CONTENTS

PLATE [In pocket]

FIGURES

TABLES

CONVERSION FACTORS

[SI = International System of units, a modernized metric system of measurement]

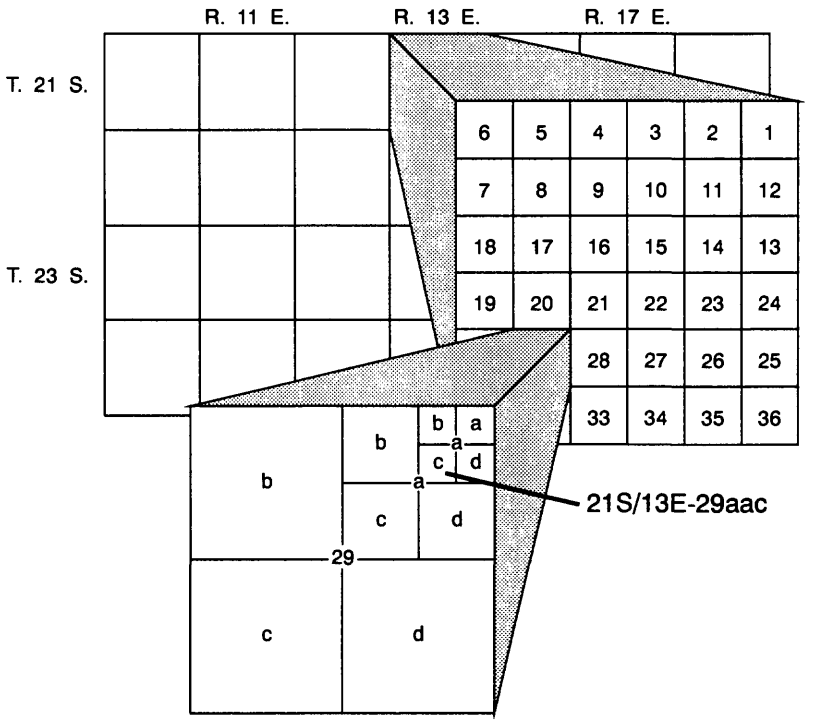
Multiply	By	To obtain
A. Factors for converting SI metric units to inch/pound units		
	LENGTH	
centimeter (cm)	0.3937	inch (in.)
millimeter (mm)	0.03937	inch
meter (m)	3.281	foot (ft)
	1.094	yard (yd)
	VOLUME	
milliliter (mL)	0.001057	quart (qt)
liter (L)	1.057	quart
liter	0.2642	gallon (gal)
	MASS	
gram (g)	0.03527	ounce (oz avoirdupois)
kilogram (kg)	2.205	pound (lb avoirdupois)
	TEMPERATURE	
degree Celsius (°C)	Temp degree F = 1.8 (Temp degree C) + 32	degree Fahrenheit (°F)
B. Factor for converting inch/pound units to SI metric units.		
	VOLUME PER UNIT TIME (FLOW)	
cubic foot per second (ft^3/s)	0.02832	meter per second (m^3/s)
acre	4,047	cubic meter (m^3)
C. Factors for converting SI metric units to other miscellaneous units		
	CONCENTRATION, IN WATER	
milligrams per liter (mg/L)	1	parts per million (ppm)
micrograms per liter (µg/L)	1	parts per billion
nanograms per liter (ng/L)	1	parts per trillion (ppt)
nanograms per liter	0.000001	parts per million
	CONCENTRATION, IN BED SEDIMENT	
micrograms per kilogram (µg/kg)	1	parts per billion (ppb)
micrograms per kilogram (µg/kg)	0.001	parts per million
	CONCENTRATION, IN TISSUE	
micrograms per gram (µg/g)	1	parts per million
micrograms per kilogram (µg/kg	1	parts per billion
nanograms per kilogram (ng/kg)	1	parts per trillion

Electrical conductivity is measured as specific electrical conductance, in units of microsiemens per centimeter (µS/cm) at 25 degrees Celsius.

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

WELL-NUMBERING SYSTEM

The well-numbering system used in this report is based on the rectangular system for subdivision of public land. Each "number" (actually number-letter designation) indicates the location of the well with respect to township, range, and section. Number 21S/13E-29aac indicates a well in T. 21 S., R. 13 E., sec. 29. Townships shown in this region are numbered south and east of the Willamette Baseline and Meridian (for example 21S/13E). The letters show the location within the section; the first letter (a) identifies the quarter section (160 acres); the second letter (a), identifies the quarter-quarter section (40 acres); and the third letter (c) identifies the quarter-quarter-quarter section (10 acres). Well 29aac is in the SW quarter of the NE quarter of the NE quarter of section 29, township 21 south, range 13 east (see figure below). Where more than one well is located within a 10-acre tract, a serial number is added following the letter sequence to distinguish them. Springs are numbered in the same manner, except that the letter "s" is added after the final letter.



Hydrologic, Water-Quality, and Meteorologic Data for Newberry Volcano and Vicinity, Deschutes County, Oregon, 1991–93

By Milo D. Crumrine *and* David S. Morgan

Abstract

This report is a compilation of hydrologic, water-quality, and meteorologic data collected in the vicinity of Newberry Volcano near Bend, Oregon. These data were collected, in cooperation with the Bonneville Power Administration, the U.S. Forest Service, and the Bureau of Land Management, to provide baseline data for identifying and assessing the effects of proposed geothermal development in the vicinity of Newberry Volcano. Types of data collected include ground-water levels, lake levels, streamflow, water quality, and meteorologic measurements. Sites that were monitored include: (1) two thermal wells in the caldera, (2) several nonthermal wells in the caldera, (3) four wells outside of the caldera, (4) Paulina Creek, (5) Paulina and East Lakes, (6) hot springs that discharge into Paulina and East Lakes, and (7) meteorologic conditions near Paulina Lake. Data are presented for the period summer 1991 through fall 1993. Water-quality data collected include concentrations of common anions and cations, nutrients, trace elements, radiochemicals, and isotopes. Meteorologic data collected include wind velocity, air temperature, humidity, solar radiation, and precipitation.

INTRODUCTION

Newberry Volcano, centered about 20 miles southeast of Bend, Oregon (fig. 1), is one of the largest Quaternary volcanoes in the conterminous United States. The Newberry Volcano covers an area in excess of 500 square miles and rises to an elevation of 7,984 feet at Paulina Peak. At the summit of Newberry Volcano is a 4-to-5-mile-wide caldera that contains Paulina and East Lakes (pl. 1). The recognized geographic name for the caldera is Newberry Crater; however, the term caldera will be used in this report for consistency with most of the scientific literature about the area.

The potential of the Newberry Volcano in central Oregon (fig. 1) as a source of geothermal energy has been acknowledged since at least 1976 when the Newberry Caldera Known Geothermal Resource Area was established. Since that time, exploration holes drilled by the U.S. Geological Survey (USGS) and by geothermal companies have further established the energy potential of the area.

In 1990, the Resource Program of the Bonneville Power Administration (BPA) proposed a geothermal, resource-confirmation program to be undertaken jointly by BPA and interested utility companies. The Eugene Water and Electric Board and CE Exploration, selected by BPA in 1991 to participate in the geothermal program, have since proposed development of a 33-megawatt power-plant project on the west flank of Newberry Volcano. A plan for exploration drilling also has been submitted by Vulcan Power Company. The Geothermal Steam Act of 1970 mandates that geothermal lease holders and Federal agencies implement an environmental-baseline program and collect data for a period of at least 1 year prior to production of geothermal power.

The BPA, U.S. Forest Service (USFS), and Bureau of Land Management (BLM) recognized that the 1-year minimum baseline-data-collection period would not be adequate to characterize the range of natural, or pregeothermal development, water-quality and hydrologic conditions at Newberry Volcano. Accordingly, in 1991, these agencies requested that the USGS design and implement a baseline-data-collection program for the purpose of defining the predevelopment hydrologic and water-quality characteristics in the vicinity of Newberry Volcano. If development of the geothermal resource occurs, long-term monitoring will continue in order to detect physical and chemical changes in the hydrologic system.

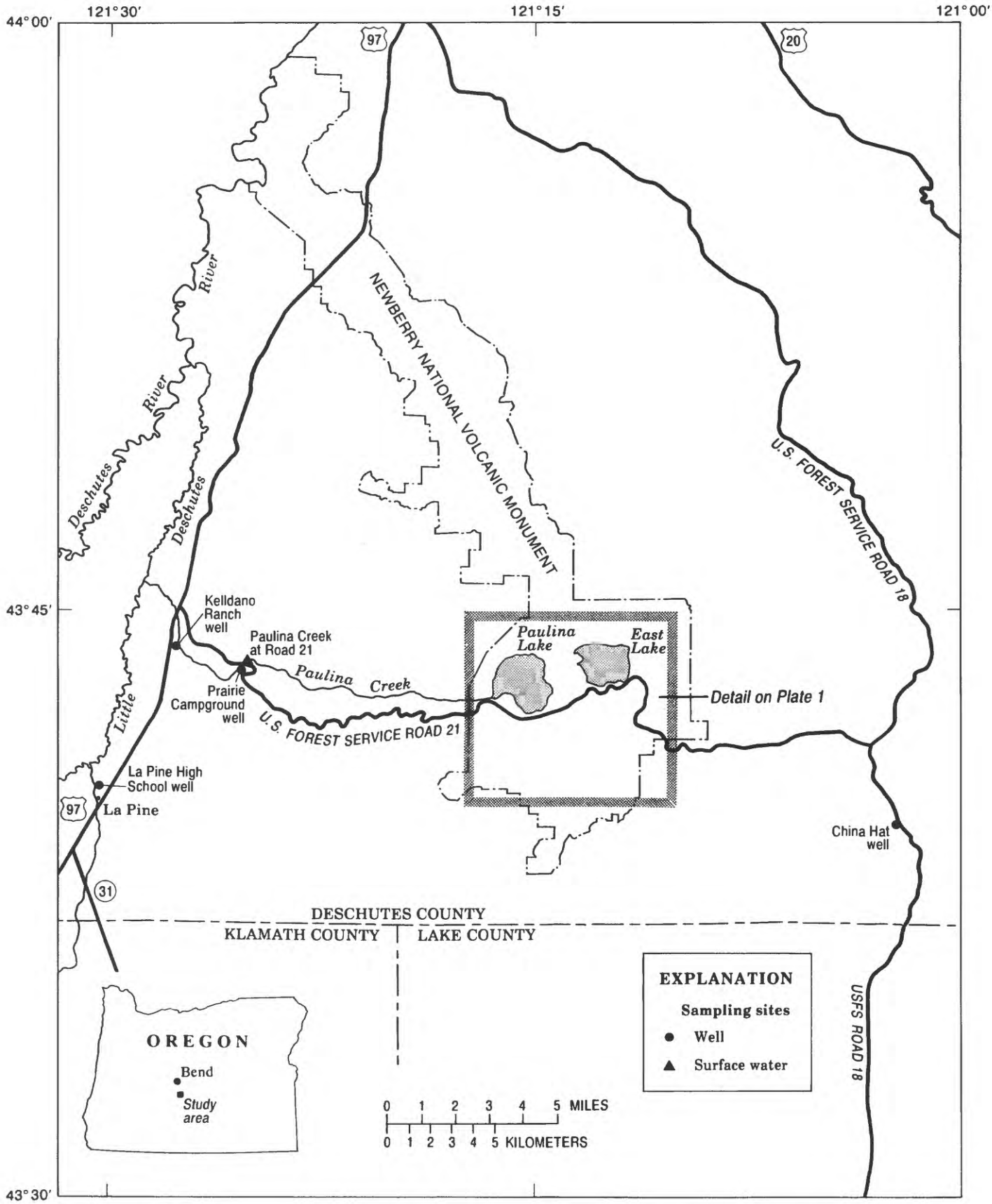


Figure 1. Hydrologic and water-quality data-collection sites in the vicinity of Newberry Volcano near La Pine, Oregon.

In recognition of its unique geologic features and scenic and recreational values, the U.S. Congress established the Newberry National Volcanic Monument on November 5, 1990. The monument and the special management area include approximately 56,300 acres of the Newberry Volcano (fig. 1). The creation of the monument was facilitated by agreements among the BLM, USFS, and geothermal lease holders for exchange of leases within the caldera for leases on lands outside the monument. The legislation that established the monument stipulates that a management plan be established and that it must include a:

> " *** research and monitoring program for geothermal resources for the purpose of identifying and assessing the impact that present and proposed geothermal development in the vicinity of the monument and special management area may have on the values for which the monument and special management area were established [Public Law 101-522]."

Purpose and Scope

This report summarizes the data that were collected between summer 1991 and fall 1993 as part of the baseline-monitoring program. During the first 2 years of the program, a wide range of physical and chemical characteristics were measured. The monitoring network included 21 sites (pl. 1; fig. 1; and table 1, at back of report) at which hydrologic and water-quality data were collected. Hydrologic data collected included ground-water levels, lake levels, and stream discharge. Water-quality analyses were made for common anions and cations, nutrients, trace elements, radiochemicals, and isotopes. Physical measurements, such as water temperature and specific conductance, also were made. Meteorologic data, collected at a weather station near Paulina Lake, provided baseline information on climate within the Newberry Caldera.

Acknowledgments

The authors would like to thank George Darr of the Bonneville Power Administration, George Chesley and Robert Fujimoto of the U.S. Forest Service, and Dennis Davis and Jack Feuer of the Bureau of Land Management for providing excellent interagency coordination during this study. The authors also would like to thank Linda Carlson of the U.S. Forest Service, Bend-Fort Rock Ranger District, for her work in facilitating and coordinating field activities as the liaison between the U.S. Geological Survey and the U.S. Forest Service. Thanks also are due to Tom and Jeri Sly and Jim and Margie Burrow, U.S. Forest Service volunteers, who contributed many hours of work making water-level measurements in wells, collecting and preparing water-quality samples, and assisting with installation and maintenance of instrumentation. We also would like to acknowledge Larry Chitwood and Chris Jensen of the U.S. Forest Service for their consultation and assistance; John and Leslie Hofferd, owners of East Lake Lodge and Paulina Lake Lodge, and Joe and DeeDee Kipp, the former owners of Paulina Lake Lodge, for their help and cooperation in the study; and Susan Tate and Dixie Crumrine, U.S. Geological Survey volunteers, who provided many hours of assistance with field work.

DATA-COLLECTION METHODS

The following sections describe the instrumentation and protocols used in the data-collection program. Where appropriate, references are cited that describe standard USGS data-collection methodologies. Several collection sites have instruments that automatically measure and record hydrologic, water-quality, or meteorologic data. Some of these sites are also equipped with radio-telephone-telemetry systems that allow monitoring of the site and daily data retrievals from the USGS District Office in Portland, Oregon. Sites with automatic data recording and telemetry systems include the lake-level gages on East and Paulina Lakes, the stream gage on Paulina Creek, and the meteorological station near Paulina Lake (pl. 1; table 1, at back of report).

Lake-Level Data

Lake-level gages were installed at East and Paulina Lakes in November 1991. The Paulina Lake gage is located on the control structure at the outlet from the lake to Paulina Creek (pl. 1). The East Lake gage initially was located on the northeastern shore of the lake, but ice movement on the lake interfered with measurements. In October 1992, that gage was moved to a site near the hot springs area on the southeastern side of East Lake (pl. 1).

Lake levels are measured by bubbling nitrogen through a tube that has been submerged at a fixed point in the lake and then measuring the pressure with a transducer. This pressure, required to force nitrogen through the submerged tube, is directly proportional to the level of the lake. Lake levels were referenced to a marker or an outside staff gage that was referenced to mean sea level. The data sites were visited on a bimonthly schedule and pressure-transducer measurements were compared with outside staff-gage measurements. Lake-level data—for East Lake from February 1992 through September 1993 and for Paulina Lake from November 1991 through September 1993—are shown in figure 2, and are listed in table 2 (at back of report).

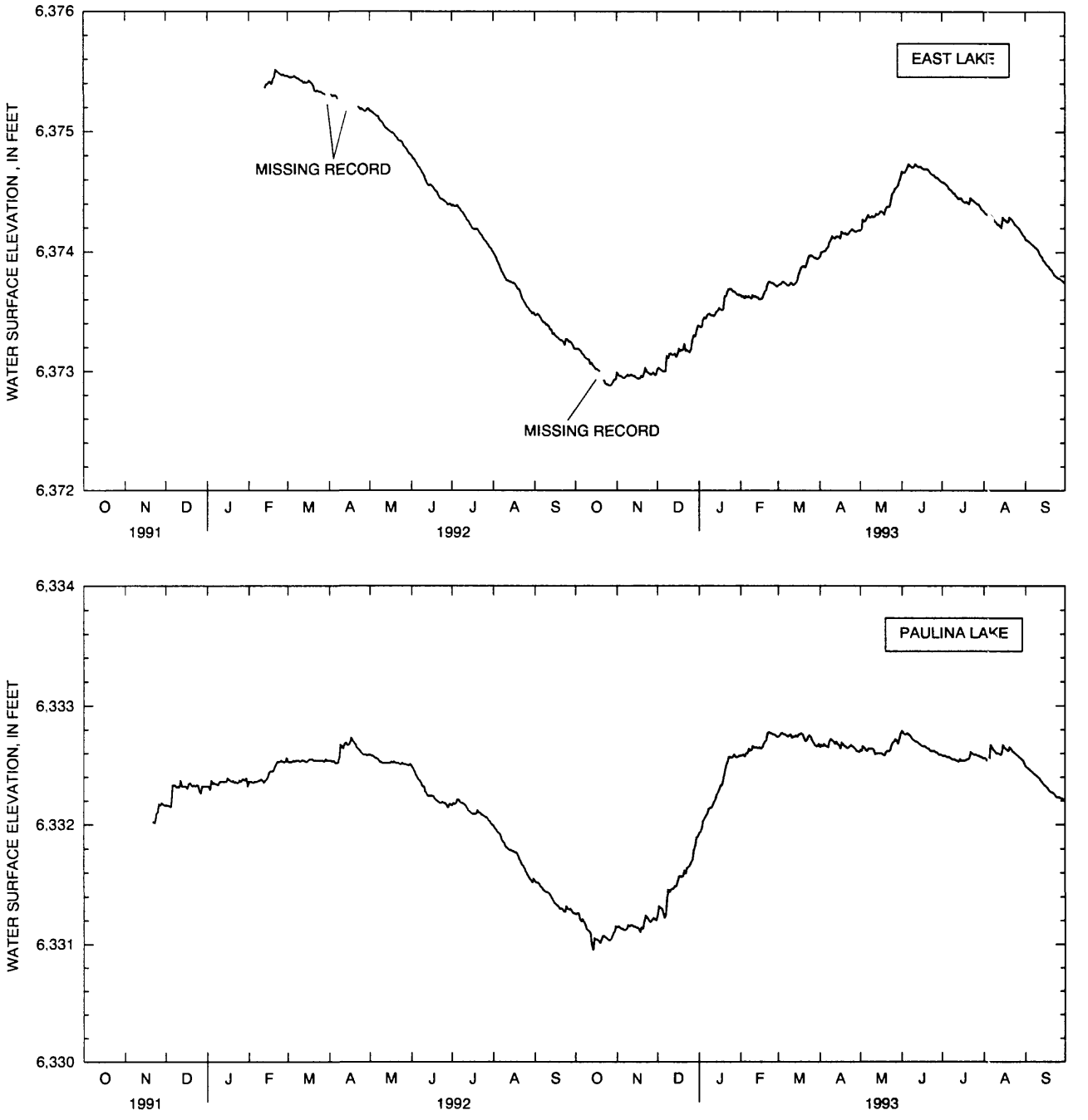


Figure 2. Water-surface elevation for East Lake near La Pine, Oregon, and for Paulina Lake near La Pine, Oregon.

Stream Data

A streamflow-gaging station was reactivated in October 1991 on Paulina Creek—the only perennial stream in the Newberry Caldera—to monitor outflow from Paulina Lake. The streamflow-gaging station is located 180 feet downstream from the Paulina Lake outlet (pl. 1). The Oregon State Department of Water Resources (OWRD) operated this gaging station from October 1982 to September 1989. A data logger continuously monitored and stored water level (stage), water temperature, and specific conductance. A stage-discharge relation was developed for this site by making stream-discharge measurements on a bimonthly basis for a range of discharge. Daily mean discharge was computed at Paulina Creek gaging station using standard USGS procedures (Buchanan and Somers, 1968, 1969). Stream-discharge data for Paulina Creek for the period November 1991 through September 1993 are shown in figure 3. Water temperature and specific conductance for the same period also are shown in figure 3; however, the record for those parameters in 1993 was poor due to low water-level conditions and equipment failures. Daily values for each parameter are listed in table 3 (at back of report).

Ground-Water Data

Ground-water data were collected at 16 sites, including 12 sites in the caldera and 4 outside the caldera (pl. 1, fig. 1). These 16 sites included existing wells and wells constructed by the USGS for monitoring the hot springs discharge areas near Paulina and East Lakes. Location, construction, and other data for these and other wells are listed in table 4 (at back of report). Periodic water-level measurements were made in selected wells using a steel surveying tape. Measurements were recorded to the nearest 0.01 ft (feet). For quality assurance, two successive measurements were required to be within 0.01 ft before the measurement was recorded. All measurements were made in accordance with USGS standards as described by Garber and Koopman (1968).

Water-level measurements were made at least semiannually in most wells; however, measurements were made twice monthly in nine wells in the caldera, when access permitted, between July and November 1992 and again between June and September 1993. Hydrographs of some of these wells are shown in figure 4. Temperature and specific-conductance measurements also were made twice monthly in four of these wells (table 1, at back of report) during the same periods; temperature and specific conductance measurements are shown in figure 5.

In June 1993, sonic transducers with data loggers were installed in the two thermal wells in the caldera (Little Crater Campground Number 3 and the Sandia Well) to measure and record daily water-levels automatically. This equipment provided reliable measurements for the Sandia Well; daily measurements are shown in figure 4. Temperature and humidity conditions in the well-bore at Little Crater Campground Number 3, however, produced condensation on the instruments that interfered with measurements. The sonic transducers in both wells were replaced with submersible pressure transducers in 1994.

Two wells in the vicinity of Newberry Volcano are part of a statewide-monitoring network operated by the OWRD. A relatively shallow (100 ft) well (fig. 1) at the Kelldano Ranch has been monitored since 1962, and a deep (1,460 ft) well (fig. 1) at La Pine High School has been measured since 1985. Water levels in these wells, and annual precipitation at the Bend Airport, are shown in figure 6.

Water-Quality Data

Water-quality data for wells and springs for the period August 1991 through October 1993 are presented in table 5 (at back of report); water-quality data for Paulina Creek, Paulina Lake, and East Lake for the period October 1991 through September 1993 are shown in table 6 (at back of report). Samples for chemical analysis were collected in accordance with standard procedures of the U.S. Geological Survey (Brown, and others, 1970; Claassen, 1982; Friedman and Erdmann, 1982; Lico and others, 1982; Presser and Barnes, 1974; Thatcher and others, 1977; Ward and Harr, 1990; and Wood, 1976.

Physical parameters, including water temperature, pH, specific conductance, and dissolved-oxygen concentration were measured in the field using instruments that were calibrated daily. Filtration and preservation of samples was done within 2 hours of sampling. Dissolved bicarbonate was calculated from field measurements of alkalinity. Dissolved hydrogen sulfide was calculated from total recoverable sulfide analyses, and dissolved ammonia was calculated from ammonium ion concentrations.

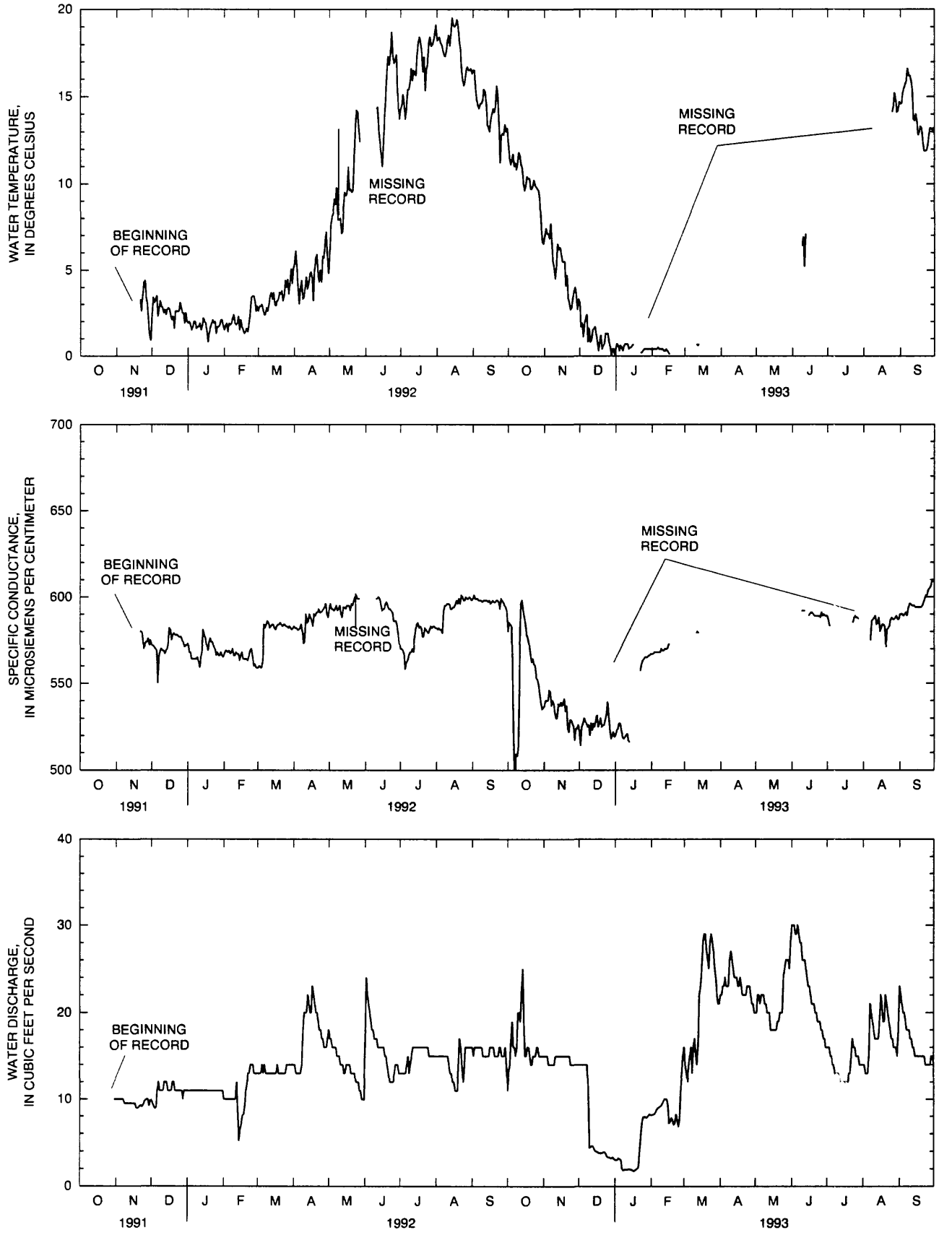
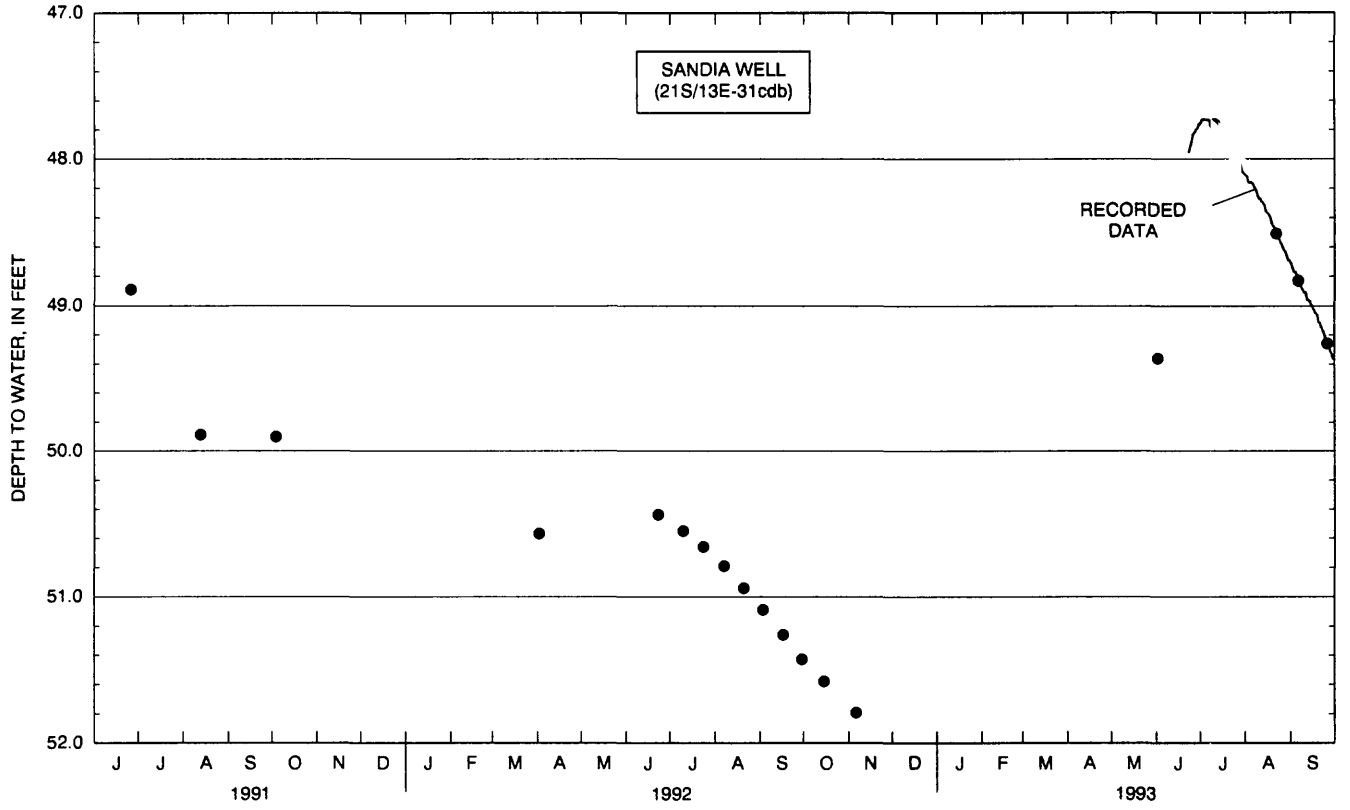


Figure 3. Water temperature, specific conductance, and stream discharge for Paulina Creek near La Pine, Oregon, November 1991 through September 1993.



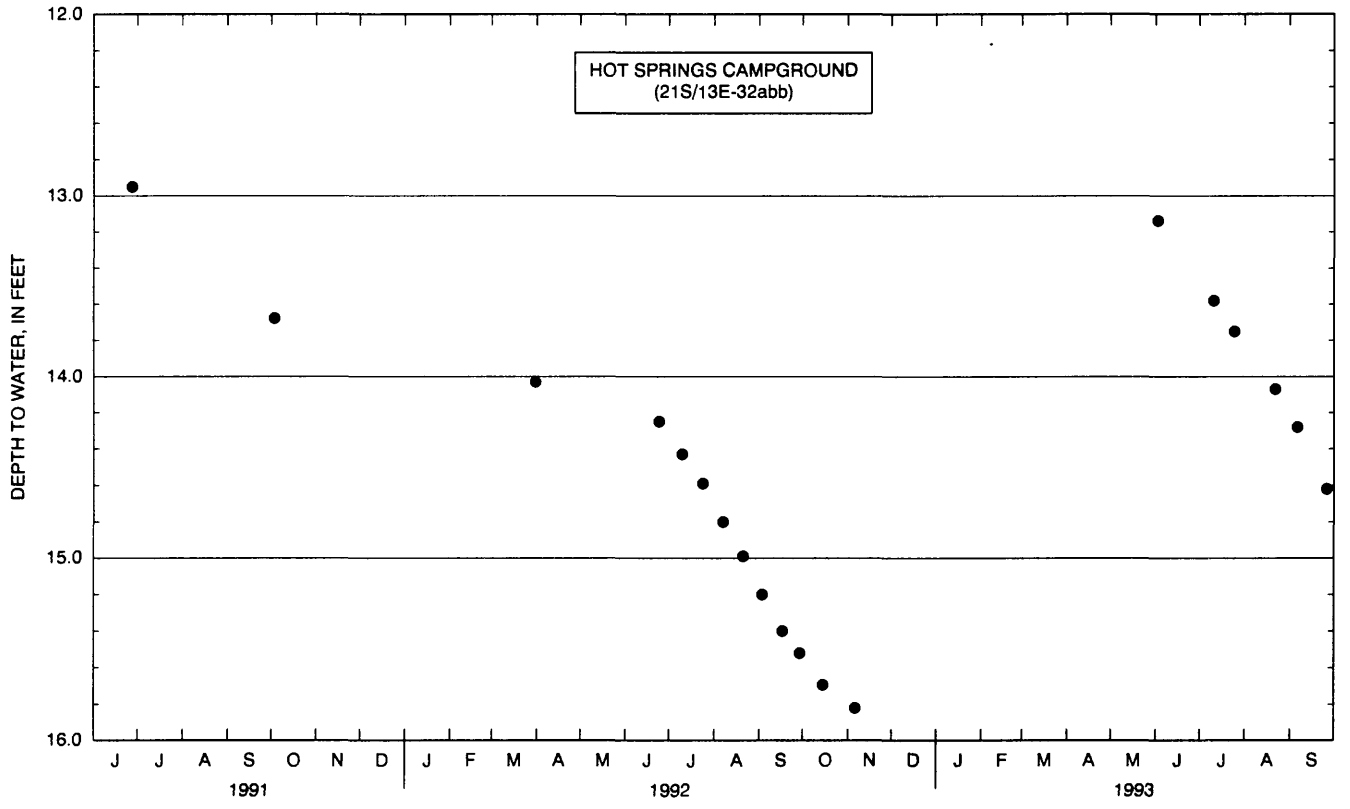
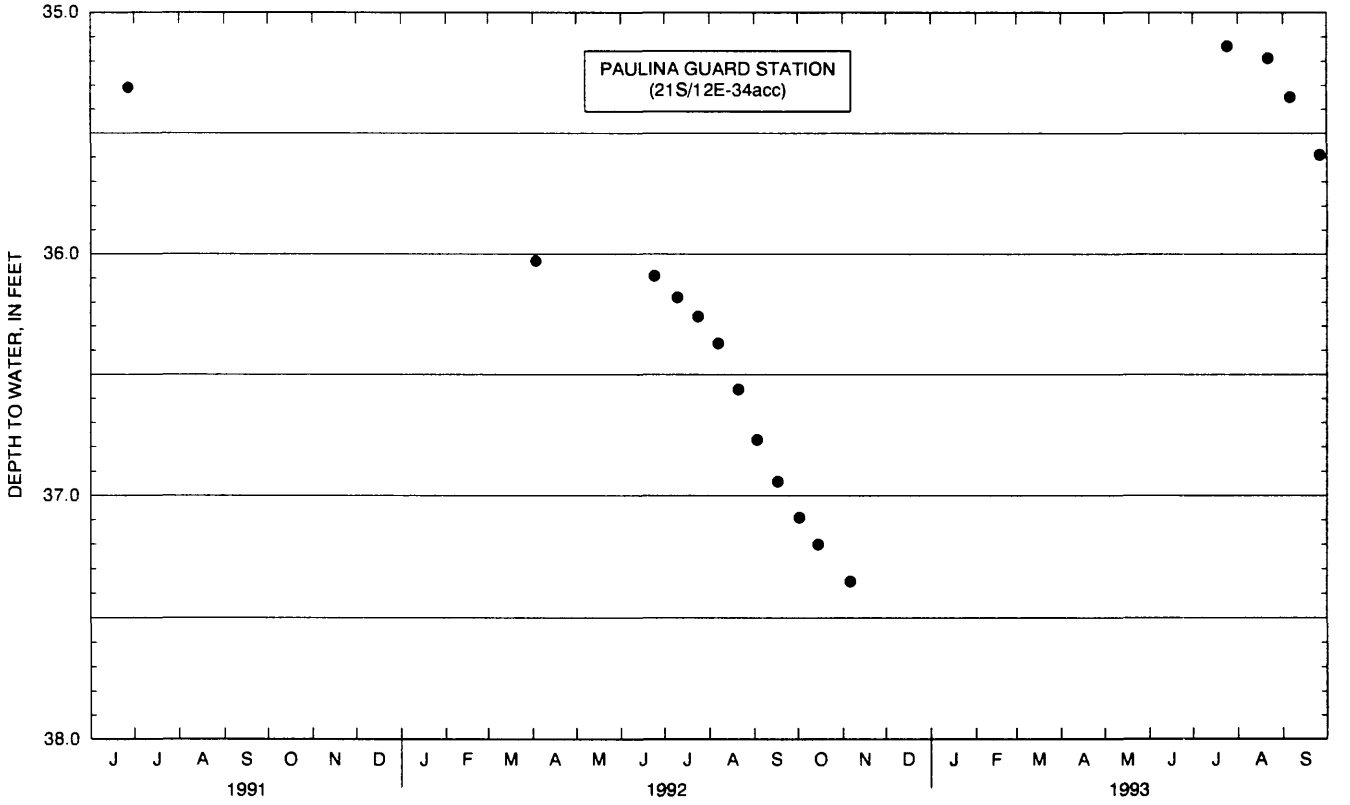


Figure 4. Selected wells in Newberry Caldera near La Pine, Oregon, June 1991 through September 1993.



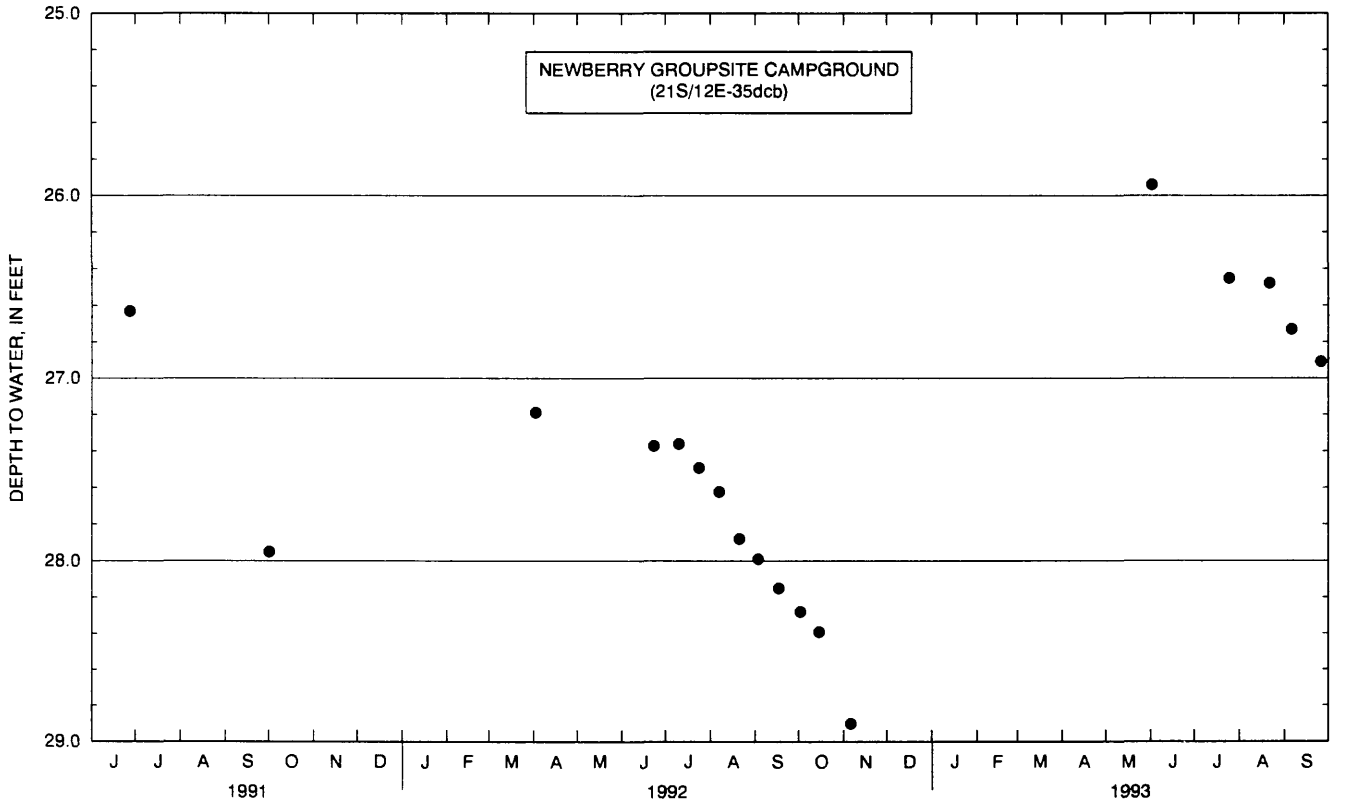
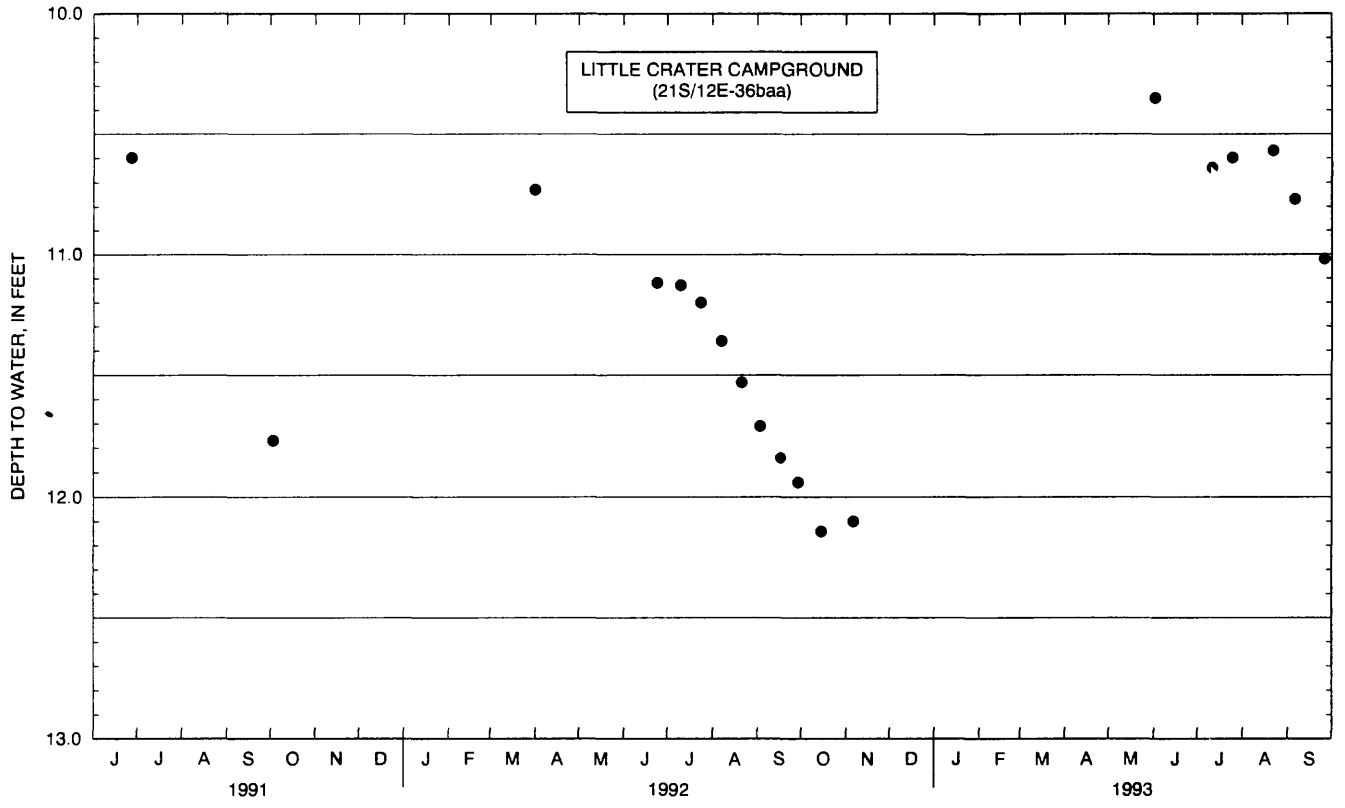


Figure 4. Selected wells in Newberry Caldera near La Pine, Oregon, June 1991 through September 1993—Continued.



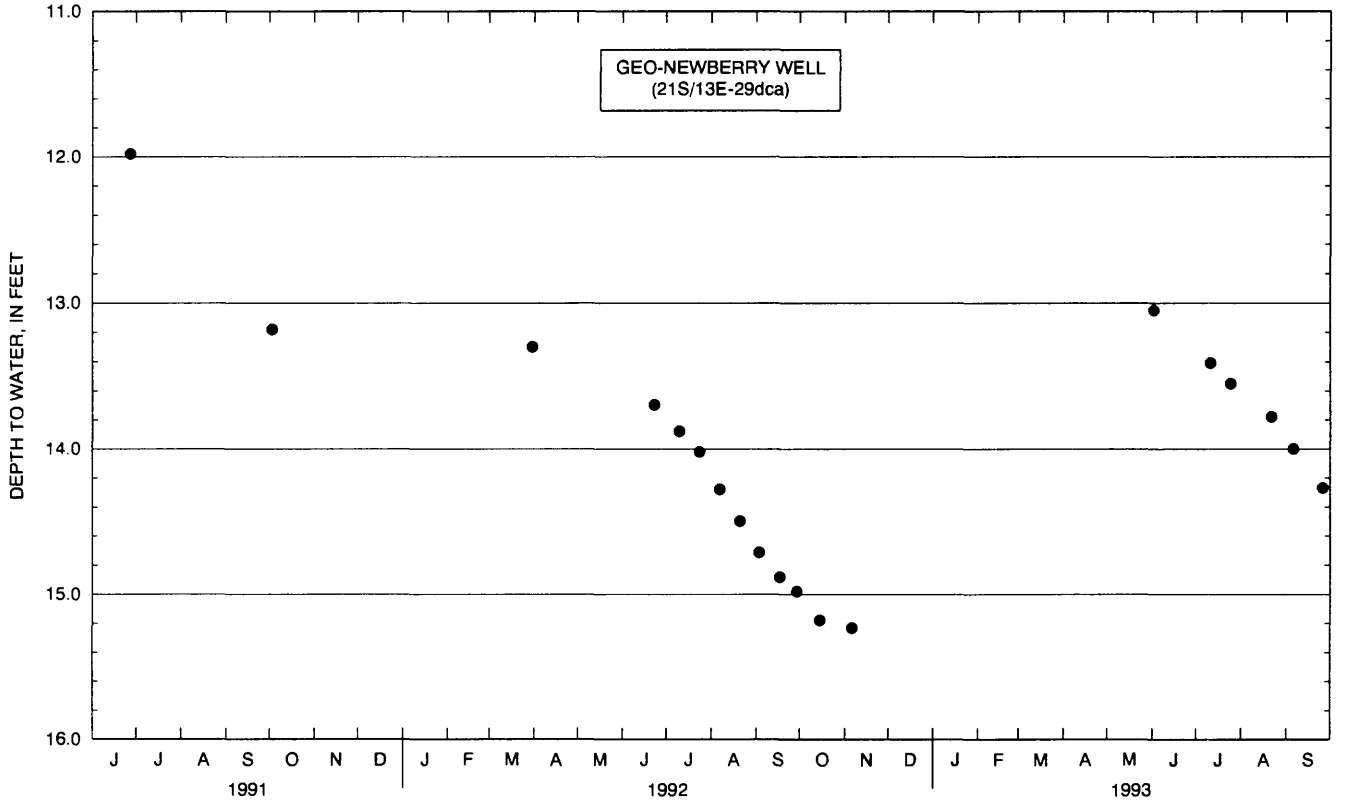


Figure 4. Selected wells in Newberry Caldera near La Pine, Oregon, June 1991 through September 1993—Continued.

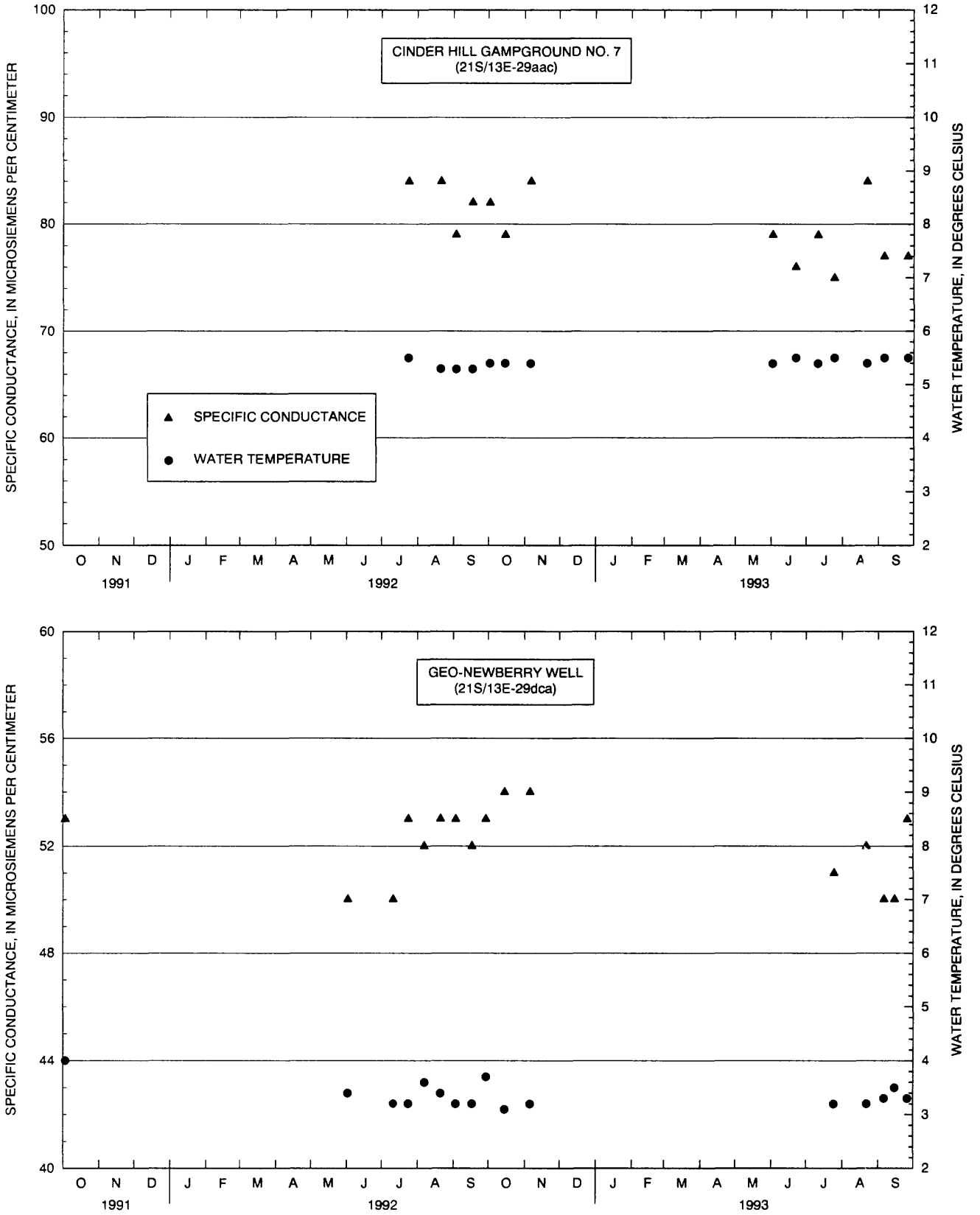
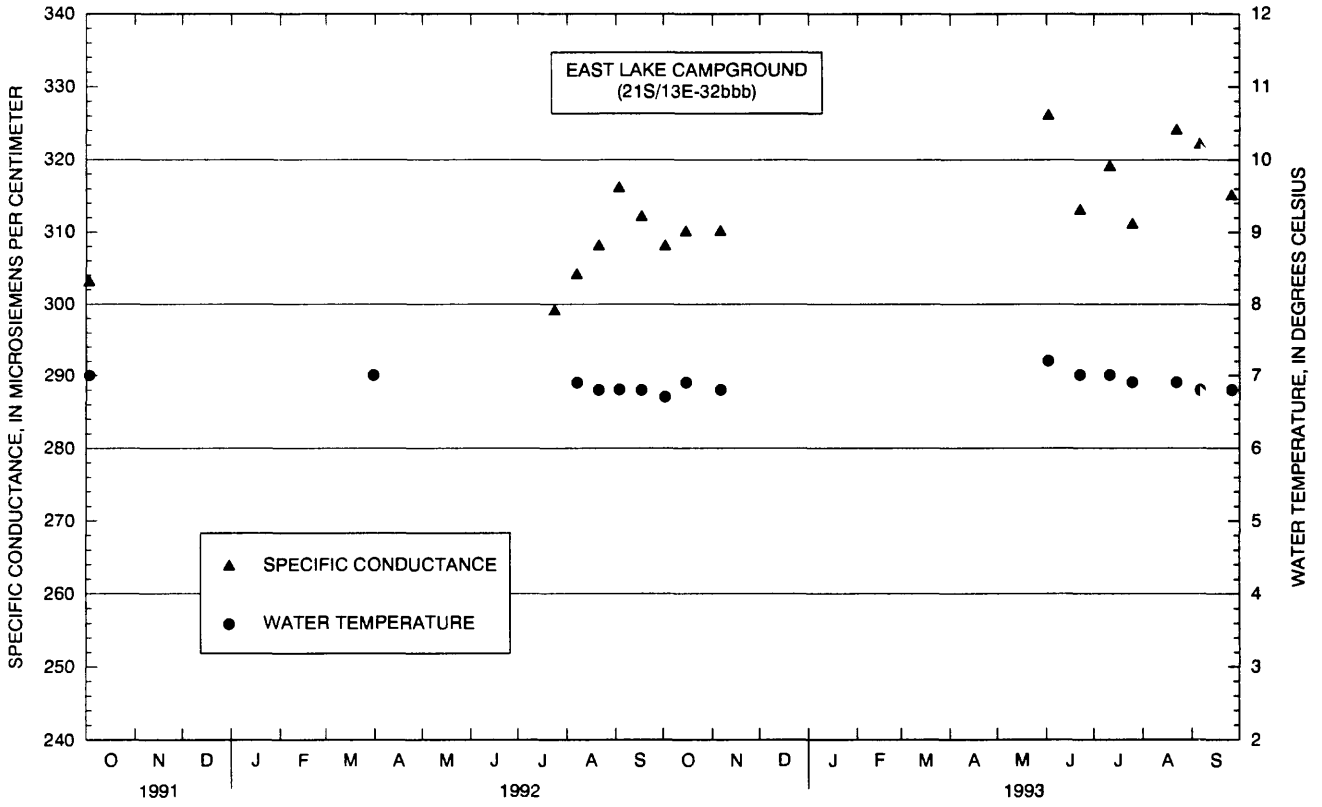


Figure 5. Specific conductance and water temperature in selected wells in the vicinity of Newberry Volcano near La Pine, Oregon, October 1991 through September 1993.



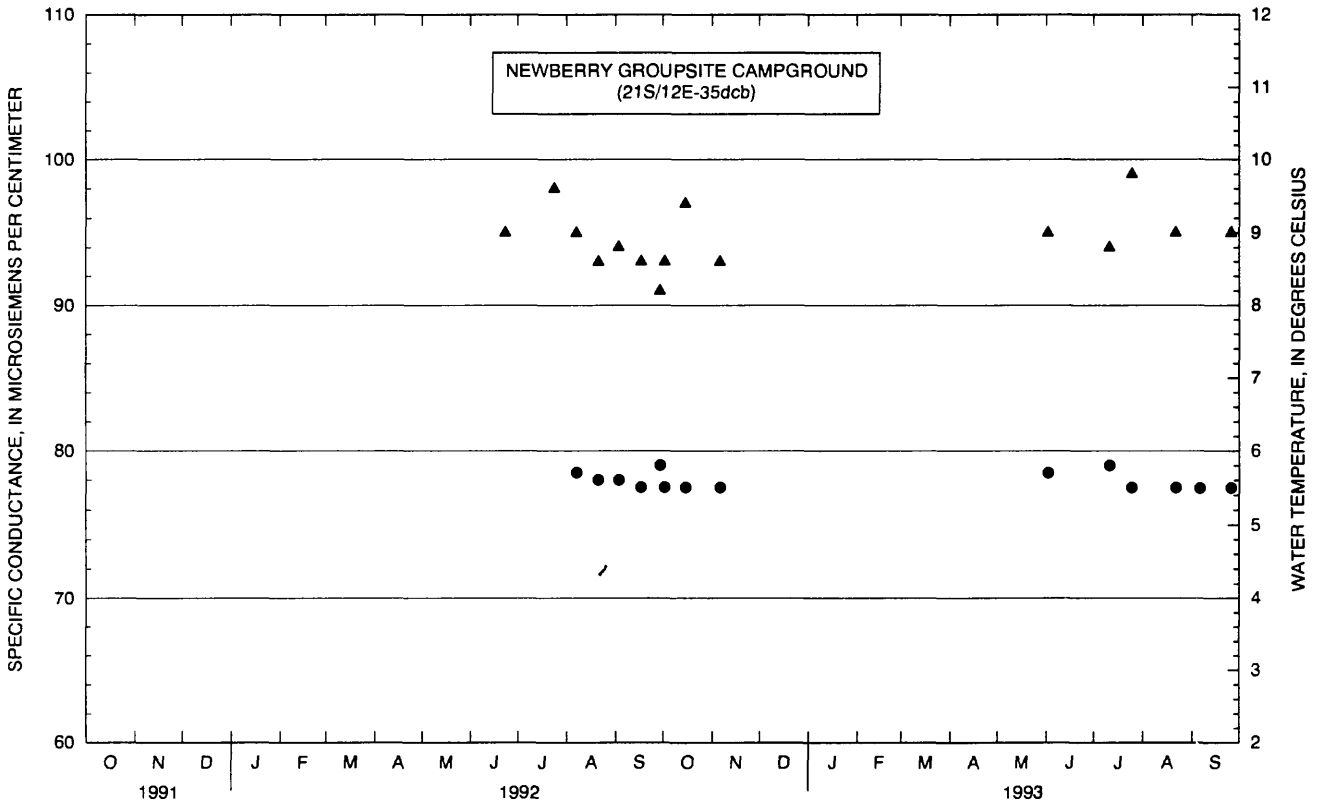


Figure 5. Specific conductance and water temperature in selected wells in the vicinity of Newberry Volcano near La Pine, Oregon, October 1991 through September 1993—Continued.

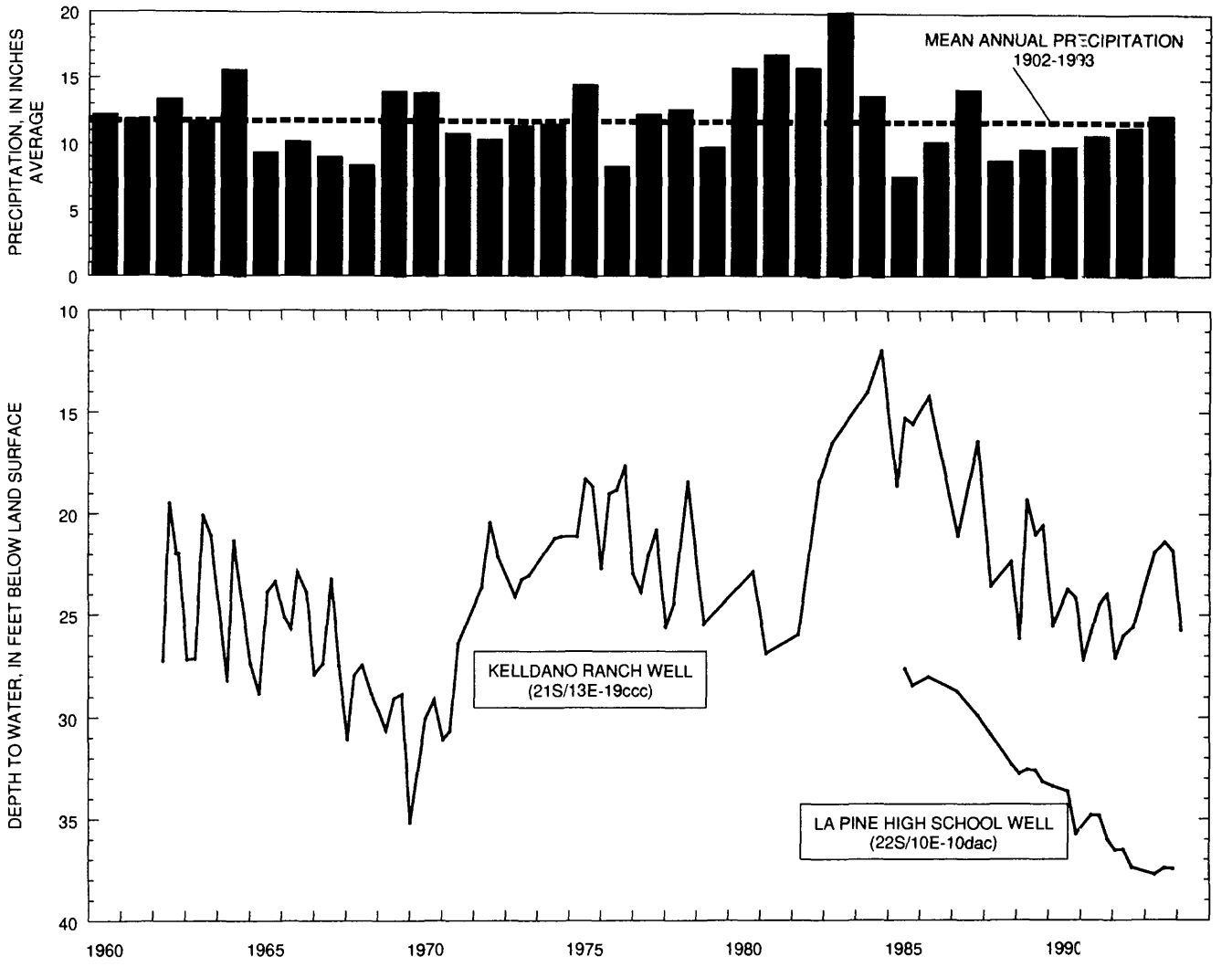


Figure 6. Selected long-term observation wells in the vicinity of Newberry Volcano near La Pine, Oregon, and of long-term precipitation at the Bend Airport, Bend, Oregon.

Approximately 15 percent of the samples analyzed were used for quality assurance to verify that sampling and sample-processing procedures did not affect analytical results. The results of these analyses are stored in the USGS National Water Information System data base.

Wells and Hot Springs

Wells were purged by pumping at least three casing volumes before sampling; samples were collected from discharge lines before the water passed through storage tanks. Water temperature, pH, specific conductance, and dissolved-oxygen concentration were monitored during purging to verify that stable conditions existed prior to sampling. When the monitoring program began, samples from wells without pumps were collected by first purging the well with a portable, submersible pump and then sampling the well using a stainless-steel and teflon-bladder pump. In 1993, submersible pumps constructed of stainless steel and teflon were installed in the three monitoring wells that did not have pumps: Little Crater Campground Number 3, the Sandia Well, and Hot Springs Campground Number 1. These pumps have the capacity to purge wells prior to sampling and are constructed of materials that will not contaminate samples for dissolved trace elements. Analytical results for ground-water samples are listed in table 5 (at back of report).

Samples from the hot springs discharge areas of each lake (Paulina Lake and East Lake) were collected from monitoring wells constructed for this program.

In August of 1991, 1.25-inch diameter stainless-steel drivepoints were installed at each hot springs area to facilitate the collection of water-quality samples and the measurement of hydraulic head and ground-water temperature. Three drivepoint wells were installed at East Lake Hot Springs and sampled initially for stable isotopes (table 5, at back of report). The drivepoint well selected as the monitoring site, East Lake Number 4, was destroyed by vandals in July 1992. Subsequent ground-water samples were collected from the nearby East Lake Number 3 drivepoint well. The cemented gravels and welded tuffs at the hot springs areas on Paulina and East Lakes prevented the hand-driven drivepoint wells from penetrating more than 2 to 3 ft. The shallow depths of the drivepoint wells limited their value as long-term monitoring sites. In September 1993, deeper monitoring wells were drilled with a portable core-drill and completed with 1.0-inch-diameter polyvinyl chloride (PVC) pipe that was screened at depths of 9 to 10 ft below land surface. Two wells were constructed at each hot springs area and designated as East Lake Number 5-A and 5-B and Paulina Lake Number 2-A and 2-B (table 4, at back of report). East Lake Number 5-B and Paulina Lake Number 2-B were selected to replace East Lake Number 3 and Paulina Lake Number 1 as the long-term monitoring site in each area. The new sites were first sampled in October 1993; for purposes of comparison, the old sites also were sampled at the same time. Analytical results from the hot springs monitoring sites are listed in table 5 (at back of report).

Lakes

Samples were collected at several sites on East and Paulina Lakes in October 1991 to determine the spatial variability of chemical constituents. At some sites, samples were taken from the epilimnion and the hypolimnion to determine the variability of chemistry in relation to lake depth. The locations of the sampling sites are shown on plate 1. These sites were sampled again in June 1992 to assess the seasonal variability of lake chemistry. Samples collected in October 1991 and June 1992 were analyzed for major ions; samples collected in June 1992 also were analyzed for nutrient concentrations. These lake samples were collected using a Van Dorn sampler. The analytical results are listed in table 6 (at back of report).

Vertical profiles of temperature, dissolved oxygen, specific conductance, and pH were measured during the sampling of each lake. Representative profiles are shown in figure 7.

Long-term monitoring sites on East and Paulina Lakes were selected and sampled in October 1992. The sites selected, EL-8 on East Lake and PL-11 on Paulina Lake, were located near prominent hot springs discharge points (pl. 1). Samples from these sites were taken at multiple depths by pumping the water sample to the surface through polyethylene tubing. Field water-quality parameters were obtained by lowering a multiparameter water-quality sensor to the desired depth. Analytical results for these lake samples are listed in table 6 (at back of report).

Streams

Samples were collected semiannually from two sites on Paulina Creek. The upper site, located at the stream gage, was approximately 180 ft downstream from the outlet of Paulina Lake (pl. 1). The lower site was located approximately 7 stream miles below Paulina Lake near the point where USFS Road 21 crosses Paulina Creek (fig. 1). Stream samples were collected using an isokinetic, depth-integrating sampler with a teflon nozzle (Ward and Harr, 1990). Analytical results are listed in table 6 (at back of report).

Meteorologic Data

In July 1992, a meteorologic station was established near the outlet of Paulina Lake to record air temperature, relative humidity, net solar radiation, precipitation, and wind speed. Each hour, an automatic data logger recorded and stored the average or the total sensor measurements on a solid-state-memory module. Meteorologic data from July 1992 through September 1993 are shown in figure 8 and listed in table 7 (at back of the report).

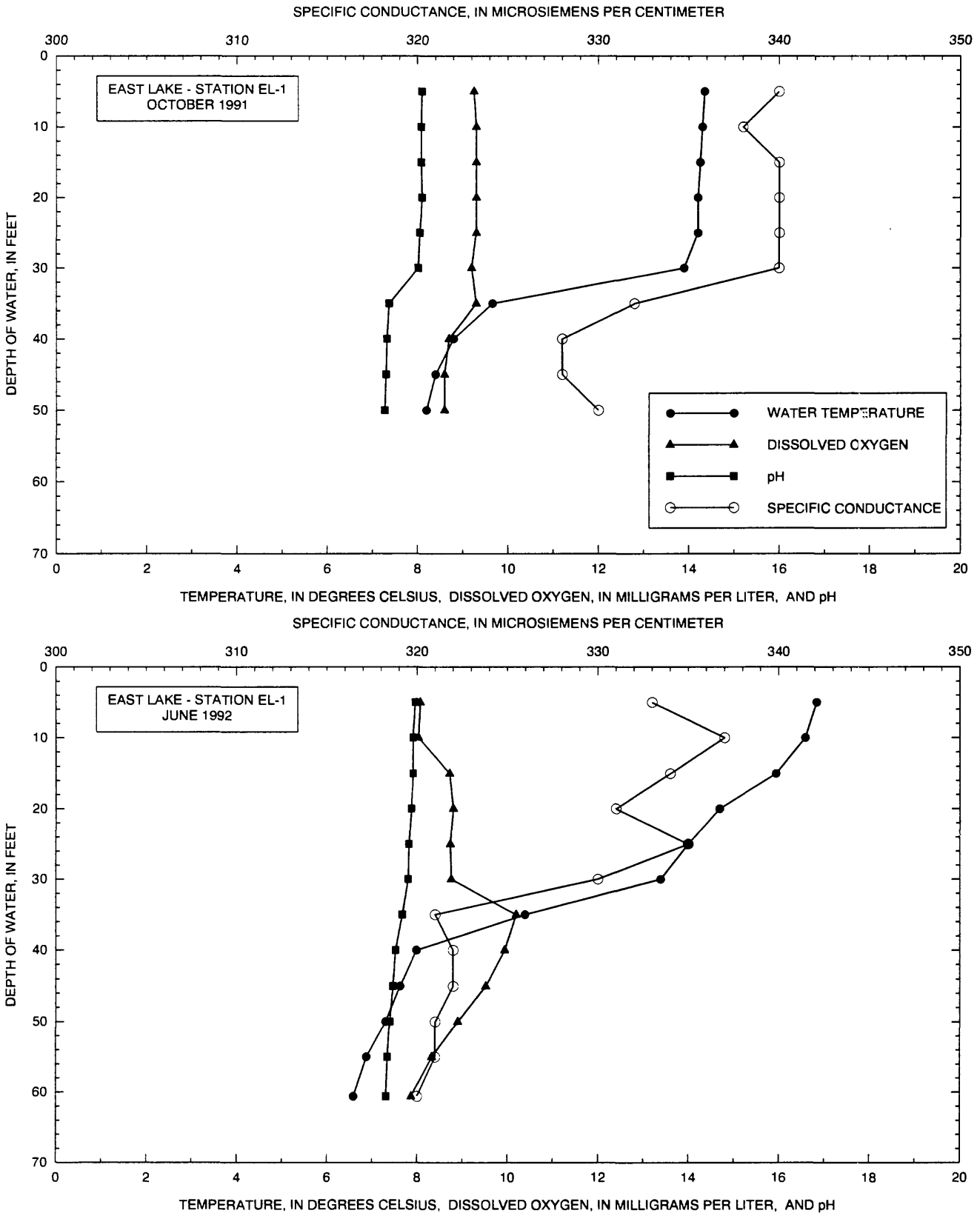


Figure 7. Selected profiles of temperature, dissolved oxygen, specific conductance, and pH at East and Paulina Lakes near La Pine, Oregon.

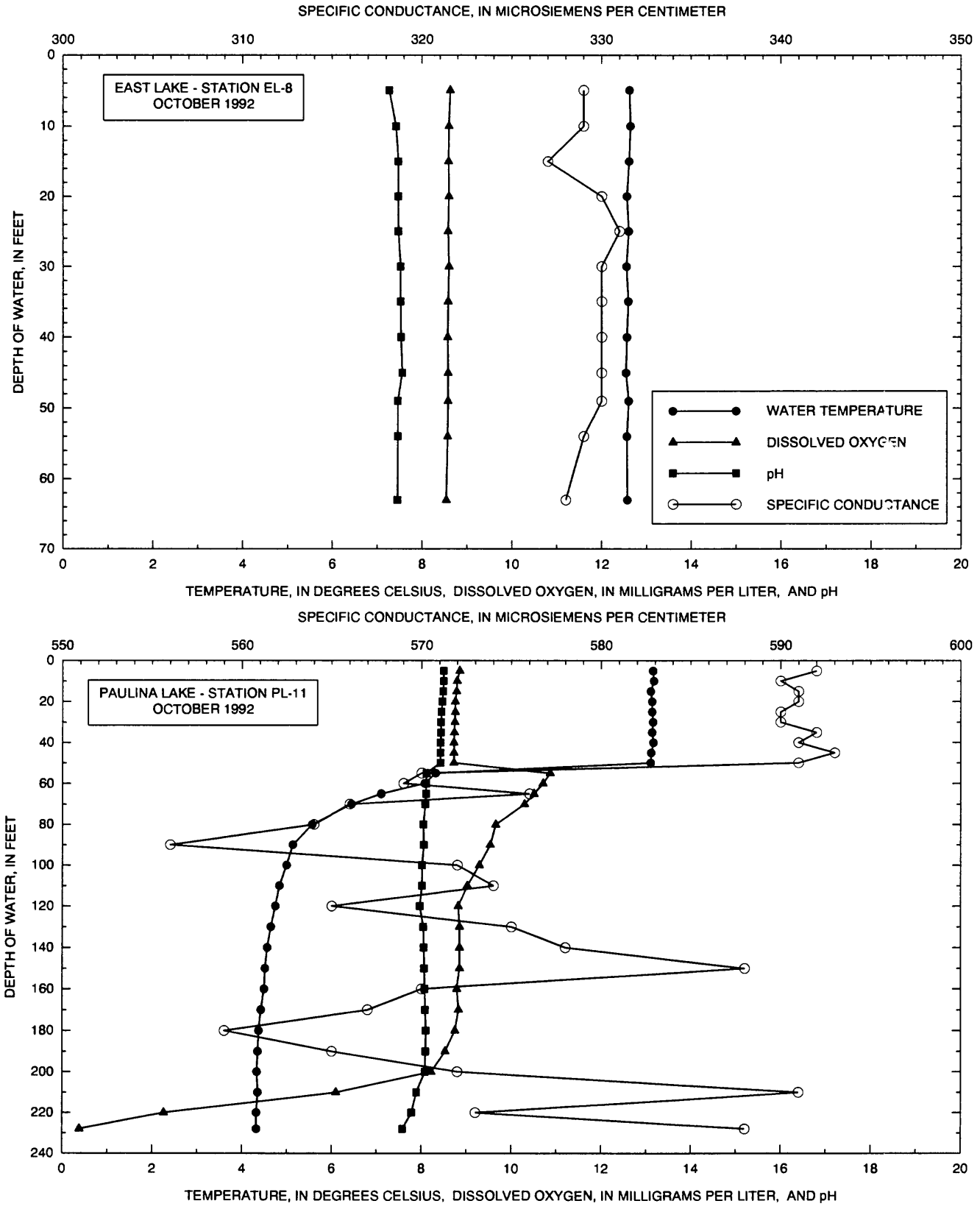


Figure 7. Selected profiles of temperature, dissolved oxygen, specific conductance, and pH at East and Paulina Lakes near La Pine, Oregon—Continued.

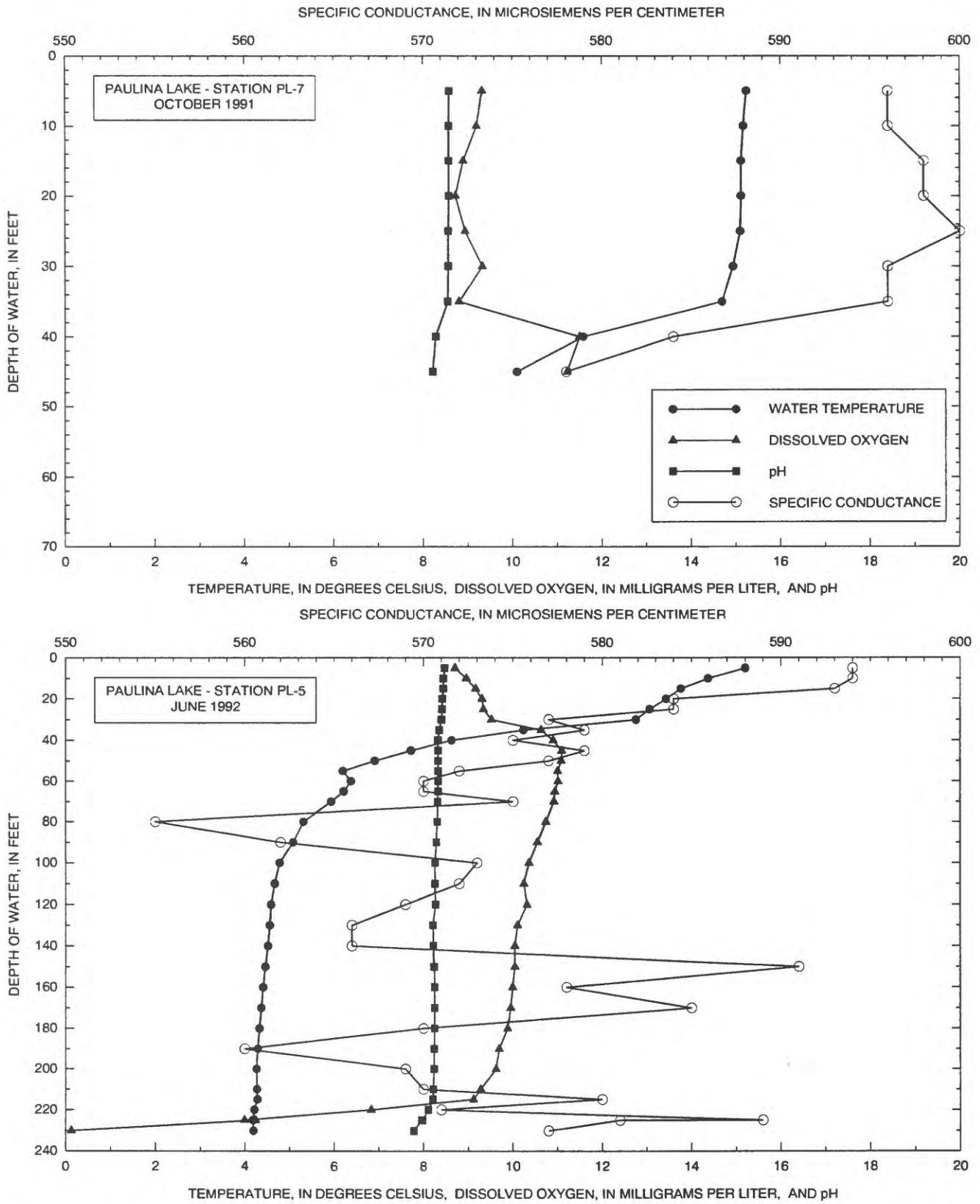


Figure 7. Selected profiles of temperature, dissolved oxygen, specific conductance, and pH at East and Paulina Lakes near La Pine, Oregon—Continued.

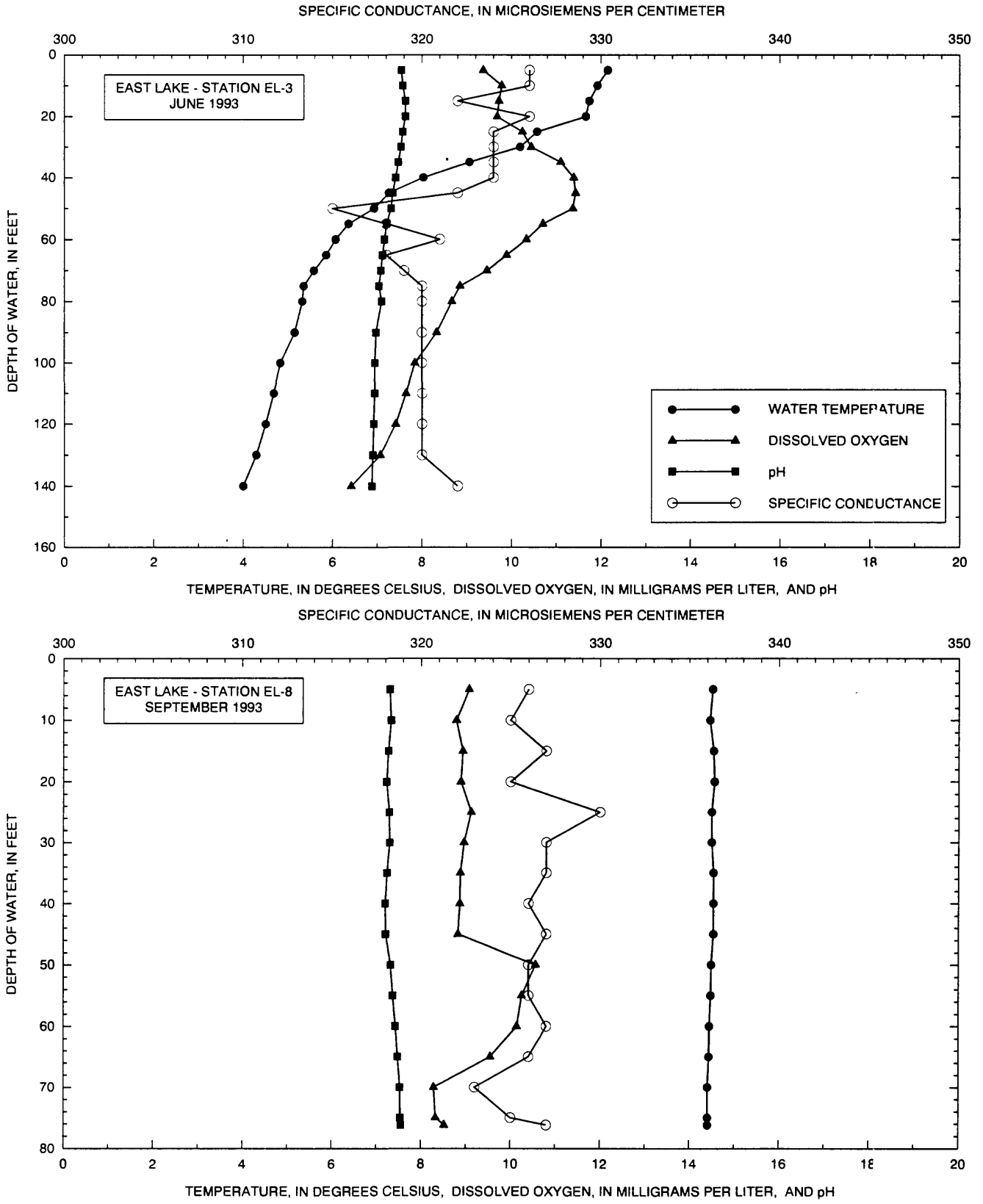


Figure 7. Selected profiles of temperature, dissolved oxygen, specific conductance, and pH at East and Paulina Lakes near La Pine, Oregon—Continued.

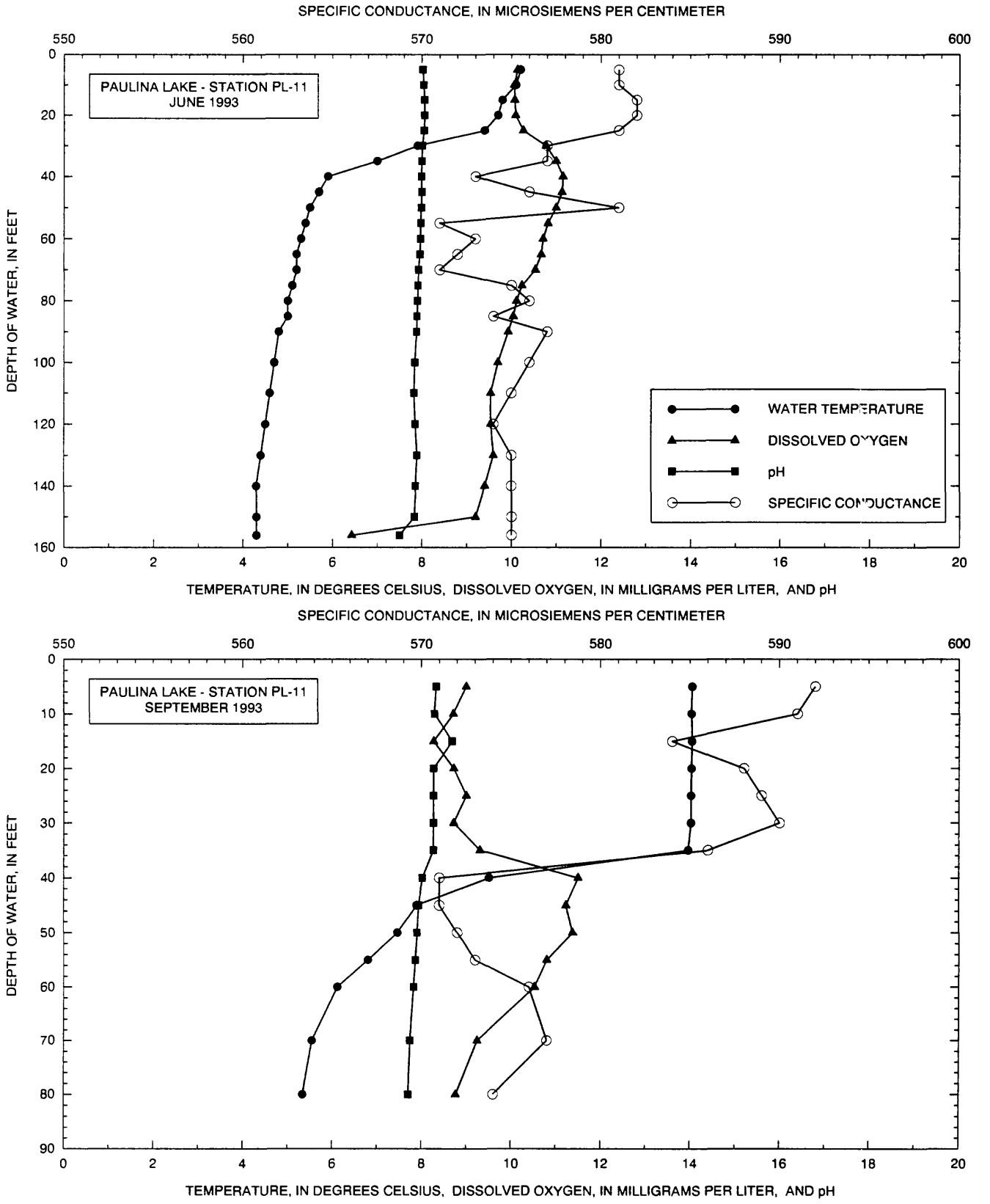


Figure 7. Selected profiles of temperature, dissolved oxygen, specific conductance, and pH at East and Paulina Lakes near La Pine, Oregon—Continued.

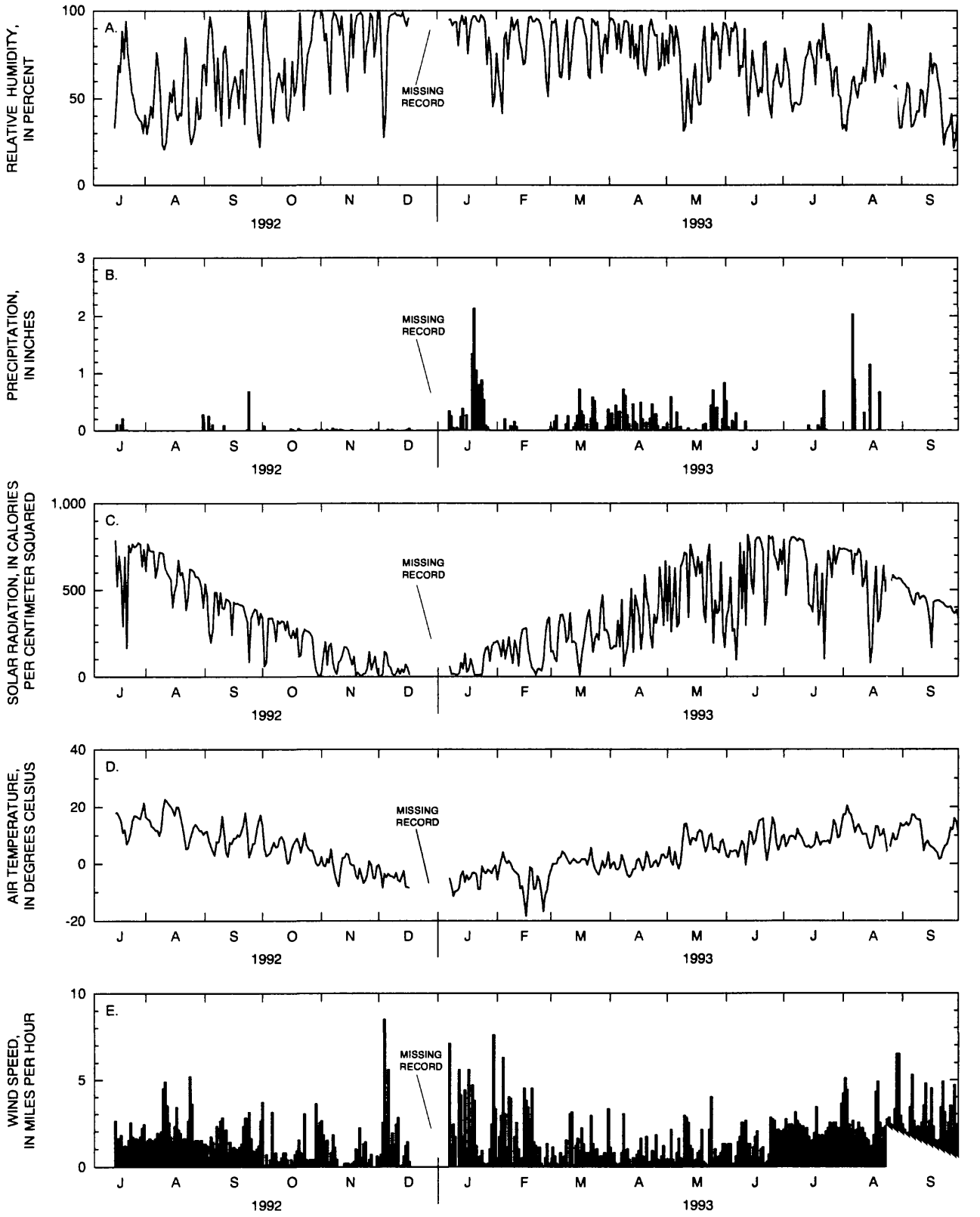


Figure 8. Data from the meteorologic station at Paulina Lake near La Pine, Oregon, July 1992 through September 1993, showing: A. Mean daily relative humidity; B. Total daily precipitation; C. Total daily solar radiation; D. Mean daily temperature; E. Mean daily wind speed.

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DATA TABLES

Table 1. Types and frequency of data collected at monitoring sites in the vicinity of Newberry Volcano near La Pine, Oregon, 1991–93

[LOCATION (locations are shown on plate 1 or figure 1). FREQUENCY: A = Annually, C = Continuously, I = Intermittent, M = Monthly, Q = Quarterly, SM = Semimonthly, S = Semiannually. No. = number, USFS = U.S. Forest Service, PL = Paulina Lake, EL = East Lake]

SITE NAME	LOCATION	FREQUENCY			REMARKS
		WATER QUALITY[1]	WATER-LEVEL/STAGE	WATER TEMPERATURE AND SPECIFIC CONDUCTANCE	
			Hot Springs		
Paulina Lake Hot Springs No. 1	21S/12E-26AAB01	S	S	S	Original site. Discontinued 9-93
Paulina Lake Hot Springs No. 2B	21S/12E-26AAB02	S	S	S	New deeper hole. First sampled 10-93
East Lake Hot Springs No. 4	21S/13E-29CDD01	S	S	S	Original site. Destroyed by vandals 7-92
East Lake Hot Springs No. 3	21S/13E-29CDD02	S	S	S	Replacement site for No.4. First sampled 10-92
East Lake Hot Springs No. 5B	21S/13E-29CDD06	S	S	S	New deeper hole. First sampled 10-93
			Wells		
La Pine High School	22S/10E-15AAA	A,S	Q	A	State observation well (level only)
Prairie Campground	21S/11E-28CBA	A,S	S	A	Campground supply well
Paulina Lake Lodge No. 1	21S/12E-34ACB01	I	SM,I	A	Backup well for resort
Paulina Guard Station	21S/12E-34ACC	A	SM,I	A	Campground supply well
Newberry Group Site Campground	21S/12E-35DCB	A	SM,I	SM,I	Campground supply well
Little Crater Campground No. 3	21S/12E-36BAA	S	SM,I	S	Unused well
Cinder Hill Campground No. 7	21S/13E-29AAC		SM,I	SM,I	Campground supply well
Geo-Newberry Well	21S/13E-29DCA01	A	SM,I	SM,I	Unused well
Sandia Well	21S/13E-31CDB	S	C,SM	S	Unused well
Hot Springs Campground No. 1	21S/13E-32ABB	A,S	SM,I	A	Unused well
East Lake Campground No. 1	21S/13E-32BBB		SM,I	SM,I	Campground supply well
China Hat Guard Station	22S/14E-22BBC	A	S	A	Campground, stock, and fire well
			Stream		
Paulina Creek near La Pine	21S/12E-34ACB	S	C	C	Sampled at stream gage site
Paulina Creek near USFS Road 21	21S/11E-28BCA	S	S,I	S,I	Approximately 100 feet upstream of bridge
			Lakes		
Paulina Lake Gage	21S/12E-34CCB		C		Stage recording gage
Paulina Lake PL-11-30	21S/12E-26ADAA01	S		S	Depth-of 30 feet
PL-11-60	21S/12E-26ADAA02	S		S	Depth of 60 feet
East Lake Gage	21S/13E-29CDDA05		C		Stage recording gage
East Lake EL-08-30	21S/13E-29CDDA01	S		S	Depth of 30 feet
EL-08-60	21S/13E-29CDDA02	S		S	Depth of 65 feet
EL-08-85	21S/13E-29CDDA03	S		S	Depth of 85 feet
			Weather		
Paulina Lake Weather Station	21S/12E-34ACB				Continuous measurements of precipitation, temperature, humidity, wind speed, and solar radiation

[1] See tables 5 and 6 for constituents analyzed.

Table 2. Midnight water-surface elevation of East Lake near La Pine, Oregon, and of Paulina Lake near La Pine, Oregon (U.S. Geological Survey stream-gaging stations 14063200 and 14063250, respectively)

[OCT = October, NOV = November, DEC = December, JAN = January, FEB = February, MAR = March, APR = April, JUN = June, JUL = July, AUG = August, SEP = September, --- = data not collected, MAX = Maximum, MIN = Minimum, CAL YR = Calendar Year, WTR YR = Water Year]

EAST LAKE, NEAR LA PINE, OREGON (14063200). ELEVATION, IN FEET, FROM FEBRUARY 13 TO SEPTEMBER 30, 1992

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	6375.46	---	6375.17	6374.80	6374.38	6373.99	6373.47
2	---	---	---	---	---	6375.45	6375.31	6375.17	6374.78	6374.39	6373.97	6373.47
3	---	---	---	---	---	6375.45	6375.29	6375.16	6374.77	6374.38	6373.95	6373.48
4	---	---	---	---	---	6375.45	6375.30	6375.15	6374.75	6374.38	6373.92	6373.47
5	---	---	---	---	---	6375.45	6375.30	6375.14	6374.73	6374.39	6373.90	6373.45
6	---	---	---	---	---	6375.46	6375.29	6375.13	6374.71	6374.37	6373.87	6373.43
7	---	---	---	---	---	6375.45	6375.27	6375.13	6374.70	6374.36	6373.84	6373.41
8	---	---	---	---	---	6375.44	---	6375.10	6374.68	6374.34	6373.82	6373.41
9	---	---	---	---	---	6375.44	---	6375.09	6374.66	6374.33	6373.80	6373.39
10	---	---	---	---	---	6375.43	---	6375.08	6374.64	6374.31	6373.78	6373.39
11	---	---	---	---	---	6375.42	---	6375.06	6374.61	6374.29	6373.76	6373.38
12	---	---	---	---	---	6375.42	---	6375.04	6374.58	6374.27	6373.76	6373.35
13	---	---	---	---	6375.36	6375.40	---	6375.03	6374.56	6374.26	6373.75	6373.35
14	---	---	---	---	6375.39	6375.41	---	6375.02	6374.55	6374.24	6373.75	6373.31
15	---	---	---	---	6375.39	6375.40	---	6375.01	6374.56	6374.22	6373.74	6373.32
16	---	---	---	---	6375.41	6375.41	---	6375.00	6374.55	6374.20	6373.74	6373.30
17	---	---	---	---	6375.41	6375.42	---	6374.99	6374.54	6374.19	6373.73	6373.29
18	---	---	---	---	6375.39	6375.41	---	6374.99	6374.52	6374.19	6373.71	6373.28
19	---	---	---	---	6375.43	6375.40	---	6374.98	6374.51	6374.19	6373.69	6373.27
20	---	---	---	---	6375.45	6375.38	---	6374.96	6374.50	6374.19	6373.69	6373.26
21	---	---	---	---	6375.51	6375.34	---	6374.95	6374.47	6374.17	6373.66	6373.26
22	---	---	---	---	6375.50	6375.33	6375.21	6374.93	6374.45	6374.15	6373.62	6373.25
23	---	---	---	---	6375.49	6375.34	6375.20	6374.92	6374.44	6374.14	6373.60	6373.22
24	---	---	---	---	6375.48	6375.33	6375.18	6374.92	6374.44	6374.12	6373.58	6373.27
25	---	---	---	---	6375.47	6375.33	6375.19	6374.91	6374.43	6374.10	6373.56	6373.27
26	---	---	---	---	6375.47	6375.33	6375.18	6374.88	6374.42	6374.09	6373.54	6373.25
27	---	---	---	---	6375.47	6375.32	6375.17	6374.87	6374.41	6374.07	6373.53	6373.25
28	---	---	---	---	6375.46	6375.31	6375.17	6374.86	6374.39	6374.06	6373.51	6373.24
29	---	---	---	---	6375.46	6375.31	6375.19	6374.84	6374.40	6374.04	6373.50	6373.22
30	---	---	---	---	---	---	6375.19	6374.82	6374.40	6374.03	6373.48	6373.19
31	---	---	---	---	---	---	---	6374.81	---	6374.01	6373.49	---
MAX	---	---	---	---	---	---	---	6375.17	6374.80	6374.39	6373.99	6373.48
MIN	---	---	---	---	---	---	---	6374.81	6374.39	6374.01	6373.48	6373.19

Table 2. Midnight water-surface elevation of East Lake near La Pine, Oregon, and of Paulina Lake near La Pine, Oregon (U.S. Geological Survey stream-gaging stations 14063200 and 14063250, respectively)—Continued

EAST LAKE, NEAR LA PINE, OREGON (14063200). ELEVATION, IN FEET FROM OCTOBER 1, 1992 TO SEPTEMBER 30, 1993

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6373.19	6372.99	6373.02	6373.38	6373.64	6373.72	6373.96	6374.18	6374.67	6374.58	6374.34	6374.10
2	6373.19	6372.97	6373.03	6373.37	6373.62	6373.73	6374.00	6374.19	6374.66	6374.58	6374.32	6374.10
3	6373.19	6372.96	6373.02	6373.37	6373.63	6373.73	6374.00	6374.27	6374.66	6374.57	6374.32	6374.09
4	6373.18	6372.96	6373.01	6373.43	6373.61	6373.75	6374.01	6374.26	6374.68	6374.56	6374.31	6374.08
5	6373.17	6372.95	6373.00	6373.45	6373.63	6373.75	6374.01	6374.26	6374.70	6374.55	6374.30	6374.07
6	6373.15	6372.94	6373.00	6373.44	6373.62	6373.74	6374.03	6374.29	6374.73	6374.53	6374.31	6374.06
7	6373.14	6372.95	6373.00	6373.47	6373.63	6373.73	6374.04	6374.31	6374.72	6374.52	6374.30	6374.05
8	6373.12	6372.96	6373.13	6373.48	6373.62	6373.72	6374.08	6374.29	6374.71	6374.51	6374.28	6374.04
9	6373.11	6372.97	6373.11	6373.48	6373.61	6373.72	6374.10	6374.29	6374.70	6374.49	6374.26	6374.03
10	6373.10	6372.96	6373.15	6373.47	6373.64	6373.74	6374.13	6374.30	6374.71	6374.49	6374.25	6374.02
11	6373.10	6372.97	6373.15	6373.47	6373.62	6373.74	6374.12	6374.29	6374.73	6374.47	6374.23	6373.99
12	6373.06	6372.97	6373.14	6373.46	6373.63	6373.72	6374.11	6374.30	6374.72	6374.46	6374.23	6373.97
13	6373.07	6372.96	6373.14	6373.48	6373.62	6373.73	6374.13	6374.32	6374.71	6374.44	6374.22	6373.96
14	6373.05	6372.96	6373.15	6373.50	6373.62	6373.74	6374.13	6374.31	6374.71	6374.45	6374.20	6373.93
15	6373.04	6372.95	6373.12	6373.51	6373.60	6373.76	6374.13	6374.32	6374.71	6374.45	6374.29	6373.92
16	6373.02	6372.94	6373.15	6373.53	6373.61	6373.81	6374.11	6374.34	6374.70	6374.43	6374.27	6373.90
17	6373.02	6372.94	6373.19	6373.52	6373.61	6373.84	6374.17	6374.34	6374.69	6374.42	6374.27	6373.89
18	6373.01	6372.94	6373.17	6373.51	6373.64	6373.87	6374.16	6374.33	6374.69	6374.41	6374.25	6373.88
19	6373.00	6372.96	6373.18	6373.52	6373.67	6373.88	6374.15	6374.31	6374.69	6374.42	6374.25	6373.86
20	---	6372.95	6373.18	6373.63	6373.68	6373.88	6374.16	6374.36	6374.69	6374.41	6374.29	6373.85
21	---	6372.98	6373.23	6373.63	6373.73	6373.87	6374.14	6374.38	6374.68	6374.40	6374.28	6373.83
22	6372.93	6373.03	6373.17	6373.67	6373.75	6373.90	6374.15	6374.38	6374.66	6374.45	6374.27	6373.81
23	6372.90	6373.00	6373.18	6373.69	6373.75	6373.94	6374.17	6374.38	6374.65	6374.44	6374.25	6373.80
24	6372.89	6372.99	6373.17	6373.69	6373.74	6373.97	6374.18	6374.44	6374.64	6374.43	6374.23	6373.79
25	6372.89	6372.98	6373.16	6373.69	6373.74	6373.97	6374.19	6374.49	6374.64	6374.42	6374.22	6373.78
26	6372.88	6372.97	6373.19	6373.67	6373.73	6373.97	6374.18	6374.50	6374.62	6374.41	6374.21	6373.78
27	6372.88	6372.98	6373.27	6373.67	6373.72	6373.96	6374.17	6374.53	6374.62	6374.40	6374.20	6373.77
28	6372.89	6372.99	6373.30	6373.66	6373.71	6373.95	6374.17	6374.54	6374.61	6374.40	6374.18	6373.76
29	6372.91	6372.97	6373.29	6373.65	---	6373.95	6374.18	6374.55	6374.60	6374.38	6374.16	6373.75
30	6372.93	6372.97	6373.33	6373.64	---	6373.94	6374.18	6374.59	6374.59	6374.36	6374.14	6373.74
31	6372.93	---	6373.38	6373.64	---	6373.95	---	6374.62	---	6374.35	6374.13	---
MAX	---	6373.03	6373.38	6373.69	6373.75	6373.97	6374.19	6374.62	6374.73	6374.58	6374.34	6374.10
MIN	---	6372.94	6373.00	6373.37	6373.60	6373.72	6373.96	6374.18	6374.59	6374.35	6374.13	6373.74

Table 2. Midnight water-surface elevation of East Lake near La Pine, Oregon, and of Paulina Lake near La Pine, Oregon (U.S. Geological Survey stream-gaging stations 14063200 and 14063250, respectively)—Continued

PAULINA LAKE, NEAR LA PINE, OREGON (14063250). ELEVATION IN FEET, FROM NOVEMBER 21, 1991 TO SEPTEMBER 30, 1992

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	6332.16	6332.32	6332.36	6332.53	6332.54	6332.59	6332.49	6332.16	6331.99	6331.53
2	---	---	6332.16	6332.32	6332.36	6332.53	6332.54	6332.58	6332.47	6332.18	6331.97	6331.52
3	---	---	6332.16	6332.29	6332.36	6332.53	6332.53	6332.58	6332.45	6332.17	6331.96	6331.52
4	---	---	6332.15	6332.37	6332.35	6332.53	6332.54	6332.57	6332.42	6332.18	6331.94	6331.51
5	---	---	6332.15	6332.34	6332.36	6332.54	6332.52	6332.56	6332.40	6332.21	6331.93	6331.49
6	---	---	6332.33	6332.35	6332.36	6332.53	6332.52	6332.56	6332.38	6332.21	6331.92	6331.48
7	---	---	6332.33	6332.34	6332.36	6332.54	6332.52	6332.55	6332.37	6332.19	6331.88	6331.46
8	---	---	6332.33	6332.34	6332.37	6332.54	6332.56	6332.53	6332.35	6332.18	6331.86	6331.45
9	---	---	6332.31	6332.33	6332.37	6332.54	6332.67	6332.53	6332.32	6332.18	6331.85	6331.44
10	---	---	6332.32	6332.36	6332.38	6332.53	6332.66	6332.52	6332.32	6332.17	6331.82	6331.44
11	---	---	6332.31	6332.36	6332.37	6332.54	6332.64	6332.52	6332.28	6332.16	6331.81	6331.43
12	---	---	6332.37	6332.36	6332.35	6332.54	6332.68	6332.52	6332.26	6332.14	6331.80	6331.41
13	---	---	6332.32	6332.36	6332.37	6332.54	6332.69	6332.52	6332.24	6332.12	6331.79	6331.39
14	---	---	6332.32	6332.36	6332.38	6332.53	6332.67	6332.52	6332.24	6332.11	6331.79	6331.37
15	---	---	6332.32	6332.36	6332.40	6332.53	6332.67	6332.52	6332.24	6332.10	6331.78	6331.35
16	---	---	6332.32	6332.39	6332.44	6332.54	6332.69	6332.52	6332.24	6332.09	6331.78	6331.34
17	---	---	6332.30	6332.38	6332.45	6332.55	6332.73	6332.53	6332.24	6332.09	6331.77	6331.33
18	---	---	6332.34	6332.37	6332.45	6332.55	6332.71	6332.52	6332.22	6332.09	6331.77	6331.32
19	---	---	6332.35	6332.36	6332.45	6332.55	6332.69	6332.53	6332.21	6332.09	6331.75	6331.30
20	---	---	6332.33	6332.37	6332.48	6332.54	6332.68	6332.52	6332.20	6332.12	6331.72	6331.30
21	---	6332.02	6332.32	6332.35	6332.51	6332.54	6332.65	6332.52	6332.19	6332.10	6331.70	6331.30
22	---	6332.02	6332.33	6332.36	6332.53	6332.54	6332.64	6332.52	6332.18	6332.10	6331.67	6331.28
23	---	6332.01	6332.32	6332.35	6332.53	6332.54	6332.63	6332.51	6332.18	6332.08	6331.66	6331.27
24	---	6332.09	6332.33	6332.35	6332.53	6332.54	6332.61	6332.51	6332.19	6332.08	6331.64	6331.32
25	---	6332.10	6332.33	6332.37	6332.54	6332.54	6332.60	6332.52	6332.18	6332.07	6331.61	6331.30
26	---	6332.17	6332.28	6332.36	6332.53	6332.54	6332.59	6332.51	6332.18	6332.06	6331.59	6331.29
27	---	6332.16	6332.26	6332.38	6332.53	6332.54	6332.59	6332.51	6332.16	6332.06	6331.57	6331.30
28	---	6332.18	6332.32	6332.38	6332.53	6332.53	6332.59	6332.51	6332.14	6332.04	6331.55	6331.28
29	---	6332.17	6332.32	6332.37	6332.56	6332.55	6332.58	6332.50	6332.17	6332.03	6331.54	6331.26
30	---	6332.16	6332.32	6332.39	---	6332.54	6332.59	6332.50	6332.17	6332.01	6331.52	6331.26
31	---	---	6332.32	6332.32	---	6332.54	---	6332.51	---	6332.00	6331.55	---
MEAN	---	---	6332.29	6332.35	6332.43	6332.54	6332.62	6332.53	6332.27	6332.11	6331.76	6331.37
MAX	---	---	6332.37	6332.39	6332.56	6332.55	6332.73	6332.59	6332.49	6332.21	6331.99	6331.53
MIN	---	---	6332.15	6332.29	6332.35	6332.53	6332.52	6332.50	6332.14	6332.00	6331.52	6331.26

Table 2. Midnight water-surface elevation of East Lake near La Pine, Oregon, and of Paulina Lake near La Pine, Oregon (U.S. Geological Survey stream-gaging stations 14063200 and 14063250, respectively)—Continued

PAULINA LAKE, NEAR LA PINE, OREGON (14063250). ELEVATION IN FEET, FROM OCTOBER 1, 1992 TO SEPTEMBER 30, 1993

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6331.25	6331.14	6331.25	6331.93	6332.58	6332.74	6332.65	6332.63	6332.79	6332.58	6332.56	6332.49
2	6331.26	6331.15	6331.32	6331.94	6332.58	6332.75	6332.67	6332.62	6332.77	6332.58	6332.56	6332.48
3	6331.26	6331.14	6331.31	6331.97	6332.59	6332.77	6332.66	6332.66	6332.76	6332.58	6332.54	6332.47
4	6331.21	6331.13	6331.30	6332.03	6332.57	6332.77	6332.68	6332.65	6332.76	6332.57	6332.55	6332.46
5	6331.19	6331.13	6331.26	6332.05	6332.60	6332.76	6332.66	6332.63	6332.77	6332.57	6332.55	6332.45
6	6331.21	6331.12	6331.22	6332.07	6332.60	6332.76	6332.66	6332.62	6332.76	6332.57	6332.67	6332.44
7	6331.19	6331.12	6331.25	6332.09	6332.64	6332.75	6332.65	6332.64	6332.75	6332.56	6332.65	6332.43
8	6331.17	6331.13	6331.40	6332.13	6332.62	6332.74	6332.71	6332.64	6332.73	6332.55	6332.63	6332.42
9	6331.13	6331.16	6331.46	6332.14	6332.63	6332.75	6332.72	6332.64	6332.72	6332.55	6332.62	6332.41
10	6331.12	6331.15	6331.44	6332.14	6332.66	6332.76	6332.71	6332.64	6332.71	6332.55	6332.60	6332.40
11	6331.11	6331.16	6331.46	6332.16	6332.65	6332.73	6332.70	6332.63	6332.70	6332.54	6332.60	6332.39
12	6331.09	6331.16	6331.47	6332.19	6332.65	6332.74	6332.68	6332.59	6332.70	6332.54	6332.60	6332.37
13	6330.99	6331.15	6331.47	6332.21	6332.65	6332.74	6332.70	6332.60	6332.69	6332.53	6332.59	6332.36
14	6330.95	6331.15	6331.49	6332.25	6332.64	6332.75	6332.68	6332.60	6332.68	6332.55	6332.59	6332.34
15	6331.05	6331.14	6331.49	6332.27	6332.65	6332.74	6332.67	6332.60	6332.67	6332.54	6332.67	6332.33
16	6331.04	6331.14	6331.53	6332.30	6332.64	6332.76	6332.64	6332.60	6332.66	6332.54	6332.65	6332.32
17	6331.04	6331.13	6331.57	6332.33	6332.65	6332.76	6332.69	6332.60	6332.66	6332.54	6332.64	6332.31
18	6331.03	6331.10	6331.57	6332.33	6332.68	6332.77	6332.68	6332.59	6332.66	6332.54	6332.63	6332.29
19	6331.01	6331.14	6331.57	6332.39	6332.70	6332.76	6332.66	6332.58	6332.65	6332.55	6332.62	6332.28
20	6331.04	6331.13	6331.57	6332.44	6332.71	6332.73	6332.66	6332.61	6332.64	6332.55	6332.65	6332.27
21	6331.07	6331.19	6331.62	6332.50	6332.77	6332.70	6332.64	6332.62	6332.64	6332.56	6332.64	6332.27
22	6331.07	6331.24	6331.59	6332.53	6332.78	6332.71	6332.65	6332.62	6332.62	6332.61	6332.62	6332.26
23	6331.06	6331.23	6331.64	6332.57	6332.77	6332.74	6332.66	6332.62	6332.62	6332.60	6332.61	6332.24
24	6331.05	6331.21	6331.65	6332.57	6332.77	6332.75	6332.67	6332.66	6332.62	6332.59	6332.60	6332.23
25	6331.04	6331.19	6331.66	6332.56	6332.76	6332.74	6332.66	6332.69	6332.62	6332.59	6332.59	6332.23
26	6331.03	6331.19	6331.69	6332.57	6332.76	6332.71	6332.65	6332.70	6332.61	6332.59	6332.58	6332.23
27	6331.04	6331.21	6331.71	6332.59	6332.75	6332.69	6332.64	6332.72	6332.61	6332.58	6332.57	6332.22
28	6331.06	6331.22	6331.79	6332.57	6332.74	6332.67	6332.62	6332.71	6332.59	6332.58	6332.56	6332.22
29	6331.09	6331.21	6331.82	6332.57	---	6332.66	6332.62	6332.68	6332.59	6332.57	6332.55	6332.21
30	6331.11	6331.20	6331.89	6332.57	---	6332.66	6332.61	6332.72	6332.59	6332.57	6332.54	6332.20
31	6331.15	---	6331.90	6332.58	---	6332.68	---	6332.77	---	6332.56	6332.51	---
MAX	6331.26	6331.24	6331.90	6332.59	6332.78	6332.77	6332.72	6332.77	6332.79	6332.61	6332.67	6332.49
MIN	6330.95	6331.10	6331.22	6331.93	6332.57	6332.66	6332.61	6332.58	6332.59	6332.53	6332.51	6332.20

CAL YR 1992 MAX 6332.73 MIN 6330.95
WTR YR 1993 MAX 6332.79 MIN 6330.95

Table 3. Mean daily water temperature, specific conductance, and discharge for Paulina Creek near La Pine, Oregon (U.S. Geological Survey stream-gaging station 14063300)

[OCT = October, NOV = November, DEC = December, JAN = January, FEB = February, MAR = March, APR = April, JUN = June, JUL = July, AUG = August, SEP = September, --- = data not collected, e = estimated, MAX = Maximum, MIN = Minimum, AC-FT = Acre-Feet, WTR YR = Water Year, CAL YR = Calendar Year]

DAILY MEAN VALUES OF WATER TEMPERATURE IN DEGREES CELSIUS, FROM NOVEMBER 21, 1991 TO SEPTEMBER 30, 1992

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	2.3	1.9	1.5	2.6	5.4	5.9	---	14.3	18.2	16.5
2	---	---	3.4	2.0	1.8	2.9	6.1	7.6	---	14.5	18.3	16.5
3	---	---	3.1	1.8	1.9	2.9	5.0	8.1	---	15.1	18.4	15.4
4	---	---	3.3	1.5	1.4	3.0	3.8	8.3	---	14.6	18.1	14.8
5	---	---	3.5	1.7	1.9	2.7	3.0	9.1	---	13.7	18.0	14.5
6	---	---	2.3	2.0	1.8	2.4	3.9	8.8	---	14.3	17.7	14.3
7	---	---	2.7	2.0	1.9	2.4	4.4	9.8	---	15.4	17.4	14.6
8	---	---	3.2	1.6	2.2	2.8	3.3	7.9	---	15.4	17.3	14.6
9	---	---	2.9	1.7	2.4	2.6	3.4	7.9	---	15.8	17.6	14.8
10	---	---	2.8	1.7	1.9	3.0	4.0	8.0	14.3	16.6	18.2	15.4
11	---	---	2.5	1.9	1.8	3.5	4.6	7.1	14.4	15.9	18.5	15.3
12	---	---	2.7	1.5	1.9	3.7	3.9	7.2	13.1	16.5	17.9	14.6
13	---	---	2.4	1.7	2.3	3.3	4.2	8.7	12.4	16.3	18.6	13.4
14	---	---	2.7	2.2	1.5	3.7	4.8	9.5	11.7	16.2	19.5	13.2
15	---	---	2.8	2.0	2.1	3.0	4.9	9.3	11.0	17.4	19.1	13.0
16	---	---	2.7	1.9	1.7	2.9	4.5	9.5	12.2	18.1	19.0	13.7
17	---	---	2.3	1.4	1.5	3.2	3.2	11.0	13.8	18.4	19.1	14.0
18	---	---	2.1	.8	1.3	3.3	5.0	9.6	15.0	18.1	19.4	14.3
19	---	---	2.3	1.3	1.4	3.7	5.7	9.7	16.4	17.5	19.0	14.1
20	---	---	1.6	1.7	1.6	3.6	5.9	9.5	17.3	16.4	18.2	14.5
21	---	3.3	2.6	1.9	1.4	3.8	4.7	9.6	16.8	17.3	17.7	15.6
22	---	2.6	2.6	2.1	1.9	3.2	4.3	11.4	17.4	15.3	16.4	15.0
23	---	3.5	2.6	1.9	2.5	3.5	5.0	13.2	18.7	16.5	15.9	13.3
24	---	4.3	2.6	2.0	3.4	4.4	4.3	14.2	17.4	16.9	15.6	11.2
25	---	4.4	3.1	1.3	3.5	4.0	5.8	14.1	16.9	18.1	15.9	12.8
26	---	3.4	2.8	1.7	3.5	4.5	5.7	13.1	17.1	18.4	16.5	12.9
27	---	3.0	2.5	1.7	3.2	3.6	6.6	12.4	17.4	17.9	16.7	12.8
28	---	2.0	2.5	1.8	2.6	4.2	7.2	---	15.3	18.0	16.5	13.4
29	---	1.1	1.9	2.1	2.9	5.1	5.7	---	14.3	18.2	16.5	13.0
30	---	.9	2.5	2.1	---	4.2	4.8	---	13.7	18.6	16.6	13.2
31	---	---	2.0	1.7	---	5.1	---	---	---	19.1	16.3	---
MEAN	---	---	2.6	1.8	2.1	3.4	4.8	---	---	16.6	17.7	14.2

Table 3. Mean daily water temperature, specific conductance, and discharge for Paulina Creek near La Pine, Oregon (U.S. Geological Survey stream-gaging station 14063300)—Continued

DAILY MEAN VALUES OF WATER TEMPERATURE IN DEGREES CELSIUS, FROM OCTOBER 1, 1992 TO SEPTEMBER 30, 1993

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.3	7.0	3.1	.5	.4	---	---	---	---	---	---	14.6
2	11.5	7.4	1.7	.7	.4	---	---	---	---	---	---	14.6
3	11.1	7.1	1.9	.6	.4	---	---	---	---	---	---	15.2
4	11.4	7.1	1.1	.3	.4	---	---	---	---	---	---	15.5
5	11.7	6.8	1.9	.6	.4	---	---	---	---	---	---	15.7
6	11.0	7.7	2.2	.5	.5	---	---	---	---	---	---	15.9
7	11.2	6.6	2.4	.3	.4	---	---	---	---	---	---	16.6
8	10.8	5.5	.8	.6	.4	---	---	---	---	---	---	16.2
9	11.2	5.1	1.6	.7	.4	---	---	---	6.4	---	---	16.2
10	11.8	4.5	.8	.7	.4	---	---	---	6.9	---	---	15.9
11	11.6	5.2	.9	.7	.3	.7	---	---	5.2	---	---	15.4
12	11.1	6.5	1.5	.4	.3	.6	---	---	7.1	---	---	13.7
13	10.9	6.2	1.6	.5	.4	.7	---	---	---	---	---	13.6
14	10.0	6.3	1.7	.5	.3	---	---	---	---	---	---	14.0
15	9.6	5.9	1.3	.6	.2	---	---	---	---	---	---	13.5
16	9.9	5.5	.8	.7	.1	---	---	---	---	---	---	12.8
17	10.4	5.5	.3	---	---	---	---	---	---	---	---	13.0
18	10.3	5.5	.8	---	---	---	---	---	---	---	---	13.3
19	10.3	4.1	1.2	---	---	---	---	---	---	---	---	13.2
20	9.7	4.7	.4	---	---	---	---	---	---	---	---	12.4
21	9.7	3.4	.6	---	---	---	---	---	---	---	---	11.9
22	9.9	3.1	.7	.2	---	---	---	---	---	---	---	11.9
23	10.2	2.7	1.3	.2	---	---	---	---	---	---	---	11.9
24	9.9	2.8	1.3	.3	---	---	---	---	---	---	---	12.1
25	9.8	3.4	1.3	.4	---	---	---	---	---	---	14.1	12.7
26	9.7	3.8	.8	.4	---	---	---	---	---	---	14.5	13.2
27	9.6	4.0	.5	.4	---	---	---	---	---	---	15.2	13.2
28	9.0	3.5	.0	.4	---	---	---	---	---	---	14.8	13.1
29	7.5	2.7	.4	.4	---	---	---	---	---	---	14.1	13.2
30	6.6	3.3	.4	.4	---	---	---	---	---	---	14.2	12.8
31	6.5	---	.0	.4	---	---	---	---	---	---	14.7	---
MEAN	10.2	5.1	1.1	---	---	---	---	---	---	---	---	13.9

Table 3. Mean daily water temperature, specific conductance, and discharge for Paulina Creek near La Pine, Oregon (U.S. Geological Survey stream-gaging station 14063300)—Continued

DAILY MEAN VALUES OF SPECIFIC CONDUCTANCE IN MICROSIEMENS AT 25 DEGREES CELSIUS, FROM NOVEMBER 21, 1991 TO SEPTEMBER 30, 1992

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	572	573	567	559	583	593	---	570	582	599
2	---	---	572	568	569	560	582	596	---	570	581	601
3	---	---	571	568	569	559	582	593	---	569	582	599
4	---	---	570	564	568	559	581	593	---	567	581	599
5	---	---	569	564	569	564	581	592	---	558	581	599
6	---	---	550	564	567	584	582	593	---	562	579	598
7	---	---	565	564	568	582	584	595	---	563	592	598
8	---	---	569	564	570	584	580	592	---	566	595	598
9	---	---	570	565	566	586	573	593	---	568	595	597
10	---	---	569	562	566	585	574	595	599	568	596	598
11	---	---	569	559	568	582	590	590	599	570	596	598
12	---	---	567	565	567	583	585	588	600	568	596	598
13	---	---	569	569	567	584	586	594	599	576	593	598
14	---	---	570	581	563	584	590	594	596	581	593	597
15	---	---	573	578	566	582	588	593	592	584	594	598
16	---	---	582	576	568	581	586	595	593	585	594	596
17	---	---	581	572	564	583	583	595	593	582	596	597
18	---	---	575	569	564	584	590	595	596	583	598	598
19	---	---	578	573	564	584	589	592	597	582	596	597
20	---	---	579	576	564	585	591	596	595	577	599	597
21	---	580	578	574	563	584	591	595	593	577	596	598
22	---	580	578	574	566	583	593	598	593	582	601	598
23	---	579	578	571	569	584	591	600	592	581	600	597
24	---	570	577	570	570	584	591	601	591	580	598	593
25	---	572	577	566	566	583	592	599	586	579	598	599
26	---	574	577	568	560	583	593	599	586	581	600	598
27	---	574	575	566	561	582	594	599	586	583	599	597
28	---	576	574	566	559	583	596	---	583	582	599	595
29	---	572	571	568	559	582	590	---	578	583	600	594
30	---	575	572	566	---	581	588	---	573	583	599	591
31	---	---	572	565	---	582	---	---	---	582	598	---
MEAN	---	---	573	569	566	580	587	---	---	576	594	597

Table 3. Mean daily water temperature, specific conductance, and discharge for Paulina Creek near La Pine, Oregon (U.S. Geological Survey stream-gaging station 14063300)—Continued

DAILY MEAN VALUES OF SPECIFIC CONDUCTANCE IN MICROSIEMENS AT 25 DEGREES CELSIUS, FROM OCTOBER 1, 1992 TO SEPTEMBER 30, 1993

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	580	537	522	520	567	---	---	---	---	589	---	590
2	585	540	514	523	567	---	---	---	---	586	---	590
3	584	540	525	524	568	---	---	---	---	583	---	590
4	583	540	527	527	568	---	---	---	---	---	---	589
5	546	546	530	527	568	---	---	---	---	---	---	590
6	511	545	528	523	568	---	---	---	---	---	---	591
7	488	537	527	519	568	---	---	---	---	---	575	589
8	509	540	525	518	568	---	---	---	---	---	586	593
9	508	538	526	519	570	---	---	---	592	---	587	596
10	514	533	520	520	569	---	---	---	592	---	588	596
11	569	530	527	521	569	579	---	---	592	---	589	595
12	596	530	523	517	570	580	---	---	592	---	584	595
13	598	538	527	516	570	579	---	---	---	---	585	595
14	592	537	525	---	570	---	---	---	---	---	588	594
15	588	539	529	---	572	---	---	---	589	---	580	594
16	584	537	532	---	573	---	---	---	590	---	582	594
17	578	539	525	---	---	---	---	---	591	---	584	594
18	576	541	527	---	---	---	---	---	591	---	584	594
19	572	534	530	---	---	---	---	---	590	---	583	594
20	566	537	525	---	---	---	---	---	589	---	571	595
21	562	524	526	---	---	---	---	---	589	---	581	597
22	564	522	526	557	---	---	---	---	589	---	582	599
23	561	529	529	561	---	---	---	---	589	585	583	601
24	560	529	532	563	---	---	---	---	589	588	587	601
25	553	527	539	564	---	---	---	---	588	589	588	604
26	552	525	531	565	---	---	---	---	591	588	587	605
27	549	517	523	565	---	---	---	---	589	588	587	606
28	544	524	518	565	---	---	---	---	590	587	588	609
29	539	524	520	566	---	---	---	---	589	---	589	609
30	535	526	522	566	---	---	---	---	589	---	587	610
31	536	---	519	567	---	---	---	---	---	---	587	---
MEAN	557	533	526	---	---	---	---	---	---	---	---	597

Table 3. Mean daily water temperature, specific conductance, and discharge for Paulina Creek near La Pine, Oregon (U.S. Geological Survey stream-gaging station 14063300)—Continued

DAILY MEAN VALUES OF DISCHARGE IN CUBIC FEET PER SECOND, FROM OCTOBER 1, 1991 TO SEPTEMBER 30, 1992

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e11	e10	9.9	11	10	13	14	18	16	13	e15	16
2	e11	e10	9.5	11	10	13	14	17	24	13	e15	15
3	e11	e10	9.2	11	10	13	13	17	22	13	e15	16
4	e11	e10	8.9	11	10	13	13	16	21	13	e15	16
5	e11	e10	9.0	11	10	14	13	16	20	13	e15	16
6	e10	e10	11	11	10	13	13	16	19	13	e15	16
7	e10	e10	12	11	10	14	13	16	18	14	e15	16
8	e10	e9.5	11	11	10	13	14	15	18	15	e15	16
9	e10	e9.5	11	11	10	13	18	15	17	13	e15	16
10	e10	e9.5	11	11	10	13	20	15	17	14	e15	15
11	e10	e9.5	11	11	10	13	20	14	17	15	e15	15
12	e10	e9.5	12	11	12	13	20	14	16	16	14	15
13	e10	e9.5	12	11	8.5	13	22	14	16	16	13	15
14	e10	e9.5	12	11	5.2	13	21	13	16	16	13	15
15	e10	e9.5	11	11	6.4	13	20	13	16	e16	12	15
16	e10	e9.5	11	11	7.1	13	20	14	16	e16	12	16
17	e10	e9.5	11	11	8.1	13	23	14	16	e16	11	16
18	e10	e9.0	11	11	8.2	14	22	14	15	e16	11	16
19	e10	e9.0	12	11	9.2	13	21	14	15	e16	11	16
20	e10	e9.0	12	11	11	13	20	13	14	e16	14	15
21	e10	9.2	11	11	12	13	20	13	13	e16	17	15
22	e10	9.3	11	11	13	13	19	13	12	e16	16	15
23	e10	9.1	11	11	13	13	18	13	12	e16	14	15
24	e10	9.3	11	11	14	13	18	12	12	e16	12	16
25	e10	9.7	11	11	14	13	17	12	12	e16	13	16
26	e10	9.9	11	11	14	14	17	12	13	e15	16	15
27	e10	10	11	11	13	14	16	11	14	e15	16	15
28	e10	10	10	11	13	14	16	11	14	e15	16	15
29	e10	9.2	11	11	13	14	16	10	14	e15	16	16
30	e10	9.8	11	11	---	14	17	10	13	e15	16	14
31	e10	---	11	11	---	14	---	9.9	---	e15	16	---
TOTAL	315	287.5	337.5	341	304.7	412	528	424.9	478	463	444	464
MEAN	10.2	9.58	10.9	11.0	10.5	13.3	17.6	13.7	15.9	14.9	14.3	15.5
MAX	11	10	12	11	14	14	23	18	24	16	17	16
MIN	10	9.0	8.9	11	5.2	13	13	9.9	12	13	11	14
AC-FT	625	570	669	676	604	817	1050	843	948	918	881	920

WTR YR 1992 TOTAL 4799.6 MEAN 13.1 MAX 24 MIN 5.2 AC-FT 9520

Table 3. Mean daily water temperature, specific conductance, and discharge for Paulina Creek near La Pine, Oregon (U.S. Geological Survey stream-gaging station 14063300)—Continued

DAILY MEAN VALUES OF DISCHARGE IN CUBIC FEET PER SECOND, FROM OCTOBER 1, 1992 TO SEPTEMBER 30, 1993

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	15	14	3.0	8.1	e16	22	20	30	16	14	23
2	13	15	14	3.0	8.2	e14	22	20	30	16	14	22
3	14	15	14	3.0	8.2	e13	23	22	30	16	13	21
4	17	15	14	3.2	8.3	e12	23	22	29	15	13	20
5	19	14	14	3.1	8.6	e14	e24	21	29	15	13	20
6	16	14	14	3.0	8.9	e15	23	22	30	14	15	19
7	16	14	14	2.0	9.0	e16	23	22	29	14	21	18
8	15	14	14	1.8	9.1	e13	23	22	28	13	20	18
9	16	14	11	1.9	9.2	e16	26	21	28	13	19	18
10	20	14	4.4	1.9	9.4	e17	27	21	26	13	18	17
11	20	15	4.5	1.9	9.7	15	26	20	26	13	17	17
12	19	15	4.6	1.9	10	14	25	20	26	12	17	16
13	22	15	4.6	2.0	10	16	24	20	25	12	17	16
14	25	15	4.3	1.9	10	22	24	18	24	12	17	15
15	19	15	4.0	1.9	e9.4	23	24	18	23	12	19	15
16	15	15	4.0	1.8	e7.2	25	23	18	23	12	22	15
17	15	15	3.9	e1.7	e7.4	28	23	18	22	12	21	15
18	16	15	3.8	e1.8	e7.8	29	24	18	21	12	19	15
19	16	15	3.8	e1.9	e7.6	29	23	18	21	12	19	15
20	15	15	3.8	e2.0	e7.0	e27	22	19	21	13	22	15
21	14	15	3.8	e2.2	e7.2	26	22	19	20	13	21	15
22	14	15	3.9	4.1	e8.2	25	22	20	20	15	20	15
23	15	15	3.9	5.8	e7.6	28	22	20	19	17	19	14
24	15	14	3.7	7.3	e6.8	29	23	20	19	16	18	14
25	15	14	3.4	7.9	e7.6	28	23	24	19	16	17	14
26	16	14	3.3	7.9	e11	27	23	25	18	15	17	14
27	16	14	3.3	7.9	e13	25	22	26	18	15	16	14
28	15	14	3.2	7.8	e15	24	21	26	17	15	16	15
29	15	14	3.2	8.0	---	22	21	26	17	14	16	15
30	15	14	3.3	8.2	---	21	20	25	16	14	15	14
31	15	---	3.1	8.2	---	21	---	28	---	14	18	---
TOTAL	504	437	206.8	120.0	249.5	650	693	659	704	431	543	494
MEAN	16.3	14.6	6.67	3.87	8.91	21.0	23.1	21.3	23.5	13.9	17.5	16.5
MAX	25	15	14	8.2	15	29	27	28	30	17	22	23
MIN	11	14	3.1	1.7	6.8	12	20	18	16	12	13	14
AC-FT	1000	867	410	238	495	1290	1370	1310	1400	855	1080	980

CAL YR 1992 TOTAL 5007.4 MEAN 13.7 MAX 25 MIN 3.1 AC-FT 9930
WTR YR 1993 TOTAL 5691.3 MEAN 15.6 MAX 30 MIN 1.7 AC-FT 11290

Table 4. Data for selected wells in the vicinity of Newberry Volcano near La Pine, Oregon

[Latitude and longitude are given in ° (degrees), ' (minutes), " (seconds). Key to primary use of site codes: C = standby or emergency supply, O = observation, U = unused, W = withdrawal. No. = number, RV = recreational vehicle]

LOCATION	WELL NAME	OWNER NAME	DATE CONSTRUCTED	LATITUDE	LONGITUDE	ALTITUDE OF LAND SURFACE (FEET)	DEPTH OF WELL (FEET)	DIAMETER OF CASING (INCHES)	PRIMARY USE OF SITE (CODES)
22S/10E-15AAA	La Pine High School	School District One	03-10-83	43°45'00"	121°15'00"	4233	1460	16	W
21S/11E-19CCC	State Observation Well	Kelldano Ranch	10-06-64	43°44'00"	121°27'58"	4220	100	6.0	U
21S/11E-28CBA	Prairie Campground	U.S. Forest Service	04-18-67	43°43'30"	121°25'21"	4314	150	8.0	W
21S/12E-26AAB01	Paulina Lake Hot Springs No. 1	U.S. Geological Survey	08-14-91	43°43'56"	121°15'08"	6331	5.14	1.25	O
21S/12E-26AAB02	Paulina Lake Hot Springs No. 2B	U.S. Geological Survey		43°43'56"	121°15'08"	6332		1.00	O
21S/12E-34ACB01	Paulina Lake Lodge No. 1	Paulina Lake Lodge	11-13-80	43°42'52"	121°16'33"	6350	52	6.0	C
21S/12E-34ACC	Paulina Guard Station	U.S. Forest Service	09-08-83	43°42'42"	121°16'36"	6360	85	6.0	W
21S/12E-35DCB	Newberry Groupsite Campground	U.S. Forest Service	06-29-87	43°42'21"	121°15'22"	6365	60	6.0	W
21S/12E-36BAA	Little Crater Campground No. 3	U.S. Forest Service	09-16-61	43°43'03"	121°14'21"	6350	49.7	.0	U
21S/13E-20CAD01	Cinder Hill Campground No. 1	U.S. Forest Service	10-09-59	43°44'17"	121°11'57"	6420	38	.0	U
21S/13E-20CAD02	Cinder Hill Campground No. 2	U.S. Forest Service	10-13-59	43°44'15"	121°11'59"	6420	32	6.0	U
21S/13E-29AAC	Cinder Hill Campground No. 7	U.S. Forest Service	08-24-3	43°43'50"	121°11'37"		76	6.0	W
21S/13E-29ABA01	Cinder Hill Campground No. 5	U.S. Forest Service	09-20-1	43°43'56"	121°11'39"	6400	30	6.0	U
21S/13E-29ABA02	Cinder Hill Campground No. 6	U.S. Forest Service	09-19-	43°43'59"	121°11'39"	6400	30	6.0	U
21S/13E-29CDD05	East Lake Hot rings No. 5A	U.S. Forest Service		43°43'13"	121°11'57"	6380		1.00	O
21S/13E-29CDD06	East Lake Hot rings No. 5B	U.S. Forest Service		43°43'13"	121°11'57"	6380		1.00	O
21S/13E-29CDD01	East Lake Hot Springs No. 4	U.S. Geological Survey	08-14-91	43°43'13"	121°11'57"	6381	2.41	1.25	O
21S/13E-29CDD02	East Lake Hot Springs No. 3	U.S. Geological Survey	08-14-91	43°43'13"	121°11'57"	6380	6.19	1.25	O
21S/13E-29CDD03	East Lake Hot Springs No. 2	U.S. Geological Survey	08-14-91	43°43'13"	121°11'57"	6380	1.34	1.25	O
21S/13E-29DCA01	Geo-Newberry Well	U.S. Geological Survey	07-1-87	43°4-'20"	121°11'42"	6380	100	6.0	W
21S/13E-29DDB	East Lake RV Park	Sailing, Bob	09-12-78	43°43'20"	121°11'36"	6420	80	6.0	W
21S/13E-31CDB	Sandia Well	U.S. For- Service	09-15-83	43°42'20"	121°13'21"	6435	90	6.0	C
21S/13E-32ABB	Hot Springs Campground No. 1	U.S. For- Service	09-21-61	43°43'05"	121°11'53"	6400	32	6.0	W
21S/13E-32BBB	East Lake Campground No. 1	U.S. Forest Service	10-12-62	43°43'04"	121°12'30"	6400	50	6.0	W
22S/14E-22BBC	China Hat Guard Station	U.S. Forest Service	01-18-85	43°[illegible]9'34"	121°02'13"	5180	853	8.0	W

Table 5. Water-quality data for wells and springs in the vicinity of Newberry Volcano near La Pine, Oregon

[DEG C = degrees Celsius, US/CM = microsiemens per centimeter at 25 degrees Celsius, LAB = laboratory, -- = data not available, MG/L = milligrams per liter, NTU = nephelometric turbidity unit, UG/L = micrograms per liter, < = less than, PCi/L = picocuries per liter, MIL = per 1,000]

LOCATION	STATION NUMBER	LABORATORY NUMBER	DATE	TIME	TEMPERATURE WATER (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	SPECIFIC CONDUCTANCE LAB (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	PH WATER WHOLE LAB (STANDARD UNITS)
21S/11E-28CBA	434330121252101	2800039	10-01-91	1015	10.0	76	80	8.2	7.9
		1880160	06-25-92	1030	--	73	78	7.8	7.9
		2760122	09-30-92	1515	10.0	71	78	8.0	7.4
		2630020	09-15-93	1230	10.0	73	82	7.7	8.0
21S/12E-26AAB	434356121150801	2310238	08-15-91	1000	45.5	1110	1100	6.3	6.6
		0970020	04-01-92	1700	34.0	1070	1030	6.7	8.1
		1880206	06-24-92	1730	41.5	1070	1080	6.3	6.8
		2790091	10-01-92	1030	35.0	1040	1030	6.4	7.0
		1800200	06-23-93	1000	40.5	1070	1060	6.3	6.9
		2630017	09-16-93	0930	39.5	1030	1020	6.5	6.9
21S/12E-26AAB03	434356121150803	2950100	10-07-93	1415	55.5	1150	1090	6.3	6.8
21S/12E-34ACB01	434252121163301	2790093	10-01-92	1615	8.5	165	665	7.3	7.4
21S/12E-34ACC	434242121163601	2800040	09-30-91	1530	5.0	72	74	7.2	7.5
		1880205	06-24-92	1330	5.0	69	74	7.0	7.0
		2760121	09-29-92	1045	5.0	63	74	7.1	7.1
		2630028	09-14-93	0945	5.0	64	80	6.9	7.5
21S/12E-35DCB	434221121152201	2800036	10-01-91	1415	6.0	98	102	7.2	7.6
		1880199	06-23-92	1130	7.0	95	100	7.1	7.6
		2760118	09-29-92	0915	6.0	87	96	7.2	7.2
21S/12E-36BAA	434303121142101	2280136	08-14-91	1230	36.0	965	982	6.0	6.2
		1780071	06-24-92	1000	35.5	964	978	5.9	6.5
		2760120	09-29-92	1230	36.5	974	987	5.8	6.4
		1800193	06-23-93	1515	36.0	1010	998	5.8	6.5
		2630025	09-14-93	1415	34.0	1020	994	6.0	6.7
21S/13E-29CDD01	434313121115701	2310239	08-15-91	1415	67.0	826	815	6.2	6.7
		0970023	04-01-92	1030	60.0	875	813	6.4	8.2
		1880202	06-23-92	1500	52.5	788	829	6.8	7.4
21S/13E-29CDD02	434313121115702	2390160	08-15-91	1420	42.0	880	--	--	--
		2790090	10-01-92	1530	48.5	626	636	6.0	6.6
		1800196	06-24-93	1105	46.0	741	735	5.9	6.5
		2950099	10-07-93	1030	49.5	714	675	6.0	6.4
21S/13E-29CDD03	434313121115703	2390159	08-15-91	1530	39.5	680	--	--	--
21S/13E-29CDD06	434313121115706	2950101	10-07-93	1000	59.5	846	812	6.3	6.6

Table 5. Water-quality data for wells and springs in the vicinity of Newberry Volcano near La Pine, Oregon—Continued

LOCATION	STATION NUMBER	LABORATORY NUMBER	DATE	TIME	TEMPERATURE WATER (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	SPECIFIC CONDUCTANCE LAB (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	PH WATER WHOLE LAB (STANDARD UNITS)
21S/13E-29DCA	434320121114201	2280138	08-13-91	1730	3.5	52	58	8.5	7.1
		1880200	06-23-92	1700	3.5	53	55	8.4	8.0
		2760119	09-29-92	0845	3.5	47	55	8.7	7.6
		2630023	09-15-93	1045	3.5	46	58	8.1	7.7
21S/13E-31CDB	434220121132101	2280140	08-13-91	1200	23.0	630	608	6.4	6.6
		1880201	06-23-92	1030	25.5	618	623	6.3	6.7
		2760124	09-30-92	0945	25.5	685	688	6.2	6.9
		1800201	06-23-93	1630	24.5	758	761	6.2	6.8
		2630026	09-14-93	1530	25.0	793	792	6.3	7.2
21S/13E-32ABB	434305121115301	2310237	08-15-91	1745	7.5	252	264	6.7	6.8
		1880044	06-24-92	1200	9.0	265	272	6.5	7.1
		2760125	09-29-92	1545	9.0	259	275	6.5	7.1
		2630030	09-15-93	1015	7.5	117	129	6.5	7.9
22S/10E-15AAA	434026121292001	2310240	08-16-91	1030	8.5	106	110	8.4	7.3
		2630019	09-15-93	1615	9.5	107	115	7.9	7.3
22S/14E-22BBC	433934121021301	2800037	09-30-91	1100	11.5	96	100	8.6	8.1
		2630024	09-15-93	0815	11.5	91	101	8.1	8.1

Table 5. Water-quality data for wells and springs in the vicinity of Newberry Volcano near La Pine, Oregon—Continued

LOCATION	DATE	OXYGEN, DIS-SOLVED (MG/L)	TUR-BID-ITY LAB (NTU)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
21S/11E-28CBA	10-01-91	9.5	0.30	24	4.2	3.2	7.4	39	0.7	1.4
	06-25-92	8.8	0.50	23	4.0	3.1	8.0	41	0.7	1.5
	09-30-92	9.3	0.30	22	3.9	2.9	7.2	40	0.7	1.4
	09-15-93	9.1	--	24	4.0	3.3	7.3	39	0.7	1.4
21S/12E-26AAB	08-15-91	--	0.30	320	53	45	130	46	3	15
	04-01-92	3.5	0.90	290	47	41	110	44	3	16
	06-24-92	0.6	0.30	340	56	48	130	44	3	18
	10-01-92	2.2	0.20	290	49	41	120	46	3	13
	06-23-93	1.3	--	300	49	43	120	45	3	17
	09-16-93	2.2	--	300	51	42	110	43	3	17
21S/12E-26AAB03	10-07-93	0.3	--	330	55	46	130	45	3	15
21S/12E-34ACB01	10-01-92	--	2.3	250	44	35	42	26	1	6.9
21S/12E-34ACC	09-30-91	9.0	0.30	21	3.6	2.9	6.8	39	0.6	1.6
	06-24-92	9.2	0.20	21	3.5	2.9	6.8	39	0.7	1.6
	09-29-92	9.7	0.20	20	3.5	2.7	6.8	40	0.7	1.7
	09-14-93	9.7	--	19	3.3	2.7	6.5	40	0.6	1.6
21S/12E-35DCB	10-01-91	8.9	0.70	37	7.4	4.4	6.2	26	0.4	1.7
	06-23-92	9.0	0.40	36	7.5	4.2	6.4	27	0.5	1.6
	09-29-92	9.5	0.30	34	7.0	4.0	5.7	26	0.4	1.6
21S/12E-36BAA	08-14-91	0.1	5.2	350	53	52	90	35	2	10
	06-24-92	0.2	4.2	370	57	54	90	34	2	12
	09-29-92	0.1	32	320	50	48	85	35	2	11
	06-23-93	0.2	--	330	50	49	86	35	2	11
	09-14-93	0.1	--	350	56	50	83	33	2	11
21S/13E-29CDD01	08-15-91	--	4.6	310	68	33	59	29	1	8.0
	04-01-92	0.5	1.2	300	67	33	53	27	1	11
	06-23-92	2.5	0.40	340	76	37	58	26	1	8.7
21S/13E-29CDD02	08-15-91	--	--	--	--	--	--	--	--	--
	10-01-92	1.6	1.8	210	48	23	51	33	2	8.4
	06-24-93	0.4	--	260	57	28	54	30	1	9.4
	10-07-93	0.2	--	240	56	25	53	31	1	10
21S/13E-29CDD03	08-15-91	--	--	--	--	--	--	--	--	--
21S/13E-29CDD06	10-07-93	0.2	--	320	73	33	54	26	1	9.4

Table 5. Water-quality data for wells and springs in the vicinity of Newberry Volcano near La Pine, Oregon—Continued

LOCATION	DATE	OXYGEN, DIS-SOLVED (MG/L)	TUR-BID-ITY LAB (NTU)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
21S/13E-29DCA	08-13-91	10.9	0.50	20	4.5	2.1	4.3	31	0.4	0.70
	06-23-92	10.2	0.40	19	4.3	1.9	4.0	31	0.4	0.60
	09-29-92	10.9	0.20	19	4.4	1.9	3.6	29	0.4	0.60
	09-15-93	10.6	--	19	4.2	2.0	3.6	29	0.4	0.70
21S/13E-31CDB	08-13-91	3.6	49	230	34	34	49	31	1	7.2
	06-23-92	3.4	1.3	230	37	34	47	30	1	7.8
	09-30-92	3.1	200	260	40	38	51	29	1	8.3
	06-23-93	2.6	--	290	44	43	59	30	2	8.9
	09-14-93	2.1	--	300	47	44	57	29	1	9.0
21S/13E-32ABB	08-15-91	5.9	1.8	100	24	9.8	16	25	0.7	4.0
	06-24-92	5.5	120	100	25	10	17	26	0.7	3.1
	09-29-92	--	12	100	25	10	16	24	0.7	4.3
	09-15-93	8.4	--	42	9.9	4.2	9.1	30	0.6	2.5
22S/10E-15AAA	08-16-91	0	1.6	35	5.4	5.1	10	37	0.7	1.7
	09-15-93	--	--	34	5.1	5.2	9.0	35	0.7	1.8
22S/14E-22BBC	09-30-91	8.6	0.40	26	4.4	3.7	11	46	0.9	1.9
	09-15-93	8.9	--	25	4.1	3.6	11	47	1	1.9

Table 5. Water-quality data for wells and springs in the vicinity of Newberry Volcano near La Pine, Oregon—Continued

LOCATION	DATE	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)
21S/11E-28CBA	10-01-91	38	41	<0.10	0.10	0.20	37	73	--	0.010
	06-25-92	39	40	0.60	0.70	<0.10	34	56	77	0.020
	09-30-92	35	39	0.80	0.90	0.10	37	74	78	<0.010
	09-15-93	35	43	0.60	3.9	0.10	35	--	82	0.020
21S/12E-26AAB	08-15-91	629	643	3.3	11	<0.10	190	786	837	0.120
	04-01-92	610	558	2.7	12	0.60	200	768	767	0.090
	06-24-92	628	638	2.8	6.4	0.80	210	784	858	0.110
	10-01-92	594	595	3.5	5.5	0.60	140	742	736	0.140
	06-23-93	612	601	2.5	4.9	0.60	190	--	795	0.130
	09-16-93	586	586	3.5	6.7	0.60	190	--	776	0.160
21S/12E-26AAB03	10-07-93	--	635	3.9	7.1	0.60	210	--	852	--
21S/12E-34ACB01	10-01-92	380	406	<0.10	3.2	0.60	46	412	--	0.660
21S/12E-34ACC	09-30-91	36	37	0.30	1.1	0.70	47	78	87	<0.010
	06-24-92	33	33	0.30	0.50	0.70	44	78	81	<0.010
	09-29-92	32	35	0.50	0.70	0.70	48	56	86	<0.010
	09-14-93	33	35	0.40	7.4	0.70	43	--	87	0.020
21S/12E-35DCB	10-01-91	45	47	0.60	3.2	0.20	47	88	102	0.020
	06-23-92	--	45	0.70	2.7	<0.10	43	94	95	<0.010
	09-29-92	42	44	0.90	2.9	0.20	47	90	98	<0.010
21S/12E-36BAA	08-14-91	580	578	<0.10	0.40	0.50	160	700	--	0.360
	06-24-92	568	574	0.70	6.9	0.60	150	652	722	0.380
	09-29-92	--	574	<0.10	5.9	0.50	130	681	--	0.380
	06-23-93	571	534	<0.10	5.6	0.50	150	--	--	0.390
	09-14-93	572	577	<0.10	7.1	0.60	140	--	--	0.390
21S/13E-29CDD01	08-15-91	462	486	3.4	0.90	<0.10	230	664	699	0.900
	04-01-92	456	425	3.1	6.9	0.20	140	640	574	0.880
	06-23-92	488	493	0.40	2.3	0.10	210	636	693	0.840
21S/13E-29CDD02	08-15-91	--	--	--	--	--	--	--	--	--
	10-01-92	350	356	5.1	1.1	0.20	160	522	514	0.330
	06-24-93	398	409	4.6	0.80	0.20	150	--	572	0.420
	10-07-93	--	368	12	2.4	0.10	170	--	551	--
21S/13E-29CDD03	08-15-91	--	--	--	--	--	--	--	--	--
21S/13E-29CDD06	10-07-93	--	442	13	24	0.10	220	--	694	--

Table 5. Water-quality data for wells and springs in the vicinity of Newberry Volcano near La Pine, Oregon—Continued

LOCATION	DATE	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)
21S/13E-29DCA	08-13-91	38	29	0.20	0.20	<0.10	23	50	53	<0.010
	06-23-92	28	29	0.20	<0.10	<0.10	22	34	--	<0.010
	09-29-92	26	29	0.40	0.30	0.10	23	38	52	<0.010
	09-15-93	27	30	0.40	3.3	0.10	22	--	55	0.010
21S/13E-31CDB	08-13-91	340	347	0.90	6.2	0.50	81	408	422	0.00
	06-23-92	356	357	<0.10	--	0.50	92	398	--	<0.010
	09-30-92	402	391	0.30	2.5	0.60	77	436	455	<0.010
	06-23-93	438	427	<0.10	2.6	0.50	90	--	--	0.030
	09-14-93	444	455	<0.10	6.6	0.50	89	--	--	0.020
21S/13E-32ABB	08-15-91	134	137	6.3	0.60	<0.10	41	178	185	<0.010
	06-24-92	142	141	5.0	--	<0.10	49	176	--	0.020
	09-29-92	142	143	4.2	0.50	0.10	53	178	200	<0.010
	09-15-93	60	66	1.5	12	0.10	44	--	124	0.020
22S/10E-15AAA	08-16-91	55	57	1.2	0.70	0.10	28	80	88	0.440
	09-15-93	56	55	1.1	3.2	0.10	31	--	91	0.480
22S/14E-22BBC	09-30-91	49	51	0.70	1.8	0.20	40	83	96	0.020
	09-15-93	50	49	0.80	4.1	0.20	37	--	93	0.010

Table 5. Water-quality data for wells and springs in the vicinity of Newberry Volcano near La Pine, Oregon—Continued

LOCATION	DATE	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)
21S/11E-28CBA	10-01-91	--	<0.050	0.070	0.010	20	4	<1	1	<2
	06-25-92	--	0.085	0.070	0.080	--	8	2	--	--
	09-30-92	--	0.072	0.170	0.080	<10	<3	<1	--	--
	09-15-93	<0.010	0.081	0.080	0.090	--	<3	<1	1	<2
21S/12E-26AAB	08-15-91	--	0.230	0.140	0.140	<10	9	760	12	60
	04-01-92	--	0.290	0.120	0.150	<10	<3	320	12	34
	06-24-92	--	0.210	0.130	0.150	20	<33	480	13	52
	10-01-92	--	0.970	0.130	0.150	<10	9	680	10	72
	06-23-93	<0.010	1.20	0.120	0.140	--	9	460	12	47
	09-16-93	<0.010	0.290	0.110	0.120	--	<3	570	10	60
21S/12E-26AAB03	10-07-93	--	--	--	--	--	10	1600	12	280
21S/12E-34ACB01	10-01-92	--	<0.050	<0.010	0.010	--	2700	3000	--	--
21S/12E-34ACC	09-30-91	--	<0.050	0.120	0.100	<10	10	<1	3	<2
	06-24-92	--	0.062	0.070	0.090	--	7	1	--	--
	09-29-92	--	<0.050	0.110	0.100	<10	11	<1	--	--
	09-14-93	<0.010	0.073	0.090	0.100	--	10	<1	3	<2
21S/12E-35DCB	10-01-91	--	0.710	0.050	0.060	<10	5	<1	<1	<2
	06-23-92	--	0.500	0.030	0.040	--	11	<1	--	--
	09-29-92	--	0.460	0.050	0.050	<10	9	<1	--	--
21S/12E-36BAA	08-14-91	--	<0.050	0.080	0.070	<10	4500	270	1	26
	06-24-92	--	<0.050	0.210	0.180	20	3800	280	1	25
	09-29-92	--	<0.050	0.330	0.190	<10	4500	240	<1	26
	06-23-93	<0.010	--	0.050	0.050	--	4600	240	<1	24
	09-14-93	<0.010	<0.050	0.100	0.060	--	4600	250	<1	23
21S/13E-29CDD01	08-15-91	--	<0.050	0.360	0.340	<10	410	1000	<1	<100
	04-01-92	--	<0.050	0.370	0.390	<10	30	870	<1	7
	06-23-92	--	<0.050	0.390	0.400	20	34	1000	<1	9
21S/13E-29CDD02	08-15-91	--	--	--	--	--	--	--	--	--
	10-01-92	--	<0.050	0.550	0.620	10	53	530	2	9
	06-24-93	<0.010	--	0.530	0.560	--	260	630	2	9
	10-07-93	--	--	--	--	--	250	570	2	9
21S/13E-29CDD03	08-15-91	--	--	--	--	--	--	--	--	--
21S/13E-29CDD06	10-07-93	--	--	--	--	--	19	1000	<1	4

Table 5. Water-quality data for wells and springs in the vicinity of Newberry Volcano near La Pine, Oregon—Continued

LOCATION	DATE	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)
21S/13E-29DCA	08-13-91	--	<0.050	0.060	0.070	<10	4	<1	<1	<2
	06-23-92	--	<0.050	0.060	0.060	--	3	<1	--	--
	09-29-92	--	<0.050	0.060	0.060	<10	7	<1	--	--
	09-15-93	<0.010	<0.050	0.060	0.060	--	6	<1	1	<2
21S/13E-31CDB	08-13-91	--	<0.180	<0.00	<0.00	<10	990	90	<3	25
	06-23-92	--	0.170	0.220	0.250	10	6	8	--	--
	09-30-92	--	0.170	0.260	0.250	<10	17	11	14	11
	06-23-93	<0.010	0.520	0.240	0.260	--	5	5	18	12
	09-14-93	<0.010	0.210	0.230	0.240	--	11	7	19	13
21S/13E-32ABB	08-15-91	--	0.120	0.040	0.040	<10	150	17	<1	9
	06-24-92	--	0.110	<0.010	<0.010	--	180	98	--	--
	09-29-92	--	0.097	0.030	0.030	<10	150	22	--	--
	09-15-93	<0.010	0.062	0.070	0.070	--	57	9	<1	3
22S/10E-15AAA	08-16-91	--	<0.050	0.300	0.290	<10	53	13	<1	3
	09-15-93	<0.010	<0.050	0.280	0.290	--	61	14	<1	3
22S/14E-22BBC	09-30-91	--	0.200	0.080	0.070	20	4	<1	3	<2
	09-15-93	<0.010	0.220	0.070	0.070	--	<3	<1	3	<2

Table 5. Water-quality data for wells and springs in the vicinity of Newberry Volcano near La Pine, Oregon—Continued

LOCATION	DATE	BERYLLIUM, DISSOLVED (UG/L AS BE)	BORON, DISSOLVED (UG/L AS B)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MERCURY DISSOLVED (UG/L AS HG)
21S/11E-28CBA	10-01-91	--	20	<1.0	<1	--	1	<1	5	<0.1
	06-25-92	--	20	--	--	--	--	--	--	--
	09-30-92	--	20	--	--	--	--	--	--	--
	09-15-93	<0.5	30	2.0	<5	<3	<10	10	<4	<0.1
21S/12E-26AAB	08-15-91	--	900	<1.0	<1	--	<1	<1	220	<0.1
	04-01-92	--	890	<1.0	<1	--	<1	<1	200	<0.1
	06-24-92	--	890	<1.0	<1	--	<1	<1	220	0.2
	10-01-92	--	930	<1.0	<1	--	<1	<1	180	<0.1
	06-23-93	<0.5	950	<1.0	<5	<3	<10	<10	200	<0.1
	09-16-93	<0.5	880	<1.0	<5	<3	<10	<10	180	<0.1
21S/12E-26AAB03	10-07-93	<0.5	930	<1.0	<5	<3	<10	20	210	<0.1
21S/12E-34ACB01	10-01-92	--	840	--	--	--	--	--	--	--
21S/12E-34ACC	09-30-91	--	30	<1.0	<1	--	<1	<1	17	<0.1
	06-24-92	--	20	--	--	--	--	--	--	--
	09-29-92	--	20	--	--	--	--	--	--	--
	09-14-93	<0.5	20	2.0	<5	<3	<10	<10	16	<0.1
21S/12E-35DCB	10-01-91	--	<10	<1.0	1	--	<1	<1	19	<0.1
	06-23-92	--	<10	--	--	--	--	--	--	--
	09-29-92	--	<10	--	--	--	--	--	--	--
21S/12E-36BAA	08-14-91	--	1800	<1.0	<1	--	<1	<1	130	<0.1
	06-24-92	--	1300	<1.0	<1	--	<1	<1	120	0.3
	09-29-92	--	1800	<1.0	<1	--	<1	<1	120	0.1
	06-23-93	<0.5	1900	3.0	<5	3	<10	<10	120	0.1
	09-14-93	<0.5	1800	<1.0	<5	7	<10	<10	110	<0.1
21S/13E-29CDD01	08-15-91	--	1200	<1.0	<1	--	<1	<1	30	<0.1
	04-01-92	--	1200	<1.0	<1	--	<1	<1	35	<0.1
	06-23-92	--	1100	<1.0	<1	--	<1	<1	39	0.4
21S/13E-29CDD02	08-15-91	--	--	--	--	--	--	--	--	--
	10-01-92	--	880	<1.0	<1	--	<1	<1	27	<0.1
	06-24-93	<0.5	850	<1.0	<5	<3	<10	<10	25	<0.1
	10-07-93	<0.5	880	<1.0	<5	<3	<10	10	26	<0.1
21S/13E-29CDD03	08-15-91	--	--	--	--	--	--	--	--	--
21S/13E-29CDD06	10-07-93	<0.5	1200	<1.0	<5	<3	<10	<10	30	<0.1

Table 5. Water-quality data for wells and springs in the vicinity of Newberry Volcano near La Pine, Oregon—Continued

LOCATION	DATE	BERYLLIUM, DISSOLVED (UG/L AS BE)	BORON, DISSOLVED (UG/L AS B)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MERCURY DISSOLVED (UG/L AS HG)
21S/13E-29DCA	08-13-91	--	<10	<1.0	<1	--	<1	<1	<4	<0.1
	06-23-92	--	<10	--	--	--	--	--	--	--
	09-29-92	--	<10	--	--	--	--	--	--	--
	09-15-93	<0.5	<10	<1.0	<5	<3	<10	<10	<4	<0.1
21S/13E-31CDB	08-13-91	--	600	<2.0	<1	--	<1	<1	<86	<0.1
	06-23-92	--	770	--	--	--	--	--	--	0.2
	09-30-92	--	730	<1.0	<1	--	<1	<1	89	0.2
	06-23-93	<0.5	930	2.0	<5	<3	<10	<10	93	<0.1
	09-14-93	<0.5	910	<1.0	<5	<3	<10	<10	89	0.1
21S/13E-32ABB	08-15-91	--	140	<1.0	<1	--	2	<1	<4	<0.1
	06-24-92	--	130	--	--	--	--	--	--	--
	09-29-92	--	140	--	--	--	--	--	--	--
	09-15-93	<0.5	100	1.0	<5	<3	<10	<10	<4	<0.1
22S/10E-15AAA	08-16-91	--	30	<1.0	<1	--	<1	<1	<4	<0.1
	09-15-93	<0.5	20	<1.0	<5	<3	<10	<10	<4	<0.1
22S/14E-22BBC	09-30-91	--	50	<1.0	1	--	<1	<1	6	<0.1
	09-15-93	<0.5	50	<1.0	<5	<3	<10	<10	4	0.1

Table 5. Water-quality data for wells and springs in the vicinity of Newberry Volcano near La Pine, Oregon—Continued

LOCATION	DATE	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	ALPHA, COUNT, 2 SIGMA WAT DIS AS NAT U (UG/L)
21S/11E-28CBA	10-01-91	<1	--	<1	<1.0	18	--	23	0.7	0.50
	06-25-92	--	--	--	--	--	--	--	--	--
	09-30-92	--	--	--	--	--	--	--	--	--
	09-15-93	<10	<10	--	<1.0	17	16	19	--	--
21S/12E-26AAB	08-15-91	1	--	<1	<1.0	190	--	5	<0.6	0.30
	04-01-92	<1	--	<1	<1.0	190	--	<3	--	--
	06-24-92	<1	--	<1	<1.0	210	--	6	--	--
	10-01-92	<1	--	<1	<1.0	180	--	<3	--	--
	06-23-93	10	<10	--	<1.0	190	<6	<3	--	--
	09-16-93	20	<10	--	<1.0	170	<6	3	--	--
21S/12E-26AAB03	10-07-93	<10	<10	--	1.0	200	<6	12	--	--
21S/12E-34ACB01	10-01-92	--	--	--	--	--	--	--	--	--
21S/12E-34ACC	09-30-91	3	--	<1	<1.0	12	--	15	14	2.5
	06-24-92	--	--	--	--	--	--	--	--	--
	09-29-92	--	--	--	--	--	--	--	--	--
	09-14-93	<10	<10	--	<1.0	11	7	21	--	--
21S/12E-35DCB	10-01-91	<1	--	<1	<1.0	20	--	28	<0.6	0.40
	06-23-92	--	--	--	--	--	--	--	--	--
	09-29-92	--	--	--	--	--	--	--	--	--
21S/12E-36BAA	08-14-91	<1	--	<1	<1.0	190	--	73	0.7	0.80
	06-24-92	<1	--	<1	<1.0	200	--	67	--	--
	09-29-92	<1	--	<1	<1.0	190	--	79	--	--
	06-23-93	<10	<10	--	<1.0	180	<6	<3	--	--
	09-14-93	10	<10	--	<1.0	180	<6	<3	--	--
21S/13E-29CDD01	08-15-91	<1	--	<1	<1.0	230	--	<10	--	--
	04-01-92	<1	--	<1	<1.0	220	--	<3	--	--
	06-23-92	<1	--	<1	<1.0	220	--	13	--	--
21S/13E-29CDD02	08-15-91	--	--	--	--	--	--	--	--	--
	10-01-92	<1	--	<1	<1.0	130	--	3	--	--
	06-24-93	<10	<10	--	<1.0	160	<6	<3	--	--
	10-07-93	<10	<10	--	<1.0	140	<6	<3	--	--
21S/13E-29CDD03	08-15-91	--	--	--	--	--	--	--	--	--
21S/13E-29CDD06	10-07-93	<10	<10	--	<1.0	330	<6	5	--	--

Table 5. Water-quality data for wells and springs in the vicinity of Newberry Volcano near La Pine, Oregon—Continued

LOCATION	DATE	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	ALPHA, COUNT, 2 SIGMA WIT DIS AS NAT U (UG/L)
21S/13E-29DCA	08-13-91	<1	--	<1	<1.0	11	--	13	<0.6	0.30
	06-23-92	--	--	--	--	--	--	--	--	--
	09-29-92	--	--	--	--	--	--	--	--	--
	09-15-93	<10	<10	--	<1.0	10	14	6	--	--
21S/13E-31CDB	08-13-91	<1	--	<1	<1.0	110	--	<77	<0.9	0.60
	06-23-92	--	--	--	--	--	--	--	--	--
	09-30-92	<1	--	<1	<1.0	120	--	13	--	--
	06-23-93	<10	<10	--	<1.0	140	28	15	--	--
	09-14-93	20	<10	--	<1.0	140	27	3	--	--
21S/13E-32ABB	08-15-91	<1	--	<1	<1.0	88	--	32	<0.6	1.3
	06-24-92	--	--	--	--	--	--	--	--	--
	09-29-92	--	--	--	--	--	--	--	--	--
	09-15-93	<10	<10	--	<1.0	35	9	10	--	--
22S/10E-15AAA	08-16-91	<1	--	<1	<1.0	21	--	<3	<0.6	0.30
	09-15-93	<10	<10	--	<1.0	22	<6	<3	--	--
22S/14E-22BBC	09-30-91	<1	--	<1	<1.0	20	--	21	<0.6	0.30
	09-15-93	<10	<10	--	<1.0	20	22	20	--	--

Table 5. Water-quality data for wells and springs in the vicinity of Newberry Volcano near La Pine, Oregon—Continued

LOCATION	DATE	ALPHA COUNT, 2 SIGMA WAT DIS AS TH-230 (PCi/L)	GROSS BETA, DIS-SOLVED (PCi/L AS SR/YT-90)	BETA, 2 SIGMA WATER, DISS, AS SR90 /Y90 (PCi/L)	BETA, 2 SIGMA WATER, DISS, AS CS-137 (PCi/L)	RN-222 2 SIGMA WATER, WHOLE, TOTAL, (PCi/L)	RADON 222 TOTAL (PCi/L)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL	TRITIUM TOTAL (PCi/L)	TRITIUM 2 SIGMA WATER, WHOLE, TOTAL (PCi/L)
21S/11E-28CBA	10-01-91	<0.60	1.2	0.50	0.60	61	100	-121.0	-16.30	--	--
	06-25-92	--	--	--	--	--	--	-122.0	-16.25	--	--
	09-30-92	--	--	--	--	--	--	-120.0	-16.30	--	--
	09-15-93	--	--	--	--	--	--	-121.0	-16.26	--	--
21S/12E-26AAB	08-15-91	<0.60	19	3.7	5.0	43	180	-110.0	-14.80	--	--
	04-01-92	--	--	--	--	46	95	-108.0	-14.40	--	--
	06-24-92	--	--	--	--	--	--	-111.0	-14.65	--	--
	10-01-92	--	--	--	--	--	--	-109.0	-14.60	--	--
	06-23-93	--	--	--	--	--	--	-109.0	-14.72	--	--
	09-16-93	--	--	--	--	--	--	-109.0	-14.42	--	--
21S/12E-26AAB03	10-07-93	--	--	--	--	--	--	-110.0	-14.58	--	--
21S/12E-34ACB01	10-01-92	--	--	--	--	--	--	-95.0	-11.95	--	--
21S/12E-34ACC	09-30-91	8.4	1.2	0.50	0.70	68	220	-113.0	-15.50	--	--
	06-24-92	--	--	--	--	--	--	-114.0	-15.50	--	--
	09-29-92	--	--	--	--	--	--	-111.0	-15.55	--	--
	09-14-93	--	--	--	--	--	--	-113.0	-15.57	--	--
21S/12E-35DCB	10-01-91	<0.60	1.4	0.50	0.70	57	540	-111.0	-15.05	--	--
	06-23-92	--	--	--	--	--	--	-111.0	-15.05	--	--
	09-29-92	--	--	--	--	--	--	-111.0	-15.20	--	--
21S/12E-36BAA	08-14-91	<0.60	11	2.5	3.4	34	<80	-111.0	-14.55	11	1.0
	06-24-92	--	--	--	--	--	--	-111.0	-14.40	--	--
	09-29-92	--	--	--	--	--	--	-110.0	-14.45	--	--
	06-23-93	--	--	--	--	--	--	-109.0	-14.48	--	--
	09-14-93	--	--	--	--	74	240	-109.0	-14.51	--	--
21S/13E-29CDD01	08-15-91	--	--	--	--	44	140	-118.0	-15.50	2.0	1.0
	04-01-92	--	--	--	--	49	<80	-116.0	-15.35	--	--
	06-23-92	--	--	--	--	--	--	-117.0	-15.35	--	--
21S/13E-29CDD02	08-15-91	--	--	--	--	--	--	-115.0	-15.10	--	--
	10-01-92	--	--	--	--	--	--	-116.0	-15.35	--	--
	06-24-93	--	--	--	--	--	--	-114.0	-15.51	--	--
	10-07-93	--	--	--	--	--	--	-117.0	-15.28	--	--
21S/13E-29CDD03	08-15-91	--	--	--	--	--	--	-117.0	-15.50	--	--
21S/13E-29CDD06	10-07-93	--	--	--	--	--	--	-117.0	-15.42	--	--

Table 5. Water-quality data for wells and springs in the vicinity of Newberry Volcano near La Pine, Oregon—Continued

LOCATION	DATE	ALPHA COUNT, 2 SIGMA WAT DIS AS TH-230 (PCi/L)	GROSS BETA, DIS-SOLVED (PCi/L AS SR/YT-90)	BETA, 2 SIGMA WATER, DISS, AS SR90 /Y90 (PCi/L	BETA, 2 SIGMA WATER, DISS, AS CS-137 (PCi/L)	RN-222 2 SIGMA WATER, WHOLE, TOTAL, (PCi/L)	RADON 222 TOTAL (PCi/L)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL	TRITIUM TOTAL (PCi/L)	TRITIUM 2 SIGMA WATER, WHOLE, TOTAL (PCi/L)
21S/13E-29DCA	08-13-91	<0.60	0.9	0.50	0.50	40	260	-115.0	-15.60	--	--
	06-23-92	--	--	--	--	--	--	-116.0	-15.50	--	--
	09-29-92	--	--	--	--	--	--	-115.0	-15.60	--	--
	09-15-93	--	--	--	--	--	--	-115.0	-15.47	--	--
21S/13E-31CDB	08-13-91	<0.60	7.3	1.6	2.2	46	<80	-115.0	-15.35	22	2.0
	06-23-92	--	--	--	--	--	--	-114.0	-15.20	--	--
	09-30-92	--	--	--	--	--	--	-113.0	-15.25	--	--
	06-23-93	--	--	--	--	--	--	-112.0	-15.27	--	--
	09-14-93	--	--	--	--	--	--	-114.0	-15.17	--	--
21S/13E-32ABB	08-15-91	<0.60	3.9	0.90	1.4	42	300	-114.0	-15.45	--	--
	06-24-92	--	--	--	--	--	--	-112.0	-15.25	--	--
	09-29-92	--	--	--	--	--	--	-110.0	-15.25	--	--
	09-15-93	--	--	--	--	--	--	-107.0	-14.64	--	--
22S/10E-15AAA	08-16-91	<0.60	1.5	0.60	0.70	--	--	-114.0	-15.45	22	2.0
	09-15-93	--	--	--	--	--	--	-115.0	-15.35	--	--
22S/14E-22BBC	09-30-91	<0.60	1.9	0.70	0.80	71	170	-119.0	-16.20	--	--
	09-15-93	--	--	--	--	--	--	-121.0	-16.18	--	--

Table 6. Water-quality data for Paulina Creek, Paulina Lake, and East Lake, in the vicinity of Newberry Volcano near La Pine, Oregon

[DEG C = degrees Celsius, US/CM = microsiemens per centimeter at 25 degrees Celsius, LAB = laboratory, -- = data not available. NR = near, OR = Oregon, USFS = U.S. Forest Service, EL = East Lake, PL = Paulina Lake, MG/L = milligrams per liter, CR = creek, LK = lake, NTU = nephelometric turbidity units, UG/L = micrograms per liter, MIL = per 1,000 < = less than, PCi/L = picocuries per liter]

LOCATION	STATION NUMBER	LABORATORY NUMBER	DATE	TIME	TEMPERATURE WATER (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	SPECIFIC CONDUCTANCE LAB (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	PH WATER WHOLE LAB (STANDARD UNITS)
PAULINA CREEK NR LA PINE, OR	14063300	2800038	10-02-91	1020	12.0	567	602	8.6	8.4
		0970024	04-02-92	1300	7.0	598	599	8.2	8.2
		1880207	06-24-92	1645	--	587	592	8.5	8.3
		2760123	09-28-92	1530	16.0	591	597	8.7	8.3
		1800194	06-24-93	1730	15.0	587	594	8.4	8.3
		2630027	09-14-93	1015	13.0	592	605	8.4	8.4
PAULINA CREEK NR USFS ROAD 21	434339121245600	2800041	10-02-91	1330	12.5	444	554	8.5	8.7
		0970022	04-02-92	1530	13.0	570	579	8.7	8.7
		1880069	06-25-92	1100	--	--	557	8.8	8.9
		2760117	09-30-92	1400	15.0	575	589	8.8	8.8
		1800199	06-24-93	1515	18.5	565	570	8.8	8.8
		2630022	09-15-93	1345	12.0	566	581	8.7	8.7
EAST LAKE,EL-1-40	434403121133040	2880118	10-01-91	1015	9.0	328	332	7.3	7.6
		1880156	06-25-92	1115	8.0	322	333	7.5	7.7
EAST LAKE,EL-2-20	434408121123420	2880117	10-01-91	1215	14.5	340	337	8.0	7.9
EAST LAKE,EL-2-70	434408121123470	2880110	10-01-91	1145	5.0	330	332	7.1	7.3
EAST LAKE,EL-3-20	434350121122920	2880114	10-01-91	1415	14.5	340	338	8.1	7.9
		1880159	06-25-92	1240	15.0	334	338	7.9	7.8
EAST LAKE,EL-3-70	434350121122970	2880111	10-01-91	1310	5.0	326	333	7.1	7.3
		1880157	06-25-92	1250	6.0	327	332	7.2	7.6
EAST LAKE,EL-4-50	434319121130150	2880109	10-01-91	1516	8.0	326	334	7.1	7.2
		1880158	06-25-92	1045	6.5	322	333	7.1	7.4
EAST LAKE,EL-5-10	434316121120210	2880122	10-01-91	1630	15.5	344	343	7.3	7.4
		1880161	06-25-92	1020	7.0	339	340	7.1	7.6
EAST LAKE,EL-6-10	434326121114910	2880115	10-01-91	1745	15.5	342	340	7.6	7.7
EAST LAKE,EL-7-10	434315121122510	2880119	10-01-91	1815	15.0	338	337	8.3	7.9
EAST LAKE,EL-8-30	434325121115730	2790092	10-01-92	1400	12.5	330	344	7.5	7.7
		1800197	06-24-93	1000	11.0	325	333	6.9	7.4
		2630016	09-16-93	1530	14.5	327	336	7.2	7.4
EAST LAKE,EL-8-60	434325121115760	2790094	10-01-92	1400	12.5	328	342	7.5	7.5

Table 6. Water-quality data for Paulina Creek, Paulina Lake, and East Lake, in the vicinity of Newberry Volcano near La Pine, Oregon—Continued

LOCATION	STATION NUMBER	LABORATORY NUMBER	DATE	TIME	TEMPERATURE WATER (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	SPECIFIC CONDUCTANCE LAB (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	PH WATER WHOLE LAB (STANDARD UNITS)
EAST LAKE,EL-8-85	434325121115785	1800198	06-24-93	0930	11.0	339	333	6.6	7.1
		2630015	09-16-93	1500	14.5	327	337	7.5	6.5
PAULINA LAKE,PL-1-10	434355121154210	2880121	10-03-91	1025	14.5	594	606	8.4	8.4
		1880070	06-24-92	1415	--	--	602	--	8.5
PAULINA LAKE,PL-2-5	434340121144605	2880112	10-03-91	1115	15.0	600	610	8.4	8.3
PAULINA LAKE,PL-3-30	434322121144730	2890040	10-03-91	1150	14.5	600	611	8.2	8.3
PAULINA LAKE,PL-4-30	434304121143130	2890042	10-03-91	1235	14.5	598	603	8.3	8.4
		1880046	06-24-92	1030	--	579	602	8.3	8.4
PAULINA LAKE,PL-5-30	434318121153930	2880120	10-03-91	1440	14.5	600	605	8.5	8.4
		1880045	06-24-92	0915	--	585	601	8.3	8.4
PAULINA LAKE,PL-5-70	434318121153970	2890039	10-03-91	1415	7.0	576	595	8.1	8.2
		1880042	06-24-92	0905	--	561	596	8.2	8.3
PAULINA LAKE,PL-6-15	434255121162615	2890041	10-03-91	1500	15.0	596	605	8.5	8.4
		1880068	06-24-92	1055	--	594	601	8.4	8.5
PAULINA LAKE,PL-7-25	434341121161525	2880113	10-03-91	1650	15.0	600	604	8.6	8.4
		1880067	06-24-92	1400	14.0	585	602	8.4	8.4
PAULINA LAKE,PL-8-10	434231121145410	2880116	10-03-91	1725	15.5	598	607	8.9	8.4
PAULINA LAKE,PL-9-20	434350121145720	1780069	06-24-92	0950	--	594	602	8.4	8.4
PAULINA LAKE,PL-10-02	434348121145402	1880066	06-24-92	1423	45.0	1080	1000	6.2	6.9
PAULINA LAKE,PL-11-30	434343121150430	2820149	10-01-92	0900	13.0	590	609	8.4	8.4
		1800203	06-23-93	1200	8.0	577	593	8.0	8.2
		2630014	09-16-93	1130	14.0	590	615	8.3	8.1
PAULINA LAKE,PL-11-60	434343121150460	2790095	10-01-92	0915	8.0	569	599	8.1	8.1
		1800202	06-23-93	1200	5.5	573	588	8.0	8.5
		2630018	09-16-93	1100	6.0	576	604	7.8	8.1

Table 6. Water-quality data for Paulina Creek, Paulina Lake, and East Lake, in the vicinity of Newberry Volcano near La Pine, Oregon—Continued

LOCATION	DATE	OXYGEN, DIS-SOLVED (MG/L)	TUR-BID-ITY LAB (NTU)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
PAULINA CREEK NR LA PINE, OR	10-02-91	9.0	1.0	240	29	41	49	30	1	5.4
	04-02-92	9.4	1.0	220	26	37	45	30	1	6.0
	06-24-92	7.5	0.60	240	28	41	49	30	1	5.3
	09-28-92	8.4	0.60	220	27	38	47	31	1	5.3
	06-24-93	9.1	--	220	26	37	46	31	1	5.2
	09-14-93	8.2	--	230	28	39	47	30	1	5.6
PAULINA CREEK NR USFS ROAD 21	10-02-91	10.1	1.0	240	27	42	50	31	1	5.4
	04-02-92	8.5	1.0	220	27	38	46	30	1	5.2
	06-25-92	8.7	0.30	230	26	39	49	32	1	4.1
	09-30-92	9.1	0.60	230	27	39	49	31	1	5.2
	06-24-93	8.9	--	210	25	36	46	32	1	5.4
	09-15-93	9.3	--	230	28	39	46	30	1	5.4
EAST LAKE,EL-1-40	10-01-91	8.7	--	110	26	12	27	33	1	3.9
	06-25-92	9.9	0.40	110	26	11	24	31	1	3.7
EAST LAKE,EL-2-20	10-01-91	9.1	--	110	26	12	27	33	1	3.7
EAST LAKE,EL-2-70	10-01-91	5.4	--	110	26	12	26	32	1	3.9
EAST LAKE,EL-3-20	10-01-91	9.0	--	110	26	12	27	33	1	3.9
	06-25-92	8.9	0.50	110	26	12	26	32	1	3.6
EAST LAKE,EL-3-70	10-01-91	5.5	--	110	25	11	26	33	1	4.1
	06-25-92	6.7	0.40	110	26	12	25	31	1	3.7
EAST LAKE,EL-4-50	10-01-91	--	--	110	26	12	26	32	1	4.0
	06-25-92	2.4	0.70	120	27	12	25	31	1	3.7
EAST LAKE,EL-5-10	10-01-91	8.9	--	110	26	12	25	31	1	3.9
	06-25-92	9.7	0.50	110	26	12	26	32	1	3.6
EAST LAKE,EL-6-10	10-01-91	9.5	--	110	26	12	27	33	1	3.8
EAST LAKE,EL-7-10	10-01-91	9.4	--	110	26	12	23	30	0.9	3.8
EAST LAKE,EL-8-30	10-01-92	8.6	0.40	110	25	12	26	33	1	3.9
	06-24-93	9.4	--	110	24	11	24	32	1	3.7
	09-16-93	8.8	--	110	25	12	23	30	0.9	3.8
EAST LAKE,EL-8-60	10-01-92	8.5	0.30	110	25	12	25	32	1	3.8

Table 6. Water-quality data for Paulina Creek, Paulina Lake, and East Lake, in the vicinity of Newberry Volcano near La Pine, Oregon—Continued

LOCATION	DATE	OXYGEN, DIS-SOLVED (MG/L)	TUR-BID-ITY LAB (NTU)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
EAST LAKE,EL-8-85	06-24-93	7.8	--	110	25	11	24	32	1	3.8
	09-16-93	8.5	--	110	25	12	24	31	1	3.7
PAULINA LK,PL-1-10	10-03-91	9.8	--	240	29	41	48	30	1	5.4
	06-24-92	--	0.40	230	28	39	50	32	1	4.1
PAULINA LK,PL-2-5	10-03-91	9.7	--	230	28	40	52	32	1	5.6
PAULINA LK,PL-3-30	10-03-91	9.4	--	240	28	41	49	30	1	5.5
PAULINA LK,PL-4-30	10-03-91	8.8	--	240	29	40	48	30	1	5.7
	06-24-92	9.2	0.60	230	29	39	51	32	1	4.1
PAULINA LK,PL-5-30	10-03-91	9.4	--	240	29	41	48	30	1	5.6
	06-24-92	8.9	0.50	230	29	39	50	31	1	4.1
PAULINA LK,PL-5-70	10-03-91	10.9	--	230	28	40	47	30	1	5.4
	06-24-92	10.2	0.30	230	28	39	49	31	1	4.0
PAULINA LK,PL-6-15	10-03-91	9.1	--	240	28	41	49	30	1	5.6
	06-24-92	8.7	0.40	230	29	39	49	31	1	4.1
PAULINA LK,PL-7-25	10-03-91	8.9	--	240	28	41	53	32	1	5.6
	06-24-92	8.8	0.40	230	29	39	50	31	1	4.1
PAULINA LK,PL-8-10	10-03-91	9.9	--	240	28	41	54	32	2	5.3
PAULINA LK,PL-9-20	06-24-92	8.3	0.50	230	29	39	49	31	1	4.1
PAULINA LK,PL-10-2	06-24-92	1.5	7.0	320	44	51	110	42	3	10
PAULINA LK,PL-11-30	10-01-92	8.7	0.40	230	29	39	49	31	1	5.8
	06-23-93	10.8	--	220	26	37	48	32	1	5.4
	09-16-93	8.7	--	230	29	39	46	29	1	5.6
PAULINA LK,PL-11-60	10-01-92	10.7	0.20	230	28	38	47	31	1	5.1
	06-23-93	10.7	--	230	28	38	48	31	1	5.3
	09-16-93	10.5	--	230	28	39	46	30	1	5.4

Table 6. Water-quality data for Paulina Creek, Paulina Lake, and East Lake, in the vicinity of Newberry Volcano near La Pine, Oregon—Continued

LOCATION	DATE	ALKALINITY WAT DIS TOT IT FIELD (MG/L AS CACO3)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)
PAULINA CREEK NR LA PINE, OR	10-02-91	342	351	2.8	5.2	0.60	45	355	390	0.010
	04-02-92	330	333	3.5	1.7	0.60	44	332	365	<0.010
	06-24-92	320	343	3.2	--	0.60	41	324	--	0.010
	09-28-9	336	345	3.5	2.4	0.70	42	331	374	<0.010
	06-24-93	--	331	2.6	2.2	0.60	40	--	359	0.020
	09-14-93	320	344	3.2	4.6	0.60	41	--	376	0.020
PAULINA CREEK NR USFS ROAD 21	10-02-91	343	343	2.6	4.8	0.60	39	500	378	<0.010
	04-02-92	350	333	3.4	1.6	0.60	41	338	363	<0.010
	06-25-92	330	339	3.2	--	0.70	37	330	--	0.010
	09-30-92	319	342	3.6	2.5	0.70	43	355	376	<0.010
	06-24-93	340	318	2.4	2.3	0.60	39	--	351	0.010
	09-15-93	352	332	3.2	3.9	0.70	40	--	366	0.020
EAST LAKE,EL-1-40	10-01-91	--	107	68	1.3	0.10	9.0	--	212	--
	06-25-92	105	107	63	0.30	0.20	10	212	203	0.020
EAST LAKE,EL-2-20	10-01-91	--	109	70	0.80	0.20	9.4	--	215	--
EAST LAKE,EL-2-70	10-01-91	--	108	68	1.2	0.10	11	--	214	--
EAST LAKE,EL-3-20	10-01-91	--	109	70	1.1	0.10	9.2	--	216	--
	06-25-92	106	108	66	0.30	0.10	11	186	211	0.020
EAST LAKE,EL-3-70	10-01-91	--	108	67	1.2	0.10	11	--	211	--
	06-25-92	104	107	64	0.30	0.20	11	202	207	0.030
EAST LAKE,EL-4-50	10-01-91	--	108	66	1.2	0.10	11	--	212	--
	06-25-92	104	107	64	0.30	0.10	11	182	208	0.080
EAST LAKE,EL-5-10	10-01-91	--	108	71	1.1	0.10	11	--	216	--
	06-25-92	106	108	66	0.30	0.20	11	186	211	0.020
EAST LAKE,EL-6-10	10-01-91	--	109	70	0.70	0.20	11	--	217	--
EAST LAKE,EL-7-10	10-01-91	--	108	71	0.80	0.20	9.3	--	212	--
EAST LAKE,EL-8-30	10-01-92	103	106	64	0.30	0.20	9.8	219	206	0.010
	06-24-93	100	102	65	0.40	0.20	11	--	226	0.030
	09-16-93	104	104	66	0.50	0.20	9.1	--	203	0.030
EAST LAKE,EL-8-60	10-01-92	104	106	65	0.30	0.20	11	210	207	0.010

Table 6. Water-quality data for Paulina Creek, Paulina Lake, and East Lake, in the vicinity of Newberry Volcano near La Pine, Oregon—Continued

LOCATION	DATE	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)
EAST LAKE,EL-8-85	06-24-93	102	101	67	0.30	0.20	11	--	217	0.030
	09-16-93	101	103	67	1.7	0.20	9.1	--	206	0.020
PAULINA LK,PL-1-10	10-03-91	--	355	2.4	5.1	0.60	45	--	390	--
	06-24-92	--	349	3.9	--	0.80	43	346	--	--
PAULINA LK,PL-2-5	10-03-91	--	356	2.8	4.6	0.60	45	--	393	--
PAULINA LK,PL-3-30	10-03-91	--	355	2.4	5.1	0.60	47	--	392	--
PAULINA LK,PL-4-30	10-03-91	--	353	2.3	4.6	0.50	46	--	389	--
	06-24-92	342	347	3.4	2.6	0.80	43	330	382	<0.010
PAULINA LK,PL-5-30	10-03-91	--	353	2.5	5.0	0.60	45	--	389	--
	06-24-92	340	349	3.3	2.6	0.70	45	354	384	<0.010
PAULINA LK,PL-5-70	10-03-91	--	344	3.0	5.0	0.50	45	--	381	--
	06-24-92	336	343	3.5	2.7	0.80	44	352	378	<0.010
PAULINA LK,PL-6-15	10-03-91	--	352	2.5	5.1	0.50	46	--	390	--
	06-24-92	340	349	3.4	--	0.80	43	350	--	<0.010
PAULINA LK,PL-7-25	10-03-91	--	353	2.7	4.4	0.50	44	--	392	--
	06-24-92	--	349	3.4	--	0.80	46	372	--	--
PAULINA LK,PL-8-10	10-03-91	--	354	2.9	4.1	0.60	44	--	393	--
PAULINA LK,PL-9-20	06-24-92	320	350	3.3	2.6	0.70	46	354	385	0.010
PAULINA LK,PL-10-2	06-24-92	--	589	1.6	5.5	0.70	150	674	728	--
PAULINA LK,PL-11-30	10-01-92	342	325	3.6	2.4	0.70	43	358	368	--
	06-23-93	338	334	2.6	2.3	0.60	42	--	370	0.030
	09-16-93	344	348	3.2	4.5	0.70	43	--	381	0.010
PAULINA LK,PL-11-60	10-01-92	332	337	3.5	2.3	0.70	43	351	371	<0.010
	06-23-93	338	334	2.6	2.4	0.60	43	--	374	0.040
	09-16-93	338	341	3.3	4.7	0.70	43	--	376	0.020

Table 6. Water-quality data for Paulina Creek, Paulina Lake, and East Lake, in the vicinity of Newberry Volcano near La Pine, Oregon—Continued

LOCATION	DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)
PAULINA CREEK NR LA PINE, OR	10-02-91	--	0.079	0.110	0.080	10	11	5	14	17
	04-02-92	--	<0.050	<0.010	0.010	<10	13	5	15	17
	06-24-92	--	<0.050	<0.010	<0.010	20	20	13	16	17
	09-28-92	--	<0.050	0.010	0.020	<10	6	2	14	15
	06-24-93	<0.010	<0.050	0.010	0.010	--	7	8	15	17
	09-14-93	<0.010	<0.050	<0.010	0.010	--	5	4	15	17
PAULINA CREEK NR USFS ROAD 21	10-02-91	--	<0.050	0.030	<0.010	<10	4	<1	13	16
	04-02-92	--	<0.050	<0.010	<0.010	<10	8	<1	--	--
	06-25-92	--	<0.050	0.020	<0.010	--	54	1	--	--
	09-30-92	--	<0.050	<0.010	<0.010	<10	7	<1	15	15
	06-24-93	<0.010	0.630	<0.010	<0.010	--	7	<1	14	17
	09-15-93	<0.010	<0.050	<0.010	<0.010	--	<3	<1	15	15
EAST LAKE,EL-1-40	10-01-91	--	--	--	--	--	3	10	--	--
	06-25-92	--	<0.050	<0.010	<0.010	--	<3	3	--	--
EAST LAKE,EL-2-20	10-01-91	--	--	--	--	--	7	2	--	--
EAST LAKE,EL-2-70	10-01-91	--	--	--	--	--	<3	13	--	--
EAST LAKE,EL-3-20	10-01-91	--	--	--	--	--	3	1	--	--
	06-25-92	--	<0.050	<0.010	<0.010	--	<3	1	--	--
EAST LAKE,EL-3-70	10-01-91	--	--	--	--	--	5	11	--	--
	06-25-92	--	<0.050	0.010	<0.010	--	<3	4	--	--
EAST LAKE,EL-4-50	10-01-91	--	--	--	--	--	<3	390	--	--
	06-25-92	--	<0.050	0.020	0.020	--	10	140	--	--
EAST LAKE,EL-5-10	10-01-91	--	--	--	--	--	7	14	--	--
	06-25-92	--	<0.050	<0.010	<0.010	--	3	7	--	--
EAST LAKE,EL-6-10	10-01-91	--	--	--	--	--	3	8	--	--
EAST LAKE,EL-7-10	10-01-91	--	--	--	--	--	4	1	--	--
EAST LAKE,EL-8-30	10-01-92	--	<0.050	<0.010	0.010	<10	<3	8	3	17
	06-24-93	<0.010	--	<0.010	<0.010	--	4	10	2	17
	09-16-93	<0.010	<0.050	<0.010	0.010	--	<3	6	2	16
EAST LAKE,EL-8-60	10-01-92	--	<0.050	<0.010	0.010	<10	4	9	3	16

Table 6. Water-quality data for Paulina Creek, Paulina Lake, and East Lake, in the vicinity of Newberry Volcano near La Pine, Oregon—Continued

LOCATION	DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)
EAST LAKE,EL-8-85	06-24-93	<0.010	2.80	<0.010	0.020	--	15	11	2	17
	09-16-93	<0.010	<0.050	<0.010	<0.010	--	<3	6	2	15
PAULINA LK,PL-1-10	10-03-91	--	--	--	--	--	10	<1	--	--
	06-24-92	--	--	--	--	--	34	9	--	--
PAULINA LK,PL-2-5	10-03-91	--	--	--	--	--	12	2	--	--
PAULINA LK,PL-3-30	10-03-91	--	--	--	--	--	22	5	--	--
PAULINA LK,PL-4-30	10-03-91	--	--	--	--	--	12	<1	--	--
	06-24-92	--	<0.050	<0.010	0.010	--	12	6	--	--
PAULINA LK,PL-5-30	10-03-91	--	--	--	--	--	8	<1	--	--
	06-24-92	--	0.110	<0.010	0.010	--	8	5	--	--
PAULINA LK,PL-5-70	10-03-91	--	--	--	--	--	7	<1	--	--
	06-24-92	--	<0.050	<0.010	<0.010	--	8	3	--	--
PAULINA LK,PL-6-15	10-03-91	--	--	--	--	--	8	<1	--	--
	06-24-92	--	<0.050	0.010	0.010	--	8	4	--	--
PAULINA LK,PL-7-25	10-03-91	--	--	--	--	--	9	<1	--	--
	06-24-92	--	--	--	--	--	8	6	--	--
PAULINA LK,PL-8-10	10-03-91	--	--	--	--	--	10	1	--	--
PAULINA LK,PL-9-20	06-24-92	--	<0.050	<0.010	0.010	--	8	9	--	--
PAULINA LK,PL-10-2	06-24-92	--	--	--	--	--	610	330	--	--
PAULINA LK,PL-11-30	10-01-92	--	--	--	--	10	10	1	15	16
	06-23-93	<0.010	0.990	<0.010	<0.010	--	9	8	15	18
	09-16-93	<0.010	<0.050	<0.010	<0.010	--	5	2	15	17
PAULINA LK,PL-11-60	10-01-92	--	<0.050	<0.010	0.010	<10	4	<1	15	17
	06-23-93	<0.010	0.970	0.010	0.010	--	9	4	16	19
	09-16-93	<0.010	<0.050	0.010	0.020	--	6	2	15	18

Table 6. Water-quality data for Paulina Creek, Paulina Lake, and East Lake, in the vicinity of Newberry Vo'cano near La Pine, Oregon—Continued

LOCATION	DATE	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MERCURY DIS-SOLVED (UG/L AS HG)
PAULINA CREEK NR LA PINE, OR	10-02-91	--	890	<1.0	<1	--	2	<1	72	<0.1
	04-02-92	--	860	<1.0	<1	--	<1	<1	72	<0.1
	06-24-92	--	830	<1.0	<1	--	<1	<1	70	<0.1
	09-28-92	--	900	<1.0	<1	--	<1	<1	70	0.2
	06-24-93	<0.5	950	<1.0	<5	<3	<10	<10	69	<0.1
	09-14-93	<0.5	880	1.0	<5	<3	<10	<10	66	<0.1
PAULINA CREEK NR USFS ROAD 21	10-02-91	--	830	<1.0	<1	--	<1	<1	74	<0.1
	04-02-92	--	880	--	--	--	--	--	--	--
	06-25-92	--	870	--	--	--	--	--	--	--
	09-30-92	--	910	<1.0	<1	--	<1	<1	70	0.3
	06-24-93	<0.5	970	<1.0	<5	<3	<10	<10	69	<0.1
	09-15-93	<0.5	850	1.0	<5	<3	<10	<10	62	<0.1
EAST LAKE,EL-1-40	10-01-91	--	920	--	--	--	--	--	--	--
	06-25-92	--	860	--	--	--	--	--	--	--
EAST LAKE,EL-2-20	10-01-91	--	950	--	--	--	--	--	--	--
EAST LAKE,EL-2-70	10-01-91	--	930	--	--	--	--	--	--	--
EAST LAKE,EL-3-20	10-01-91	--	980	--	--	--	--	--	--	--
	06-25-92	--	920	--	--	--	--	--	--	--
EAST LAKE,EL-3-70	10-01-91	--	930	--	--	--	--	--	--	--
	06-25-92	--	930	--	--	--	--	--	--	--
EAST LAKE,EL-4-50	10-01-91	--	970	--	--	--	--	--	--	--
	06-25-92	--	920	--	--	--	--	--	--	--
EAST LAKE,EL-5-10	10-01-91	--	990	--	--	--	--	--	--	--
	06-25-92	--	950	--	--	--	--	--	--	--
EAST LAKE,EL-6-10	10-01-91	--	960	--	--	--	--	--	--	--
EAST LAKE,EL-7-10	10-01-91	--	970	--	--	--	--	--	--	--
EAST LAKE,EL-8-30	10-01-92	--	960	<1.0	<1	--	<1	<1	9	<0.1
	06-24-93	<0.5	1000	2.0	<5	<3	<10	<10	11	<0.1
	09-16-93	<0.5	960	1.0	<5	<3	<10	<10	9	0.1
EAST LAKE,EL-8-60	10-01-92	--	980	<1.0	<1	--	<1	<1	12	<0.1

Table 6. Water-quality data for Paulina Creek, Paulina Lake, and East Lake, in the vicinity of Newberry Volcano near La Pine, Oregon—Continued

LOCATION	DATE	BERYLLIUM, DISSOLVED (UG/L AS BE)	BORON, DISSOLVED (UG/L AS B)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MERCURY DISSOLVED (UG/L AS HG)
EAST LAKE,EL-8-85	06-24-93	<0.5	990	1.0	<5	<3	<10	<10	11	<0.1
	09-16-93	<0.5	960	2.0	<5	<3	<10	<10	9	<0.1
PAULINA LK,PL-1-10	10-03-91	--	920	--	--	--	--	--	--	--
	06-24-92	--	860	--	--	--	--	--	--	--
PAULINA LK,PL-2-5	10-03-91	--	910	--	--	--	--	--	--	--
PAULINA LK,PL-3-30	10-03-91	--	870	--	--	--	--	--	--	--
PAULINA LK,PL-4-30	10-03-91	--	900	--	--	--	--	--	--	--
	06-24-92	--	900	--	--	--	--	--	--	--
PAULINA LK,PL-5-30	10-03-91	--	890	--	--	--	--	--	--	--
	06-24-92	--	900	--	--	--	--	--	--	--
PAULINA LK,PL-5-70	10-03-91	--	860	--	--	--	--	--	--	--
	06-24-92	--	890	--	--	--	--	--	--	--
PAULINA LK,PL-6-15	10-03-91	--	890	--	--	--	--	--	--	--
	06-24-92	--	900	--	--	--	--	--	--	--
PAULINA LK,PL-7-25	10-03-91	--	910	--	--	--	--	--	--	--
	06-24-92	--	910	--	--	--	--	--	--	--
PAULINA LK,PL-8-10	10-03-91	--	890	--	--	--	--	--	--	--
PAULINA LK,PL-9-20	06-24-92	--	890	--	--	--	--	--	--	--
PAULINA LK,PL-10-2	06-24-92	--	1000	--	--	--	--	--	--	--
PAULINA LK,PL-11-30	10-01-92	--	910	<1.0	<1	--	<1	<1	75	<0.1
	06-23-93	<0.5	940	<1.0	<5	<3	<10	<10	70	<0.1
	09-16-93	<0.5	890	<1.0	<5	<3	<10	<10	63	<0.1
PAULINA LK,PL-11-60	10-01-92	--	930	<1.0	<1	--	<1	<1	73	<0.1
	06-23-93	<0.5	930	2.0	<5	<3	<10	<10	71	<0.1
	09-16-93	<0.5	850	<1.0	<5	<3	<10	<10	65	0.1

Table 6. Water-quality data for Paulina Creek, Paulina Lake, and East Lake, in the vicinity of Newberry Volcano near La Pine, Oregon—Continued

LOCATION	DATE	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	ALPHA, COUNT, 2 SIGMA WAT DIS AS NAT U (UG/L)
PAULINA CREEK NR LA PINE, OR	10-02-91	<1	--	<1	<1.0	87	--	7	0.9	0.60
	04-02-92	1	--	<1	<1.0	87	--	<3	--	--
	06-24-92	<1	--	<1	<1.0	84	--	5	--	--
	09-28-92	<1	--	<1	<1.0	81	--	<3	--	--
	06-24-93	<10	<10	--	<1.0	82	<6	<3	--	--
	09-14-93	10	<10	--	<1.0	83	<6	<3	--	--
PAULINA CREEK NR USFS ROAD 21	10-02-91	<1	--	<1	<1.0	83	--	8	1.2	0.70
	04-02-92	--	--	--	--	--	--	--	--	--
	06-25-92	--	--	--	--	--	--	--	--	--
	09-30-92	<1	--	<1	<1.0	82	--	<3	--	--
	06-24-93	<10	<10	--	<1.0	83	<6	<3	--	--
	09-15-93	20	<10	--	<1.0	78	<6	<3	--	--
EAST LAKE,EL-1-40	10-01-91	--	--	--	--	--	--	--	--	--
	06-25-92	--	--	--	--	--	--	--	--	--
EAST LAKE,EL-2-20	10-01-91	--	--	--	--	--	--	--	--	--
EAST LAKE,EL-2-70	10-01-91	--	--	--	--	--	--	--	--	--
EAST LAKE,EL-3-20	10-01-91	--	--	--	--	--	--	--	--	--
	06-25-92	--	--	--	--	--	--	--	--	--
EAST LAKE,EL-3-70	10-01-91	--	--	--	--	--	--	--	--	--
	06-25-92	--	--	--	--	--	--	--	--	--
EAST LAKE,EL-4-50	10-01-91	--	--	--	--	--	--	--	--	--
	06-25-92	--	--	--	--	--	--	--	--	--
EAST LAKE,EL-5-10	10-01-91	--	--	--	--	--	--	--	--	--
	06-25-92	--	--	--	--	--	--	--	--	--
EAST LAKE,EL-6-10	10-01-91	--	--	--	--	--	--	--	--	--
EAST LAKE,EL-7-10	10-01-91	--	--	--	--	--	--	--	--	--
EAST LAKE,EL-8-30	10-01-92	<1	--	<1	<1.0	99	--	6	--	--
	06-24-93	<10	<10	--	<1.0	93	<6	<3	--	--
	09-16-93	<10	<10	--	<1.0	92	<6	<3	--	--
EAST LAKE,EL-8-60	10-01-92	<1	--	<1	<1.0	97	--	<3	--	--

Table 6. Water-quality data for Paulina Creek, Paulina Lake, and East Lake, in the vicinity of Newberry Volcano near La Pine, Oregon—Continued

LOCATION	DATE	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL
EAST LAKE,EL-8-85	06-24-93	<10	<10	--	<1.0	95	<6	15	-79.2	-8.46
	09-16-93	<10	<10	--	<1.0	89	<6	<3	-77.2	-8.16
PAULINA LK,PL-1-10	10-03-91	--	--	--	--	--	--	--	--	--
	06-24-92	--	--	--	--	--	--	--	--	--
PAULINA LK,PL-2-5	10-03-91	--	--	--	--	--	--	--	--	--
PAULINA LK,PL-3-30	10-03-91	--	--	--	--	--	--	--	--	--
PAULINA LK,PL-4-30	10-03-91	--	--	--	--	--	--	--	--	--
	06-24-92	--	--	--	--	--	--	--	-93.5	-11.45
PAULINA LK,PL-5-30	10-03-91	--	--	--	--	--	--	--	--	--
	06-24-92	--	--	--	--	--	--	--	-94.0	-11.50
PAULINA LK,PL-5-70	10-03-91	--	--	--	--	--	--	--	--	--
	06-24-92	--	--	--	--	--	--	--	-94.0	-11.60
PAULINA LK,PL-6-15	10-03-91	--	--	--	--	--	--	--	--	--
	06-24-92	--	--	--	--	--	--	--	-93.0	-11.45
PAULINA LK,PL-7-25	10-03-91	--	--	--	--	--	--	--	--	--
	06-24-92	--	--	--	--	--	--	--	--	--
PAULINA LK,PL-8-10	10-03-91	--	--	--	--	--	--	--	--	--
PAULINA LK,PL-9-20	06-24-92	--	--	--	--	--	--	--	-94.5	-11.40
PAULINA LK,PL-10-2	06-24-92	--	--	--	--	--	--	--	--	--
PAULINA LK,PL-11-30	10-01-92	<1	--	<1	<1.0	5	--	<3	-90.0	-11.10
	06-23-93	<10	<10	--	<1.0	84	<6	<3	-93.1	-11.73
	09-16-93	<10	<10	--	<1.0	83	<6	<3	-93.6	-11.32
PAULINA LK,PL-11-60	10-01-92	<1	--	<1	<1.0	82	--	<3	-94.5	-11.70
	06-23-93	10	<10	--	<1.0	86	<6	8	-94.7	-11.59
	09-16-93	<10	<10	--	<1.0	83	<6	5	-96.6	-11.68

Table 6. Water-quality data for Paulina Creek, Paulina Lake, and East Lake, in the vicinity of Newberry Volcano near La Pine, Oregon—Continued

LOCATION	DATE	ALPHA COUNT, 2 SIGMA WAT DIS AS TH-230 (PCi/L)	GROSS BETA, DIS-SOLVED (PCi/L AS SR/YT-90)	BETA, 2 SIGMA WATER, DISS, AS SR90 /Y90 (PCi/L	BETA, 2 SIGMA WATER, DISS, AS CS-137 (PCi/L)	RN-222 2 SIGMA WATER, WHOLE, TOTAL, (PCi/L)	RADON 222 TOTAL (PCi/L)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL
PAULINA CREEK NR LA PINE, OR	10-02-91	0.60	7.4	1.6	2.2	54	140	-92.0	-11.35
	04-02-92	--	--	--	--	--	--	-94.5	-11.35
	06-24-92	--	--	--	--	--	--	-94.0	-11.45
	09-28-92	--	--	--	--	--	--	-91.5	-11.10
	06-24-93	--	--	--	--	--	--	-93.0	-11.62
	09-14-93	--	--	--	--	--	--	-94.2	-11.30
PAULINA CREEK NR USFS ROAD 21	10-02-91	0.80	6.1	1.4	1.8	51	90	-91.5	-11.15
	04-02-92	--	--	--	--	--	--	-94.0	-11.50
	06-25-92	--	--	--	--	--	--	-92.0	-11.15
	09-30-92	--	--	--	--	--	--	-90.5	-10.95
	06-24-93	--	--	--	--	--	--	-92.4	-11.49
	09-15-93	--	--	--	--	--	--	--	--
EAST LAKE,EL-1-40	10-01-91	--	--	--	--	--	--	--	--
	06-25-92	--	--	--	--	--	--	-79.0	-8.50
EAST LAKE,EL-2-20	10-01-91	--	--	--	--	--	--	--	--
EAST LAKE,EL-2-70	10-01-91	--	--	--	--	--	--	--	--
EAST LAKE,EL-3-20	10-01-91	--	--	--	--	--	--	--	--
	06-25-92	--	--	--	--	--	--	-78.0	-8.25
EAST LAKE,EL-3-70	10-01-91	--	--	--	--	--	--	--	--
	06-25-92	--	--	--	--	--	--	-79.0	-8.60
EAST LAKE,EL-4-50	10-01-91	--	--	--	--	--	--	--	--
	06-25-92	--	--	--	--	--	--	-78.5	-8.50
EAST LAKE,EL-5-10	10-01-91	--	--	--	--	--	--	--	--
	06-25-92	--	--	--	--	--	--	-78.0	-8.25
EAST LAKE,EL-6-10	10-01-91	--	--	--	--	--	--	--	--
EAST LAKE,EL-7-10	10-01-91	--	--	--	--	--	--	--	--
EAST LAKE,EL-8-30	10-01-92	--	--	--	--	--	--	-76.0	-7.85
	06-24-93	--	--	--	--	--	--	-77.9	-8.59
	09-16-93	--	--	--	--	--	--	-77.3	-8.12
EAST LAKE,EL-8-60	10-01-92	--	--	--	--	--	--	-74.5	-7.85

Table 7. Daily values of data from the meteorologic station at Paulina Lake near La Pine, Oregon (4342441211631), July 1992 through September 1993

[OCT = October, NOV = November, DEC = December, JAN = January, FEB = February, MAR = March, APR = April, JUN = June, JUL = July, AUG = August, SEP = September, --- = data not collected, e = estimated, MIN = Minimum, MAX = Maximum, CAL/SQ CM/DAY = Calories per Square Centimeter per Day]

DAILY TOTAL VALUES OF ACCUMULATED RAINFALL, IN INCHES, FROM JULY 16, 1992 TO SEPTEMBER 30, 1992

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	.00	.00
2	---	---	---	---	---	---	---	---	---	---	.00	.00
3	---	---	---	---	---	---	---	---	---	---	.00	.09
4	---	---	---	---	---	---	---	---	---	---	.00	.03
5	---	---	---	---	---	---	---	---	---	---	.00	.05
6	---	---	---	---	---	---	---	---	---	---	.00	.00
7	---	---	---	---	---	---	---	---	---	---	.00	.00
8	---	---	---	---	---	---	---	---	---	---	.00	.00
9	---	---	---	---	---	---	---	---	---	---	.00	.00
10	---	---	---	---	---	---	---	---	---	---	.00	.00
11	---	---	---	---	---	---	---	---	---	---	.00	.08
12	---	---	---	---	---	---	---	---	---	---	e.00	.00
13	---	---	---	---	---	---	---	---	---	---	e.00	.00
14	---	---	---	---	---	---	---	---	---	---	.00	.00
15	---	---	---	---	---	---	---	---	---	---	.00	.00
16	---	---	---	---	---	---	---	---	---	.00	.00	.00
17	---	---	---	---	---	---	---	---	---	.09	.00	.00
18	---	---	---	---	---	---	---	---	---	.00	.00	.00
19	---	---	---	---	---	---	---	---	---	.08	.00	.00
20	---	---	---	---	---	---	---	---	---	.12	.00	.00
21	---	---	---	---	---	---	---	---	---	.00	.00	.00
22	---	---	---	---	---	---	---	---	---	.02	.00	.00
23	---	---	---	---	---	---	---	---	---	.00	.00	.02
24	---	---	---	---	---	---	---	---	---	.00	.00	.33
25	---	---	---	---	---	---	---	---	---	.00	.00	.00
26	---	---	---	---	---	---	---	---	---	.00	.00	.00
27	---	---	---	---	---	---	---	---	---	.00	.00	.00
28	---	---	---	---	---	---	---	---	---	.00	.00	.00
29	---	---	---	---	---	---	---	---	---	.00	.00	.00
30	---	---	---	---	---	---	---	---	---	.00	.00	.00
31	---	---	---	---	---	---	---	---	---	.00	.18	---
TOTAL	---	---	---	---	---	---	---	---	---	---	0.18	0.60

Table 7. Daily values of data from the meteorologic station at Paulina Lake near La Pine, Oregon (4342441211631), July 1992 through September 1993—Continued

DAILY TOTAL VALUES OF ACCUMULATED RAINFALL, IN INCHES, FROM OCTOBER 1992 TO SEPTEMBER 1993

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.02	.00	---	.00	.06	.13	.12	.51	.00	.00	.00
2	.08	.00	.00	---	.00	.03	.30	.00	.06	.00	.00	.00
3	.00	.00	.00	---	.00	.16	.09	.59	.00	.00	.00	.00
4	.00	.02	.00	---	.00	.26	.44	.01	.17	.00	.00	.00
5	.00	.00	.00	---	.20	.00	.02	.04	.11	.00	.00	.00
6	.00	.00	.02	---	.00	.00	.33	.32	.30	.00	2.03	.00
7	.00	.04	.00	.34	.00	.00	.00	.00	.00	.00	.89	.00
8	.00	.02	.02	.25	.08	.00	.72	.07	.00	.00	.00	.00
9	.00	.02	.00	.05	.06	.11	.61	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.15	.25	.27	.00	.00	.00	.00	.00
11	.00	.02	.00	.05	.07	.00	.11	.00	.16	.00	.00	.00
12	.00	.01	.00	.02	.00	.00	.00	.04	.00	.00	.31	.00
13	.00	.00	.00	.24	.00	.06	.46	.00	.00	.00	.00	.00
14	.00	.00	.00	.38	.00	.13	.15	.00	.00	.09	.00	.00
15	.00	.00	.00	.01	.00	.26	.12	.00	.00	.01	1.15	.00
16	.03	.00	.02	.27	.00	.72	.00	.02	.00	.00	.00	.00
17	.02	.01	.04	.00	.00	.34	.49	.00	.00	.00	.00	.00
18	.00	.00	---	.00	.00	.27	.20	.00	.00	.00	.00	.00
19	.00	.00	---	1.34	.00	.02	.00	.00	.00	.09	.02	.00
20	.03	.00	---	2.13	.00	.11	.14	.10	.00	.00	.67	.00
21	.01	.00	---	1.05	.00	.00	.00	.12	.00	.21	.00	.00
22	.00	.00	---	.75	.00	.21	.21	.00	.00	.69	.00	.00
23	.00	.00	---	.80	.00	.58	.46	.00	.00	.02	.00	.00
24	.00	.00	---	.88	.00	.52	.10	.44	.00	.00	.00	.00
25	.00	.00	---	.54	.00	.13	.29	.70	.00	.00	.00	.00
26	.00	.00	---	.09	.00	.00	.08	.16	.00	.00	.00	.00
27	.00	.02	---	.06	.00	.00	.00	.40	.00	.00	.00	.00
28	.01	.00	---	.01	.01	.00	.02	.02	.00	.00	.00	.00
29	.02	.00	---	.00	---	.00	.06	.00	.00	.00	.00	.00
30	.00	.02	---	.00	---	.07	.00	.20	.00	.00	.00	.00
31	.00	---	---	.00	---	.37	---	.83	---	.00	.00	---
TOTAL	0.20	0.20	---	---	0.57	4.66	5.80	4.18	1.31	1.11	5.07	0.00

Table 7. Daily values of data from the meteorologic station at Paulina Lake near La Pine, Oregon (4342441211631), July 1992 through September 1993—Continued

DAILY MEAN VALUES OF RELATIVE HUMIDITY, IN PERCENT, FROM JULY 16, 1991 TO SEPTEMBER 30, 1992

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	40.3	69.7
2	---	---	---	---	---	---	---	---	---	---	29.3	57.4
3	---	---	---	---	---	---	---	---	---	---	36.2	83.8
4	---	---	---	---	---	---	---	---	---	---	45.5	96.5
5	---	---	---	---	---	---	---	---	---	---	38.7	89.6
6	---	---	---	---	---	---	---	---	---	---	58.0	70.1
7	---	---	---	---	---	---	---	---	---	---	76.2	42.6
8	---	---	---	---	---	---	---	---	---	---	67.5	73.4
9	---	---	---	---	---	---	---	---	---	---	50.0	51.6
10	---	---	---	---	---	---	---	---	---	---	23.3	34.0
11	---	---	---	---	---	---	---	---	---	---	20.5	76.1
12	---	---	---	---	---	---	---	---	---	---	25.0	79.9
13	---	---	---	---	---	---	---	---	---	---	40.0	68.1
14	---	---	---	---	---	---	---	---	---	---	53.5	38.6
15	---	---	---	---	---	---	---	---	---	---	47.6	51.3
16	---	---	---	---	---	---	---	---	---	32.8	60.5	57.0
17	---	---	---	---	---	---	---	---	---	47.2	41.7	62.9
18	---	---	---	---	---	---	---	---	---	68.9	37.3	57.0
19	---	---	---	---	---	---	---	---	---	65.0	41.4	44.3
20	---	---	---	---	---	---	---	---	---	88.6	39.9	65.9
21	---	---	---	---	---	---	---	---	---	72.4	62.4	66.7
22	---	---	---	---	---	---	---	---	---	94.3	84.8	35.0
23	---	---	---	---	---	---	---	---	---	75.2	74.5	61.9
24	---	---	---	---	---	---	---	---	---	64.7	31.7	99.7
25	---	---	---	---	---	---	---	---	---	53.7	23.6	89.9
26	---	---	---	---	---	---	---	---	---	49.8	27.2	78.3
27	---	---	---	---	---	---	---	---	---	41.9	31.9	61.6
28	---	---	---	---	---	---	---	---	---	39.6	50.5	44.9
29	---	---	---	---	---	---	---	---	---	37.6	37.9	29.6
30	---	---	---	---	---	---	---	---	---	36.6	38.7	21.9
31	---	---	---	---	---	---	---	---	---	29.7	68.9	---

Table 7. Daily values of data from the meteorologic station at Paulina Lake near La Pine, Oregon (4342441211631), July 1992 through September 1993—Continued

DAILY TOTAL VALUES OF INCIDENTAL SOLAR RADIATION INTENSITY, IN CAL/SQ CM/DAY, FROM JULY 16, 1992 TO SEPTEMBER 30, 1992

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	609	537
2	---	---	---	---	---	---	---	---	---	---	767	469
3	---	---	---	---	---	---	---	---	---	---	728	262
4	---	---	---	---	---	---	---	---	---	---	726	194
5	---	---	---	---	---	---	---	---	---	---	725	263
6	---	---	---	---	---	---	---	---	---	---	571	486
7	---	---	---	---	---	---	---	---	---	---	622	486
8	---	---	---	---	---	---	---	---	---	---	717	354
9	---	---	---	---	---	---	---	---	---	---	717	484
10	---	---	---	---	---	---	---	---	---	---	713	398
11	---	---	---	---	---	---	---	---	---	---	625	390
12	---	---	---	---	---	---	---	---	---	---	e600	449
13	---	---	---	---	---	---	---	---	---	---	e580	443
14	---	---	---	---	---	---	---	---	---	---	563	428
15	---	---	---	---	---	---	---	---	---	---	399	238
16	---	---	---	---	---	---	---	---	---	790	489	429
17	---	---	---	---	---	---	---	---	---	519	536	420
18	---	---	---	---	---	---	---	---	---	698	673	424
19	---	---	---	---	---	---	---	---	---	584	584	416
20	---	---	---	---	---	---	---	---	---	288	602	413
21	---	---	---	---	---	---	---	---	---	695	535	405
22	---	---	---	---	---	---	---	---	---	161	382	357
23	---	---	---	---	---	---	---	---	---	758	459	317
24	---	---	---	---	---	---	---	---	---	718	621	81
25	---	---	---	---	---	---	---	---	---	767	617	335
26	---	---	---	---	---	---	---	---	---	749	607	367
27	---	---	---	---	---	---	---	---	---	757	576	390
28	---	---	---	---	---	---	---	---	---	773	578	383
29	---	---	---	---	---	---	---	---	---	766	560	298
30	---	---	---	---	---	---	---	---	---	635	512	366
31	---	---	---	---	---	---	---	---	---	735	397	---
TOTAL	---	---	---	---	---	---	---	---	---	---	18390	11282

Table 7. Daily values of data from the meteorologic station at Paulina Lake near La Pine, Oregon (434244121631), July 1992 through September 1993—Continued

DAILY TOTAL VALUES OF INCIDENTAL SOLAR RADIATION INTENSITY, IN CAL/SQ CM/DAY, FROM OCTOBER 1, 1992 TO SEPTEMBER 30, 1993

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	336	26	3.4	---	205	141	160	318	344	793	739	544
2	60	123	4.2	---	174	147	161	639	392	467	737	533
3	81	200	15	---	112	101	178	256	574	554	732	514
4	336	63	142	---	209	85	171	416	259	776	724	509
5	336	174	133	---	99	281	325	629	275	803	729	469
6	339	189	64	---	158	355	168	286	92	805	588	435
7	295	77	54	61	227	357	447	307	337	798	708	412
8	202	33	17	12	135	310	58	634	774	783	701	477
9	323	12	6.6	17	74	195	116	664	389	797	736	482
10	307	83	19	13	207	219	174	716	724	790	710	447
11	321	95	46	11	159	370	308	709	294	788	518	461
12	319	126	13	18	59	195	509	339	818	727	558	465
13	266	170	43	79	212	202	137	765	758	664	667	450
14	320	168	24	41	271	191	468	712	535	417	337	405
15	245	149	69	132	277	87	417	642	476	407	77	321
16	221	103	49	25	279	10	350	576	784	371	166	162
17	267	66	8.8	40	158	120	156	691	804	588	467	429
18	220	115	---	100	94	189	258	593	804	648	636	436
19	280	5.6	---	60	51	266	589	662	775	296	313	439
20	112	25	---	9.3	36	349	454	369	720	384	349	439
21	120	8.8	---	9.7	9.7	385	401	312	296	596	507	430
22	238	4.3	---	8.8	43	249	239	694	422	97	642	425
23	272	16	---	12	44	138	163	762	813	501	490	410
24	263	19	---	11	32	217	358	499	796	725	572	401
25	260	50	---	125	91	246	307	189	807	678	563	402
26	249	141	---	162	230	210	369	440	700	570	539	404
27	228	38	---	172	322	393	634	363	671	755	584	377
28	100	76	---	86	341	471	481	380	613	647	569	363
29	34	114	---	170	---	266	294	662	732	703	562	385
30	11	32	---	193	---	270	670	260	646	742	568	332
31	2.4	---	---	197	---	239	---	166	---	734	562	---
TOTAL	6963.4	2501.7	---	---	4308.7	7254	9520	15650	17424	19404	17350	12758

Table 7. Daily values of data from the meteorologic station at Paulina Lake near La Pine, Oregon (4342441211631), July 1992 through September 1993—Continued

DAILY MEAN VALUES OF AIR TEMPERATURE, IN DEGREES CELSIUS, FROM JULY 16, 1992 TO SEPTEMBER 30, 1992

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	16.4	11.2
2	---	---	---	---	---	---	---	---	---	---	15.8	11.4
3	---	---	---	---	---	---	---	---	---	---	15.3	8.2
4	---	---	---	---	---	---	---	---	---	---	13.2	6.3
5	---	---	---	---	---	---	---	---	---	---	12.7	4.4
6	---	---	---	---	---	---	---	---	---	---	11.7	2.8
7	---	---	---	---	---	---	---	---	---	---	11.8	7.8
8	---	---	---	---	---	---	---	---	---	---	9.8	7.6
9	---	---	---	---	---	---	---	---	---	---	12.1	10.4
10	---	---	---	---	---	---	---	---	---	---	19.5	16.7
11	---	---	---	---	---	---	---	---	---	---	22.7	10.8
12	---	---	---	---	---	---	---	---	---	---	e22.0	3.9
13	---	---	---	---	---	---	---	---	---	---	e21.0	2.5
14	---	---	---	---	---	---	---	---	---	---	20.2	7.5
15	---	---	---	---	---	---	---	---	---	---	19.0	7.1
16	---	---	---	---	---	---	---	---	---	17.8	16.9	9.0
17	---	---	---	---	---	---	---	---	---	18.1	20.0	9.0
18	---	---	---	---	---	---	---	---	---	16.7	19.9	10.2
19	---	---	---	---	---	---	---	---	---	15.1	16.9	9.6
20	---	---	---	---	---	---	---	---	---	10.9	13.6	11.4
21	---	---	---	---	---	---	---	---	---	11.9	9.7	13.7
22	---	---	---	---	---	---	---	---	---	6.9	5.2	17.9
23	---	---	---	---	---	---	---	---	---	8.3	5.4	11.4
24	---	---	---	---	---	---	---	---	---	11.1	8.5	2.3
25	---	---	---	---	---	---	---	---	---	15.2	10.8	4.2
26	---	---	---	---	---	---	---	---	---	16.9	13.0	7.1
27	---	---	---	---	---	---	---	---	---	16.8	13.9	7.2
28	---	---	---	---	---	---	---	---	---	16.2	12.9	11.8
29	---	---	---	---	---	---	---	---	---	15.7	11.7	15.0
30	---	---	---	---	---	---	---	---	---	18.6	11.7	17.1
31	---	---	---	---	---	---	---	---	---	21.4	10.3	---
MEAN	---	---	---	---	---	---	---	---	---	---	14.3	9.2
MAX	---	---	---	---	---	---	---	---	---	---	22.7	17.9
MIN	---	---	---	---	---	---	---	---	---	---	5.2	2.3

Table 7. Daily values of data from the meteorologic station at Paulina Lake near La Pine, Oregon (4342441211631), July 1992 through September 1993—Continued

DAILY MEAN VALUES OF AIR TEMPERATURE, IN DEGREES CELSIUS, FROM OCTOBER 1, 1992 TO SEPTEMBER 30, 1993

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.3	2.4	-.4	---	-5.8	-2.4	-1.8	2.3	2.8	10.1	17.3	13.2
2	5.5	-.6	-3.0	---	-1.8	-.1	-.1	5.9	2.2	6.0	17.3	13.6
3	2.7	-1.0	-8.6	---	1.4	-.1	.6	.8	4.6	7.3	20.4	14.5
4	3.2	1.8	-3.5	---	4.0	.0	-1.9	-.5	4.2	9.5	18.0	13.3
5	3.8	.2	-4.9	---	1.3	2.0	-2.2	4.2	4.6	9.8	17.2	14.4
6	5.9	5.1	-3.6	---	.1	2.2	-1.1	.3	4.7	9.6	14.4	17.3
7	7.6	.0	-4.4	-5.0	1.1	4.3	3.1	-1.9	2.3	8.5	10.9	17.2
8	5.8	-3.8	-4.5	-7.6	.0	3.6	1.2	.6	5.5	12.2	12.8	15.8
9	6.1	-6.3	-5.2	-11.6	-1.8	2.4	-1.6	8.0	8.0	10.4	13.8	15.5
10	8.9	-8.1	-3.2	-9.8	-2.8	1.0	-4.0	13.9	6.7	9.5	11.9	15.5
11	9.6	-2.4	-5.8	-9.6	-3.3	-.3	-4.8	14.1	-.5	8.0	10.3	10.7
12	8.3	2.0	-6.4	-8.6	-4.1	.9	-3.9	9.8	5.5	6.2	10.5	4.5
13	4.6	2.1	-4.6	-4.0	-8.8	1.7	-2.0	6.5	11.3	5.8	10.4	7.2
14	.1	3.6	-2.6	-2.7	-7.9	1.0	-1.9	9.0	11.0	6.4	7.2	8.1
15	.5	3.2	-8.2	-6.6	-13.2	.2	1.2	8.9	6.7	5.4	5.2	6.5
16	4.4	.1	-8.2	-4.1	-18.5	.6	1.8	8.0	8.0	6.1	5.9	6.0
17	6.6	-.5	-8.6	-5.7	-10.4	1.6	-.3	11.0	12.0	6.8	9.1	5.5
18	7.9	-.6	---	-4.9	-1.3	1.6	-2.5	11.8	15.1	11.0	13.2	4.7
19	8.9	-4.1	---	-3.2	-1.7	1.6	-.7	11.2	15.5	8.5	13.1	3.9
20	7.1	-5.5	---	-3.2	-9.1	-.5	4.2	7.1	15.9	6.5	9.8	1.6
21	3.7	-1.7	---	-3.7	-8.8	2.1	2.4	4.1	6.1	7.8	10.3	1.9
22	6.6	-4.4	---	-9.1	-4.4	5.6	-1.2	6.2	1.1	7.9	12.1	4.6
23	10.8	-6.8	---	-9.0	-6.1	.8	-1.0	9.8	5.0	7.8	8.5	6.2
24	6.8	-5.9	---	-.9	-10.8	-1.8	.6	10.6	10.2	8.2	3.8	6.7
25	5.4	-3.7	---	-2.7	-16.8	-3.0	1.2	4.9	16.2	7.0	4.2	8.9
26	4.6	1.0	---	-3.5	-11.1	-4.0	-1.1	5.6	14.1	10.2	7.7	12.6
27	4.7	-.4	---	-2.1	-9.4	-1.8	.3	5.0	7.6	15.3	10.6	11.9
28	2.7	-5.1	---	-2.6	-4.5	1.0	3.1	3.8	4.7	13.7	8.3	16.0
29	.2	-5.3	---	-3.5	---	-1.5	3.3	7.7	6.4	9.1	8.6	14.6
30	-.7	-.9	---	-1.6	---	-.1	2.0	8.5	9.4	9.4	11.3	10.5
31	-.2	---	---	-.6	---	4.0	---	5.4	---	13.6	14.1	---
MEAN	5.3	-1.5	---	---	-5.5	.7	-.2	6.5	7.6	8.8	11.2	10.1
MAX	13.3	5.1	---	---	4.0	5.6	4.2	14.1	16.2	15.3	20.4	17.3
MIN	-.7	-8.1	---	---	-18.5	-4.0	-4.8	-1.9	-.5	5.4	3.8	1.6

Table 7. Daily values of data from the meteorologic station at Paulina Lake near La Pine, Oregon (4342441211631), July 1992 through September 1993—Continued

DAILY MEAN VALUES OF WIND SPEED, IN MILES PER HOUR, FROM JULY 16, 1992 TO SEPTEMBER 30,1992

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	1.3	1.3
2	---	---	---	---	---	---	---	---	---	---	1.5	1.2
3	---	---	---	---	---	---	---	---	---	---	1.6	.5
4	---	---	---	---	---	---	---	---	---	---	1.5	1.7
5	---	---	---	---	---	---	---	---	---	---	1.4	1.4
6	---	---	---	---	---	---	---	---	---	---	1.6	.9
7	---	---	---	---	---	---	---	---	---	---	1.9	2.3
8	---	---	---	---	---	---	---	---	---	---	1.5	1.0
9	---	---	---	---	---	---	---	---	---	---	2.0	2.6
10	---	---	---	---	---	---	---	---	---	---	4.5	2.8
11	---	---	---	---	---	---	---	---	---	---	4.9	1.0
12	---	---	---	---	---	---	---	---	---	---	e3.5	2.1
13	---	---	---	---	---	---	---	---	---	---	e2.5	.8
14	---	---	---	---	---	---	---	---	---	---	1.7	1.4
15	---	---	---	---	---	---	---	---	---	---	1.4	.6
16	---	---	---	---	---	---	---	---	---	2.6	2.3	1.1
17	---	---	---	---	---	---	---	---	---	1.6	3.4	1.0
18	---	---	---	---	---	---	---	---	---	1.6	2.1	.9
19	---	---	---	---	---	---	---	---	---	1.8	1.9	1.1
20	---	---	---	---	---	---	---	---	---	1.1	1.2	1.3
21	---	---	---	---	---	---	---	---	---	1.2	1.6	2.3
22	---	---	---	---	---	---	---	---	---	1.1	1.5	2.8
23	---	---	---	---	---	---	---	---	---	1.5	2.6	1.9
24	---	---	---	---	---	---	---	---	---	2.5	5.2	3.1
25	---	---	---	---	---	---	---	---	---	1.7	3.6	1.6
26	---	---	---	---	---	---	---	---	---	1.6	1.4	.9
27	---	---	---	---	---	---	---	---	---	1.6	1.5	.6
28	---	---	---	---	---	---	---	---	---	1.5	1.5	1.0
29	---	---	---	---	---	---	---	---	---	1.7	1.4	1.2
30	---	---	---	---	---	---	---	---	---	2.2	1.5	2.6
31	---	---	---	---	---	---	---	---	---	2.4	1.3	---
MEAN	---	---	---	---	---	---	---	---	---	---	2.2	1.5
MAX	---	---	---	---	---	---	---	---	---	---	5.2	3.1
MIN	---	---	---	---	---	---	---	---	---	---	1.2	.5

Table 7. Daily values of data from the meteorologic station at Paulina Lake near La Pine, Oregon (4342441211631), July 1992 through September 1993—Continued

DAILY MEAN VALUES OF WIND SPEED, IN MILES PER HOUR, FROM OCTOBER 1, 1992 TO SEPTEMBER 30,1993

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	2.6	.1	---	.3	.2	1.1	.4	.3	2.1	4.2	2.4
2	.1	1.8	.7	---	1.7	1.1	.4	.4	1.3	2.7	5.1	2.1
3	.7	1.4	2.5	---	2.9	.6	.8	2.1	1.3	2.0	4.4	1.9
4	.1	1.5	8.5	---	6.3	.2	.2	.4	.2	2.4	2.4	1.9
5	.4	.2	2.3	---	3.0	.1	.1	.2	.2	2.4	2.0	3.4
6	3.1	.8	5.6	---	1.1	.8	.2	.8	.6	2.3	2.6	5.3
7	.6	1.8	1.1	7.1	4.0	.4	.8	1.6	1.4	3.1	1.7	2.6
8	.8	1.1	1.9	1.2	3.9	.6	3.0	.5	1.7	2.6	2.1	2.1
9	.3	.4	1.2	2.4	.2	1.5	.6	.3	2.5	2.4	2.5	2.3
10	.3	.0	2.4	1.7	1.7	.1	1.0	2.9	2.2	2.3	2.2	2.1
11	.5	.0	2.8	.0	2.5	3.0	.4	2.8	2.6	2.3	2.2	2.5
12	.8	.0	.0	5.6	1.0	3.1	.1	2.5	1.3	2.1	1.9	3.5
13	.8	.2	.1	4.1	.3	.1	.5	1.2	1.3	2.2	1.6	4.8
14	.4	.2	.6	1.7	.5	1.2	.2	1.0	.5	1.7	1.5	2.1
15	.1	.2	1.2	4.4	4.5	1.6	.7	.3	1.1	1.4	1.0	2.6
16	.4	.1	1.4	1.0	3.8	.8	.9	.4	1.7	1.5	1.2	4.5
17	.2	.2	.3	5.6	3.4	2.2	1.6	.8	2.0	1.9	1.8	2.3
18	.7	.3	---	2.2	2.7	1.3	.6	.9	.5	3.4	4.3	1.5
19	.9	1.0	---	4.7	4.5	.8	.1	2.1	1.0	1.8	4.9	1.3
20	1.5	.2	---	3.8	1.4	.8	1.7	.3	1.1	1.6	2.5	1.5
21	.8	2.2	---	1.2	1.2	.8	.2	.2	.2	1.8	1.5	3.4
22	.7	.5	---	.3	.4	2.9	.3	.1	.3	1.4	2.2	4.9
23	3.0	1.3	---	.6	1.1	1.3	.9	2.1	.7	2.0	2.3	3.1
24	.4	1.4	---	.9	.2	.5	.6	4.0	2.8	2.2	2.7	1.9
25	.2	.2	---	.2	.0	1.0	1.8	.4	2.7	2.5	2.8	2.5
26	.4	.4	---	.1	.5	.3	.4	1.0	2.6	2.1	2.4	3.5
27	.4	.7	---	.2	1.3	.6	.2	.5	2.0	2.5	2.2	2.1
28	.4	.0	---	1.0	.2	.6	.6	.6	2.1	2.5	3.3	4.7
29	3.6	.0	---	2.4	---	.8	1.2	.8	2.0	2.2	6.5	2.4
30	2.2	.6	---	7.6	---	.4	.4	1.3	2.0	2.2	6.5	1.9
31	2.5	---	---	3.3	---	3.3	---	1.3	---	3.6	2.9	---
MEAN	1.0	.7	---	---	1.9	1.1	.7	1.1	1.4	2.2	2.8	2.8
MAX	3.7	2.6	---	---	6.3	3.3	3.0	4.0	2.8	3.6	6.5	5.3
MIN	.1	.0	---	---	.0	.1	.1	.1	.2	1.4	1.0	1.3