0.5	2.3	5.9	8.1	9.5	10.1	10.4	8.9	9.3	9.8	10.0					-3.4	-0.5	-0.3	2.0	2.0
01/04/88	-0.6	2.2	5.8	8.0	9.4	10.0	10.3	8.8	9.2	9.7	9.9					-3.6	-0.6	-0.5	1.8	1.8
01/05/88	-0.7	2.1	5.7	7.9	9.3	10.0	10.3	8.7	9.2	9.7	9.9					-3.6	-0.7	-0.5	1.7	1.7
01/06/88	-0.7	2.0	5.6	7.8	9.3	9.9	10.2	8.6	9.1	9.6	9.9					-3.7	-0.8	-0.6	1.6	1.6
01/07/88	-0.7	2.0	5.5	7.7	9.2	9.9	10.2	8.6	9.1	9.6	9.9					-3.5	-0.8	-0.6	1.6	1.6
01/08/88	-0.8	1.9	5.4	7.6	9.1	9.8	10.1	8.5	9.0	9.5	9.8					-3.5	-0.9	-0.7	1.5	1.5
01/09/88	-0.8	1.8	5.3	7.6	9.1	9.8	10.1	8.5	9.0	9.5	9.8					-3.3	-0.9	-0.7	1.4	1.4
01/10/88	-0.8	1.8	5.2	7.5	9.0	9.7	10.1	8.4	8.9	9.5	9.8					-3.2	-0.9	-0.7	1.4	1.4
01/11/88	-0.7	1.7	5.2	7.4	8.9	9.7	10.1	8.4	8.9	9.5	9.8					-3.0	-0.9	-0.6	1.4	1.4
01/12/88	-0.7	1.7	5.1	7.3	8.9	9.6	10.0	8.3	8.7	9.4	9.7					-2.7	-0.9	-0.6	1.4	1.4
01/13/88	-0.5	1.7	5.0	7.3	8.8	9.6	10.0	8.3	8.8	9.4	9.7					-2.4	-0.8	-0.5	1.4	1.4
01/14/88	-0.4	1.8	5.0	7.2	8.8	9.5	10.0	8.2	8.7	9.4	9.7					-2.7	-0.7	-0.4	1.4	1.4
01/15/88	-0.4	1.8	4.9	7.1	8.7	9.5	9.9	8.2	8.7	9.3	9.7					-2.8	-0.7	-0.4	1.4	1.4
01/16/88	-0.5	1.8	4.9	7.0	8.6	9.4	9.9	8.1	8.6	9.3	9.6					-2.6	-0.7	-0.4	1.4	1.4
01/17/88	-0.4	1.8	4.8	7.0	8.6	9.4	9.9	8.1	8.6	9.3	9.7					-2.4	-0.7	-0.3	1.4	1.4
01/18/88	-0.4	1.7	4.8	6.9	8.5	9.3	9.8	8.0	8.5	9.2	9.6					-2.3	-0.6	-0.3	1.4	1.4
01/19/88	-0.4	1.7	4.8	6.9	8.5	9.3	9.8	8.0	8.5	9.2	9.5					-2.3	-0.6	-0.3	1.4	1.4
01/20/88	-0.4	1.7	4.7	6.8	8.4	9.2	9.8	7.9	8.5	9.1	9.5					-2.4	-0.6	-0.3	1.3	1.3
01/21/88	-0.4	1.7	4.6	6.7	8.3	9.2	9.7	7.9	8.4	9.0	9.4					-2.7	-0.6	-0.4	1.2	1.2
01/22/88	-0.6	1.7	4.6	6.7	8.3	9.2	9.7	7.8	8.4	9.0	9.5					-2.8	-0.7	-0.4	1.2	1.2
01/23/88	-0.6	1.6	4.6	6.6	8.3	9.1	9.7	7.8	8.3	9.1	9.5					-3.0	-0.7	-0.4	1.2	1.2
01/24/88	-0.8	1.5	4.5	6.6	8.2	9.0	9.6	7.7	8.3	9.0	9.4					-3.2	-0.8	-0.6	1.1	1.1
01/25/88	-0.9	1.5	4.5	6.6	8.2	9.0	9.6	7.7	8.3	9.0	9.4					-3.3	-0.9	-0.7	1.1	1.1
01/26/88	-0.9	1.4	4.5	6.5	8.1	9.0	9.6	7.7	8.2	8.9	9.4					-3.4	-1.0	-0.8	1.1	1.1
01/27/88	-1.0	1.3	4.4	6.4	8.0	8.9	9.5	7.6	8.1	8.9	9.3					-3.5	-1.1	-0.9	1.0	1.0
01/28/88	-1.1	1.3	4.3	6.4	8.0	8.9	9.5	7.5	8.1	8.8	9.3					-3.6	-1.2	-1.0	0.9	0.9
01/29/88	-1.2	1.2	4.3	6.3	7.9	8.8	9.4	7.5	8.1	8.8	9.3					-3.6	-1.2	-1.0	0.8	0.8
01/30/88	-1.2	1.1	4.2	6.3	7.9	8.8	9.4	7.4	8.0	8.7	9.3					-3.5	-1.3	-1.1	0.8	0.8

Table 2. Mean daily soil temperatures at east trench area—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert										Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
											Depth below land surface, in meters									
	0.6	0.9	1.5	2.1	2.7	3.4	3.9	3.8	4.1	4.4	5.0	5.0	5.0	5.0	5.0	0.5	0.6	0.8	0.9	0.9
01/31/88	-1.2	1.1	4.1	6.2	7.8	8.7	9.3	7.3	7.9	8.7	9.2	9.2	9.2	9.2	9.2	-3.3	-1.4	-1.1	0.7	0.7
02/01/88	-1.1	1.1	4.1	6.2	7.8	8.7	9.3	7.4	8.0	8.7	9.2	9.2	9.2	9.2	9.2	-3.0	-1.3	-1.1	0.7	0.7
02/02/88	-1.0	1.0	4.0	6.1	7.7	8.7	9.3	7.4	7.9	8.6	9.2	9.2	9.2	9.2	9.2	-2.9	-1.3	-1.0	0.7	0.7
02/03/88	-1.1	1.0	4.0	6.1	7.7	8.6	9.2	7.3	7.9	8.5	9.0	9.0	9.0	9.0	9.0	-3.2	-1.3	-1.1	0.6	0.6
02/04/88	-1.1	1.0	3.9	6.0	7.6	8.6	9.2	7.3	7.8	8.5	9.1	9.1	9.1	9.1	9.1	-3.3	-1.3	-1.0	0.6	0.6
02/05/88	-1.2	1.0	3.9	6.0	7.6	8.5	9.2	7.3	7.8	8.6	9.1	9.1	9.1	9.1	9.1	-3.3	-1.3	-1.0	0.7	0.7
02/06/88	-1.3	0.9	3.9	5.9	7.5	8.5	9.1	7.2	7.8	8.5	9.1	9.1	9.1	9.1	9.1	-3.5	-1.4	-1.1	0.6	0.6
02/07/88	-1.4	0.9	3.8	5.9	7.5	8.4	9.1	7.1	7.7	8.4	9.0	9.0	9.0	9.0	9.0	-3.6	-1.4	-1.2	0.5	0.5
02/08/88	-1.5	0.8	3.8	5.8	7.4	8.4	9.1	7.1	7.7	8.4	9.0	9.0	9.0	9.0	9.0	-3.7	-1.5	-1.2	0.5	0.5
02/09/88	-1.5	0.8	3.7	5.8	7.4	8.4	9.1	7.1	7.7	8.4	9.0	9.0	9.0	9.0	9.0	-3.6	-1.5	-1.3	0.5	0.5
02/10/88	-1.6	0.7	3.6	5.7	7.3	8.2	8.9	6.9	7.5	8.3	8.9	8.9	8.9	8.9	8.9	-3.5	-1.6	-1.4	0.4	0.4
02/11/88	-1.5	0.7	3.6	5.7	7.3	8.3	9.0	7.0	7.6	8.3	8.9	8.9	8.9	8.9	8.9	-3.0	-1.5	-1.2	0.6	0.6
02/12/88	-1.3	0.6	3.6	5.6	7.2	8.2	8.9	6.9	7.5	8.3	8.9	8.9	8.9	8.9	8.9	-2.7	-1.5	-1.1	0.5	0.5
02/13/88	-1.2	0.7	3.5	5.6	7.2	8.2	8.9	6.9	7.5	8.3	8.9	8.9	8.9	8.9	8.9	-2.4	-1.4	-1.0	0.5	0.5
02/14/88	-1.0	0.7	3.5	5.5	7.2	8.1	8.9	6.9	7.5	8.2	8.8	8.8	8.8	8.8	8.8	-2.2	-1.3	-0.9	0.5	0.5
02/15/88	-0.9	0.7	3.4	5.5	7.1	8.1	8.8	6.8	7.4	8.2	8.8	8.8	8.8	8.8	8.8	-2.0	-1.2	-0.9	0.5	0.5
02/16/88	-0.8	0.8	3.4	5.4	7.1	8.1	8.8	6.8	7.4	8.2	8.8	8.8	8.8	8.8	8.8	-1.9	-1.1	-0.7	0.6	0.6
02/17/88	-0.7	0.8	3.4	5.4	7.0	8.0	8.8	6.8	7.4	8.1	8.8	8.8	8.8	8.8	8.8	-1.7	-1.0	-0.6	0.6	0.6
02/18/88	-0.6	0.8	3.4	5.3	7.0	8.0	8.7	6.8	7.3	8.1	8.7	8.7	8.7	8.7	8.7	-1.7	-0.9	-0.5	0.7	0.7
02/19/88	-0.6	0.9	3.4	5.3	7.0	7.9	8.7	6.7	7.3	8.1	8.7	8.7	8.7	8.7	8.7	-1.7	-0.8	-0.4	0.7	0.7
02/20/88	-0.6	0.9	3.4	5.3	6.9	7.9	8.7	6.7	7.3	8.0	8.7	8.7	8.7	8.7	8.7	-1.6	-0.7	-0.3	0.7	0.7
02/21/88	-0.5	0.9	3.3	5.2	6.9	7.8	8.6	6.6	7.3	8.0	8.7	8.7	8.7	8.7	8.7	-1.4	-0.7	-0.3	0.8	0.8
02/22/88	-0.5	1.0	3.3	5.2	6.8	7.8	8.6	6.6	7.3	8.0	8.7	8.7	8.7	8.7	8.7	-1.3	-0.6	-0.2	0.8	0.8
02/23/88	-0.4	1.0	3.3	5.2	6.8	7.8	8.6	6.6	7.2	7.9	8.6	8.6	8.6	8.6	8.6	-1.1	-0.5	-0.1	0.9	0.9
02/24/88	-0.3	1.1	3.4	5.2	6.8	7.8	8.6	6.6	7.2	7.9	8.6	8.6	8.6	8.6	8.6	-0.8	-0.4	0.0	1.0	1.0
02/25/88	-0.3	1.1	3.3	5.1	6.7	7.7	8.5	6.5	7.2	7.9	8.6	8.6	8.6	8.6	8.6	-0.7	-0.2	0.6	1.5	1.5
02/26/88	-0.2	1.2	3.3	5.1	6.7	7.7	8.5	6.6	7.2	7.9	8.6	8.6	8.6	8.6	8.6	-0.5	0.1	1.1	1.9	1.9
02/27/88	-0.1	1.2	3.3	5.1	6.6	7.6	8.4	6.6	7.1	7.8	8.5	8.5	8.5	8.5	8.5	-0.3	0.3	1.1	1.8	1.8
02/28/88	-0.0	1.3	3.3	5.1	6.6	7.6	8.4	6.6	7.1	7.8	8.5	8.5	8.5	8.5	8.5	-0.1	0.4	1.1	1.8	1.8
02/29/88	0.2	1.4	3.4	5.1	6.6	7.6	8.4	6.7	7.1	7.8	8.5	8.5	8.5	8.5	8.5	0.1	0.6	1.1	1.9	1.9
03/01/88	0.3	1.4	3.4	5.0	6.5	7.5	8.3	6.6	7.1	7.8	8.4	8.4	8.4	8.4	8.4	0.2	0.7	1.2	2.0	2.0

Table 2. Mean daily soil temperatures at east trench area—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert					Depth below land surface, in meters					Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
	0.6	0.9	1.5	2.1	2.7	3.4	3.9	3.8	4.1	4.4	5.0	0.5	0.6	0.8	0.9					
03/02/88	0.6	1.5	3.3	5.0	6.5	7.4	8.3	6.6	7.1	7.7	8.4	0.4	0.9	1.4	2.1					
03/14/88	1.5	2.4	3.6	4.8	6.0	6.9	7.7	6.3	2.2	7.3	8.0	1.2	2.2	6.6	3.2					
03/15/88	1.5	2.4	3.7	4.8	6.0	6.9	7.7	6.3	6.6	7.3	7.9	1.1	2.1	2.2	3.3					
03/16/88	1.5	2.4	3.7	4.8	6.0	6.9	7.7	6.2	6.6	7.3	7.9	1.2	2.1	2.2	3.3					
03/17/88	1.6	2.4	3.7	4.8	6.0	6.8	7.7	6.3	6.6	7.3	7.9	1.3	2.2	2.2	3.4					
03/18/88	1.8	2.4	3.7	4.8	6.0	6.8	7.6	6.3	6.6	7.3	7.9	1.6	2.3	2.3	3.4					
03/19/88	2.1	2.5	3.7	4.8	6.0	6.8	7.6	6.3	6.6	7.3	7.9	2.1	2.5	2.4	3.3					
03/20/88	2.5	2.6	3.7	4.8	5.9	6.8	7.6	6.2	6.6	7.2	7.9	2.7	2.7	2.6	3.4					
03/26/88	3.7	3.5	4.0	4.8	5.9	6.7	7.4	6.2	6.5	7.2	7.8	3.9	3.7	3.6	3.9					
03/27/88	4.1	3.6	4.0	4.9	5.9	6.7	7.4	6.2	6.6	7.2	7.8	4.6	4.0	3.8	4.0					
03/29/88	4.3	3.8	4.1	4.9	5.9	6.6	7.4	6.2	6.5	7.2	7.8	4.3	4.2	4.0	4.1					
03/30/88	4.2	4.0	4.1	4.9	5.9	6.6	7.4	6.2	6.5	7.2	7.8	4.1	4.3	4.1	4.2					
03/31/88	4.0	4.0	4.2	4.9	5.9	6.6	7.4	6.2	6.5	7.2	7.7	3.7	4.2	4.0	4.3					
04/01/88	3.7	4.0	4.3	5.0	5.9	6.6	7.4	6.2	6.5	7.1	7.8	3.3	4.1	3.8	4.3					
04/02/88	3.7	4.0	4.3	5.0	5.9	6.6	7.3	6.1	6.5	7.1	7.7	3.4	3.9	3.7	4.3					
04/03/88	4.0	4.0	4.4	5.0	5.9	6.6	7.3	6.1	6.5	7.1	7.7	3.9	3.9	3.7	4.2					
04/04/88	4.5	4.1	4.4	5.0	5.9	6.6	7.3	6.1	6.5	7.1	7.7	4.7	4.2	4.0	4.3					
04/05/88	4.7	4.2	4.4	5.0	5.9	6.6	7.3	6.1	6.4	7.1	7.7	4.8	4.5	4.2	4.4					
04/06/88	4.7	4.4	4.5	5.1	5.9	6.6	7.3	6.1	6.4	7.0	7.7	4.7	4.6	4.4	4.5					
04/07/88	4.9	4.5	4.6	5.1	5.9	6.6	7.3	6.1	6.4	7.0	7.6	5.0	4.7	4.5	4.6					
04/08/88	5.4	4.6	4.6	5.1	5.9	6.5	7.3	6.1	6.4	7.0	7.6	5.7	4.9	4.7	4.7					
04/09/88	5.6	4.8	4.7	5.1	5.9	6.5	7.3	6.1	6.5	7.1	7.6	5.9	5.2	5.0	4.8					
04/10/88	5.7	5.0	4.7	5.2	5.9	6.5	7.3	6.1	6.4	7.0	7.6	5.8	5.3	5.1	4.9					
04/11/88	5.7	5.1	4.8	5.2	5.9	6.5	7.2	6.1	6.4	7.0	7.6	5.8	5.4	5.2	5.1					
04/12/88	5.9	5.2	4.9	5.2	5.9	6.5	7.2	6.1	6.4	7.0	7.6	6.1	5.5	5.3	5.2					
04/13/88	6.3	5.3	5.0	5.3	5.9	6.5	7.2	6.1	6.4	7.0	7.6	6.8	5.7	5.5	5.3					
04/14/88	6.9	5.6	5.0	5.3	5.9	6.5	7.2	6.1	6.4	7.0	7.6	7.5	6.1	5.8	5.4					
04/15/88	7.4	5.8	5.1	5.3	5.9	6.5	7.2	6.1	6.4	7.0	7.6	8.2	6.5	6.3	5.7					
04/16/88	7.8	6.1	5.2	5.4	5.9	6.5	7.2	6.1	6.4	7.0	7.5	8.7	7.0	6.7	5.9					

Table 2. Mean daily soil temperatures at east trench area—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert										Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
	0.6	0.9	1.5	2.1	2.7	3.4	3.9	3.8	4.1	4.4	5.0	0.5	0.6	0.8	0.9					
04/17/88	8.2	6.4	5.3	5.4	5.9	6.5	7.2	6.1	6.4	7.0	7.5	9.1	7.4	7.1	6.2					
04/18/88	8.7	6.7	5.4	5.5	6.0	6.5	7.2	6.1	6.4	7.0	7.5	9.7	7.8	7.4	6.5					
04/19/88	--	--	5.5	5.5	6.0	6.5	7.1	6.1	6.4	6.9	7.5	10.3	8.2	7.9	6.8					
04/20/88	--	--	5.7	5.6	6.0	6.5	7.1	6.1	6.4	6.9	7.5	10.0	8.5	8.1	7.1					
04/21/88	--	--	5.8	5.6	6.0	6.5	7.1	6.1	6.4	6.9	7.5	9.9	8.7	8.3	7.3					
05/18/88	12.0	9.6	7.7	7.0	6.8	6.9	7.2	9.1	6.7	7.1	7.5	13.3	10.9	10.6	9.4					
05/19/88	12.2	9.9	7.8	7.0	6.8	6.9	7.2	8.8	6.7	7.1	7.4	13.1	11.3	10.9	9.6					
05/20/88	12.2	10.1	7.9	7.1	6.8	6.9	7.2	8.9	6.7	7.1	7.4	13.1	11.5	11.1	9.9					
05/21/88	12.3	10.2	8.0	7.2	6.9	6.9	7.2	9.2	6.7	7.1	7.4	13.2	11.6	11.2	10.1					
05/22/88	12.5	10.4	8.1	7.2	6.9	7.0	7.2	9.3	6.7	7.1	7.4	13.6	11.8	11.4	10.3					
05/23/88	12.8	10.5	8.3	7.3	6.9	7.0	7.2	9.6	6.8	7.2	7.5	14.0	12.1	11.6	10.4					
05/24/88	13.2	10.8	8.4	7.4	7.0	7.0	7.2	9.9	6.8	7.2	7.5	14.6	12.4	11.9	10.7					
05/25/88	13.6	11.0	8.5	7.4	7.0	7.0	7.2	9.7	6.8	7.2	--	15.7	12.9	12.4	10.9					
05/26/88	14.1	11.2	8.6	7.5	7.1	7.0	7.2	9.6	6.8	7.2	--	16.2	13.3	12.8	11.2					
05/27/88	14.3	11.5	8.7	7.6	7.1	7.1	7.2	9.7	6.9	7.2	--	16.3	13.6	13.1	11.4					
05/28/88	14.5	11.7	8.9	7.6	7.1	7.1	7.2	9.8	6.9	7.2	--	16.5	13.9	13.4	11.6					
05/29/88	14.7	11.9	9.0	7.7	7.2	7.1	7.3	9.8	6.9	7.3	--	16.4	14.1	13.6	11.9					
05/30/88	14.7	12.1	9.1	7.8	7.2	7.1	7.3	9.7	6.9	7.3	--	16.3	14.3	13.7	12.1					
05/31/88	14.6	12.2	9.3	7.9	7.2	7.2	7.3	9.6	6.9	7.3	--	15.5	14.3	13.7	12.2					
06/01/88	14.0	12.3	9.4	7.9	7.3	7.2	7.3	9.7	7.0	7.3	--	14.0	14.1	13.4	12.3					
06/02/88	13.3	12.1	9.5	8.0	7.3	7.2	7.3	9.8	7.0	7.3	--	13.3	13.6	12.9	12.2					
06/03/88	13.0	11.9	9.6	8.1	7.4	7.2	7.3	10.0	7.0	7.3	--	13.1	13.2	12.6	12.1					
06/04/88	13.1	11.8	9.7	8.2	7.4	7.3	7.3	10.2	7.0	7.4	--	13.8	13.0	12.4	12.0					
06/05/88	13.6	11.8	9.7	8.3	7.5	7.3	7.3	10.3	7.1	7.4	--	15.1	13.1	12.6	11.9					
06/06/88	14.2	11.9	9.8	8.3	7.5	7.3	7.4	10.4	7.1	7.4	--	16.1	13.5	13.0	11.9					
06/07/88	14.8	12.2	9.8	8.4	7.6	7.3	7.4	10.4	7.1	7.4	--	16.6	13.9	13.4	12.0					
06/08/88	15.1	12.5	9.9	8.5	7.6	7.4	7.4	10.4	7.1	7.5	--	16.7	14.3	13.8	12.2					
06/09/88	15.2	12.7	10.0	8.5	7.7	7.4	7.4	10.4	7.2	7.5	--	16.7	14.5	14.0	12.4					
06/10/88	15.2	12.8	10.1	8.6	7.7	7.4	7.4	10.6	7.2	7.5	--	16.4	14.6	14.1	12.6					
06/11/88	15.3	13.0	10.2	8.6	7.8	7.5	7.5	10.7	7.2	7.5	--	16.6	14.7	14.2	12.7					

Table 2. Mean daily soil temperatures at east trench area—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert							Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
	Depth below land surface, in meters							3.8	4.1	4.4	5.0		0.5	0.6	0.8	0.9	
06/12/88	0.6	0.9	1.5	2.1	2.7	3.4	3.9	10.8	7.2	7.5	--	17.0	14.8	14.3	14.3	12.8	
06/13/88	15.5	13.1	10.3	8.7	7.8	7.5	7.5	10.9	7.3	7.6	--	17.5	15.0	14.5	14.5	13.0	
06/14/88	15.8	13.2	10.4	8.8	7.9	7.6	7.5	11.0	7.3	7.6	--	17.7	15.3	14.7	14.7	13.1	
06/15/88	16.1	13.4	10.5	8.9	7.9	7.6	7.5	11.1	7.3	7.6	--	18.0	15.5	14.9	14.9	13.3	
06/16/88	16.3	13.6	10.6	8.9	8.0	7.6	7.5	11.2	7.4	7.6	--	18.3	15.7	15.2	15.2	13.4	
06/17/88	16.5	13.7	10.7	9.0	8.0	7.7	7.5	11.4	7.4	7.7	--	18.7	16.0	15.4	15.4	13.6	
06/18/88	16.8	13.9	10.8	9.1	8.1	7.7	7.6	11.4	7.4	7.7	--	18.9	16.3	15.7	15.7	13.8	
06/19/88	17.1	14.1	10.9	9.1	8.1	7.7	7.6	11.6	7.4	7.7	--	18.8	16.4	15.8	15.8	14.0	
06/20/88	17.2	14.3	11.0	9.2	8.2	7.8	7.6	11.8	7.5	7.7	--	19.1	16.6	16.0	16.0	14.2	
06/21/88	17.3	14.4	11.1	9.3	8.2	7.8	7.6	11.9	7.5	7.8	--	19.9	16.8	16.2	16.2	14.4	
06/22/88	17.7	14.6	11.2	9.4	8.3	7.8	7.7	12.0	7.5	7.8	--	20.5	17.2	16.6	16.6	14.6	
06/23/88	18.1	14.8	11.3	9.4	8.3	7.9	7.7	12.2	7.6	7.8	--	21.0	17.6	16.9	16.9	14.8	
06/24/88	18.5	15.0	11.5	9.5	8.4	7.9	7.7	12.3	7.6	7.8	--	21.4	17.9	17.3	17.3	15.1	
06/25/88	18.9	15.3	11.6	9.6	8.4	7.9	7.7	12.5	7.6	7.9	--	21.8	18.3	17.6	17.6	15.3	
06/26/88	19.2	15.5	11.7	9.7	8.5	8.0	7.8	12.6	7.6	7.9	--	22.2	18.7	18.0	18.0	15.6	
06/27/88	19.6	15.8	11.8	9.8	8.5	8.0	7.8	12.6	7.7	7.9	--	22.3	19.0	18.3	18.3	15.9	
06/28/88	19.9	16.1	12.0	9.9	8.6	8.0	7.8	12.7	7.7	7.9	--	22.0	19.2	18.5	18.5	16.2	
06/29/88	19.9	16.3	12.2	10.0	8.6	8.1	7.8	12.8	7.8	8.0	--	21.9	19.3	18.6	18.6	16.4	
06/30/88	19.9	16.5	12.3	10.1	8.7	8.1	7.8	12.8	7.8	8.0	--	21.6	19.3	18.6	18.6	16.5	
07/01/88	19.9	16.6	12.5	10.2	8.8	8.2	7.9	12.9	7.8	8.0	--	21.0	19.3	18.5	18.5	16.6	
07/02/88	19.7	16.7	12.6	10.2	8.8	8.2	7.9	13.0	7.9	8.1	--	20.9	19.2	18.4	18.4	16.7	
07/03/88	19.5	16.7	12.7	10.4	8.9	8.3	7.9	13.2	7.9	8.1	--	21.0	19.1	18.3	18.3	16.7	
07/04/88	19.5	16.7	12.8	10.4	8.9	8.3	7.9	13.4	7.9	8.1	--	21.2	19.1	18.3	18.3	16.7	
07/05/88	19.6	16.7	12.9	10.5	9.0	8.3	8.0	13.4	8.0	8.2	--	21.6	19.2	18.4	18.4	16.8	
07/06/88	19.8	16.8	13.0	10.6	9.1	8.4	8.0	13.4	8.0	8.2	--	21.8	19.4	18.6	18.6	16.8	
07/07/88	20.0	16.9	13.1	10.7	9.1	8.4	8.0	13.4	8.0	8.2	--	21.5	19.5	18.7	18.7	16.9	
07/08/88	20.1	17.0	13.2	10.8	9.2	8.5	8.1	13.4	8.1	8.2	--	20.9	19.5	18.7	18.7	17.0	
07/09/88	19.9	17.1	13.3	10.9	9.3	8.5	8.1	13.5	8.1	8.3	--	20.8	19.4	18.5	18.5	17.0	
07/10/88	19.7	17.1	13.4	11.0	9.3	8.6	8.1	13.6	8.1	8.3	--	21.1	19.3	18.5	18.5	17.0	
07/11/88	19.7	17.1	13.5	11.1	9.4	8.6	8.2	13.8	8.2	8.3	--	21.5	19.4	18.5	18.5	17.0	
07/12/88	20.1	17.2	13.6	11.2	9.5	8.7	8.2	13.8	8.2	8.4	--	21.6	19.5	18.7	18.7	17.1	

Table 2. Mean daily soil temperatures at east trench area—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert							Depth below land surface, in meters					Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
	0.6	0.9	1.5	2.1	2.7	3.4	3.9	3.8	4.1	4.4	5.0	5.0	0.5	0.6	0.8	0.9		0.5	0.6	0.8	0.9	
07/13/88	20.2	17.3	13.7	11.3	9.6	8.8	8.2	14.0	8.3	8.4	--	--	21.7	19.6	18.8	17.2		21.7	19.6	18.8	17.2	
07/14/88	20.2	17.4	13.8	11.4	9.6	8.8	8.3	14.1	8.3	8.5	--	--	21.5	19.6	18.9	17.2		21.5	19.6	18.9	17.2	
07/15/88	20.3	17.4	13.8	11.4	9.7	8.9	8.3	14.2	8.4	8.5	--	--	21.7	19.7	18.9	17.3		21.7	19.7	18.9	17.3	
07/16/88	20.4	17.5	13.9	11.5	9.8	8.9	8.4	14.3	8.4	8.6	--	--	21.9	19.7	19.0	17.4		21.9	19.7	19.0	17.4	
07/17/88	20.5	17.6	14.0	11.6	9.8	8.9	8.4	14.4	8.5	8.6	--	--	22.1	19.9	19.1	17.5		22.1	19.9	19.1	17.5	
07/18/88	20.7	17.7	14.0	11.7	9.9	9.0	8.4	14.4	8.5	8.6	--	--	22.3	20.0	19.2	17.5		22.3	20.0	19.2	17.5	
07/19/88	20.8	17.8	14.1	11.7	10.0	9.0	8.5	14.4	8.5	8.7	--	--	22.3	20.1	19.4	17.6		22.3	20.1	19.4	17.6	
07/20/88	20.9	17.9	14.2	11.8	10.0	9.1	8.5	14.5	8.6	8.7	--	--	22.4	20.2	19.4	17.7		22.4	20.2	19.4	17.7	
07/21/88	21.0	18.0	14.3	11.9	10.1	9.1	8.5	14.6	8.6	8.7	--	--	22.4	20.3	19.5	17.8		22.4	20.3	19.5	17.8	
07/22/88	21.0	18.1	14.3	11.9	10.1	9.2	8.5	14.7	8.6	8.8	--	--	22.5	20.4	19.6	17.9		22.5	20.4	19.6	17.9	
07/23/88	21.2	18.2	14.4	12.0	10.2	9.2	8.6	14.9	8.7	8.8	--	--	22.8	20.5	19.7	18.0		22.8	20.5	19.7	18.0	
07/24/88	21.4	18.3	14.5	12.1	10.2	9.3	8.6	14.9	8.7	8.8	--	--	22.9	20.6	19.8	18.1		22.9	20.6	19.8	18.1	
07/25/88	21.5	18.4	14.6	12.2	10.3	9.3	8.7	15.0	8.8	8.9	--	--	23.0	20.7	20.0	18.2		23.0	20.7	20.0	18.2	
07/26/88	21.6	18.5	14.7	12.2	10.4	9.4	8.7	15.1	8.8	8.9	--	--	23.2	20.8	20.1	18.3		23.2	20.8	20.1	18.3	
07/27/88	21.7	18.6	14.8	12.3	10.4	9.4	8.7	15.1	8.9	9.0	--	--	23.3	21.0	20.2	18.4		23.3	21.0	20.2	18.4	
07/28/88	21.8	18.7	14.8	12.3	10.5	9.5	8.8	15.1	8.9	9.0	--	--	23.2	21.1	20.3	18.5		23.2	21.1	20.3	18.5	
07/29/88	21.7	18.8	14.9	12.4	10.5	9.5	8.8	15.2	8.9	9.0	--	--	23.0	21.1	20.3	18.6		23.0	21.1	20.3	18.6	
07/30/88	21.7	18.8	15.0	12.5	10.6	9.6	8.8	15.3	9.0	9.1	--	--	23.0	21.1	20.3	18.7		23.0	21.1	20.3	18.7	
07/31/88	21.7	18.8	15.1	12.6	10.7	9.6	8.9	15.4	9.0	9.1	--	--	23.2	21.1	20.3	18.7		23.2	21.1	20.3	18.7	
08/01/88	21.9	18.9	15.1	12.6	10.7	9.7	8.9	15.5	9.1	9.1	--	--	23.5	21.2	20.4	18.8		23.5	21.2	20.4	18.8	
08/02/88	22.0	19.0	15.2	12.7	10.8	9.7	9.0	15.5	9.1	9.2	--	--	23.5	21.3	20.5	18.8		23.5	21.3	20.5	18.8	
08/03/88	22.0	19.1	15.3	12.8	10.8	9.8	9.0	15.4	9.2	9.2	--	--	23.2	21.4	20.6	18.9		23.2	21.4	20.6	18.9	
08/04/88	21.9	19.1	15.3	12.8	10.9	9.8	9.0	15.5	9.2	9.3	--	--	23.1	21.4	20.6	19.0		23.1	21.4	20.6	19.0	
08/05/88	21.8	19.2	15.4	12.9	11.0	9.9	9.1	15.5	9.2	9.3	--	--	22.8	21.3	20.5	19.0		22.8	21.3	20.5	19.0	
08/06/88	21.7	19.1	15.5	13.0	11.0	9.9	9.1	15.6	9.3	9.3	--	--	22.6	21.2	20.4	19.0		22.6	21.2	20.4	19.0	
08/07/88	21.7	19.1	15.5	13.0	11.1	10.0	9.1	15.6	9.3	9.4	--	--	22.7	21.1	20.4	19.0		22.7	21.1	20.4	19.0	
08/08/88	21.6	19.1	15.6	13.1	11.1	10.0	9.2	15.6	9.4	9.4	--	--	22.6	21.1	20.3	19.0		22.6	21.1	20.3	19.0	
08/09/88	21.6	19.1	15.6	13.2	11.2	10.1	9.2	15.7	9.4	9.4	--	--	22.4	21.1	20.3	19.0		22.4	21.1	20.3	19.0	
08/10/88	21.5	19.1	15.7	13.2	11.2	10.1	9.2	15.7	9.4	9.5	--	--	22.3	21.0	20.2	19.0		22.3	21.0	20.2	19.0	
08/11/88	21.4	19.1	15.7	13.3	11.3	10.1	9.3	15.8	9.5	9.5	--	--	22.3	20.9	20.2	18.9		22.3	20.9	20.2	18.9	
08/12/88	21.4	19.1	15.7	13.3	11.3	10.2	9.3	15.8	9.5	9.6	--	--	22.2	20.9	20.1	18.9		22.2	20.9	20.1	18.9	

Table 2. Mean daily soil temperatures at east trench area—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert								Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
									Depth below land surface, in meters									
0.6	0.9	1.5	2.1	2.7	3.4	3.9	3.8	4.1	4.4	5.0	0.5	0.6	0.8	0.9				
08/13/88	21.4	19.1	15.8	13.4	11.4	10.2	9.4	15.6	9.6	9.6	--	22.2	20.9	20.1	18.9			
08/14/88	21.1	19.0	15.8	13.4	11.4	10.3	9.4	15.7	9.6	9.6	--	21.3	20.8	20.0	18.9			
08/15/88	20.8	19.0	15.8	13.5	11.5	10.3	9.4	15.8	9.6	9.7	--	21.0	20.5	19.8	18.8			
08/16/88	20.6	18.9	15.9	13.5	11.6	10.4	9.5	15.8	9.7	9.7	--	21.0	20.3	19.6	18.7			
08/17/88	20.6	18.8	15.9	13.6	11.6	10.4	9.5	15.8	9.7	9.7	--	21.1	20.2	19.5	18.6			
08/18/88	20.6	18.7	15.9	13.6	11.6	10.5	9.5	15.8	9.7	9.7	--	21.0	20.1	19.4	18.5			
08/19/88	20.6	18.7	15.9	13.6	11.7	10.5	9.6	15.8	9.8	9.8	--	21.0	20.1	19.4	18.5			
08/20/88	20.5	18.7	15.9	13.7	11.7	10.6	9.6	15.9	9.8	9.8	--	21.0	20.0	19.4	18.4			
08/21/88	20.5	18.7	15.9	13.7	11.8	10.6	9.7	15.9	9.9	9.9	--	21.0	20.0	19.3	18.4			
08/22/88	20.5	18.6	15.9	13.8	11.8	10.6	9.7	15.9	9.9	9.9	--	20.9	20.0	19.3	18.4			
08/23/88	20.4	18.6	15.9	13.8	11.9	10.7	9.7	15.9	9.9	9.9	--	20.7	19.9	19.2	18.3			
08/24/88	20.3	18.6	15.9	13.8	11.9	10.7	9.8	15.9	10.0	9.9	--	20.6	19.8	19.2	18.3			
08/25/88	20.2	18.5	15.9	13.8	12.0	10.8	9.8	16.0	10.0	10.0	--	20.5	19.7	19.1	18.3			
08/26/88	20.2	18.5	15.9	13.9	12.0	10.8	9.8	16.0	10.0	10.0	--	20.7	19.7	19.0	18.2			
08/27/88	20.4	18.5	15.9	13.9	12.0	10.9	9.9	16.0	10.1	10.1	--	21.0	19.7	19.1	18.2			
08/28/88	20.5	18.5	15.9	13.9	12.1	10.9	9.9	15.9	10.1	10.1	--	21.1	19.8	19.2	18.2			
08/29/88	20.4	18.6	15.9	13.9	12.1	10.9	9.9	16.0	10.1	10.1	--	20.8	19.8	19.2	18.2			
08/30/88	20.3	18.6	15.9	14.0	12.2	11.0	10.0	16.0	10.2	10.2	--	20.6	19.8	19.2	18.2			
08/31/88	20.2	18.5	15.9	14.0	12.2	11.0	10.0	16.1	10.2	10.2	--	20.6	19.7	19.1	18.2			
09/01/88	20.2	18.5	16.0	14.0	12.2	11.0	10.1	16.0	10.2	10.2	--	20.6	19.7	19.1	18.2			
09/02/88	20.1	18.5	15.9	14.0	12.3	11.1	10.1	16.0	10.3	10.2	--	20.5	19.7	19.1	18.2			
09/03/88	20.0	18.4	16.0	14.1	12.3	11.1	10.1	16.0	10.3	10.3	--	20.4	19.6	19.0	18.2			
09/04/88	19.8	18.4	16.0	14.1	12.3	11.2	10.2	16.0	10.3	10.3	--	20.1	19.5	18.9	18.1			
09/05/88	19.5	18.3	16.0	14.1	12.4	11.2	10.2	15.9	10.3	10.3	--	19.8	19.4	18.8	18.1			
09/06/88	19.3	18.2	16.0	14.1	12.4	11.2	10.2	15.9	10.4	10.3	--	19.3	19.2	18.6	18.0			
09/07/88	19.3	18.1	15.9	14.1	12.4	11.3	10.3	16.0	10.4	10.4	--	19.2	19.0	18.5	17.9			
09/08/88	19.2	18.0	15.9	14.1	12.4	11.3	10.3	15.9	10.5	10.4	--	19.3	18.9	18.3	17.8			
09/09/88	19.2	18.0	15.9	14.2	12.5	11.3	10.3	15.8	10.5	10.4	--	19.3	18.8	18.3	17.8			
09/10/88	19.0	17.9	15.9	14.2	12.5	11.4	10.4	15.9	10.5	10.5	--	19.1	18.8	18.2	17.7			
09/11/88	18.9	17.8	15.9	14.2	12.5	11.4	10.4	15.7	10.6	10.5	--	18.8	18.6	18.1	17.6			
09/12/88	18.8	17.7	15.8	14.2	12.5	11.4	10.4	15.3	10.6	10.5	--	18.4	18.5	17.9	17.5			

Table 2. Mean daily soil temperatures at east trench area—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert										Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
											Depth below land surface, in meters									
	0.6	0.9	1.5	2.1	2.7	3.4	3.9	3.8	4.1	4.4	5.0	0.5	0.6	0.8	0.9					
09/13/88	18.3	17.7	15.8	14.2	12.6	11.4	10.5	15.4	10.6	10.5	--	17.3	18.2	17.6	17.4					
09/14/88	17.8	17.4	15.8	14.2	12.6	11.5	10.5	15.3	10.6	10.5	--	16.8	17.8	17.3	17.2					
09/15/88	17.4	17.2	15.8	14.2	12.6	11.5	10.5	15.4	10.7	10.6	--	16.5	17.4	16.9	17.0					
09/16/88	17.2	17.0	15.7	14.2	12.6	11.5	10.5	15.4	10.7	10.6	--	16.5	17.2	16.7	16.8					
09/17/88	17.1	16.8	15.7	14.2	12.7	11.6	10.6	15.3	10.7	10.6	--	16.5	17.0	16.5	16.6					
09/18/88	16.9	16.7	15.6	14.2	12.7	11.6	10.6	15.1	10.7	10.7	--	16.2	16.8	16.4	16.5					
09/19/88	16.7	16.6	15.5	14.2	12.7	11.6	10.6	14.9	10.7	10.7	--	15.7	16.6	16.2	16.3					
09/20/88	16.3	16.4	15.5	14.2	12.7	11.6	10.6	14.7	10.8	10.7	--	15.1	16.3	15.9	16.1					
09/21/88	15.9	16.2	15.4	14.2	12.7	11.7	10.7	14.6	10.8	10.7	--	14.7	16.0	15.6	15.9					
09/22/88	15.5	16.0	15.3	14.1	12.7	11.7	10.7	14.8	10.8	10.7	--	14.2	15.7	15.3	15.7					
09/23/88	15.3	15.8	15.2	14.1	12.7	11.7	10.7	14.7	10.8	10.7	--	14.1	15.4	15.0	15.5					
09/24/88	15.1	15.6	15.1	14.1	12.8	11.7	10.7	14.7	10.9	10.8	--	14.0	15.1	14.8	15.3					
09/25/88	15.1	15.4	15.1	14.1	12.8	11.8	10.8	14.7	10.9	10.8	--	14.0	15.0	14.6	15.1					
09/26/88	15.0	15.3	15.0	14.0	12.8	11.8	10.8	14.7	10.9	10.8	--	14.1	14.9	14.6	15.0					
09/27/88	15.0	15.2	14.9	14.0	12.8	11.8	10.8	14.7	10.9	10.8	--	14.1	14.8	14.5	14.8					
09/28/88	15.0	15.1	14.8	14.0	12.8	11.8	10.8	14.3	10.9	10.8	--	14.2	14.7	14.5	14.7					
09/29/88	14.8	15.0	14.7	13.9	12.8	11.8	10.9	14.3	10.9	10.8	--	13.6	14.6	14.3	14.6					
09/30/88	14.5	14.9	14.7	13.9	12.8	11.8	10.9	14.4	10.9	10.9	--	13.3	14.4	14.1	14.5					
10/01/88	14.4	14.8	14.6	13.9	12.8	11.8	10.9	14.4	10.9	10.9	--	13.3	14.2	14.0	14.4					
10/02/88	14.4	14.7	14.5	13.8	12.8	11.9	10.9	14.4	11.0	10.9	--	13.5	14.1	13.9	14.3					
10/03/88	14.5	14.6	14.5	13.8	12.8	11.9	11.0	14.3	11.0	10.9	--	13.7	14.1	13.9	14.2					
10/04/88	14.6	14.6	14.4	13.8	12.8	11.9	11.0	14.3	11.0	10.9	--	13.8	14.1	13.9	14.1					
10/05/88	14.6	14.5	14.3	13.7	12.7	11.9	11.0	14.3	11.0	10.9	--	13.8	14.1	13.9	14.1					
10/06/88	14.6	14.5	14.3	13.7	12.7	11.9	11.0	14.3	11.0	10.9	--	13.9	14.1	13.9	14.1					
10/07/88	14.6	14.5	14.2	13.6	12.7	11.9	11.0	14.2	11.0	10.9	--	13.9	14.1	13.9	14.1					
10/08/88	14.5	14.5	14.2	13.6	12.7	11.9	11.0	14.2	11.0	10.9	--	13.7	14.1	13.9	14.0					
10/09/88	14.4	14.4	14.1	13.6	12.7	11.9	11.0	14.2	11.0	10.9	--	13.6	14.0	13.8	14.0					
10/10/88	14.3	14.3	14.1	13.5	12.7	11.9	11.1	14.1	11.0	10.9	--	13.6	13.9	13.8	13.9					
10/11/88	14.3	14.3	14.0	13.5	12.7	11.9	11.1	14.0	11.1	11.0	--	13.6	13.9	13.8	13.9					
10/12/88	14.3	14.3	14.0	13.5	12.7	11.9	11.1	14.0	11.1	11.0	--	13.4	13.9	13.7	13.9					
10/13/88	14.1	14.2	13.9	13.5	12.7	11.9	11.1	13.8	11.1	11.0	--	13.2	13.8	13.6	13.8					

Table 2. Mean daily soil temperatures at east trench area—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert										Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
											Depth below land surface, in meters									
	0.6	0.9	1.5	2.1	2.7	3.4	3.9	3.8	4.1	4.4	5.0	0.5	0.6	0.8	0.9					
10/14/88	13.9	14.1	13.9	13.4	12.7	11.9	11.1	13.8	11.1	11.0	--	13.0	13.7	13.5	13.8					
10/15/88	13.8	14.0	13.9	13.4	12.6	11.9	11.1	13.8	11.1	11.0	--	12.8	13.5	13.4	13.7					
10/16/88	13.6	13.9	13.8	13.4	12.6	11.9	11.1	13.7	11.1	11.0	--	12.7	13.4	13.3	13.6					
10/17/88	13.5	13.8	13.8	13.4	12.6	11.9	11.1	13.8	11.1	11.0	--	12.7	13.3	13.2	13.5					
10/18/88	13.5	13.8	13.7	13.3	12.6	11.9	11.2	13.7	11.1	11.0	--	12.9	13.2	13.1	13.4					
10/19/88	13.5	13.7	13.7	13.3	12.6	11.9	11.2	13.7	11.1	11.0	--	12.8	13.2	13.1	13.3					
10/20/88	13.5	13.7	13.6	13.3	12.6	11.9	11.2	13.6	11.1	11.0	--	12.8	13.2	13.1	13.3					
10/21/88	13.5	13.6	13.6	13.2	12.6	11.9	11.2	13.5	11.1	11.0	--	12.8	13.1	13.1	13.3					
10/22/88	13.3	13.6	13.5	13.2	12.6	11.9	11.2	13.5	11.1	11.0	--	12.4	13.1	13.0	13.2					
10/23/88	13.2	13.5	13.5	13.2	12.5	11.9	11.2	13.4	11.1	11.0	--	12.3	13.0	12.9	13.1					
10/24/88	13.0	13.4	13.4	13.1	12.5	11.9	11.2	13.3	11.1	11.0	--	12.1	12.9	12.8	13.1					
10/25/88	12.8	13.3	13.4	13.1	12.5	11.9	11.2	13.2	11.1	11.0	--	11.8	12.7	12.6	13.0					
10/26/88	12.6	13.2	13.3	13.1	12.5	11.9	11.2	13.3	11.1	11.0	--	11.6	12.6	12.5	12.9					
10/27/88	12.5	13.1	13.3	13.0	12.5	11.9	11.2	13.2	11.1	11.0	--	11.6	12.4	12.3	12.8					
10/28/88	12.4	13.0	13.2	13.0	12.5	11.9	11.2	12.8	11.1	11.0	--	11.2	12.3	12.2	12.7					
10/29/88	12.1	12.9	13.2	13.0	12.5	11.9	11.2	13.0	11.1	11.0	--	10.7	12.1	12.0	12.6					
10/30/88	11.8	12.7	13.1	12.9	12.4	11.9	11.2	12.8	11.1	11.0	--	10.5	11.9	11.8	12.5					
10/31/88	11.6	12.6	13.1	12.9	12.4	11.9	11.2	12.8	11.1	11.0	--	10.3	11.7	11.6	12.3					
11/01/88	11.4	12.4	13.0	12.9	12.4	11.9	11.2	12.7	11.1	11.0	--	10.1	11.5	11.4	12.2					
11/02/88	11.2	12.3	12.9	12.9	12.4	11.9	11.2	12.7	11.1	11.0	--	9.8	11.3	11.2	12.0					
11/03/88	11.0	12.1	12.9	12.8	12.4	11.9	11.2	12.3	11.1	11.0	--	9.7	11.1	11.1	11.9					
11/04/88	10.9	12.0	12.8	12.8	12.3	11.8	11.3	12.2	11.1	11.0	--	9.8	10.9	10.9	11.7					
11/05/88	10.8	11.9	12.7	12.7	12.3	11.8	11.2	11.9	11.1	11.0	--	9.6	10.8	10.8	11.6					
11/06/88	10.6	11.8	12.6	12.7	12.3	11.8	11.3	11.9	11.1	11.0	--	9.0	10.7	10.7	11.5					
11/07/88	10.3	11.6	12.5	12.6	12.3	11.8	11.3	11.7	11.1	11.0	--	8.7	10.4	10.5	11.3					
11/08/88	10.0	11.4	12.5	12.6	12.3	11.8	11.2	11.6	11.1	11.0	--	8.3	10.2	10.2	11.1					
11/09/88	9.7	11.3	12.4	12.5	12.2	11.8	11.2	11.5	11.1	11.0	--	8.0	9.9	10.0	11.0					
11/10/88	9.4	11.1	12.3	12.5	12.2	11.8	11.2	11.2	11.0	11.0	--	7.6	9.7	9.7	10.8					
11/11/88	9.1	10.9	12.2	12.4	12.2	11.8	11.2	11.2	11.0	11.0	--	7.1	9.4	9.4	10.6					
11/12/88	8.7	10.7	12.1	12.4	12.2	11.8	11.2	11.0	11.0	11.0	--	6.7	9.1	9.1	10.4					
11/13/88	8.4	10.4	12.0	12.4	12.1	11.8	11.2	10.8	11.0	10.9	--	6.4	8.8	8.9	10.2					

Table 2. Mean daily soil temperatures at east trench area—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert							Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
								Depth below land surface, in meters									
								3.4	3.9	3.8	4.1	4.4					
	0.6	0.9	1.5	2.1	2.7	3.4	3.9	3.8	4.1	4.4	5.0	0.5	0.6	0.8	0.9		
11/14/88	8.0	10.2	11.9	12.3	12.1	11.8	11.2	10.9	11.0	10.9	--	6.0	8.5	8.6	10.0		
11/15/88	7.8	10.0	11.8	12.3	12.1	11.7	11.2	10.3	11.0	10.9	--	5.8	8.2	8.3	9.7		
11/16/88	7.5	9.8	11.7	12.2	12.1	11.7	11.2	10.0	11.0	10.9	--	5.6	7.9	8.1	9.5		
11/17/88	7.3	9.6	11.6	12.1	12.0	11.7	11.2	10.2	11.0	10.9	--	5.4	7.7	7.9	9.2		
11/18/88	7.1	9.4	11.4	12.0	12.0	11.7	11.2	10.1	11.0	10.9	--	5.3	7.5	7.7	9.1		
11/19/88	6.9	9.2	11.3	12.0	12.0	11.7	11.2	9.4	10.9	10.9	--	5.1	7.3	7.5	8.9		
11/20/88	6.7	9.0	11.2	11.9	11.9	11.7	11.2	9.8	10.9	10.9	--	5.0	7.1	7.3	8.7		
11/21/88	6.5	8.8	11.1	11.8	11.9	11.7	11.2	9.8	10.9	10.9	--	4.8	6.9	7.2	8.5		
11/22/88	6.3	8.7	11.0	11.8	11.9	11.6	11.2	9.6	10.9	10.8	--	4.7	6.7	7.0	8.4		
11/23/88	6.2	8.5	10.8	11.7	11.8	11.6	11.2	9.8	10.9	10.8	--	4.6	6.6	6.9	8.2		
11/24/88	6.0	8.3	10.7	11.6	11.8	11.6	11.2	9.5	10.8	10.8	--	4.4	6.4	6.7	8.1		
11/25/88	5.8	8.2	10.6	11.5	11.8	11.5	11.2	9.3	10.8	10.8	--	4.2	6.3	6.6	7.9		
11/26/88	5.6	8.1	10.5	11.5	11.7	11.5	11.2	9.2	10.8	10.7	--	4.0	6.1	6.4	7.8		
11/27/88	5.4	7.9	10.4	11.4	11.7	11.5	11.2	8.9	10.8	10.7	--	3.7	5.9	6.3	7.7		
11/28/88	5.2	7.7	10.3	11.3	11.6	11.5	11.1	9.0	10.8	10.7	--	3.5	5.7	6.1	7.5		
11/29/88	5.0	7.6	10.2	11.2	11.6	11.5	11.1	8.9	10.7	10.7	--	3.3	5.6	5.9	7.4		
11/30/88	4.8	7.4	10.1	11.2	11.5	11.4	11.1	8.6	10.7	10.7	--	3.1	5.4	5.7	7.2		
12/01/88	4.6	7.2	9.9	11.1	11.5	11.4	11.1	8.7	10.7	10.6	--	3.0	5.2	5.6	7.0		
12/02/88	4.5	7.1	9.8	11.0	11.4	11.4	11.1	8.3	10.7	10.6	--	2.9	5.1	5.4	6.9		
12/03/88	4.3	6.9	9.7	10.9	11.4	11.4	11.1	8.4	10.6	10.6	--	2.7	4.9	5.3	6.7		
12/04/88	4.2	6.8	9.6	10.9	11.3	11.3	11.1	8.4	10.6	10.6	--	2.6	4.8	5.2	6.7		
12/05/88	4.0	6.7	9.5	10.8	11.3	11.3	11.1	8.3	10.6	10.6	--	2.5	4.7	5.0	6.5		
12/06/88	3.8	6.5	9.4	10.7	11.3	11.3	11.1	8.1	10.6	10.5	--	2.3	4.5	4.9	6.4		
12/07/88	3.6	6.3	9.3	10.6	11.2	11.2	11.0	8.0	10.5	10.5	--	2.2	4.4	4.8	6.3		
12/08/88	3.4	6.2	9.2	10.6	11.2	11.2	11.0	7.9	10.5	10.5	--	2.0	4.3	4.6	6.2		
12/09/88	3.2	6.0	9.0	10.5	11.1	11.2	11.0	7.8	10.5	10.5	--	1.8	4.2	4.5	6.0		
12/10/88	3.1	5.9	8.9	10.4	11.0	11.1	11.0	8.0	10.5	10.4	--	1.7	4.0	4.4	5.9		
12/11/88	2.9	5.7	8.8	10.3	11.0	11.1	11.0	8.0	10.4	10.4	--	1.6	3.9	4.2	5.8		
12/12/88	2.8	5.6	8.7	10.2	10.9	11.1	10.9	8.0	10.4	10.4	--	1.5	3.8	4.1	5.7		
12/13/88	2.7	5.5	8.6	10.2	10.9	11.0	10.9	8.0	10.4	10.3	--	1.5	3.7	4.1	5.6		
12/14/88	2.6	5.4	8.5	10.1	10.8	11.0	10.9	7.9	10.4	10.3	--	1.5	3.7	4.0	5.6		

Table 2. Mean daily soil temperatures at east trench area—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert										Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
	Depth below land surface, in meters										3.8					0.5				
	0.6	0.9	1.5	2.1	2.7	3.4	3.9	4.1	4.4	5.0										
12/15/88	2.6	5.3	8.4	10.0	10.8	11.0	10.9	10.3	10.3	--	7.4	10.3	10.3	10.3	10.3	1.5	3.6	3.9	5.5	
12/16/88	2.5	5.2	8.3	9.9	10.7	10.9	10.9	10.3	10.3	--	7.1	10.3	10.3	10.3	10.3	1.4	3.5	3.9	5.4	
12/17/88	2.3	5.1	8.2	9.8	10.7	10.9	10.9	10.3	10.3	--	7.1	10.3	10.3	10.3	10.3	1.2	3.5	3.8	5.3	
12/18/88	1.9	5.0	8.1	9.8	10.6	10.9	10.8	10.3	10.2	--	7.1	10.3	10.2	10.2	10.2	0.9	3.3	3.7	5.2	
12/19/88	1.4	4.8	8.0	9.7	10.6	10.8	10.8	10.2	10.2	--	7.1	10.2	10.2	10.2	10.2	0.5	3.1	3.5	5.1	
12/20/88	0.8	4.5	7.9	9.6	10.5	10.8	10.8	10.2	10.2	--	7.1	10.2	10.2	10.2	10.2	0.0	2.9	3.3	5.0	
12/21/88	0.4	4.2	7.8	9.5	10.5	10.7	10.8	10.2	10.2	--	7.0	10.2	10.2	10.2	10.2	-0.3	2.6	3.1	4.8	
12/22/88	0.2	3.9	7.7	9.4	10.4	10.7	10.7	10.1	10.1	--	6.3	10.1	10.1	10.1	10.1	-0.4	2.4	2.9	4.7	
12/23/88	0.3	3.8	7.6	9.4	10.4	10.7	10.7	10.1	10.1	--	6.8	10.1	10.1	10.1	10.1	-0.5	2.2	2.7	4.5	
12/24/88	0.3	3.6	7.4	9.3	10.3	10.6	10.7	10.1	10.1	--	6.3	10.1	10.1	10.1	10.1	-0.5	2.0	2.6	4.4	
12/25/88	0.3	3.5	7.3	9.2	10.2	10.6	10.7	10.1	10.0	--	6.6	10.1	10.0	10.0	10.0	-0.6	1.9	2.5	4.2	
12/26/88	0.4	3.4	7.2	9.1	10.2	10.5	10.6	10.0	10.0	--	6.6	10.0	10.0	10.0	10.0	-0.6	1.8	2.4	4.1	
12/27/88	0.4	3.4	7.1	9.0	10.1	10.5	10.6	10.0	10.0	--	6.1	10.0	10.0	10.0	10.0	-0.6	1.7	2.3	4.0	
12/28/88	0.5	3.3	7.0	9.0	10.1	10.5	10.6	9.9	9.9	--	6.1	9.9	9.9	9.9	9.9	-0.6	1.6	2.2	3.8	
12/29/88	0.6	3.3	6.9	8.9	10.0	10.4	10.6	9.9	9.9	--	5.5	9.9	9.9	9.9	9.9	-0.6	1.5	2.1	3.7	
12/30/88	0.6	3.3	6.8	8.8	9.9	10.4	10.5	9.9	9.9	--	5.6	9.9	9.9	9.9	9.9	-0.6	1.4	2.1	3.6	
12/31/88	0.6	3.3	6.7	8.7	9.9	10.3	10.5	9.8	9.8	--	5.8	9.8	9.8	9.8	9.8	-0.7	1.3	2.0	3.5	
12/31/88	0.7	3.3	6.7	8.6	9.8	10.3	10.5	9.8	9.8	--	5.9	9.8	9.8	9.8	9.8	-0.7	1.3	1.9	3.5	
01/01/89	0.7	3.2	6.6	8.6	9.8	10.2	10.4	9.8	9.8	--	5.3	9.8	9.8	9.8	9.8	-0.7	1.2	1.9	3.4	
01/02/89	0.7	3.2	6.5	8.5	9.7	10.2	10.4	9.7	9.7	--	5.8	9.7	9.7	9.7	9.7	-0.6	1.1	1.8	3.3	
01/03/89	0.7	3.2	6.5	8.4	9.7	10.2	10.4	9.7	9.7	--	5.8	9.7	9.7	9.7	9.7	-0.6	1.1	1.8	3.3	
01/04/89	0.7	3.2	6.4	8.4	9.6	10.1	10.4	9.7	9.7	--	5.6	9.7	9.7	9.7	9.7	-0.6	1.1	1.8	3.2	
01/05/89	0.7	3.2	6.3	8.3	9.5	10.1	10.3	9.6	9.7	--	5.8	9.6	9.7	9.7	9.7	-0.6	1.1	1.8	3.2	
01/06/89	0.8	3.1	6.3	8.2	9.5	10.0	10.3	9.6	9.6	--	5.3	9.6	9.6	9.6	9.6	-0.6	1.0	1.8	3.1	
01/07/89	0.8	3.1	6.2	8.2	9.4	10.0	10.3	9.6	9.6	--	5.1	9.6	9.6	9.6	9.6	-0.5	1.0	1.8	3.1	
01/08/89	0.8	3.1	6.2	8.1	9.4	9.9	10.2	9.5	9.6	--	5.2	9.5	9.6	9.6	9.6	-0.6	1.0	1.7	3.0	
01/09/89	0.8	3.1	6.1	8.0	9.3	9.9	10.2	9.5	9.5	--	5.6	9.5	9.5	9.5	9.5	-0.8	0.9	1.7	3.0	
01/10/89	0.7	3.0	6.1	8.0	9.3	9.9	10.2	9.5	9.5	--	5.5	9.5	9.5	9.5	9.5	-0.8	0.8	1.6	2.9	
01/11/89	0.7	3.0	6.0	7.9	9.2	9.8	10.2	9.4	9.5	--	5.1	9.4	9.5	9.5	9.5	-0.8	0.8	1.6	2.9	
01/12/89	0.7	3.0	6.0	7.9	9.2	9.8	10.1	9.4	9.4	--	5.0	9.4	9.4	9.4	9.4	-0.9	0.7	1.5	2.8	
01/13/89	0.7	3.0	5.9	7.8	9.1	9.7	10.1	9.4	9.4	--	5.1	9.4	9.4	9.4	9.4	-1.0	0.7	1.5	2.8	

Table 2. Mean daily soil temperatures at east trench area—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert										Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
	Depth below land surface, in meters																			
	0.6	0.9	1.5	2.1	2.7	3.4	3.9	3.8	4.1	4.4	5.0	5.0	5.0	5.0	5.0	0.5	0.6	0.8	0.9	0.9
01/14/89	0.6	2.9	5.9	7.7	9.1	9.7	10.1	4.8	9.3	9.4	--	--	--	--	--	-1.1	0.6	1.4	2.7	2.7
01/15/89	0.6	2.9	5.8	7.7	9.0	9.6	10.0	4.8	9.3	9.3	--	--	--	--	--	-1.2	0.5	1.3	2.6	2.6
01/16/89	0.5	2.8	5.8	7.6	9.0	9.6	10.0	5.0	9.3	9.3	--	--	--	--	--	-1.3	0.4	1.2	2.5	2.5
01/17/89	0.5	2.8	5.7	7.6	8.9	9.6	9.9	5.0	9.2	9.3	--	--	--	--	--	-1.3	0.3	1.1	2.5	2.5
01/18/89	0.5	2.7	5.7	7.5	8.9	9.5	9.9	5.0	9.2	9.2	--	--	--	--	--	-1.3	0.2	1.1	2.4	2.4
01/19/89	0.5	2.7	5.6	7.5	8.8	9.5	9.9	5.0	9.2	9.2	--	--	--	--	--	-1.3	0.2	1.0	2.4	2.4
01/20/89	0.4	2.7	5.6	7.4	8.8	9.4	9.9	4.8	9.1	9.2	--	--	--	--	--	-1.3	0.2	1.0	2.3	2.3
01/21/89	0.4	2.6	5.5	7.4	8.7	9.4	9.8	4.8	9.1	9.1	--	--	--	--	--	-1.4	0.1	1.0	2.3	2.3
01/22/89	0.4	2.6	5.5	7.3	8.7	9.3	9.8	5.0	9.0	9.1	--	--	--	--	--	-1.5	0.1	0.9	2.3	2.3
01/23/89	0.3	2.5	5.4	7.3	8.6	9.3	9.8	4.4	9.0	9.1	--	--	--	--	--	-1.5	0.1	0.9	2.2	2.2
01/24/89	0.3	2.5	5.4	7.2	8.6	9.3	9.7	4.2	9.0	9.0	--	--	--	--	--	-1.4	0.1	0.9	2.2	2.2
01/25/89	0.3	2.5	5.3	7.2	8.5	9.2	9.7	4.0	9.0	9.0	--	--	--	--	--	-1.5	0.0	0.8	2.1	2.1
01/26/89	0.3	2.5	5.3	7.1	8.5	9.2	9.7	4.0	8.9	9.0	--	--	--	--	--	-1.6	-0.0	0.8	2.0	2.0
01/27/89	0.3	2.4	5.3	7.1	8.4	9.2	9.6	4.0	8.9	8.9	--	--	--	--	--	-1.8	-0.2	0.7	1.9	1.9
01/28/89	0.2	2.4	5.2	7.0	8.4	9.1	9.6	4.0	8.9	8.9	--	--	--	--	--	-2.0	-0.3	0.6	1.9	1.9
01/29/89	0.1	2.3	5.2	7.0	8.4	9.1	9.6	4.0	8.8	8.9	--	--	--	--	--	-2.2	-0.4	0.4	1.8	1.8
01/30/89	0.0	2.3	5.1	7.0	8.3	9.0	9.5	4.3	8.8	8.8	--	--	--	--	--	-2.3	-0.5	0.3	1.7	1.7
01/31/89	-0.1	2.2	5.1	6.9	8.3	9.0	9.5	4.2	8.8	8.8	--	--	--	--	--	-2.4	-0.7	0.2	1.6	1.6
02/01/89	-0.1	2.1	5.0	6.8	8.2	9.0	9.5	3.6	8.7	8.8	--	--	--	--	--	-2.3	-0.7	0.2	1.6	1.6
02/02/89	-0.1	2.1	5.0	6.8	8.2	8.9	9.5	3.2	8.7	8.8	--	--	--	--	--	-2.1	-0.7	0.1	1.5	1.5
02/03/89	-0.1	2.0	4.9	6.8	8.1	8.9	9.5	3.6	8.7	8.7	--	--	--	--	--	-2.2	-0.7	0.1	1.4	1.4
02/04/89	-0.2	2.0	4.9	6.7	8.1	8.8	9.4	2.9	8.7	8.7	--	--	--	--	--	-2.3	-0.7	0.1	1.3	1.3
02/05/89	-0.2	1.9	4.8	6.6	8.0	8.8	9.3	2.2	8.6	8.7	--	--	--	--	--	-2.5	-0.9	-0.0	1.2	1.2
02/06/89	-0.3	1.9	4.8	6.6	8.0	8.8	9.3	2.3	8.6	8.7	--	--	--	--	--	-2.8	-1.0	-0.1	1.1	1.1
02/07/89	-0.4	1.8	4.7	6.6	8.0	8.7	9.3	2.2	8.6	8.6	--	--	--	--	--	-3.1	-1.2	-0.3	1.0	1.0
02/08/89	-0.6	1.8	4.7	6.5	7.9	8.7	9.3	2.4	8.5	8.6	--	--	--	--	--	-3.4	-1.3	-0.5	0.9	0.9
02/09/89	-0.7	1.7	4.6	6.5	7.9	8.7	9.2	3.0	8.5	8.5	--	--	--	--	--	-3.6	-1.6	-0.7	0.8	0.8
02/10/89	-0.9	1.6	4.6	6.4	7.8	8.6	9.2	3.4	8.5	8.5	--	--	--	--	--	-3.8	-1.7	-0.8	0.7	0.7
02/11/89	-1.0	1.5	4.5	6.4	7.8	8.6	9.2	3.2	8.4	8.5	--	--	--	--	--	-3.8	-1.8	-1.0	0.7	0.7
02/12/89	-1.1	1.4	4.5	6.3	7.7	8.5	9.1	3.2	8.4	8.4	--	--	--	--	--	-3.7	-1.9	-1.0	0.6	0.6
02/13/89	-1.1	1.3	4.4	6.3	7.7	8.5	9.1	2.8	8.3	8.4	--	--	--	--	--	-3.6	-1.9	-1.1	0.5	0.5

Table 2. Mean daily soil temperatures at east trench area—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert										Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
	0.6	0.9	1.5	2.1	2.7	3.4	3.9	3.8	4.1	4.4	5.0	0.5	0.6	0.8	0.9	0.5	0.6	0.8	0.9	0.9
02/14/89	-1.1	1.3	4.3	6.2	7.7	8.5	9.1	2.6	8.3	8.4	--	-3.4	-1.9	-1.1	0.5	-3.4	-1.9	-1.1	0.5	0.5
02/15/89	-1.0	1.2	4.3	6.2	7.6	8.4	9.1	2.5	8.3	8.3	--	-3.4	-1.9	-1.0	0.4	-3.4	-1.9	-1.0	0.4	0.4
02/16/89	-1.0	1.2	4.2	6.1	7.6	8.4	9.0	3.1	8.2	8.3	--	-3.4	-1.9	-1.0	0.4	-3.4	-1.9	-1.0	0.4	0.4
02/17/89	-1.0	1.2	4.2	6.1	7.6	8.4	9.0	3.4	8.2	8.3	--	-3.4	-1.9	-1.0	0.4	-3.4	-1.9	-1.0	0.4	0.4
02/18/89	-1.0	1.2	4.2	6.1	7.5	8.3	9.0	3.7	8.2	8.2	--	-3.2	-1.9	-1.0	0.4	-3.2	-1.9	-1.0	0.4	0.4
02/19/89	-1.0	1.2	4.1	6.0	7.5	8.3	8.9	3.6	8.2	8.2	--	-3.0	-1.8	-1.0	0.4	-3.0	-1.8	-1.0	0.4	0.4
02/20/89	-0.9	1.1	4.1	6.0	7.4	8.3	8.9	3.0	8.1	8.2	--	-2.8	-1.7	-0.9	0.4	-2.8	-1.7	-0.9	0.4	0.4
02/21/89	-0.8	1.2	4.0	5.9	7.4	8.3	8.9	3.5	8.1	8.2	--	-2.6	-1.6	-0.8	0.5	-2.6	-1.6	-0.8	0.5	0.5
02/22/89	-0.7	1.2	4.0	5.9	7.3	8.2	8.8	3.7	8.1	8.1	--	-2.5	-1.5	-0.7	0.5	-2.5	-1.5	-0.7	0.5	0.5
02/23/89	-0.6	1.2	3.9	5.8	7.3	8.2	8.8	3.6	8.0	8.1	--	-2.3	-1.4	-0.6	0.6	-2.3	-1.4	-0.6	0.6	0.6
02/24/89	-0.5	1.3	3.9	5.8	7.3	8.1	8.8	3.8	8.0	8.1	--	-2.1	-1.3	-0.5	0.6	-2.1	-1.3	-0.5	0.6	0.6
02/25/89	-0.4	1.3	3.9	5.7	7.2	8.1	8.7	3.8	8.0	8.0	--	-2.0	-1.2	-0.4	0.7	-2.0	-1.2	-0.4	0.7	0.7
02/26/89	-0.4	1.3	3.9	5.7	7.2	8.0	8.7	3.5	8.0	8.0	--	-1.8	-1.0	-0.3	0.7	-1.8	-1.0	-0.3	0.7	0.7
02/27/89	-0.3	1.3	3.9	5.7	7.2	8.0	8.7	3.4	7.9	8.0	--	-1.7	-0.9	-0.2	0.8	-1.7	-0.9	-0.2	0.8	0.8
02/28/89	-0.2	1.3	3.8	5.6	7.1	8.0	8.7	3.3	7.9	8.0	--	-1.6	-0.8	-0.1	0.8	-1.6	-0.8	-0.1	0.8	0.8
03/01/89	-0.2	1.4	3.8	5.6	7.1	7.9	8.6	3.7	7.9	7.9	--	-1.6	-0.7	-0.0	0.9	-1.6	-0.7	-0.0	0.9	0.9
03/02/89	-0.2	1.4	3.8	5.6	7.0	7.9	8.6	3.3	7.9	7.9	--	-1.5	-0.6	0.0	0.9	-1.5	-0.6	0.0	0.9	0.9
03/03/89	-0.1	1.4	3.8	5.5	7.0	7.9	8.6	3.0	7.8	7.9	--	-1.4	-0.6	0.1	1.0	-1.4	-0.6	0.1	1.0	1.0
03/04/89	-0.1	1.5	3.8	5.5	6.9	7.8	8.5	3.1	7.8	7.9	--	-1.4	-0.5	0.1	1.0	-1.4	-0.5	0.1	1.0	1.0
03/05/89	-0.0	1.5	3.8	5.5	6.9	7.8	8.5	3.4	7.8	7.8	--	-1.4	-0.5	0.1	1.1	-1.4	-0.5	0.1	1.1	1.1
03/06/89	0.0	1.5	3.8	5.5	6.9	7.8	8.5	3.8	7.8	7.8	--	-1.4	-0.5	0.2	1.1	-1.4	-0.5	0.2	1.1	1.1
03/07/89	0.0	1.5	3.8	5.4	6.8	7.7	8.5	3.9	7.7	7.8	--	-1.4	-0.4	0.2	1.1	-1.4	-0.4	0.2	1.1	1.1
03/08/89	0.0	1.6	3.8	5.4	6.8	7.7	8.4	4.1	7.7	7.8	--	-1.2	-0.4	0.2	1.2	-1.2	-0.4	0.2	1.2	1.2
03/09/89	0.1	1.6	3.7	5.4	6.8	7.7	8.4	4.1	7.7	7.7	--	-0.9	-0.3	0.3	1.2	-0.9	-0.3	0.3	1.2	1.2
03/10/89	0.2	1.6	3.8	5.4	6.8	7.7	8.4	4.2	7.6	7.7	--	-0.7	-0.1	0.4	1.3	-0.7	-0.1	0.4	1.3	1.3
03/11/89	0.3	1.6	3.7	5.3	6.7	7.6	8.4	4.3	7.6	7.7	--	-0.5	0.0	0.5	1.4	-0.5	0.0	0.5	1.4	1.4
03/12/89	0.5	1.7	3.7	5.3	6.7	7.6	8.3	4.4	7.6	7.7	--	-0.4	0.2	0.6	1.5	-0.4	0.2	0.6	1.5	1.5
03/13/89	0.5	1.7	3.7	5.3	6.7	7.5	8.3	3.7	7.6	7.6	--	-0.3	0.3	0.7	1.5	-0.3	0.3	0.7	1.5	1.5
03/14/89	0.6	1.8	3.7	5.3	6.6	7.5	8.3	3.4	7.6	7.6	--	-0.1	0.4	0.8	1.6	-0.1	0.4	0.8	1.6	1.6
03/15/89	0.7	1.8	3.7	5.3	6.6	7.5	8.2	4.2	7.5	7.6	--	-0.1	0.5	0.9	1.7	-0.1	0.5	0.9	1.7	1.7
03/16/89	0.8	1.9	3.7	5.2	6.6	7.5	8.2	4.1	7.5	7.6	--	0.0	0.6	1.0	1.7	0.0	0.6	1.0	1.7	1.7

Table 2. Mean daily soil temperatures at east trench area—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert										Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
											Depth below land surface, in meters									
	0.6	0.9	1.5	2.1	2.7	3.4	3.9	4.1	4.4	5.0		3.8	4.1	4.4	5.0		0.5	0.6	0.8	0.9
03/17/89	0.8	1.9	3.8	5.2	6.6	7.4	8.2	4.1	7.5	7.5	--	4.1	7.5	7.5	--	--	0.0	0.7	1.0	1.8
03/18/89	0.9	2.0	3.8	5.2	6.5	7.4	8.1	4.2	7.5	7.5	--	4.2	7.5	7.5	--	--	0.1	0.7	1.1	1.8
03/19/89	0.9	2.0	3.8	5.2	6.5	7.4	8.1	4.1	7.4	7.5	--	4.1	7.4	7.5	--	--	0.2	0.8	1.2	1.9
03/20/89	0.9	2.0	3.8	5.2	6.5	7.4	8.1	4.0	7.4	7.5	--	4.0	7.4	7.5	--	--	0.2	0.9	1.2	1.9
03/21/89	0.9	2.0	3.8	5.2	6.5	7.3	8.1	4.2	7.4	7.5	--	4.2	7.4	7.5	--	--	0.3	0.9	1.2	2.0
03/22/89	0.9	2.1	3.8	5.2	6.4	7.3	8.0	4.3	7.4	7.5	--	4.3	7.4	7.5	--	--	0.3	1.0	1.3	2.0
03/23/89	1.0	2.1	3.8	5.2	6.4	7.3	8.0	4.4	7.4	7.4	--	4.4	7.4	7.4	--	--	0.4	1.1	1.3	2.1
03/24/89	0.9	2.1	3.8	5.1	6.4	7.2	8.0	4.4	7.3	7.4	--	4.4	7.3	7.4	--	--	0.6	1.2	1.4	2.1
03/25/89	0.9	2.1	3.8	5.1	6.4	7.2	8.0	4.4	7.3	7.4	--	4.4	7.3	7.4	--	--	0.9	1.4	1.5	2.2
03/26/89	1.0	2.1	3.8	5.1	6.4	7.2	7.9	4.5	7.3	7.4	--	4.5	7.3	7.4	--	--	1.5	1.6	1.6	2.3
03/27/89	0.9	2.1	3.8	5.1	6.3	7.2	7.9	4.5	7.3	7.4	--	4.5	7.3	7.4	--	--	2.0	1.8	1.9	2.4
03/28/89	0.9	2.1	3.8	5.1	6.3	7.2	7.9	4.6	7.3	7.4	--	4.6	7.3	7.4	--	--	2.2	2.0	2.1	2.5
03/29/89	0.8	2.1	3.8	5.1	6.3	7.1	7.9	4.5	7.3	7.3	--	4.5	7.3	7.3	--	--	2.5	2.3	2.4	2.7
03/30/89	0.9	2.0	3.8	5.1	6.3	7.1	7.9	4.6	7.2	7.3	--	4.6	7.2	7.3	--	--	2.6	2.5	2.5	2.8
03/31/89	1.0	2.0	3.8	5.1	6.2	7.1	7.8	4.6	7.2	7.3	--	4.6	7.2	7.3	--	--	2.7	2.6	2.7	2.9
04/01/89	1.1	2.0	3.8	5.1	6.2	7.1	7.8	4.7	7.2	7.3	--	4.7	7.2	7.3	--	--	2.4	2.7	2.8	3.1
04/02/89	1.3	2.1	3.8	5.1	6.2	7.0	7.8	4.6	7.2	7.3	--	4.6	7.2	7.3	--	--	2.6	2.8	2.8	3.2
04/03/89	1.6	2.1	3.8	5.0	6.2	7.0	7.8	4.7	7.2	7.3	--	4.7	7.2	7.3	--	--	2.7	2.9	2.9	3.2
04/04/89	1.8	2.3	3.8	5.0	6.2	7.0	7.7	4.8	7.2	7.3	--	4.8	7.2	7.3	--	--	2.8	3.0	3.0	3.3
04/05/89	2.1	2.4	3.8	5.0	6.2	7.0	7.7	5.0	7.1	7.2	--	5.0	7.1	7.2	--	--	3.2	3.1	3.1	3.4
04/06/89	2.4	2.5	3.8	5.0	6.2	6.9	7.7	5.2	7.1	7.2	--	5.2	7.1	7.2	--	--	4.1	3.3	3.3	3.5
04/07/89	2.9	2.7	3.8	5.0	6.1	6.9	7.7	5.3	7.1	7.2	--	5.3	7.1	7.2	--	--	5.2	3.7	3.7	3.7
04/08/89	3.6	3.0	3.9	5.0	6.1	6.9	7.7	5.3	7.1	7.2	--	5.3	7.1	7.2	--	--	6.2	4.2	4.3	3.9
04/09/89	4.1	3.3	3.9	5.0	6.1	6.9	7.6	5.2	7.1	7.2	--	5.2	7.1	7.2	--	--	6.5	4.7	4.8	4.1
04/10/89	4.3	3.7	4.0	5.0	6.1	6.9	7.6	5.2	7.1	7.2	--	5.2	7.1	7.2	--	--	6.1	5.1	5.1	4.4
04/11/89	4.4	3.9	4.1	5.0	6.1	6.9	7.6	5.4	7.1	7.2	--	5.4	7.1	7.2	--	--	6.0	5.2	5.2	4.7
04/12/89	4.7	4.1	4.2	5.1	6.1	6.9	7.6	5.6	7.1	7.2	--	5.6	7.1	7.2	--	--	6.5	5.4	5.3	4.8
04/13/89	5.1	4.3	4.3	5.1	6.1	6.8	7.6	5.7	7.1	7.2	--	5.7	7.1	7.2	--	--	7.1	5.6	5.5	5.0
04/14/89	5.6	4.6	4.4	5.1	6.1	6.8	7.5	5.8	7.0	7.2	--	5.8	7.0	7.2	--	--	7.8	5.9	5.9	5.2
04/15/89	6.1	4.8	4.5	5.1	6.1	6.8	7.5	5.9	7.0	7.1	--	5.9	7.0	7.1	--	--	8.5	6.3	6.3	5.4
04/16/89	6.6	5.2	4.6	5.2	6.1	6.8	7.5	6.0	7.0	7.1	--	6.0	7.0	7.1	--	--	8.8	6.8	6.7	5.7

Table 2. Mean daily soil temperatures at east trench area—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert										Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
											Depth below land surface, in meters									
	0.6	0.9	1.5	2.1	2.7	3.4	3.9	3.8	4.1	4.4	5.0	0.5	0.6	0.8	0.9					
04/17/89	6.9	5.5	4.7	5.2	6.1	6.8	7.5	6.1	7.0	7.1	--	8.9	7.1	7.0	6.0					
04/18/89	7.2	5.7	4.8	5.2	6.1	6.8	7.5	6.3	7.0	7.1	--	9.3	7.4	7.3	6.2					
04/19/89	7.6	6.0	5.0	5.3	6.1	6.8	7.5	6.4	7.0	7.1	--	9.9	7.7	7.6	6.5					
04/20/89	8.1	6.3	5.1	5.3	6.1	6.8	7.4	6.6	7.0	7.1	--	10.4	8.0	7.9	6.7					
04/21/89	8.5	6.6	5.3	5.4	6.1	6.8	7.4	6.7	7.1	7.2	--	10.9	8.4	8.3	6.9					
04/22/89	9.0	6.9	5.4	5.5	6.1	6.7	7.4	6.7	7.0	7.2	--	11.3	8.8	8.7	7.2					
04/23/89	9.2	7.3	5.6	5.5	6.1	6.7	7.4	6.6	7.0	7.1	--	11.0	9.1	9.0	7.5					
04/24/89	9.0	7.5	5.8	5.6	6.1	6.7	7.4	6.8	7.0	7.1	--	10.1	9.2	9.0	7.7					
04/25/89	8.8	7.6	5.9	5.7	6.1	6.7	7.4	6.8	7.1	7.2	--	9.7	9.1	8.8	7.9					
04/26/89	8.7	7.6	6.1	5.8	6.2	6.7	7.4	6.8	7.1	7.2	--	9.2	8.9	8.7	7.9					
04/27/89	8.5	7.6	6.2	5.9	6.2	6.7	7.4	6.8	7.0	7.2	--	9.0	8.8	8.5	7.9					
04/28/89	8.3	7.6	6.3	5.9	6.2	6.7	7.4	6.8	7.1	7.2	--	8.5	8.6	8.3	7.9					
04/29/89	8.1	7.6	6.4	6.0	6.2	6.7	7.3	6.9	7.1	7.2	--	8.0	8.4	8.1	7.9					
04/30/89	8.1	7.5	6.5	6.1	6.3	6.7	7.3	7.1	7.1	7.2	--	8.3	8.2	7.9	7.8					
05/01/89	8.3	7.5	6.6	6.1	6.3	6.7	7.3	7.2	7.1	7.2	--	8.9	8.2	7.9	7.7					
05/02/89	8.6	7.6	6.6	6.2	6.3	6.8	7.3	7.3	7.1	7.2	--	9.4	8.3	8.1	7.7					
05/03/89	8.9	7.7	6.7	6.3	6.4	6.8	7.3	7.3	7.1	7.2	--	9.9	8.5	8.3	7.8					
05/04/89	9.2	7.9	6.7	6.3	6.4	6.8	7.3	7.5	7.1	7.2	--	10.5	8.8	8.6	7.9					
05/05/89	9.6	8.1	6.8	6.4	6.4	6.8	7.3	7.6	7.1	7.2	--	11.1	9.1	8.9	8.0					
05/06/89	10.0	8.3	6.9	6.4	6.5	6.8	7.3	7.8	7.1	7.2	--	11.8	9.4	9.3	8.1					
05/07/89	10.6	8.6	7.0	6.5	6.5	6.8	7.3	7.9	7.1	7.2	--	12.7	9.9	9.7	8.4					
05/08/89	11.0	8.9	7.1	6.5	6.5	6.8	7.3	7.9	7.1	7.2	--	13.1	10.3	10.3	8.7					
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--					
05/10/89	11.7	9.4	7.3	6.6	6.6	6.9	7.3	8.1	7.2	7.2	--	13.8	11.1	11.0	9.2					
05/11/89	11.8	9.7	7.5	6.7	6.6	6.9	7.3	8.2	7.2	7.3	--	13.4	11.4	11.2	9.5					
05/12/89	11.8	9.9	7.6	6.8	6.6	6.9	7.3	8.0	7.2	7.2	--	13.0	11.5	11.3	9.7					
05/13/89	11.5	10.0	7.8	6.9	6.7	6.9	7.3	8.1	7.2	7.3	--	12.1	11.5	11.2	9.9					
05/14/89	11.1	10.0	7.9	7.0	6.7	6.9	7.3	8.3	7.2	7.3	--	11.4	11.2	10.9	9.9					
05/15/89	11.0	9.9	8.0	7.1	6.8	7.0	7.3	8.3	7.2	7.3	--	11.6	11.0	10.7	9.9					
05/16/89	10.9	9.9	8.1	7.1	6.8	7.0	7.3	8.4	7.2	7.3	--	11.4	10.9	10.6	9.9					
05/17/89	10.9	9.9	8.2	7.2	6.9	7.0	7.3	8.5	7.2	7.3	--	11.4	10.8	10.5	9.9					

Table 2. Mean daily soil temperatures at east trench area—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert										Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
	0.6	0.9	1.5	2.1	2.7	3.4	3.9	3.8	4.1	4.4	5.0	0.5	0.6	0.8	0.9					
05/18/89	11.1	9.9	8.3	7.3	6.9	7.0	7.3	8.4	7.3	7.4	--	11.9	10.8	10.5	9.8					
05/19/89	11.1	9.9	8.3	7.3	6.9	7.0	7.3	8.5	7.3	7.4	--	11.4	10.9	10.6	9.8					
05/20/89	11.0	10.0	8.4	7.4	7.0	7.1	7.4	8.6	7.3	7.4	--	11.4	10.8	10.5	9.8					
05/21/89	11.2	10.0	8.5	7.5	7.0	7.1	7.4	8.8	7.3	7.4	--	11.9	10.8	10.5	9.9					
05/22/89	11.5	10.1	8.5	7.5	7.1	7.1	7.4	8.9	7.3	7.4	--	12.6	11.0	10.7	9.9					
05/23/89	11.9	10.2	8.6	7.6	7.1	7.1	7.4	8.8	7.4	7.4	--	13.2	11.2	11.0	10.0					
05/24/89	12.0	10.4	8.6	7.6	7.2	7.2	7.4	8.8	7.4	7.4	--	12.8	11.5	11.2	10.1					
05/25/89	12.0	10.6	8.7	7.7	7.2	7.2	7.4	8.9	7.4	7.4	--	12.4	11.5	11.2	10.2					
05/26/89	11.9	10.6	8.8	7.8	7.2	7.2	7.4	8.9	7.4	7.5	--	12.3	11.5	11.2	10.3					
05/27/89	11.9	10.6	8.8	7.8	7.3	7.2	7.4	9.1	7.4	7.5	--	12.5	11.5	11.2	10.3					
05/28/89	12.0	10.7	8.9	8.0	7.3	7.3	7.4	9.0	7.4	7.5	--	12.6	11.5	11.2	10.4					
05/29/89	12.0	10.7	9.0	8.0	7.4	7.3	7.5	9.1	7.5	7.5	--	12.5	11.6	11.3	10.4					
05/30/89	12.1	10.8	9.0	8.0	7.4	7.3	7.5	9.1	7.5	7.5	--	12.6	11.6	11.3	10.5					
05/31/89	12.1	10.9	9.1	8.1	7.5	7.4	7.5	9.3	7.5	7.5	--	12.6	11.6	11.3	10.5					
06/01/89	12.3	10.9	9.2	8.1	7.5	7.4	7.5	9.4	7.5	7.6	--	13.2	11.7	11.4	10.6					
06/02/89	12.6	11.0	9.2	8.1	7.5	7.4	7.5	9.4	7.5	7.6	--	14.0	11.9	11.7	10.6					
06/03/89	12.8	11.2	9.3	8.2	7.6	7.4	7.5	9.3	7.5	7.6	--	13.7	12.2	12.0	10.8					
06/04/89	12.6	11.3	9.4	8.3	7.6	7.5	7.5	9.5	7.6	7.6	--	12.9	12.3	11.9	10.9					
06/05/89	12.5	11.3	9.4	8.3	7.7	7.5	7.6	9.7	7.6	7.6	--	13.2	12.2	11.8	11.0					
06/06/89	12.9	11.3	9.5	8.3	7.7	7.5	7.6	9.8	7.6	7.7	--	14.1	12.3	12.0	11.0					
06/07/89	13.3	11.5	9.6	8.4	7.7	7.6	7.6	9.9	7.6	7.7	--	14.8	12.6	12.3	11.1					
06/08/89	13.8	11.7	9.6	8.5	7.8	7.6	7.6	10.1	7.6	7.7	--	15.7	13.0	12.7	11.3					
06/09/89	14.3	12.0	9.7	8.5	7.8	7.6	7.6	10.1	7.7	7.7	--	16.5	13.4	13.2	11.5					
06/10/89	14.8	12.2	9.8	8.6	7.9	7.6	7.6	10.2	7.7	7.7	--	17.0	13.9	13.7	11.8					
06/11/89	15.0	12.5	9.9	8.6	7.9	7.7	7.7	10.4	7.7	7.7	--	17.1	14.3	14.0	12.0					
06/12/89	15.3	12.8	10.0	8.7	7.9	7.7	7.7	10.4	7.7	7.8	--	17.5	14.6	14.3	12.3					
06/13/89	15.4	13.0	10.2	8.8	8.0	7.7	7.7	10.5	7.8	7.8	--	17.4	14.9	14.6	12.6					
06/14/89	15.6	13.2	10.3	8.8	8.0	7.8	7.7	10.7	7.8	7.8	--	17.7	15.1	14.8	12.8					
06/15/89	15.8	13.4	10.5	8.9	8.1	7.8	7.7	10.9	7.8	7.8	--	18.1	15.3	15.0	13.0					
06/16/89	16.2	13.5	10.6	9.0	8.1	7.8	7.8	11.7	7.8	7.9	--	18.5	15.6	15.3	13.3					
06/17/89	16.2	13.8	10.7	9.1	8.1	7.8	7.8	12.2	7.9	7.9	--	18.2	15.9	15.5	13.6					

Table 2. Mean daily soil temperatures at east trench area—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert										Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
	Depth below land surface, in meters																			
	0.6	0.9	1.5	2.1	2.7	3.4	3.9	3.8	4.1	4.4	5.0	0.5	0.6	0.8	0.9					
06/18/89	16.3	13.9	10.9	9.2	8.2	7.9	7.8	12.5	7.9	7.9	--	18.2	16.1	15.7	14.0					
06/19/89	16.4	14.0	11.0	9.2	8.2	7.9	7.8	12.8	7.9	7.9	--	18.4	16.2	15.8	14.3					
06/20/89	16.5	14.1	11.1	9.3	8.3	7.9	7.8	12.7	8.0	7.9	--	18.5	16.4	16.0	14.5					
06/21/89	16.4	14.2	11.2	9.4	8.3	8.0	7.8	13.0	8.0	8.0	--	17.7	16.6	16.1	14.7					
06/22/89	16.2	14.3	11.3	9.5	8.4	8.0	7.9	13.1	8.0	8.0	--	17.5	16.5	16.0	14.9					
06/23/89	16.0	14.3	11.4	9.6	8.4	8.0	7.9	13.2	8.1	8.0	--	17.1	16.4	15.9	15.0					
06/24/89	15.9	14.2	11.5	9.6	8.5	8.1	7.9	13.4	8.1	8.1	--	17.0	16.4	15.8	15.0					
06/25/89	15.9	14.2	11.6	9.7	8.5	8.1	7.9	13.6	8.2	8.1	--	17.3	16.3	15.7	15.1					
06/26/89	16.0	14.2	11.7	9.8	8.6	8.1	8.0	13.7	8.2	8.2	--	17.7	16.4	15.9	15.1					
06/27/89	16.2	14.3	11.7	9.9	8.7	8.2	8.0	13.9	8.2	8.2	--	18.1	16.6	16.0	15.2					
06/28/89	16.4	14.4	11.8	10.0	8.7	8.2	8.0	14.0	8.3	8.3	--	18.2	16.8	16.2	15.3					
06/29/89	16.4	14.5	11.9	10.0	8.8	8.3	8.0	14.1	8.3	8.3	--	18.0	16.9	16.3	15.4					
06/30/89	16.5	14.6	11.9	10.1	8.8	8.3	8.0	14.2	8.4	8.3	--	18.4	17.0	16.4	15.6					
07/01/89	16.7	14.7	12.0	10.1	8.9	8.3	8.1	14.3	8.4	8.4	--	18.7	17.2	16.6	15.7					
07/02/89	16.9	14.8	12.0	10.2	8.9	8.4	8.1	14.5	8.4	8.4	--	18.9	17.4	16.8	15.8					
07/03/89	17.0	14.9	12.1	10.3	9.0	8.4	8.1	14.7	8.5	8.4	--	19.2	17.6	17.0	16.0					
07/04/89	17.3	15.0	12.2	10.3	9.0	8.5	8.2	14.8	8.5	8.5	--	19.7	17.8	17.2	16.2					
07/05/89	17.6	15.2	12.3	10.4	9.1	8.5	8.2	14.9	8.6	8.5	--	20.1	18.1	17.5	16.3					
07/06/89	17.8	15.3	12.4	10.5	9.1	8.5	8.2	15.1	8.6	8.6	--	20.3	18.4	17.7	16.5					
07/07/89	18.0	15.5	12.5	10.5	9.2	8.6	8.2	15.2	8.7	8.6	--	20.7	18.6	18.0	16.7					
07/08/89	18.3	15.7	12.6	10.6	9.3	8.6	8.3	15.3	8.7	8.7	--	21.0	18.9	18.2	17.0					
07/09/89	18.5	15.8	12.7	10.7	9.3	8.7	8.3	15.4	8.7	8.7	--	21.1	19.2	18.5	17.2					
07/10/89	18.5	16.0	12.8	10.7	9.4	8.7	8.3	15.5	8.8	8.7	--	21.1	19.4	18.6	17.4					
07/11/89	18.6	16.1	12.9	10.8	9.4	8.7	8.3	15.7	8.8	8.8	--	21.1	19.5	18.8	17.5					
07/12/89	18.8	16.2	13.0	10.9	9.5	8.8	8.4	15.6	8.9	8.8	--	21.4	19.7	18.9	17.7					
07/13/89	18.7	16.3	13.1	11.0	9.5	8.8	8.4	15.7	8.9	8.9	--	20.8	19.8	19.0	17.9					
07/14/89	18.6	16.4	13.2	11.0	9.6	8.9	8.4	16.0	9.0	8.9	--	20.7	19.7	18.9	18.0					
07/15/89	18.6	16.4	13.3	11.1	9.6	8.9	8.5	15.9	9.0	8.9	--	21.0	19.7	18.9	18.0					
07/16/89	18.7	16.5	13.4	11.2	9.7	8.9	8.5	15.9	9.0	9.0	--	20.8	19.8	19.0	18.1					
07/17/89	18.5	16.5	13.4	11.3	9.7	9.0	8.5	16.1	9.1	9.0	--	20.4	19.8	18.9	18.2					
07/18/89	18.4	16.5	13.5	11.4	9.8	9.0	8.6	16.3	9.1	9.1	--	20.4	19.7	18.8	18.2					

Table 2. Mean daily soil temperatures at east trench area—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert										Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
											Depth below land surface, in meters									
	0.6	0.9	1.5	2.1	2.7	3.4	3.9	3.8	4.1	4.4	5.0	0.5	0.6	0.8	0.9					
07/19/89	18.5	16.5	13.6	11.4	9.9	9.1	8.6	16.4	9.2	9.1	--	20.8	19.7	18.9	18.2					
07/20/89	18.8	16.6	13.6	11.5	9.9	9.1	8.6	16.5	9.2	9.2	--	21.3	19.8	19.0	18.2					
07/21/89	19.0	16.7	13.7	11.6	10.0	9.2	8.6	16.6	9.3	9.2	--	21.6	20.0	19.2	18.3					
07/22/89	19.2	16.8	13.8	11.6	10.0	9.2	8.7	16.7	9.3	9.3	--	21.9	20.2	19.4	18.5					
07/23/89	19.5	17.0	13.8	11.7	10.1	9.3	8.7	16.8	9.4	9.3	--	22.3	20.4	19.7	18.6					
07/24/89	19.7	17.1	13.9	11.8	10.1	9.3	8.7	16.9	9.4	9.3	--	22.6	20.7	19.9	18.7					
07/25/89	19.9	17.3	14.0	11.8	10.2	9.3	8.8	17.0	9.4	9.4	--	22.9	20.9	20.1	18.9					
07/26/89	20.2	17.4	14.1	11.9	10.2	9.4	8.8	17.0	9.5	9.4	--	23.2	21.1	20.4	19.1					
07/27/89	20.3	17.6	14.2	12.0	10.3	9.4	8.8	17.1	9.5	9.5	--	23.3	21.4	20.5	19.3					
07/28/89	20.5	17.7	14.3	12.1	10.4	9.5	8.9	17.3	9.6	9.5	--	23.4	21.6	20.7	19.5					
07/29/89	20.6	17.9	14.4	12.1	10.4	9.5	8.9	17.4	9.6	9.6	--	23.6	21.7	20.8	19.6					
07/30/89	20.7	18.0	14.5	12.2	10.5	9.6	8.9	17.4	9.7	9.6	--	23.6	21.9	21.0	19.8					
07/31/89	20.7	18.1	14.6	12.2	10.5	9.6	9.0	17.5	9.7	9.6	--	23.4	22.0	21.1	19.9					
08/01/89	20.6	18.2	14.7	12.3	10.6	9.6	9.0	17.5	9.7	9.7	--	23.0	22.0	21.1	20.0					
08/02/89	20.5	18.2	14.8	12.4	10.6	9.7	9.0	17.5	9.8	9.7	--	22.7	21.9	21.0	20.1					
08/03/89	20.3	18.2	14.8	12.5	10.7	9.7	9.1	17.6	9.8	9.8	--	22.4	21.8	20.9	20.1					
08/04/89	20.2	18.2	14.9	12.5	10.8	9.8	9.1	17.7	9.9	9.8	--	22.2	21.7	20.8	20.1					
08/05/89	20.1	18.1	15.0	12.6	10.8	9.8	9.1	17.8	9.9	9.9	--	22.1	21.5	20.6	20.0					
08/06/89	20.2	18.1	15.0	12.7	10.9	9.9	9.2	17.9	10.0	9.9	--	22.2	21.5	20.6	20.0					
08/07/89	20.2	18.1	15.1	12.8	10.9	9.9	9.2	17.9	10.0	9.9	--	22.4	21.5	20.6	20.0					
08/08/89	20.3	18.2	15.1	12.8	11.0	10.0	9.2	18.0	10.1	10.0	--	22.6	21.6	20.7	20.0					
08/09/89	20.4	18.2	15.2	12.9	11.0	10.0	9.3	18.0	10.1	10.0	--	22.6	21.6	20.7	20.1					
08/10/89	20.4	18.2	15.2	12.9	11.1	10.1	9.3	18.0	10.1	10.1	--	22.6	21.7	20.8	20.1					
08/11/89	20.5	18.3	15.3	13.0	11.2	10.1	9.4	18.1	10.2	10.1	--	22.7	21.7	20.8	20.2					
08/12/89	20.6	18.3	15.3	13.0	11.2	10.2	9.4	18.1	10.2	10.1	--	22.8	21.7	20.9	20.2					
08/13/89	20.5	18.4	15.4	13.1	11.2	10.2	9.4	18.2	10.3	10.2	--	22.6	21.8	20.9	20.2					
08/14/89	20.5	18.4	15.4	13.2	11.3	10.3	9.5	18.1	10.3	10.2	--	22.4	21.8	20.9	20.3					
08/15/89	20.2	18.4	15.5	13.2	11.4	10.3	9.5	18.2	10.3	10.3	--	21.8	21.7	20.8	20.3					
08/16/89	20.0	18.3	15.5	13.3	11.4	10.4	9.5	18.2	10.4	10.3	--	21.6	21.5	20.6	20.2					
08/17/89	19.9	18.3	15.5	13.3	11.5	10.4	9.6	18.3	10.4	10.4	--	21.5	21.4	20.5	20.2					
08/18/89	19.9	18.2	15.6	13.4	11.5	10.4	9.6	18.2	10.5	10.4	--	21.6	21.3	20.4	20.1					

Table 2. Mean daily soil temperatures at east trench area—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert										Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
											Depth below land surface, in meters									
											0.6	0.9	1.5	2.1	2.7					
08/19/89	19.8	18.2	15.6	13.4	11.6	10.5	9.6	18.2	10.5	10.4	--	--	21.2	21.2	20.3	20.1				
08/20/89	19.7	18.1	15.6	13.5	11.6	10.5	9.7	18.2	10.6	10.5	--	--	21.0	21.1	20.2	20.0				
08/21/89	19.5	18.1	15.6	13.5	11.7	10.6	9.7	18.2	10.6	10.5	--	--	20.7	20.9	20.1	19.9				
08/22/89	19.3	18.0	15.6	13.6	11.7	10.6	9.8	18.3	10.6	10.6	--	--	20.5	20.8	19.9	19.9				
08/23/89	19.3	17.9	15.6	13.6	11.8	10.7	9.8	18.0	10.7	10.6	--	--	20.4	20.6	19.8	19.8				
08/24/89	18.8	17.8	15.6	13.6	11.8	10.7	9.8	17.9	10.7	10.6	--	--	19.3	20.4	19.6	19.7				
08/25/89	18.2	17.7	15.6	13.7	11.9	10.8	9.9	17.9	10.7	10.7	--	--	18.3	20.0	19.2	19.5				
08/26/89	17.6	17.4	15.6	13.7	11.9	10.8	9.9	18.0	10.8	10.7	--	--	17.7	19.5	18.7	19.3				
08/27/89	17.4	17.1	15.6	13.7	12.0	10.9	9.9	18.0	10.8	10.7	--	--	17.7	19.2	18.4	19.1				
08/28/89	17.4	16.9	15.5	13.7	12.0	10.9	10.0	18.0	10.9	10.8	--	--	17.9	18.9	18.2	18.9				
08/29/89	17.4	16.8	15.4	13.7	12.0	10.9	10.0	18.1	10.9	10.8	--	--	18.0	18.8	18.1	18.7				
08/30/89	17.5	16.8	15.4	13.8	12.0	11.0	10.1	18.0	10.9	10.8	--	--	18.3	18.7	18.1	18.6				
08/31/89	17.5	16.7	15.3	13.8	12.1	11.0	10.1	18.0	11.0	10.9	--	--	18.3	18.7	18.1	18.5				
09/01/89	17.6	16.7	15.3	13.8	12.1	11.0	10.1	18.0	11.0	10.9	--	--	18.3	18.7	18.1	18.4				
09/02/89	17.6	16.7	15.2	13.8	12.2	11.1	10.1	17.9	11.0	11.0	--	--	18.5	18.7	18.1	18.4				
09/03/89	17.6	16.7	15.2	13.8	12.2	11.1	10.2	17.9	11.1	11.0	--	--	18.3	18.7	18.1	18.3				
09/04/89	17.5	16.6	15.2	13.7	12.2	11.1	10.2	17.9	11.1	11.0	--	--	18.2	18.6	18.0	18.3				
09/05/89	17.4	16.6	15.2	13.8	12.2	11.2	10.3	17.9	11.1	11.0	--	--	18.1	18.6	18.0	18.3				
09/06/89	17.4	16.6	15.1	13.8	12.3	11.2	10.3	17.9	11.1	11.1	--	--	18.1	18.5	17.9	18.2				
09/07/89	17.4	16.5	15.1	13.8	12.3	11.2	10.3	17.9	11.2	11.1	--	--	18.1	18.5	17.9	18.2				
09/08/89	17.4	16.5	15.1	13.8	12.3	11.3	10.3	17.8	11.2	11.1	--	--	18.2	18.4	17.9	18.2				
09/09/89	17.4	16.5	15.1	13.7	12.3	11.3	10.4	17.6	11.2	11.1	--	--	18.1	18.4	17.9	18.1				
09/10/89	17.1	16.5	15.1	13.7	12.3	11.3	10.4	17.6	11.2	11.2	--	--	17.4	18.4	17.8	18.1				
09/11/89	16.8	16.4	15.1	13.8	12.4	11.3	10.4	17.6	11.3	11.2	--	--	16.9	18.1	17.5	18.0				
09/12/89	16.5	16.2	15.0	13.7	12.4	11.4	10.5	17.5	11.3	11.2	--	--	16.7	17.9	17.3	17.9				
09/13/89	16.3	16.1	15.0	13.8	12.4	11.4	10.5	17.6	11.3	11.2	--	--	16.3	17.7	17.1	17.8				
09/14/89	16.2	15.9	15.0	13.8	12.4	11.4	10.5	17.6	11.3	11.3	--	--	16.3	17.5	16.9	17.7				
09/15/89	16.1	15.8	14.9	13.7	12.4	11.5	10.6	17.6	11.4	11.3	--	--	16.3	17.4	16.8	17.5				
09/16/89	16.1	15.7	14.9	13.7	12.4	11.5	10.6	17.6	11.4	11.3	--	--	16.4	17.3	16.7	17.5				
09/17/89	16.2	15.7	14.8	13.7	12.5	11.5	10.6	17.4	11.4	11.3	--	--	16.8	17.2	16.7	17.4				
09/18/89	16.0	15.7	14.8	13.7	12.5	11.5	10.6	17.3	11.4	11.4	--	--	16.2	17.3	16.7	17.3				

Table 2. Mean daily soil temperatures at east trench area—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert								Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
									Depth below land surface, in meters									
	0.6	0.9	1.5	2.1	2.7	3.4	3.9	3.8	4.1	4.4	5.0	0.5	0.6	0.8	0.9			
09/19/89	15.7	15.6	14.7	13.8	12.5	11.5	10.7	17.4	11.5	11.4	--	15.5	17.1	16.6	17.2			
09/20/89	15.4	15.4	14.7	13.7	12.5	11.6	10.7	17.4	11.5	11.4	--	15.3	16.8	16.3	17.2			
09/21/89	15.3	15.3	14.7	13.7	12.5	11.6	10.7	17.4	11.5	11.4	--	15.2	16.6	16.1	17.0			
09/23/89	15.2	15.1	14.6	13.7	12.5	11.6	10.8	17.3	11.5	11.5	--	15.3	16.4	15.9	16.8			
09/24/89	15.2	15.0	14.5	13.6	12.5	11.6	10.8	17.3	11.6	11.5	--	15.4	16.4	15.9	16.7			
09/25/89	15.2	15.0	14.5	13.6	12.5	11.7	10.8	16.5	11.6	11.5	--	15.5	16.4	15.9	16.7			
09/26/89	15.3	15.0	14.4	13.6	12.5	11.7	10.8	16.1	11.6	11.5	--	15.7	16.3	15.8	16.5			
09/27/89	15.4	15.0	14.4	13.6	12.5	11.7	10.8	15.7	11.6	11.5	--	16.0	16.3	15.8	16.3			
09/28/89	15.4	15.0	14.3	13.6	12.5	11.7	10.9	15.6	11.6	11.6	--	15.6	16.3	15.8	16.2			
09/29/89	15.2	15.0	14.3	13.5	12.5	11.7	10.9	15.5	11.6	11.6	--	15.4	16.2	15.7	16.1			
09/30/89	15.1	14.9	14.3	13.5	12.5	11.7	10.9	14.8	11.6	11.6	--	15.2	16.0	15.6	15.9			
10/01/89	14.9	14.8	14.2	13.5	12.5	11.7	10.9	14.9	11.6	11.6	--	14.7	15.9	15.4	15.8			
10/02/89	14.5	14.7	14.2	13.5	12.5	11.7	10.9	14.4	11.7	11.6	--	14.1	15.6	15.1	15.6			
10/03/89	14.0	14.5	14.2	13.5	12.5	11.8	11.0	14.1	11.7	11.6	--	13.2	15.2	14.8	15.4			
10/04/89	13.5	14.3	14.1	13.5	12.5	11.8	11.0	13.9	11.7	11.6	--	12.6	14.8	14.3	15.2			
10/05/89	13.0	14.0	14.1	13.4	12.5	11.8	11.0	14.0	11.7	11.6	--	11.9	14.4	13.9	14.9			
10/06/89	12.6	13.8	14.0	13.4	12.5	11.8	11.0	13.8	11.7	11.6	--	11.6	13.9	13.5	14.6			
10/07/89	12.3	13.5	13.9	13.4	12.5	11.8	11.0	14.0	11.6	11.6	--	11.4	13.5	13.1	14.3			
10/08/89	12.1	13.3	13.8	13.4	12.5	11.8	11.1	13.9	11.7	11.6	--	11.3	13.3	12.9	14.0			
10/09/89	12.1	13.1	13.7	13.3	12.5	11.8	11.1	13.9	11.6	11.6	--	11.4	13.0	12.7	13.8			
10/10/89	12.1	13.0	13.6	13.3	12.5	11.8	11.1	14.0	11.6	11.6	--	11.5	12.9	12.6	13.6			
10/11/89	12.2	12.9	13.5	13.2	12.5	11.8	11.1	13.8	11.6	11.6	--	11.7	12.8	12.5	13.4			
10/12/89	12.3	12.8	13.4	13.2	12.5	11.8	11.1	13.8	11.6	11.6	--	11.9	12.8	12.6	13.3			
10/13/89	12.4	12.8	13.3	13.2	12.5	11.8	11.1	13.6	11.6	11.6	--	12.0	12.8	12.6	13.2			
10/14/89	12.4	12.8	13.2	13.1	12.5	11.8	11.1	13.6	11.6	11.6	--	11.8	12.8	12.6	13.2			
10/15/89	12.3	12.7	13.2	13.0	12.5	11.8	11.1	13.2	11.6	11.6	--	11.8	12.7	12.5	13.1			
10/16/89	12.1	12.7	13.1	13.0	12.4	11.8	11.1	12.7	11.6	11.6	--	11.3	12.6	12.4	13.0			
10/17/89	11.8	12.6	13.0	12.9	12.4	11.8	11.1	12.6	11.6	11.6	--	10.7	12.4	12.2	12.9			
10/18/89	11.4	12.4	13.0	12.9	12.4	11.8	11.2	12.6	11.6	11.6	--	10.1	12.1	11.9	12.8			
10/19/89	11.1	12.3	12.9	12.9	12.4	11.8	11.2	12.6	11.6	11.6	--	9.7	11.8	11.6	12.6			
10/20/89	10.8	12.1	12.8	12.8	12.4	11.8	11.2	12.7	11.6	11.5	--	9.5	11.5	11.3	12.4			

Table 2. Mean daily soil temperatures at east trench area—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert										Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
											Depth below land surface, in meters									
											3.9	4.4	5.0	5.5	6.1	0.5	0.6	0.8	0.9	
10/21/89	10.7	11.9	12.8	12.8	12.3	11.8	11.2	11.2	12.5	11.6	11.5	11.5	--	--	--	9.5	11.3	11.1	12.2	
10/22/89	10.6	11.7	12.7	12.7	12.3	11.8	11.2	11.2	12.7	11.5	11.5	11.5	--	--	--	9.4	11.1	11.0	12.0	
10/23/89	10.5	11.6	12.6	12.7	12.3	11.8	11.2	11.2	12.8	11.5	11.5	11.5	--	--	--	9.6	11.0	10.8	11.9	
10/24/89	10.6	11.5	12.5	12.6	12.3	11.8	11.2	11.2	12.4	11.5	11.5	11.5	--	--	--	9.8	10.9	10.8	11.8	
10/25/89	10.6	11.5	12.4	12.6	12.3	11.8	11.2	11.2	12.2	11.5	11.5	11.5	--	--	--	9.8	10.8	10.8	11.6	
10/26/89	10.4	11.4	12.3	12.5	12.2	11.8	11.2	11.2	11.8	11.5	11.5	11.5	--	--	--	9.4	10.8	10.7	11.5	
10/27/89	10.1	11.3	12.3	12.5	12.2	11.8	11.2	11.2	11.3	11.5	11.5	11.5	--	--	--	8.7	10.6	10.6	11.4	
10/28/89	9.7	11.2	12.2	12.4	12.2	11.8	11.2	11.2	11.2	11.5	11.5	11.5	--	--	--	8.1	10.3	10.3	11.3	
10/29/89	9.2	10.9	12.1	12.4	12.2	11.8	11.2	11.2	10.9	11.5	11.4	11.4	--	--	--	7.5	10.0	9.9	11.1	
10/30/89	8.7	10.7	12.0	12.3	12.1	11.7	11.2	11.2	10.9	11.4	11.4	11.4	--	--	--	6.8	9.6	9.6	10.9	
10/31/89	8.3	10.4	11.9	12.3	12.1	11.7	11.2	11.2	10.7	11.4	11.4	11.4	--	--	--	6.3	9.2	9.2	10.6	
11/01/89	7.8	10.1	11.8	12.2	12.1	11.7	11.2	11.2	10.4	11.4	11.4	11.4	--	--	--	5.8	8.8	8.8	10.4	
11/02/89	7.4	9.8	11.7	12.2	12.0	11.7	11.2	11.2	10.6	11.4	11.4	11.4	--	--	--	5.1	8.4	8.4	10.1	
11/03/89	6.9	9.5	11.6	12.1	12.0	11.7	11.2	11.2	10.5	11.4	11.4	11.4	--	--	--	4.7	8.0	8.0	9.8	
11/04/89	6.6	9.3	11.4	12.0	12.0	11.7	11.2	11.2	10.8	11.4	11.3	11.3	--	--	--	4.5	7.6	7.6	9.5	
11/05/89	6.5	9.0	11.3	12.0	12.0	11.7	11.2	11.2	10.2	11.3	11.3	11.3	--	--	--	4.6	7.3	7.4	9.2	
11/06/89	6.4	8.8	11.1	11.9	11.9	11.6	11.2	11.2	10.3	11.3	11.3	11.3	--	--	--	4.4	7.1	7.2	9.0	
11/07/89	6.2	8.6	11.0	11.8	11.9	11.6	11.2	11.2	10.1	11.3	11.3	11.3	--	--	--	4.3	6.9	7.0	8.8	
11/08/89	6.1	8.4	10.8	11.7	11.9	11.6	11.2	11.2	10.2	11.3	11.2	11.2	--	--	--	4.2	6.7	6.8	8.6	
11/09/89	5.9	8.3	10.7	11.6	11.8	11.6	11.2	11.2	10.1	11.3	11.2	11.2	--	--	--	4.1	6.5	6.7	8.4	
11/10/89	5.9	8.1	10.6	11.6	11.8	11.6	11.2	11.2	9.8	11.2	11.2	11.2	--	--	--	4.3	6.4	6.6	8.2	
11/11/89	5.9	8.0	10.5	11.5	11.7	11.5	11.2	11.2	9.9	11.2	11.2	11.2	--	--	--	4.3	6.3	6.5	8.1	
11/12/89	5.9	7.9	10.3	11.4	11.7	11.5	11.1	11.1	10.0	11.2	11.2	11.2	--	--	--	4.3	6.2	6.5	8.0	
11/13/89	5.9	7.9	10.2	11.3	11.6	11.5	11.2	11.2	9.6	11.2	11.2	11.2	--	--	--	4.4	6.2	6.4	7.9	
11/14/89	5.9	7.8	10.1	11.2	11.6	11.5	11.1	11.1	9.3	11.1	11.1	11.1	--	--	--	4.3	6.1	6.4	7.8	
11/15/89	5.7	7.7	10.0	11.1	11.5	11.4	11.1	11.1	9.2	11.1	11.1	11.1	--	--	--	3.9	6.0	6.4	7.7	
11/16/89	5.4	7.6	9.9	11.1	11.5	11.4	11.1	11.1	9.4	11.1	11.1	11.1	--	--	--	3.5	5.9	6.2	7.6	
11/17/89	5.2	7.5	9.8	11.0	11.5	11.4	11.1	11.1	9.4	11.1	11.0	11.0	--	--	--	3.4	5.7	6.0	7.5	
11/18/89	5.2	7.3	9.7	10.9	11.4	11.4	11.1	11.1	9.1	11.1	11.0	11.0	--	--	--	3.6	5.5	5.9	7.4	
11/19/89	5.2	7.2	9.6	10.8	11.4	11.3	11.1	11.1	9.0	11.0	11.0	11.0	--	--	--	3.6	5.5	5.8	7.3	
11/20/89	5.1	7.1	9.5	10.8	11.3	11.3	11.1	11.1	8.9	11.0	11.0	11.0	--	--	--	3.5	5.4	5.8	7.2	

Table 2. Mean daily soil temperatures at east trench area—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert					Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
	0.6	0.9	1.5	2.1	2.7	3.4	3.9	3.8	4.1	4.4	5.0	0.5	0.6	0.8	0.9
11/21/89	5.0	7.1	9.4	10.7	11.3	11.3	11.1	8.8	11.0	11.0	--	3.3	5.3	5.7	7.1
11/22/89	4.8	6.9	9.3	10.6	11.2	11.2	11.0	8.6	10.9	10.9	--	3.1	5.2	5.6	7.0
11/23/89	4.6	6.8	9.2	10.5	11.1	11.2	11.0	9.0	10.9	10.9	--	2.7	5.0	5.4	6.9
11/24/89	4.4	6.7	9.2	10.5	11.1	11.2	11.0	8.8	10.9	10.9	--	2.7	4.9	5.2	6.8
11/25/89	4.4	6.6	9.1	10.4	11.1	11.1	11.0	8.6	10.9	10.9	--	2.7	4.8	5.1	6.7
11/26/89	4.3	6.5	9.0	10.3	11.0	11.1	11.0	8.3	10.9	10.8	--	2.7	4.7	5.0	6.5
11/27/89	4.2	6.4	8.9	10.2	10.9	11.1	10.9	7.4	10.8	10.8	--	2.7	4.6	5.0	6.4
11/28/89	4.1	6.3	8.8	10.2	10.9	11.0	10.9	7.5	10.8	10.8	--	2.7	4.5	4.9	6.3
11/29/89	3.8	6.2	8.7	10.1	10.9	11.0	10.9	7.2	10.8	10.8	--	2.6	4.4	4.8	6.2
11/30/89	3.5	6.0	8.6	10.0	10.8	11.0	10.9	7.2	10.8	10.7	--	2.4	4.3	4.7	6.1
12/01/89	3.0	5.8	8.5	10.0	10.7	10.9	10.9	7.0	10.7	10.7	--	2.2	4.2	4.6	6.0
12/02/89	2.5	5.6	8.4	9.9	10.7	10.9	10.9	7.1	10.7	10.7	--	1.9	4.0	4.5	5.9
12/03/89	2.1	5.3	8.3	9.8	10.7	10.9	10.9	7.1	10.7	10.7	--	1.7	3.9	4.3	5.8
12/04/89	1.8	5.1	8.2	9.7	10.6	10.9	10.8	7.2	10.6	10.6	--	1.6	3.7	4.2	5.6
12/05/89	1.6	4.8	8.1	9.7	10.5	10.8	10.8	7.5	10.6	10.6	--	1.5	3.5	4.0	5.5
12/06/89	1.5	4.6	8.0	9.6	10.5	10.8	10.8	7.4	10.5	10.6	--	1.4	3.4	3.9	5.4
12/07/89	1.5	4.5	7.8	9.5	10.4	10.7	10.8	6.9	10.5	10.5	--	1.4	3.3	3.8	5.3
12/08/89	1.5	4.3	7.7	9.5	10.4	10.7	10.7	7.2	10.5	10.5	--	1.3	3.2	3.7	5.2
12/09/89	1.4	4.2	7.6	9.3	10.3	10.6	10.7	6.7	10.4	10.5	--	1.2	3.1	3.7	5.1
12/10/89	1.3	4.1	7.5	9.3	10.3	10.6	10.7	6.5	10.4	10.4	--	1.2	3.0	3.6	5.0
12/11/89	1.1	4.0	7.3	9.2	10.2	10.6	10.7	6.4	10.4	10.4	--	0.9	2.9	3.5	4.9
12/12/89	0.8	3.9	7.2	9.1	10.2	10.5	10.6	6.1	10.4	10.4	--	0.6	2.8	3.4	4.8
12/13/89	0.5	3.7	7.1	9.0	10.1	10.5	10.6	6.4	10.3	10.3	--	0.3	2.6	3.2	4.7
12/14/89	0.2	3.5	7.0	8.9	10.0	10.5	10.6	6.5	10.3	10.3	--	0.1	2.4	3.0	4.5
12/15/89	0.1	3.3	6.9	8.8	10.0	10.4	10.6	6.2	10.3	10.3	--	0.0	2.2	2.8	4.4
12/16/89	0.0	3.2	6.8	8.7	9.9	10.4	10.5	6.4	10.2	10.2	--	-0.0	2.0	2.7	4.3
12/17/89	-0.0	3.0	6.7	8.7	9.9	10.3	10.5	6.2	10.2	10.2	--	-0.1	1.9	2.6	4.1
12/18/89	-0.1	2.9	6.5	8.6	9.8	10.3	10.5	5.3	10.2	10.2	--	-0.1	1.8	2.5	4.0
12/19/89	-0.2	2.8	6.4	8.5	9.8	10.2	10.5	5.3	10.1	10.2	--	-0.4	1.7	2.4	3.9
12/20/89	-0.4	2.7	6.3	8.4	9.7	10.2	10.4	5.6	10.1	10.1	--	-0.7	1.5	2.3	3.8
12/21/89	-0.7	2.6	6.2	8.3	9.6	10.2	10.4	5.5	10.1	10.1	--	-0.9	1.4	2.1	3.6

Table 2. Mean daily soil temperatures at east trench area—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert								Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
									Depth below land surface, in meters									
	0.6	0.9	1.5	2.1	2.7	3.4	3.9	3.8	4.1	4.4	5.0	5.0	5.0	0.5	0.6	0.8	0.9	0.9
12/22/89	-0.8	2.4	6.1	8.3	9.6	10.1	10.4	5.4	10.0	10.0	--	--	--	-1.1	1.2	1.9	3.5	3.5
12/23/89	-1.0	2.3	6.0	8.2	9.5	10.1	10.3	5.4	10.0	10.0	--	--	--	-1.2	1.0	1.8	3.4	3.4
12/24/89	-1.1	2.1	5.9	8.1	9.5	10.0	10.3	5.2	10.0	10.0	--	--	--	-1.4	0.8	1.6	3.2	3.2
12/25/89	-1.3	2.0	5.8	8.0	9.4	10.0	10.3	5.2	9.9	10.0	--	--	--	-1.5	0.7	1.5	3.1	3.1
12/26/89	-1.4	1.9	5.7	7.9	9.3	9.9	10.2	5.1	9.9	9.9	--	--	--	-1.7	0.6	1.4	3.0	3.0
12/27/89	-1.5	1.8	5.6	7.8	9.3	9.9	10.2	5.2	9.8	9.9	--	--	--	-1.8	0.4	1.2	2.9	2.9
12/28/89	-1.6	1.6	5.5	7.8	9.2	9.9	10.2	5.0	9.8	9.8	--	--	--	-1.9	0.3	1.1	2.7	2.7
12/29/89	-1.7	1.5	5.4	7.7	9.2	9.8	10.1	5.1	9.8	9.8	--	--	--	-2.0	0.1	1.0	2.6	2.6
12/30/89	-1.8	1.4	5.3	7.6	9.1	9.8	10.1	5.1	9.7	9.8	--	--	--	-2.0	0.0	0.9	2.5	2.5

Table 3. Daily soil-water potentials at the east test trench

[Soil-water potential in kilopascals; (--), no data; >, greater than]

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert					Undisturbed soil beneath the horizontal culvert				Disturbed soil above the horizontal culvert				
						Depth below land surface, in meters								
	0.6	0.9	2.7	3.4	3.9	4.1	4.4	0.5	0.6	0.8	0.9			
01/01/88	-1043	-559	--	-1376	--	-236	-299	--	--	-1204	-473			
01/02/88	-1060	-558	--	-1357	--	-239	-290	--	--	-1193	-476			
01/03/88	-1084	-560	--	-1355	--	-234	-288	--	--	-1190	-473			
01/04/88	-1110	-559	--	-1362	--	-228	-287	--	--	-1178	-475			
01/05/88	-1148	-558	--	-1357	--	-232	-289	--	--	-1181	-466			
01/06/88	-1190	-558	--	-1355	--	-226	-293	--	--	-1173	-481			
01/07/88	-1216	-556	--	-1339	--	-232	-289	--	--	-1168	-483			
01/08/88	-1231	-540	--	-1341	--	-229	-294	--	--	-1155	-473			
01/09/88	-1233	-530	--	-1337	--	-226	-299	--	--	-1144	-468			
01/10/88	-1225	-529	--	-1322	--	-228	-296	--	--	-1131	-473			
01/11/88	-1212	-524	--	-1323	--	-229	-297	--	--	-1121	-477			
01/12/88	-1170	-524	--	-1330	--	-227	-304	--	--	-1108	-477			
01/13/88	-1100	-509	--	-1306	--	-224	-302	--	--	-1077	-477			
01/14/88	-1046	-513	--	-1299	--	-221	-297	--	--	-1068	-469			
01/15/88	-1039	-510	--	-1301	--	-219	-298	--	--	-1075	-467			
01/16/88	-1042	-517	--	-1307	--	-223	-301	--	--	-1087	-470			
01/17/88	-1037	-506	--	-1309	--	-213	-301	--	--	-1069	-467			
01/18/88	-1024	-507	--	-1305	--	-217	-300	--	--	-1056	-468			
01/19/88	-1010	-511	--	-1292	--	-213	-296	--	--	-1044	-472			
01/20/88	-1009	-509	--	-1278	--	-210	-295	--	--	-1042	-460			
01/21/88	-1030	-508	--	-1279	--	-210	-301	--	--	-1042	-463			
01/22/88	-1085	-503	--	-1261	--	-207	-298	--	--	-1048	-464			
01/23/88	-1149	-501	--	-1268	--	-212	-300	--	--	-1053	-461			
01/24/88	-1224	-505	--	-1269	--	-208	-305	--	--	-1056	-464			
01/25/88	-1271	-501	--	-1258	--	-209	-301	--	--	-1050	-459			
01/26/88	-1330	-503	--	-1252	--	-212	-305	--	--	-1055	-470			
01/27/88	-1372	-506	--	-1257	--	-209	-306	--	--	-1053	-483			
01/28/88	-1416	-504	--	-1254	--	-201	-306	--	--	-1034	-473			
01/29/88	-1453	-503	--	-1258	--	-201	-306	--	--	-1046	-463			

Table 3. Daily soil-water potentials at the east test trench—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert					Depth below land surface, in meters				Undisturbed soil beneath the horizontal culvert		Disturbed soil above the horizontal culvert				
	0.6	0.9	2.7	3.4	3.9	4.1	4.4	0.5	0.6	0.8	0.9					
01/30/88	-1476	-507	--	-1257	--	-212	-312	--	--	-1042	-459					
01/31/88	-1470	-504	--	-1255	--	-204	-313	--	--	-1049	-466					
02/01/88	-1433	-503	--	-1247	--	-212	-310	--	--	-1033	-467					
02/02/88	-1386	-499	--	-1234	--	-201	-309	--	--	-1019	-452					
02/03/88	-1395	-500	--	-1229	--	-203	-309	--	--	-1010	-460					
02/04/88	-1435	-495	--	-1224	--	-199	-312	--	--	-1012	-460					
02/05/88	-1486	-495	--	-1210	--	-193	-308	--	--	-1014	-464					
02/06/88	-1521	-498	--	-1211	--	-184	-307	--	--	-1017	-464					
02/07/88	-1562	-496	--	-1212	--	-175	-310	--	--	-1018	-462					
02/08/88	-1608	-488	--	-1204	--	-177	-312	--	--	-1026	-462					
02/09/88	-1642	-494	--	-1199	--	-179	-306	--	--	-1021	-470					
02/10/88	-1658	-498	--	-1208	--	-183	-313	--	--	-1039	-469					
02/11/88	-1602	-499	--	-1192	--	-179	-313	--	--	-1027	-468					
02/12/88	-1523	-494	--	-1190	--	-184	-315	--	--	-1008	-461					
02/13/88	-1444	-497	--	-1186	--	-178	-313	--	--	-992	-463					
02/14/88	-1369	-492	--	-1187	--	-177	-313	--	--	-987	-455					
02/15/88	-1293	-492	--	-1183	--	-179	-319	--	--	-963	-456					
02/16/88	-1238	-489	--	-1193	--	-184	-313	--	--	-957	-470					
02/17/88	-1182	-479	--	-1176	--	-179	-311	--	--	-939	-457					
02/18/88	-1142	-483	--	-1179	--	-181	-310	--	--	-939	-462					
02/19/88	-1118	-478	--	-1172	--	-176	-309	--	--	-933	-459					
02/20/88	-1093	-474	--	-1160	--	-178	-308	--	--	-882	-460					
02/21/88	-1060	-475	--	-1161	--	-172	-308	--	--	-864	-463					
02/22/88	-1037	-468	--	-1158	--	-176	-306	--	--	-867	-468					
02/23/88	-1001	-463	--	-1158	--	-172	-312	--	--	-860	-467					
02/24/88	-961	-466	--	-1154	--	-172	-309	--	--	-853	-466					
02/25/88	-923	-455	--	-1143	--	-169	-309	--	--	-901	-465					
02/26/88	-880	-453	--	-1146	--	-173	-303	--	--	-923	-463					
02/27/88	-835	-446	--	-1149	--	-174	-305	--	--	-878	-466					
02/28/88	-797	-441	--	-1136	--	-175	-297	--	--	-858	-459					
02/29/88	-798	-441	--	-1144	--	-171	-303	--	--	-843	-464					

Table 3. Daily soil-water potentials at the east test trench—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert					Undisturbed soil beneath the horizontal culvert			Disturbed soil above the horizontal culvert				
	0.6	0.9	2.7	3.4	3.9	4.1	4.4		0.5	0.6	0.8	0.9	
03/01/88	-811	-446	--	-1140	--	-176	-312		--	--	-839	-464	
03/02/88	-817	-454	--	-1141	--	-175	-308		--	--	-852	-466	
no data from 3/3/88 to 3/13/88													
03/14/88	--	--	--	--	--	--	-221		-1010	>-100	>-100	-2453	
03/15/88	--	--	--	--	--	-592	-231		-1009	>-100	-620	-3150	
03/16/88	--	--	--	--	--	-582	-258		-1003	>-100	-550	-3383	
03/17/88	--	--	--	--	--	-612	-252		-988	>-100	-649	-3397	
03/18/88	--	--	--	--	--	-617	-266		-962	>-100	-581	-3140	
03/19/88	--	--	--	--	--	-634	-234		-910	>-100	-450	-2725	
03/20/88	--	--	--	--	--	-583	-251		-876	-282	-289	-2407	
no data from 3/21/88 to 3/25/88													
03/26/88	--	--	--	--	--	-633	-239		-868	-807	>-100	-1321	
03/27/88	--	--	--	--	--	-687	-315		-827	-1213	>-100	-1108	
03/29/88	--	--	--	--	--	-647	-231		-896	-1303	>-100	-879	
03/30/88	--	--	--	--	--	-684	-278		-928	-1022	>-100	-665	
03/31/88	--	--	--	--	--	-677	-240		-959	-641	-141	-685	
04/01/88	--	--	--	--	--	-661	-249		-972	-280	-252	-816	
04/02/88	--	--	--	--	--	-648	-220		-921	-193	-270	-1067	
04/03/88	--	--	--	--	--	-617	-242		-861	-543	-160	-1192	
04/04/88	--	--	--	--	--	-640	-247		-814	-1122	>-100	-1122	
04/05/88	--	--	--	--	--	-656	-245		-861	-1438	>-100	-830	
04/06/88	--	--	--	--	--	-648	-203		-885	-1238	>-100	-633	
04/07/88	--	--	--	--	--	-621	-182		-829	-1217	>-100	-659	
04/08/88	--	--	--	--	--	-627	-239		-790	-1616	>-100	-624	
04/09/88	--	--	--	--	--	-661	-241		-830	-1905	>-100	-305	
04/10/88	--	--	--	--	--	-618	-262		-853	-1741	>-100	-103	
04/11/88	--	--	--	--	--	-633	-215		-846	-1634	>-100	>-100	
04/12/88	--	--	--	--	--	-603	-244		-809	-1682	>-100	-106	
04/13/88	--	--	--	--	--	-578	-261		-749	-2068	>-100	>-100	
04/14/88	--	--	--	--	--	-621	-233		-718	-2582	>-100	>-100	
04/15/88	--	--	--	--	--	-565	-204		-695	-3095	>-100	>-100	

Table 3. Daily soil-water potentials at the east test trench—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert					Undisturbed soil beneath the horizontal culvert				Disturbed soil above the horizontal culvert			
						Depth below land surface, in meters							
	0.6	0.9	2.7	3.4	3.9	4.1	4.4	0.5	0.6	0.8	0.9		
04/16/88	--	--	--	--	--	-557	-214	-690	-3330	>-100	>-100		
04/17/88	--	--	--	--	--	-569	-167	-686	-3463	>-100	>-100		
04/18/88	--	--	--	--	--	-583	-176	-666	-3567	>-100	>-100		
04/19/88	--	--	--	--	--	-572	-222	-679	-3972	>-100	>-100		
04/20/88	--	--	--	--	--	-506	-200	-737	-3601	>-100	>-100		
04/21/88	--	--	--	--	--	-545	-176	-760	-3209	>-100	>-100		
no data from 4/22/88 to 5/17/88													
05/18/88	--	--	-525	-1090	-966	-1255	-1139	-873	-4544	>-100	>-100		
05/19/88	--	--	-570	-1030	-959	-1226	-1142	-1179	-4424	>-100	>-100		
05/20/88	--	--	-637	-1008	-980	-1212	-1106	-1275	-4108	>-100	>-100		
05/21/88	--	--	-721	-1033	-963	-1207	-1111	-1233	-4067	>-100	>-100		
05/22/88	--	--	-716	-1029	-1002	-1226	-1095	-1105	-4068	>-100	>-100		
05/23/88	--	--	-744	-988	-981	-1218	-1104	-986	-4247	>-100	>-100		
05/24/88	--	>-100	-762	-978	-1001	-1203	-1080	-858	-4555	>-100	>-100		
05/25/88	-158	>-100	-750	-957	-990	-1205	-1095	-791	-6563	>-100	>-100		
05/26/88	-135	>-100	-806	-943	-983	-1224	-1060	-819	-6807	>-100	>-100		
05/27/88	-139	>-100	-798	-957	-975	-1182	-1091	-903	-6895	>-100	>-100		
05/28/88	-135	>-100	-806	-939	-971	-1188	-1096	-984	-6865	>-100	>-100		
05/29/88	-160	>-100	-844	-988	-987	-1154	-1062	-1128	-6615	>-100	>-100		
05/30/88	-170	>-100	-904	-960	-957	-1164	-1078	-1223	-6354	>-100	>-100		
05/31/88	-175	>-100	-884	-918	-960	-1128	-1055	-1802	-5871	>-100	>-100		
06/01/88	-220	>-100	-829	-931	-975	-1129	-1063	-2158	-4509	-246	>-100		
06/02/88	-264	>-100	-918	-933	-932	-1127	-1034	-2024	-3396	-690	>-100		
06/03/88	-249	>-100	-873	-906	-947	-1136	-1029	-1769	-3035	-820	>-100		
06/04/88	-276	>-100	-923	-905	-955	-1129	-1058	-1294	-3527	-629	>-100		
06/05/88	-278	>-100	-954	-931	-982	-1089	-1046	-891	-4562	-171	>-100		
06/06/88	-293	>-100	-935	-911	-979	-1128	-1078	-790	-5688	>-100	>-100		
06/07/88	-312	>-100	-973	-912	-958	-1133	-1018	-867	-6388	>-100	>-100		
06/08/88	-344	>-100	-929	-914	-970	-1127	-1061	-977	-6466	>-100	>-100		
06/09/88	-375	>-100	-983	-916	-932	-1100	-1024	-1193	-6335	>-100	>-100		
06/10/88	-415	>-100	-984	-924	-990	-1115	-1048	-1296	-5937	>-100	>-100		

Table 3. Daily soil-water potentials at the east test trench—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert					Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
	0.6	0.9	2.7	3.4	3.9	4.1	4.4	0.5	0.6	0.8	0.9	0.5	0.6	0.8	0.9
06/11/88	-441	>-100	-1010	-911	-945	-1076	-1032	-1213	-5800	>-100	>-100	-1059	-5939	>-100	>-100
06/12/88	-449	>-100	-967	-889	-944	-1061	-1040	-966	-6294	>-100	>-100	-966	-6294	>-100	>-100
06/13/88	-472	>-100	-938	-907	-961	-1000	-1033	-1035	-6510	>-100	>-100	-1035	-6510	>-100	>-100
06/14/88	-500	>-100	-908	-901	-943	-982	-1031	-1022	-6639	>-100	>-100	-1022	-6639	>-100	>-100
06/15/88	-507	>-100	-859	-882	-934	-956	-1042	-972	-6764	>-100	>-100	-972	-6764	>-100	>-100
06/16/88	-501	>-100	-776	-878	-940	-931	-989	-950	-6963	>-100	>-100	-950	-6963	>-100	>-100
06/17/88	-525	>-100	-741	-885	-940	-886	-1016	-1041	-7044	>-100	>-100	-1041	-7044	>-100	>-100
06/18/88	-537	>-100	-676	-904	-961	-837	-1022	-1140	-6881	>-100	>-100	-1140	-6881	>-100	>-100
06/19/88	-592	>-100	-693	-872	-925	-847	-1008	-1000	-6822	>-100	>-100	-1000	-6822	>-100	>-100
06/20/88	-599	>-100	-571	-888	-959	-806	-1019	-810	-7244	>-100	>-100	-810	-7244	>-100	>-100
06/21/88	-626	>-100	-597	-906	-927	-785	-1022	-779	-7713	>-100	>-100	-779	-7713	>-100	>-100
06/22/88	-630	>-100	-574	-905	-953	-766	-950	-766	-7943	>-100	>-100	-766	-7943	>-100	>-100
06/23/88	-655	>-100	-579	-896	-953	-752	-992	-749	-8171	>-100	>-100	-749	-8171	>-100	>-100
06/24/88	-694	>-100	-554	-908	-971	-744	-958	-755	-8374	>-100	>-100	-755	-8374	>-100	>-100
06/25/88	-725	>-100	-508	-914	-969	-751	-993	-739	-8484	>-100	>-100	-739	-8484	>-100	>-100
06/26/88	-773	>-100	-523	-889	-960	-710	-924	-919	-8554	>-100	>-100	-919	-8554	>-100	>-100
06/27/88	-819	>-100	-525	-893	-928	-695	-962	-1133	-8103	>-100	>-100	-1133	-8103	>-100	>-100
06/28/88	-868	>-100	-546	-907	-976	-680	-930	-1214	-7686	>-100	>-100	-1214	-7686	>-100	>-100
06/29/88	-875	>-100	-512	-886	-981	-676	-974	-1361	-7341	>-100	>-100	-1361	-7341	>-100	>-100
06/30/88	-928	>-100	-477	-886	-972	-621	-968	-1522	-6809	>-100	>-100	-1522	-6809	>-100	>-100
07/01/88	-985	>-100	-498	-912	-978	-620	-938	-1453	-6374	>-100	>-100	-1453	-6374	>-100	>-100
07/02/88	-1009	>-100	-495	-905	-952	-636	-978	-1369	-6308	>-100	>-100	-1369	-6308	>-100	>-100
07/03/88	-1045	>-100	-491	-906	-989	-591	-947	-1264	-6455	>-100	>-100	-1264	-6455	>-100	>-100
07/04/88	-1094	>-100	-470	-882	-961	-608	-949	-1179	-6819	>-100	>-100	-1179	-6819	>-100	>-100
07/05/88	-1122	>-100	-522	-858	-950	-597	-955	-1267	-7020	>-100	>-100	-1267	-7020	>-100	>-100
07/06/88	-1179	>-100	-492	-901	-945	-594	-960	-1521	-6865	>-100	>-100	-1521	-6865	>-100	>-100
07/07/88	-1242	>-100	-522	-877	-950	-574	-942	-1681	-6330	>-100	>-100	-1681	-6330	>-100	>-100
07/08/88	-1341	>-100	-547	-896	-944	-576	-933	-1593	-5983	>-100	>-100	-1593	-5983	>-100	>-100
07/09/88	-1431	>-100	-521	-917	-951	-570	-935	-1455	-6029	>-100	>-100	-1455	-6029	>-100	>-100
07/10/88	-1464	>-100	-507	-909	-972	-566	-948	-1342	-6318	>-100	>-100	-1342	-6318	>-100	>-100
07/11/88	-1515	>-100	-533	-903	-979	-553	-907								

Table 3. Daily soil-water potentials at the east test trench—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert					Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
	0.6	0.9	2.7	3.4	3.9	4.1	4.4	0.5	0.6	0.8	0.9				
07/12/88	-1567	>-100	-539	-911	-962	-527	-940	-1375	-6541	>-100	>-100				
07/13/88	-1593	>-100	-552	-911	-959	-510	-898	-1436	-6594	>-100	>-100				
07/14/88	-1624	>-100	-543	-906	-954	-519	-917	-1513	-6430	>-100	>-100				
07/15/88	-1664	>-100	-536	-887	-976	-538	-933	-1393	-6344	>-100	>-100				
07/16/88	-1701	>-100	-572	-891	-958	-478	-916	-1359	-6480	>-100	>-100				
07/17/88	-1719	>-100	-586	-871	-956	-481	-841	-1330	-6565	>-100	>-100				
07/18/88	-1747	>-100	-624	-834	-960	-464	-877	-1306	-6755	>-100	>-100				
07/19/88	-1771	>-100	-590	-838	-940	-462	-882	-1337	-6748	>-100	>-100				
07/20/88	-1772	>-100	-566	-860	-942	-451	-892	-1332	-6725	>-100	>-100				
07/21/88	-1829	>-100	-581	-827	-960	-463	-903	-1394	-6665	>-100	>-100				
07/22/88	-1849	>-100	-621	-847	-967	-423	-885	-1336	-6664	>-100	>-100				
07/23/88	-1897	>-100	-617	-821	-972	-444	-889	-1284	-6763	>-100	>-100				
07/24/88	-1931	>-100	-562	-822	-951	-422	-877	-1309	-6912	>-100	>-100				
07/25/88	-1973	>-100	-669	-822	-946	-392	-890	-1329	-6875	>-100	>-100				
07/26/88	-1997	>-100	-634	-791	-970	-407	-900	-1299	-6926	>-100	>-100				
07/27/88	-2047	>-100	-663	-816	-942	-405	-880	-1397	-7001	>-100	>-100				
07/28/88	-2061	>-100	-645	-776	-981	-389	-864	-1432	-6836	>-100	>-100				
07/29/88	-2088	>-100	-692	-807	-947	-373	-869	-1550	-6603	>-100	>-100				
07/30/88	-2112	>-100	-646	-786	-970	-374	-906	-1500	-6394	>-100	>-100				
07/31/88	-2153	>-100	-706	-760	-948	-397	-890	-1439	-6440	>-100	>-100				
08/01/88	-2157	-109	-673	-757	-985	-349	-881	-1399	-6647	>-100	>-100				
08/02/88	-2189	-149	-659	-748	-956	-359	-885	-1488	-6718	>-100	>-100				
08/03/88	-2212	-139	-685	-732	-967	-361	-896	-1672	-6565	>-100	>-100				
08/04/88	-2243	-196	-681	-719	-933	-349	-876	-1703	-6249	>-100	>-100				
08/05/88	-2280	-218	-718	-732	-964	-346	-864	-1800	-6010	>-100	>-100				
08/06/88	-2302	-259	-727	-702	-952	-377	-874	-1818	-5824	>-100	>-100				
08/07/88	-2345	-310	-743	-688	-965	-387	-870	-1730	-5735	>-100	>-100				
08/08/88	-2343	-298	-735	-694	-973	-319	-871	-1825	-5710	>-100	>-100				
08/09/88	-2380	-359	-751	-665	-962	-357	-871	-1876	-5614	>-100	>-100				
08/10/88	-2418	-378	-698	-681	-939	-355	-894	-1902	-5486	>-100	>-100				
08/11/88	-2416	-418	-755	-693	-974	-335	-850	-1874	-5433	>-100	>-100				

Table 3. Daily soil-water potentials at the east test trench—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert					Undisturbed soil beneath the horizontal culvert			Disturbed soil above the horizontal culvert				
	0.6	0.9	2.7	3.4	3.9	4.1	4.4		0.5	0.6	0.8	0.9	
08/12/88	-2457	-383	-751	-687	-938	-332	-860		-1907	-5476	>-100	>-100	
08/13/88	-2467	-363	-764	-676	-949	-344	-877		-2003	-5477	>-100	>-100	
08/14/88	-2486	-457	-809	-666	-953	-330	-867		-2334	-5004	>-100	>-100	
08/15/88	-2518	-493	-775	-667	-968	-327	-887		-2240	-4492	>-100	>-100	
08/16/88	-2552	-547	-791	-652	-966	-326	-868		-2193	-4421	>-100	>-100	
08/17/88	-2558	-631	-764	-646	-970	-347	-883		-2098	-4504	>-100	>-100	
08/18/88	-2565	-623	-786	-663	-945	-320	-883		-2142	-4660	>-100	>-100	
08/19/88	-2579	-604	-762	-638	-911	-330	-893		-2131	-4677	>-100	>-100	
08/20/88	-2602	-646	-829	-638	-967	-324	-855		-2151	-4689	>-100	>-100	
08/21/88	-2614	-620	-763	-633	-934	-311	-872		-2155	-4709	>-100	>-100	
08/22/88	-2626	-653	-778	-624	-949	-324	-884		-2184	-4688	>-100	>-100	
08/23/88	-2638	-671	-813	-633	-980	-328	-883		-2250	-4631	>-100	>-100	
08/24/88	-2646	-685	-831	-613	-948	-333	-902		-2263	-4529	>-100	>-100	
08/25/88	-2673	-692	-816	-637	-936	-301	-864		-2231	-4422	>-100	>-100	
08/26/88	-2716	-775	-742	-641	-925	-325	-863		-2103	-4572	>-100	>-100	
08/27/88	-2706	-751	-839	-657	-965	-331	-868		-2015	-4791	>-100	>-100	
08/28/88	-2723	-706	-763	-630	-973	-348	-812		-2086	-5043	>-100	>-100	
08/29/88	-2737	-713	-819	-608	-932	-283	-825		-2241	-4957	>-100	>-100	
08/30/88	-2775	-705	-855	-641	-975	-339	-810		-2255	-4637	>-100	>-100	
08/31/88	-2785	-754	-841	-623	-973	-326	-773		-2238	-4560	>-100	>-100	
09/01/88	-2788	-812	-864	-598	-991	-341	-776		-2240	-4574	-101	>-100	
09/02/88	-2817	-757	-883	-604	-952	-351	-770		-2294	-4425	-121	>-100	
09/03/88	-2815	-801	-850	-639	-967	-348	-724		-2371	-4266	-206	>-100	
09/04/88	-2854	-846	-929	-613	-972	-300	-693		-2458	-4092	-303	>-100	
09/05/88	-2877	-835	-945	-598	-983	-326	-711		-2516	-3679	-508	>-100	
09/06/88	-2894	-877	-1034	-638	-994	-349	-699		-2443	-3480	-594	>-100	
09/07/88	-2923	-938	-1070	-614	-952	-333	-667		-2377	-3544	-585	>-100	
09/08/88	-2946	-939	-1093	-626	-1003	-349	-678		-2319	-3592	-558	>-100	
09/09/88	-2944	-930	-1054	-629	-980	-330	-678		-2451	-3719	-550	>-100	
09/10/88	-2985	-964	-1061	-628	-993	-369	-657		-2491	-3469	-653	>-100	
09/11/88	-2967	-1007	-1106	-631	-957	-330	-658		-2363	-3428	-681	>-100	

Table 3. Daily soil-water potentials at the east test trench—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert					Undisturbed soil beneath the horizontal culvert				Disturbed soil above the horizontal culvert				
	Depth below land surface, in meters					horizontal culvert								
	0.6	0.9	2.7	3.4	3.9	4.1	4.4	0.5	0.6	0.8	0.9			
09/12/88	-2988	-955	-1083	-630	-976	-373	-613	-2662	-3363	-725	>-100			
09/13/88	-3014	-978	-1096	-620	-987	-368	-663	-2914	-2613	-1070	>-100			
09/14/88	-3040	-1088	-1137	-597	-991	-343	-650	-2825	-1977	-1346	>-100			
09/15/88	-3052	-1140	-1166	-650	-938	-337	-652	-2788	-1792	-1462	>-100			
09/16/88	-3084	-1225	-1136	-626	-970	-340	-675	-2749	-1826	-1455	>-100			
09/17/88	-3093	-1196	-1103	-615	-971	-361	-697	-2722	-2058	-1406	>-100			
09/18/88	-3093	-1203	-1098	-620	-956	-377	-668	-2771	-2004	-1427	>-100			
09/19/88	-3087	-1190	-1053	-619	-987	-355	-668	-2884	-1902	-1514	>-100			
09/20/88	-3122	-1262	-1097	-663	-1005	-387	-655	-2936	-1486	-1696	>-100			
09/21/88	-3128	-1242	-1072	-642	-997	-371	-644	-2935	-1164	-1858	>-100			
09/22/88	-3119	-1315	-1110	-610	-980	-383	-636	-2953	-882	-1986	-285			
09/23/88	-3115	-1388	-1114	-624	-966	-379	-685	-2833	-763	-2045	-557			
09/24/88	-3148	-1342	-1044	-612	-986	-389	-640	-2818	-969	-1992	-689			
09/25/88	-3119	-1378	-1053	-612	-996	-406	-667	-2762	-1129	-1961	-769			
09/26/88	-3111	-1414	-1037	-620	-993	-384	-653	-2698	-1357	-1877	-833			
09/27/88	-3118	-1407	-998	-626	-1006	-407	-668	-2706	-1525	-1811	-788			
09/28/88	-3081	-1348	-923	-615	-970	-449	-639	-2744	-1651	-1762	-723			
09/29/88	-3087	-1365	-911	-633	-978	-407	-671	-2914	-1474	-1854	-672			
09/30/88	-3081	-1403	-864	-601	-999	-421	-663	-2883	-1089	-2027	-767			
10/01/88	-3079	-1408	-820	-613	-959	-414	-664	-2817	-1085	-2027	-932			
10/02/88	-3087	-1384	-749	-610	-982	-447	-676	-2735	-1345	-1945	-1022			
10/03/88	-3049	-1423	-785	-627	-994	-432	-677	-2711	-1641	-1810	-1005			
10/04/88	-3054	-1373	-770	-625	-979	-442	-647	-2737	-1897	-1721	-918			
10/05/88	-3062	-1334	-808	-596	-1000	-418	-699	-2754	-2043	-1699	-837			
10/06/88	-3025	-1345	-701	-622	-993	-462	-676	-2742	-2023	-1667	-783			
10/07/88	-3024	-1375	-718	-596	-971	-454	-674	-2792	-2093	-1641	-699			
10/08/88	-3011	-1315	-704	-612	-976	-478	-689	-2840	-1974	-1679	-645			
10/09/88	-3027	-1361	-682	-623	-982	-454	-692	-2832	-1901	-1735	-656			
10/10/88	-3024	-1368	-654	-581	-1011	-472	-675	-2773	-1839	-1742	-738			
10/11/88	-3026	-1363	-710	-575	-974	-479	-680	-2810	-1970	-1692	-718			
10/12/88	-3034	-1339	-683	-604	-978	-466	-675	-2887	-1914	-1727	-683			

Table 3. Daily soil-water potentials at the east test trench—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert					Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
	Depth below land surface, in meters					Depth below land surface, in meters					Depth below land surface, in meters				
	0.6	0.9	2.7	3.4	3.9	4.1	4.4	0.5	0.6	0.8	0.9	0.5	0.6	0.8	0.9
10/13/88	-3043	-1347	-686	-574	-964	-482	-646	-2912	-1708	-1800	-688	-2912	-1708	-1800	-688
10/14/88	-3061	-1356	-607	-612	-967	-489	-690	-2929	-1520	-1895	-732	-2929	-1520	-1895	-732
10/15/88	-3052	-1391	-656	-592	-988	-521	-706	-2929	-1450	-1941	-818	-2929	-1450	-1941	-818
10/16/88	-3063	-1436	-622	-587	-948	-489	-680	-2915	-1342	-1972	-928	-2915	-1342	-1972	-928
10/17/88	-3092	-1416	-616	-598	-957	-507	-701	-2874	-1354	-1961	-1040	-2874	-1354	-1961	-1040
10/18/88	-3083	-1439	-609	-574	-965	-509	-672	-2822	-1487	-1915	-1057	-2822	-1487	-1915	-1057
10/19/88	-3068	-1384	-606	-600	-980	-499	-682	-2885	-1646	-1851	-1011	-2885	-1646	-1851	-1011
10/20/88	-3074	-1426	-568	-583	-958	-529	-672	-2828	-1641	-1855	-1026	-2828	-1641	-1855	-1026
10/21/88	-3100	-1369	-652	-592	-976	-509	-676	-2885	-1744	-1834	-960	-2885	-1744	-1834	-960
10/22/88	-3101	-1390	-654	-578	-976	-514	-664	-2957	-1563	-1893	-962	-2957	-1563	-1893	-962
10/23/88	-3071	-1403	-598	-585	-988	-526	-689	-2915	-1332	-1989	-1008	-2915	-1332	-1989	-1008
10/24/88	-3087	-1440	-554	-594	-995	-535	-715	-2953	-1271	-2030	-1055	-2953	-1271	-2030	-1055
10/25/88	-3070	-1407	-582	-555	-995	-522	-726	-2970	-1161	-2106	-1107	-2970	-1161	-2106	-1107
10/26/88	-3101	-1440	-600	-573	-955	-557	-711	-2953	-970	-2194	-1233	-2953	-970	-2194	-1233
10/27/88	-3116	-1504	-612	-589	-955	-558	-725	-2943	-954	-2197	-1325	-2943	-954	-2197	-1325
10/28/88	-3108	-1465	-595	-557	-991	-554	-752	-2992	-876	-2231	-1354	-2992	-876	-2231	-1354
10/29/88	-3079	-1475	-541	-565	-975	-567	-753	-3013	-567	-2384	-1403	-3013	-567	-2384	-1403
10/30/88	-3097	-1496	-546	-558	-967	-558	-733	-2966	-363	-2483	-1567	-2966	-363	-2483	-1567
10/31/88	-3077	-1537	-572	-539	-963	-599	-712	-2966	-245	-2520	-1742	-2966	-245	-2520	-1742
11/01/88	-3094	-1523	-521	-540	-996	-584	-720	-2962	-229	-2558	-1830	-2962	-229	-2558	-1830
11/02/88	-3115	-1530	-510	-555	-958	-609	-724	-2986	>-100	-2629	-1953	-2986	>-100	-2629	-1953
11/03/88	-3101	-1590	-517	-563	-950	-588	-701	-2938	>-100	-2653	-2052	-2938	>-100	-2653	-2052
11/04/88	-3080	-1598	-508	-553	-983	-588	-725	-2897	-148	-2629	-2094	-2897	-148	-2629	-2094
11/05/88	-3056	-1606	-512	-561	-974	-609	-746	-2921	-245	-2583	-2091	-2921	-245	-2583	-2091
11/06/88	-3085	-1576	-490	-581	-946	-612	-686	-2968	>-100	-2684	-2076	-2968	>-100	-2684	-2076
11/07/88	-3075	-1620	-475	-563	-982	-636	-759	-2949	>-100	-2824	-2197	-2949	>-100	-2824	-2197
11/08/88	-3077	-1668	-497	-538	-988	-636	-749	-2956	>-100	-2897	-2300	-2956	>-100	-2897	-2300
11/09/88	-3058	-1695	-483	-535	-992	-649	-715	-2931	>-100	-3011	-2414	-2931	>-100	-3011	-2414
11/10/88	-3038	-1696	-438	-575	-1004	-619	-728	-2924	>-100	-3068	-2576	-2924	>-100	-3068	-2576
11/11/88	-3037	-1729	-496	-555	-989	-674	-761	-2922	>-100	-3193	-2714	-2922	>-100	-3193	-2714
11/12/88	-3014	-1755	-472	-547	-956	-657	-705	-2899	>-100	-3310	-2887	-2899	>-100	-3310	-2887

Table 3. Daily soil-water potentials at the east test trench—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert					Depth below land surface, in meters				Undisturbed soil beneath the horizontal culvert		Disturbed soil above the horizontal culvert				
	0.6	0.9	2.7	3.4	3.9	4.1	4.4	0.5	0.6	0.8	0.9					
11/13/88	-3012	-1745	-430	-556	-974	-654	-748	-2890	>-100	-3369	-3060					
11/14/88	-3024	-1818	-411	-566	-991	-673	-771	-2879	>-100	-3482	-3178					
11/15/88	-2970	-1816	-407	-565	-974	-677	-744	-2843	>-100	-3496	-3306					
11/16/88	-2961	-1838	-455	-579	-984	-716	-742	-2818	>-100	-3478	-3383					
11/17/88	-2950	-1869	-433	-564	-989	-715	-784	-2825	>-100	-3468	-3468					
11/18/88	-2936	-1872	-379	-561	-992	-709	-758	-2799	>-100	-3491	-3562					
11/19/88	-2894	-1822	-425	-597	-1008	-796	-794	-2756	>-100	-3466	-3587					
11/20/88	-2866	-1847	-455	-549	-998	-745	-763	-2742	>-100	-3449	-3664					
11/21/88	-2877	-1825	-455	-557	-982	-727	-761	-2732	>-100	-3456	-3706					
11/22/88	-2811	-1890	-354	-558	-978	-740	-749	-2738	>-100	-3450	-3754					
11/23/88	-2840	-1866	-434	-552	-996	-739	-782	-2729	>-100	-3420	-3808					
11/24/88	-2810	-1909	-392	-598	-1017	-774	-783	-2729	>-100	-3475	-3922					
11/25/88	-2776	-1863	-387	-573	-1025	-766	-776	-2719	>-100	-3525	-3896					
11/26/88	-2746	-1905	-356	-604	-983	-800	-788	-2720	>-100	-3568	-3909					
11/27/88	-2686	-1902	-370	-599	-994	-893	-775	-2685	>-100	-3591	-3938					
11/28/88	-2632	-1906	-387	-572	-1028	-777	-779	-2670	>-100	-3616	-4015					
11/29/88	-2591	-1882	-314	-589	-971	-812	-798	-2647	>-100	-3647	-4120					
11/30/88	-2553	-1873	-424	-591	-971	-822	-803	-2618	>-100	-3647	-4162					
12/01/88	-2509	-1875	-381	-572	-967	-789	-787	-2607	>-100	-3618	-4199					
12/02/88	-2494	-1882	-392	-593	-955	-824	-791	-2594	>-100	-3622	-4229					
12/03/88	-2463	-1927	-318	-595	-978	-827	-807	-2578	>-100	-3609	-4228					
12/04/88	-2434	-1863	-406	-573	-972	-822	-806	-2568	>-100	-3603	-4304					
12/05/88	-2396	-1880	-356	-583	-943	-859	-811	-2552	>-100	-3608	-4381					
12/06/88	-2363	-1884	-342	-593	-963	-849	-802	-2546	>-100	-3617	-4404					
12/07/88	-2371	-1928	-341	-613	-962	-877	-827	-2534	>-100	-3628	-4416					
12/08/88	-2332	-1898	-330	-603	-947	-854	-798	-2511	>-100	-3632	-4428					
12/09/88	-2305	-1884	-359	-600	-946	-837	-815	-2499	>-100	-3616	-4425					
12/10/88	-2311	-1870	-317	-601	-958	-906	-823	-2490	>-100	-3631	-4489					
12/11/88	-2294	-1904	-341	-581	-945	-926	-853	-2468	>-100	-3637	-4558					
12/12/88	-2266	-1929	-400	-609	-947	-915	-844	-2443	>-100	-3624	-4575					
12/13/88	-2260	-1902	-335	-575	-965	-878	-805	-2431	>-100	-3606	-4626					

Table 3. Daily soil-water potentials at the east test trench—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert							Undisturbed soil beneath the horizontal culvert				Disturbed soil above the horizontal culvert				
								Depth below land surface, in meters								
	0.6	0.9	2.7	3.4	3.9	4.1	4.4	0.5	0.6	0.8	0.9					
12/14/88	-2264	-1812	-309	-616	-969	-924	-843	-2425	>-100	-3605	-4647					
12/15/88	-2228	-1832	-324	-612	-949	-901	-846	-2405	>-100	-3546	-4610					
12/16/88	-2227	-1852	-303	-572	-933	-943	-848	-2391	>-100	-3516	-4528					
12/17/88	-2212	-1832	-362	-598	-962	-935	-810	-2398	>-100	-3510	-4457					
12/18/88	-2199	-1832	-301	-625	-929	-927	-847	-2413	>-100	-3548	-4439					
12/19/88	-2205	-1976	-302	-615	-918	-977	-860	-2439	>-100	-3632	-4505					
12/20/88	-2167	-1989	-333	-607	-937	-958	-863	-2430	>-100	-3727	-4586					
12/21/88	-2156	-2018	-341	-609	-918	-942	-867	-2399	>-100	-3807	-4784					
12/22/88	-2130	-1997	-321	-592	-909	-998	-820	-2350	>-100	-3869	-4941					
12/23/88	-2117	-1986	-350	-607	-919	-974	-884	-2338	>-100	-3824	-4988					
12/24/88	-2093	-1987	-337	-616	-916	-945	-846	-2302	>-100	-3798	-5074					
12/25/88	-2112	-1928	-317	-608	-937	-1006	-890	-2294	>-100	-3771	-5075					
12/26/88	-2110	-1934	-305	-598	-884	-1000	-894	-2268	>-100	-3771	-5154					
12/27/88	-2075	-1894	-299	-606	-917	-992	-851	-2230	>-100	-3721	-5166					
12/28/88	-2084	-1837	-288	-575	-910	-988	-878	-2225	>-100	-3654	-5063					
12/29/88	-2090	-1837	-319	-594	-929	-1024	-875	-2222	>-100	-3611	-5043					
12/30/88	-2087	-1817	-296	-602	-891	-1032	-855	-2216	>-100	-3594	-4892					
12/31/88	-2091	-1845	-297	-594	-895	-1026	-892	-2217	>-100	-3595	-4977					
01/01/89	-2093	-1757	-303	-595	-913	-1040	-861	-2195	>-100	-3588	-5052					
01/02/89	-2086	-1774	-331	-588	-916	-1052	-880	-2173	>-100	-3541	-4986					
01/03/89	-2052	-1778	-287	-613	-905	-1105	-898	-2158	>-100	-3494	-5007					
01/04/89	-2040	-1749	-296	-601	-910	-1045	-891	-2142	>-100	-3489	-5049					
01/05/89	-2075	-1738	-265	-594	-918	-1096	-905	-2140	>-100	-3491	-5007					
01/06/89	-2090	-1721	-357	-605	-895	-1088	-920	-2145	>-100	-3471	-4967					
01/07/89	-2053	-1702	-283	-593	-924	-1099	-892	-2123	>-100	-3453	-4930					
01/08/89	-2045	-1673	-238	-600	-929	-1136	-870	-2105	>-100	-3403	-4852					
01/09/89	-2055	-1697	-287	-610	-922	-1090	-916	-2117	>-100	-3376	-4739					
01/10/89	-2066	-1679	-297	-594	-920	-1085	-953	-2128	>-100	-3401	-4774					
01/11/89	-2059	-1635	-292	-588	-924	-1126	-886	-2094	>-100	-3453	-4918					
01/12/89	-2037	-1646	-291	-584	-879	-1114	-921	-2054	>-100	-3403	-4923					
01/13/89	-2017	-1648	-235	-580	-903	-1080	-907	-2074	>-100	-3375	-4823					

Table 3. Daily soil-water potentials at the east test trench—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert					Depth below land surface, in meters				Undisturbed soil beneath the horizontal culvert		Disturbed soil above the horizontal culvert				
	0.6	0.9	2.7	3.4	3.9	4.1	4.4	0.5	0.6	0.8	0.9					
01/14/89	-2044	-1638	-301	-597	-924	-1146	-910	-2100	>-100	-3433	-4873					
01/15/89	-2047	-1617	-296	-604	-910	-1110	-877	-2073	>-100	-3448	-4841					
01/16/89	-2013	-1653	-294	-565	-932	-1113	-909	-2064	>-100	-3429	-4796					
01/17/89	-2011	-1646	-313	-593	-917	-1129	-939	-2054	>-100	-3456	-4954					
01/18/89	-2019	-1660	-290	-611	-896	-1157	-857	-2013	>-100	-3457	-5023					
01/19/89	-2017	-1643	-278	-595	-916	-1147	-907	-2003	>-100	-3446	-5086					
01/20/89	-2002	-1669	-298	-571	-894	-1112	-911	-1993	>-100	-3424	-5083					
01/21/89	-1991	-1688	-238	-584	-872	-1127	-907	-1986	>-100	-3419	-5049					
01/22/89	-2017	-1591	-266	-580	-922	-1138	-926	-2008	>-100	-3423	-5015					
01/23/89	-2020	-1626	-315	-591	-903	-1167	-925	-1998	>-100	-3455	-5063					
01/24/89	-2007	-1631	-292	-586	-910	-1163	-907	-1946	>-100	-3436	-5002					
01/25/89	-1996	-1592	-289	-577	-905	-1182	-909	-1933	>-100	-3355	-4912					
01/26/89	-1941	-1613	-284	-578	-908	-1208	-920	-1953	>-100	-3306	-4777					
01/27/89	-1961	-1586	-305	-583	-896	-1151	-919	-1973	>-100	-3333	-4728					
01/28/89	-1978	-1635	-313	-591	-914	-1203	-919	-1974	>-100	-3378	-4744					
01/29/89	-1971	-1604	-271	-584	-890	-1205	-898	-1976	>-100	-3409	-4825					
01/30/89	-1969	-1621	-300	-577	-912	-1208	-883	-1965	>-100	-3436	-4912					
01/31/89	-1946	-1636	-240	-572	-889	-1164	-954	-1964	>-100	-3490	-5003					
02/01/89	-1989	-1689	-338	-580	-947	-1215	-971	-1947	>-100	-3537	-5200					
02/02/89	-1966	-1705	-330	-615	-925	-1179	-985	-1891	>-100	-3527	-5259					
02/03/89	-1939	-1625	-306	-612	-936	-1259	-962	-1868	>-100	-3414	-5139					
02/04/89	-1954	-1595	-315	-587	-922	-1195	-1012	-1900	>-100	-3355	-4957					
02/05/89	-1939	-1577	-375	-589	-949	-1249	-1016	-1909	>-100	-3357	-4883					
02/06/89	-1897	-1599	-323	-572	-936	-1259	-999	-1922	>-100	-3355	-4806					
02/07/89	-1903	-1584	-313	-583	-916	-1212	-941	-1937	>-100	-3393	-4813					
02/08/89	-1910	-1582	-332	-559	-944	-1278	-960	-1952	>-100	-3443	-4851					
02/09/89	-1898	-1556	-380	-581	-912	-1242	-995	-1973	>-100	-3501	-4948					
02/10/89	-1893	-1658	-314	-582	-930	-1241	-981	-2072	>-100	-3567	-5089					
02/11/89	-1888	-1648	-361	-575	-932	-1236	-957	-2088	>-100	-3645	-5411					
02/12/89	-1864	-1651	-377	-590	-903	-1222	-940	-2055	>-100	-3665	-5556					
02/13/89	-1857	-1620	-357	-564	-892	-1208	-955	-2007	>-100	-3633	-5595					

Table 3. Daily soil-water potentials at the east test trench—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert						Undisturbed soil beneath the horizontal culvert		Disturbed soil above the horizontal culvert				
	Depth below land surface, in meters												
0.6	0.9	2.7	3.4	3.9	4.1	4.4	0.5	0.6	0.8	0.9			
02/14/89	-1855	-1613	-336	-568	-915	-1228	-981	-1968	>-100	-3572	-5621		
02/15/89	-1842	-1614	-343	-573	-909	-1297	-998	-1915	>-100	-3472	-5562		
02/16/89	-1832	-1520	-373	-570	-942	-1287	-1010	-1908	>-100	-3388	-5406		
02/17/89	-1832	-1531	-343	-591	-897	-1255	-978	-1918	>-100	-3371	-5371		
02/18/89	-1846	-1550	-313	-593	-917	-1236	-983	-1902	>-100	-3387	-5430		
02/19/89	-1836	-1513	-337	-592	-936	-1251	-993	-1859	>-100	-3385	-5445		
02/20/89	-1831	-1573	-337	-569	-884	-1266	-993	-1802	>-100	-3332	-5438		
02/21/89	-1826	-1492	-382	-576	-912	-1306	-1004	-1749	>-100	-3236	-5353		
02/22/89	-1813	-1477	-399	-589	-917	-1260	-1008	-1716	>-100	-3137	-5211		
02/23/89	-1830	-1426	-356	-562	-885	-1225	-975	-1725	>-100	-3094	-5134		
02/24/89	-1827	-1444	-413	-609	-925	-1263	-1005	-1713	>-100	-3044	-5029		
02/25/89	-1799	-1400	-367	-594	-892	-1247	-1022	-1708	>-100	-3008	-4896		
02/26/89	-1813	-1371	-367	-571	-923	-1266	-1006	-1697	>-100	-2973	-4817		
02/27/89	-1833	-1421	-383	-597	-948	-1269	-1023	-1697	>-100	-2949	-4707		
02/28/89	-1859	-1372	-295	-583	-912	-1270	-1010	-1692	>-100	-2918	-4605		
03/01/89	-1840	-1370	-338	-573	-934	-1228	-979	-1691	>-100	-2874	-4469		
03/02/89	-1880	-1343	-370	-587	-930	-1293	-960	-1717	>-100	-2867	-4373		
03/03/89	-1874	-1369	-473	-627	-945	-1301	-1006	-1720	>-100	-2903	-4320		
03/04/89	-1816	-1383	-363	-595	-921	-1248	-984	-1689	>-100	-2823	-4259		
03/05/89	-1810	-1311	-321	-572	-940	-1297	-1004	-1683	>-100	-2789	-4143		
03/06/89	-1823	-1277	-388	-585	-905	-1260	-994	-1708	>-100	-2788	-4097		
03/07/89	-1839	-1314	-340	-564	-910	-1256	-984	-1715	>-100	-2831	-4088		
03/08/89	-1829	-1348	-363	-554	-908	-1263	-974	-1696	>-100	-2851	-4115		
03/09/89	-1827	-1306	-311	-592	-918	-1274	-996	-1646	>-100	-2807	-4125		
03/10/89	-1825	-1280	-300	-556	-886	-1252	-987	-1610	>-100	-2739	-4115		
03/11/89	-1819	-1298	-268	-562	-901	-1202	-980	-1593	>-100	-2653	-4025		
03/12/89	-1840	-1284	-373	-552	-917	-1288	-979	-1589	>-100	-2651	-3936		
03/13/89	-1818	-1242	-354	-566	-925	-1220	-994	-1598	>-100	-2539	-3805		
03/14/89	-1826	-1250	-322	-567	-918	-1243	-952	-1601	-146	-2531	-3677		
03/15/89	-1828	-1154	-370	-560	-917	-1279	-979	-1601	-237	-2579	-3442		
03/16/89	-1848	-1214	-316	-570	-938	-1234	-956	-1607	-195	-2495	-3402		

Table 3. Daily soil-water potentials at the east test trench—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert							Undisturbed soil beneath the horizontal culvert			Disturbed soil above the horizontal culvert				
	0.6	0.9	2.7	3.4	3.9	4.1	4.4	0.5	0.6	0.8	0.9	Depth below land surface, in meters			
03/17/89	-1848	-1241	-355	-575	-931	-1239	-979	-1623	-139	-2500	-3354				
03/18/89	-1842	-1178	-354	-558	-922	-1182	-957	-1614	-135	-2651	-3303				
03/19/89	-1834	-1199	-388	-572	-926	-1206	-954	-1615	-166	-2485	-3279				
03/20/89	-1800	-1127	-347	-574	-925	-1267	-942	-1612	-228	-2491	-3253				
03/21/89	-1809	-1118	-406	-579	-889	-1265	-980	-1615	-277	-2468	-3153				
03/22/89	-1807	-1180	-351	-548	-879	-1219	-975	-1608	-335	-2462	-3103				
03/23/89	-1804	-1177	-386	-541	-888	-1223	-950	-1619	-252	-2455	-3115				
03/24/89	-1786	-1164	-430	-560	-896	-1244	-943	-1599	-465	-2450	-3110				
03/25/89	-1786	-1175	-413	-559	-906	-1248	-986	-1549	-723	-2423	-3023				
03/26/89	-1792	-1085	-332	-542	-885	-1236	-953	-1496	-987	-2323	-2872				
03/27/89	-1769	-1084	-353	-565	-918	-1217	-939	-1388	-1218	-2162	-2757				
03/28/89	-1743	-1084	-411	-547	-911	-1233	-939	-1362	-1621	-1950	-2599				
03/29/89	-1732	-1111	-332	-554	-907	-1203	-978	-1344	-1850	-1827	-2406				
03/30/89	--	-1136	-332	-576	-881	-1223	-935	-1150	-1972	-1756	-2222				
03/31/89	--	-1136	-396	-539	-893	-1211	-939	-1066	-1989	-1734	-2064				
04/01/89	--	-1107	-407	-530	-876	-1240	-938	-1100	-2040	-1710	-1902				
04/02/89	--	-1010	-359	-549	-893	-1196	-936	-1123	-1789	-1851	-1820				
04/03/89	--	-982	-358	-528	-914	-1202	-945	-1048	-1674	-1886	-1832				
04/04/89	--	-839	-356	-562	-907	-1189	-954	-1078	-1695	-1810	-1795				
04/05/89	--	-678	-377	-531	-873	-1209	-905	-1063	-1668	-1839	-1768				
04/06/89	--	-399	-337	-546	-884	-1201	-899	-965	-1827	-1767	-1788				
04/07/89	--	-246	-327	-552	-892	-1176	-886	-859	-2436	-1496	-1729				
04/08/89	--	-186	-402	-550	-906	-1182	-916	-781	-3279	-1113	-1527				
04/09/89	--	-134	-391	-536	-894	-1207	-924	-769	-4162	-726	-1136				
04/10/89	--	-115	-399	-526	-875	-1176	-896	-841	-4574	-500	-586				
04/11/89	--	>-100	-341	-505	-915	-1150	-906	-935	-4337	-656	-177				
04/12/89	--	>-100	-342	-544	-889	-1205	-898	-909	-3737	-910	>-100				
04/13/89	--	>-100	-382	-523	-894	-1158	-906	-852	-3704	-877	>-100				
04/14/89	--	>-100	-397	-521	-888	-1174	-864	-809	-4055	-706	>-100				
04/15/89	--	>-100	-408	-521	-886	-1167	-922	-776	-4524	-478	>-100				
04/16/89	--	>-100	-380	-521	-866	-1177	-912	-760	-5020	-256	>-100				

Table 3. Daily soil-water potentials at the east test trench—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert					Undisturbed soil beneath the horizontal culvert				Disturbed soil above the horizontal culvert				
	0.6	0.9	2.7	3.4	3.9	4.1	4.4	0.5	0.6	0.8	0.9			
04/17/89	--	>-100	-349	-533	-905	-1143	-876	-779	-5275	-135	>-100			
04/18/89	--	>-100	-370	-547	-894	-1170	-860	-798	-5200	-131	>-100			
04/19/89	--	>-100	-364	-528	-886	-1149	-867	-757	-5204	-135	>-100			
04/20/89	--	>-100	-378	-522	-884	-1132	-875	-746	-5390	>-100	>-100			
04/21/89	--	>-100	-368	-509	-909	-1109	-854	-736	-5714	>-100	>-100			
04/22/89	--	>-100	-403	-534	-891	-1109	-889	-721	-5992	>-100	>-100			
04/23/89	--	>-100	-395	-511	-879	-1154	-873	-748	-6166	>-100	>-100			
04/24/89	--	>-100	-416	-525	-884	-1116	-844	-818	-6098	>-100	>-100			
04/25/89	--	>-100	-430	-522	-901	-1094	-908	-895	-5184	-200	>-100			
04/26/89	--	>-100	-377	-510	-887	-1111	-846	-878	-4214	-634	>-100			
04/27/89	--	>-100	-441	-487	-885	-1063	-848	-956	-3892	-795	>-100			
04/28/89	--	>-100	-392	-538	-879	-1054	-836	-969	-3476	-964	>-100			
04/29/89	--	>-100	-452	-517	-897	-1027	-835	-1029	-3044	-1177	>-100			
04/30/89	--	>-100	-432	-502	-905	-1064	-862	-1011	-2586	-1397	>-100			
05/01/89	--	>-100	-475	-490	-886	-1077	-841	-894	-2575	-1381	>-100			
05/02/89	--	>-100	-437	-505	-901	-1061	-826	-838	-3100	-1134	>-100			
05/03/89	--	>-100	-469	-524	-873	-1053	-790	-810	-3730	-870	>-100			
05/04/89	--	>-100	-422	-509	-902	-1035	-815	-778	-4155	-660	>-100			
05/05/89	--	>-100	-468	-511	-898	-1024	-792	-736	-4513	-450	>-100			
05/06/89	--	>-100	-449	-530	-903	-1029	-779	-716	-5050	-192	>-100			
05/07/89	--	>-100	-463	-511	-870	-1039	-810	-702	-5541	>-100	>-100			
05/08/89	--	>-100	-458	-551	-880	-1047	-799	-674	-6001	>-100	>-100			
05/09/89	--	>-100	-441	-519	-852	-1007	-795	-697	-6440	>-100	>-100			
05/11/89	--	>-100	-480	-521	-854	-1006	-779	-738	-6608	>-100	>-100			
05/12/89	--	>-100	-433	-467	-860	-1031	-817	-789	-6421	>-100	>-100			
05/13/89	--	>-100	-480	-512	-865	-1031	-791	-845	-5897	>-100	>-100			
05/14/89	--	>-100	-462	-481	-887	-968	-770	-917	-4891	-241	>-100			
05/15/89	--	>-100	-508	-501	-870	-1013	-785	-1036	-4006	-677	>-100			
05/16/89	--	>-100	-504	-510	-884	-986	-796	-982	-3798	-750	>-100			
05/17/89	--	>-100	-542	-482	-876	-1001	-782	-999	-3748	-764	>-100			
05/18/89	--	>-100	-486	-479	-882	-1005	-791	-919	-3748	-788	>-100			

Table 3. Daily soil-water potentials at the east test trench—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert					Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
	0.6	0.9	2.7	3.4	3.9	4.1	4.4	0.5	0.6	0.8	0.9				
05/19/89	--	>-100	-559	-483	-878	-966	-767	-848	-4131	-601	>-100				
05/20/89	--	>-100	-522	-508	-861	-974	-743	-975	-4040	-639	>-100				
05/21/89	--	>-100	-539	-501	-869	-946	-762	-913	-3750	-792	>-100				
05/22/89	--	>-100	-605	-481	-881	-967	-751	-778	-3997	-643	>-100				
05/23/89	--	>-100	-572	-454	-887	-955	-742	-717	-4607	-355	>-100				
05/24/89	--	>-100	-565	-519	-861	-961	-734	-729	-5226	>-100	>-100				
05/25/89	--	>-100	-568	-521	-878	-943	-732	-836	-5176	>-100	>-100				
05/26/89	--	>-100	-600	-504	-859	-948	-761	-885	-4641	-355	>-100				
05/27/89	--	>-100	-564	-506	-871	-953	-736	-889	-4267	-529	>-100				
05/28/89	--	>-100	-564	-489	-880	-926	-753	-877	-4366	-501	>-100				
05/29/89	--	>-100	-565	-511	-848	-903	-739	-877	-4498	-412	>-100				
05/30/89	--	>-100	-571	-491	-886	-926	-724	-892	-4366	-474	>-100				
05/31/89	--	>-100	-609	-488	-873	-948	-698	-904	-4377	-471	>-100				
06/01/89	--	>-100	-581	-487	-858	-925	-761	-870	-4353	-541	>-100				
06/02/89	--	>-100	-599	-480	-849	-951	-759	-749	-4621	-332	>-100				
06/03/89	--	>-100	-668	-493	-870	-933	-732	-709	-5154	>-100	>-100				
06/04/89	--	>-100	-605	-484	-852	-919	-750	-863	-5420	>-100	>-100				
06/05/89	--	>-100	-622	-496	-875	-907	-695	-962	-4679	-347	>-100				
06/06/89	--	>-100	-704	-497	-886	-904	-737	-818	-4353	-482	>-100				
06/07/89	--	>-100	-670	-508	-877	-894	-730	-715	-4996	-131	>-100				
06/08/89	--	>-100	-644	-497	-852	-917	-709	-667	-5590	>-100	>-100				
06/09/89	--	>-100	-711	-523	-861	-906	-716	-633	-6313	>-100	>-100				
06/10/89	--	>-100	-688	-496	-855	-908	-739	-648	-6939	>-100	>-100				
06/11/89	--	>-100	-739	-530	-864	-907	-694	-660	-7311	>-100	>-100				
06/12/89	--	>-100	-723	-488	-848	-871	-677	-677	-7246	>-100	>-100				
06/13/89	--	>-100	-674	-524	-845	-888	-679	-674	-7241	>-100	>-100				
06/14/89	--	>-100	-702	-503	-868	-883	-711	-705	-7189	>-100	>-100				
06/15/89	--	>-100	-728	-495	-824	-893	-683	-686	-6972	>-100	>-100				
06/16/89	--	>-100	-733	-497	-858	-880	-688	-658	-7167	>-100	>-100				
06/17/89	--	>-100	-729	-504	-843	-869	-671	-679	-7440	>-100	>-100				
06/18/89	--	>-100	-692	-508	-832	-873	-686	-720	-7030	>-100	>-100				

Table 3. Daily soil-water potentials at the east test trench—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert					Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
	Depth below land surface, in meters					4.1					0.5				
	0.6	0.9	2.7	3.4	3.9	4.1	4.4	4.5	4.6	4.7	0.5	0.6	0.8	0.9	0.9
06/19/89	--	>-100	-763	-504	-849	-836	-687				-709	-6512	>-100	>-100	>-100
06/20/89	--	>-100	-775	-507	-843	-835	-658				-701	-6305	>-100	>-100	>-100
06/21/89	--	>-100	-825	-487	-833	-833	-640				-730	-6314	>-100	>-100	>-100
06/22/89	--	>-100	-780	-470	-848	-795	-591				-802	-5619	>-100	>-100	>-100
06/23/89	--	>-100	-771	-503	-849	-804	-638				-821	-5004	>-100	>-100	>-100
06/24/89	--	>-100	-787	-508	-828	-795	-635				-906	-4588	-251	>-100	>-100
06/25/89	--	>-100	-853	-499	-814	-763	-606				-940	-4247	-362	>-100	>-100
06/26/89	--	>-100	-789	-529	-839	-791	-619				-879	-4352	-323	>-100	>-100
06/27/89	--	>-100	-848	-487	-838	-779	-568				-828	-4628	-206	>-100	>-100
06/28/89	--	>-100	-814	-490	-852	-764	-616				-804	-4916	>-100	>-100	>-100
06/29/89	--	>-100	-818	-491	-843	-757	-596				-833	-5022	>-100	>-100	>-100
06/30/89	--	>-100	-857	-510	-847	-744	-579				-897	-4829	-108	>-100	>-100
07/01/89	--	>-100	-884	-514	-824	-727	-595				-824	-4961	>-100	>-100	>-100
07/02/89	--	>-100	-899	-540	-818	-733	-584				-811	-5145	>-100	>-100	>-100
07/03/89	--	>-100	-801	-486	-840	-746	-597				-827	-5240	>-100	>-100	>-100
07/04/89	--	>-100	-818	-506	-834	-712	-583				-800	-5349	>-100	>-100	>-100
07/05/89	--	>-100	-894	-504	-832	-738	-526				-762	-5630	>-100	>-100	>-100
07/06/89	--	>-100	-878	-507	-807	-707	-550				-766	-5913	>-100	>-100	>-100
07/07/89	--	>-100	-889	-519	-829	-712	-547				-789	-6029	>-100	>-100	>-100
07/08/89	--	>-100	-855	-482	-854	-691	-505				-782	-6106	>-100	>-100	>-100
07/09/89	--	>-100	-935	-510	-828	-705	-582				-804	-6247	>-100	>-100	>-100
07/10/89	--	>-100	-995	-537	-817	-668	-527				-876	-6341	>-100	>-100	>-100
07/11/89	--	>-100	-964	-525	-814	-708	-534				-929	-6066	>-100	>-100	>-100
07/12/89	--	>-100	-932	-502	-829	-684	-513				-938	-5874	>-100	>-100	>-100
07/13/89	--	>-100	-919	-496	-808	-704	-498				-971	-5937	>-100	>-100	>-100
07/14/89	--	>-100	-984	-479	-837	-654	-523				-1092	-5477	>-100	>-100	>-100
07/15/89	--	>-100	-989	-530	-821	-670	-499				-1089	-5085	>-100	>-100	>-100
07/16/89	--	>-100	-953	-530	-839	-634	-516				-1000	-5087	>-100	>-100	>-100
07/17/89	--	>-100	-1009	-535	-810	-621	-488				-1195	-5184	>-100	>-100	>-100
07/18/89	--	>-100	-969	-508	-816	-626	-476				-1257	-4741	>-100	>-100	>-100
07/19/89	--	>-100	-972	-523	-816	-635	-477				-1175	-4386	-180	>-100	>-100

Table 3. Daily soil-water potentials at the east test trench—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert					Undisturbed soil beneath the horizontal culvert			Disturbed soil above the horizontal culvert				
	Depth below land surface, in meters					horizontal culvert							
0.6	0.9	2.7	3.4	3.9	4.1	4.4	0.5	0.6	0.8	0.9			
07/20/89	--	>-100	-997	-537	-807	-636	-487	-1042	-4637	>-100	>-100		
07/21/89	--	>-100	-984	-517	-817	-638	-492	-1043	-5077	>-100	>-100		
07/22/89	--	>-100	-1013	-497	-793	-616	-456	-1016	-5372	>-100	>-100		
07/23/89	--	>-100	-985	-496	-822	-612	-482	-1016	-5576	>-100	>-100		
07/24/89	--	>-100	-964	-535	-811	-602	-486	-1005	-5777	>-100	>-100		
07/25/89	--	>-100	-1018	-536	-793	-605	-445	-1032	-6010	>-100	>-100		
07/26/89	--	>-100	-1063	-533	-811	-595	-457	-1024	-6093	>-100	>-100		
07/27/89	--	>-100	-1062	-519	-784	-612	-441	-1053	-6364	>-100	>-100		
07/28/89	--	>-100	-1017	-514	-789	-594	-443	-1106	-6195	>-100	>-100		
07/29/89	--	>-100	-1024	-503	-779	-594	-475	-1172	-6130	>-100	>-100		
07/30/89	--	>-100	-1052	-499	-779	-603	-470	-1469	-6095	>-100	>-100		
07/31/89	--	>-100	-1124	-513	-775	-578	-456	-1524	-6085	>-100	>-100		
08/01/89	--	>-100	-1021	-534	-764	-593	-428	-1689	-5977	>-100	>-100		
08/02/89	--	>-100	-1038	-515	-790	-573	-445	-1731	-5418	>-100	>-100		
08/03/89	--	>-100	-1116	-516	-778	-565	-420	-1806	-5000	>-100	>-100		
08/04/89	--	>-100	-1039	-534	-764	-547	-413	-1894	-4679	>-100	>-100		
08/05/89	--	>-100	-1048	-534	-792	-562	-454	-1919	-4438	>-100	>-100		
08/06/89	--	>-100	-1063	-515	-779	-567	-416	-1874	-4319	>-100	>-100		
08/07/89	--	>-100	-1039	-523	-794	-522	-400	-1825	-4418	>-100	>-100		
08/08/89	--	>-100	-1112	-506	-764	-541	-406	-1805	-4621	>-100	>-100		
08/09/89	--	>-100	-1137	-507	-738	-580	-426	-1787	-4766	>-100	>-100		
08/10/89	--	>-100	-1238	-507	-771	-525	-426	-1830	-4778	>-100	>-100		
08/11/89	--	>-100	-1214	-513	-734	-552	-400	-1819	-4733	>-100	>-100		
08/12/89	--	>-100	-1181	-520	-756	-532	-360	-1823	-4825	>-100	>-100		
08/13/89	--	>-100	-1186	-510	-736	-548	-420	-1852	-4858	>-100	>-100		
08/14/89	--	>-100	-1185	-518	-712	-525	-376	-1965	-4762	>-100	>-100		
08/15/89	--	>-100	-1169	-535	-754	-535	-382	-2092	-4596	>-100	>-100		
08/16/89	--	>-100	-1164	-509	-744	-533	-388	-2200	-4099	>-100	>-100		
08/17/89	--	>-100	-1163	-547	-738	-497	-393	-2149	-3803	>-100	>-100		
08/18/89	--	>-100	-1142	-508	-759	-506	-393	-2153	-3637	>-100	>-100		
08/19/89	--	>-100	-1202	-522	-727	-559	-345	-2078	-3687	>-100	>-100		

Table 3. Daily soil-water potentials at the east test trench—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert					Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
	0.6	0.9	2.7	3.4	3.9	4.1	4.4	0.5	0.6	0.8	0.9	0.5	0.6	0.8	0.9
08/20/89	--	>-100	-1225	-499	-719	-532	-390	-2227	-3634	-912	>-100	-2227	-3634	-912	>-100
08/21/89	--	>-100	-1177	-530	-736	-521	-406	-2247	-3438	-1012	>-100	-2247	-3438	-1012	>-100
08/22/89	--	>-100	-1169	-510	-732	-499	-380	-2288	-3290	-1110	>-100	-2288	-3290	-1110	>-100
08/23/89	--	>-100	-1247	-526	-737	-497	-373	-2268	-3100	-1205	>-100	-2268	-3100	-1205	>-100
08/24/89	--	>-100	-1196	-521	-711	-527	-342	-2334	-3090	-1204	>-100	-2334	-3090	-1204	>-100
08/25/89	--	>-100	-1238	-511	-733	-489	-378	-2609	-2572	-1450	>-100	-2609	-2572	-1450	>-100
08/26/89	--	>-100	-1158	-514	-722	-539	-373	-2733	-1736	-1829	>-100	-2733	-1736	-1829	>-100
08/27/89	--	>-100	-1214	-513	-726	-508	-394	-2625	-1057	-2139	>-100	-2625	-1057	-2139	>-100
08/28/89	--	>-100	-1192	-476	-702	-549	-390	-2409	-1011	-2162	>-100	-2409	-1011	-2162	>-100
08/29/89	--	>-100	-1183	-510	-719	-513	-363	-2321	-1348	-2079	-321	-2321	-1348	-2079	-321
08/30/89	--	>-100	-1251	-473	-726	-555	-412	-2270	-1676	-1999	-425	-2270	-1676	-1999	-425
08/31/89	--	>-100	-1188	-504	-728	-525	-398	-2211	-2009	-1858	-421	-2211	-2009	-1858	-421
09/01/89	--	>-100	-1177	-511	-756	-544	-385	-2223	-2230	-1789	-396	-2223	-2230	-1789	-396
09/02/89	--	>-100	-1227	-496	-723	-522	-388	-2264	-2390	-1749	-320	-2264	-2390	-1749	-320
09/03/89	--	>-100	-1194	-513	-714	-556	-396	-2243	-2478	-1720	-308	-2243	-2478	-1720	-308
09/04/89	--	>-100	-1207	-480	-737	-559	-395	-2314	-2495	-1748	-272	-2314	-2495	-1748	-272
09/05/89	--	>-100	-1211	-483	-729	-560	-387	-2355	-2413	-1805	-253	-2355	-2413	-1805	-253
09/06/89	--	>-100	-1190	-463	-717	-584	-374	-2345	-2303	-1834	-300	-2345	-2303	-1834	-300
09/07/89	--	>-100	-1168	-512	-713	-598	-422	-2302	-2348	-1861	-381	-2302	-2348	-1861	-381
09/08/89	--	>-100	-1158	-510	-730	-626	-349	-2318	-2394	-1852	-353	-2318	-2394	-1852	-353
09/09/89	--	>-100	-1142	-505	-739	-616	-395	-2296	-2450	-1836	-389	-2296	-2450	-1836	-389
09/10/89	--	>-100	-1153	-476	-709	-640	-377	-2372	-2503	-1812	-287	-2372	-2503	-1812	-287
09/11/89	--	>-100	-1178	-512	-738	-645	-362	-2521	-2145	-1985	-286	-2521	-2145	-1985	-286
09/12/89	--	>-100	-1180	-492	-734	-635	-350	-2518	-1670	-2218	-434	-2518	-1670	-2218	-434
09/13/89	--	>-100	-1153	-502	-727	-667	-354	-2476	-1450	-2323	-608	-2476	-1450	-2323	-608
09/14/89	--	>-100	-1143	-488	-701	-670	-340	-2477	-1273	-2410	-773	-2477	-1273	-2410	-773
09/15/89	--	>-100	-1162	-485	-721	-664	-378	-2389	-1229	-2451	-963	-2389	-1229	-2451	-963
09/16/89	--	>-100	-1107	-495	-696	-677	-390	-2348	-1358	-2439	-1107	-2348	-1358	-2439	-1107
09/17/89	--	>-100	-1100	-486	-747	-703	-383	-2283	-1428	-2413	-1190	-2283	-1428	-2413	-1190
09/18/89	--	>-100	-1080	-499	-730	-711	-374	-2198	-1740	-2291	-1179	-2198	-1740	-2291	-1179
09/19/89	--	>-100	-1195	-493	-742	-702	-385	-2416	-1700	-2296	-1038	-2416	-1700	-2296	-1038

Table 3. Daily soil-water potentials at the east test trench—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert					Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
	0.6	0.9	2.7	3.4	3.9	4.1	4.4	0.5	0.6	0.8	0.9	0.5	0.6	0.8	0.9
09/20/89	--	>-100	-1090	-486	-690	-702	-397	-2454	-1195	-2549	-1062	-2454	-1195	-2549	-1062
09/21/89	--	>-100	-1120	-492	-734	-685	-392	-2361	-810	-2693	-1278	-2361	-810	-2693	-1278
09/22/89	--	>-100	-1054	-497	-709	-740	-363	-2288	-809	-2712	-1482	-2288	-809	-2712	-1482
09/24/89	--	>-100	-1088	-480	-722	-724	-403	-2178	-1037	-2666	-1656	-2178	-1037	-2666	-1656
09/25/89	--	>-100	-1036	-478	-727	-729	-401	-2139	-1147	-2604	-1685	-2139	-1147	-2604	-1685
09/26/89	--	>-100	-1056	-479	-716	-738	-378	-2124	-1337	-2540	-1536	-2124	-1337	-2540	-1536
09/27/89	--	>-100	-1036	-488	-720	-722	-419	-2017	-1556	-2387	-952	-2017	-1556	-2387	-952
09/28/89	--	>-100	-1105	-480	-709	-714	-419	-2016	-2027	-2189	-631	-2016	-2027	-2189	-631
09/29/89	--	>-100	-1070	-501	-720	-728	-419	-2106	-2130	-2145	-373	-2106	-2130	-2145	-373
09/30/89	--	>-100	-1113	-492	-729	-711	-403	-2102	-1919	-2218	-271	-2102	-1919	-2218	-271
10/01/89	--	>-100	-1016	-477	-715	-673	-464	-2097	-1924	-2237	-283	-2097	-1924	-2237	-283
10/02/89	--	>-100	-1063	-486	-700	-635	-414	-2152	-1736	-2314	-256	-2152	-1736	-2314	-256
10/03/89	--	>-100	-1056	-484	-724	-613	-452	-2203	-1336	-2500	-327	-2203	-1336	-2500	-327
10/04/89	--	>-100	-1041	-482	-705	-563	-453	-2213	-781	-2747	-479	-2213	-781	-2747	-479
10/05/89	--	>-100	-1062	-485	-722	-525	-480	-2174	-307	-2961	-704	-2174	-307	-2961	-704
10/06/89	--	>-100	-1013	-488	-735	-500	-481	-2158	>-100	-3132	-1017	-2158	>-100	-3132	-1017
10/07/89	--	>-100	-1042	-471	-714	-466	-500	-2046	>-100	-3245	-1350	-2046	>-100	-3245	-1350
10/08/89	--	-101	-969	-502	-681	-413	-433	-2002	>-100	-3237	-1607	-2002	>-100	-3237	-1607
10/09/89	--	-100	-1026	-475	-737	-400	-476	-1938	>-100	-3201	-1758	-1938	>-100	-3201	-1758
10/10/89	--	>-100	-1007	-473	-697	-415	-480	-1886	-105	-3105	-1840	-1886	-105	-3105	-1840
10/11/89	--	-119	-990	-486	-690	-363	-467	-1842	-363	-3005	-1880	-1842	-363	-3005	-1880
10/12/89	--	-114	-1014	-458	-704	-351	-490	-1780	-692	-2851	-1872	-1780	-692	-2851	-1872
10/13/89	--	>-100	-973	-468	-702	-316	-488	-1745	-1043	-2714	-1777	-1745	-1043	-2714	-1777
10/14/89	--	>-100	-948	-501	-686	-300	-446	-1783	-1293	-2598	-1675	-1783	-1293	-2598	-1675
10/15/89	--	>-100	-929	-492	-726	-285	-497	-1826	-1242	-2595	-1566	-1826	-1242	-2595	-1566
10/16/89	--	>-100	-919	-498	-701	-302	-505	-1812	-1186	-2602	-1510	-1812	-1186	-2602	-1510
10/17/89	--	>-100	-949	-471	-720	-279	-476	-1899	-1032	-2678	-1476	-1899	-1032	-2678	-1476
10/18/89	--	>-100	-952	-487	-697	-299	-489	-1939	-665	-2845	-1477	-1939	-665	-2845	-1477
10/19/89	--	>-100	-924	-483	-735	-317	-484	-1936	-188	-3030	-1640	-1936	-188	-3030	-1640
10/20/89	--	-152	-901	-465	-700	-323	-464	-1910	>-100	-3176	-1827	-1910	>-100	-3176	-1827
10/21/89	--	-149	-901	-453	-718	-316	-525	-1859	>-100	-3234	-2052	-1859	>-100	-3234	-2052

Table 3. Daily soil-water potentials at the east test trench—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert							Undisturbed soil beneath the horizontal culvert				Disturbed soil above the horizontal culvert						
								Depth below land surface, in meters										
	0.6	0.9	2.7	3.4	3.9	4.1	4.4	0.5	0.6	0.8	0.9							
10/22/89	--	-170	-945	-467	-700	-286	-487	-1822	>-100	-3186	-2207							
10/23/89	--	-132	-912	-461	-694	-288	-480	-1790	>-100	-3156	-2300							
10/24/89	--	-197	-867	-443	-697	-314	-501	-1724	>-100	-3085	-2390							
10/25/89	--	-152	-829	-488	-731	-308	-521	-1703	-330	-2935	-2384							
10/26/89	--	-148	-864	-485	-730	-315	-531	-1724	-486	-2864	-2297							
10/27/89	--	-111	-895	-484	-702	-350	-520	-1801	-515	-2890	-2176							
10/28/89	--	-124	-880	-476	-718	-328	-512	-1863	-106	-3073	-2160							
10/29/89	--	-202	-835	-465	-726	-335	-509	-1864	>-100	-3268	-2238							
10/30/89	--	-212	-849	-469	-739	-331	-505	-1878	>-100	-3468	-2427							
10/31/89	--	-265	-877	-471	-726	-348	-525	-1868	>-100	-3642	-2663							
11/01/89	--	-338	-880	-469	-728	-370	-511	-1842	>-100	-3752	-2923							
11/02/89	--	-380	-845	-464	-732	-349	-564	-1853	>-100	-3844	-3164							
11/03/89	--	-429	-835	-451	-711	-325	-505	-1844	>-100	-4024	-3375							
11/04/89	--	-489	-778	-457	-759	-365	-517	-1797	>-100	-4155	-3685							
11/05/89	--	-470	-800	-468	-740	-386	-541	-1746	>-100	-4199	-3978							
11/06/89	--	-503	-787	-447	-763	-403	-548	-1701	>-100	-4108	-4170							
11/07/89	--	-481	-811	-423	-758	-385	-537	-1706	>-100	-4004	-4205							
11/08/89	--	-555	-784	-450	-752	-408	-569	-1678	>-100	-3998	-4229							
11/09/89	--	-447	-765	-442	-746	-362	-533	-1679	>-100	-3960	-4272							
11/10/89	--	-491	-812	-420	-751	-428	-549	-1632	>-100	-3972	-4356							
11/11/89	--	-500	-834	-445	-743	-435	-553	-1595	>-100	-3884	-4431							
11/12/89	--	-462	-785	-448	-779	-405	-556	-1615	>-100	-3768	-4387							
11/13/89	--	-489	-753	-413	-763	-412	-563	-1616	>-100	-3734	-4337							
11/14/89	--	-422	-721	-404	-779	-439	-569	-1579	>-100	-3694	-4293							
11/15/89	--	-447	-749	-433	-786	-515	-557	-1601	>-100	-3617	-4211							
11/16/89	--	-416	-807	-393	-733	-464	-532	-1652	>-100	-3671	-4101							
11/17/89	--	-445	-787	-408	-760	-483	-576	-1648	>-100	-3815	-4177							
11/18/89	--	-421	-780	-415	-776	-476	-587	-1604	>-100	-3850	-4299							
11/19/89	--	-457	-752	-400	-768	-476	-571	-1543	>-100	-3781	-4398							
11/20/89	--	-446	-729	-405	-749	-508	-549	-1556	>-100	-3673	-4350							
11/21/89	--	-441	-709	-412	-775	-451	-594	-1579	>-100	-3644	-4287							

Table 3. Daily soil-water potentials at the east test trench—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert					Undisturbed soil beneath the horizontal culvert					Disturbed soil above the horizontal culvert				
	0.6	0.9	2.7	3.4	3.9	4.1	4.4	0.5	0.6	0.8	0.9	0.5	0.6	0.8	0.9
11/22/89	--	-463	-815	-384	-788	-513	-557	-1597	>-100	-3691	-4266	-1597	>-100	-3691	-4266
11/23/89	--	-471	-779	-409	-781	-526	-612	-1585	>-100	-3726	-4304	-1585	>-100	-3726	-4304
11/24/89	--	-471	-740	-398	-765	-519	-594	-1614	>-100	-3817	-4380	-1614	>-100	-3817	-4380
11/25/89	--	-476	-761	-402	-793	-518	-591	-1554	>-100	-3866	-4520	-1554	>-100	-3866	-4520
11/26/89	--	-478	-748	-419	-798	-531	-574	-1562	>-100	-3797	-4560	-1562	>-100	-3797	-4560
11/27/89	--	-462	-761	-399	-782	-548	-585	-1543	>-100	-3759	-4536	-1543	>-100	-3759	-4536
11/28/89	--	-448	-721	-410	-772	-566	-594	-1539	>-100	-3686	-4509	-1539	>-100	-3686	-4509
11/29/89	--	-447	-769	-379	-774	-558	-596	-1523	>-100	-3631	-4416	-1523	>-100	-3631	-4416
11/30/89	--	-472	-729	-369	-775	-568	-613	-1532	>-100	-3619	-4352	-1532	>-100	-3619	-4352
12/01/89	--	-486	-788	-390	-777	-591	-634	-1543	>-100	-3625	-4328	-1543	>-100	-3625	-4328
12/02/89	--	-521	-693	-382	-766	-576	-594	-1546	>-100	-3644	-4354	-1546	>-100	-3644	-4354
12/03/89	--	-571	-754	-382	-798	-583	-604	-1548	>-100	-3683	-4408	-1548	>-100	-3683	-4408
12/04/89	--	-600	-786	-374	-788	-571	-642	-1543	>-100	-3740	-4534	-1543	>-100	-3740	-4534
12/05/89	--	-675	-735	-384	-798	-621	-669	-1535	>-100	-3776	-4628	-1535	>-100	-3776	-4628
12/06/89	--	-662	-732	-373	-771	-643	-682	-1525	>-100	-3790	-4752	-1525	>-100	-3790	-4752
12/07/89	--	-699	-664	-382	-792	-641	-647	-1511	>-100	-3767	-4842	-1511	>-100	-3767	-4842
12/08/89	--	-693	-704	-385	-752	-617	-632	-1501	>-100	-3724	-4846	-1501	>-100	-3724	-4846
12/09/89	--	-711	-711	-354	-781	-614	-625	-1518	>-100	-3709	-4811	-1518	>-100	-3709	-4811
12/10/89	--	-687	-667	-373	-789	-643	-658	-1508	>-100	-3710	-4852	-1508	>-100	-3710	-4852
12/11/89	--	-669	-669	-369	-782	-679	-615	-1512	>-100	-3676	-4841	-1512	>-100	-3676	-4841
12/12/89	--	-702	-691	-378	-768	-660	-649	-1524	>-100	-3684	-4742	-1524	>-100	-3684	-4742
12/13/89	--	-682	-718	-360	-766	-697	-649	-1531	>-100	-3734	-4790	-1531	>-100	-3734	-4790
12/14/89	--	-746	-657	-354	-752	-679	-622	-1543	>-100	-3810	-4892	-1543	>-100	-3810	-4892
12/15/89	--	-784	-717	-358	-791	-689	-637	-1532	>-100	-3867	-5030	-1532	>-100	-3867	-5030
12/16/89	--	-719	-672	-349	-742	-718	-671	-1517	>-100	-3889	-5172	-1517	>-100	-3889	-5172
12/17/89	--	-752	-715	-345	-776	-681	-650	-1496	>-100	-3870	-5234	-1496	>-100	-3870	-5234
12/18/89	--	-757	-754	-354	-796	-716	-659	-1484	>-100	-3853	-5263	-1484	>-100	-3853	-5263
12/19/89	--	-717	-687	-348	-758	-762	-642	-1486	>-100	-3787	-5225	-1486	>-100	-3787	-5225
12/20/89	--	-728	-714	-366	-773	-769	-646	-1518	>-100	-3788	-5180	-1518	>-100	-3788	-5180
12/21/89	--	-723	-701	-352	-763	-759	-619	-1521	>-100	-3838	-5179	-1521	>-100	-3838	-5179
12/22/89	--	-772	-715	-362	-777	-805	-676	-1518	>-100	-3878	-5289	-1518	>-100	-3878	-5289

Table 3. Daily soil-water potentials at the east test trench—continued

Date	Undisturbed soil located 3.2 meters horizontally from the vertical culvert					Undisturbed soil beneath the horizontal culvert		Disturbed soil above the horizontal culvert				
	0.6	0.9	2.7	3.4	3.9	4.1	4.4	0.5	0.6	0.8	0.9	
12/23/89	--	-736	-701	-345	-758	-792	-714	-1500	>-100	-3901	-5424	
12/24/89	--	-720	-695	-347	-772	-781	-636	-1495	>-100	-3908	-5527	
12/25/89	--	-747	-657	-331	-743	-808	-641	-1489	>-100	-3917	-5605	
12/26/89	--	-741	-656	-330	-766	-804	-648	-1491	>-100	-3920	-5659	
12/27/89	--	-749	-691	-316	-787	-793	-640	-1488	>-100	-3935	-5727	
12/28/89	--	-742	-698	-333	-766	-794	-652	-1492	>-100	-3965	-5753	
12/29/89	--	-768	-674	-299	-774	-827	-658	-1485	>-100	-3963	-5807	
12/30/89	--	-752	-621	-306	-761	-772	-632	-1465	>-100	-3955	-5840	
12/31/89	--	-770	-663	-332	-766	-825	-693	-1440	>-100	-3909	-5882	

Table 4. Temperature and soil-water potential for disturbed soil within the simulated-waste trench

[>, greater than; --, no data]

Date	Depth below land surface, in meters					
	1.6			2.0		
	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)
03/16/88	1.1	>-100	2.2	--	2.9	-241
03/17/88	1.2	>-100	2.2	--	3.0	-250
03/18/88	1.2	>-100	2.2	--	3.0	-251
03/19/88	1.2	>-100	2.3	--	3.0	-253
03/20/88	1.2	>-100	2.3	-690	3.0	-257
03/21/88	1.2	>-100	2.3	-696	3.0	-248
03/22/88	1.3	>-100	2.3	-688	3.0	-259
03/28/88	1.6	>-100	2.4	-684	3.1	-261
03/29/88	1.6	>-100	2.5	-693	3.1	-250
03/31/88	1.7	>-100	2.5	-705	3.2	-255
04/01/88	1.8	>-100	2.6	-695	3.2	-263
04/02/88	1.9	>-100	2.6	-703	3.2	-253
04/03/88	2.0	>-100	2.7	-687	3.3	-249
04/04/88	2.0	>-100	2.7	-701	3.2	-252
04/05/88	2.1	>-100	2.7	-692	3.3	-252
04/06/88	2.2	>-100	2.8	-695	3.3	-243
04/07/88	2.3	>-100	2.8	-701	3.3	-257
04/08/88	2.3	>-100	2.9	-688	3.3	-248
04/09/88	2.4	>-100	2.9	-691	3.4	-255
04/10/88	2.5	>-100	3.0	-699	3.4	-245
04/11/88	2.6	>-100	3.0	-695	3.5	-252
04/12/88	2.8	>-100	3.1	-684	3.5	-250
04/13/88	2.9	>-100	3.2	-696	3.5	-247
04/14/88	3.0	>-100	3.2	-697	3.5	-258
04/15/88	3.1	>-100	3.2	-687	3.6	-246
04/16/88	3.2	>-100	3.3	-691	3.6	-253
04/17/88	3.3	>-100	3.4	-701	3.7	-258
04/18/88	3.4	>-100	3.4	-694	3.7	-253

Table 4. Temperature and soil-water potential for disturbed soil within the simulated-waste trench—continued

Date	Depth below land surface, in meters					
	1.6		2.0		2.6	
	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)
04/19/88	3.5	>-100	3.5	-687	3.7	-249
04/20/88	3.7	>-100	3.6	-696	3.8	-255
04/21/88	3.9	>-100	3.7	-701	3.9	-254
04/22/88	4.0	>-100	3.8	-699	3.9	-253
04/23/88	4.2	>-100	3.9	-702	4.0	-263
no data from 4/23/88 to 5/18/88						
05/20/88	6.7	-370	5.9	-1778	5.6	-920
05/21/88	6.8	-354	6.0	-1766	5.6	-882
05/22/88	6.9	-348	6.0	-1779	5.7	-889
05/23/88	7.1	-362	6.1	-1758	5.8	-930
05/24/88	7.2	-369	6.2	-1756	5.8	-931
05/25/88	7.4	-359	6.3	-1741	5.9	-909
05/26/88	7.5	-353	6.4	-1726	5.9	-910
05/27/88	7.6	-336	6.5	-1682	6.0	-863
05/28/88	7.8	-328	6.6	-1677	6.1	-816
05/29/88	7.9	-334	6.7	-1676	6.1	-816
05/30/88	8.1	-333	6.8	-1664	6.2	-748
05/31/88	8.3	-336	6.9	-1678	6.3	-747
06/01/88	8.4	-333	7.0	-1682	6.4	-716
06/02/88	8.6	-345	7.1	-1663	6.4	-702
06/03/88	8.8	-329	7.2	-1661	6.5	-698
06/04/88	8.9	-324	7.3	-1655	6.6	-698
06/05/88	9.0	-319	7.4	-1647	6.7	-697
06/06/88	9.1	-311	7.5	-1674	6.8	-713
06/07/88	9.1	-315	7.6	-1665	6.8	-696
06/08/88	9.2	-317	7.7	-1670	6.9	-700
06/09/88	9.2	-314	7.8	-1675	7.0	-693
06/10/88	9.3	-312	7.9	-1682	7.1	-699
06/11/88	9.5	-303	8.0	-1667	7.2	-690

Table 4. Temperature and soil-water potential for disturbed soil within the simulated-waste trench—continued

Date	Depth below land surface, in meters					
	1.6		2.0		2.6	
	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)
06/12/88	9.6	-295	8.1	-1679	7.3	-711
06/13/88	9.7	-274	8.1	-1681	7.3	-721
06/14/88	9.8	-269	8.2	-1656	7.4	-713
06/15/88	9.9	-276	8.3	-1662	7.5	-698
06/16/88	10.0	-253	8.4	-1642	7.5	-705
06/17/88	10.2	-261	8.5	-1636	7.6	-707
06/18/88	10.3	-257	8.6	-1638	7.7	-688
06/19/88	10.4	-261	8.7	-1635	7.8	-685
06/20/88	10.6	-260	8.8	-1633	7.9	-681
06/21/88	10.7	-259	8.9	-1614	7.9	-663
06/22/88	10.8	-247	9.0	-1634	8.0	-671
06/23/88	11.0	-263	9.1	-1604	8.1	-656
06/24/88	11.1	-263	9.2	-1623	8.2	-655
06/25/88	11.3	-265	9.3	-1625	8.2	-654
06/26/88	11.5	-259	9.4	-1614	8.3	-641
06/27/88	11.6	-263	9.5	-1612	8.4	-644
06/28/88	11.8	-266	9.6	-1593	8.5	-636
06/29/88	12.0	-265	9.8	-1590	8.6	-628
06/30/88	12.2	-272	9.9	-1606	8.7	-628
07/01/88	12.4	-267	10.0	-1605	8.8	-627
07/02/88	12.5	-265	10.1	-1598	8.9	-609
07/03/88	12.7	-264	10.3	-1602	9.0	-612
07/04/88	12.9	-256	10.4	-1595	9.1	-614
07/05/88	13.0	-227	10.5	-1606	9.2	-620
07/06/88	13.1	-226	10.6	-1590	9.3	-605
07/07/88	13.2	-226	10.8	-1597	9.4	-606
07/08/88	13.3	-220	10.9	-1592	9.5	-608
07/09/88	13.5	-196	11.0	-1583	9.6	-604
07/10/88	13.6	-195	11.1	-1587	9.7	-586

Table 4. Temperature and soil-water potential for disturbed soil within the simulated-waste trench—continued

Date	Depth below land surface, in meters					
	1.6		2.0		2.6	
	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)
07/11/88	13.7	-204	11.2	-1586	9.8	-585
07/12/88	13.8	-202	11.3	-1593	9.9	-593
07/13/88	13.9	-205	11.4	-1586	10.0	-596
07/14/88	13.9	-211	11.5	-1588	10.1	-585
07/15/88	14.0	-218	11.6	-1587	10.1	-588
07/16/88	14.1	-207	11.7	-1599	10.2	-593
07/17/88	14.2	-211	11.8	-1583	10.3	-580
07/18/88	14.3	-205	11.9	-1574	10.4	-583
07/19/88	14.4	-214	12.0	-1583	10.5	-576
07/20/88	14.5	-207	12.1	-1582	10.6	-567
07/21/88	14.6	-212	12.1	-1572	10.7	-573
07/22/88	14.7	-216	12.2	-1587	10.8	-559
07/23/88	14.8	-219	12.3	-1576	10.8	-564
07/24/88	14.9	-222	12.4	-1582	10.9	-561
07/25/88	15.0	-231	12.5	-1590	11.0	-560
07/26/88	15.1	-237	12.6	-1628	11.1	-562
07/27/88	15.2	-237	12.7	-1647	11.2	-555
07/28/88	15.3	-239	12.8	-1637	11.2	-560
07/29/88	15.4	-232	12.9	-1623	11.3	-544
07/30/88	15.5	-242	12.9	-1633	11.4	-555
07/31/88	15.6	-238	13.0	-1626	11.5	-549
08/01/88	15.7	-226	13.1	-1617	11.6	-542
08/02/88	15.8	-220	13.2	-1621	11.6	-540
08/03/88	15.9	-229	13.3	-1623	11.7	-549
08/04/88	16.0	-222	13.4	-1620	11.8	-553
08/05/88	16.1	-230	13.5	-1624	11.9	-540
08/06/88	16.2	-230	13.6	-1625	12.0	-541
08/07/88	16.3	-229	13.6	-1632	12.0	-529
08/08/88	16.3	-229	13.7	-1632	12.1	-528

Table 4. Temperature and soil-water potential for disturbed soil within the simulated-waste trench—continued

Date	Depth below land surface, in meters							
	1.6		2.0		2.6			
	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)
08/09/88	16.4	-234	13.8	-1634	12.2	-523		
08/10/88	16.4	-228	13.9	-1639	12.3	-531		
08/11/88	16.5	-233	14.0	-1647	12.3	-526		
08/12/88	16.5	-226	14.0	-1650	12.4	-526		
08/13/88	16.6	-229	14.1	-1664	12.5	-513		
08/14/88	16.6	-228	14.2	-1675	12.6	-512		
08/15/88	16.7	-226	14.2	-1682	12.6	-498		
08/16/88	16.7	-227	14.3	-1690	12.7	-497		
08/17/88	16.7	-225	14.3	-1684	12.8	-498		
08/18/88	16.8	-228	14.4	-1688	12.8	-490		
08/19/88	16.8	-236	14.4	-1698	12.9	-496		
08/20/88	16.8	-235	14.5	-1715	13.0	-481		
08/21/88	16.8	-233	14.5	-1715	13.0	-478		
08/22/88	16.8	-235	14.6	-1729	13.1	-471		
08/23/88	16.8	-243	14.6	-1746	13.1	-477		
08/24/88	16.8	-236	14.7	-1757	13.2	-465		
08/25/88	16.8	-241	14.7	-1762	13.2	-468		
08/26/88	16.8	-241	14.7	-1768	13.3	-470		
08/27/88	16.8	-231	14.7	-1788	13.3	-466		
08/28/88	16.8	-235	14.8	-1806	13.4	-468		
08/29/88	16.8	-236	14.8	-1819	13.4	-462		
08/30/88	16.8	-232	14.8	-1820	13.4	-460		
08/31/88	16.9	-231	14.9	-1832	13.5	-454		
09/01/88	16.9	-231	14.9	-1838	13.5	-462		
09/02/88	16.9	-234	14.9	-1851	13.5	-454		
09/03/88	16.9	-228	14.9	-1852	13.6	-464		
09/04/88	16.9	-235	15.0	-1851	13.6	-450		
09/05/88	16.9	-231	15.0	-1860	13.7	-459		
09/06/88	16.9	-225	15.0	-1865	13.7	-454		

Table 4. Temperature and soil-water potential for disturbed soil within the simulated-waste trench—continued

Date	Depth below land surface, in meters					
	1.6		2.0		2.6	
	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)
09/07/88	16.9	-235	15.1	-1871	13.7	-460
09/08/88	16.9	-237	15.1	-1883	13.7	-453
09/09/88	16.9	-232	15.1	-1884	13.8	-457
09/10/88	16.9	-225	15.1	-1879	13.8	-455
09/11/88	16.8	-221	15.1	-1888	13.8	-449
09/12/88	16.8	-219	15.1	-1889	13.9	-459
09/13/88	16.8	-223	15.1	-1898	13.9	-450
09/14/88	16.8	-221	15.1	-1886	13.9	-450
09/15/88	16.7	-221	15.1	-1900	13.9	-450
09/16/88	16.7	-217	15.1	-1899	14.0	-426
09/17/88	16.6	-214	15.1	-1917	14.0	-416
09/18/88	16.6	-216	15.1	-1921	14.0	-413
09/19/88	16.5	-213	15.1	-1916	14.0	-407
09/20/88	16.4	-212	15.1	-1924	14.0	-416
09/21/88	16.3	-206	15.1	-1920	14.0	-413
09/22/88	16.2	-213	15.0	-1929	14.0	-406
09/23/88	16.1	-206	15.0	-1934	14.0	-412
09/24/88	16.0	-201	15.0	-1922	14.0	-405
09/25/88	15.9	-208	14.9	-1940	14.0	-407
09/26/88	15.8	-204	14.9	-1938	14.1	-406
09/27/88	15.7	-196	14.9	-1938	14.0	-401
09/28/88	15.5	-208	14.8	-1939	14.0	-401
09/29/88	15.4	-202	14.8	-1956	14.0	-399
09/30/88	15.3	-198	14.7	-1951	13.9	-395
10/01/88	15.3	-194	14.6	-1949	13.9	-400
10/02/88	15.2	-193	14.6	-1954	13.9	-399
10/03/88	15.1	-194	14.5	-1954	13.9	-403
10/04/88	15.0	-198	14.5	-1953	13.8	-398
10/05/88	14.9	-191	14.4	-1959	13.8	-404

Table 4. Temperature and soil-water potential for disturbed soil within the simulated-waste trench—continued

Date	Depth below land surface, in meters					
	1.6		2.0		2.6	
	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)
10/06/88	14.8	-193	14.3	-1967	13.8	-400
10/07/88	14.8	-190	14.3	-1972	13.7	-396
10/08/88	14.7	-190	14.3	-1967	13.7	-390
10/09/88	14.7	-186	14.2	-1970	13.7	-395
10/10/88	14.6	-189	14.2	-1970	13.7	-383
10/11/88	14.6	-192	14.1	-1976	13.6	-383
10/12/88	14.6	-178	14.1	-1966	13.6	-391
10/13/88	14.5	-187	14.1	-1976	13.6	-397
10/14/88	14.5	-190	14.0	-1979	13.5	-396
10/15/88	14.5	-186	14.0	-1984	13.5	-391
10/16/88	14.4	-187	13.9	-1984	13.5	-389
10/17/88	14.4	-194	13.9	-1982	13.5	-393
10/18/88	14.3	-185	13.9	-1980	13.4	-397
10/19/88	14.3	-181	13.9	-1989	13.4	-391
10/20/88	14.2	-181	13.8	-1980	13.4	-392
10/21/88	14.6	-266	13.8	-1987	13.4	-392
10/22/88	14.5	-281	13.7	-1978	13.4	-393
10/23/88	14.5	-313	13.7	-1990	13.3	-395
10/24/88	14.5	-346	13.7	-1990	13.3	-397
10/25/88	14.4	-333	13.6	-1986	13.3	-394
10/26/88	14.4	-336	13.6	-1994	13.3	-393
10/27/88	14.3	-361	13.6	-1991	13.2	-392
10/28/88	14.3	-364	13.5	-1995	13.2	-396
10/29/88	14.3	-383	13.5	-1999	13.2	-393
10/30/88	14.2	-375	13.5	-1998	13.1	-396
10/31/88	14.1	-367	13.4	-1991	13.1	-393
11/01/88	14.1	-372	13.4	-1993	13.1	-393
11/02/88	14.0	-387	13.3	-1990	13.1	-394
11/03/88	13.9	-408	13.3	-2002	13.0	-378

Table 4. Temperature and soil-water potential for disturbed soil within the simulated-waste trench—continued

Date	Depth below land surface, in meters					
	1.6		2.0		2.6	
	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)
11/04/88	13.9	-469	13.2	-2007	13.0	-384
11/05/88	13.8	-480	13.2	-2010	13.0	-376
11/06/88	13.7	-504	13.1	-1994	12.9	-378
11/07/88	13.7	-505	13.1	-1994	12.9	-375
11/08/88	13.6	-470	13.0	-2008	12.9	-369
11/09/88	13.5	-516	13.0	-2013	12.8	-381
11/10/88	13.4	-511	12.9	-2016	12.8	-378
11/11/88	13.3	-554	12.8	-2006	12.8	-372
11/12/88	13.1	-570	12.8	-2007	12.7	-359
11/13/88	13.0	-577	12.7	-2021	12.7	-325
11/14/88	12.9	-569	12.6	-2021	12.7	-325
11/15/88	12.7	-588	12.5	-2035	12.6	-319
11/16/88	12.6	-615	12.5	-2040	12.5	-318
11/17/88	12.4	-640	12.4	-2035	12.5	-314
11/18/88	12.2	-657	12.3	-2020	12.4	-312
11/19/88	12.0	-674	12.2	-2038	12.4	-307
11/20/88	11.8	-695	12.1	-2029	12.3	-303
11/21/88	11.7	-717	12.0	-2026	12.3	-311
11/22/88	11.5	-731	11.9	-2021	12.2	-314
11/23/88	11.4	-740	11.9	-2020	12.1	-319
11/24/88	11.2	-755	11.7	-2032	12.0	-321
11/25/88	11.1	-751	11.6	-2042	12.0	-321
11/26/88	11.0	-734	11.5	-2049	11.9	-315
11/27/88	10.8	-783	11.4	-2049	11.8	-318
11/28/88	10.6	-796	11.4	-2042	11.8	-319
11/29/88	10.4	-816	11.2	-2030	11.7	-315
11/30/88	10.3	-825	11.1	-2031	11.6	-319
12/01/88	10.1	-824	11.0	-2034	11.5	-322
12/02/88	10.0	-821	10.9	-2026	11.5	-316

Table 4. Temperature and soil-water potential for disturbed soil within the simulated-waste trench—continued

Date	Depth below land surface, in meters					
	1.6		2.0		2.6	
	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)
12/03/88	9.9	-823	10.8	-2026	11.4	-315
12/04/88	9.7	-816	10.7	-2039	11.3	-310
12/05/88	9.7	-799	10.6	-2026	11.2	-312
12/06/88	9.5	-802	10.5	-2019	11.2	-311
12/07/88	9.4	-804	10.4	-2028	11.1	-313
12/08/88	9.2	-805	10.3	-2023	11.0	-311
12/09/88	9.2	-788	10.2	-2039	10.9	-310
12/10/88	9.0	-783	10.1	-2031	10.8	-298
12/11/88	8.9	-798	10.0	-2021	10.7	-311
12/12/88	8.7	-819	9.9	-2027	10.7	-304
12/13/88	8.5	-818	9.8	-2025	10.6	-310
12/14/88	8.4	-809	9.7	-2016	10.5	-306
12/15/88	8.4	-795	9.6	-2024	10.4	-305
12/16/88	8.3	-776	9.6	-2029	10.4	-306
12/17/88	8.1	-775	9.4	-2021	10.3	-305
12/18/88	8.0	-784	9.3	-2010	10.2	-304
12/19/88	7.9	-785	9.2	-2008	10.1	-301
12/20/88	8.0	-752	9.2	-2026	10.0	-306
12/21/88	7.7	-742	9.1	-2033	10.0	-313
12/22/88	7.6	-741	9.0	-2032	9.9	-322
12/23/88	7.5	-742	8.9	-2034	9.8	-309
12/24/88	7.3	-746	8.8	-2037	9.7	-313
12/25/88	7.4	-698	8.7	-2019	9.6	-310
12/26/88	7.3	-690	8.6	-2027	9.6	-300
12/27/88	7.1	-708	8.5	-2034	9.5	-315
12/28/88	6.8	-703	8.4	-2033	9.4	-324
12/29/88	6.7	-724	8.3	-2008	9.3	-311
12/30/88	6.6	-712	8.2	-2010	9.2	-302
12/31/88	6.5	-688	8.1	-2011	9.2	-304

Table 4. Temperature and soil-water potential for disturbed soil within the simulated-waste trench—continued

Date	Depth below land surface, in meters					
	1.6		2.0		2.6	
	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)
01/01/89	6.6	-660	8.0	-2013	9.1	-307
01/02/88	6.4	-671	7.9	-2008	9.0	-310
01/03/89	6.1	-697	7.9	-2017	8.9	-305
01/04/89	6.0	-705	7.8	-1999	8.9	-308
01/05/89	5.9	-709	7.7	-2003	8.8	-323
01/06/89	5.8	-720	7.6	-1993	8.7	-308
01/07/89	5.7	-716	7.5	-1992	8.6	-305
01/08/89	5.6	-710	7.4	-2005	8.5	-305
01/09/89	5.6	-712	7.3	-1998	8.5	-310
01/10/89	5.5	-709	7.3	-1982	8.4	-312
01/11/89	5.4	-704	7.2	-1982	8.3	-295
01/12/89	5.3	-710	7.1	-1982	8.3	-307
01/13/89	5.3	-691	7.0	-1962	8.2	-306
01/14/89	5.2	-702	7.0	-1956	8.1	-306
01/15/89	5.1	-695	6.9	-1952	8.1	-306
01/16/89	5.1	-698	6.8	-1963	8.0	-304
01/17/89	5.0	-695	6.8	-1956	7.9	-299
01/18/89	5.0	-716	6.7	-1945	7.8	-313
01/19/89	5.0	-667	6.6	-1950	7.8	-310
01/20/89	4.8	-686	6.6	-1940	7.7	-304
01/21/89	5.0	-626	6.5	-1948	7.7	-304
01/22/89	4.8	-652	6.4	-1941	7.6	-297
01/23/89	4.7	-656	6.4	-1937	7.5	-304
01/24/89	4.6	-664	6.3	-1937	7.5	-316
01/25/89	4.5	-669	6.3	-1950	7.4	-312
01/26/89	4.4	-691	6.2	-1941	7.3	-311
01/27/89	4.3	-683	6.1	-1942	7.3	-313
01/28/89	4.3	-695	6.1	-1935	7.2	-308
01/29/89	4.2	-680	6.0	-1946	7.2	-300

Table 4. Temperature and soil-water potential for disturbed soil within the simulated-waste trench—continued

Date	Depth below land surface, in meters					
	1.6		2.0		2.6	
	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)
01/30/89	4.2	-670	6.0	-1935	7.1	-313
01/31/89	4.1	-673	5.9	-1933	7.0	-307
02/01/89	4.0	-640	5.8	-1940	7.0	-320
02/02/89	4.0	-618	5.8	-1946	6.9	-317
02/03/89	4.0	-639	5.7	-1960	6.9	-311
02/04/89	3.8	-654	5.7	-1965	6.8	-318
02/05/89	3.8	-631	5.6	-1950	6.8	-318
02/06/89	3.8	-629	5.6	-1950	6.8	-314
02/07/89	3.8	-605	5.5	-1945	6.7	-328
02/08/89	3.7	-583	5.4	-1934	6.6	-321
02/09/89	3.6	-580	5.4	-1919	6.6	-333
02/10/89	3.9	-610	5.3	-1940	6.5	-318
02/11/89	3.5	-664	5.3	-1924	6.5	-339
02/12/89	3.4	-676	5.2	-1910	6.4	-333
02/13/89	3.5	-630	5.2	-1928	6.4	-330
02/14/89	3.2	-649	5.1	-1932	6.3	-337
02/15/89	3.3	-617	5.0	-1940	6.3	-341
02/16/89	3.1	-644	5.0	-1949	6.2	-340
02/17/89	3.0	-631	4.9	-1943	6.2	-347
02/18/89	3.0	-607	4.9	-1925	6.1	-339
02/19/89	4.3	-471	4.8	-1928	6.0	-351
02/20/89	3.6	-551	4.7	-1921	6.0	-353
02/21/89	3.0	-669	4.7	-1924	6.0	-349
02/22/89	2.9	-647	4.6	-1925	5.9	-353
02/23/89	2.8	-636	4.6	-1918	5.9	-363
02/24/89	2.7	-681	4.6	-1917	5.8	-364
02/25/89	2.6	-693	4.5	-1917	5.7	-358
02/26/89	2.6	-710	4.4	-1920	5.7	-372
02/27/89	2.5	-704	4.4	-1913	5.7	-367

Table 4. Temperature and soil-water potential for disturbed soil within the simulated-waste trench—continued

Date	Depth below land surface, in meters					
	1.6		2.0		2.6	
	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)
02/28/89	2.5	-698	4.3	-1914	5.6	-368
03/01/89	2.5	-706	4.3	-1913	5.6	-381
03/02/89	2.4	-706	4.3	-1926	5.5	-379
03/03/89	2.4	-703	4.2	-1924	5.5	-383
03/04/89	2.4	-705	4.2	-1925	5.4	-402
03/05/89	2.4	-689	4.1	-1940	5.4	-410
03/06/89	2.4	-670	4.1	-1909	5.3	-410
03/07/89	2.3	-686	4.1	-1907	5.3	-424
03/08/89	2.4	-677	4.0	-1910	5.3	-429
03/09/89	2.4	-654	4.0	-1911	5.2	-438
03/10/89	2.3	-642	4.0	-1915	5.2	-455
03/11/89	2.3	-658	4.0	-1903	5.1	-454
03/12/89	2.3	-636	3.9	-1899	5.1	-477
03/13/89	2.3	-633	3.9	-1907	5.1	-480
03/14/89	2.3	-627	3.9	-1886	5.1	-513
03/15/89	2.4	-599	3.9	-1905	5.0	-524
03/16/89	2.4	-584	3.9	-1921	5.0	-553
03/17/89	2.4	-575	3.8	-1905	5.0	-590
03/18/89	2.5	-539	3.8	-1903	4.9	-607
03/19/89	2.4	-574	3.8	-1920	4.9	-643
03/20/89	2.6	-533	3.8	-1896	4.9	-657
03/21/89	2.4	-560	3.8	-1906	4.9	-666
03/22/89	2.4	-567	3.8	-1896	4.9	-683
03/23/89	2.4	-572	3.8	-1891	4.9	-677
03/24/89	2.4	-571	3.8	-1907	4.8	-694
03/25/89	2.5	-552	3.8	-1905	4.8	-697
03/26/89	2.5	-569	3.8	-1903	4.8	-711
03/27/89	2.5	-557	3.8	-1906	4.8	-698
03/28/89	2.5	-567	3.8	-1913	4.7	-709

Table 4. Temperature and soil-water potential for disturbed soil within the simulated-waste trench—continued

Date	Depth below land surface, in meters					
	1.6		2.0		2.6	
	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)
03/29/89	2.6	-531	3.8	-1907	4.7	-711
03/30/89	2.5	-540	3.8	-1901	4.7	-709
03/31/89	2.6	-531	3.8	-1906	4.7	-709
04/01/89	2.6	-523	3.8	-1893	4.7	-703
04/02/89	2.6	-531	3.7	-1889	4.7	-701
04/03/89	2.7	-507	3.7	-1903	4.7	-701
04/04/89	2.8	-498	3.8	-1911	4.7	-712
04/05/89	2.8	-510	3.8	-1912	4.7	-710
04/06/89	2.8	-524	3.8	-1888	4.7	-701
04/07/89	3.0	-509	3.8	-1894	4.6	-705
04/08/89	4.1	-567	3.8	-1896	4.7	-706
04/09/89	3.9	-645	3.9	-1893	4.7	-701
04/10/89	3.6	-629	3.9	-1888	4.7	-713
04/11/89	3.4	-664	3.9	-1900	4.7	-714
04/12/89	3.5	-632	3.9	-1894	4.7	-706
04/13/89	3.6	-627	4.0	-1899	4.7	-713
04/14/89	3.7	-630	4.0	-1904	4.7	-717
04/15/89	3.8	-645	4.1	-1889	4.7	-706
04/16/89	3.9	-645	4.1	-1890	4.7	-718
04/17/89	4.1	-676	4.2	-1893	4.7	-727
04/18/89	5.2	-526	4.3	-1895	4.8	-743
04/19/89	4.6	-630	4.3	-1888	4.8	-737
04/20/89	4.6	-658	4.4	-1883	4.9	-729
04/21/89	4.7	-663	4.5	-1889	4.9	-729
04/22/89	4.8	-683	4.6	-1880	4.9	-723
04/23/89	5.0	-690	4.7	-1901	5.0	-719
04/24/89	5.1	-691	4.8	-1903	5.0	-737
04/25/89	5.5	-647	4.9	-1898	5.1	-720
04/26/89	5.7	-630	5.0	-1905	5.1	-728

Table 4. Temperature and soil-water potential for disturbed soil within the simulated-waste trench—continued

Date	Depth below land surface, in meters							
	1.6		2.0		2.6			
	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)
04/27/89	5.9	-629	5.1	-1897	5.2	-732		
04/28/89	6.0	-657	5.2	-1902	5.3	-730		
04/29/89	6.8	-598	5.3	-1898	5.3	-732		
04/30/89	6.4	-652	5.4	-1889	5.4	-729		
05/01/89	6.5	-681	5.5	-1890	5.5	-732		
05/02/89	6.6	-672	5.6	-1895	5.5	-720		
05/03/89	6.5	-685	5.7	-1888	5.6	-721		
05/04/89	6.6	-683	5.8	-1899	5.7	-717		
05/05/89	6.7	-682	5.9	-1887	5.7	-720		
05/06/89	6.6	-684	5.9	-1888	5.8	-713		
05/07/89	6.8	-700	6.0	-1891	5.9	-714		
05/08/89	6.8	-692	6.1	-1880	5.9	-708		
05/09/89	7.4	-653	6.1	-1891	6.0	-720		
05/10/89	7.2	-699	6.2	-1901	6.0	-711		
05/11/89	7.2	-707	6.3	-1894	6.1	-713		
05/13/89	7.5	-711	6.5	-1898	6.2	-712		
05/14/89	7.9	-685	6.5	-1886	6.3	-707		
05/15/89	8.1	-701	6.6	-1891	6.3	-709		
05/16/89	8.2	-685	6.7	-1894	6.4	-724		
05/17/89	8.2	-715	6.8	-1890	6.5	-723		
05/18/89	8.7	-658	7.0	-1898	6.5	-724		
05/19/89	8.6	-699	7.1	-1891	6.6	-715		
05/20/89	8.6	-687	7.1	-1905	6.7	-730		
05/21/89	8.7	-702	7.3	-1894	6.8	-725		
05/22/89	8.9	-699	7.3	-1883	6.8	-721		
05/23/89	8.7	-727	7.4	-1898	6.9	-720		
05/24/89	8.9	-698	7.5	-1911	7.0	-718		
05/25/89	8.9	-729	7.5	-1901	7.0	-722		
05/26/89	9.1	-711	7.6	-1906	7.1	-725		

Table 4. Temperature and soil-water potential for disturbed soil within the simulated-waste trench—continued

Date	Depth below land surface, in meters							
	1.6		2.0		2.6			
	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)
05/27/89	9.1	-722	7.7	-1908	7.2	-710		
05/28/89	9.7	-642	7.7	-1910	7.2	-718		
05/29/89	9.8	-615	7.8	-1891	7.3	-713		
05/30/89	9.2	-778	7.9	-1915	7.3	-720		
05/31/89	9.3	-728	7.9	-1905	7.4	-726		
06/01/89	9.4	-793	8.0	-1899	7.5	-712		
06/02/89	9.6	-777	8.1	-1913	7.5	-723		
06/03/89	9.5	-720	8.1	-1898	7.6	-711		
06/04/89	9.6	-788	8.2	-1897	7.6	-712		
06/05/89	9.8	-779	8.2	-1915	7.7	-719		
06/06/89	9.8	-802	8.3	-1914	7.7	-720		
06/07/89	10.1	-741	8.4	-1908	7.8	-722		
06/08/89	10.0	-787	8.4	-1914	7.8	-721		
06/09/89	10.0	-808	8.5	-1900	7.9	-719		
06/10/89	10.1	-837	8.6	-1915	7.9	-728		
06/11/89	11.3	-635	8.6	-1918	8.0	-714		
06/12/89	10.3	-832	8.7	-1904	8.1	-725		
06/13/89	10.5	-786	8.7	-1918	8.1	-712		
06/14/89	10.9	-804	8.8	-1910	8.2	-720		
06/15/89	10.8	-851	8.9	-1904	8.2	-705		
06/16/89	11.1	-787	9.0	-1900	8.3	-710		
06/17/89	11.0	-871	9.1	-1899	8.4	-721		
06/18/89	11.5	-741	9.2	-1904	8.4	-724		
06/19/89	11.5	-936	9.3	-1907	8.5	-717		
06/20/89	11.7	-893	9.4	-1913	8.5	-713		
06/21/89	12.6	-753	9.5	-1900	8.6	-722		
06/22/89	12.3	-856	9.6	-1899	8.7	-722		
06/23/89	12.3	-911	9.7	-1887	8.8	-725		
06/24/89	12.9	-824	9.8	-1892	8.9	-715		

Table 4. Temperature and soil-water potential for disturbed soil within the simulated-waste trench—continued

Date	Depth below land surface, in meters					
	1.6		2.0		2.6	
	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)
06/25/89	12.8	-883	9.9	-1889	8.9	-716
06/26/89	12.6	-931	10.0	-1887	9.0	-724
06/27/89	12.6	-982	10.1	-1880	9.1	-706
06/28/89	12.7	-993	10.2	-1881	9.2	-705
06/29/89	13.4	-887	10.3	-1885	9.3	-709
06/30/89	13.6	-886	10.4	-1860	9.3	-715
07/01/89	13.4	-915	10.5	-1845	9.4	-707
07/02/89	13.4	-960	10.6	-1851	9.5	-700
07/03/89	13.6	-956	10.6	-1838	9.6	-703
07/04/89	13.4	-996	10.7	-1823	9.6	-700
07/05/89	13.7	-1005	10.8	-1809	9.7	-698
07/06/89	13.7	-1003	10.9	-1799	9.8	-693
07/07/89	13.6	-1035	11.0	-1779	9.9	-673
07/08/89	14.2	-981	11.0	-1764	9.9	-676
07/09/89	13.9	-1020	11.1	-1766	10.0	-686
07/10/89	14.5	-1016	11.2	-1756	10.1	-693
07/11/89	14.0	-1075	11.3	-1754	10.1	-698
07/12/89	14.7	-1011	11.4	-1754	10.2	-707
07/13/89	14.4	-1067	11.5	-1740	10.3	-702
07/14/89	14.9	-1057	11.6	-1747	10.4	-711
07/15/89	14.6	-1119	11.7	-1749	10.5	-705
07/16/89	14.7	-1131	11.8	-1729	10.5	-704
07/17/89	16.2	-849	11.9	-1734	10.6	-712
07/18/89	15.8	-1013	12.0	-1730	10.7	-709
07/19/89	15.2	-1151	12.1	-1738	10.8	-709
07/20/89	15.5	-1160	12.2	-1733	10.8	-702
07/21/89	16.0	-1062	12.2	-1731	10.9	-704
07/22/89	15.3	-1179	12.3	-1712	11.0	-699
07/23/89	15.5	-1172	12.4	-1710	11.1	-702

Table 4. Temperature and soil-water potential for disturbed soil within the simulated-waste trench—continued

Date	Depth below land surface, in meters					
	1.6		2.0		2.6	
	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)
07/24/89	15.4	-1203	12.5	-1709	11.2	-690
07/25/89	16.1	-1064	12.6	-1700	11.2	-703
07/26/89	15.6	-1175	12.7	-1690	11.3	-696
07/27/89	16.0	-1132	12.7	-1692	11.4	-691
07/28/89	15.7	-1203	12.8	-1680	11.5	-691
07/29/89	15.9	-1191	12.9	-1673	11.5	-698
07/30/89	16.1	-1129	13.0	-1658	11.6	-688
07/31/89	16.1	-1187	13.1	-1651	11.7	-714
08/01/89	16.3	-1174	13.2	-1655	11.8	-705
08/02/89	16.9	-1070	13.3	-1637	11.9	-694
08/03/89	16.6	-1157	13.4	-1647	11.9	-692
08/04/89	16.7	-1180	13.5	-1631	12.0	-689
08/05/89	16.9	-1166	13.6	-1629	12.1	-694
08/06/89	16.9	-1182	13.7	-1637	12.2	-691
08/07/89	17.4	-1150	13.8	-1644	12.3	-684
08/08/89	17.0	-1190	13.8	-1637	12.3	-678
08/09/89	17.0	-1165	13.9	-1625	12.4	-678
08/10/89	17.5	-1099	14.0	-1630	12.5	-675
08/11/89	17.2	-1151	14.1	-1624	12.6	-668
08/12/89	17.1	-1184	14.1	-1625	12.6	-670
08/13/89	18.7	-849	14.2	-1625	12.7	-666
08/14/89	17.3	-1169	14.3	-1615	12.8	-667
08/15/89	18.0	-1022	14.3	-1622	12.8	-657
08/16/89	17.7	-1075	14.4	-1610	12.9	-660
08/17/89	17.7	-1143	14.4	-1624	13.0	-661
08/18/89	17.7	-1112	14.5	-1618	13.0	-663
08/19/89	17.5	-1171	14.6	-1614	13.1	-661
08/20/89	17.8	-1116	14.6	-1611	13.1	-635
08/21/89	17.6	-1152	14.7	-1613	13.2	-609

Table 4. Temperature and soil-water potential for disturbed soil within the simulated-waste trench—continued

Date	Depth below land surface, in meters					
	1.6			2.0		
	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)
08/22/89	17.7	-1118	14.7	-1611	13.3	-581
08/23/89	17.6	-1111	14.8	-1607	13.3	-547
08/24/89	17.7	-1094	14.8	-1612	13.4	-525
08/25/89	17.6	-1089	14.8	-1615	13.4	-518
08/26/89	17.6	-1038	14.9	-1613	13.5	-497
08/27/89	17.9	-1087	14.9	-1604	13.5	-482
08/28/89	17.8	-1153	14.9	-1602	13.6	-481
08/29/89	17.6	-1133	14.9	-1608	13.6	-470
08/30/89	17.6	-1250	15.0	-1602	13.7	-469
08/31/89	17.3	-1309	15.0	-1612	13.7	-463
09/01/89	17.2	-1410	15.0	-1608	13.7	-467
09/02/89	17.2	-1422	15.0	-1593	13.8	-460
09/03/89	17.1	-1613	15.0	-1592	13.8	-474
09/04/89	17.0	-1756	14.9	-1593	13.8	-474
09/05/89	16.9	-1805	14.9	-1589	13.8	-479
09/06/89	16.9	-1834	14.9	-1580	13.8	-489
09/07/89	16.8	-1860	14.9	-1603	13.8	-507
09/08/89	16.8	-1857	14.9	-1606	13.8	-518
09/09/89	16.7	-1879	14.8	-1601	13.8	-530
09/10/89	16.7	-1910	14.9	-1602	13.8	-547
09/11/89	16.6	-1905	14.8	-1600	13.8	-562
09/12/89	16.6	-1856	14.8	-1594	13.8	-582
09/13/89	16.5	-1882	14.8	-1607	13.9	-606
09/14/89	16.5	-1889	14.8	-1593	13.9	-627
09/15/89	16.5	-1884	14.8	-1591	13.9	-648
09/16/89	16.4	-1882	14.8	-1597	13.9	-662
09/17/89	16.4	-1916	14.8	-1607	13.9	-690
09/18/89	16.3	-1928	14.7	-1608	13.9	-710
09/19/89	16.2	-1944	14.7	-1618	13.9	-724

Table 4. Temperature and soil-water potential for disturbed soil within the simulated-waste trench—continued

Date	Depth below land surface, in meters					
	1.6		2.0		2.6	
	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)
09/20/89	16.2	-1885	14.7	-1622	13.9	-739
09/21/89	16.2	-1865	14.7	-1622	13.9	-732
09/22/89	16.4	-1798	14.7	-1621	13.9	-745
09/23/89	16.1	-1823	14.6	-1611	13.8	-730
09/24/89	16.0	-1808	14.6	-1610	13.8	-725
09/26/89	15.9	-1788	14.5	-1613	13.8	-734
09/27/89	15.9	-1755	14.5	-1617	13.8	-723
09/28/89	15.9	-1678	14.5	-1612	13.8	-726
09/29/89	15.7	-1772	14.5	-1616	13.8	-726
09/30/89	15.7	-1769	14.4	-1611	13.8	-721
10/01/89	15.7	-1756	14.4	-1600	13.8	-718
10/02/89	15.6	-1752	14.4	-1613	13.7	-721
10/03/89	15.6	-1698	14.3	-1617	13.7	-732
10/04/89	15.6	-1754	14.3	-1615	13.7	-727
10/05/89	15.5	-1757	14.2	-1624	13.7	-725
10/06/89	16.0	-1652	14.2	-1616	13.7	-730
10/07/89	15.4	-1747	14.2	-1610	13.7	-733
10/08/89	15.3	-1762	14.2	-1607	13.6	-725
10/09/89	15.3	-1443	14.1	-1614	13.6	-725
10/10/89	15.1	-1770	14.1	-1613	13.6	-727
10/11/89	15.0	-1758	14.0	-1613	13.6	-736
10/12/89	15.4	-1643	14.0	-1616	13.6	-734
10/13/89	14.8	-1710	13.9	-1610	13.5	-743
10/14/89	14.7	-1762	13.9	-1618	13.5	-737
10/15/89	14.6	-1764	13.8	-1621	13.5	-740
10/16/89	15.2	-1617	13.7	-1621	13.4	-746
10/17/89	14.4	-1760	13.7	-1626	13.4	-735
10/18/89	14.3	-1766	13.6	-1631	13.4	-735
10/19/89	14.4	-1701	13.6	-1626	13.3	-730

Table 4. Temperature and soil-water potential for disturbed soil within the simulated-waste trench—continued

Date	Depth below land surface, in meters					
	1.6		2.0		2.6	
	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)
10/20/89	14.3	-1725	13.5	-1620	13.3	-728
10/21/89	14.1	-1716	13.5	-1629	13.2	-734
10/22/89	14.8	-1555	13.4	-1637	13.2	-734
10/23/89	13.9	-1748	13.3	-1633	13.2	-747
10/24/89	14.0	-1715	13.3	-1636	13.1	-738
10/25/89	13.8	-1724	13.2	-1631	13.1	-733
10/26/89	13.7	-1720	13.1	-1649	13.0	-734
10/27/89	13.5	-1748	13.1	-1653	13.0	-741
10/28/89	13.4	-1755	13.0	-1661	12.9	-739
10/29/89	13.6	-1716	12.9	-1657	12.9	-740
10/30/89	13.3	-1751	12.9	-1659	12.8	-743
10/31/89	13.1	-1693	12.8	-1646	12.8	-740
11/01/89	13.1	-1750	12.7	-1639	12.7	-724
11/02/89	13.1	-1688	12.7	-1651	12.7	-737
11/03/89	12.9	-1704	12.6	-1645	12.7	-736
11/04/89	13.0	-1640	12.5	-1642	12.6	-731
11/05/89	12.6	-1723	12.5	-1657	12.5	-741
11/06/89	12.4	-1740	12.4	-1663	12.5	-734
11/07/89	12.2	-1746	12.3	-1654	12.4	-741
11/08/89	12.0	-1749	12.2	-1648	12.4	-739
11/09/89	12.6	-1678	12.1	-1651	12.3	-744
11/10/89	11.7	-1711	12.0	-1654	12.2	-738
11/11/89	11.5	-1717	11.9	-1657	12.2	-739
11/12/89	11.5	-1747	11.8	-1653	12.1	-726
11/13/89	11.3	-1758	11.7	-1661	12.0	-739
11/14/89	11.3	-1718	11.6	-1674	12.0	-731
11/15/89	11.0	-1706	11.5	-1676	11.9	-742
11/16/89	10.8	-1718	11.4	-1683	11.8	-729
11/17/89	10.7	-1736	11.3	-1673	11.7	-734

Table 4. Temperature and soil-water potential for disturbed soil within the simulated-waste trench—continued

Date	Depth below land surface, in meters					
	1.6		2.0		2.6	
	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)
11/18/89	10.6	-1716	11.2	-1673	11.6	-745
11/19/89	10.5	-1721	11.1	-1672	11.6	-739
11/20/89	10.4	-1620	11.0	-1680	11.5	-744
11/21/89	10.3	-1726	10.9	-1675	11.4	-738
11/22/89	10.6	-1623	10.8	-1676	11.4	-744
11/23/89	10.1	-1693	10.7	-1674	11.3	-738
11/24/89	9.9	-1561	10.6	-1676	11.2	-744
11/25/89	9.8	-1651	10.5	-1681	11.1	-748
11/26/89	9.8	-1697	10.4	-1682	11.1	-755
11/27/89	9.7	-1686	10.4	-1684	11.0	-759
11/28/89	9.5	-1718	10.3	-1682	10.9	-760
11/29/89	9.5	-1705	10.2	-1673	10.8	-766
11/30/89	9.4	-1710	10.1	-1656	10.8	-752
12/01/89	9.2	-1713	10.0	-1658	10.7	-754
12/02/89	9.1	-1641	9.9	-1663	10.6	-752
12/03/89	9.3	-1583	9.8	-1648	10.6	-744
12/04/89	9.0	-1679	9.8	-1650	10.5	-755
12/05/89	8.9	-1692	9.7	-1647	10.4	-745
12/06/89	8.8	-1654	9.6	-1650	10.4	-748
12/07/89	8.8	-1622	9.5	-1657	10.3	-754
12/08/89	8.7	-1684	9.4	-1652	10.2	-757
12/09/89	8.6	-1649	9.4	-1655	10.2	-753
12/10/89	8.3	-1652	9.3	-1647	10.1	-750
12/11/89	8.2	-1650	9.2	-1647	10.0	-758
12/12/89	8.3	-1601	9.1	-1648	9.9	-769
12/13/89	8.0	-1644	9.0	-1658	9.9	-759
12/14/89	8.1	-1494	8.9	-1653	9.8	-765
12/15/89	7.7	-1649	8.8	-1642	9.7	-765
12/16/89	7.6	-1625	8.8	-1649	9.6	-753

Table 4. Temperature and soil-water potential for disturbed soil within the simulated-waste trench—continued

Date	Depth below land surface, in meters					
	1.6			2.0		
	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)	Soil temperature (Celsius)	Soil-water potential (kilopascals)
12/17/89	7.9	-1564	8.7	-1655	9.6	-749
12/18/89	7.5	-1605	8.6	-1652	9.5	-762
12/19/89	7.3	-1610	8.5	-1656	9.4	-765
12/20/89	7.2	-1646	8.4	-1645	9.4	-767
12/21/89	7.1	-1597	8.3	-1639	9.3	-749
12/22/89	7.2	-1562	8.2	-1627	9.2	-752
12/23/89	6.9	-1567	8.1	-1631	9.1	-756
12/24/89	6.8	-1579	8.1	-1624	9.1	-758
12/25/89	6.6	-1585	8.0	-1621	9.0	-763
12/26/89	6.5	-1548	7.9	-1609	8.9	-748
12/27/89	6.5	-1547	7.8	-1612	8.8	-741
12/28/89	6.3	-1543	7.7	-1613	8.8	-753
12/29/89	6.2	-1537	7.6	-1614	8.7	-749
12/30/89	6.0	-1537	7.5	-1633	8.6	-750
12/31/89	6.0	-1526	7.4	-1616	8.6	-753
01/01/90	5.7	-1546	7.3	-1608	8.5	-752

Table 5. Volumetric moisture content of soil at neutron-probe access hole 1
[Moisture content in percent volume; --, no data]

Date	Depth below land surface, in meters																				
	0.2	0.3	0.5	0.6	0.8	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.4	3.7	4.0	4.3	4.6	4.9	5.2	5.5
02/11/88	17	12	11	10	11	12	14	16	21	27	30	28	26	29	28	25	27	25	26	20	20
02/16/88	17	13	11	10	11	12	13	17	21	27	30	28	27	29	28	25	27	25	26	20	20
03/01/88	21	15	11	11	11	12	14	17	21	27	30	28	27	29	28	25	27	25	26	21	20
03/16/88	--	--	19	--	10	--	--	--	--	--	--	30	29	27	24	26	25	20	--	--	--
04/27/88	15	18	16	12	11	12	14	17	21	27	30	28	26	29	29	25	27	25	26	20	20
05/12/88	13	17	16	12	11	12	14	17	21	27	30	28	26	29	28	25	27	25	26	21	20
05/24/88	7	15	15	12	11	13	14	17	21	27	30	28	26	29	28	25	27	25	26	20	19
06/07/88	7	12	13	11	11	12	14	16	21	27	30	27	26	29	28	25	27	25	26	20	20
06/30/88	4	10	11	10	11	12	13	16	20	26	30	28	27	30	28	25	27	25	26	21	19
07/07/88	3	10	11	10	11	12	13	15	20	26	30	28	26	29	28	25	27	25	26	20	20
07/22/88	2	10	10	10	10	11	13	15	19	26	30	28	26	30	28	25	27	25	26	21	19
08/01/88	2	9	10	9	10	11	13	15	19	25	29	28	26	30	28	25	27	25	26	20	19
08/19/88	2	9	10	9	10	11	13	15	19	25	29	28	26	29	28	25	27	25	26	21	20
08/31/88	2	9	10	9	10	11	13	14	19	25	29	28	26	29	28	25	27	25	26	20	20
09/15/88	2	8	9	9	9	11	12	14	18	24	29	28	26	29	28	25	27	25	26	20	19
09/30/88	2	8	9	9	10	10	12	14	18	24	29	27	26	29	28	25	27	25	26	20	20
10/14/88	3	8	9	9	10	11	13	15	18	24	29	28	26	29	28	25	27	25	26	21	20
10/31/88	2	8	9	8	10	11	12	14	18	24	28	27	26	29	28	25	27	25	26	20	20
11/16/88	6	9	9	9	9	10	12	14	18	24	28	27	26	29	28	25	27	25	25	20	19
11/30/88	19	18	10	9	9	10	12	14	18	24	28	27	26	28	28	25	27	25	26	20	19
12/14/88	19	19	10	9	9	10	12	14	18	23	28	27	26	29	27	24	26	24	25	20	19
12/28/88	20	18	10	8	9	10	12	14	17	23	27	27	25	28	28	24	26	24	25	20	19
01/31/89	20	18	10	9	10	10	12	14	18	24	28	27	26	29	28	25	26	25	26	20	20
03/22/89	35	33	30	17	10	11	13	15	18	24	29	27	26	29	28	25	27	25	26	20	20
04/07/89	20	30	32	30	29	27	20	15	19	24	29	27	26	30	28	25	27	26	26	21	20
04/17/89	18	29	31	30	28	26	23	15	19	24	28	27	26	29	28	25	27	25	25	20	22
05/08/89	16	27	29	28	26	25	23	18	19	24	28	27	26	29	28	25	27	25	26	21	20
07/18/89	5	13	15	16	16	17	18	18	19	25	28	27	25	29	28	25	27	25	26	20	20
09/25/89	5	10	11	10	11	12	13	15	19	24	29	28	26	29	29	25	27	25	26	21	--
11/01/89	9	11	11	10	10	12	13	15	18	25	28	27	25	29	28	25	27	25	26	21	20

Table 6. Volumetric moisture content of soil at neutron-probe access hole 2
[Moisture content in percent volume]

Date	Depth below land surface, in meters																
	0.2	0.3	0.5	0.6	0.8	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.4	3.7	4.0	4.3
02/11/88	18	10	9	9	9	9	10	16	20	21	27	24	21	24	24	23	24
02/16/88	18	10	9	9	9	9	10	16	20	22	27	22	22	24	24	24	24
03/01/88	20	11	9	10	9	10	10	16	20	22	27	24	21	25	24	24	24
04/27/88	15	13	10	10	9	10	10	16	20	22	27	24	21	24	24	23	24
05/12/88	11	13	11	10	9	10	11	16	20	22	27	24	21	25	25	23	24
05/24/88	6	11	11	10	10	10	10	16	20	22	27	24	21	25	24	23	24
06/07/88	6	10	10	10	9	10	10	17	20	21	27	24	21	24	24	23	24
06/30/88	3	9	9	10	9	9	10	16	20	22	27	24	21	25	25	23	24
07/07/88	3	8	9	9	9	9	9	15	20	21	27	24	21	25	24	23	24
07/22/88	2	8	9	9	8	9	9	15	19	22	27	24	21	25	25	23	24
08/01/88	1	7	8	9	8	9	9	15	19	22	27	24	21	24	24	23	24
08/19/88	1	7	8	9	9	9	9	14	19	22	27	24	21	25	25	23	26
08/31/88	1	6	8	8	8	9	9	15	19	21	27	24	21	25	24	23	24
09/15/88	1	6	8	8	8	9	9	14	18	22	27	24	21	25	24	23	24
09/30/88	2	6	8	8	8	8	9	14	18	21	27	24	21	24	24	23	24
10/14/88	2	6	8	8	8	9	9	14	18	22	27	24	22	25	25	24	25
10/31/88	1	6	7	8	8	8	9	14	19	21	27	24	21	25	24	24	24
11/16/88	5	6	7	8	8	8	9	14	18	21	27	24	21	24	24	23	24
11/30/88	23	17	8	8	8	8	9	13	18	21	27	24	21	24	24	23	24
12/14/88	23	18	9	8	8	8	9	13	18	21	27	23	21	24	24	23	23
12/28/88	24	16	8	8	8	8	8	13	17	20	26	23	21	24	24	23	24
01/31/89	23	16	9	8	8	8	8	14	18	21	26	24	21	24	24	23	24
03/22/89	30	21	10	8	8	9	8	14	18	21	27	24	21	25	25	23	24
04/07/89	23	28	26	23	17	10	9	14	18	21	27	24	21	25	25	23	24
04/17/89	20	27	26	24	20	14	9	14	18	21	27	23	21	25	24	23	24
05/08/89	16	25	25	23	20	17	10	14	18	21	27	24	21	25	25	23	24
07/18/89	4	11	12	13	12	11	11	14	18	21	27	24	22	25	24	23	25
09/25/89	6	9	9	10	9	9	9	14	18	22	27	24	21	25	25	23	25
11/01/89	10	10	10	10	9	9	9	14	18	21	27	24	21	25	24	23	24

Table 7. Volumetric moisture content of soil at neutron-probe access hole 3

[Moisture content in percent volume]

Date	Depth below land surface, in meters																				
	0.2	0.3	0.5	0.6	0.8	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.4	3.7	4.0	4.3	4.6	4.9	5.2	5.5
02/11/88	18	12	11	12	10	9	11	18	21	23	28	25	24	27	25	22	27	24	25	20	21
02/16/88	19	12	11	12	10	9	12	18	21	24	28	25	24	28	25	22	27	24	24	20	21
03/01/88	20	13	12	12	10	9	11	18	21	23	28	25	24	28	25	22	27	24	25	21	21
04/27/88	16	16	13	12	10	9	12	18	22	24	24	25	24	27	25	21	26	24	24	20	21
05/12/88	12	16	13	12	10	9	12	19	22	24	28	25	24	28	25	22	27	25	25	20	21
05/24/88	6	13	13	12	13	9	12	19	22	23	28	25	24	28	25	22	27	25	24	20	21
06/07/88	6	12	12	12	10	9	11	18	22	24	28	25	24	27	25	21	26	24	24	20	21
06/30/88	4	10	11	11	10	9	11	18	21	24	28	25	24	28	25	22	27	25	25	20	21
07/07/88	3	10	11	11	9	8	11	17	21	23	28	25	24	28	25	21	27	24	24	20	21
07/22/88	2	9	11	11	9	8	10	17	21	24	28	25	24	27	25	21	27	25	24	20	21
08/01/88	2	9	10	11	9	8	10	16	21	23	28	25	24	28	25	21	26	24	24	20	21
08/19/88	2	8	10	10	9	8	10	16	20	24	28	25	24	28	25	21	27	24	25	20	21
08/31/88	2	8	10	10	9	8	10	16	20	24	27	25	24	28	25	21	27	25	25	20	21
09/15/88	1	8	10	10	9	7	10	15	20	23	28	25	24	26	25	22	27	24	25	20	21
09/30/88	3	8	10	10	9	7	10	15	19	23	28	24	24	28	25	21	27	25	25	20	21
10/14/88	3	8	10	10	9	8	10	15	19	23	28	25	24	28	25	22	27	25	25	20	21
10/31/88	2	8	9	10	8	7	10	15	19	23	28	25	24	28	25	21	27	25	25	20	21
11/16/88	6	8	8	9	10	7	10	15	19	23	28	25	23	28	25	21	27	25	24	20	21
11/30/88	21	17	10	10	9	7	10	15	18	22	28	24	24	28	25	21	26	24	25	20	21
12/14/88	22	17	10	9	8	7	10	15	18	22	27	24	23	27	25	21	26	24	24	20	20
12/28/88	22	16	10	9	8	7	10	15	18	22	27	24	23	27	25	21	26	24	24	20	20
01/31/89	22	16	10	10	8	7	10	15	19	23	27	24	24	28	25	21	26	25	25	20	21
03/22/89	35	30	21	11	9	8	11	15	20	23	27	24	24	27	25	22	28	25	24	20	21
04/07/89	22	28	29	27	18	10	11	15	20	23	27	25	24	28	25	22	27	25	24	20	21
04/17/89	19	27	28	26	21	14	11	16	19	23	27	24	23	27	25	21	27	25	25	20	21

Table 8. Volumetric moisture content of soil at neutron-probe access hole 4
[Moisture content in percent volume; --, no data]

Date	Depth below land surface, in meters																			
	0.2	0.3	0.5	0.6	0.8	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.4	3.7	4.0	4.3	4.6	4.9	5.1
02/16/88	19	13	14	15	13	11	14	18	17	21	21	21	18	20	24	24	17	19	18	18
03/01/88	22	14	14	15	14	11	15	18	17	21	21	22	19	20	24	24	18	20	18	18
04/27/88	17	18	15	15	14	11	14	17	17	21	21	22	19	20	23	23	18	20	18	18
05/12/88	15	18	16	16	13	12	15	18	17	21	21	22	19	20	24	24	18	20	18	18
05/24/88	10	16	16	15	13	11	14	18	16	21	21	22	19	20	24	23	18	20	18	18
06/07/88	9	15	15	15	13	11	15	18	16	21	21	21	18	20	24	24	18	19	18	18
06/30/88	5	12	14	13	12	11	15	18	16	21	21	22	19	20	24	24	18	20	18	18
07/07/88	4	12	13	13	12	11	14	18	17	22	21	21	19	20	24	23	18	20	18	18
07/22/88	3	11	12	12	11	11	14	17	17	21	21	22	18	20	24	23	18	20	18	18
08/01/88	2	10	12	12	11	10	14	17	17	21	21	22	18	20	24	23	18	20	18	18
08/19/88	2	9	11	11	10	10	14	17	17	21	21	22	19	20	24	24	18	20	18	18
08/31/88	1	9	11	11	10	10	14	17	17	21	21	22	19	20	24	24	19	20	18	18
09/15/88	1	8	11	11	10	14	13	17	16	21	21	22	19	20	24	24	18	20	18	18
09/30/88	2	8	10	11	10	9	13	17	17	21	21	22	19	20	24	23	18	20	18	18
10/14/88	2	8	10	11	10	9	13	17	16	21	21	22	19	20	24	24	19	20	19	19
10/31/88	2	8	10	11	10	9	13	16	16	21	21	22	19	20	24	24	18	20	18	18
11/16/88	6	8	9	10	9	9	12	16	16	21	21	22	18	20	24	23	18	19	19	18
11/30/88	21	16	10	10	9	8	13	16	16	21	21	22	19	20	24	24	18	20	18	18
12/14/88	22	15	10	10	9	9	12	16	15	21	21	21	18	19	24	23	18	19	18	18
12/28/88	22	15	10	10	9	8	12	16	15	21	20	21	18	20	24	23	18	19	18	18
01/31/89	23	15	11	10	9	9	12	16	16	21	21	22	18	20	24	23	18	20	18	18
03/22/89	31	18	11	10	9	9	12	16	16	21	21	22	19	20	24	24	18	20	18	18
04/07/89	22	29	28	26	22	15	12	16	16	21	21	22	19	20	25	24	18	20	18	18
04/17/89	20	28	28	26	23	19	13	16	16	21	21	22	19	20	24	24	18	20	18	18
05/08/89	18	27	27	26	22	19	15	16	16	21	21	22	19	20	24	23	19	20	18	18
07/18/89	7	19	21	20	17	15	16	18	16	21	21	22	19	21	24	23	18	20	19	--
09/25/89	7	13	14	15	12	11	14	17	17	22	21	22	19	21	24	24	19	20	19	--
11/01/89	12	13	13	13	12	11	14	17	16	21	21	21	18	21	24	24	18	20	18	18

Table 9. Volumetric moisture content of soil at neutron-probe access hole 5
[Moisture content in percent volume; --, no data]

Date	Depth below land surface, in meters													
	0.2	0.3	0.5	0.6	0.8	0.9	1.2	1.5	1.8	2.1	2.4	2.7		
02/16/88	--	--	--	16	--	20	14	10	25	25	26	29		
03/01/88	17	15	14	16	19	20	22	30	26	26	26	29		
04/27/88	19	17	14	16	19	20	21	30	27	25	26	28		
05/12/88	17	17	14	15	19	20	22	30	27	25	26	28		
05/24/88	15	17	14	16	19	20	21	30	27	26	26	28		
06/07/88	14	16	14	15	18	20	21	29	27	25	26	28		
06/30/88	13	16	14	15	18	20	21	30	27	26	26	29		
07/07/88	12	16	14	15	18	20	20	30	27	26	26	28		
07/22/88	12	15	14	15	18	20	20	29	27	25	26	29		
08/01/88	11	15	14	15	18	20	20	29	26	26	26	29		
08/19/88	11	15	14	15	17	19	20	29	27	26	26	28		
08/31/88	10	15	13	15	18	19	21	29	27	26	26	28		
09/15/88	10	15	13	15	18	19	20	29	27	25	26	28		
09/30/88	10	14	13	14	17	19	20	29	27	25	26	28		
10/14/88	10	14	13	15	18	19	21	29	27	26	26	28		
10/31/88	9	14	13	14	18	19	20	29	27	25	26	28		
11/16/88	10	13	13	14	17	19	20	29	26	25	25	26		
11/30/88	24	16	13	14	17	19	20	29	26	25	26	28		
12/14/88	24	17	13	14	17	18	20	28	26	25	25	27		
12/28/88	24	17	13	14	17	18	19	28	25	25	25	28		
01/31/89	25	17	13	15	17	19	20	28	26	25	26	28		
03/22/89	34	21	14	15	18	19	20	29	27	25	26	28		
04/07/89	29	24	15	15	18	20	20	30	27	25	26	28		
04/17/89	27	24	15	15	17	19	21	29	26	25	25	29		

Table 10. Volumetric moisture content of soil at neutron-probe access hole 6
[Moisture content in percent volume]

Date	Depth below land surface, in meters																					
	0.2	0.3	0.5	0.6	0.8	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.4	3.7	4.0	4.3	4.6	4.9	5.2	5.5	5.7
02/11/88	16	11	11	12	12	11	8	9	10	10	10	10	4	16	23	21	18	19	19	19	19	18
02/16/88	16	10	12	14	12	11	9	10	10	10	10	10	4	16	23	21	18	19	20	19	19	19
03/01/88	20	11	12	12	12	11	9	10	10	10	10	10	4	16	23	21	18	19	20	19	20	19
04/27/88	19	14	12	13	12	12	9	10	10	10	10	10	3	16	24	20	18	19	19	19	19	19
05/12/88	19	15	13	13	12	12	9	10	10	10	10	10	3	16	23	21	19	19	20	19	19	19
05/24/88	16	14	13	13	13	12	9	10	10	10	10	11	4	16	24	21	18	19	19	19	19	18
06/07/88	14	14	13	13	12	12	9	10	10	10	10	10	4	17	23	20	18	19	19	19	19	18
06/30/88	9	11	13	13	13	12	9	10	11	10	10	10	4	16	23	21	18	19	20	19	20	18
07/07/88	8	11	12	13	13	12	9	10	10	10	10	10	4	16	23	20	19	19	19	19	19	18
07/22/88	5	10	12	12	12	12	9	10	11	10	10	11	4	16	24	20	19	19	20	19	19	18
08/01/88	6	10	11	12	12	12	9	10	11	10	10	10	4	16	23	21	19	19	20	19	19	18
08/19/88	6	9	11	12	12	11	9	10	11	10	10	10	4	16	24	21	18	19	19	19	19	18
08/31/88	5	9	11	12	12	11	9	10	10	10	10	10	4	17	24	20	19	19	20	19	20	19
09/15/88	5	9	10	12	12	11	9	10	11	10	10	10	4	17	23	20	19	19	20	19	20	19
09/30/88	6	9	10	12	12	11	8	10	11	10	10	10	4	17	24	21	18	19	20	19	19	18
10/14/88	5	9	11	12	12	11	9	10	11	10	10	11	4	17	23	21	19	19	19	19	19	19
10/31/88	5	9	11	12	12	11	8	10	10	10	10	11	4	17	24	20	18	19	20	19	19	19
11/16/88	8	9	10	11	11	11	8	10	10	10	10	10	4	16	23	20	18	19	19	19	19	18
11/30/88	26	16	11	11	11	11	8	10	10	10	10	10	4	16	23	20	18	19	19	18	19	18
12/14/88	25	17	11	11	11	11	8	10	10	10	10	10	4	16	23	20	18	19	19	19	19	18
12/28/88	26	16	11	12	11	11	8	10	10	10	10	10	3	16	23	20	18	19	19	19	18	18
01/31/89	26	15	11	12	11	11	8	10	10	9	10	10	3	17	23	20	19	19	20	18	19	19
03/22/89	27	16	11	12	12	11	9	10	10	10	9	10	4	17	24	21	19	19	20	19	20	19
04/07/89	26	20	13	12	12	11	9	10	11	10	10	10	4	17	23	21	19	20	20	19	19	18
04/17/89	24	20	14	12	12	12	8	10	10	10	12	10	4	16	23	20	18	19	19	19	19	18

Table 11. Volumetric moisture content of soil at neutron-probe access hole 7

[Moisture content in percent volume; --, no data]

Date	Depth below land surface, in meters																	
	0.2	0.3	0.5	0.6	0.8	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.4	3.7	4.0	4.3	4.4
02/16/88	12	10	11	11	10	12	20	23	23	25	22	21	23	25	26	28	24	25
03/01/88	12	9	11	11	11	12	21	23	24	25	23	21	23	26	26	28	24	25
04/27/88	10	10	11	11	10	12	21	23	23	25	22	21	22	25	26	27	24	--
05/12/88	8	10	11	11	11	12	20	23	24	25	23	21	23	25	26	28	24	25
05/24/88	5	10	11	11	10	12	21	23	23	25	22	21	22	25	25	27	23	25
06/07/88	6	10	11	11	10	12	21	23	23	25	23	21	22	25	26	27	23	24
06/30/88	4	9	10	10	10	12	21	24	24	25	23	21	23	25	26	28	24	25
07/07/88	3	9	10	10	10	12	21	23	24	25	22	21	23	25	26	27	23	24
07/22/88	2	9	10	10	9	11	21	24	24	25	23	21	23	25	26	27	24	25
08/01/88	2	8	10	9	9	11	21	23	24	25	23	21	22	25	26	27	23	25
08/19/88	2	8	9	9	9	11	21	24	24	25	23	21	23	25	26	28	24	25
08/31/88	1	7	9	9	9	11	21	23	24	25	23	22	23	26	26	28	24	25
09/15/88	1	7	9	9	9	10	21	23	23	25	23	21	23	25	26	28	24	25
09/30/88	1	7	8	9	9	11	20	23	24	25	22	21	22	25	27	28	24	25
10/14/88	2	7	9	9	8	11	20	23	24	25	23	21	23	25	27	28	24	25
10/31/88	2	7	9	9	9	10	20	23	23	25	22	21	23	25	26	27	24	25
11/16/88	4	7	9	8	8	10	20	23	23	24	22	21	23	24	26	27	23	24
11/30/88	20	16	10	8	8	10	20	22	23	24	22	21	22	25	26	27	23	24
12/14/88	20	16	9	8	8	10	20	22	23	24	22	20	22	24	26	27	24	24
12/28/88	21	16	10	9	8	10	19	22	23	24	21	20	22	24	25	27	23	24
01/31/89	33	16	10	9	8	10	20	22	24	24	22	21	22	25	26	27	23	24
03/22/89	24	17	11	9	9	10	20	22	23	25	22	21	22	25	26	28	24	25
04/07/89	17	24	21	10	9	11	19	22	23	24	22	21	23	25	26	28	24	25
05/08/89	11	18	20	14	10	11	20	23	24	25	22	21	23	25	26	27	24	--
07/19/89	3	9	11	11	10	11	20	23	24	25	23	21	23	26	26	27	23	--
09/25/89	4	8	10	10	9	11	20	23	24	25	22	21	23	26	26	28	24	--
11/01/89	6	8	10	9	9	11	20	35	24	25	22	21	23	26	26	28	24	25

Table 12. Volumetric moisture content of soil at neutron-probe access hole 8
[Moisture content in percent volume]

Date	Depth below land surface, in meters																				
	0.2	0.3	0.5	0.6	0.8	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.4	3.7	4.0	4.3	4.6	4.9	5.2	5.5
02/16/88	18	12	10	10	9	10	14	19	20	23	26	23	21	24	26	24	20	24	20	16	16
03/01/88	20	12	11	11	10	10	14	19	21	23	26	23	21	24	26	24	20	24	20	16	17
04/27/88	13	14	11	11	10	10	14	19	20	22	26	23	20	24	25	24	20	23	20	15	16
05/12/88	8	14	11	11	10	10	14	19	20	23	26	23	21	24	26	24	20	24	21	15	17
05/24/88	5	11	11	10	10	10	13	18	20	22	26	23	21	24	25	24	20	24	20	15	16
06/07/88	5	11	11	10	9	9	13	18	20	22	26	23	20	24	25	23	20	24	20	15	16
06/30/88	3	10	10	10	9	9	13	19	20	23	26	24	21	24	26	24	20	24	20	15	17
07/07/88	2	9	10	9	9	9	12	18	20	23	26	23	21	24	25	23	20	24	20	15	17
07/22/88	2	8	9	9	8	8	12	18	20	23	26	23	21	24	26	23	20	24	20	15	16
08/01/88	1	8	9	9	8	8	12	18	20	23	26	24	21	24	25	23	19	24	20	15	16
08/19/88	1	8	9	9	8	8	11	18	20	23	26	23	21	24	25	24	19	24	20	15	16
08/31/88	1	7	8	8	8	8	11	18	20	22	26	23	21	24	26	24	20	24	20	16	17
09/15/88	1	7	8	8	8	8	11	17	20	23	26	24	21	25	26	24	20	24	20	30	17
09/30/88	2	7	8	9	7	8	11	17	19	23	26	23	21	24	26	24	20	24	20	16	17
10/14/88	2	7	8	8	8	8	11	17	20	22	26	23	21	24	26	24	20	24	20	16	17
10/31/88	1	7	8	8	7	7	10	17	20	22	26	23	21	24	26	23	20	24	20	16	16
11/16/88	4	7	8	8	7	8	10	17	19	22	26	23	20	24	26	23	20	24	20	15	16
11/30/88	21	15	8	8	7	7	10	17	19	22	26	23	20	24	25	23	20	24	20	15	17
12/14/88	21	14	8	8	7	7	10	16	19	22	25	23	20	24	25	23	20	24	20	15	16
12/28/88	21	14	8	8	7	7	10	16	19	22	25	23	20	23	25	23	19	23	20	15	16
01/31/89	21	14	9	8	7	8	10	16	19	22	26	23	20	24	25	23	20	24	20	16	16
03/22/89	31	16	9	8	8	8	11	16	19	22	26	23	21	24	26	24	20	24	20	16	17
04/07/89	23	31	32	29	24	21	11	17	19	23	26	23	21	24	26	23	20	25	21	15	17
04/17/89	20	29	31	27	24	20	14	16	19	22	26	23	21	31	26	23	20	24	20	15	16

Table 13. Volumetric moisture content of soil at neutron-probe access hole 9
[Moisture content in percent volume; --, no data]

Date	Depth below land surface, in meters																				
	0.2	0.3	0.5	0.6	0.8	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.4	3.7	4.0	4.3	4.6	4.9	5.2	5.3
02/16/88	17	11	10	10	11	11	14	19	20	22	25	24	20	26	27	24	21	25	19	16	17
03/01/88	21	13	11	10	10	12	15	20	21	23	26	24	20	26	27	24	21	25	19	16	17
04/27/88	15	15	12	10	10	11	14	19	20	22	25	23	19	25	26	24	20	24	19	16	16
05/12/88	11	15	12	10	10	12	14	20	20	23	26	24	20	26	26	24	21	25	19	16	17
05/24/88	6	12	12	10	10	14	14	20	20	22	25	24	20	25	26	23	21	24	19	16	17
06/07/88	6	11	11	10	10	11	14	19	20	22	25	24	20	26	26	24	20	24	19	16	16
06/30/88	3	9	10	10	9	10	14	20	20	23	25	24	20	25	26	24	21	25	19	16	17
07/07/88	2	9	10	9	8	10	13	19	20	22	25	23	20	25	26	23	21	25	19	16	17
07/22/88	1	8	9	9	8	9	13	19	20	22	25	24	20	26	26	24	21	25	19	16	17
08/01/88	1	8	9	8	8	9	13	19	20	22	25	24	19	25	26	23	21	24	19	16	17
08/19/88	0	7	9	8	8	9	13	19	20	23	26	24	20	26	26	22	20	25	19	16	17
08/31/88	1	7	9	8	8	9	12	19	21	25	26	24	22	26	27	24	21	25	19	16	17
09/15/88	1	7	8	8	8	9	12	19	20	23	26	24	20	26	26	24	21	24	19	16	17
09/30/88	2	7	8	8	7	9	11	18	20	23	25	24	20	25	26	24	21	24	19	16	17
10/14/88	1	7	8	7	8	8	11	19	20	22	26	24	20	26	27	24	21	25	19	16	17
10/31/88	1	7	8	7	7	8	11	18	20	22	25	23	20	25	26	23	21	24	19	16	17
11/16/88	5	7	8	7	7	8	10	18	20	22	25	23	20	25	26	23	20	24	18	16	16
11/30/88	23	17	8	7	7	8	11	17	19	21	25	24	19	26	26	24	20	24	18	16	16
12/14/88	23	17	9	7	7	8	10	17	19	22	25	23	20	25	25	22	20	24	18	16	17
12/28/88	23	16	9	7	7	8	10	17	19	22	25	23	19	25	26	24	20	25	19	16	17
01/31/89	24	16	9	8	7	8	11	18	19	22	25	23	19	25	26	24	20	25	19	16	17
03/22/89	30	18	10	10	7	9	12	17	20	22	25	24	20	26	27	23	21	24	18	16	--
04/07/89	25	31	31	28	25	23	12	18	20	22	26	24	20	26	26	24	20	25	19	16	17
04/17/89	21	30	30	28	24	23	18	17	20	23	25	24	20	26	26	24	21	24	18	16	--
05/08/89	18	28	29	26	23	22	20	19	20	22	25	24	20	25	27	24	21	24	19	16	17
07/19/89	4	13	17	17	15	16	18	21	20	22	26	23	20	25	26	24	20	24	18	16	--
09/25/89	6	10	12	10	10	10	15	20	20	23	26	24	20	26	27	24	21	25	19	16	--
11/01/89	9	11	11	10	9	10	14	19	20	22	25	24	20	26	26	24	21	25	18	16	17

Table 14. Volumetric moisture content of soil at neutron-probe access hole 10

[Moisture content in percent volume; --, no data]

Date	Depth below land surface, in meters																	
	0.2	0.3	0.5	0.6	0.8	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.4	3.7	4.0	4.3	4.6
02/16/88	32	30	27	22	17	13	15	20	21	24	24	26	27	27	27	29	25	--
03/01/88	30	30	26	21	18	13	15	20	21	23	24	26	27	27	26	28	24	--
04/27/88	20	26	24	20	17	15	15	20	21	23	24	26	27	28	26	29	24	21
05/12/88	18	26	23	20	18	15	16	20	21	24	24	26	27	28	27	28	24	21
05/24/88	23	22	19	17	15	15	21	22	24	24	26	27	27	26	28	25	21	--
06/07/88	11	19	19	18	16	14	15	20	24	24	26	27	28	26	28	24	21	--
06/30/88	6	14	14	14	13	13	15	21	22	24	24	26	27	28	27	28	24	21
07/07/88	5	12	13	13	12	12	15	21	22	24	24	26	27	28	26	28	24	21
07/22/88	3	11	11	11	11	12	15	20	21	24	24	26	28	28	26	28	24	21
08/01/88	2	11	11	10	11	11	15	20	21	24	24	26	27	27	26	28	24	21
08/19/88	2	10	10	10	11	11	15	20	21	24	24	26	27	27	26	28	25	21
08/31/88	1	9	10	10	10	10	14	20	22	24	24	26	28	28	28	26	28	21
09/15/88	1	9	10	10	10	10	14	20	21	24	24	26	27	28	26	28	24	21
09/30/88	3	8	10	9	10	10	14	20	21	24	24	26	27	27	26	28	24	21
10/14/88	2	9	9	9	10	10	14	20	21	25	24	26	28	28	27	28	24	21
10/31/88	2	8	9	9	10	10	14	20	21	24	24	26	27	28	27	29	24	21
11/16/88	7	8	9	9	10	10	14	19	21	24	24	26	27	27	26	28	24	21
11/30/88	25	17	9	9	10	10	14	19	21	24	24	26	27	27	26	28	24	21
12/14/88	27	17	9	9	10	10	13	19	20	24	23	25	27	27	26	28	24	21
12/28/88	27	17	9	9	10	10	13	19	21	23	23	25	27	27	26	28	23	21
01/31/89	27	16	9	9	10	10	13	19	21	24	23	26	27	27	26	28	24	21
03/22/89	31	23	15	13	12	10	14	19	21	24	23	26	28	28	27	28	24	22
04/07/89	23	26	17	12	11	10	14	19	21	24	24	26	28	28	26	29	24	21
04/17/89	20	25	18	13	11	10	14	19	21	24	24	26	27	28	26	28	24	21
05/08/89	15	22	18	14	12	11	14	20	21	24	24	26	28	28	26	28	24	21
07/19/89	3	10	10	10	10	10	13	19	21	24	24	26	27	28	26	28	25	21
09/25/89	4	9	10	9	10	10	13	18	21	24	24	26	28	28	27	30	24	21
11/01/89	9	9	9	10	9	10	13	18	20	24	24	26	27	28	27	28	24	21

Table 15. Volumetric moisture content of soil at neutron-probe access hole 16
[Moisture content in percent volume]

Date	Depth below land surface, in meters																				
	0.2	0.3	0.5	0.6	0.8	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.4	3.7	4.0	4.3	4.6	4.9	5.2	5.5
09/19/88	8	14	13	12	13	16	22	27	30	31	24	23	25	25	24	29	26	23	22	19	18
09/30/88	9	14	13	12	12	16	23	28	30	30	23	23	25	25	24	28	26	23	22	19	18
10/14/88	8	14	13	12	13	16	22	28	30	30	24	23	25	26	25	29	26	24	22	19	18
10/31/88	8	13	14	12	13	16	23	28	30	30	23	23	25	26	25	29	26	23	22	19	18
11/16/88	12	13	13	12	12	16	23	28	30	30	23	22	25	25	24	29	26	23	22	18	19
11/30/88	25	25	15	12	12	16	22	27	30	30	23	23	25	26	24	29	26	23	22	18	18
12/14/88	26	24	16	12	12	16	22	27	30	30	23	23	24	25	24	29	25	23	22	18	18
12/28/88	26	23	15	12	12	15	22	27	29	29	22	22	24	25	24	28	25	23	22	18	18
01/31/89	26	24	16	12	12	16	22	27	29	30	23	23	24	26	24	29	25	23	22	19	18
03/22/89	26	24	16	12	12	16	23	28	30	30	24	23	25	25	25	29	26	24	23	19	19
04/07/89	21	26	19	12	12	16	23	27	30	31	23	23	25	25	24	30	26	24	22	19	19
04/17/89	20	26	20	13	12	16	22	28	30	30	23	23	25	25	24	29	26	23	22	19	18
05/08/89	18	23	20	14	13	16	22	28	30	29	23	23	25	26	24	28	26	24	22	19	18
07/18/89	12	19	18	15	14	16	22	28	30	31	23	23	25	26	25	29	26	23	22	19	18
09/25/89	10	16	17	14	14	17	23	29	30	30	24	23	25	26	24	29	26	23	22	19	18
11/14/89	12	16	16	13	13	17	23	28	29	30	22	23	25	25	24	29	25	23	22	19	18

Table 16. Volumetric moisture content of soil at neutron-probe access hole 18
[Moisture content in percent volume]

Date	Depth below land surface, in meters																				
	0.2	0.3	0.5	0.6	0.8	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.4	3.7	4.0	4.3	4.6	4.9	5.2	5.5
09/19/88	9	13	13	12	13	17	23	26	28	30	23	23	24	26	24	28	28	25	21	18	13
09/30/88	9	13	13	12	13	17	22	26	28	30	22	23	24	26	24	28	28	26	21	18	13
10/14/88	8	14	13	12	13	17	23	27	28	30	22	23	24	26	25	28	28	26	22	18	13
10/31/88	8	13	13	12	13	17	23	26	28	30	22	23	24	26	25	28	27	25	21	18	12
11/16/88	11	13	13	12	13	17	22	26	28	27	22	22	24	26	24	28	28	25	21	18	13
11/30/88	26	22	14	12	13	17	22	26	28	29	22	22	24	26	24	29	28	25	21	17	13
12/14/88	26	21	13	11	12	16	22	26	28	29	22	22	24	25	24	28	27	25	21	18	13
12/28/88	26	21	13	11	12	16	22	25	27	29	22	21	23	25	23	28	27	25	20	17	12
01/31/89	27	21	14	12	13	17	22	26	28	29	22	22	24	26	24	28	28	25	21	18	13
03/22/89	32	22	14	12	13	17	22	26	28	30	22	23	24	26	24	29	28	25	21	18	13
04/07/89	24	27	19	12	13	17	23	26	28	29	22	22	24	26	24	28	28	26	21	18	13
04/17/89	22	26	19	12	13	17	22	26	28	30	22	22	24	26	24	28	28	25	21	18	13
05/08/89	20	24	20	13	13	17	23	26	29	30	23	23	24	26	24	28	28	26	22	18	13
07/18/89	10	14	14	14	14	18	23	27	29	30	22	23	24	26	24	29	28	25	22	18	13
09/25/89	10	14	14	12	14	17	23	27	28	30	22	23	24	26	24	29	28	26	21	18	13
11/14/89	13	14	14	12	13	17	22	26	29	30	22	23	24	26	25	28	28	26	21	18	13

Table 17. Daily summaries of selected meteorological data at the test trench area

[--, no data; *, sensor lower limit; w/m^2 , Watts per meter squared; m/s , meters per second]

Date	Mean soil surface temperature (Celsius)	Mean net radiation (w/m^2)	Mean air temperature 2 meters above land surface (Celsius)	Mean relative humidity 2 meters above land surface (percent)	Mean wind speed 2 meters above land surface (m/s)	Mean wind direction (degrees)	Daily total precipitation (millimeter)
01/01/88	-7.7	33.5	-7.7	84.3	*0.4	235.5	0.0
01/02/88	-12.6	30.3	-12.6	83.1	*0.4	106.4	0.0
01/03/88	-13.9	33.8	-14.5	75.3	*0.4	184.7	0.0
01/04/88	-18.1	18.4	-18.7	75.0	*0.4	--	0.0
01/05/88	-12.1	10.1	-12.8	80.2	*0.4	--	0.3
01/06/88	-6.3	14.4	-6.2	81.4	*0.4	110.3	0.0
01/07/88	-7.4	20.6	-7.4	86.4	*0.4	219.2	0.0
01/08/88	-6.4	11.0	-6.6	87.3	*0.4	204.2	0.0
01/09/88	-7.0	23.6	-7.1	85.7	*0.4	185.6	0.5
01/10/88	-3.1	20.5	-2.8	83.4	*0.4	205.8	0.0
01/11/88	0.2	31.0	2.3	85.8	1.9	226.3	0.0
01/12/88	-2.6	6.0	-1.7	77.4	1.4	250.0	2.3
01/13/88	-7.1	23.5	-6.6	69.5	0.5	241.7	0.0
01/14/88	-6.4	39.1	-6.2	73.5	0.5	176.7	0.0
01/15/88	-2.9	9.1	-3.0	86.8	0.5	182.8	0.0
01/16/88	-2.4	7.8	-1.8	86.7	*0.4	223.6	2.5
01/17/88	-7.6	20.8	-7.7	82.9	*0.4	129.7	0.5
01/18/88	-9.4	14.8	-9.3	88.5	*0.4	--	0.8
01/19/88	-17.0	15.6	-17.4	78.6	*0.4	--	0.0
01/20/88	-20.1	16.6	-21.6	75.2	*0.4	--	0.0
01/21/88	-15.4	12.2	-16.3	78.0	*0.4	--	0.0
01/22/88	-15.4	20.9	-16.6	71.8	*0.4	--	0.0
01/23/88	-13.8	12.0	-14.7	77.3	*0.4	--	0.0
01/24/88	-11.4	19.7	-11.8	81.8	*0.4	210.0	0.0
01/25/88	-11.6	28.7	-12.3	75.4	*0.4	163.6	0.0
01/26/88	-11.4	18.4	-12.4	77.4	*0.4	193.2	0.0
01/27/88	-12.4	24.5	-13.0	73.0	*0.4	--	0.0
01/28/88	-5.6	15.2	-5.7	70.5	*0.4	188.0	0.0
01/29/88	-5.6	26.1	-5.4	71.1	*0.4	204.9	0.0

Table 17. Daily summaries of selected meteorological data at the test trench area—continued

Date	Mean soil surface temperature (Celsius)	Mean net radiation (w/m ²)	Mean air temperature 2 meters above land surface (Celsius)	Mean relative humidity 2 meters above land surface (percent)	Mean wind speed 2 meters above land surface (m/s)	Mean wind direction (degrees)	Daily total precipitation (millimeter)
01/30/88	-2.2	14.8	-1.9	87.3	*0.4	231.6	0.0
01/31/88	-2.5	32.7	-2.0	80.2	*0.4	232.3	0.0
02/01/88	-9.0	19.7	-9.3	74.9	*0.4	233.9	0.0
02/02/88	-10.6	22.7	-11.2	73.8	*0.4	180.7	0.0
02/03/88	-12.0	13.6	-12.9	77.2	*0.4	217.7	0.0
02/04/88	-12.0	20.7	-12.8	80.6	*0.4	245.1	0.0
02/05/88	-12.0	19.1	-12.7	72.8	*0.4	--	0.0
02/06/88	-11.8	27.8	-12.2	72.5	*0.4	148.7	0.0
02/07/88	-10.4	16.9	-10.8	72.8	*0.4	220.0	0.0
02/08/88	-7.0	18.7	-7.1	73.6	*0.4	193.1	0.0
02/09/88	-4.9	14.9	-4.7	84.5	*0.4	217.9	0.0
02/10/88	-1.0	22.0	1.2	86.9	1.1	239.3	0.0
02/11/88	-2.8	47.3	0.5	67.2	1.3	239.6	0.0
02/12/88	-2.8	53.7	-0.4	86.1	1.9	212.7	0.0
02/13/88	-2.9	56.8	-0.6	81.3	1.0	185.5	0.0
02/14/88	-2.3	57.8	0.1	65.0	1.9	273.2	0.0
02/15/88	-2.9	61.0	-2.3	76.8	2.0	234.3	0.0
02/16/88	-1.1	56.7	1.0	69.6	3.5	241.5	0.5
02/17/88	-3.3	37.7	-1.8	46.4	1.1	235.6	0.0
02/18/88	-4.1	73.9	-4.4	74.5	1.3	223.7	0.0
02/19/88	-3.1	78.8	-1.5	63.4	1.4	143.6	0.0
02/20/88	-2.5	72.7	-1.9	78.2	2.1	223.6	0.0
02/21/88	-2.4	81.2	-0.9	78.0	1.1	176.3	0.0
02/22/88	-2.0	58.8	-0.1	73.4	1.8	222.5	0.0
02/23/88	-0.5	64.5	1.4	51.3	1.3	142.4	0.0
02/24/88	-3.4	80.1	-2.4	65.6	1.2	79.1	0.0
02/25/88	-2.8	75.7	-1.4	63.6	1.2	97.9	0.0
02/26/88	-1.8	85.9	-0.1	62.1	0.9	127.2	0.0
02/27/88	-1.1	91.3	1.0	63.1	1.1	125.9	0.0
02/28/88	-0.6	93.4	1.6	60.4	1.0	128.8	0.0

Table 17. Daily summaries of selected meteorological data at the test trench area—continued

Date	Mean soil surface temperature (Celsius)	Mean net radiation (w/m ²)	Mean air temperature 2 meters above land surface (Celsius)	Mean relative humidity 2 meters above land surface (percent)	Mean wind speed 2 meters above land surface (m/s)	Mean wind direction (degrees)	Daily total precipitation (millimeter)
02/29/88	0.7	68.5	2.4	67.0	1.3	124.1	0.0
03/01/88	3.3	90.1	4.5	75.2	1.2	152.4	0.3
03/02/88	1.6	43.8	2.2	84.2	1.2	165.1	0.0
03/03/88	2.1	95.6	3.0	76.8	1.9	212.4	0.0
03/04/88	2.8	91.2	3.6	70.3	5.0	221.5	0.0
03/05/88	0.3	95.0	0.3	55.2	1.3	183.2	0.0
03/06/88	2.2	59.6	1.6	72.8	1.8	136.1	0.0
03/07/88	0.6	56.3	0.8	81.5	4.1	219.4	2.8
03/08/88	-1.3	78.2	0.2	44.1	1.9	236.9	0.0
03/09/88	6.3	106.6	0.4	63.8	1.3	184.9	0.0
03/10/88	-0.5	45.0	-1.2	76.9	2.7	185.1	0.0
03/11/88	0.0	63.0	-0.1	36.4	1.7	175.6	0.0
03/12/88	-2.5	84.9	-2.8	38.1	1.8	126.7	0.0
03/13/88	-2.9	70.7	-4.2	50.6	1.1	191.2	0.0
03/14/88	-1.5	104.3	-2.8	51.1	2.2	204.2	0.0
03/15/88	-2.8	48.7	-3.8	77.8	1.5	116.8	0.0
03/16/88	0.2	87.2	0.8	61.6	2.7	48.6	0.5
03/17/88	0.8	112.3	-0.8	40.1	1.6	119.6	0.0
03/18/88	0.0	111.4	-1.5	44.8	1.3	194.6	0.0
03/19/88	3.9	110.7	2.6	46.8	1.5	211.3	0.0
03/20/88	5.0	112.7	4.8	47.5	2.8	203.7	0.0
03/21/88	5.3	94.6	6.0	42.2	2.9	217.6	0.0
03/22/88	4.7	51.1	5.6	52.3	4.8	234.7	0.0
03/23/88	3.9	91.5	3.2	63.8	3.9	234.2	0.0
03/24/88	3.0	74.7	2.6	57.5	3.8	272.2	0.0
03/25/88	4.0		8.3	37.9	2.5	264.0	0.0
03/26/88	9.4	122.9	9.2	45.5	4.3	233.6	0.0
03/27/88	2.0	95.5	1.1	32.0	5.5	281.6	0.0
03/28/88	0.4	117.7	-2.3	31.3	2.3	224.3	0.0
03/29/88	-1.8	56.5	-2.2	64.5	2.2	202.6	2.0

Table 17. Daily summaries of selected meteorological data at the test trench area—continued

Date	Mean soil surface temperature (Celsius)	Mean net radiation (w/m ²)	Mean air temperature 2 meters above land surface (Celsius)	Mean relative humidity 2 meters above land surface (percent)	Mean wind speed 2 meters above land surface (m/s)	Mean wind direction (degrees)	Daily total precipitation (millimeter)
03/30/88	-2.2	100.8	-2.6	60.5	1.7	148.7	0.0
03/31/88	2.5	135.3	0.1	43.5	1.5	204.1	0.0
04/01/88	6.1	125.0	4.3	39.0	1.7	207.5	0.0
04/02/88	8.8	125.8	7.4	39.6	3.0	221.1	0.0
04/03/88	6.0	46.3	7.0	68.7	6.6	233.5	1.3
04/04/88	3.1	125.3	3.2	51.0	5.4	248.9	0.0
04/05/88	6.0	142.9	3.7	37.9	2.5	219.8	0.0
04/06/88	10.3	138.3	9.5	35.3	3.2	184.2	0.0
04/07/88	8.2	73.1	9.2	40.3	5.6	236.9	0.5
04/08/88	2.7	103.6	0.2	49.4	1.6	198.3	0.0
04/09/88	4.8	142.2	1.6	30.4	1.5	109.4	0.0
04/10/88	6.5	139.0	3.8	26.9	1.4	178.3	0.0
04/11/88	10.6	141.2	8.8	23.3	1.5	186.3	0.0
04/12/88	13.4	139.9	12.7	22.5	1.8	179.4	0.0
04/13/88	13.0	122.7	12.5	20.6	1.8	173.7	0.0
04/14/88	13.3	96.8	12.8	29.7	2.6	168.1	0.0
04/15/88	13.0	111.8	11.8	51.8	2.1	205.3	0.0
04/16/88	14.0	133.6	13.3	39.0	1.8	147.7	0.0
04/17/88	17.2	145.9	15.4	28.5	3.4	171.2	0.0
04/18/88	9.2	81.4	8.8	70.7	5.1	235.2	3.0
04/19/88	10.9	128.3	8.5	66.5	2.8	207.4	1.0
04/20/88	8.9	56.6	8.1	83.8	2.5	163.3	9.7
04/21/88	8.3	144.8	7.0	69.2	3.3	224.4	0.0
04/22/88	5.8	48.1	4.9	82.9	1.8	205.8	7.4
04/23/88	6.7	153.0	5.6	74.8	3.2	247.8	0.0
04/24/88	8.0	161.3	7.0	56.0	4.6	242.1	0.0
04/25/88	4.8	113.6	3.7	56.4	3.5	202.9	0.0
04/26/88	7.9	191.0	4.2	50.5	2.5	212.3	0.0
04/27/88	11.2	164.5	9.4	47.3	1.8	156.0	0.0
04/28/88	13.3	120.5	12.6	38.4	3.7	135.3	0.0

Table 17. Daily summaries of selected meteorological data at the test trench area—continued

Date	Mean soil surface temperature (Celsius)	Mean net radiation (w/m ²)	Mean air temperature 2 meters above land surface (Celsius)	Mean relative humidity 2 meters above land surface (percent)	Mean wind speed 2 meters above land surface (m/s)	Mean wind direction (degrees)	Daily total precipitation (millimeter)
04/29/88	12.1	173.8	11.7	43.7	4.8	239.6	0.0
04/30/88	8.6	107.8	7.6	41.4	5.4	198.1	0.0
05/01/88	5.5	109.8	4.0	26.3	3.0	218.7	0.0
05/02/88	7.4	165.4	3.8	26.1	2.9	228.1	0.0
05/03/88	8.1	130.8	6.3	36.1	2.8	192.4	0.0
05/04/88	8.9	56.1	9.6	33.4	3.5	112.9	0.0
05/05/88	11.7	90.2	11.9	34.9	3.3	140.7	0.0
05/06/88	5.3	90.0	5.1	73.2	4.1	219.5	2.8
05/07/88	--	--	--	--	--	--	--
05/08/88	--	--	--	--	--	--	--
05/09/88	--	--	--	--	--	--	--
05/10/88	--	--	--	--	--	--	--
05/11/88	--	--	--	--	--	--	--
05/12/88	18.6	172.2	17.1	30.5	1.8	200.8	0.0
05/13/88	12.6	129.3	12.9	29.3	5.3	213.6	0.0
05/14/88	12.6	197.4	11.0	33.0	5.6	234.0	0.0
05/15/88	17.2	174.4	14.9	27.1	2.3	189.3	0.0
05/16/88	21.7	169.4	20.2	21.7	4.7	153.1	0.0
05/17/88	13.2	119.4	12.0	41.7	6.0	226.1	0.0
05/18/88	11.3	119.1	9.3	32.3	2.2	212.9	0.0
05/19/88	14.1	158.5	11.1	26.7	2.2	143.6	0.0
05/20/88	15.3	178.2	1.9	23.5	2.2	217.5	0.0
05/21/88	17.3	178.7	15.0	20.1	2.3	148.0	0.0
05/22/88	19.2	177.7	16.7	18.2	2.1	165.5	0.0
05/23/88	21.3	169.9	18.6	18.3	2.9	202.0	0.0
05/24/88	21.8	176.0	19.7	19.9	4.2	219.2	0.0
05/25/88	19.1	141.0	17.6	23.6	2.9	148.1	0.0
05/26/88	20.8	155.4	18.2	33.0	2.7	204.2	0.0
05/27/88	17.7	130.0	16.5	25.6	4.2	245.1	0.0
05/28/88	18.1	150.5	16.4	25.3	3.4	217.0	0.0

Table 17. Daily summaries of selected meteorological data at the test trench area—continued

Date	Mean soil surface temperature (Celsius)	Mean net radiation (w/m ²)	Mean air temperature 2 meters above land surface (Celsius)	Mean relative humidity 2 meters above land surface (percent)	Mean wind speed 2 meters above land surface (m/s)	Mean wind direction (degrees)	Daily total precipitation (millimeter)
05/29/88	11.6	165.7	7.5	68.5	5.6	226.8	5.3
05/30/88	6.4	33.3	4.9	85.8	4.0	187.5	4.6
05/31/88	9.0	97.3	7.1	72.9	3.1	224.5	0.3
06/01/88	12.3	147.2	11.6	72.6	4.3	182.8	1.8
06/02/88	16.9	147.1	15.3	56.5	2.1	217.4	0.0
06/03/88	22.4	195.9	20.5	39.0	3.3	126.7	0.0
06/04/88	24.8	192.5	24.2	24.5	4.5	169.7	0.0
06/05/88	21.5	193.4	18.5	30.5	4.0	187.8	0.0
06/06/88	18.9	172.9	17.1	27.2	4.1	161.8	0.0
06/07/88	17.2	187.5	14.4	30.5	3.5	215.8	0.5
06/08/88	13.8	193.8	10.8	27.8	3.9	229.4	0.0
06/09/88	18.0	188.0	16.2	21.4	3.7	157.3	0.0
06/10/88	19.0	181.4	16.6	20.4	3.9	239.6	0.0
06/11/88	22.9	183.7	18.8	19.8	2.3	219.0	0.0
06/12/88	21.3	173.8	17.7	22.8	3.3	212.2	0.0
06/13/88	20.6	163.8	16.3	30.1	2.4	174.3	0.0
06/14/88	21.2	189.2	17.8	24.2	2.3	153.2	0.0
06/15/88	23.3	175.9	20.1	17.0	2.4	184.5	0.0
06/16/88	23.8	155.7	22.1	18.9	2.4	190.8	0.0
06/17/88	20.6	10.3	19.7	21.5	2.6	184.0	0.0
06/18/88	23.5	191.6	20.9	37.5	3.5	213.4	0.0
06/19/88	28.1	184.2	24.7	17.6	2.7	193.0	0.0
06/20/88	28.9	160.0	26.0	18.4	3.3	224.3	0.0
06/21/88	29.1	177.7	25.4	26.7	2.6	194.0	0.0
06/22/88	28.5	152.0	25.6	21.6	2.7	208.0	0.0
06/23/88	30.4	190.3	27.4	17.0	4.4	232.9	0.0
06/24/88	30.4	185.3	27.1	16.9	2.9	237.4	0.0
06/25/88	30.0	172.7	27.0	25.1	3.5	160.3	3.0
06/26/88	24.0	154.1	21.4	55.3	3.9	217.3	0.0
06/27/88	25.7	173.1	22.2	42.1	2.3	171.4	0.0

Table 17. Daily summaries of selected meteorological data at the test trench area—continued

Date	Mean soil surface temperature (Celsius)	Mean net radiation (w/m ²)	Mean air temperature 2 meters above land surface (Celsius)	Mean relative humidity 2 meters above land surface (percent)	Mean wind speed 2 meters above land surface (m/s)	Mean wind direction (degrees)	Daily total precipitation (millimeter)
06/28/88	24.8	130.3	23.6	28.9	3.3	226.5	0.5
06/29/88	19.0	208.2	16.8	24.8	6.9	229.2	0.0
06/30/88	20.2	188.4	16.1	21.9	2.6	182.9	0.0
07/01/88	22.8	162.0	20.4	14.7	2.5	198.1	0.0
07/02/88	25.7	189.1	23.1	14.9	3.7	220.8	0.0
07/03/88	28.3	195.5	25.2	15.9	4.2	237.2	0.0
07/04/88	26.5	191.2	23.1	30.0	3.4	215.1	0.0
07/05/88	23.2	192.3	20.3	25.3	4.6	227.1	0.0
07/06/88	18.3	123.4	17.1	24.1	5.3	229.2	0.0
07/07/88	20.2	182.1	16.7	16.7	2.2	191.0	0.0
07/08/88	23.8	172.6	20.8	14.1	2.3	194.8	0.0
07/09/88	26.6	175.7	23.3	13.0	2.2	194.7	0.0
07/10/88	24.5	152.1	22.3	13.9	2.4	223.8	0.0
07/11/88	26.7	177.4	23.9	14.4	4.6	207.8	0.0
07/12/88	23.1	167.3	21.6	15.8	7.3	241.2	0.0
07/13/88	26.4	185.9	23.6	18.0	3.9	247.2	0.0
07/14/88	26.2	188.0	24.1	14.9	4.9	242.6	0.0
07/15/88	--	--	--	--	--	--	--
07/16/88	--	--	--	--	--	--	--
07/17/88	--	--	--	--	--	--	--
07/18/88	--	--	--	--	--	--	--
07/19/88	--	--	--	--	--	--	--
07/20/88	--	--	--	--	--	--	--
07/21/88	--	--	--	--	--	--	--
07/22/88	28.1	172.6	26.6	11.7	4.4	242.9	0.0
07/23/88	27.9	172.6	26.0	12.0	4.1	233.8	0.0
07/24/88	28.2	164.7	25.3	12.8	3.1	228.4	0.0
07/25/88	28.1	162.7	25.3	12.9	2.9	222.4	0.0
07/26/88	26.3	118.4	24.3	16.6	3.1	224.5	0.0
07/27/88	25.0	101.0	23.4	24.3	2.5	212.2	0.0

Table 17. Daily summaries of selected meteorological data at the test trench area—continued

Date	Mean soil surface temperature (Celsius)	Mean net radiation (w/m ²)	Mean air temperature 2 meters above land surface (Celsius)	Mean relative humidity 2 meters above land surface (percent)	Mean wind speed 2 meters above land surface (m/s)	Mean wind direction (degrees)	Daily total precipitation (millimeter)
07/28/88	26.0	137.9	23.4	33.2	2.6	195.5	0.0
07/29/88	28.1	150.6	24.9	15.1	2.1	208.2	0.0
07/30/88	28.8	152.5	25.7	14.6	2.5	211.9	0.0
07/31/88	28.3	157.9	25.7	13.7	3.5	241.3	0.0
08/01/88	25.0	164.3	23.6	17.6	6.3	244.8	0.0
08/02/88	23.3	160.4	19.8	14.2	3.5	233.6	0.0
08/03/88	23.4	150.8	20.3	14.0	3.3	218.7	0.0
08/04/88	22.1	150.7	18.8	14.6	2.1	208.8	0.0
08/05/88	24.9	154.1	21.9	14.1	3.5	187.0	0.0
08/06/88	23.5	167.1	20.8	33.5	5.0	226.6	0.0
08/07/88	23.2	143.4	20.2	27.2	3.9	235.3	0.0
08/08/88	22.3	149.0	19.3	29.1	2.8	208.9	0.0
08/09/88	23.4	145.3	20.9	15.2	2.8	217.4	0.0
08/10/88	24.1	139.7	22.0	14.0	2.8	219.4	0.0
08/11/88	24.7	149.1	22.0	15.5	3.1	192.2	0.0
08/12/88	16.8	56.7	16.9	57.1	3.0	177.8	3.8
08/13/88	20.1	146.7	19.0	41.5	3.0	156.5	0.0
08/14/88	21.7	141.5	20.0	25.5	2.4	173.3	0.0
08/15/88	21.6	128.6	19.3	17.4	3.7	221.2	0.0
08/16/88	21.4	141.6	18.4	25.8	2.6	225.2	0.0
08/17/88	21.7	137.2	20.2	18.0	2.7	161.6	0.0
08/18/88	21.6	110.8	20.0	15.1	3.9	225.4	0.0
08/19/88	22.2	118.8	20.6	16.4	3.2	213.2	0.0
08/20/88	22.0	69.9	21.5	13.7	6.3	250.9	0.0
08/21/88	19.9	126.8	17.6	15.3	2.3	202.2	0.0
08/22/88	18.9	125.0	17.0	15.5	1.6	220.6	0.0
08/23/88	19.9	125.2	18.8	14.7	1.6	204.2	0.0
08/24/88	22.8	124.7	21.4	13.5	1.8	198.3	0.0
08/25/88	25.1	108.3	23.8	12.9	2.8	213.2	0.0
08/26/88	24.2	107.0	22.8	14.2	3.4	192.5	0.0

Table 17. Daily summaries of selected meteorological data at the test trench area—continued

Date	Mean soil surface temperature (Celsius)	Mean net radiation (w/m ²)	Mean air temperature 2 meters above land surface (Celsius)	Mean relative humidity 2 meters above land surface (percent)	Mean wind speed 2 meters above land surface (m/s)	Mean wind direction (degrees)	Daily total precipitation (millimeter)
08/27/88	19.9	99.3	19.2	21.1	3.2	77.2	0.0
08/28/88	19.4	111.5	18.4	15.8	1.7	154.5	0.0
08/29/88	20.6	104.3	19.3	14.9	2.3	195.6	0.0
08/30/88	21.6	83.2	21.1	14.2	4.2	218.6	0.0
08/31/88	19.8	107.7	19.0	14.6	1.8	202.2	0.0
09/01/88	18.5	99.1	18.4	14.8	1.6	142.4	0.0
09/02/88	18.1	86.1	18.7	14.6	2.0	138.2	0.0
09/03/88	15.5	29.4	17.5	15.2	1.7	154.5	0.0
09/04/88	19.5	81.9	19.7	15.7	2.0	121.3	0.0
09/05/88	19.6	80.5	19.2	16.0	2.1	208.9	0.0
09/06/88	20.5	60.6	21.0	15.5	4.0	228.4	0.0
09/07/88	19.9	38.6	20.7	14.1	5.8	239.5	0.0
09/08/88	15.5	71.8	15.5	15.6	2.4	202.4	0.0
09/09/88	18.4	81.9	17.9	15.0	2.6	206.9	0.0
09/10/88	15.8	22.4	15.7	15.9	6.8	220.3	0.0
09/11/88	6.1	55.7	6.1	40.7	3.2	139.0	2.0
09/12/88	10.4	83.2	9.8	31.2	3.3	57.5	0.0
09/13/88	12.9	34.3	12.3	40.9	4.0	61.0	0.0
09/14/88	14.9	82.4	13.9	47.3	1.8	195.8	0.0
09/15/88	14.3	89.8	13.2	38.4	2.2	210.9	0.0
09/16/88	12.7	32.6	13.2	28.4	2.9	205.8	0.0
09/17/88	10.6	39.0	10.1	23.7	5.5	231.7	0.0
09/18/88	7.4	64.2	5.5	21.9	2.1	226.6	0.0
09/19/88	8.4	55.6	5.6	47.2	2.8	175.9	1.3
09/20/88	8.7	23.5	7.0	84.6	1.5	111.1	3.0
09/21/88	11.0	109.7	10.0	63.0	2.0	199.1	0.0
09/22/88	12.0	98.4	11.0	54.6	2.9	208.6	0.0
09/23/88	11.5	74.2	11.0	34.6	3.5	222.7	0.0
09/24/88	13.4	64.9	13.7	26.3	3.8	243.7	0.0
09/25/88	--	--	--	--	--	--	--

Table 17. Daily summaries of selected meteorological data at the test trench area—continued

Date	Mean soil surface temperature (Celsius)	Mean net radiation (w/m ²)	Mean air temperature 2 meters above land surface (Celsius)	Mean relative humidity 2 meters above land surface (percent)	Mean wind speed 2 meters above land surface (m/s)	Mean wind direction (degrees)	Daily total precipitation (millimeter)
09/26/88	--	--	--	--	--	--	--
09/27/88	--	--	--	--	--	--	--
09/28/88	--	--	--	--	--	--	--
09/29/88	--	--	--	--	--	--	--
09/30/88	13.4	71.2	13.5	32.8	1.7	224.3	0.0
10/01/88	14.1	68.9	14.6	28.8	1.6	202.5	0.0
10/02/88	13.3	61.2	13.9	26.5	1.5	208.4	0.0
10/03/88	12.9	52.5	13.5	23.0	1.4	168.5	0.0
10/04/88	13.4	51.4	13.4	23.4	1.6	188.2	0.0
10/05/88	13.0	55.7	14.0	21.0	1.5	146.8	0.0
10/06/88	10.6	52.0	11.7	19.2	1.5	150.7	0.0
10/07/88	11.1	52.4	11.4	18.5	1.3	202.8	0.0
10/08/88	12.7	50.2	13.3	19.5	1.4	197.9	0.0
10/09/88	13.4	31.5	14.8	17.3	3.0	123.5	0.0
10/10/88	10.1	43.5	11.2	23.7	1.6	140.4	0.0
10/11/88	9.4	43.1	10.0	20.7	1.2	196.5	0.0
10/12/88	9.3	36.8	8.5	31.1	2.1	196.8	0.0
10/13/88	9.8	44.0	9.5	57.7	1.5	168.5	0.0
10/14/88	10.0	4.6	10.1	43.9	3.7	226.5	0.0
10/15/88	11.3	9.0	11.9	42.0	5.1	234.7	0.0
10/16/88	13.1	7.0	14.3	40.6	5.2	230.9	0.0
10/17/88	13.2	30.4	14.0	40.7	2.8	203.7	0.0
10/18/88	10.5	36.2	10.4	41.9	2.1	206.6	0.0
10/19/88	12.0	31.4	12.8	40.1	2.6	222.9	0.0
10/20/88	7.9	36.4	8.0	56.4	1.6	211.0	0.0
10/21/88	8.8	33.2	8.9	46.9	2.3	197.2	0.0
10/22/88	9.6	4.7	11.2	31.7	4.3	229.4	0.0
10/23/88	7.4	31.3	7.7	33.6	1.8	206.1	0.0
10/24/88	7.2	18.5	7.5	34.1	1.7	223.8	0.0
10/25/88	9.9	18.5	10.1	33.1	2.4	222.6	0.0

Table 17. Daily summaries of selected meteorological data at the test trench area—continued

Date	Mean soil surface temperature (Celsius)	Mean net radiation (w/m ²)	Mean air temperature 2 meters above land surface (Celsius)	Mean relative humidity 2 meters above land surface (percent)	Mean wind speed 2 meters above land surface (m/s)	Mean wind direction (degrees)	Daily total precipitation (millimeter)
10/26/88	7.6	-4.0	9.6	33.1	4.3	246.2	0.0
10/27/88	4.1	27.5	4.3	27.7	1.4	158.3	0.0
10/28/88	6.7	22.6	5.9	24.5	2.1	201.2	0.0
10/29/88	6.3	22.0	6.9	21.4	1.1	211.6	0.0
10/30/88	6.2	27.9	6.9	27.1	1.7	232.2	0.0
10/31/88	4.4	28.8	5.5	31.9	1.2	198.0	0.0
11/01/88	6.2	21.5	6.2	32.0	2.4	210.7	0.0
11/02/88	7.7	-0.7	7.8	56.6	6.9	233.0	0.0
11/03/88	7.3	-2.3	7.4	72.3	6.2	253.8	0.0
11/04/88	3.5	2.0	4.2	4.7	3.2	259.3	0.0
11/05/88	3.2	33.2	1.6	56.6	1.1	147.1	0.0
11/06/88	3.7	-9.6	3.2	57.5	4.7	244.3	0.0
11/07/88	1.6	31.6	-0.3	61.0	1.1	155.3	1.5
11/08/88	0.0	--	--	--	--	--	0.0
11/09/88	0.0	--	--	--	--	--	0.0
11/10/88	0.0	--	1.9	85.4	--	--	2.8
11/11/88	0.0	--	0.7	72.8	--	--	0.0
11/12/88	0.0	--	-0.1	85.8	--	--	2.8
11/13/88	0.0	--	0.1	86.7	--	--	8.9
11/14/88	0.0	--	-1.0	84.4	--	--	0.5
11/15/88	0.0	--	-8.5	81.6	--	--	0.0
11/16/88	0.0	--	-5.2	84.3	--	--	0.0
11/17/88	0.0	--	-1.3	85.2	--	--	2.0
11/18/88	0.0	--	-6.0	84.7	--	--	0.3
11/19/88	0.0	--	-6.4	86.0	--	--	0.0
11/20/88	0.0	--	-5.9	85.8	--	--	0.0
11/21/88	0.0	--	-6.3	85.7	--	--	0.0
11/22/88	0.0	--	1.9	84.4	--	--	0.8
11/23/88	0.0	--	2.4	83.9	--	--	4.1
11/24/88	0.0	--	-4.7	82.3	--	--	0.0

Table 17. Daily summaries of selected meteorological data at the test trench area—continued

Date	Mean soil surface temperature (Celsius)	Mean net radiation (w/m ²)	Mean air temperature 2 meters above land surface (Celsius)	Mean relative humidity 2 meters above land surface (percent)	Mean wind speed 2 meters above land surface (m/s)	Mean wind direction (degrees)	Daily total precipitation (millimeter)
11/25/88	0.0	--	-7.6	85.1	--	--	0.0
11/26/88	0.0	--	-8.2	79.8	--	--	0.0
11/27/88	0.0	--	-9.2	73.2	--	--	0.0
11/28/88	0.0	--	-5.2	81.3	--	--	2.0
11/29/88	0.0	--	-8.8	82.6	--	--	0.0
11/30/88	0.0	--	-8.3	86.5	--	--	0.0
12/01/88	0.0	--	-10.4	83.2	--	--	0.0
12/02/88	0.0	--	-10.0	72.8	--	--	0.0
12/03/88	0.0	--	-6.3	72.6	--	--	0.0
12/04/88	0.0	--	-8.1	73.5	--	--	0.0
12/05/88	0.0	--	-9.0	74.5	--	--	0.0
12/06/88	0.0	--	-9.2	82.9	--	--	0.0
12/07/88	0.0	--	-7.8	85.4	--	--	0.0
12/08/88	0.0	--	-10.8	85.7	--	--	0.0
12/09/88	0.0	--	-6.2	86.0	--	--	0.0
12/10/88	0.0	--	-4.1	85.8	--	--	0.0
12/11/88	0.0	--	-4.3	85.9	--	--	0.0
12/12/88	0.0	--	-2.6	85.2	--	--	0.0
12/13/88	0.0	--	-0.7	79.8	--	--	0.0
12/14/88	0.0	--	-5.2	63.8	--	--	0.0
12/15/88	0.0	--	-10.7	52.7	--	--	0.0
12/16/88	0.0	--	-11.4	62.4	--	--	0.0
12/17/88	0.0	--	-10.0	69.6	--	--	0.0
12/18/88	0.0	--	-9.5	66.7	--	--	0.0
12/19/88	0.0	--	-10.4	81.5	--	--	0.0
12/20/88	0.0	--	-10.4	81.5	--	--	0.0
12/21/88	0.0	--	-7.2	86.0	--	--	2.0
12/22/88	0.0	--	-3.3	83.3	--	--	0.5
12/23/88	0.0	--	-9.9	82.8	--	--	0.8
12/24/88	0.0	--	-9.5	82.3	--	--	0.0

Table 17. Daily summaries of selected meteorological data at the test trench area—continued

Date	Mean soil surface temperature (Celsius)	Mean net radiation (w/m ²)	Mean air temperature 2 meters above land surface (Celsius)	Mean relative humidity 2 meters above land surface (percent)	Mean wind speed 2 meters above land surface (m/s)	Mean wind direction (degrees)	Daily total precipitation (millimeter)
12/25/88	0.0	--	-10.1	84.8	--	--	0.0
12/26/88	0.0	--	-6.2	85.7	--	--	1.5
12/27/88	0.0	--	-16.3	80.2	--	--	0.0
12/28/88	0.0	--	-20.5	77.7	--	--	0.0
12/29/88	0.0	--	-17.4	80.2	--	--	0.0
12/30/88	0.0	--	-17.4	80.9	--	--	0.0
12/31/88	10.0	--	-12.0	83.2	--	--	0.0

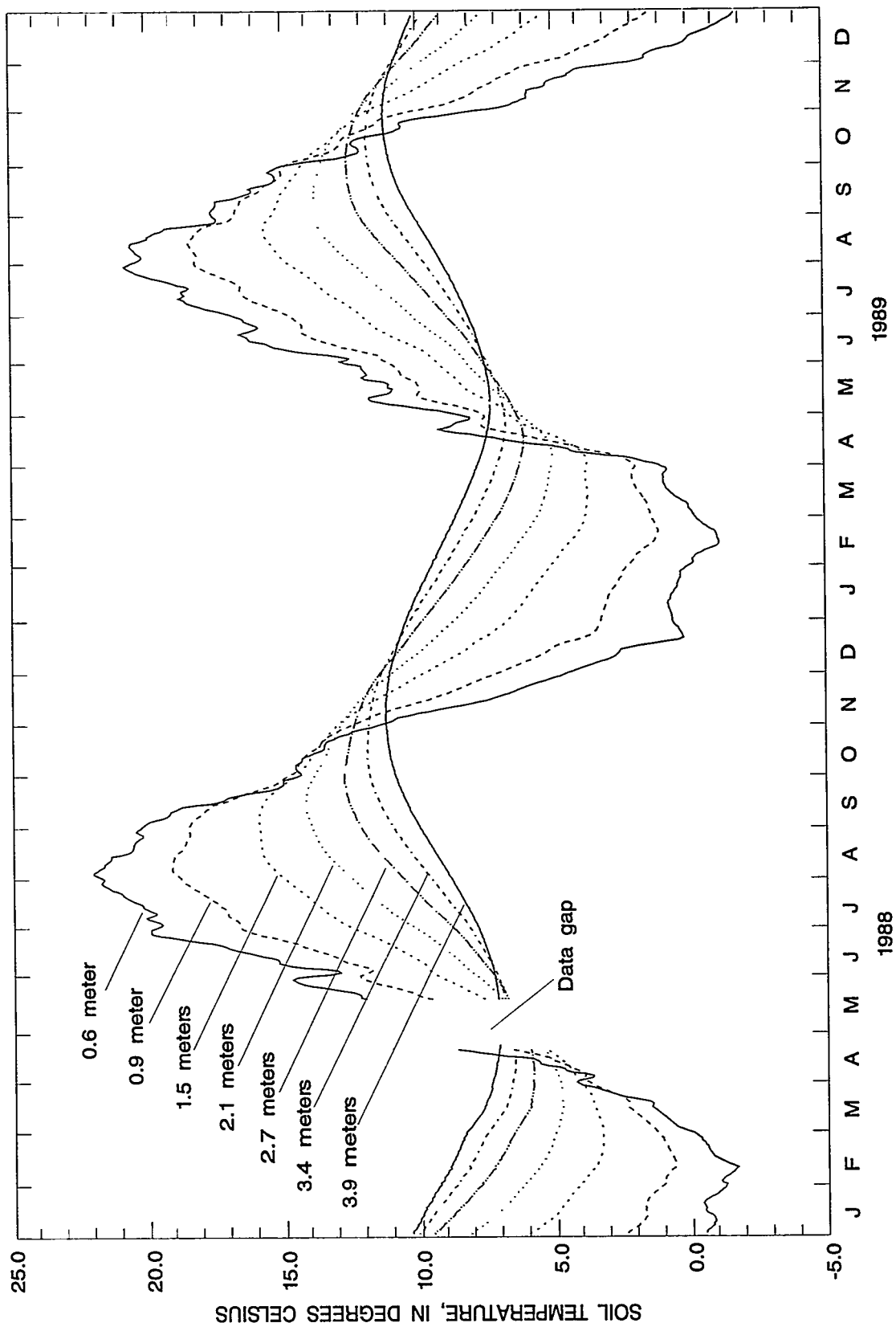


Figure 5.—Variation of soil temperature with depth and time in undisturbed soil at the east test trench.

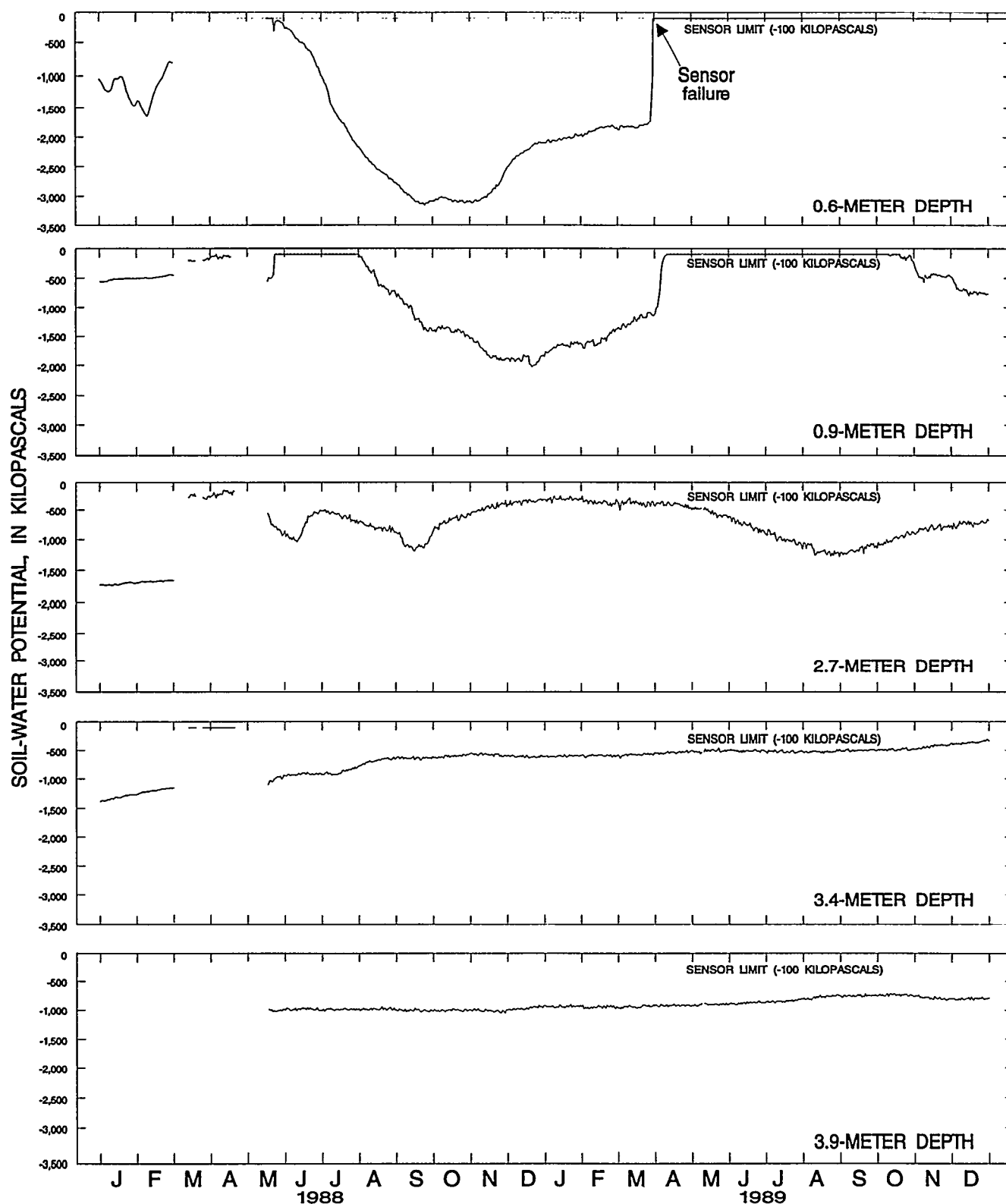


Figure 6.—Variation of soil-water potential with time and at selected depths in undisturbed soil at the east test trench.

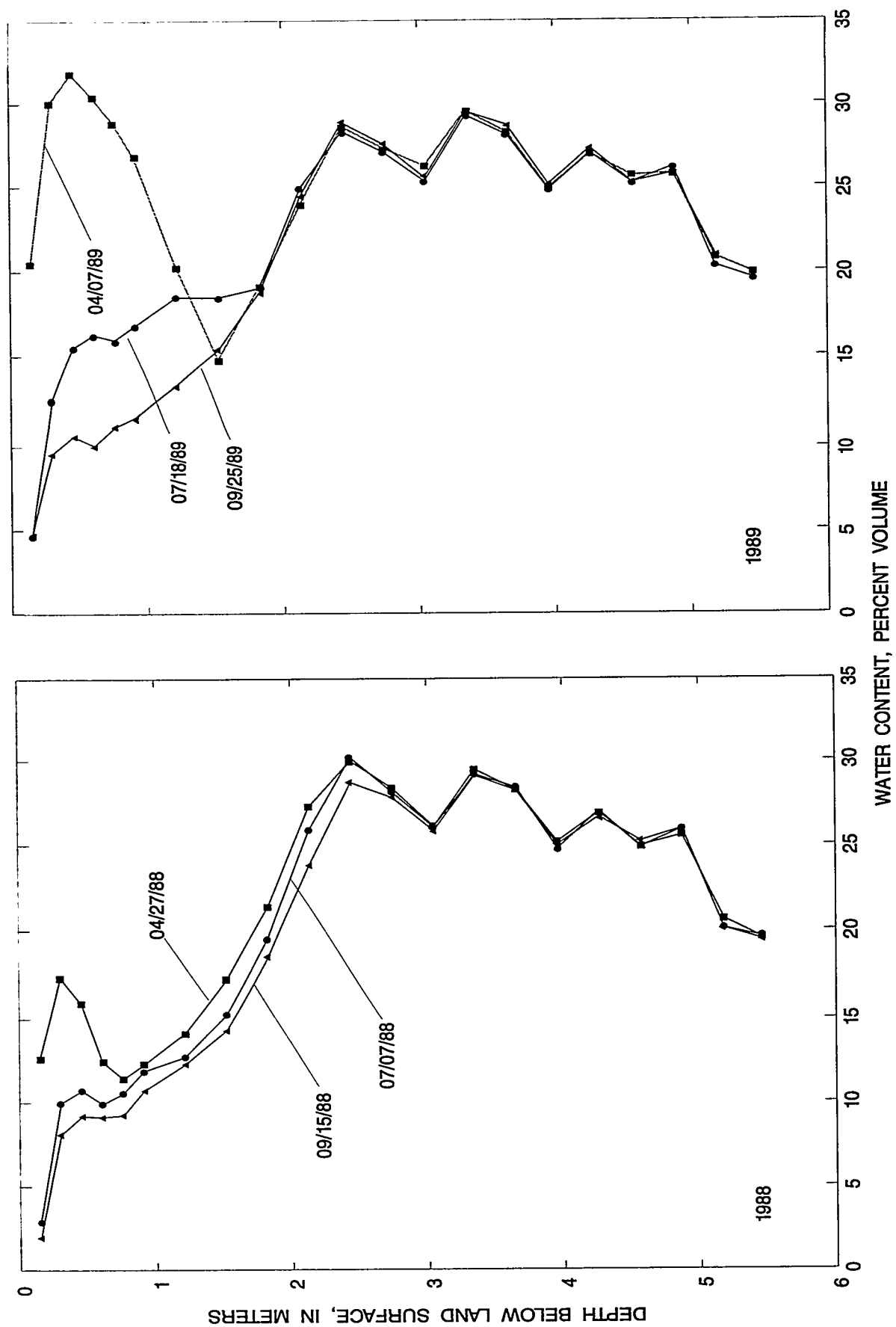


Figure 7.—Variation of volumetric soil-water content at selected depths and times at neutron-probe access hole 1.

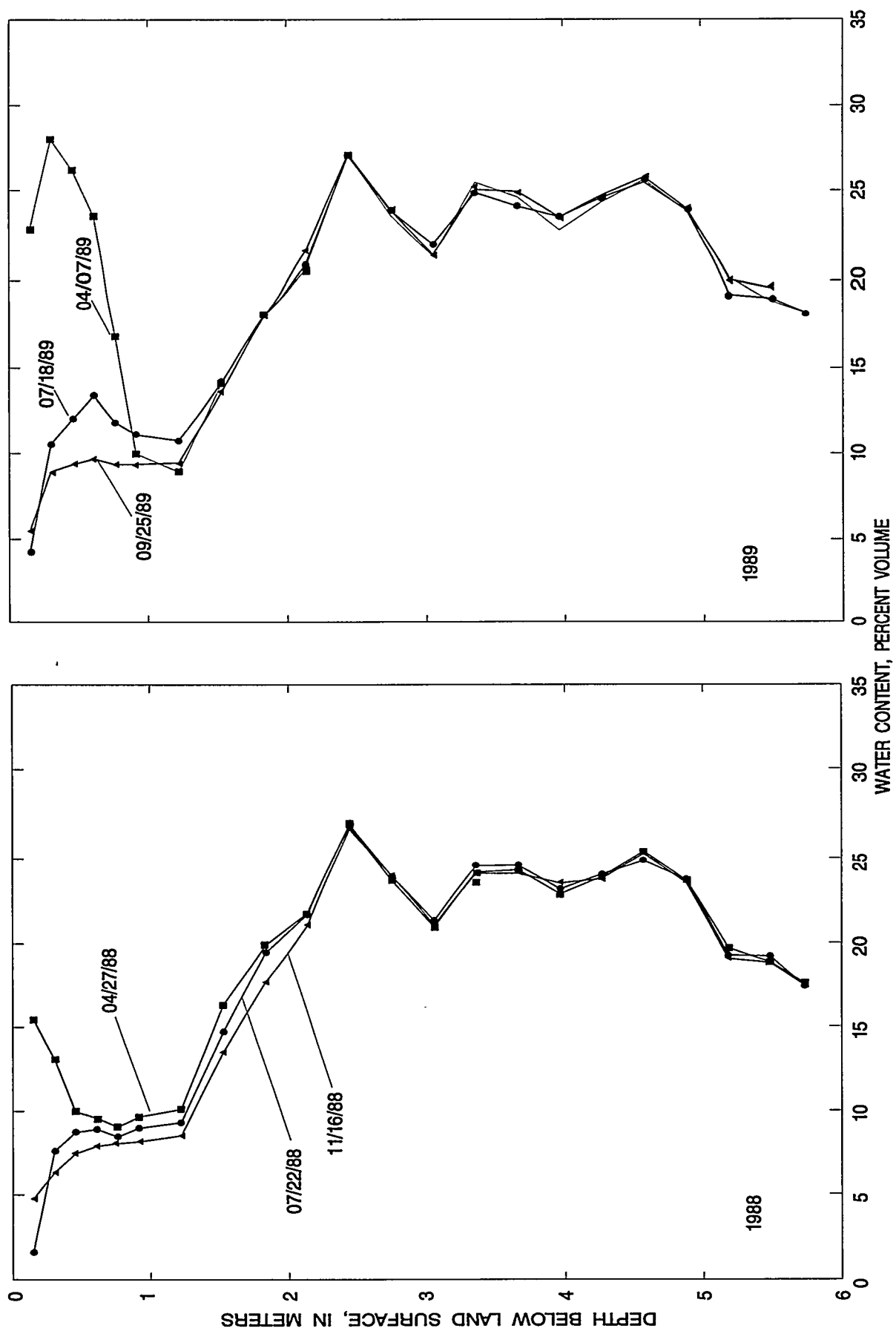


Figure 8.—Variation of volumetric soil-water content at selected depths and times at neutron-probe access hole 2.

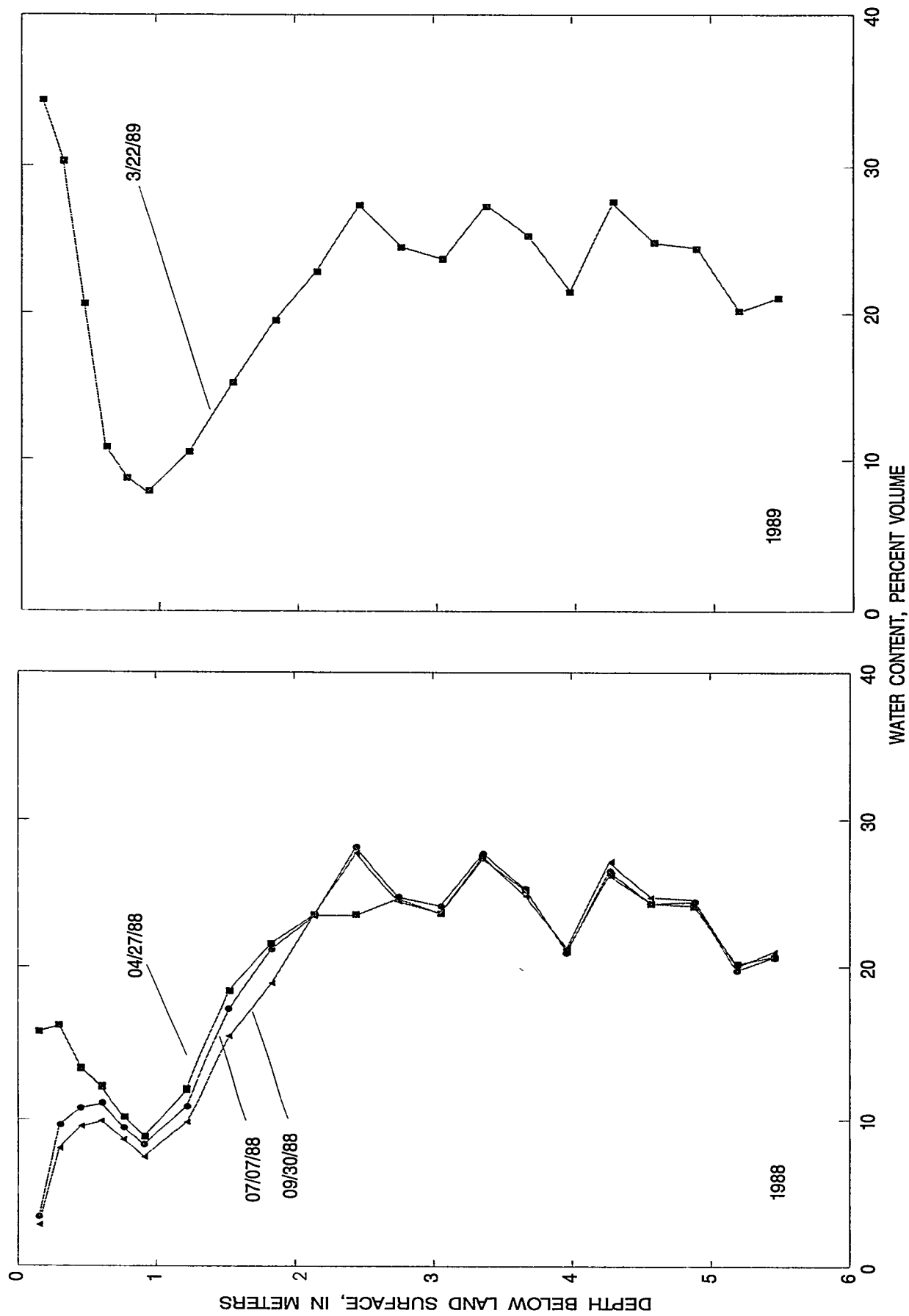


Figure 9.—Variation of volumetric soil-water content at selected depths and times at neutron probe access hole 3.

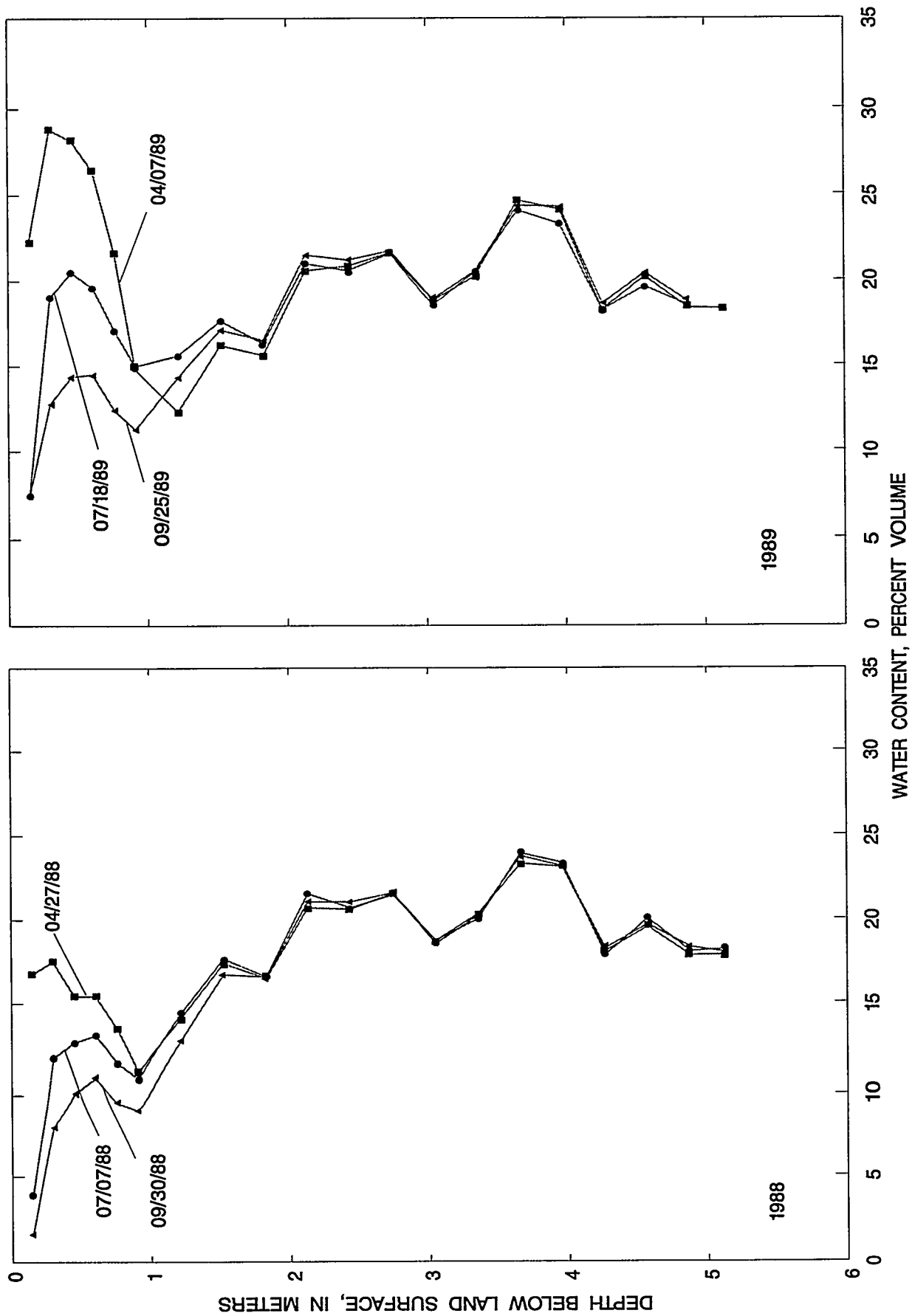


Figure 10.—Variation of volumetric soil-water content at selected depths and times at neutron-probe access hole 4.

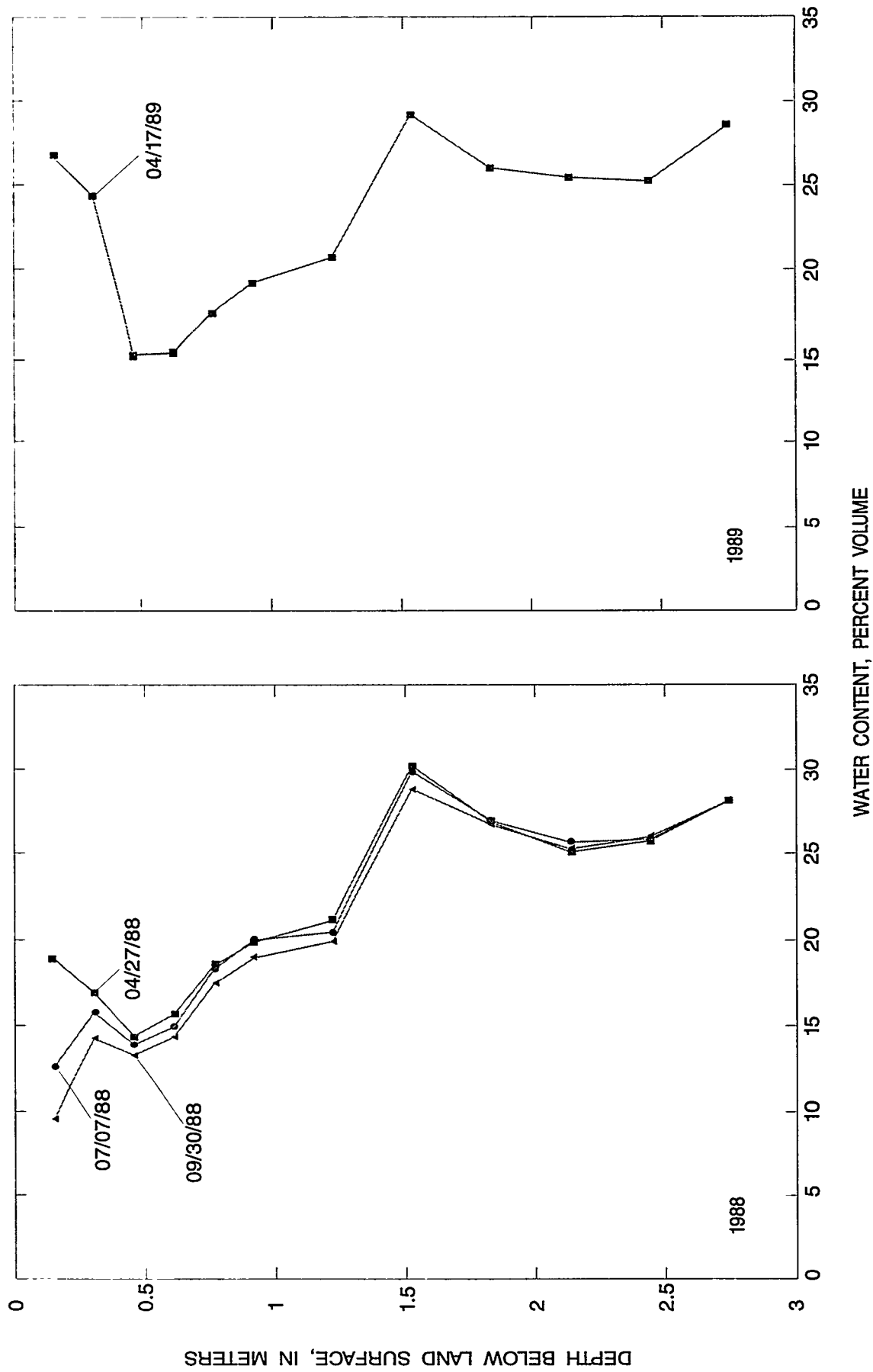


Figure 11.—Variation of volumetric soil-water content at selected depths and times at neutron-probe access hole 5.

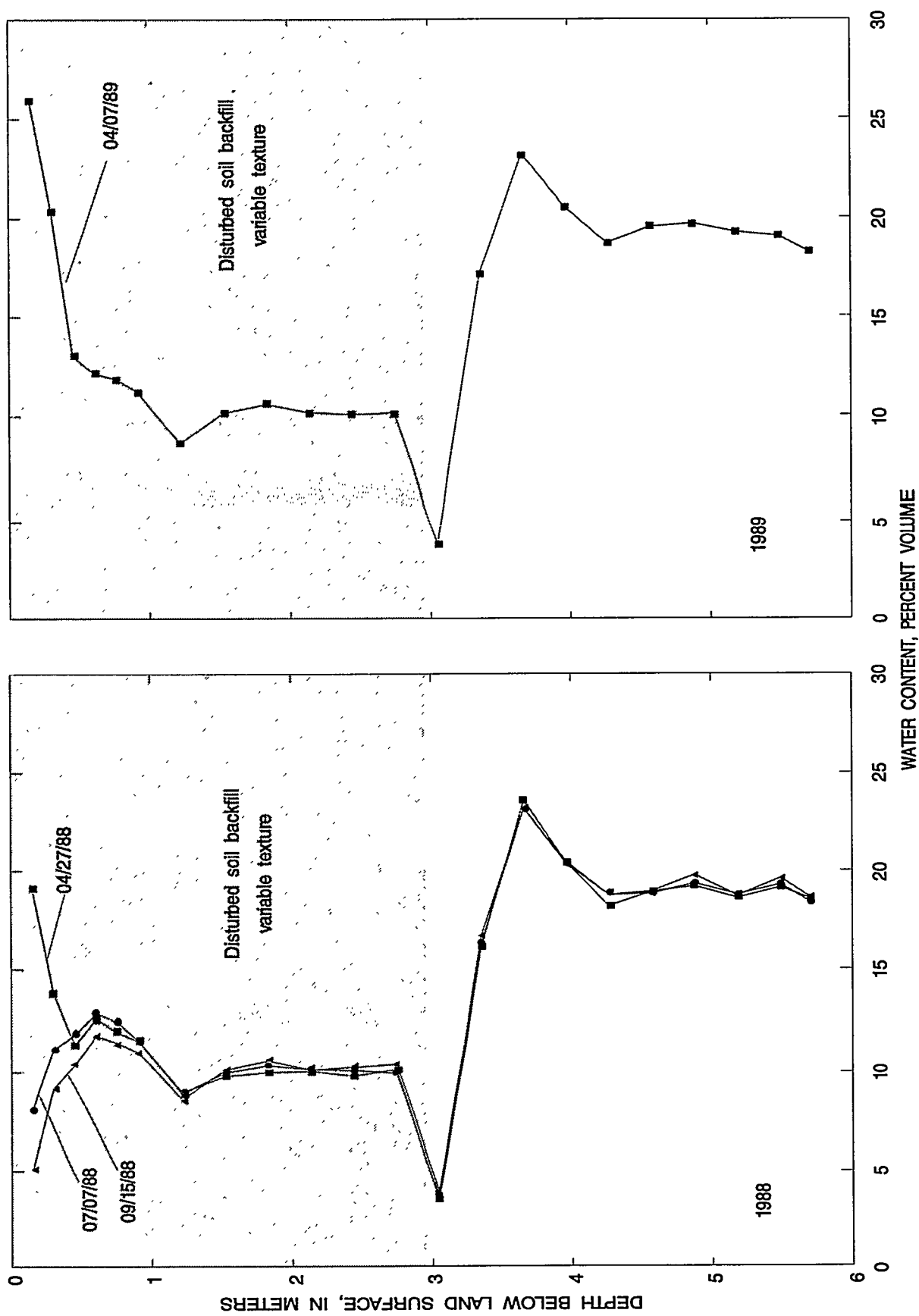


Figure 12.—Variation of volumetric soil-water content at selected depths and times at neutron-probe access hole 6.

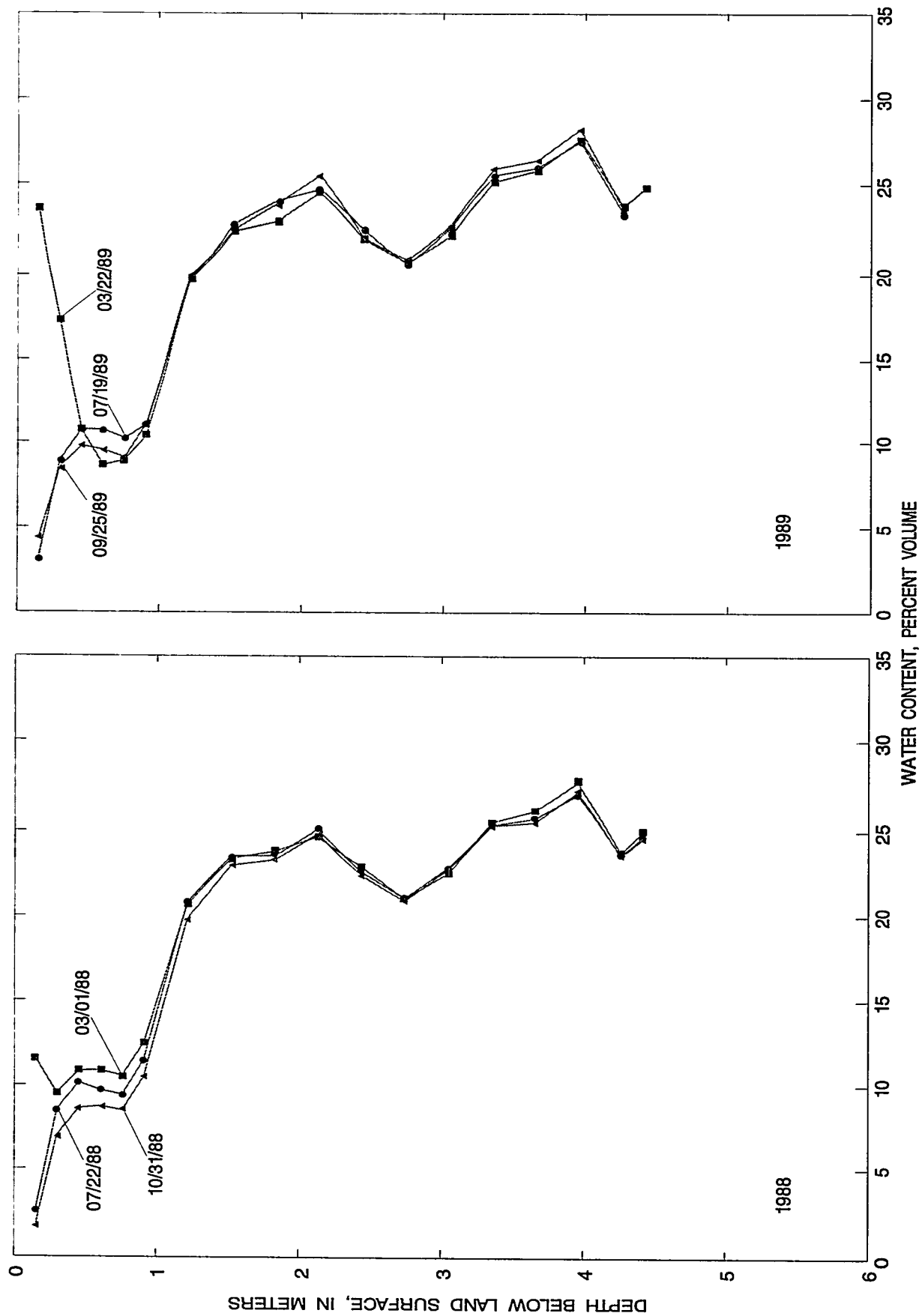


Figure 13.—Variation of volumetric soil-water content at selected depths and times at neutron-probe access hole 7.

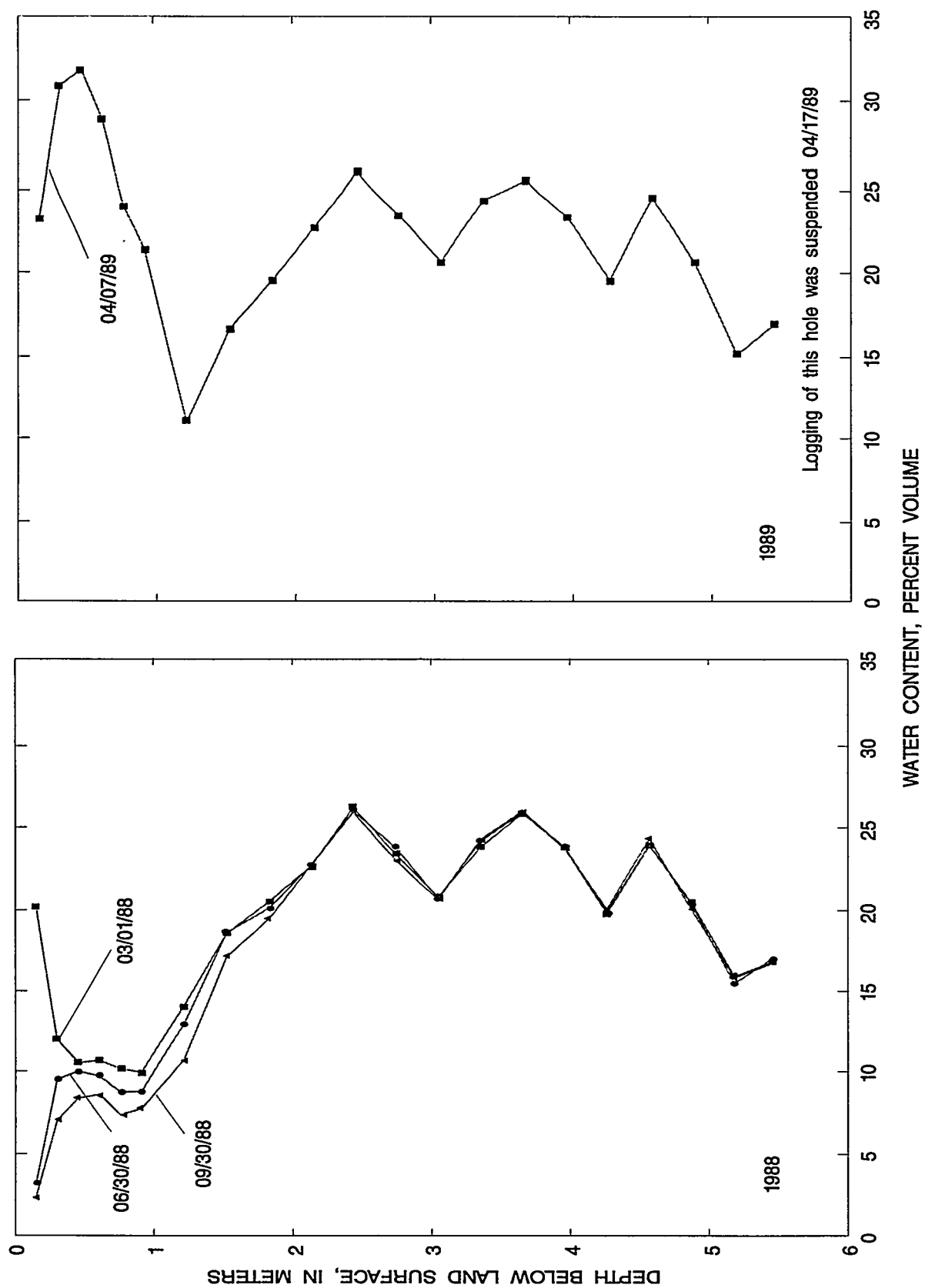


Figure 14.—Variation of volumetric soil-water content at selected depths and times at neutron-probe access hole 8.

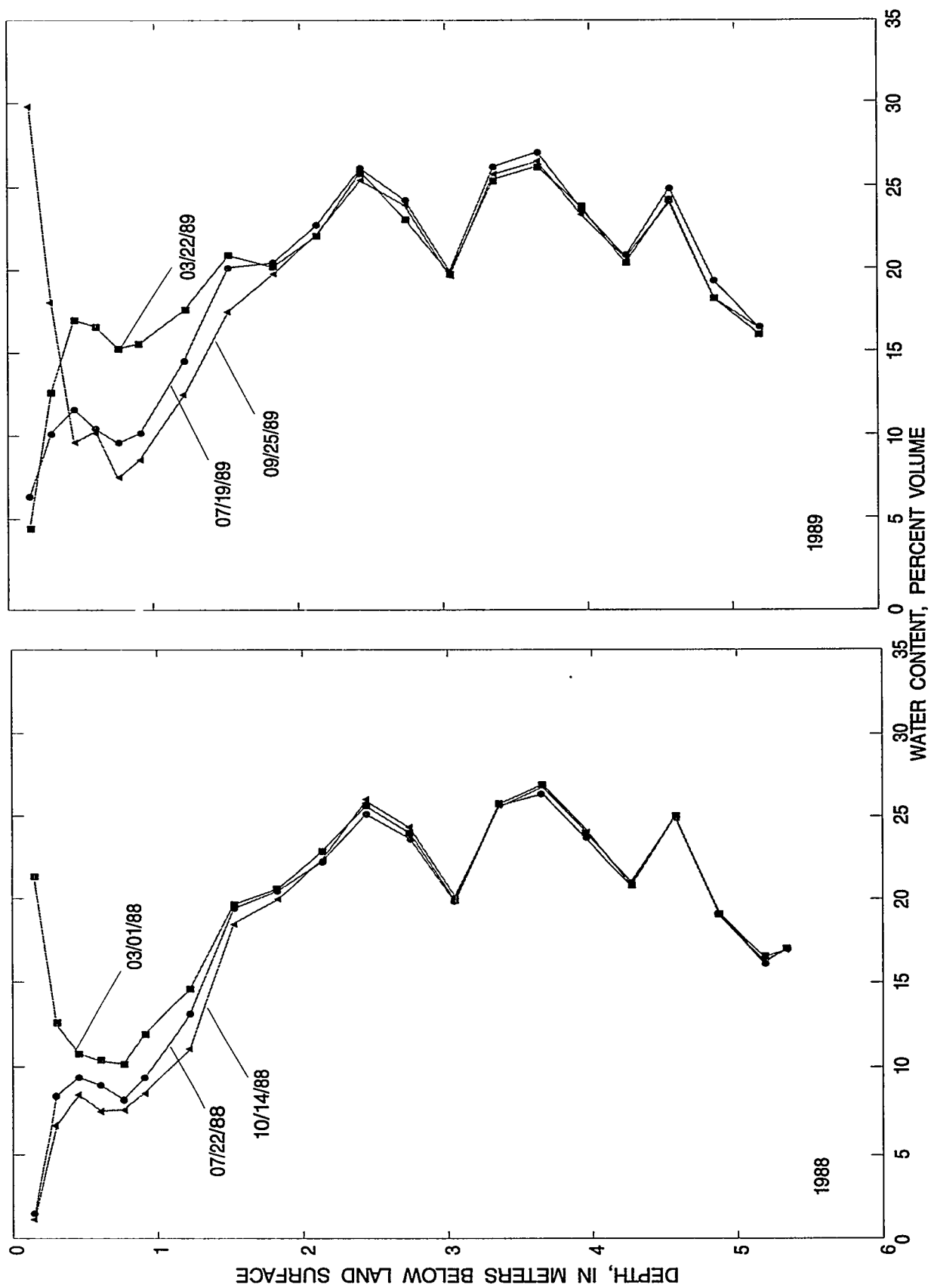


Figure 15.—Variation of volumetric soil-water content at selected depths and times at neutron-probe access hole 9.

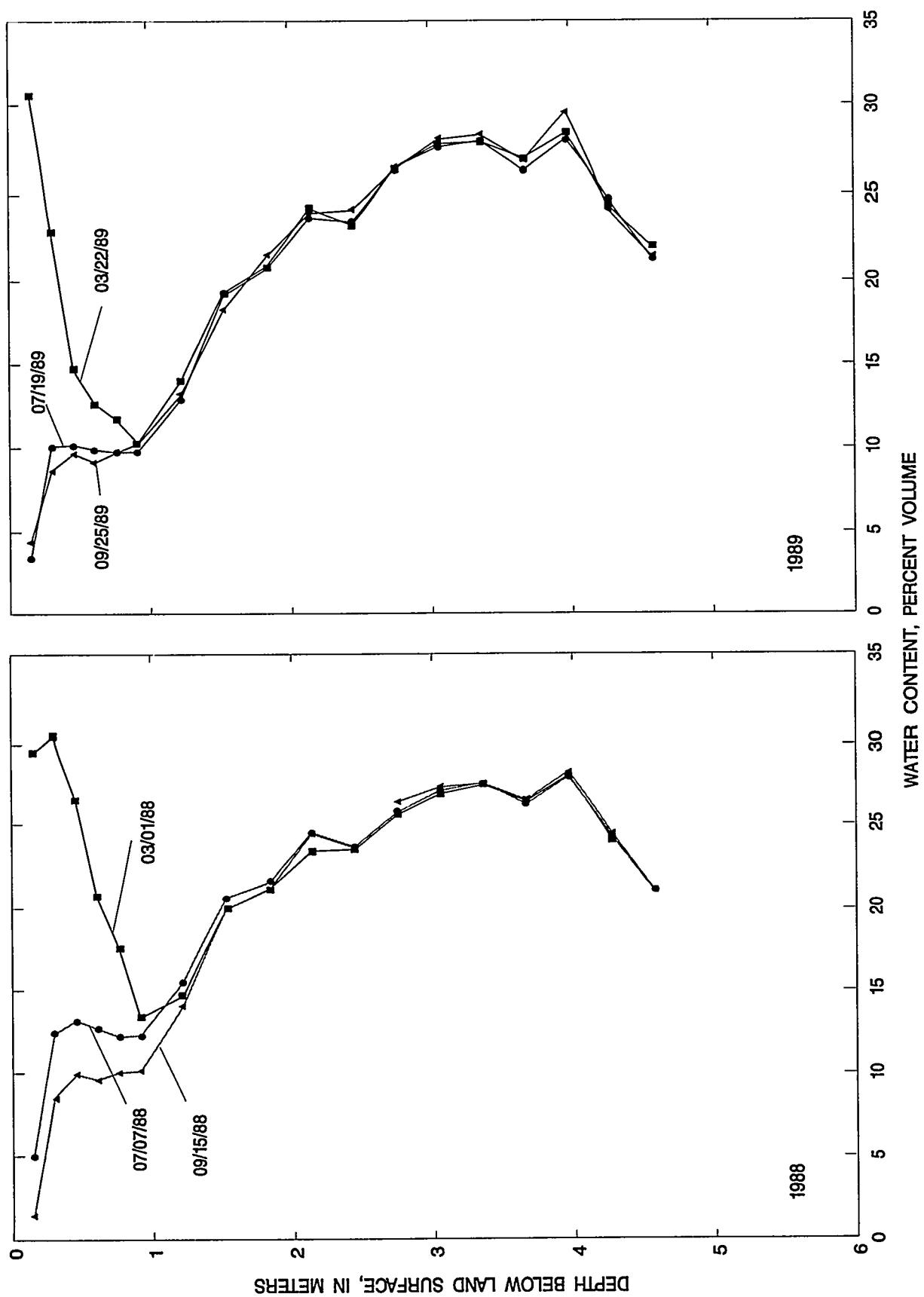


Figure 16.-Variation of volumetric soil-water content at selected depths and times at neutron-probe access hole 10.

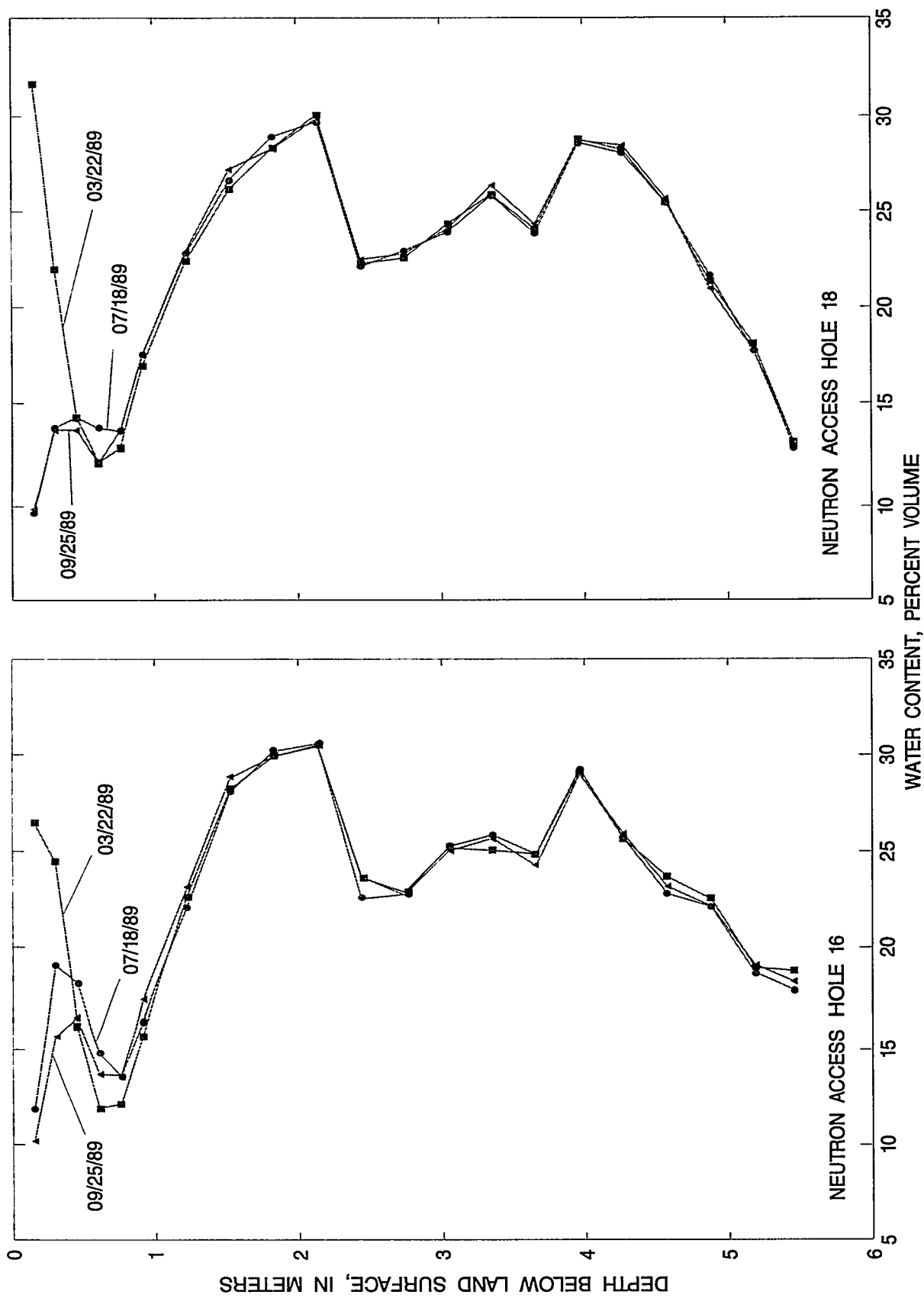


Figure 17.—Variation of volumetric soil-water content at selected depths and times at neutron-probe access holes 16 and 18.

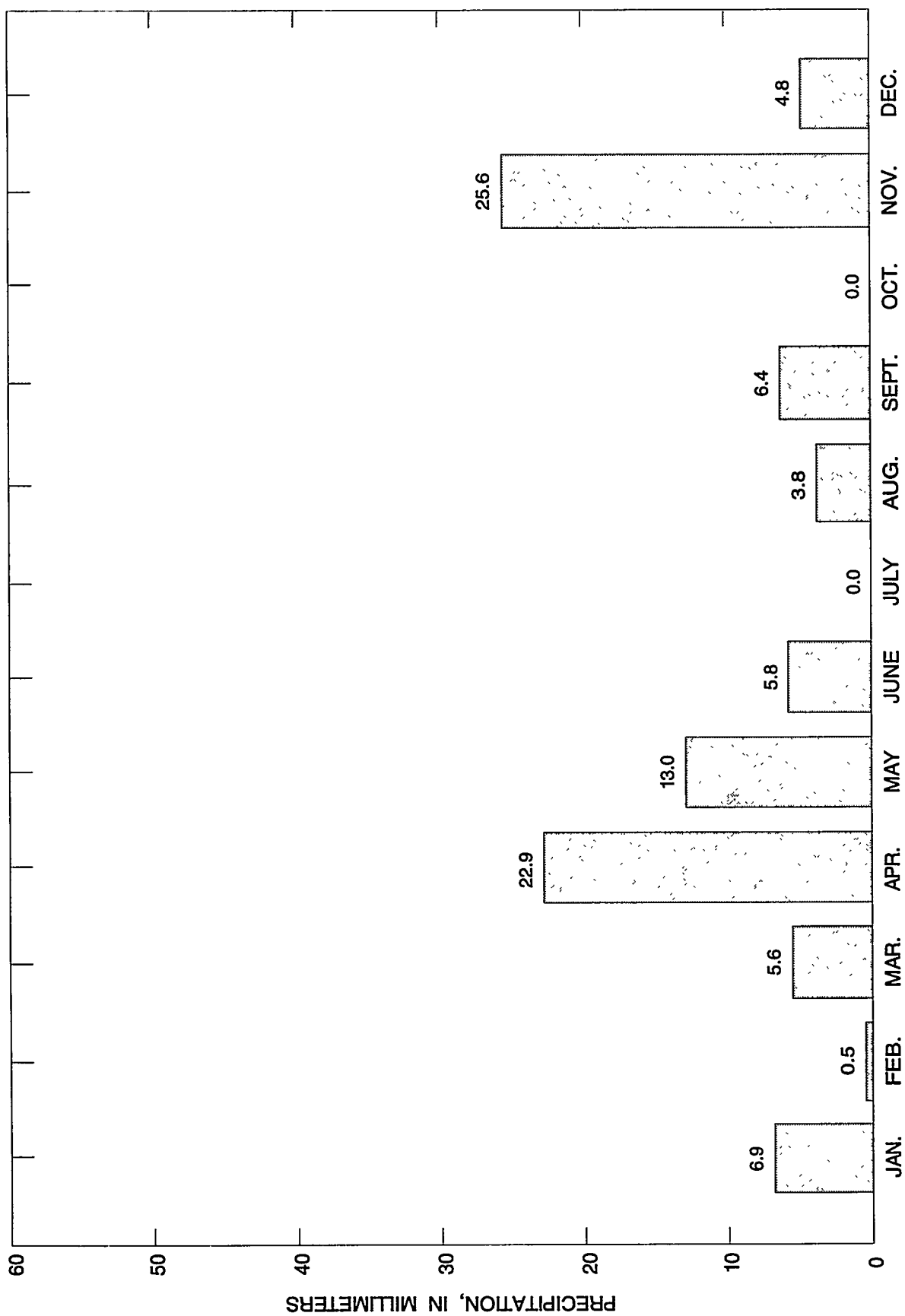


Figure 18.—Precipitation at the test trench area during 1988.

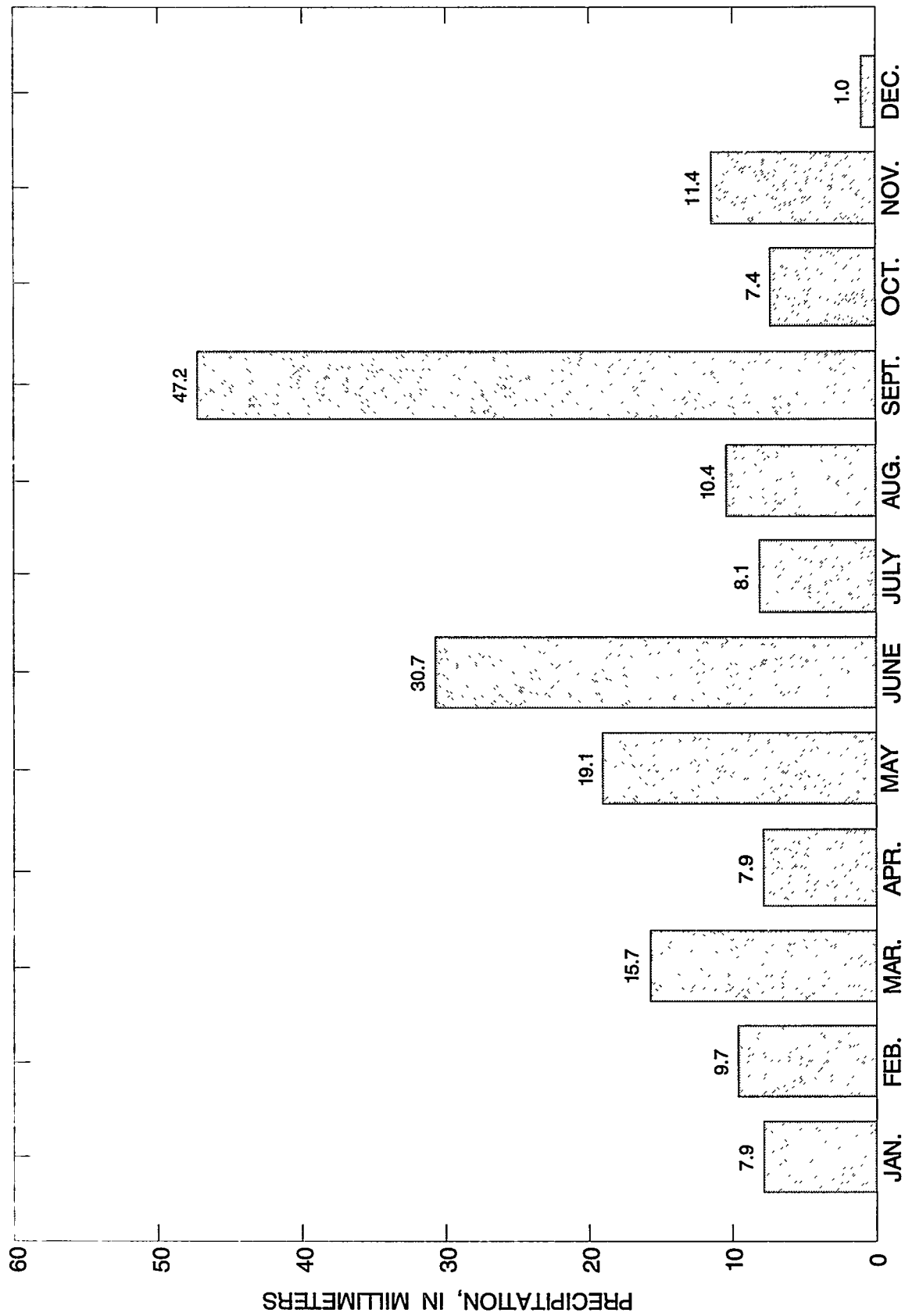


Figure 19.—Precipitation at the Central Facilities Area during 1989.