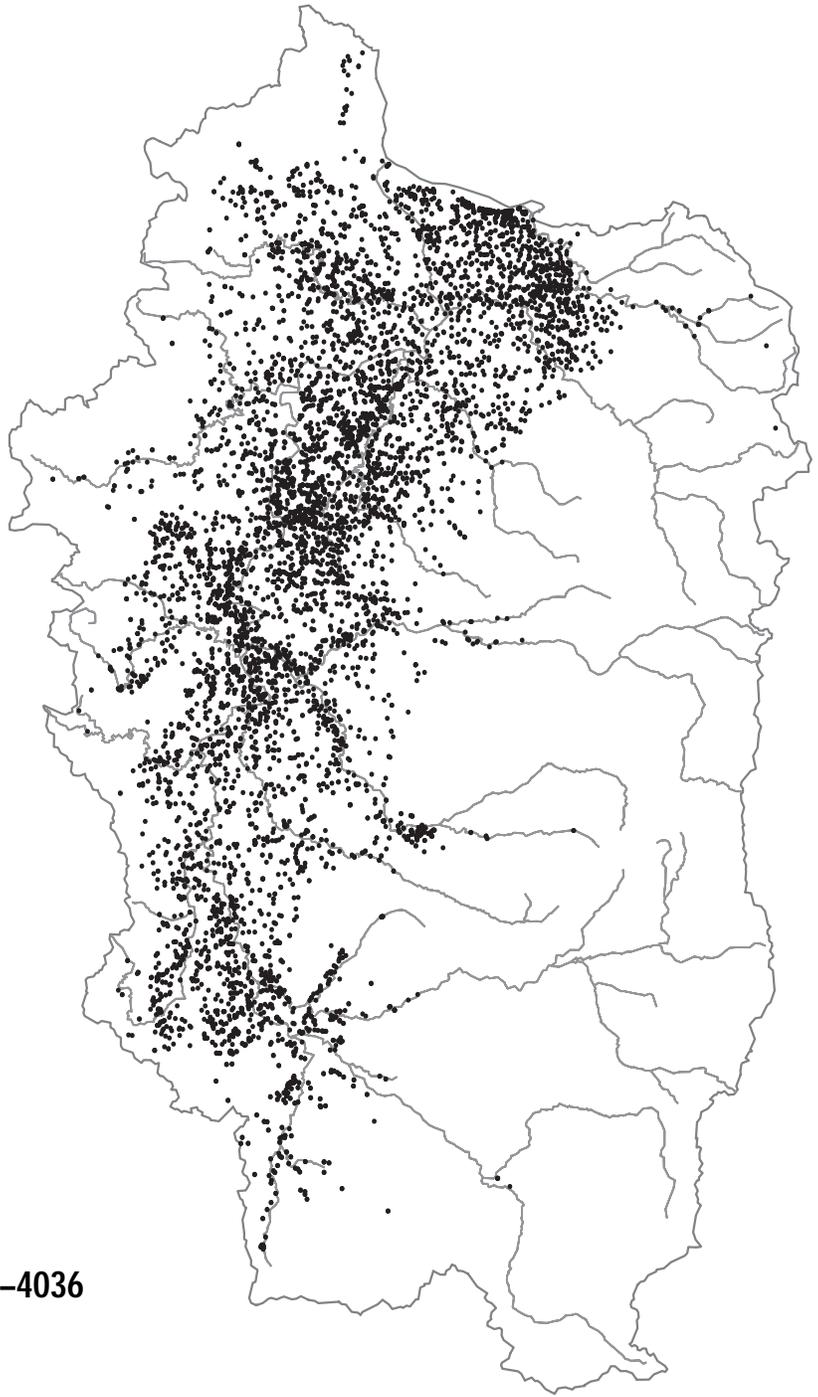


U.S. Department of the Interior
U.S. Geological Survey

Ground-Water and Water-Chemistry Data for the Willamette Basin, Oregon

Prepared in cooperation with
Oregon Water Resources Department



Water-Resources Investigations Report 99-4036

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Ground-Water and Water-Chemistry Data for the Willamette Basin, Oregon

By LEONARD L. ORZOL, KARL C. WOZNIAK,
TIFFANY R. MEISSNER, and DOUGLAS B. LEE

U.S. Geological Survey
Water-Resources Investigations Report 99–4036

Prepared in cooperation with
OREGON WATER RESOURCES DEPARTMENT

Portland, Oregon
2000

U.S. DEPARTMENT OF THE INTERIOR
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U.S. GEOLOGICAL SURVEY
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CD-ROM

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CD-ROM CONTENTS

This CD contains data tables, graphs, and GIS data layers to accompany the report. The contents and structure of the CD closely follow that which is displayed on your screen. Contents of the CD may also be viewed using the File Manager on your computer.

PRINTED REPORT

Orzol, L.L., Wozniak, K.C., Meissner, T.R., and Lee, D.B., 2000, Ground-water and water-chemistry data for the Willamette Basin, Oregon: U.S. Geological Survey Water-Resources Investigations Report 99-4036, 141 p.

WRIR4036.PDF—PDF (PORTABLE DOCUMENT FORMAT) FILE

HOW TO USE THIS CD-ROM

DATA AND IMAGES ON THIS CD-ROM

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WATERLEV—Water-Level-Measurement Data and Hydrographs for Selected Wells

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Map of arsenic concentrations

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GIS files listing the locations of nonstudy wells and springs

GEOL—GIS data layers from selected reports for the Willamette Lowland, Oregon and Washington

Quaternary geologic units in the Willamette Basin, Oregon, from O'Connor, J.E., Sarna-Wojcicki, A.M.,

Wozniak, K.C., Polette, D.J., and Fleck, R.J., in press, Origin, extent, and thickness of Quaternary geologic units in the Willamette Valley, Oregon: U.S. Geological Survey Professional Paper 1620

Generalized Geologic units of the Willamette Lowland, Oregon and Washington, from Gannett, M.W. and

Caldwell, R.R., 1998, Geologic Framework of the Willamette Lowland Aquifer System, Oregon and Washington: U.S. Geological Survey Professional Paper 1424-A, 32 p.

Geologic units of the Willamette Basin, Oregon, from Walker, G.W., and MacLeod, N.S., 1991, Geologic map of Oregon: U.S. Geological Survey, scale 1:500,000, 2 sheets

CONVERSION FACTORS, ABBREVIATIONS, AND VERTICAL DATUM

	Multiply	By	To obtain
		Length	
	inch (in)	2.54	centimeter
	foot (ft)	0.3048	meter
	mile (mi)	1.609	kilometer
		Area	
	square mile (mi ²)	2.590	square kilometer
		Volume	
	gallon (gal)	3.785	liter
		Flow rate	
	cubic foot per second	0.02832	cubic meter per second
	gallon per minute (gpm)	0.06309	liter per second

Temperature in degrees Celsius (°C) can be converted to degrees Fahrenheit (°F) as follows:

$$^{\circ}\text{F}=1.8\text{ }^{\circ}\text{C}+32$$

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 Sea Level Datum of 1929.

Altitude/Elevation, as used in this report, refers to distance above or below sea level.

Specific conductance is reported in microsiemens per centimeter at 25 degrees Celsius (μS/cm at 25°C).

Concentrations of chemical constituents in water are reported either in milligrams per liter (mg/L) or micrograms per liter (μg/L).

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Ground-Water and Water-Chemistry Data for the Willamette Basin, Oregon

By Leonard L. Orzol, Karl C. Wozniak, Tiffany R. Meissner, *and* Douglas B. Lee

Abstract

This report presents ground-water data collected and compiled as part of a study of the ground-water resources of the Willamette River Basin, Oregon. The report includes tabulated information and a location map for 1,234 field-located water wells and 6 springs, hydrographs showing water-level fluctuations during various time periods for 265 of the wells, borehole geophysical data for 16 wells, and water-chemistry analyses from 125 wells and 6 springs. These data, as well as data for 4,752 additional field-located wells and 1 spring, are included on a [CD-ROM](#). In addition, the locations of the field-located wells and springs are provided in geographic information system formats on the [CD-ROM](#).

INTRODUCTION

Background

About 2.2 million people live in the Willamette Basin, nearly 70 percent of the total population of Oregon. (In this report, the Willamette Basin includes the area drained by the Willamette and Sandy River Basins.) The basin also supports a large agricultural economy, a growing industrial base, and an important fisheries resource (Collins and Broad, 1996). Since 1955, the basin population has increased by nearly 100 percent. This growth is expected to place a continually increasing demand on water resources in the basin (Oregon Water Resources Department, 1992). Because demand for water in the summer months exceeds the available supply for many streams, the Oregon Water Resources Department (OWRD) no longer issues permits for additional appropriations from these surface-water sources

during that time of the year. The growing demand for water resources in the basin has led to an increased reliance on ground water. Restrictions on the development of ground water from certain aquifer units have been adopted by the Oregon Water Resources Commission for 12 Ground Water Management Areas (pl. 1) because of long-term ground-water-level declines and concerns about limited ground-water supplies (Oregon Water Resources Department, 1992).

An indicator of the increased reliance on the use of ground water in the Willamette Basin is the number of water wells that have been drilled during the past several decades (fig. 1). Water-well reports on file at OWRD indicate that more than 110,000 wells have been drilled in the Willamette Basin since 1955, when recordkeeping began. The majority of these wells supply domestic water needs of the rural population of the basin and are concentrated around the major cities and along the main channel and the major tributaries of the Willamette River. The number of wells drilled each year since 1955 (fig. 2) correlates roughly to population growth in the counties of the basin. During this period, the rate of new well construction grew from about 1,000 wells per year to more than 4,000 wells per year, while the population grew at an average rate of 27,000 new residents per year.

Ground-water availability in the basin varies locally and is dependent upon several factors, including: (1) interference with surface-water sources withdrawn from further appropriation, (2) seasonal well-to-well interference, (3) long-term water-level declines caused by overpumping, (4) low yield aquifers, and (5) natural ground-water-quality problems, which limit potability. To evaluate the importance of these and other factors, the U.S. Geological Survey (USGS) and the OWRD conducted a cooperative study of ground-water resources in the Willamette Basin. The study area includes the entire Willamette and Sandy River Basins.

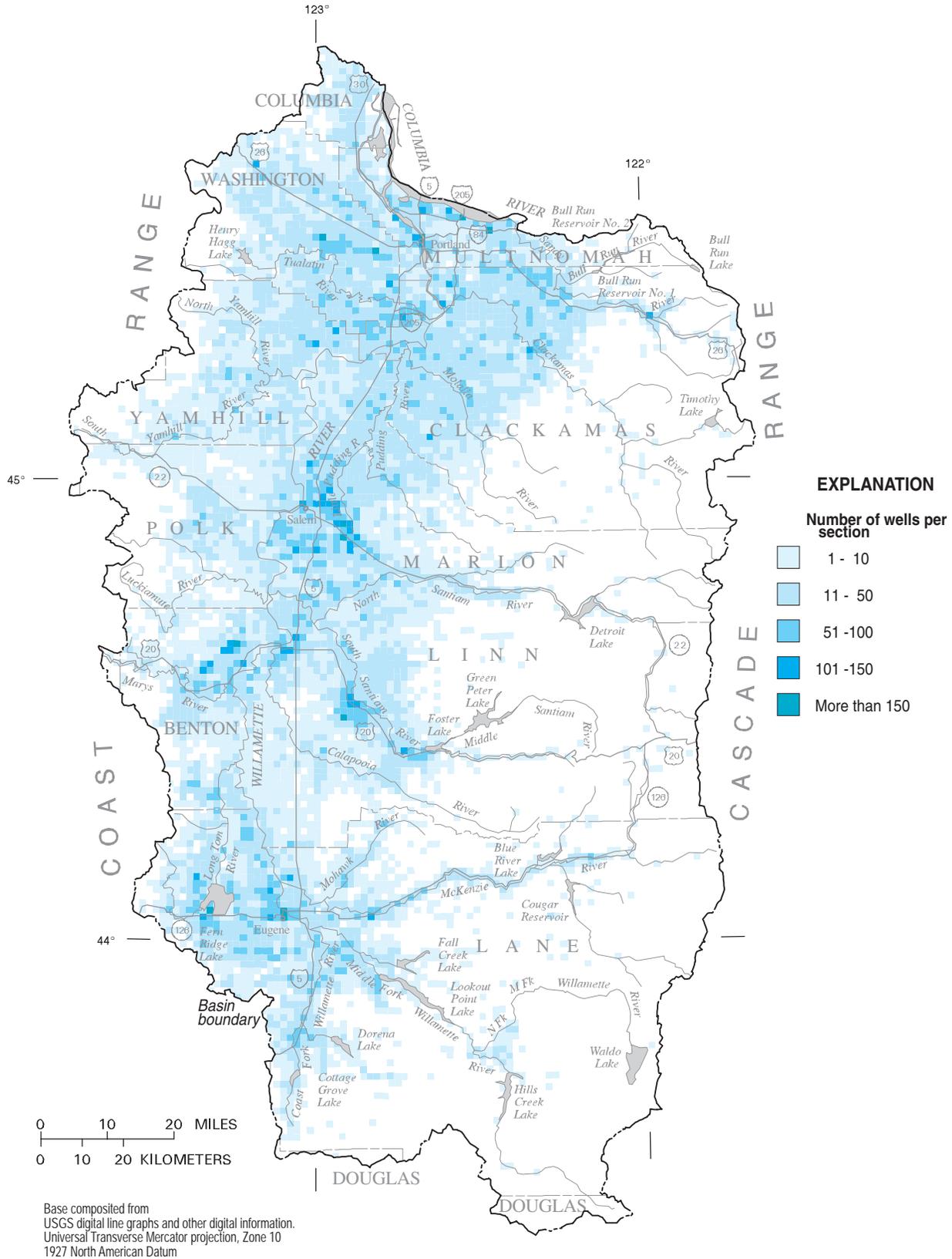


Figure 1. Number of wells per section (square mile) in the Willamette Basin.

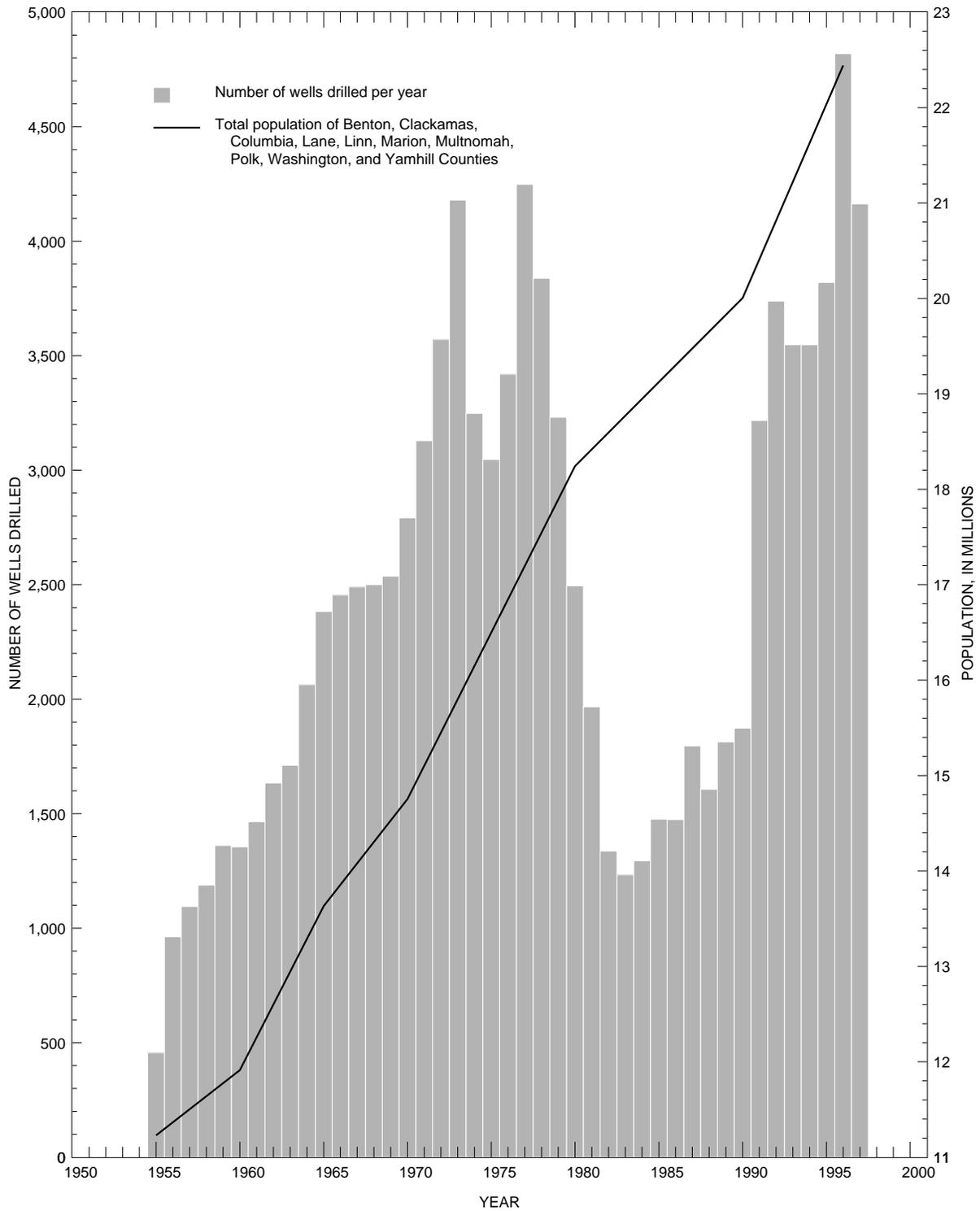


Figure 2. Number of wells drilled per year in the Willamette Basin, and the total population of Benton, Clackamas, Columbia, Lane, Linn, Marion, Multnomah, Polk, Washington, and Yamhill Counties for the period 1955 to 1996 (Population figures obtained from Portland State University, Center for Population Research and Census, Portland, Oregon, written and oral commun., 1997).

The Sandy River Basin was included in this study because the basin was part of a past USGS and OWRD study of the Portland metropolitan area, and the data were used in the analysis of the regional ground-water flow system that included portions of the Willamette River Basin. The objectives of this study were to:

- Provide a quantitative understanding of the regional ground-water flow system of the Willamette Basin sufficient to effectively evaluate the hydrologic effects of land- and water-use policies and climate changes,
- Develop the understanding and tools necessary to quantitatively evaluate the effect of ground-water pumping on streamflow,
- Characterize the unique hydrology of basalt aquifers within the Willamette Basin, particularly as related to water availability,
- Develop a better understanding of the relations between well yield and factors such as geology, well construction, and siting in areas underlain by low-yield aquifers, and
- Develop a better understanding of the origins and distribution of selected types of naturally occurring poor-quality ground water. The information gained from this study will provide a knowledge base to support resource-management decisions by State and local governments.

Purpose and Scope

The purpose of this report is to present basic data collected and compiled during the joint USGS-OWRD study of ground water in the Willamette Basin. Data includes selected information from water-well reports, water-level data from wells, water-chemistry data for selected wells and springs, and borehole geophysical data for selected wells. Data in the appendixes of this report were compiled for 1,234 wells and 6 springs that were either field-located specifically for this study, were field-located in previous USGS and OWRD studies and revisited during this study, or have data that were used directly for this study. These 1,234 wells and 6 springs are referred to as the “study” wells and springs in this report. Hydrographs for a subset of these wells are also presented. Data from water-well reports, water-level data for selected field-located wells, and water-chemistry data for selected study wells and springs are included. Data for these wells and for approximately 4,752 additional field-located wells and 1 spring in the basin are included in digital form on a CD-ROM at the

back of the report. The additional wells were field located during previous USGS and OWRD studies, but were neither revisited during this study nor used directly in the analyses performed for this study. The additional wells, referred to as “nonstudy” wells, represent an important data source for future studies and were therefore included in the digital data file. Some of the previous studies that document these wells include Piper (1942), Hart and Newcomb (1965), Price and Johnson (1965), Price (1967a, 1967b), Helm (1968), Foxworthy (1970), Frank and Johnson (1970), Hampton (1963), Frank and Johnson (1972), Frank (1973, 1974, 1976), Helm and Leonard (1977), Frank and Collins (1978), Gonthier (1983), Leonard and Collins (1983), Hartford and McFarland (1989), McCarthy and Anderson (1990), Doyle and Caldwell (1996), Gannett and Caldwell, 1998. A comprehensive bibliography of hydrogeologic literature for the Willamette Basin was compiled by Morgan and Weatherby (1992).

Acknowledgments

We thank the many well owners who allowed USGS and OWRD personnel access to their property for data collection. We also thank the well drillers who provided drill cuttings and other information about wells. Karl K. Lee, Stephen R. Hinkle, and Terrence D. Conlon of the USGS contributed significantly to this report.

EXPLANATION OF DATA

Well- and Spring-Location System

The system used for locating wells and springs in this report is based on the rectangular system for subdivision of public land (fig. 3). The State is divided into 36 square-mile townships numbered according to their location relative to the east-west Willamette baseline and a north-south Willamette meridian. The position of a township is given by its north-south “Township” position relative to the baseline and its east-west “Range” position relative to the meridian. Each township is divided into 36 sections approximately 1 square mile (640-acre) in area and numbered from 1 to 36. For example, a well designated as 01S/03E-33DCA is located in Township 1 south, Range 3 east, section 33. The letters following the section number correspond to the location within the section; the first letter (D) identifies the quarter section

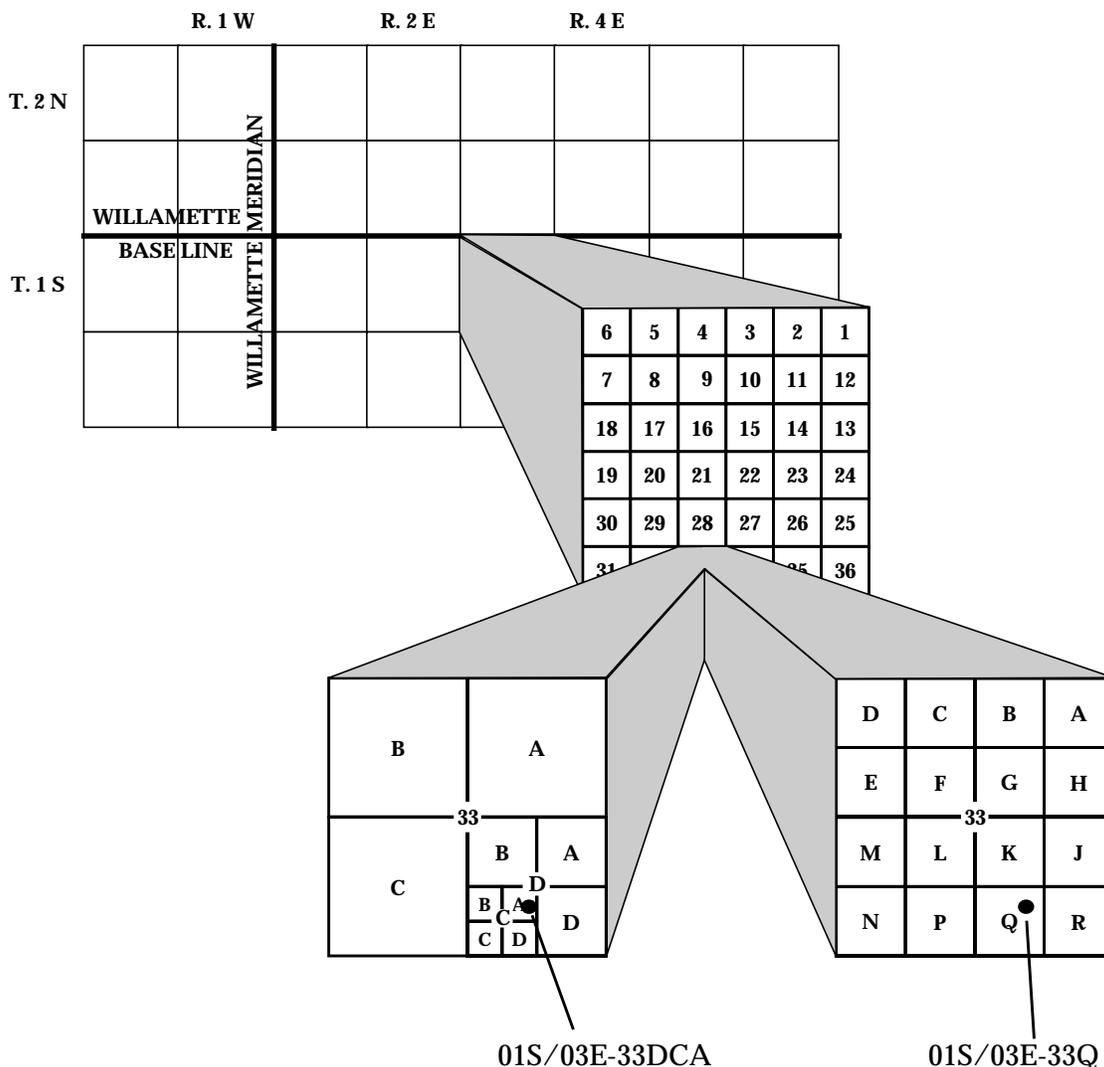


Figure 3. Well- and spring-location system used in the Willamette Basin.

(160 acres), the second letter (C) identifies the quarter-quarter section (40 acres), and the third letter (A) identifies the quarter-quarter-quarter section (10 acres). Thus, well 33DCA is located in the NE quarter of the SW quarter of the SE quarter of section 33. When more than one designated well occurs in the quarter-quarter-quarter section, a serial number is appended. For some wells that were field located during previous USGS and OWRD studies, a different system of letters following the section number was used for the location within the section (fig. 3). This system assigns a letter to one of 16 quarter-quarter sections (40 acres) that divide the section. The location 33DCA would correspond to the location 33Q. When more than one designated well occurs in the quarter-quarter section, a serial number is appended.

Well and Spring Data

Data for 5,993 field-located wells and springs were compiled to establish a database for Willamette Basin ground-water investigation. Approximately 500 of the wells were field located during the current investigation. The remaining wells were located during previous USGS and OWRD investigations. Of the 5,993 wells and springs, 1,234 study wells and 6 study springs were chosen for data collection and analysis to delineate the extent and thickness of hydrogeologic units in the basin and to provide data on water levels, water chemistry, and water use. The distribution of the 1,234 study wells and 6 study springs is shown in figure 4. Location, construction, water level, and other data for these study wells and springs are listed in Appendix A.

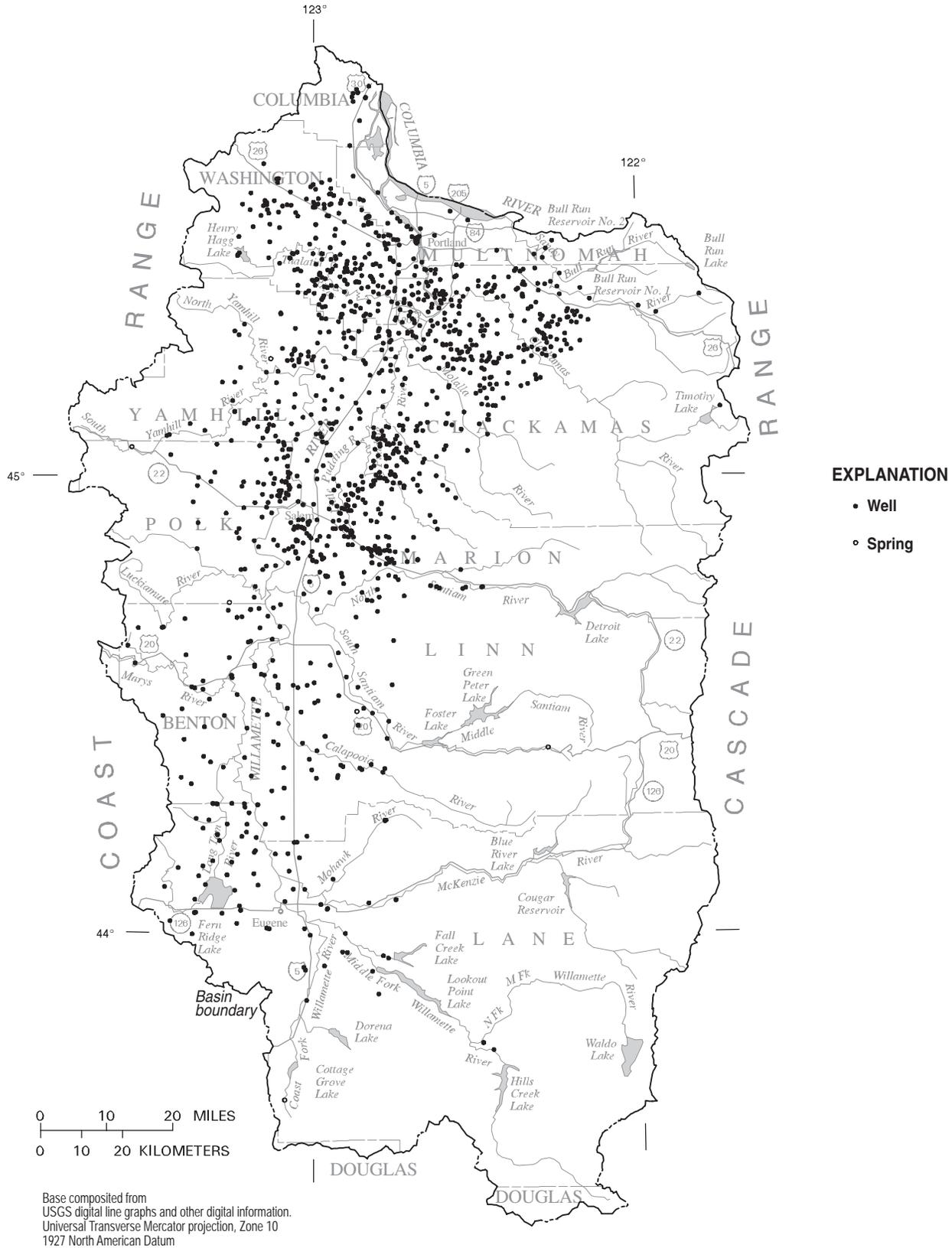


Figure 4. Distribution of selected study wells and study springs in the Willamette Basin.

Hydrogeologic units as defined by Gannett and Caldwell (1998), were determined for most of these wells (Appendix A, table A1). Locations of the study wells and springs are shown on plate 1 and recorded in several Geographic Information System (GIS) formats on the CD-ROM. Location and selected data were also compiled in text and GIS files on the CD-ROM for the nonstudy wells.

Locations of wells visited during this study were determined by plotting the well sites on USGS 7.5 minute series topographic maps (1:24,000 scale) or by using Global Positioning System (GPS) devices. The GPS locations were generally accurate to within 25 feet, depending upon the number of satellites the GPS device could access at the time of measurement. Land-surface altitude at each well site was estimated from elevation contours on USGS 7.5 minute series topographic maps at the plotted location and is considered accurate to approximately one-half of the contour interval (for example, altitudes are accurate to ± 5 feet for a map with 10-foot contour intervals).

Each well was assigned a unique 15-digit USGS site ID (identification number used by the USGS in the National Water Information System database). Where possible, wells were correlated to the corresponding OWRD well-log ID. The OWRD well-log ID is a combination of a four-letter county code and a well-log number with up to 6 digits (e.g. MARI 2218) which uniquely identifies each water well report in Ground Water Resource Information Distribution (GRID), a statewide computer database maintained by OWRD. The county code is assigned based on the county designated by the driller on the water well report at the time the report was filed with the OWRD; however, in some cases this code may not correspond to the county in which the well is physically located.

Water-Level Data

Water levels were measured periodically in selected wells, referred to as observation wells, to monitor fluctuations in ground-water levels in response to recharge, surface-water conditions, and ground-water pumping. Water levels in approximately 470 wells were measured during a 2-week period in November 1996 to produce a "snapshot," or synoptic measurement, of water-level conditions throughout the Willamette Basin (pl. 1).

Water levels in approximately 300 wells in several observation networks maintained by the USGS and OWRD were measured periodically to monitor seasonal and long-term fluctuations in ground-water

levels. Ninety-one wells were selected as part of a bimonthly observation network maintained for this study. Water levels in the wells were measured bimonthly from June 1997 to April 1998. As of this writing, 40 of the wells are still being measured bimonthly and 2 others have been equipped with a digital, continuous water-level recorder. An additional 33 observation wells equipped with continuous recorders, set for a 2-hour measurement increment, were operated over various time periods beginning as early as November 1995. The 176 remaining observation wells are part of several observation networks maintained by the OWRD and have been measured periodically over periods ranging from 1 to 70 years. Of these wells, water levels in 50 wells were measured quarterly as part of the statewide observation network, water levels in 47 wells were measured quarterly as part of the Washington County observation network, water levels in 42 wells were measured semiannually as part of the Cooper Mountain-Bull Mountain observation network, and water levels in 37 wells were measured semiannually as part of the Parrett Mountain observation network.

The locations of the observation wells measured for this study and selected observation wells monitored by the OWRD are shown on figure 5 and plate 1. The location of the observation wells and the measurement period of the water-level data are summarized in Appendix B, table B1.

There are approximately 73,000 water-level measurements available for 5,350 of the 5,986 field-located wells in the Willamette Basin, including all current and past observation networks. These data were compiled in a single text file on the CD-ROM. Included in this file are the daily 12:00 p.m. (noon) water-level measurements for the 33 wells that were equipped with digital recorders. Water-level measurements at 2-hour intervals for wells equipped with a digital recorder were compiled in separate text files (one per well) on the CD-ROM. Hydrographs for the observation wells are presented in Appendix B for three time periods (corresponding to data availability): 1920 to 2000, 1960 to 2000, and 1996 to 2000. There are 9 hydrographs for the period 1920 to 2000 (fig. B1), 117 hydrographs for the period 1960 to 2000 (fig. B2), 112 hydrographs for the period 1996 to 2000 (fig. B3), and 33 hydrographs for the period 1996 to 2000 for wells equipped with digital recorders (fig. B4). Some wells had hydrographs made for more than one period or are no longer part of an observation network maintained by the USGS and OWRD.

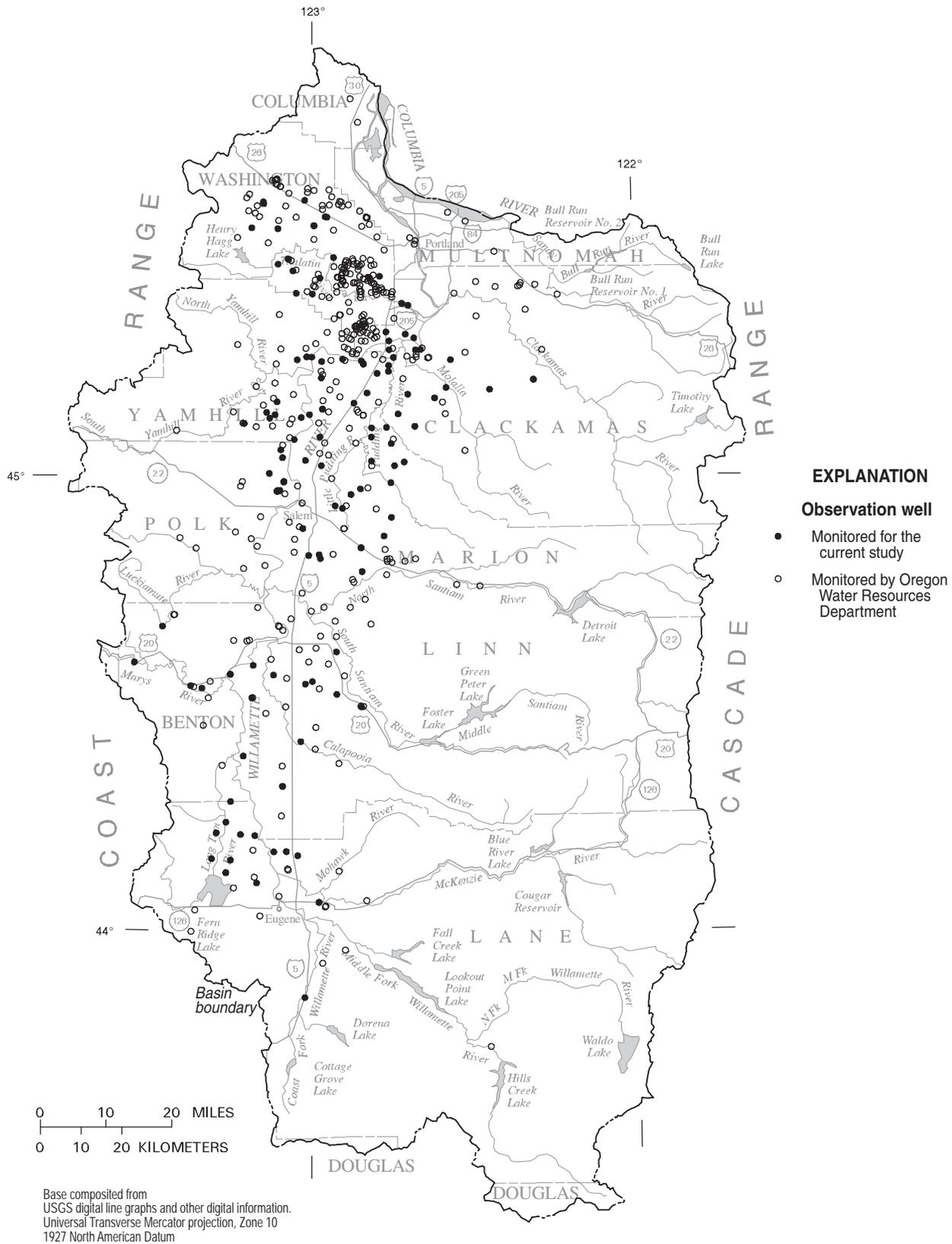


Figure 5. Distribution of selected observation wells in the Willamette Basin, Oregon.

Manual Water-Level Measurements

Water levels in selected wells for this study were generally measured manually with either a steel tape or “electric tape.” Steel tapes are standard surveyor tapes that are marked at ± 0.01 foot increments. Electric tapes, which use electrical continuity to sense water level, were calibrated by comparison with steel tapes. Measurements with both steel and electric tapes were recorded to the nearest 0.01 foot. Steel tape measurements are generally accurate to ± 0.01 foot, while electric tape measurements are accurate to about ± 0.04 foot for water levels within 200 feet of land surface. The measuring point most commonly used was the top of the well casing.

Automated Water-Level Measurements

Continuous water-level measurements were monitored at 33 wells (fig. 6, pl. 1) using battery-operated electronic data recorders. The water level in the well was measured by either a float-driven digital shaft encoder or a submersible pressure transducer. The shaft encoder sensor uses a 1 foot-circumference wheel and beaded steel cable, and has a measurement accuracy of ± 0.01 ft. Pressure transducers were used in situations where a float system was impractical due to extreme depth to water, obstructions in the well, or small diameter well casing. The transducers' accuracies are estimated to be about ± 0.05 ft.

The recorded data include the date and time of measurements and the distance from the land surface to the water level. Data were recorded at 2-hour intervals. In addition to the water-level data, barometric pressure data were collected for several locations.

Each water-level recorder was visited on a 1- to 2-month schedule. Data were recorded to a computer file and graphed in the field to verify operation of the sensor. The current reading of the sensor was verified by a manual water-level measurement, either by steel or electric tape. When necessary, corrections were applied to the raw data, based on the manual measurements.

Borehole Geophysical Data

Sixteen wells in the Willamette Basin (fig. 7, pl. 1) were geophysically logged to determine the stratigraphy of the valley-fill sediments and the stratigraphy and fracturing of the rocks of the Columbia River Basalt Group (Appendix C, table C1).

Fluid and geologic material properties were measured using three geophysical probes: (1) a fluid probe, which measures the temperature and conductivity of the fluid in the borehole and natural gamma radiation from the geologic material, (2) a caliper probe, which measures borehole diameter, and (3) an induction probe, which measures bulk conductivity. The following fluid and geologic material properties that were measured included: borehole diameter, bulk conductivity (of the combined pore water and rock or soil matrix), natural gamma radiation, fluid temperature, and fluid conductivity.

Measurements of bulk conductivity and borehole diameter were limited to the uncased sections of the wells. Measurements of fluid conductivity and temperature were limited to sections below the level of standing water in the borehole. Natural gamma radiation was measured for all wells, regardless of water level or the presence or absence of casing. As a result of instrument problems, some logs were not recorded for some wells. Plots of geophysical logs and lithologic descriptions for each well are shown in Appendix C, figure C1. All of the wells penetrated valley-fill deposits, seven wells penetrated the Columbia River Basalt Group, and six wells penetrated rocks of marine or western Cascade volcanic origin.

Water Chemistry of Wells and Springs

Water samples were collected at selected wells and springs to improve the understanding of the occurrence and distribution of concentrations of arsenic and chloride and specific conductance of ground water of the Willamette Basin. The water samples were collected at 125 wells and 6 cold (nonthermal) springs during the period August 1996 to September 1997 (fig. 8, pl. 1). Arsenic concentrations for water from the 125 wells and 6 springs are presented in Appendix D, table D1. The sites had not previously been sampled for arsenic by the USGS. Chloride concentrations for water from 109 of the wells and 6 springs are also presented in table D1. In addition, values for specific conductance for water from 114 of the wells and 6 springs are presented in table D1. Arsenic data are interpreted in Hinkle and Polette (1999).

Water samples from wells were collected prior to passage of the water through water softeners. The samples were not filtered. Most (116) wells were actively used domestic wells. These wells were sampled after a minimum purge time of 1 minute.

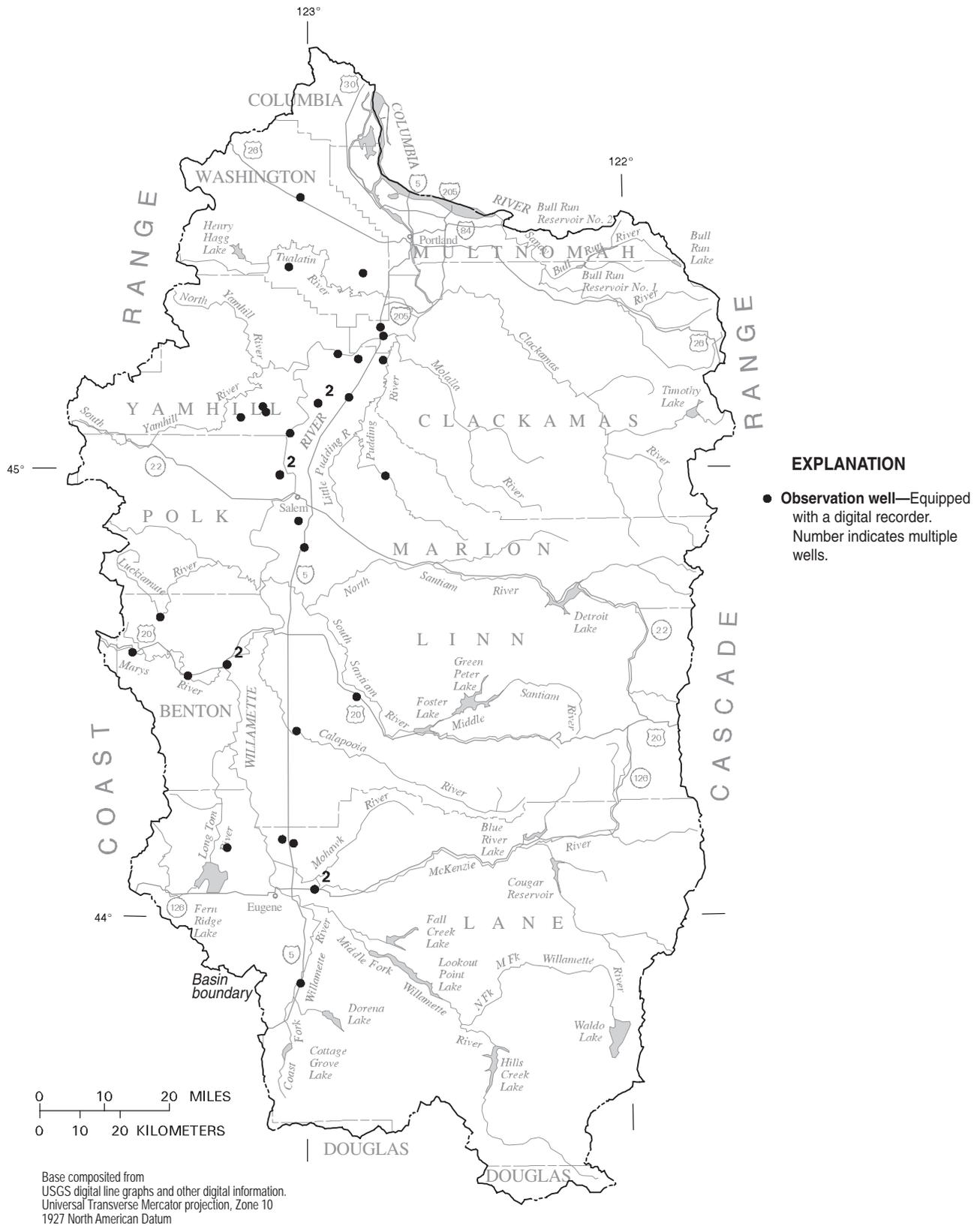


Figure 6. Distribution of selected wells equipped with digital recorders in the Willamette Basin.

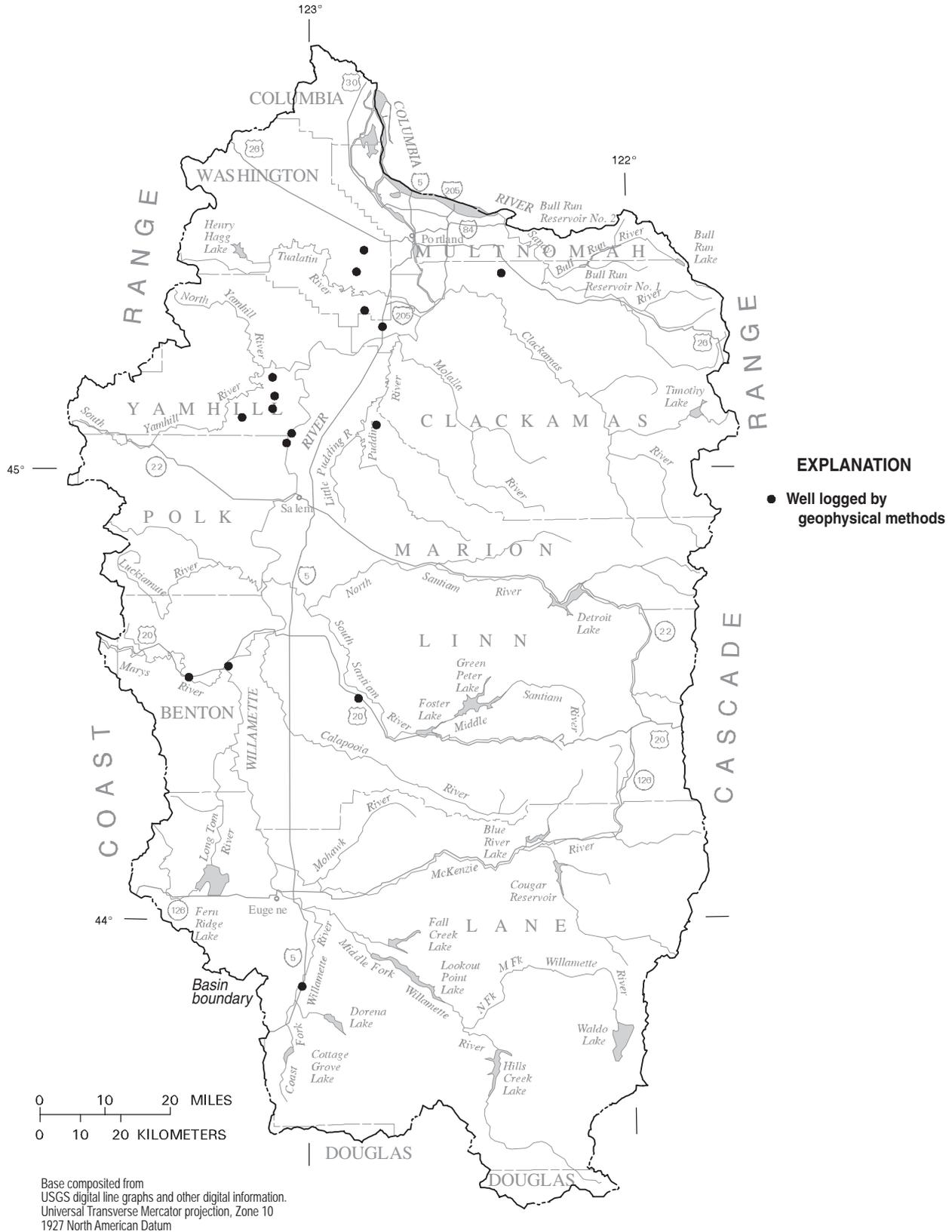


Figure 7. Distribution of selected wells with borehole geophysical data in the Willamette Basin.

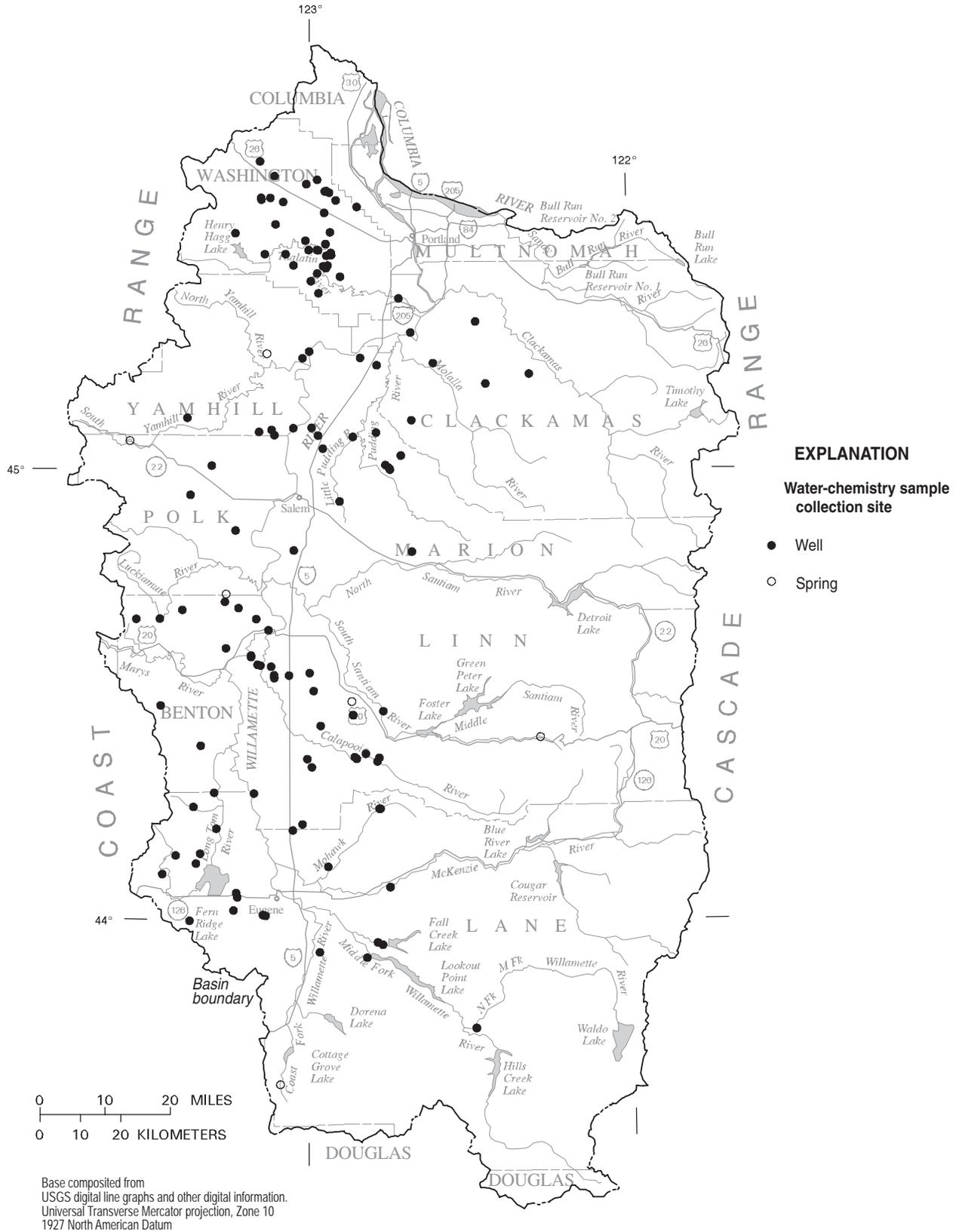


Figure 8. Distribution of water chemistry sample collection sites in the Willamette Basin.

Longer purge times, characteristic of most USGS ground-water-quality studies, were deemed unnecessary for these wells because of the well purging effects resulting from the frequent use of the wells. The remaining 9 wells consisted of 3 public-water-supply, 3 industrial, 2 irrigation, and 1 livestock well. Of these nine additional wells, the wells that were not actively used were purged a minimum of three casing volumes prior to sampling. The springs sampled were flowing springs. Samples from springs were filtered through 0.45-micron pore-size filters. Arsenic samples for wells and springs were field-acidified with nitric acid to a pH less than 2.0.

Arsenic and chloride analyses were performed at the USGS National Water-Quality Laboratory in Arvada, Colorado. Analysis of arsenic was done by hydride atomic absorption. Chloride was measured colorimetrically. Specific conductance was measured in the field for water from 33 wells and 6 springs (“field specific conductance”), and in the USGS Oregon District laboratory for water from 81 wells (“laboratory specific conductance”).

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APPENDIXES

Tables of selected data for the study wells and springs are presented in the appendixes. Appendix A contains a table of general well information for the 1,234 study wells and 6 study springs. Appendix B contains a summary table of water-level information and 271 hydrographs for 265 of the study wells (6 wells had hydrographs made for more than 1 period). Appendix C contains a summary table and figures of the fluid and geologic material properties measured at 16 study wells that were logged by geophysical methods. Appendix D contains a table listing the results of the analysis for arsenic and chloride concentrations and specific conductance for water samples taken at 125 study wells and 6 study springs. Appendix E contains a table listing the contents of the CD-ROM accompanying this report. The tables shown in the other appendixes of this report are included as text files on the CD-ROM. The figures, including the hydrographs of the selected wells shown in Appendix B of this report, are stored as image files on the CD-ROM. The information presented in the appendixes is designed to be used with the CD-ROM. In addition, the general information and other selected data for the nonstudy wells were included on the CD-ROM. Also, the spatial locations of all wells and springs were recorded on the CD-ROM in several GIS formats. A Web browser can be used to read the contents of the CD-ROM.

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APPENDIX A: Data for Study Wells and Springs in the Willamette Basin, Oregon

Data for 1,234 field-located wells and 6 springs are listed in table A1 and in a text file called TABLE_A1.TXT in a subdirectory called "[STUDY](#)" on the CD-ROM. These data contain the well-location number, the OWRD well-log ID, the USGS site ID, owner name, depth of well, date drilled, hydrogeologic unit, altitude, yield of well, type of test, drawdown, test period, water level, date of water-level measurement, codes for the use of water, and remark codes. The locations of the study wells and springs are included in several GIS files using different formats. In addition, the remark codes were appended to the GIS files (1) to identify whether a well was included in an observation network maintained by the USGS or OWRD, (2) to distinguish between a well or spring, (3) to indicate water-chemistry or borehole geophysical data are available, and (4) to indicate whether a water-level measurement was made during the November 1996 synoptic or whether a hydrograph was made for a well. The GIS files for the study wells and springs were recorded in three subdirectories of the "STUDY" subdirectory on the CD-ROM: "ARC_INFO" for GIS files in ArcInfo coverage and export formats, "SHAPE" for ArcView shape file format, and "SDTS" for Spatial Data Transfer Standard format, which is a Federal standard used to transfer a variety of Federal data products, including DLG-TIGER/Line maintained by the USGS. Metadata files accompanying the GIS files provide additional information that is needed for a spatial dataset to be useful, such as the definitions of the many data codes associated with each well and spring.

In addition, general information for the approximately 4,753 nonstudy wells and springs are listed in table A2 and in a text file called TABLE_A2.TXT in a subdirectory called "[NONSTUDY](#)" on the CD-ROM. The GIS files for the nonstudy wells and springs were recorded in the three above formats and were recorded in three subdirectories of the "NONSTUDY" subdirectory on the CD-ROM: ARC_INFO, SHAPE, and SDTS.

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Table A1. Data for selected study wells and springs in the Willamette Basin, Oregon

Well location: See "Well- and Spring-Location System" section for explanation. Sorted on this item.
 Well Log ID: Unique identifier combining a four-letter county code and a well-log number with up to 6 digits, which is assigned to the well when a water well report is filed by the well driller with the Oregon Water Resources Department (OPWRD) and recorded in Ground Water Resource Information Distribution (GRID), a statewide computer database maintained by Oregon Water Resources Department.
 USGS Site ID: Site identification number permanently assigned to the well by the U.S. Geological Survey (USGS) and recorded in National Water Information System (NWIS), a national computer database maintained by U.S. Geological Survey.
 Owner: Well owner reported on the water well report or owner at the time the well was field located by personnel from the U.S. Geological Survey or Oregon Water Resources Department.
 Depth drilled: Depth drilled, including all deepening or reconditionings, in feet below land surface; D, well was deepened.
 Date drilled: Date of completion of original construction.
 Hydrogeologic unit: Hydrogeologic unit(s) that the well is completed in (see Gannett and Caldwell, 1998):
 W, Willamette Silt unit; U, Willamette Aquifer Unit; L, Willamette Confining Unit; C, Columbia River basalt; B, Basement Confining unit.
 Altitude: Altitude of land surface at well, in feet above mean sea level, estimated from topographic maps. L, level or other surveying method; otherwise estimated from topographic maps.
 Yield: Well yield, in gallons per minute (gpm).
 Test method: Method used to determine yield; B, bailed; P, pump test; A, air test; F, flowing; R, reported.
 Drawdown: Total water level change, in feet, during pumping. Drawdown values reported for air tests are generally inaccurate.
 Test period: Duration of test, in hours.
 Water level: Static water level, in feet below land surface, - indicates water level above land surface; R, indicates water level reported by driller; F, flowing; D, indicates well was dry (no water level was recorded); all others measured by U.S. Geological Survey or Oregon Water Resources Department personnel.
 Use: Primary use of well; H, domestic; I, irrigation; S, stock; N, industrial; P, public supply; T, institutional (commonly schools and military); F, fire protection; G, grounding; A, air conditioning (heating/cooling); C, commercial; R, recreation (campgrounds); Z, abandoned; U, unused; Q, aquaculture.
 Remarks: I, spring visited for Willamette Basin study; Q, water chemistry available for Willamette Basin study; B, bimonthly observation well for Willamette Basin study; O, Oregon Water Resources Department observation well; R, observation well equipped with a digital recorder for Willamette Basin study; S, visited during November 1996 synoptic; P, digital borehole geophysics data available in this report; B1, hydrograph included in figure B1; B2, hydrograph included in figure B2; B3, hydrograph included in figure B3; B4, hydrograph included in figure B4. D, observation well dropped from networks maintained by USGS or OWRD; 1, USGS Willamette Basin network; 2, OWRD long-term network; 3, OWRD Cooper/Bull Mountain network; 4, OWRD Parrett Mountain network; 5, OWRD Washington County network; 6, OWRD Miscellaneous network; ---, no data.

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Well location	Well-log ID	USGS Site ID	Owner	Depth drilled (feet)	Date drilled	Hydro-geologic unit	Altitude (feet)	Well Performance				Water level		Use	Remarks		
								Yield (gpm)	Test Method	Draw-down (feet)	Test Period (hours)	Feet below datum	Date				
01N/01E-18CCAD	MULT	841	453354122442001	NORTHWEST NATURAL GAS	366	03/19/1965	---	35	---	-	---	---	---	---	---	G	
01N/01E-19ACBD	MULT	56735	453329122435001	NORTHWEST NATURAL GAS	400	11/03/1969	---	35	---	-	---	---	---	---	---	G	
01N/01E-27ACDC	MULT	1008	453232122400201	NORTHWEST NATURAL GAS	400	09/27/1985	---	167	---	-	---	---	---	---	---	G	
01N/01E-28CAB1	MULT	1013	453227122414801	GRIFFITH RUBBER CO	395	08/--/1946	C	32	---	-	---	---	32R	08/27/1946	N		
01N/01E-29AAB	MULT	1017	453251122422301	HERCULES INC	574	10/13/1962	C	30	315.0	R	275	11.0	30R	10/16/1962	Z		
01N/01E-29ABA	MULT	1018	453248122423301	HERCULES POWDER CO	679	05/13/1963	C	35	365.0	P	190	12.0	32R	05/13/1963	Z		
01N/01E-33CAD	MULT	1038	453129122413601	US NATIONAL BANK	563	07/22/1946	C	125	100.0	R	140	---	93.9	05/05/1992	N	D,2,B2	
01N/01E-34CAAD	MULT	5135	453131122401601	NORTHWEST NATURAL GAS	460	08/15/1986	---	38	---	-	---	---	---	---	---	G	
01N/01E-34CCAB	MULT	1083	453122122404101	U S WEST COMMUNICATIONS	697	12/29/1950	C	49	375.0	R	134	---	33.8	06/23/1988	N		
01N/01E-34CCB	MULT	5133	453117122404901	U S WEST COMMUNICATIONS	400	08/01/1986	---	60	---	-	---	---	---	---	---	G	
01N/01E-34CCBC	MULT	1061	453117122405001	PORTLAND MEDICAL CENTER	591	04/14/1958	C	60	650.0	P	260	12.0	51.9	06/07/1989	U		
01N/01E-34CCDA2	MULT	1064	453115122403604	EQUITABLE SAVINGS & LOAN	508	12/16/1946	C	38	700.0	R	32	---	39.0	06/23/1988	N		
01N/01E-34CCDD1	MULT	1073	453113122403501	COMMUNITY FIRST FEDERAL	159	09/--/1940	L	37.00L	53.0	B	27	0.3	30.4	04/13/1990	A	D,2,B2	
01N/01E-36ACDD1	MULT	1099	453139122372201	ALL SAINTS PARISH	1700	--/--/1885	L,C	215	---	-	---	---	169.6	08/10/1989	A		
01N/02E-09CCB	MULT	1113	453449122342801	PORT OF PORTLAND	155	--/--/----	L	23	---	-	---	---	13.0	01/11/2000	I	O,2,B2	
01N/02E-23AACB1	MULT	52396	453338122311001	GROSJAQUES, JOE A.	365	02/06/1967	U	20	80.0	P	40	30.0	10.5	01/11/2000	I	O,2,B2	
01N/01W-05BBC	MULT	679	453615122504201	MULTNOMAH COUNTY	550	03/05/1947	C	740	17.0	B	475	6.0	370R	08/26/1964	N		
01N/01W-07DAB1	WASH	3047	453502122510001	ZURBRUGG, ROY	305	03/18/1993	C	325	50.0	A	---	1.0	124R	07/15/1998	H	Q,S,O,5,B3	
01N/01W-12CDD	MULT	801	453439122452201	NORTHWEST NATURAL GAS	400	10/22/1985	---	20	---	-	---	---	---	---	---	G	
01N/01W-17CDA1	WASH	4627	453357122501001	CRAIG, ANDREW	325	10/20/1986	L	315	15.0	A	---	1.0	36.2	06/24/1996	P		
01N/01W-17DA	WASH	4632	453410122493501	PITCHKA, TARRANE & BETSY	335	04/25/1981	L	420	12.0	A	273	1.0	138R	07/15/1998	H	S,O,5,B3	
01N/01W-17DAB	WASH	4662	453412122494801	MISTRETTA, SALVATORE	505	03/27/1978	L	382	24.0	A	360	2.0	142R	04/08/1998	H	S,O,5	
01N/01W-17DAC	WASH	4639	453407122494501	FISHBACK, CARL V.	395	09/11/1976	L	392	18.0	A	215	1.0	137R	07/15/1998	H	S,O,5	
01N/01W-17L1	WASH	4659	453401122500901	BETHANY PRESBYTERIAN CHURCH	400	05/--/1954	L,C	325	---	-	---	---	62R	07/15/1954	T		
01N/01W-20ADC	WASH	4710	453324122494401	WISMER, C.E.	480	--/--/----	L,C	350	---	-	---	---	100R	04/--/1951	S		
01N/01W-20CCC	WASH	330	453302122504101	CLAREMONT DEVELOPMENT CORP	1206D	08/27/1989	C	248	1000.0	A	---	1.0	52R	07/15/1998	U	S,O,5	
01N/01W-20DDB1	WASH	76	453308122494701	CLAREMONT DEVELOPMENT CORP	425	07/18/1990	C	310	45.0	A	---	---	66R	07/18/1990	I		
01N/01W-21CAB	WASH	4787	453315122491201	SCHAEFER, C.C.	390D	--/--/----	L	295	---	-	---	---	24.7	11/20/1996	Z	S,D,2,B2	
01N/01W-23DBA	MULT	861	453316122460901	RICHFIELD OIL CO, OIL AND GAS	7885	06/05/1946	C	1055	---	-	---	---	75.9	07/24/1989	U		
01N/01W-33AAA	WASH	4930	453201122481801	BLOEDON, S.H.	447	06/--/1953	C	440	18.0	B	200	---	103R	06/--/1953	H		
01N/01W-34CAA	WASH	4938	453135122474501	TEUFEL NURSRIES INC	1052D	06/23/1967	C	337	175.0	R	340	8.0	60R	07/29/1986	I	D,3	

Table A1. Data for selected study wells and springs in the Willamette Basin, Oregon—Continued

Well location	Well-log ID	USGS Site ID	Owner	Depth drilled (feet)	Date drilled	Hydro-geologic unit	Altitude (feet)	Well Performance				Water level		Use	Remarks	
								Yield (gpm)	Test Method	Draw-down (feet)	Test Period (hours)	Feet below datum	Date			
01N/01W-35H1	WASH	4956	453143122460401	PERRAULT, W.M.	633	11/29/1948	L	650	50.0	R	400	1.0	200R	11/29/1948	Z	
01N/01W-35M1	WASH	4959	453134122465501	WEST HILLS NURSERY	527	--/--/1948	L	455	2.5	R	---	1.0	---	--/--/----	I	
01N/01W-36BCC	MULT	901	453139122454001	PORTLAND COKE AND GAS	421	--/--/----	C	720	350.0	R	35	---	63.3	04/22/1982	U	
01N/02W-01CBC	WASH	1193	453550122530801	FOSTER, VALERIE	325	10/22/1991	C	356	10.0	A	235	1.0	88R	07/15/1998	H	O,5,B3
01N/02W-03ABA	WASH	14	453618122544701	MCDONALD, TOM & HEATHER	405	04/09/1990	C	385	48.0	A	---	1.0	89R	04/08/1998	H	O,5,B3
01N/02W-03DBB1	WASH	5074	453554122545901	VAN LOM, RON	210	10/30/1978	C	272	20.0	P	0	4.0	50R	07/15/1998	H	Q,S,O,5
01N/02W-04CBD	WASH	105	453550122564301	THOMPSON & WALTERS NURSERY, IN	388	08/16/1990	C	230	400.0	A	---	1.0	71R	07/16/1998	I	S,O,5
01N/02W-05CCB	WASH	5148	453546122580201	MINNAERT, TOM	597	09/29/1956	C	205	35.0	B	17	---	118R	07/16/1998	H	S,O,5,B3
01N/02W-05R2	WASH	5133	453544122565801	BATCHELDER, ELMER	547	03/--/1953	---	220	300.0	R	88	---	19R	07/03/1953	I	
01N/02W-06CBD	WASH	13832	453548122591001	VANDONNELEN, JOHN A.	452	--/--/1942	---	180	24.0	R	30	1.0	F	11/--/1950	H	
01N/02W-08BCA	WASH	5173	453514122575801	VANRADEN FARMS	102	--/--/----	L	205	---	-	---	---	2.5	01/05/2000	H	S,O,2,B2
01N/02W-15BAB	WASH	5351	453435122551701	WEST UNION SCHOOL	560	--/--/1948	C	210	10.0	R	165	---	35R	--/--/1948	T	
01N/02W-17ACC	WASH	5382	453417122572901	MCCUEN, HENRY	70	04/21/1970	L	190	10.0	B	55	1.0	5.2	11/26/1996	H	N,S,B,1,B3
01N/02W-17DAB	WASH	5377	453414122571001	SCHROEDER, DARRELL	760	01/06/1977	C	183	125.0	A	472	2.0	53.0	11/27/1996	I	Q,S,B,1,B3
01N/02W-23BCA	WASH	5539	453328122541401	RIVIERA MOTORS	525D	07/11/1977	C	215	12.0	B	56	2.0	40R	05/08/1978	H	
01N/02W-28DAB	WASH	5586	453230122555701	DAWSON CREEK CORP PARK	1517	02/04/1987	C	183	1000.0	P	46	76.0	46.6	11/21/1996	T	S,O,3
01N/02W-33DBA	WASH	5778	453138122560201	WHITE, MIKE	131	08/12/1987	L	175	10.0	R	80	6.0	7.1	10/15/1990	H	Q
01N/03W-01DBD	WASH	5929	453550122595001	CITY OF NORTH PLAINS	710	--/--/1945	C	190	20.0	R	80	1.0	18R	11/13/1950	Z	
01N/03W-01GI	WASH	5950	453603123000101	JACKSON, M.V.	654	--/--/----	C	210	8.0	R	280	---	37.0	08/10/1953	I	
01N/03W-04CCC	WASH	5967	453540123041101	BENARDS, FRANK	70	05/07/1987	L	170	10.0	B	---	1.0	7.8	11/19/1996	H	N,S
01N/03W-05CDD1	WASH	3127	453540123045702	MCNURLIN, ROGER	585	05/21/1993	C	181	30.0	A	---	1.0	53R	04/09/1998	H	Q,S,O,5
01N/03W-07AAB	WASH	6049	453532123054801	SPIERING, L.J.	946	04/15/1951	C	175	44.0	R	90	1.0	F	04/15/1951	H	
01N/03W-07CCD1	WASH	6037	453445123063201	SMITH, ERVIN H.	100	09/03/1987	L	171	10.0	B	16	1.0	10.0	11/19/1996	I	N,S
01N/03W-12ABD	WASH	1215	453522122594401	ARCO PRODUCTS CO	1275	11/08/1991	---	180	20.0	A	---	1.0	91R	11/08/1991	P	
01N/03W-12BA1	WASH	6109	453523123000601	PALOMART, STEVEN P.	534	04/18/1979	---	200	80.0	A	100	1.0	60R	04/18/1979	I	
01N/03W-15CBA	WASH	6123	453412123025601	CLERMONT FRUIT PACKERS	1750	05/07/1987	C	181	550.0	P	164	44.0	46R	07/17/1998	C	O,5,B3
01N/03W-16AAB	WASH	6150	453444123032001	GLENN WALTERS NURSERY ROY FARM	1505	07/06/1986	C	172	660.0	P	55	54.0	39.7	11/14/1996	I	S
01N/03W-24DDB1	WASH	5415	453306122593501	EVERGREEN CHRISTIAN CENTER	50	04/23/1973	L	185	7.0	B	18	2.0	11.2	12/02/1996	I	B,1,B3
01N/03W-24DDB2	WASH	6279	453306122593502	EVERGREEN CHRISTIAN CENTER	160	10/06/1976	L	190	10.0	B	20	1.0	31.1	12/02/1996	I	B,1,B3
01N/03W-30BDB1	WASH	146	453242123062201	VAN DYKE SEED CO., INC	960	09/18/1990	L	175	35.0	A	---	1.0	12.7	11/15/1996	N	Q,S,B,1
01N/03W-36DDB	WASH	6529	453120122593501	BIRDSEYE CANNERY	1619	08/08/1929	L	180	75.0	R	35	---	---	--/--/----	Z	
01N/03W-36DDC	WASH	6528	453117122593602	TERM ICE & COLD	175	--/--/1929	L	180	---	-	---	---	14.6	05/09/1998	U	S,O,2,B2
01N/04W-01ABC1	WASH	6532	453614123072102	DIERICKX, JIM	130	03/31/1978	L	190	20.0	A	90	1.0	36.5	11/27/1996	H	Q,S
01N/04W-02BCC1	WASH	6543	453615123090601	LEWIS, JAMES	141	06/09/1977	L	260	12.0	B	90	1.0	43.4	11/15/1996	H	Q,S,B,1,B3
01N/04W-02CAA	WASH	6536	453559123084401	GLENN WALTERS NURSERIES	815	07/26/1988	C	220	500.0	R	4	1.0	87R	07/26/1988	I	
01N/04W-02CBA1	WASH	6542	453559123090301	LEWIS, JAMES	306	08/16/1977	C	265	20.0	B	40	1.0	48R	04/14/1998	H	Q,S,B,O,1,B3
01N/04W-02CDA	WASH	6537	453546123084301	GLENN WALTERS NURSERIES	660	08/15/1984	C	202	200.0	R	180	2.0	63.6	09/06/1991	I	
01N/04W-03DDD	WASH	6556	453535123092301	HENSLEY, WAYNE	341	06/27/1950	C	175	25.0	R	---	---	F	12/13/1950	H	
01N/04W-06DAC1	WASH	14009	453546123131601	KRIEGERS NURSERY	310	10/06/1995	B	313	---	-	---	---	3.6	11/15/1996	U	S
01N/04W-08DAD	WASH	6617	453502123115201	SOHLER	345	10/27/1980	C	395	20.0	A	165	1.0	172R	07/20/1998	H	O,5,B3
01N/04W-11DBB	WASH	6640	453504123083901	VANDEHEY, EUGENE	693	08/19/1980	C	182	90.0	A	500	2.0	F	11/15/1996	H	S
01N/04W-14B1	WASH	6695	453436123082401	HEESACKER, L.J.	585	--/--/1950	C	165	---	-	---	---	F	11/29/1950	H	
01N/04W-15ACC	WASH	6719	453418123095101	SCHMIDLKOFER, STAN	510	09/25/1980	C	270	125.0	A	310	2.0	48R	04/14/1998	H	O,5,B3
01N/04W-23DDA	WASH	6781	453309123081001	GOFF, ARNOLD	301	07/--/1950	C	275	36.0	R	166	---	F	11/27/1950	I	
01N/04W-28BAD1	WASH	1664	453249123111701	ADAMS, VANCE & NANCY	105	09/18/1992	B	270	6.0	A	---	1.0	39.8	11/18/1996	U	S,B,1,B3
01N/04W-31CBD1	WASH	50022	453130123135801	PAULING, MIKE	66	06/09/1995	B	1240	25.0	B	50	1.0	42.8	11/18/1996	H	Q,S,O,5
02N/01W-27CDC1	MULT	1732	453717122475601	ALDERCREEK LUMBER	214	08/15/1959	---	30	---	-	---	---	D	08/15/1959	Z	
02N/01W-31Q1	MULT	1794	453626122512101	PLAINVIEW SCHOOL	417	05/--/1938	---	710	9.0	P	60	1.0	332R	05/--/1938	H	
02N/02W-13ACC1	MULT	1917	453928122523401	ANDERSON MAE	300	02/12/1969	---	320	12.0	A	90	2.0	228.1	05/18/1988	H	
02N/02W-19ACD1	WASH	6959	453839122582901	ALBIN, ARTHUR	160	09/19/1983	B	450	20.0	A	70	1.0	25R	09/19/1983	H	Q
02N/02W-20AAA	WASH	6992	453859122565701	SOLBERGER, OTTO L.	545	--/--/1949	C,B	920	---	-	---	---	---	--/--/----	Z	
02N/02W-28BCC	WASH	7022	453750122564601	GOLDEN, PETER	440	05/31/1989	C	705	10.0	A	---	1.0	140R	07/16/1998	H	O,5,B3
02N/02W-31CCD1	WASH	7101	453630122590501	EVERS, HARRY & BETTY BERNARDS	190	09/18/1979	C	215	30.0	A	90	1.0	53.8	11/19/1996	H	N,S
02N/02W-32AAD1	WASH	7121	453705122570201	LEPPO, BILL & BRENDA	125	10/09/1969	C	370	10.0	B	10	1.0	91.3	11/26/1996	H	Q,S
02N/02W-33ACC	WASH	3175	453655122561501	GRANAT, HANK	475	06/10/1993	C	508	10.0	A	---	1.0	252R	07/16/1998	H	O,5,B3
02N/02W-33ACD1	WASH	7155	453655122561301	LAWSON, TONY & KAREN	425	06/16/1973	C	512	13.0	A	165	1.0	230.8	11/19/1996	H	Q,S
02N/02W-33BBB1	WASH	7175	453709122564701	FONT, JON & LAURIE	357	10/15/1977	C	355	9.0	A	125	1.0	124.7	11/21/1996	H	Q,S
02N/03W-18CCD1	WASH	7394	453909123063401	BONIN, ALICE	140	09/12/1973	B	475	12.0	B	87	2.0	38R	07/17/1998	H	Q,S,O,5,B3
02N/03W-19CBB1	WASH	7422	453835123064401	PURSLEY, JAMES C. & DIANNA M.	275	05/08/1976	B	365	6.0	B	100	1.0	67R	04/09/1998	H	S,O,5
02N/03W-24CDA	WASH	7510	453033122460101	ANDERSON, A.M.	457	--/--/1946	C,B	640	5.0	R	---	---	---	--/--/----	H	
02N/03W-25ADC	WASH	3481	453745122593501	RUSS, MALCOLM	400	10/11/1993	C	500	15.0	A	180	1.0	223R	04/09/1998	H	O,5,B3

Table A1. Data for selected study wells and springs in the Willamette Basin, Oregon—Continued

Well location	Well-log ID	USGS Site ID	Owner	Depth drilled (feet)	Date drilled	Hydro-geologic unit	Altitude (feet)	Well Performance				Water level		Use	Remarks
								Yield (gpm)	Test Method	Draw-down (feet)	Test Period (hours)	Feet below datum	Date		
02N/03W-25BBB1	WASH 3779	453805123003201	MONROE, MARK	180	04/06/1994	C	655	70.0	A	180	1.0	118.9	11/20/1996	H	Q,S
02N/03W-28CCC	WASH 7581	453723123041901	HOERAUF, NATHAN	325D	10/02/1973	C	250	25.0	A	135	1.0	64R	07/17/1998	H	O,5,B3
02N/03W-35CDD	WASH 5956	453628123012101	COUSSENS, REMI	618	01/20/1960	C	212	130.0	P	315	10.0	103.0	12/15/1998	U	R,1,B4
02N/04W-03DAA1	WASH 7726	454106123092001	CALDWELL, DON & MARGARET	75	08/20/1975	L	610	40.0	B	18	2.0	26.8	11/27/1996	H	Q,S
02N/04W-13DDD	WASH 7934	453906123065401	POLICH, ED	70	04/15/1970	B	325	15.0	B	50	1.0	39R	04/09/1998	H	O,5,B3
02N/04W-33BBB	WASH 8198	453715123114301	NORTHAM, SARALIE	265	09/09/1980	L	580	50.0	A	---	1.0	69R	04/14/1998	H	O,5,B3
03N/01W-06BAA1	COLU 3379	454645122512201	HAVLIC, JOHN	92	02/16/1967	U	42	240.0	R	0	5.0	40.8	01/18/2000	H	O,2,B2
03N/02W-24CCB1	COLU 3206	454329122531201	BERNARD MARES	300	12/12/1973	---	250	15.0	B	55	1.0	240R	12/12/1973	H	
04N/01W-05DDB1	---	455117122493801	CITY OF ST HELENS	421	05/01/1940	---	105	300.0	P	---	---	78.6	04/16/1990	P	
04N/01W-07BCBB	COLU 3273	455053122515701	NORTHWEST NATURAL GAS	180	10/18/1982	---	253	---	A	---	---	---	---/---/---	G	
04N/01W-07CCA1	COLU 3274	455026122514201	MCNULTY WATER ASSN	410	07/08/1982	---	160	450.0	A	---	3.0	124.8	04/28/1988	P	
04N/01W-07CCA2	COLU 3275	455026122514202	MC NULTY WATER ASSN	417	01/27/1981	---	160	360.0	A	---	2.0	65R	01/27/1981	P	
04N/01W-17BDD1	COLU 121	454949122501401	ST HELENS CITY OF	372	01/18/1988	---	28	313.0	A	---	8.0	26R	01/18/1988	U	
04N/01W-17CAA1	COLU 3312	454944122501501	CITY OF ST HELENS	327	01/19/1988	---	25	750.0	P	---	48.0	27.9	04/04/1989	P	
04N/02W-12DCC1	COLU 3480	455020122523501	MCNULTY WATER ASSN	410	04/21/1968	---	360	125.0	B	120	1.0	276.0	04/28/1988	P	
04N/02W-13BDC	COLU 3486	454953122523701	DESHAZER, PAUL J.	150	---/---/1950	U	240	200.0	R	---	4.0	88.2	04/28/1988	P	D,2,B2
04N/02W-24ABB1	COLU 3617	454917122523401	WARREN WATER DISTRICT	300	08/25/1967	---	135	68.0	P	255	8.0	47.8	04/04/1989	P	
01S/01E-03BBAC	MULT 2726	453106122404102	PACIFIC FIRST FEDERAL S & L	368	---/---/1955	---	58	700.0	P	140	---	48.0	06/23/1988	N	
01S/01E-03BBAD	MULT 2732	453106122403801	PACIFIC BUILDING	765	03/22/1959	C	50	750.0	P	206	12.0	51.4	09/24/1987	N	D,2,B2
01S/01E-03BBB	MULT 5132	453105122404501	U S WEST COMMUNICATIONS	400	08/08/1986	---	70	---	P	---	---	---	---/---/---	G	
01S/01E-03BCBD	MULT 2745	453045122403701	CITY OF PORTLAND	361	08/28/1965	U,C	80	600.0	P	90	8.0	84R	08/28/1965	N	
01S/01E-03BCBD1	MULT 2739	453053122404401	EQUITABLE SAVINGS & LOAN	228	06/22/1963	---	85	520.0	P	98	8.0	73.0	08/10/1989	U	
01S/01E-03BCBA	MULT 2743	453037122404501	U S WEST COMMUNICATIONS	240	05/31/1962	U,C	130	440.0	P	90	24.0	114.9	06/23/1988	N	D,2,B2
01S/01E-04AAA2	MULT 2747	453110122405801	TIME EQUITITIES (MEDICAL-DENTA	772	12/17/1958	C	110	723.0	P	91	12.0	100R	12/14/1958	N	
01S/01E-04ADD	MULT 2750	453048122405501	PORTLAND STATE UNIVERSITY	232	08/26/1968	---	140	525.0	P	55	8.0	119.1	06/23/1988	N	
01S/01E-06BAC	WASH 2758	453104122441501	MT CALVARY CEMETARY	896	08/---/1954	---	1025	280.0	R	62	---	423R	08/---/1954	I	
01S/01E-06CDDA	MULT 56736	453024122440101	NORTHWEST NATURAL GAS	402	06/17/1967	---	775	---	---	---	---	---	---/---/---	G	
01S/01E-16DCD	MULT 2791	452834122411801	NORTHWEST NATURAL GAS	400	10/31/1985	---	553	---	---	---	---	---	---/---/---	G	
01S/01E-19P1	MULT 2802	452747122440301	COFFELL, R.C.	557	---/---/1946	---	435	---	---	---	---	250R	12/---/1946	H	
01S/01E-22ADC	MULT 56737	452808122394501	NORTHWEST NATURAL GAS	398	11/11/1966	---	25	---	---	---	---	---	---/---/---	G	
01S/01E-25CBD	CLAC 304	452706122380701	WARREN C	227	12/01/1969	---	50	250.0	P	140	8.0	40R	12/31/1969	N	
01S/01E-25DAD2	CLAC 305	452708122371301	CITY OF MILWAUKIE #5	383	05/04/1963	---	165	750.0	P	89	8.0	91.5	04/05/1989	P	
01S/01E-26CAB	CLAC 311	452712122391701	WAVERLEY COUNTRY CLUB	90	01/14/1975	---	35	5.0	B	40	0.5	15R	01/13/1975	Z	
01S/01E-26CAD	CLAC 312	452707122390101	DWYER ROBERT	396	05/28/1968	---	59	50.0	B	22	2.0	95R	05/28/1968	U	
01S/01E-28AADA	MULT 2813	452733122405201	NORTHWEST NATURAL GAS	350	09/28/1984	---	445	---	---	---	---	---	---/---/---	G	
01S/01E-31C1	MULT 2819	452648122441101	CONNOLLY, MRS FRANCIS	175	---/---/1951	---	425	28.0	B	10	0.5	80R	---/---/1951	H	
01S/01E-31D1	MULT 2820	452638122442401	CATHRYNS CHARCOAL BROILER REST	410	---/---/1953	---	410	35.0	P	30	12.0	210R	---/---/1953	U	
01S/01E-33DABB	MULT 2827	452624122410801	NORTHWEST NATURAL GAS	600	10/01/1969	---	370	---	---	---	---	---	---/---/---	G	
01S/01E-36ADB	CLAC 315	452637122372301	CITY OF MILWAUKIE	327	05/11/1982	---	105	1190.0	P	136	3.0	25.8	04/05/1989	P	
01S/02E-22CCC	MULT 2901	452746122331901	LINCOLN MEMORIAL GARDEN	525	---/---/1953	---	400	260.0	P	65	---	277.2	04/04/1989	I	
01S/02E-22DDD	MULT 2903	452745122321901	WILLAMETTE NATL CEMETERY	902	08/15/1967	---	800	300.0	P	58	48.0	610.0	08/11/1989	I	
01S/02E-27AAB	CLAC 337	452736122322901	WILLAMETTE NATL CEMETERY	967	---/---/1950	---	735	100.0	P	73	3.0	475.0	04/04/1989	I	
01S/02E-33DAC1	CLAC 390	452611122334301	MT SCOTT GOLF COURSE	353	---/---/1928	---	290	320.0	R	---	---	182.9	04/03/1989	I	
01S/02E-34CB1	CLAC 395	452620122332101	GETHSEMANI CEMETERY	760	03/19/1958	---	395	422.0	P	265	8.0	275.4	04/04/1989	I	
01S/03E-10CCA	MULT 2164	452938122254801	FOREST LAWN MEMORIAL PARK	715	03/01/1959	U,L	355	700.0	P	118	4.0	88.4	01/11/2000	I	O,2,B2
01S/03E-25DDB1	CLAC 452	452657122223001	ROBERT THOMPSON	250	04/18/1973	---	570	40.0	B	40	1.0	154.5	09/07/1988	I	
01S/03E-33DCA	CLAC 755	452607122262001	DAMASCUS WATER DISTRICT	325	04/28/1955	---	600	40.0	B	2	1.0	178.0	03/29/1989	P	
01S/03E-35DDA1	CLAC 51848	452418122234001	DAMASCUS WATER DISTRICT	1600	05/07/1997	---	985	1528.0	P	67	1.0	781R	05/07/1997	P	P
01S/04E-01BDA	MULT 56740	453055122153101	OREGON STATE OF	500	---/---/---	---	570	---	---	---	---	---	---/---/---	A	
01S/04E-11ACC	MULT 56742	452953122164301	OREGON STATE OF	500	10/21/1981	---	150	---	---	---	---	14R	10/23/1981	A	
01S/04E-14CCC	MULT 2514	452840122171901	DIACK ARCH	495	03/29/1974	---	140	7.0	B	180	2.0	36.9	04/13/1990	H	
01S/04E-16ADB	MULT 2198	452908122185101	MOLLER NURSERY	1030	07/09/1969	---	672	150.0	P	12	5.0	450R	08/14/1969	I	
01S/04E-28ADD1	CLAC 935	452716122184401	J F SCHMIDT NURSERY	1783	08/07/1985	---	660	1180.0	P	158	2.5	528R	08/07/1985	I	
01S/04E-29CBD	CLAC 971	452708122205401	PHIL VAN HISE NURSERY	320	03/13/1985	---	585	40.0	B	50	1.3	130R	03/13/1985	I	
01S/04E-30CBB	CLAC 1066	452713122221401	TOSH OKINO/GALLANT	444	05/10/1953	---	581	400.0	P	57	18.0	169.0	09/07/1988	I	
01S/04E-30CDC	CLAC 1087	452652122212801	ERICKSON, WILLIAM	300	08/22/1980	---	605	125.0	A	180	1.0	137.5	10/05/1988	I	
01S/05E-31ACA	CLAC 53950	452634122140901	PORTLAND CITY OF	420	08/13/1980	---	590	---	---	---	---	20R	08/13/1980	G	
01S/01W-01B1	WASH 8637	453107122450501	THOMPSON NURSERY	402	---/---/1951	C	805	50.0	R	---	14.0	30R	---/---/1951	H	
01S/01W-01BB1	WASH 89	453103122443401	THE QUINTET	495	08/04/1990	L	835	250.0	P	35	7.0	281.5	11/25/1996	I	S
01S/01W-02CAB	WASH 8650	453040122464401	PETERKORT	580	---/---/1951	C	410	100.0	R	---	---	120R	---/---/1951	I	
01S/01W-02CDC	WASH 8654	453023122463701	COMMONWEALTH INC	875	04/13/1953	C	425	175.0	R	68	8.0	235R	11/12/1953	I	

Table A1. Data for selected study wells and springs in the Willamette Basin, Oregon—Continued

Well location	Well-log ID	USGS Site ID	Owner	Depth drilled (feet)	Date drilled	Hydro-geologic unit	Altitude (feet)	Well Performance					Water level		Use	Remarks
								Yield (gpm)	Test Method	Draw-down (feet)	Test Period (hours)	Feet below datum	Date			
01S/01W-02DAC	WASH 8648	453033122460201	DANT, R.J.	908	04/10/1942	C	530	100.0	R	120	---	341R	04/10/1953	I		
01S/01W-05DCD	WASH 8684	453026122494801	NIKE, INC	1240	11/16/1988	C	181	230.0	F	---	1.0	-23.1	05/23/1989	I		
01S/01W-11CAB	WASH 8791	452951122463301	HESTER NAU (CITY OF BEAVERTON)	735	---/---/1932	C	359	325.0	R	160	---	190R	02/05/1957	U	D,2	
01S/01W-13CCB1	WASH 8801	452843122454201	PORTLAND GOLF CLUB	515	06/27/1939	L	250	180.0	P	---	---	36.4	11/26/1996	U	S	
01S/01W-17AAD1	WASH 8851	452916122493401	SAINT MARY'S SCHOOL	1507	---/---/1953	L,C	205	115.0	R	200	---	28.4	11/26/1996	U	P,S	
01S/01W-17CDB	WASH 8862	452845122502301	TUALATIN VALLEY WATER DIST	414	05/17/1959	C	273	1089.0	P	83	15.0	105.5	02/02/2000	P	O,3,B2	
01S/01W-19DDC	WASH 8927	452749122510001	JACOBSEN, CARL	320D	07/23/1960	C	330	---	-	---	---	115R	06/17/1993	Z	D,2,B2	
01S/01W-21CDD2	WASH 8988	452751122485401	CITY OF BEAVERTON	800	---/---/1945	C	352	425.0	R	30	1.0	186.8	10/30/1996	U	D,2	
01S/01W-21DAD2	WASH 8976	452757122482001	PENEYRA, DENNIS & HEATHER	395	02/09/1968	C	292	45.0	B	180	1.0	131.7	02/02/2000	U	O,3,B2	
01S/01W-24ACC	WASH 9031	452813122450501	FRANK, AARON	520	---/---/1938	C	235	500.0	R	37	---	53R	05/14/1953	I		
01S/01W-24BBD1	WASH 9027	452831122454201	PORTLAND GOLF CLUB	400	---/---/1945	C	210	450.0	R	70	---	34.0	02/02/1996	I	S	
01S/01W-24BBD2	WASH 9029	452830122454401	PORTLAND GOLF CLUB	500	09/01/1951	C	210	1000.0	R	180	1.0	3.6	11/26/1996	I	S	
01S/01W-24F2	WASH 9032	452819122450701	FRANK, AARON	800	---/---/1938	C	210	---	-	---	---	28R	06/04/1953	Z		
01S/01W-27ABC	WASH 9053	452737122473601	MURPHY, ROBERT	314	---/---/1952	C	170	10.0	R	---	---	F	03/17/1952	Z		
01S/01W-30DBB1	WASH 9148	452713122583601	SCHUEPBACH, FRED	600	05/05/1969	C	635	7.0	B	15	1.0	421.6	08/17/1988	H	D,2	
01S/01W-31DAB	WASH 9162	452623122510101	HICKS, LORRAINE	892	03/29/1969	C	672	30.0	A	230	2.0	520.6	10/30/1996	U	P,D,2	
01S/01W-33CCB	WASH 9205	452619122492401	REFLECTIONS AT SUMMER CREEK	325	10/22/1982	L	208	25.0	A	65	2.0	60.7	02/08/2000	U	S,R,O,1,B4	
01S/01W-33CCA	WASH 9201	452611122491301	CLARK, GEORGE N.	390	05/---/1951	C	210	25.0	B	90	1.0	72.3	05/26/1989	H	D,3	
01S/01W-34DAA	WASH 9228	452623122470801	CARNAHAN, EDITH	67	08/08/1956	L	196	20.0	P	15	---	9.5	11/27/1996	H	N,S,B,1,B3	
01S/02W-02CBB1	WASH 9320	453040122542301	STEELE, V.M.	230	07/30/1982	L	202	15.0	P	34	72.0	2.5	11/26/1996	I	S	
01S/02W-02CBB2	WASH 9314	453043122542501	STEELE, V.M.	303	12/04/1978	L	200	12.0	A	35	2.0	34.6	11/26/1996	I	S	
01S/02W-08ADA	WASH 50197	453004122565501	BEST MIX CONCRETE	1350	02/10/1996	---	145	300.0	A	---	1.0	17R	02/10/1996	N	Q	
01S/02W-09BCB	WASH 4551	453005122565401	BEST MIX CONCRETE	250	03/21/1995	---	140	40.0	A	---	1.0	10R	03/21/1995	N	Q	
01S/02W-13DCD	WASH 9828	452842122520801	SEALEY, SCOTT	930	08/09/1938	C	212	55.0	P	50	---	35.7	02/03/2000	H	O,3,B2	
01S/02W-15ACB	WASH 51495	452911122545901	RESERVE VINEYARD & GOLF CLUB	705	11/27/1996	C	198	150.0	A	---	1.0	72R	11/27/1996	C	S	
01S/02W-16DAC	WASH 9903	452854122555601	SWARTZFAGER, JOANN	58	01/23/1986	L	155	5.0	P	23	24.0	17.4	11/13/1996	H	Q,S,B,1,B3	
01S/02W-18AAC	WASH 9959	452916122582001	MCCORMICK, D.I.	69	10/28/1963	L	185	12.0	B	42	3.0	22.1	11/13/1996	H	Q,S	
01S/02W-18ABD	WASH 9987	452917122583201	SOUZA, LARRY	163	11/23/1987	L	165	45.0	A	---	1.0	47.4	11/13/1996	S	Q,S	
01S/02W-19AAB	WASH 10015	452831122582601	HILLECKE, LOUIS	903	09/23/1950	---	185	100.0	R	200	1.0	21R	---/---/1953	I		
01S/02W-21AAB	WASH 10042	452836122555001	EZZELL, JIM	66	02/08/1987	L	165	9.0	P	14	48.0	10.7	11/13/1996	H	Q,S	
01S/02W-21BBA	WASH 10062	452831122564501	PUNCOCHAR, RALPH	75	08/11/1970	L	165	10.0	B	24	1.0	9.5	11/13/1996	H	Q,S	
01S/02W-23ACB	WASH 10143	452817122561501	JANNSEN, EDWARD M.	805	04/13/1962	C	211	400.0	P	167	---	20.0	02/03/2000	H	O,3,B2	
01S/02W-23DCB	WASH 10114	452751122534801	SANTORO, JOHN & JOE	227D	10/14/1952	C	210	200.0	P	110	---	19.7	02/03/2000	I	O,3,B2	
01S/02W-24DAC1	WASH 10200	442800122520001	TUALATIN VALLEY WATER DIST	720	07/18/1958	C	362	470.0	P	162	24.0	162.1	02/02/2000	P	O,3	
01S/02W-25DAB	WASH 10236	452713122521401	TEXAS OIL CO, OIL AND GAS WELL	9263	05/14/1946	B	750	---	-	---	---	---	---/---/---	U		
01S/02W-26ACC	WASH 10304	452725122512001	BAKER ROCK CRUSHING CO	472D	03/25/1961	C	349	232.0	P	95	8.0	96.4	02/03/2000	C	O,3,B2	
01S/02W-26BDC	WASH 10306	452721122513601	SCHAEFER, KARL	403	07/18/1957	C	211	425.0	P	100	3.0	19.3	02/03/2000	I	O,3,B2	
01S/02W-26DCD	WASH 10307	452654122533601	COBB ROCK INC	299D	09/19/1958	C	368	20.0	B	0	2.0	185.0	02/03/2000	U	O,3,B2	
01S/02W-28AAB	WASH 10379	452510122581901	WATTS, JOHN	150	12/16/1965	C	181	150.0	P	15	5.0	20.8	02/03/2000	I	O,3,B2	
01S/02W-28CAB	WASH 10348	452713122563001	JENSEN, ALBERT JR	68	08/24/1988	L	150	12.0	A	---	1.0	7.4	11/13/1996	S	Q,S	
01S/02W-29BBD	WASH 10406	452707122572201	DEATHERAGE, GARY	83	03/10/1973	L	155	10.0	B	29	1.0	6.8	11/12/1996	H	Q,S	
01S/02W-29DCC	WASH 10409	452657122572901	PUTNAM, W.T.	505	---/---/1945	---	160	100.0	R	---	---	-18R	02/27/1951	I		
01S/02W-31BA1	WASH 10450	452641122584701	PREEDY, E.L.	353	06/23/1977	C	172	20.0	A	242	2.0	28.6	11/29/1996	H	S,O,5,B3	
01S/02W-31RAD	WASH 10465	452643122585101	ASHBAHR, C.E.	715D	03/29/1949	---	170	290.0	P	20	1.0	2R	11/---/1949	I		
01S/02W-31DCA	WASH 10446	452610122582901	EMANI, DAVE	40	05/03/1982	L	175	3.5	P	12	3.5	13.5	11/12/1996	H	Q,S,B,1,B3	
01S/02W-31F1	WASH 10466	452629122585501	CHRISTENSON, JULIUS	720	---/---/1950	---	175	30.0	B	74	---	5R	07/28/1997	H		
01S/02W-33BBA	WASH 10475	452651122565001	BUSHMAN, ED	62	03/23/1970	---	145	6.0	P	67	8.0	1R	03/23/1970	H	Q	
01S/02W-35BBA	WASH 10514	452652122541601	CLARK HILL NURSERY	408	03/26/1962	C	220	183.0	P	300	16.0	50.8	02/03/2000	I	O,3,B2	
01S/02W-36BAC	WASH 10523	452643122524801	SELMAN, PAT	465	04/07/1973	C	435	20.0	A	---	1.0	251.3	02/02/2000	H	O,3,B2	
01S/03W-02DDA	WASH 10569	453031123004201	MARSH, DAN	45	10/19/1963	L	165	16.0	R	20	40.0	8.1	11/14/1996	H	Q,S	
01S/03W-13BAD	WASH 10686	452917123000601	JESSE, DON	194	05/---/1969	L	170	100.0	P	120	10.0	18.0	11/13/1996	I	Q,S	
01S/03W-15BBB1	WASH 10710	452928123030401	GOOD SHEPHERD LUTHERIN HOME	1283	11/09/1971	---	182	100.0	R	98	8.0	40.2	08/14/1991	I		
01S/03W-16BAC1	WASH 620	452918123032001	ORCHARD VIEW NURSERY	209	12/23/1987	C	225	100.0	A	---	1.0	40R	12/23/1987	I		
01S/03W-16BCA1	WASH 1516	452921123021801	BLOOMING NURSERY	405	06/10/1992	C	195	400.0	A	---	1.0	21R	06/10/1992	I		
01S/03W-17DDD1	WASH 10760	452840123042101	ANDERSON, DONALD B.	370D	04/04/1978	C	260	300.0	A	200	2.0	35.1	11/22/1996	I	S,B,1,B2,B3	
01S/03W-17DDD2	WASH 10758	452842123042201	ANDERSON, DON	465D	10/10/1969	C	347	13.0	B	8	1.0	128.3	11/22/1996	H	Q,S,B,1,B3	
01S/03W-19CAD1	WASH 10784	452801123061901	SANDSTROM, FRANCIS	58	11/08/1965	B	325	13.0	B	27	0.5	17.1	11/15/1996	H	S,B,1,B3	
01S/03W-24DDB	WASH 10893	452753122593301	MCDONALD, FLOYD	605	02/---/1950	---	165	140.0	R	85	---	F	01/31/1951	I		
01S/03W-27CBB1	WASH 10309	452714123025701	DYKSTRA, DON	335	05/24/1989	C	600	40.0	A	---	1.0	221R	07/21/1998	H	Q,S,O,5,B3	
01S/03W-27DC	WASH 1598	452659123022301	EVANS ROBERT	140	08/12/1992	---	350	50.0	A	---	1.0	54R	08/12/1992	H		
01S/03W-28DBD	WASH 4236	452708123033201	KIBBEE, LARRY & ELIZABETH	265	09/20/1994	C	801	40.0	A	---	1.0	134.6	11/15/1996	U	S,R,1,B4	

Table A1. Data for selected study wells and springs in the Willamette Basin, Oregon—Continued

Well location	Well-log ID	USGS Site ID	Owner	Depth drilled (feet)	Date drilled	Hydro-geologic unit	Altitude (feet)	Well Performance				Water level		Use	Remarks	
								Yield (gpm)	Test Method	Draw-down (feet)	Test Period (hours)	Feet below datum	Date			
01S/04W-02ADD	WASH 11109	453020123063601	SHEELAR, GAIL	78	07/17/1951	L	171	---	-	---	---	9.1	11/18/1996	U	S,D,2,B2	
01S/04W-14DCD2	WASH 3235	452844123082301	ADDINGTON, BRIAN	200	07/15/1993	B	205	3.0	A	---	1.0	113.7	11/20/1996	H	Q,S	
01S/04W-18BAC1	WASH 3765	452922123135201	BUREAU OF RECLAMATION	400	03/24/1994	B	350	3.5	A	---	1.0	13.5	11/18/1996	P	S	
01S/04W-18BCC1	WASH 3506	452908123140801	BUREAU OF RECLAMATION	150	10/28/1993	B	350	1.3	A	---	1.0	17.2	11/18/1996	P	S	
01S/05W-13DAA1	WASH 1510	452901123141301	BUREAU OF RECLAMATION	300	06/03/1992	B	320	3.0	A	---	2.0	25.2	11/18/1996	U	S	
02S/01E-01BCD	CLAC 2455	452535122380501	LACEY ART	405	06/13/1970	---	200	40.0	B	1	2.0	189.2	04/11/1988	H		
02S/01E-02DBB	CLAC 2960	452528122385401	MEFFERD	150	05/14/1971	---	110	25.0	B	51	1.0	21.0	04/07/1989	H		
02S/01E-03CAC	CLAC 2970	452520122402301	CITY OF LAKE OSWEGO	980	04/03/1939	---	235	300.0	R	300	---	280R	04/03/1939	P		
02S/01E-08CCD	CLAC 3027	452421122430101	LAKE OSWEGO WATER CO	258	11/03/1945	---	165	54.0	R	180	---	1R	11/03/1945	U		
02S/01E-09BAC	CLAC 3033	452500122414501	LAKE OSWEGO WATER CO	405	04/30/1946	---	170	280.0	R	1	---	74R	04/30/1946	P		
02S/01E-11AABC	CLAC 3038	452501122383801	NORTHWEST NATURAL GAS	350	06/07/1985	---	175	---	-	---	---	---	---	---	G	
02S/01E-12DDA	CLAC 3046	452424122371001	ARENT WILLIAM	104	08/15/1986	---	180	100.0	A	---	1.0	13.2	04/07/1989	H		
02S/01E-13ABD	CLAC 53951	452400122372701	NORTHWEST NATURAL GAS	400	10/06/1970	---	72	---	-	---	---	---	---	---	G	
02S/01E-13DDB	CLAC 3072	452330122372001	BROD WILLIAM	115	06/27/1980	---	55	70.0	A	75	1.0	24.8	04/07/1989	I		
02S/01E-14BDD	CLAC 3079	452351122390201	MARYLHURST COLLEGE	519	06/17/1947	---	185	300.0	P	80	1.0	120R	06/17/1947	I		
02S/01E-14DCAA	CLAC 3074	452333122384401	NORTHWEST NATURAL GAS	400	10/12/1984	---	175	---	-	---	---	---	---	---	G	
02S/01E-15BAC	CLAC 3092	452407122402801	CITY OF LAKE OSWEGO	640	---/---/1935	C	525	---	-	---	---	---	---	---	P	
02S/01E-16ACC	CLAC 3106	452351122412701	LAKE OSWEGO PUBLIC SCHOOLS	722	07/03/1969	---	488	190.0	P	111	10.0	389R	07/03/1969	A		
02S/01E-16BDD	CLAC 3107	452352122413600	LAKE OSWEGO PUBLIC SCHOOLS	907	05/08/1969	---	495	195.0	P	100	16.0	358.0	03/02/1976	A	N	
02S/01E-19CCB	CLAC 3126	452242122442201	MERIDIAN PARK HOSPITAL	790	01/05/1974	---	210	70.0	P	171	2.0	140R	01/05/1974	N		
02S/01E-20BBA	CLAC 3189	452317122430401	RIVERGROVE WATER DISTRICT	430	05/08/1967	---	135	317.0	P	11	7.0	185R	05/08/1967	P		
02S/01E-20CBD1	CLAC 12346	452249122430801	HERBST	238	09/28/1991	C	113	25.0	P	0	6.0	8.7	11/12/1996	H	Q,S,B,1,B3	
02S/01E-20CBD2	CLAC 3165	452249122430901	HERBST,	40	12/31/1980	U	112	50.0	B	4	1.0	7.5	11/12/1996	U	S,B,1,B3	
02S/01E-20DDA	CLAC 3171	452240122420701	STAFFORD SCHOOL	605	03/10/1967	---	170	130.0	P	250	8.0	55R	03/10/1967	H		
02S/01E-21CCC	CLAC 3246	452234122415901	HANSON, RUTH	320	---/---/1946	L	167	25.0	P	120	---	69.3	11/12/1996	H	S,B,D,1,B2,B3	
02S/01E-22BAC	CLAC 3315	452314122402601	HALL, K.B.	537	03/21/1945	C	455	26.0	R	170	---	---	---	---	H	
02S/01E-23BBD	CLAC 3348	452309122392501	MCFARLAND, MERRILL	670D	08/03/1965	---	685	10.0	B	200	1.0	50R	08/03/1965	H		
02S/01E-24CDA	CLAC 3374	452237122375401	NORTHWEST NATURAL GAS	400	11/14/1984	---	257	---	-	---	---	---	---	---	G	
02S/01E-25BCD	CLAC 3388	452210122380101	IBACK, H.E.	455	10/---/1949	---	620	6.0	R	3	---	335R	10/---/1949	H		
02S/01E-30DBC	CLAC 3635	452154122435301	POPE AND TALBOT INC	1100	10/22/1962	---	370	376.0	P	223	33.0	134.6	03/28/1989	U		
02S/01E-32DAC	CLAC 3767	452106122421301	RYDMAN, PAUL O.	780D	04/18/1972	---	670	40.0	A	---	1.0	557R	04/18/1972	U		
02S/01E-33BBB	CLAC 3814	452136122415700	BELFORD, DALE	600	06/18/1973	---	460	75.0	P	21	7.0	351.0	03/11/1976	P	N	
02S/01E-35AAB	CLAC 3407	452136122383801	BURNHAM, ERNEST L.	709	05/05/1972	---	605	12.5	P	65	2.0	144R	03/12/1976	H		
02S/02E-06ABDA	CLAC 3990	452550122362301	CITY OF MILWAUKIE	482	09/26/1985	---	125	725.0	P	165	24.0	57.6	04/08/1988	P		
02S/02E-07DDD	CLAC 3991	452416122355801	BREWSTER ROBERT	440	07/09/1981	---	306	100.0	A	---	1.0	288.4	04/03/1989	I		
02S/02E-08CCD	CLAC 4120	452414122354701	BURTON NED	342	08/31/1978	---	265	12.0	A	79	1.0	262.3	04/07/1989	H		
02S/02E-11DAB	CLAC 4041	452431122310701	RIVER BEND MOBILE ESTATES	825D	02/22/1973	---	150	500.0	P	126	24.0	136.1	04/04/1989	P		
02S/02E-14CBC	CLAC 4126	452335122320801	BRENDING, PAUL	57	11/19/1981	U	60	50.0	A	---	1.0	13.1	11/14/1996	H	N,S	
02S/02E-15BBB	CLAC 4146	452407122332101	BOCCI, ROBERT	347	05/04/1954	U,L	104	470.0	P	70	---	15.0	01/11/2000	I	S,O,2,B2	
02S/02E-17BDA	CLAC 4196	452354122352401	MARTIN RANDY	282	01/17/1961	---	320	1.2	B	---	---	168.8	10/12/1988	U		
02S/02E-17CBBB	CLAC 4191	452345122355201	NORTHWEST NATURAL GAS	400	09/03/1973	---	211	---	-	---	---	---	---	---	G	
02S/02E-18ACB	CLAC 4199	452358122362901	NORTH CLACKAMAS SCHOOL DIST	983D	09/26/1962	---	154	410.0	P	256	72.0	114.4	04/06/1989	U		
02S/02E-18BDD	CLAC 4209	452353122363101	NORTH CLACKAMAS SCHOOL DIST	488	07/13/1972	---	132	292.0	P	151	24.0	81.9	04/10/1987	U		
02S/02E-19ACB	CLAC 4211	452302122362301	SULLIVAN PATRICIA	203	12/01/1971	---	98	65.0	P	118	---	82R	12/08/1971	H		
02S/02E-19DAC	CLAC 53952	452244122361301	NORTHWEST NATURAL GAS	402	11/29/1966	---	55	---	-	---	---	---	---	---	G	
02S/02E-20BBD	CLAC 4234	452315122354101	GLADSTONE SCH DIST - GLADSTN H	311	10/05/1965	---	88	284.0	P	10	8.0	75.1	04/06/1989	I		
02S/02E-21BAC	CLAC 4240	452309122342101	CLELAND, JOHN	120	11/16/1968	---	60	60.0	B	7	2.0	43R	11/16/1968	H		
02S/02E-22ACC	CLAC 4270	452300122324501	SIRI, LEWIS & JACK	195D	06/27/1970	---	310	40.0	B	60	2.0	99R	06/27/1970	I		
02S/02E-27ABC	CLAC 4372	452215122324901	COOK, GEORGE	400D	10/03/1969	---	535	12.5	B	3	1.0	307R	09/11/1970	H		
02S/02E-27BAA	CLAC 4368	452222122325201	SPENCER, STEVE & TESS	460	09/05/1979	---	572	1.0	B	271	2.0	189R	09/05/1979	U		
02S/02E-27BAD	CLAC 5157	452219122325301	SPENCER, STEVE & TESS	800D	08/24/1979	---	568	24.0	A	220	1.0	580R	09/29/1979	H		
02S/02E-28BAA	CLAC 4392	452224122340901	CLACKAMAS HOUSING AUTHORITY	460	01/19/1963	---	335	300.0	P	34	8.0	305R	01/19/1963	P		
02S/02E-30BDD	CLAC 4227	452206122363901	NORTHWEST NATURAL GAS	400	08/20/1987	---	95	---	-	---	---	---	---	---	G	
02S/02E-32BAC	CLAC 4427	452125122353601	OREGON CITY PUBLIC SCHOOLS	602D	07/25/1967	C	250	350.0	P	11	8.0	236R	07/25/1967	T		
02S/02E-34BDA	CLAC 4450	452125122322000	WHIPPLE, THOMAS & LORETTA	275	05/21/1960	L	285	10.0	B	0	3.0	193.9	11/12/1996	H	S	
02S/03E-05DDBC	CLAC 4579	452511122272901	DAMASCUS WATER DISTRICT	1066	07/30/1963	---	548	250.0	P	91	11.0	304.8	03/29/1989	P		
02S/03E-06BDB	CLAC 4614	452539122291701	ISAACS, LEWIS	227	03/---/1952	U	333	105.0	R	116	---	103.3	01/11/2000	I	S,O,2,B2	
02S/03E-07BAC	CLAC 4618	452456122291801	WESTFALL, JACK	260	08/24/1982	---	418	60.0	P	60	1.0	165.1	03/31/1989	I		
02S/03E-08BAD	CLAC 4662	452454122275201	PLANTSMEN NURSERY	315	07/26/1977	---	528	100.0	A	85	2.0	212.0	05/12/1987	I		
02S/03E-09AAB	CLAC 4679	452503122261201	DAMASCUS WATER DISTRICT	715D	02/24/1983	---	590	100.0	P	159	9.0	452.7	03/29/1989	P		
02S/03E-09ACA1	CLAC 4683	452446122262001	DAMASCUS WATER DISTRICT	720	04/07/1976	---	522	426.0	P	159	12.0	403.8	03/29/1989	P		

Table A1. Data for selected study wells and springs in the Willamette Basin, Oregon—Continued

Well location	Well-log ID	USGS Site ID	Owner	Depth drilled (feet)	Date drilled	Hydro-geologic unit	Altitude (feet)	Well Performance				Water level		Use	Remarks	
								Yield (gpm)	Test Method	Draw-down (feet)	Test Period (hours)	Feet below datum	Date			
02S/03E-09ACA2	CLAC	4682	452446122262101	DAMASCUS WATER DISTRICT	212	04/03/1979	---	522	500.0	P	37	24.0	88.0	03/29/1989	P	
02S/03E-09CDC	CLAC	402	452416122265301	HEINZ W	670	08/20/1977	---	628	25.0	A	---	5.0	498.3	04/17/1990	H	
02S/03E-09CDD	CLAC	4678	452415122264501	THORPE WARREN	732	01/15/1987	---	640	30.0	A	---	1.0	525R	01/15/1987	H	
02S/03E-14CBC	CLAC	4817	452336122243801	SALVATION ARMY	600D	06/30/1948	---	190	30.0	R	200	1.0	48.5	04/23/1973	P	
02S/03E-15CCD	CLAC	4847	452326122254701	MEYERS LILLIAN	448	11/24/1971	---	182	2.5	B	320	2.0	131.9	04/14/1988	H	
02S/03E-17ABA	CLAC	4862	452407122274101	MITUNIEWITCZ JACK	400	09/05/1987	---	365	40.0	A	---	1.0	227.1	04/18/1988	H	
02S/03E-17BAD	CLAC	4863	452360122275801	EMISSARIES OF DIVINE LIGHT	443	09/12/1983	---	312	75.0	A	---	1.0	124.5	03/30/1989	I	
02S/03E-31CAA	CLAC	5246	452107122291501	DELANO, HOWARD	270	06/25/1959	L	310	235.0	P	84	4.0	50.2	11/14/1996	H	S, D, 2, B2
02S/03E-36CAC	CLAC	5318	452102122230701	MAURER, JOHN	182	07/14/1983	U	310	20.0	B	15	1.0	114.6	11/14/1996	H	S
02S/03E-36CBD	CLAC	5311	452102122231701	GEFRE, LAURIE & PAT	85	04/29/1965	U	362	20.0	B	17	1.0	52.4	11/14/1996	H	S
02S/04E-01CBA1	CLAC	5345	452530122155001	SCHOPPERT LYLE & RHONDA	525D	01/15/1986	---	585	18.0	B	110	1.0	443R	04/28/1986	H	
02S/04E-02CDD2	CLAC	5364	452511122165301	CHATELAIN NURSERY	1560	02/12/1984	C	814	180.0	P	20	24.0	684R	04/12/1984	I	
02S/04E-03CD	CLAC	5478	452514122181201	FUNK, OSCAR	400	01/--/1951	U	698	60.0	R	215	---	60.4	07/13/1994	I	D, 2, B2
02S/04E-05CBH	CLAC	5535	452528122205501	MEIRS, EARL	205	01/23/1958	U	542	160.0	P	110	3.3	49.0	01/10/2000	I	S, O, 2, B2
02S/04E-05CCC	CLAC	5573	452510122210301	MOORE, ARNOLD J.	375	06/06/1977	L	563	348.0	P	18	1.0	163.3	01/11/2000	I	S, O, 2
02S/04E-07CAB	CLAC	5607	452438122215601	ROSSMAN HERMAN	885D	07/16/1958	---	684	4.0	B	10	1.0	885R	03/12/1973	H	
02S/04E-07CBC	CLAC	4741	452429122221301	ISELI WERNER	940	04/30/1982	---	642	---	-	---	---	D	04/30/1982	H	
02S/04E-08BAA	CLAC	5617	452505122203601	ISELI NURSERY	485	08/28/1987	---	578	350.0	A	---	4.0	209.7	10/06/1988	I	
02S/04E-10CDA	CLAC	19430	452422122180801	GUIDE DOGS FOR THE BLIND INC.	1493	07/07/1994	---	665	300.0	P	---	---	545R	07/07/1994	C	
02S/04E-17CCB	CLAC	5961	452333122205901	SCHDEEN BROS	904	--/--/1947	---	700	7.0	P	---	---	550R	12/31/1947	H	
02S/04E-18ADD	CLAC	5955	452352122210601	GAY ROGER	720	11/03/1969	---	665	6.5	B	185	2.0	495R	11/03/1969	H	
02S/04E-18DAD	CLAC	5924	452337122210601	HOFFMEISTER, WILLIAM E.	750	03/20/1971	---	655	15.0	B	60	3.0	545R	03/26/1971	H	
02S/04E-22CBC	CLAC	6061	452247122183401	HUDSON-DUNCAN	1330	06/07/1952	---	811	100.0	P	---	---	585R	06/07/1952	I	
02S/04E-28BDB	CLAC	6306	452213122192801	FUSSELL THELMA	580	02/18/1984	---	645	20.0	A	---	1.0	272R	02/18/1984	H	
02S/04E-29DAD	CLAC	6388	452033122195901	NELSON, VIRGIL	190D	05/--/1958	U	710	70.0	P	58	8.0	59.8	02/11/2000	I	S, O, 2, B2
02S/04E-34DAD	CLAC	6577	452059122172601	BOHLMAN JAN	440	11/03/1987	---	779	10.0	A	150	1.0	265R	11/03/1987	H	
02S/04E-34DBA	CLAC	6584	452111122174901	ANDERSON KARL	454	07/12/1978	---	862	9.0	B	75	2.0	325R	07/12/1978	H	
02S/04E-36DCA1	CLAC	6616	452054122152101	LEISETH DENNIS	685	04/05/1982	---	1202	8.0	P	145	2.0	485R	04/05/1982	H	
02S/05E-07BDB	CLAC	6723	452451122143801	HYATT, MARK	233	04/11/1969	---	440	7.0	B	164	1.0	69R	04/12/1969	H	
02S/05E-10DAB	CLAC	6756	452440122102101	PARDUE, JOHN	665	10/09/1967	---	1400	6.0	B	220	2.5	183R	10/09/1967	H	
02S/05E-18ACC	CLAC	6835	452351122141101	COBB, JOE	314	10/21/1971	---	680	10.0	B	125	2.0	4R	10/21/1971	H	
02S/05E-24BBD2	CLAC	6978	452314122083701	MILLS, DAVID	230	05/11/1971	---	1290	18.0	B	39	2.0	137R	05/11/1971	H	
02S/05E-29DAC	CLAC	7104	452155122124201	FOGLE, RICHARD E.	137	10/22/1968	---	1440	15.0	P	31	3.0	106R	10/22/1968	H	
02S/05E-32ABA	CLAC	7235	452136122125301	DOUGLAS, D.F.	35	06/18/1971	---	1430	15.0	B	19	4.0	6R	06/18/1971	H	
02S/05E-32DDH	CLAC	7243	452049122123601	NONAMAKER, RONALD A.	49	07/22/1967	---	1420	50.0	P	20	1.0	25.3	10/19/1972	H	
02S/05E-33ABB	CLAC	7276	452135122114701	TIMLINE, GEORGE W.	285	04/26/1969	---	1520	7.0	P	68	2.0	218R	06/16/1969	H	
02S/05E-33DAD	CLAC	7295	452105122112301	MACKIE, ROBERT	58	07/19/1963	---	1620	25.0	B	12	4.0	21R	07/19/1963	H	
02S/05E-34BAB	CLAC	7319	452132122105701	UNGER, ROBERT N.	212	07/12/1971	---	1560	12.0	P	23	3.0	126R	07/12/1971	H	
02S/05E-34DDC	CLAC	7315	452052122101601	LARSON, LAWRENCE D.	118	08/12/1970	---	2000	15.0	P	30	1.0	78R	08/12/1970	H	
02S/07E-30ACB	CLAC	7583	452210121593000	BROWN ENTERPRISES	486	11/14/1968	---	1200	122.0	P	61	24.0	27R	11/14/1968	P	N
02S/07E-34BBD	CLAC	7705	452124121561601	MT HOOD NATIONAL FOREST	294	07/07/1966	---	1470	0.3	P	294	1.0	F	07/08/1966	P	
02S/08E-15DBA1	---	---	452344121481001	OIL & GAS WELL	6027	--/--/---	---	2760	---	-	---	---	---	--/--/---	U	
02S/01W-01M1	WASH	11408	452532122453701	WILEY, J.A.	753	09/20/1961	---	145	18.0	B	35	2.0	23R	09/20/1961	N	
02S/01W-04ACC	WASH	11449	452534122485101	TIGARD WATER DIST	494	02/17/1958	C	380	380.0	P	153	24.0	254.8	04/24/1998	P	O, 3, B2
02S/01W-04BAD	WASH	11436	452551122485801	HANSON, HARRIS H.	600	04/25/1960	L, C	290	25.0	B	5	2.0	147.3	10/07/1994	H	D, 2, B2
02S/01W-06BCC	WASH	11510	452536122515501	LOLICH, LINDA & FRANK	544	--/--/1953	C	262	300.0	P	10	---	111.8	10/30/1996	I	O, 3, B2
02S/01W-06CAB	WASH	11504	452531122513001	HOLT, GARY T.	227D	10/31/1965	C	279	20.0	B	12	2.0	124.9	02/05/1997	H	O, 3, B2
02S/01W-07ACD1	WASH	11516	452443122510301	MATHIAS, FRD	206	05/31/1964	C	232	30.0	B	0	---	100.0	10/30/1996	I	O, 3, B2
02S/01W-08ACA	WASH	11542	452453122495001	BUSHNELL, JOHN T.	500	--/--/1946	---	600	10.0	P	---	1.0	397R	--/--/1946	H	
02S/01W-10ADA	WASH	11594	452351122465901	TIGARD WATER DIST	610D	04/25/1947	C	405	210.0	P	97	---	281.2	10/30/1996	P	O, 3, B2
02S/01W-10BAB	WASH	11592	452501122475701	TIGARD WATER DIST	453	07/30/1949	C	390	400.0	P	90	---	263.4	10/30/1996	P	O, 3, B2
02S/01W-12ADC	WASH	11613	452445122445001	PACTRUST WIITALA MANAGEMENT IN	615	02/13/1990	C	173	375.0	A	---	1.0	101R	02/14/1990	I	
02S/01W-12DCD	WASH	11645	452421122445501	PACTRUST WIITALA MANAGEMENT	645	02/01/1989	---	148	90.0	A	---	1.5	F	09/11/1991	I	D, 3
02S/01W-14AAB	WASH	11707	452411122460701	TIGARD HIGH SCHOOL	680D	08/--/1953	C	193	30.0	R	224	---	64.2	10/31/1996	P	O, 3
02S/01W-14ACA	WASH	11705	452402122461501	MOWER, MAX A.	590	09/10/1971	---	180	15.0	B	349	2.0	51R	09/10/1971	H	
02S/01W-15BDA	WASH	11789	452359122475701	WASSON, JIM	695	08/13/1962	C	153	35.0	B	160	4.0	24.6	02/04/1997	P	D, 3
02S/01W-16ABB	WASH	11552	452415122485101	CARRIER, M.A.	163	10/15/1960	C	268	12.0	B	0	1.5	132.1	10/30/1996	H	O, 3, B2
02S/01W-20DAB	WASH	703	452255122494101	PARR, DAVID	470	04/24/1974	---	145	100.0	A	365	2.0	15R	04/24/1974	H	
02S/01W-22CDC	WASH	11930	452237122475501	PORTLAND CONCRETE PI	430	06/16/1966	---	142	100.0	P	164	18.0	16R	06/15/1966	N	
02S/01W-24CAB	WASH	11969	452256122452801	CITY OF TUALATIN	325	02/--/1951	---	120	200.0	R	---	---	20R	07/11/1951	P	
02S/01W-27CCD	WASH	12038	452146122480401	TIGARD SAND-GRAVEL	244	12/19/1968	---	220	380.0	P	96	1.0	78R	03/11/1971	N	N

Table A1. Data for selected study wells and springs in the Willamette Basin, Oregon—Continued

Well location	Well-log ID	USGS Site ID	Owner	Depth drilled (feet)	Date drilled	Hydro-geologic unit	Altitude (feet)	Well Performance				Water level		Use	Remarks
								Yield (gpm)	Test Method	Draw-down (feet)	Test Period (hours)	Feet below datum	Date		
02S/01W-30ACC	WASH 12111	452206122511401	BURRIS, JOHN	585	05/09/1967	---	182	8.0	P	200	2.0	42R	05/09/1967	H	
02S/01W-32ADD	WASH 51903	452113122493001	CITY OF SHERWOOD	1030	02/07/1997	C,B	250	2000.0	P	105	2.0	131R	02/07/1997	P	P
02S/01W-32BDD	WASH 1823	452120122501601	CITY OF SHERWOOD	339	07/17/1946	C	195	510.0	P	42	---	63.2	10/21/1993	N	D,2,B2
02S/01W-32CBC	WASH 717	452105122503701	CITY OF SHERWOOD	800	10/25/1984	---	175	700.0	P	309	24.0	57.5	10/21/1993	P	D,3
02S/01W-36DDD	WASH 13575	452050122443701	EID, CLARENCE & NORMA	440D	06/13/1974	C	464	13.0	B	5	1.0	294R	07/23/1998	H	O,5,B3
02S/02W-01DAB	WASH 12375	452531122521201	BIERLY BROS	588	06/26/1950	---	285	350.0	P	17	---	140.7	10/13/1988	I	D,3
02S/02W-02BBD1	WASH 12399	452549122541301	OREGON HERITAGE FARMS	125	11/11/1972	C	222	25.0	P	85	2.0	54.4	10/29/1996	H	O,3,B2
02S/02W-02BCA	WASH 12398	452543122540901	SMITH, RICHARD	148	08/20/1973	---	271	10.0	B	3	2.0	126.4	10/05/1994	H	Q,D,3
02S/02W-02BDB	WASH 1686	452545122540801	SMITH, RICHARD	225	08/22/1992	C	260	75.0	A	---	1.0	93.8	11/27/1996	H	S,D,3
02S/02W-02DCC1	WASH 12405	452514122534301	OREGON HERITAGE DEVELOPMENT IN	424	06/16/1963	U,C	183	200.0	P	144	8.0	52.6	10/29/1996	I	O,3,B2
02S/02W-05BBA	WASH 10477	452558122575201	RICHARDS, MINDY	103	07/25/1974	L	144	10.0	B	18	1.0	16.4	11/13/1996	H	S
02S/02W-06BBB	WASH 12442	452556122592001	ROTHSTROM, RAY	486	11/24/1947	C	183	150.0	P	---	---	37.1	11/08/1996	I	S,O,3,B2
02S/02W-08AC	WASH 12486	452448122572501	MAPLE HEADQUARTERS N W	590	10/13/1983	---	195	230.0	B	516	---	74R	10/13/1983	H	
02S/02W-08ACB	WASH 943	452452122573101	GLENN WALTERS NURSERY	710	05/30/1991	C	195	500.0	A	---	1.0	61.5	10/29/1996	I	
02S/02W-08BBD	WASH 746	452456122580001	R & S NURSERY	595	06/14/1980	---	179	610.0	A	372	8.0	28R	06/16/1980	I	
02S/02W-09AAD	WASH 10447	452559122584701	MALENSKY, ROY	305	10/31/1979	---	191	1200.0	A	260	4.0	65.0	08/27/1991	I	
02S/02W-09BBA	WASH 12496	452505122564301	MOTT, F.H.	612	05/29/1956	---	125	185.0	R	210	4.0	10R	07/05/1956	I	
02S/02W-11CCD1	WASH 12572	452416122541601	STIMSON, STEPHEN	103	07/22/1972	L	143	20.0	B	28	2.0	24.7	11/19/1996	I	N,S
02S/02W-16BCD	WASH 12676	452349122564301	WOLSBURN FARMS WATER	280D	09/17/1962	---	265	30.0	R	60	6.0	146.2	02/07/1975	H	
02S/02W-16CCA	WASH 12679	452335122564301	MOUNTAINSIDE CEMETERY	440D	---/---/1953	C	293	30.0	B	87	1.0	122.9	10/29/1996	I	O,3,B2
02S/02W-17CBB	WASH 3110	452345122580601	MANN, CLIFFORD & SANDRA	200	05/13/1993	C	289	45.0	A	90	1.0	116R	07/21/1998	H	S,O,5,B3
02S/02W-18DDA	WASH 12757	452331122581501	MITCHELL, WAYNE	200	04/18/1972	C	395	15.0	A	60	1.0	87R	07/21/1998	H	Q,S
02S/02W-19ABD	WASH 12803	452313122583101	JANICKE, HUBERT	395	08/21/1973	---	521	12.0	B	90	1.0	309.9	05/21/1975	H	
02S/02W-19CDC	WASH 12838	452236122585801	MURPHY, MONTGOMERY	675	09/26/1969	---	690	25.0	P	245	2.0	430R	09/26/1969	H	
02S/02W-24CBB	WASH 12978	452256122530801	COUTTS, GEORGE	395	08/19/1988	C	385	42.0	A	---	1.0	207R	07/21/1998	H	O,5,B3
02S/02W-25AAA	WASH 13017	452227122520401	GILLINGHAM, HOWARD	245	02/02/1971	---	195	50.0	P	197	2.0	48R	02/02/1971	H	
02S/02W-25CDC	WASH 985	452145122525301	CLANCY, JEROME & MADELEINE	130	07/01/1991	C	185	50.0	A	---	1.0	12R	07/22/1998	H	O,5,B3
02S/02W-26BB	WASH 315	452224122542001	LEEK JAMES	1000	02/25/1991	---	720	100.0	A	---	1.0	370R	02/25/1991	I	
02S/02W-29BAC	WASH 13130	452220122574801	DIROLLO, JOHN	325	07/03/1986	C	585	30.0	A	---	1.0	92R	07/22/1998	H	S
02S/02W-30ADB	WASH 12869	452215122582001	SMITH, EDWARD	698	09/07/1973	---	810	20.0	A	373	2.0	305R	09/07/1973	H	
02S/02W-31BDC	YAMH 916	452114122590101	HAYES, JOANNE	660	11/22/1972	---	1385	25.0	R	169	2.0	459.5	02/03/1975	H	
02S/02W-34ACD	WASH 3443	452118122545001	ECK, STANLEY & MARILYN	277D	11/15/1982	C	765	25.0	A	---	2.0	246R	07/22/1998	H	O,5,B3
02S/02W-34ADB	WASH 13210	452119122544001	TRY, BOB & JOAN	160	04/05/1977	C	823	12.0	A	75	2.0	73R	07/22/1998	H	O,5,B3
02S/02W-34DCB	WASH 818	452053122545601	POLLOCK, DONALD	620	04/21/1971	---	950	25.0	P	268	2.0	411.6	05/03/1975	H	
02S/02W-36ABA	WASH 13298	452136122522001	HASUIKE, JAMES	585	06/05/1969	---	320	733.0	P	62	6.0	135.1	03/24/1976	I	
02S/03W-01A1	WASH 13321	452552122592901	HAASE HAROLD	405	---/---/1948	C	180	45.0	P	13	5.0	1R	02/23/1951	H	
02S/03W-01AC	WASH 13306	452540122595501	EGGER ENTERPRISES	518	11/02/1988	---	175	500.0	P	97	24.0	25R	11/02/1988	I	
02S/03W-01BAC	WASH 13322	452548123001401	KIEFER, RICHARD	369	03/---/1950	---	230	240.0	R	55	---	45R	03/---/1950	H	
02S/03W-10BBB	WASH 13411	452507123025601	REBMAN, JOHN H.	410	06/30/1967	---	1080	7.0	B	215	1.0	155R	06/30/1967	H	
02S/03W-11DDC	WASH 13438	452424123005301	PATEE, BURT & CAROL	465D	11/09/1978	C	760	7.5	A	---	1.0	107.5	11/29/1996	H	S,O,5
02S/03W-12AAB	WASH 13469	452507122594001	FELTON, CHARLES	170	07/06/1970	C	180	80.0	P	109	2.0	23R	07/21/1998	H	Q,S,O,5,B3
02S/03W-13ABC	WASH 13506	452405122595000	ROGOWSKI, RICK & TINA	330	05/04/1968	C	536	125.0	B	140	1.0	182.1	11/26/1996	H	N,S,B,1,B3
02S/03W-14BAC	WASH 13522	452410123012500	BEERLI, STANLEY W.	305	06/01/1973	---	845	40.0	P	68	2.0	132.0	03/05/1974	H	N
02S/03W-15BBD	YAMH 946	452410123025500	DUMLER, KENNETH	317	08/18/1964	C	1385	6.0	B	317	0.5	59.7	11/14/1996	H	N,S,B,1,B3
02S/03W-31ABC	YAMH 1124	452128123060701	JOHNSON	90	07/28/1972	B	198	40.0	A	---	1.0	16.6	11/14/1996	H	S
02S/03W-31ACB	YAMH 1127	452120123060500	JOHNSON	64	---/---/1952	B	178	---	-	---	---	3.8	11/14/1996	I	N,S,D,2,B2
03S/01E-01BCD	CLAC 8824	452027122380701	WISEMAN, JOHN	170	12/26/1985	C	65	25.0	A	---	0.5	10.4	11/25/1996	C	S
03S/01E-04ACC	CLAC 8886	452028122411601	WEBBER, JOHN	1000	05/09/1969	---	800	300.0	P	125	8.0	174.5	03/29/1989	H	
03S/01E-04BAB	CLAC 8879	452041122413701	CORDERMAN, R.P.	643	---/---/1944	---	810	2.8	R	7	1.0	550R	---/---/1945	H	
03S/01E-04DB	CLAC 12223	452009122411401	DAVID DOUG	884	07/22/1991	---	770	33.0	A	---	1.0	461R	07/25/1991	H	
03S/01E-06DAC	CLAC 9035	452014122433001	TUALATIN SAND & GRAVEL	767	10/14/1965	---	280	163.0	P	183	8.0	97R	10/14/1965	N	
03S/01E-10BA	CLAC 10322	451947122401501	OREGON GOLF CLUB	594	06/18/1991	---	570	80.0	A	---	1.0	331R	06/18/1991	H	
03S/01E-12ABC1	CLAC 9170	451944122374801	BERNARD BRANDOW	300	08/14/1967	---	440	---	-	---	---	D	08/14/1967	H	
03S/01E-12CCC	CLAC 9184	451905122381801	BARNEY, W.	460	04/02/1970	---	460	20.0	B	95	1.0	120R	04/02/1970	H	
03S/01E-14ADC	CLAC 19411	451839122384001	MAYNARD, RITA	115	06/27/1994	U	253	35.0	B	10	1.0	32.9	11/14/1996	H	S
03S/01E-16BB	CLAC 285	451860122414501	KAISER ROBERT W	497	10/16/1990	---	225	400.0	P	---	1.0	128R	10/16/1990	I	
03S/01E-16CAD	CLAC 9316	451828122412800	KAISER, BILL	1005D	05/18/1970	---	200	45.0	B	70	1.0	62R	04/09/1971	I	N
03S/01E-16DDD	CLAC 9327	451815122405401	CARL, JANICE&RON	140	06/03/1972	C	205	15.0	A	---	2.0	101.4	11/13/1996	H	Q,S,B,1,B3
03S/01E-17AB	CLAC 279	451856122423001	KAISER WILLIAM	397	10/10/1990	---	225	400.0	A	---	1.0	123R	10/10/1990	I	
03S/01E-17ACA	CLAC 9340	451845122423101	VANTAGEN, KARL & VICTORIA	292	05/17/1976	L	215	25.0	B	73	1.0	120.3	11/13/1996	H	S,B,1,B3
03S/01E-18BDB01	CLAC 9374	451848122440901	RAY, E.	503	06/04/1971	---	205	37.5	P	430	1.0	70R	06/07/1971	H	

Table A1. Data for selected study wells and springs in the Willamette Basin, Oregon—Continued

Well location	Well-log ID	USGS Site ID	Owner	Depth drilled (feet)	Date drilled	Hydro-geologic unit	Altitude (feet)	Well Performance				Water level		Use	Remarks
								Yield (gpm)	Test Method	Draw-down (feet)	Test Period (hours)	Feet below datum	Date		
03S/01E-23BBC	CLAC 9573	451758122393101	BIGEJ, CARL R.	232	04/15/1959	---	140	20.0	B	15	1.0	85R	04/15/1959	H	
03S/01E-24ADD	CLAC 9596	451747122371501	TELFORD, WALLACE M.	415	11/20/1961	---	415	65.0	P	118	---	250R	11/20/1961	H	
03S/01E-26BCD	CLAC 9648	451656122391801	LENHART, RUSSEL	230	04/10/1955	C	190	76.0	P	37	5.5	108.1	01/19/2000	I	N,S,O,2,B2
03S/01E-27CBD	CLAC 9679	451640122403701	HARDER, D.E.	47	11/08/1977	U	105	50.0	A	24	1.0	17.0	11/14/1996	Z	N,S,D,1,B3
03S/01E-27DAD1	CLAC 9665	451642122394201	MEYRICK, R.	190	12/29/1967	---	178	45.0	P	100	1.0	90R	12/29/1967	H	
03S/01E-27DAD2	CLAC 9687	451643122393901	KYRK, RICHARD	182	06/14/1968	C	190	40.0	P	76	1.0	115.9	08/25/1999	H	B,1,B3
03S/01E-33CBD	CLAC 12064	451546122415301	CITY OF CANBY	652	12/31/1927	---	150	---	-	---	---	140R	12/31/1927	P	
03S/01E-36CCC	CLAC 12211	451536122382101	DAVIES, L.H.	160	06/16/1959	L	243	45.0	B	130	---	116.4	01/19/2000	H	S,O,2,B2
03S/02E-01CCC	CLAC 17214	451952122305601	JOHNSON, HENRY	197	12/01/1964	---	385	15.0	B	5	1.0	172R	12/01/1964	H	
03S/02E-04ADD	CLAC 17257	452019122333501	PORTLAND GENERAL ELECTRIC	228	10/01/1958	---	395	2.0	P	50	2.0	20R	10/01/1958	H	
03S/02E-05BAC	CLAC 17272	452034122353601	WAMPLER, ROBERT	175	04/23/1971	---	470	60.0	P	62	4.0	39R	04/23/1971	T	
03S/02E-06CCA	CLAC 17266	452000122365000	CHAPIN, CLIFFORD	191	02/11/1966	---	470	275.0	P	80	3.5	42R	02/11/1966	I	N
03S/02E-08BCA	CLAC 17295	451930122353000	PALINAC, RUDY	664	04/21/1967	---	440	225.0	P	230	4.0	249.0	11/21/1977	I	N
03S/02E-09BBA	CLAC 17251	451950122343000	SCHIEF, RON	80	05/16/1968	---	415	5.0	B	52	2.0	28R	05/16/1968	H	N
03S/02E-09DCD	CLAC 17420	451900122335000	HESS, ALBERT	42	10/24/1958	---	430	17.0	B	30	0.5	10R	10/24/1958	H	N
03S/02E-09DDA	CLAC 17312	451913122333201	OREGON CITY SCHOOL DIST	1005D	12/02/1974	---	465	350.0	P	114	27.0	258R	12/02/1974	Z	
03S/02E-15ABC	CLAC 18421	451856122324701	OREGON CITY GOLF CLUB	1416	03/08/1993	C	522	410.0	P	280	1.0	418.0	11/18/1996	I	S
03S/02E-15BDD	CLAC 17402	451841122325301	HARRIS, DAVE	75	08/01/1962	---	530	37.5	B	16	1.0	16R	08/01/1962	H	
03S/02E-17AAA	CLAC 17429	451856122344601	BROYLES, E.K.	173	03/20/1968	---	405	2.0	P	31	1.0	137R	03/20/1968	H	
03S/02E-19DDD1	CLAC 17488	451720122355901	BROSNAHAN, JOSEPH	290	05/10/1966	---	400	5.0	B	110	1.0	58R	05/10/1966	H	
03S/02E-21CCD1	CLAC 17500	451721122343001	LEACH, FRED	325	08/05/1971	---	505	20.0	B	117	1.0	38R	08/05/1971	H	
03S/02E-24BCA	CLAC 17561	451751122304601	ATWELL, WARREN	396	06/21/1967	---	680	7.5	P	---	---	167R	06/21/1967	H	
03S/02E-25BAA	CLAC 17599	451713122302801	SMITH, W.N.	293	03/22/1963	---	645	60.0	R	146	4.0	165.9	11/09/1971	I	
03S/02E-25CBC	CLAC 17600	451640122305000	E.V. SMITH	115	11/16/1962	---	630	30.0	B	49	1.0	66.4	07/11/1973	H	N
03S/02E-26ACB	CLAC 16085	451659122313601	HILTS, ROBERT	120	06/12/1968	---	560	11.0	P	60	1.0	50R	06/12/1968	H	
03S/02E-27CCA	CLAC 16123	451630122331000	GUSTAVESON, C.A.	182	06/24/1968	---	555	22.0	P	151	1.0	21R	06/24/1968	H	N
03S/02E-28CBD	CLAC 16154	451639122342501	SIMMONS, KEITH N.	117	03/21/1966	---	505	100.0	P	55	5.0	22.9	04/03/1973	H	
03S/02E-29ABB	CLAC 16184	451710122352000	EVANS, ELDOM K.	500	06/03/1967	---	405	250.0	P	52	6.5	93R	06/03/1967	I	N
03S/02E-29BBB	CLAC 16166	451712122355101	TIMPERLEY, RAY D.	118	09/04/1969	---	380	4.5	B	20	2.0	83R	09/04/1969	H	
03S/02E-32CCD	CLAC 16260	451530122354000	AUSTEN, D.J.	110	05/22/1968	---	560	20.0	B	64	2.0	21R	05/22/1968	H	N
03S/02E-34AAB	CLAC 16333	451619122322601	LINTON, ROY	102	04/08/1968	---	580	60.0	P	70	0.5	30R	04/08/1968	H	
03S/02E-34ACB	CLAC 20274	451611122324501	CHADSEY, TOBY	1500D	04/18/1995	---	540	395.0	P	131	4.0	446R	04/18/1995	I	
03S/02E-34BDA	CLAC 16337	451606122325201	HARTBERG, KEN D.	105	09/18/1970	---	540	30.0	B	26	1.0	32R	09/18/1970	H	
03S/02E-35ABA	CLAC 16383	451620122312000	SWAN, JERRY	101	07/21/1956	U	640	35.0	B	35	---	12.2	11/21/1996	I	S,D,2
03S/02E-36CDB	CLAC 16395	451540122304201	HAWKE, KENNETH L.	696	03/12/1968	---	835	---	-	---	---	D	03/12/1968	H	
03S/03E-03BCD	CLAC 14047	452025122255001	WOITMAN, GARY	69	10/13/1987	U	335	28.0	P	15	3.0	26.1	11/14/1996	H	N,S
03S/03E-06AAD	CLAC 16486	452034122283201	WARD, HARLEY	292	02/05/1965	---	402	90.0	P	44	8.0	190.8	08/24/1972	H	
03S/03E-07AAD	CLAC 16533	451941122283901	WATSON, RON & CAROL	300	04/05/1984	L	559	20.0	P	25	12.0	225.6	11/14/1996	H	Q,S
03S/03E-07DCD	CLAC 16510	451904122285201	KURTTI, JAMES	335	06/21/1968	---	480	5.0	P	97	3.0	224R	06/21/1968	H	
03S/03E-08ABA	CLAC 53949	451950122274000	ST MARY, KEN	97	---/1948	L	555	11.0	B	---	---	30.8	05/07/1973	H	N
03S/03E-08ABB	CLAC 16549	451949122275101	BAKER, GEORGE	260	02/22/1972	---	560	25.0	P	129	1.0	131R	02/22/1972	H	
03S/03E-08CDB	CLAC 16556	451907122280801	SAWYER, ROY	110	09/28/1970	---	650	16.0	P	75	2.0	33R	09/28/1970	H	
03S/03E-15BCD	CLAC 16746	451841122254901	KIEFER, ROBERT	835	09/07/1970	---	680	100.0	P	376	3.0	309.1	08/31/1972	H	
03S/03E-17CBB1	CLAC 16779	451826122282501	POLEHN, RICHARD	602	05/25/1970	---	710	15.0	B	0	1.0	514R	05/25/1970	H	
03S/03E-30BBB	CLAC 17004	451711122294401	KJARRGAARD, VERN	383	10/17/1969	---	730	33.0	B	149	1.0	151R	10/17/1969	H	
03S/03E-31DAD	CLAC 17023	451547122283801	MOEHNKE, RAY	125	10/19/1970	---	715	9.5	B	106	1.5	19R	10/19/1970	H	
03S/03E-32ADA	CLAC 17036	451611122272201	RICHARD SIFFORD	445	12/14/1971	---	970	11.0	P	12	1.5	238R	12/14/1971	H	
03S/03E-33CCB	CLAC 17047	451540122271000	DYCK, GERALD	203	03/30/1972	---	1015	7.5	A	---	2.0	80R	03/30/1972	H	N
03S/03E-34ADC	CLAC 17076	451600122250301	MCCLAIN, DAN & ETTA	116	03/09/1972	U	1041	17.0	P	34	1.0	61.1	11/18/1996	H	S
03S/03E-35DCD	CLAC 17162	451537122235501	KOUTALIANOS, THEODOSIOS	124	09/08/1971	---	1010	25.0	B	10	1.0	32R	09/08/1971	H	
03S/03E-36CCA	CLAC 16983	451542122231801	DODD, W.E.	205	07/14/1967	---	995	12.0	B	205	2.0	81R	07/14/1967	H	
03S/04E-01CAD	CLAC 15610	452012122153801	RUPLE, GRANT	389	11/20/1971	---	1165	5.0	P	55	1.0	334R	11/20/1971	H	
03S/04E-02DDC	CLAC 15622	451956122162001	SHIELDS, JACK	125	11/09/1970	---	1100	2.0	B	75	3.0	124.3	04/03/1973	H	
03S/04E-03ACA	CLAC 15636	452033122174401	BARBER, IRWIN	243	10/29/1971	---	930	25.0	P	92	1.0	31.1	04/27/1973	H	
03S/04E-05BDC	CLAC 15715	452020122204401	AULT ACRE MOBILE HOME COURT	725	12/31/1971	---	380	80.0	P	125	7.0	115R	12/31/1970	H	
03S/04E-10CDB	CLAC 15836	451908122181901	WALKER, CHUCK	338	12/10/1971	---	810	8.0	P	51	1.0	277.7	04/27/1973	H	
03S/04E-11ACB	CLAC 15850	451937122164301	US DEPT OF INTERIOR BLM	90	11/08/1961	---	610	18.0	B	80	1.0	-6R	11/08/1961	H	
03S/04E-12BCB	CLAC 15856	451935122160401	NIEMI, RUSSELL	301	04/08/1969	---	930	12.0	P	171	1.0	125R	04/08/1969	H	
03S/04E-13CCD	CLAC 15863	451813122155301	JANNSEN, R.A.	158	08/21/1969	---	635	16.0	P	142	1.0	9.2	03/29/1973	H	
03S/04E-14CAC	CLAC 15891	451829122170601	REISCH	152	01/30/1967	---	960	10.0	B	4	1.0	126R	01/30/1967	H	
03S/04E-15ADD	CLAC 15947	451842122172601	OPHNETTON	213	08/22/1968	---	880	10.0	B	20	1.5	177.1	04/03/1973	H	

Table A1. Data for selected study wells and springs in the Willamette Basin, Oregon—Continued

Well location	Well-log ID	USGS Site ID	Owner	Depth drilled (feet)	Date drilled	Hydro-geologic unit	Altitude (feet)	Well Performance				Water level		Use	Remarks	
								Yield (gpm)	Test Method	Draw-down (feet)	Test Period (hours)	Feet below datum	Date			
03S/04E-15BAD	CLAC 14552	451853122180301	DURAND FRANK	233	07/19/1971	---	887	10.0	P	26	1.0	27.3	04/03/1973	H		
03S/04E-21ADC	CLAC 14516	451748122184701	YOUNG ROBERT A	128	08/31/1968	---	755	4.5	B	45	1.0	96.1	07/18/1972	H		
03S/04E-23ABC	CLAC 14587	451800122164701	YONKERS, MARVIN	245	07/16/1971	---	985	21.0	R	67	2.0	178R	07/16/1971	H		
03S/04E-23BBD	CLAC 14586	451801122170801	MOORE ROGER	330	08/15/1970	---	1095	13.0	B	---	4.0	190R	08/15/1970	H		
03S/04E-23DCA	CLAC 14585	451728122163601	RICHARDSON BEN	233	10/12/1971	---	1115	2.0	P	140	1.0	83R	10/12/1971	H		
03S/04E-25BDC1	CLAC 14639	451650122160000	UNDERHILL, GLENN	405	05/24/1968	---	1110	3.0	B	234	2.0	169.8	04/05/1973	H	N	
03S/04E-25BDC2	CLAC 14634	451655122155201	MALTBY ROBERT	170	03/07/1972	---	1100	18.0	B	50	1.0	120R	03/07/1972	H		
03S/04E-26CDB	CLAC 14665	451636122165701	YOUNGBERG, W.O.	193	07/25/1963	U	1120	134.0	P	100	7.0	51.9	01/11/2000	I	S,O,2,B2	
03S/04E-27CDB	CLAC 14700	451633122181901	TREPTOW, FRED A.	261	07/03/1971	---	900	2.0	B	200	2.0	35R	07/03/1971	H		
03S/04E-28BDD	CLAC 14743	451655122192401	ANDERSON, D.E.	466	08/29/1967	---	720	0.5	P	292	1.0	26.9	08/04/1972	H		
03S/04E-29BAC	CLAC 14861	451708122204801	AKINS, SUSAN & DAVID	68	08/21/1978	U	625	18.0	B	15	1.0	31.1	11/18/1996	H	N,S	
03S/04E-29CCA3	CLAC 14822	451632122205301	MUCCULLOCH MICHAEL	228	01/31/1971	---	750	10.0	B	60	4.0	162.6	04/27/1973	H		
03S/04E-29BDB	CLAC 14832	451640122201501	EDISON ZORREN	265	11/03/1969	---	690	10.0	B	65	2.0	185R	11/03/1969	H		
03S/04E-30CAA	CLAC 14881	451647122215401	PETUCHOV, EUGENE	401	07/14/1969	---	885	11.0	B	78	1.0	321.9	09/20/1972	H		
03S/04E-33CDB	CLAC 14952	451544122193001	JOYNER, IRVIN	85	03/06/1967	---	1105	22.0	B	43	1.0	28.4	04/05/1973	H		
03S/04E-34ADD	CLAC 14963	451600122172801	BEAL, HENRY	105	08/31/1970	---	1165	20.0	B	0	2.0	40R	08/31/1970	H		
03S/04E-35DBC	CLAC 14999	451548122164301	HAMILTON JOHN	103	08/15/1969	---	1180	4.0	P	60	1.0	35R	08/15/1969	H		
03S/04E-36DDB	CLAC 15033	451542122151301	WEBSTER MERLE	90	08/03/1970	---	1230	11.0	B	30	1.0	36.1	04/05/1973	H		
03S/05E-02ADA	CLAC 1557	452026122085401	FANCHER & BOYD	87	05/05/1965	---	1640	6.0	B	50	1.0	32R	05/05/1965	H		
03S/05E-03CCA	CLAC 1568	452006122110201	BRIAN, L.R.	303	10/15/1969	---	1500	65.0	P	20	2.5	160R	10/15/1969	I		
03S/05E-04CAD	CLAC 1600	452010122115000	ENGLISH, GARY	55	07/01/1972	---	1520	20.0	P	25	1.0	30R	07/01/1972	H	N	
03S/05E-05ABA	CLAC 1632	452045122124901	UPDEGRAVE, CLYDE	153	08/20/1971	---	1430	25.0	P	58	1.0	85R	08/20/1971	H		
03S/05E-06ACA	CLAC 1669	452027122140901	PRTLE, JOHN W.	420	07/14/1967	---	1240	30.0	B	14	1.0	166R	07/14/1967	H		
03S/05E-07BAB	CLAC 1679	451950122143201	WOLFLICK, RAYMOND	272	09/10/1969	---	1260	7.0	P	91	1.0	171R	09/10/1969	H		
03S/05E-17BDA	CLAC 1713	451841122131501	DAY, STEPHEN	152	12/27/1966	---	1280	12.0	B	10	1.0	33R	12/27/1966	H		
03S/05E-19BCA	CLAC 1742	451753122144601	CHRISTENSON	165	05/01/1964	---	1160	6.0	B	52	2.0	105R	05/01/1964	H		
03S/05E-20BDD	CLAC 1759	451745122131601	FRANKLIN, GORDON	203	06/09/1971	---	1320	4.0	P	104	1.0	89R	06/09/1971	H		
03S/05E-22ACD	CLAC 1770	451744122102601	GARLAND, JAMES	140	05/15/1972	---	1840	6.0	B	100	2.0	26R	05/15/1972	H		
03S/05E-28CAC	CLAC 1783	451635122121000	EAGLE CREEK FISH HATCHERY	593	10/14/1963	---	940	60.0	P	504	24.0	79.2	09/28/1972	Q		
03S/05E-29ABA	CLAC 1788	451713122125301	KENT, CHARLES JR	235	08/04/1967	---	1400	15.0	P	171	1.0	54R	08/04/1967	H		
03S/05E-30DDC	CLAC 1807	451626122140001	BETHEL, M.	245	11/04/1969	---	1240	8.5	B	15	1.0	204R	11/04/1969	H		
03S/01W-01ADB	WASH 13582	452032122444801	O'CALLAHAN, PAT	577	04/23/1969	---	472	339.0	R	1	6.0	230R	05/05/1972	H		
03S/01W-05BCD	CLAC 7836	452026122502501	ADAMS, J.J.	230	06/26/1968	---	416	20.0	P	104	1.0	153.0	08/15/1975	H	N	
03S/01W-07CDC	WASH 1915	451904122513501	JAPEL, KURT	436	03/09/1972	---	880	12.0	B	30	1.0	376.1	08/13/1992	H		
03S/01W-10CAA	CLAC 18836	451923122474601	CHICKA-DEE GARDENS NURSERY	226D	01/14/1969	C	182	200.0	P	226D	2.0	52.1	11/13/1996	I	S	
03S/01W-10CCD	CLAC 8009	451905122475801	PAMOUSKI, VOL	244D	07/17/1951	C	245	20.0	A	---	1.0	116.4	11/18/1996	H	S,D,2,B2	
03S/01W-14AAA	CLAC 8145	451857122455601	THUNDERBIRD MOBILE CLUB INC	426	09/10/1962	---	210	150.0	P	132	8.0	69R	09/10/1962	P		
03S/01W-14ABA	CLAC 50585	451903122460801	CITY OF WILSONVILLE	192	05/28/1996	C	192	660.0	A	---	2.0	188.0	06/23/1999	U	P,S,R,1,B4	
03S/01W-14DAA	CLAC 8133	451833122455301	TREW CORPORATION	517	09/22/1967	---	170	90.0	A	207	2.0	43R	09/22/1967	T		
03S/01W-15CAC	CLAC 8184	451747122484801	STATE OF OREGON	920	07/03/1958	C	208	515.0	P	240	26.5	118.1	01/19/2000	T	S,O,2,B2	
03S/01W-16DDD	CLAC 8231	451813122481801	STATE OF OREGON	1000	04/16/1960	C	186	780.0	P	5	24.0	94.6	01/19/2000	I	O,2,B2	
03S/01W-22DDA	CLAC 20233	451729122470101	JENSEN, DAN & DONNA	200	04/11/1995	L	95	38.0	A	---	1.0	17.6	11/13/1996	H	S	
03S/01W-23DAA	CLAC 8478	451738122454900	ABELE, JOHN	638D	11/15/1956	C	105	75.0	F	---	---	F	11/15/1956	H	N	
03S/01W-24BCD	CLAC 8498	451752122453501	CITY OF WILSONVILLE	150	08/05/1973	L	98	30.0	P	60	8.0	23.3	12/27/1999	U	S,R,1,B4	
03S/01W-25CDB	CLAC 8562	451642122453301	STARIKER, MARK	60	04/18/1984	U	135	30.0	P	12	1.0	18.6	11/13/1996	H	N,S,B,1,B3	
03S/01W-27DDB	CLAC 8638	451636122471801	PITTS, WILLIS	1004	09/13/1962	C	171	50.0	B	115	3.0	87.9	11/13/1996	H	S	
03S/01W-36DDD	CLAC 8794	451541122444301	COLVIN, DENNY & TONY	105	06/12/1985	L	93	60.0	A	---	1.0	-1.3	11/15/1996	H	S,B,1,B3	
03S/02W-03BDC	YAMH 50077	452025122551501	STANTON NORMAN	685	11/22/1995	---	991	10.0	A	---	1.0	485R	11/22/1995	H		
03S/02W-05BAB	YAMH 3122	452039122573601	CHRISTIE ED	625	06/15/1994	---	1035	20.0	A	---	1.0	356R	06/15/1994	H		
03S/02W-06AB	KLOH 0	452046122583001	OIL AND GAS WELL	5870	10/12/1982	---	910	---	---	---	---	---	---	---	U	
03S/02W-11DDC	WASH 2003	451906122532801	WILLAMETTE PACIFIC LAND CO	502	09/29/1978	C	368	450.0	P	413	1.0	62.4	11/01/1996	H	S,O,4	
03S/02W-13CCD	YAMH 2549	451814122525901	RILEE	500	02/04/1962	C	1090	4.0	B	75	0.5	437.3	11/01/1996	H	S,O,4	
03S/02W-14BCB	YAMH 2345	451850122542201	CRAMER	445	08/18/1969	C	515	12.0	A	---	1.0	295.7	11/01/1996	H	S,O,4	
03S/02W-17AAB	YAMH 2410	451900122571001	ADEC CORP	201	11/10/1950	C	247	23.0	P	180	---	8.3	01/20/2000	I	S,O,2,B2	
03S/02W-18ABB	YAMH 2424	451856122584401	ZIRSCHKY, EUGENE	105	07/20/1968	L	195	6.0	B	70	1.0	6.0	11/12/1996	U	S	
03S/02W-19CCB	YAMH 2428	451730122591500	VALLEYVIEW MEM. PARK	224	01/15/1958	C	220	33.0	B	82	1.0	119.9	11/12/1996	I	N,S,D,2,B2	
03S/02W-23BBA	YAMH 168	451805122541801	STEVE JENSEN	600	05/29/1990	C	760	7.5	A	---	1.0	310.6	11/01/1996	H	S,O,4	
03S/02W-24BAD	YAMH 2544	451804122524001	MILLS	625D	06/16/1974	C	1000	4.0	A	115	2.0	483.1	11/01/1996	H	S,O,4	
03S/02W-26BDA	YAMH 2599	451705122540000	CLEMENT, MARK	465	05/29/1974	C	620	25.0	P	83	2.0	333.7	11/01/1996	H	N,S,O,4	
03S/02W-36ABA	YAMH 2703	451626122522001	COX	282	08/30/1976	C	560	14.0	A	63	2.0	204.0	11/01/1996	H	S,O,4	
03S/02W-36ACA	YAMH 2685	451611122522601	MCCAFFREY	545	06/29/1983	C	500	5.0	A	---	1.0	359.0	11/01/1996	H	S,O,4	

Table A1. Data for selected study wells and springs in the Willamette Basin, Oregon—Continued

Well location	Well-log ID	USGS Site ID	Owner	Depth drilled (feet)	Date drilled	Hydro-geologic unit	Altitude (feet)	Well Performance				Water level		Use	Remarks	
								Yield (gpm)	Test Method	Draw-down (feet)	Test Period (hours)	Feet below datum	Date			
03S/03W-09DAB	YAMH	4100	451927123032301	CHAPMAN, SONYA&ADEN	82	03/09/1967	L,B	185	40.0	B	25	1.0	6.0	11/12/1996	H	S
03S/03W-28DBD	YAMH	4572	451645123033001	KNUDSEN VINYARDS	170	12/17/1987	---	600	47.0	A	---	1.0	40R	12/17/1987	I	
03S/03W-28DCA	YAMH	1713	451635123032801	KNUDSEN VINYARDS	395	04/28/1992	---	640	50.0	A	---	3.0	90R	04/28/1992	I	
03S/03W-28DCC	YAMH	1725	451632123033801	KNUDSEN VINYARDS	295	05/07/1992	---	680	26.0	A	---	1.0	95R	05/07/1992	I	
03S/03W-30DAB	YAMH	4591	451650123054501	TRAPPIST ABBEY	160D	04/10/1962	B	200	9.0	B	105	---	17.0	11/19/1996	U	N,S,D,2,B2
03S/03W-33BD	YAMH	1820	451601123040201	LAURENT-PERRIER CHAMPAGNE	245	08/13/1992	---	800	25.0	A	---	1.0	108R	08/13/1992	I	
03S/03W-34DB1	YAMH	4640	451557123022201	LOFQUIST JR WALT	455	07/06/1979	---	430	25.0	A	100	1.0	275R	07/05/1979	H	
03S/03W-35ABA	YAMH	1658	451621123005701	CITY OF DUNDEE	482	01/28/1992	---	175	195.0	P	224	3.0	41R	01/28/1992	P	
03S/03W-35DCA2	YAMH	2925	451546123005701	ADAIR, WIS	656	09/24/1993	C	162	200.0	A	---	1.0	35.9	11/12/1996	H	S,B,1,B3
03S/03W-36DCB	YAMH	4669	451545123000001	DETTTRACH, DAN	200	06/05/1969	L	121	10.0	B	30	1.0	61.7	11/12/1996	H	Q,S,B,1,B3
03S/04W-05CCCC2	YAMH	4725	452000123125001	FROST, JACK	97	11/20/1967	U,L	160	15.0	B	50	1.0	17.0	11/12/1996	H	S
03S/04W-18BDC	YAMH	4867	451838123135001	BROWN, DEAN	159	10/02/1973	B	350	6.0	B	114	1.0	56.5	11/12/1996	H	S
03S/05W-12DCD	YAMH	5046	451906123143901	DAVIDSON, KATHY	70	05/05/1969	B	230	4.0	B	60	1.0	11.2	11/12/1996	H	S
04S/01E-02ABB	CLAC	12854	451528122385501	DIETZ, C.F.	350	06/05/1969	---	180	50.0	P	172	12.0	89.6	09/23/1971	U	
04S/01E-02BDB	CLAC	12869	451520122391701	ZIELINSKI, CRAIG	175	05/29/1974	L	178	200.0	P	53	24.0	53.1	11/22/1996	I	S
04S/01E-07CCB	CLAC	12968	451359122442501	WEYERHAEUSER	123	08/20/1975	L	140	35.0	B	15	1.0	57.2	11/22/1996	U	S
04S/01E-20BAC	CLAC	13431	451251122425901	RAMBO, EVERITT	235	01/30/1960	U,L	174	310.0	P	114	7.0	54.1	01/19/2000	I	S,O,2,B2
04S/01E-20BBD	CLAC	12648	451249122430101	MIDWAY NURSERIES INC	581	10/29/1966	---	175	440.0	P	192	10.0	38R	10/29/1966	I	
04S/01E-30AAB	CLAC	12655	451201122432901	KENAGY, CLARENCE L.	555	02/20/1979	---	165	600.0	A	165	2.0	35R	02/20/1979	I	
04S/01E-32ADD	CLAC	13378	451048122420501	FELLER, BEN	64	12/22/1976	U	165	20.0	B	10	1.0	28.9	11/21/1996	H	N,S,B,1,B3
04S/01E-36BAB	CLAC	18748	451110122375601	NOVAK, JOE	147	07/15/1993	U	255	43.0	P	31	3.0	19.5	11/21/1996	I	S
04S/02E-01BDA	CLAC	13500	451516122302901	MACDONALD, HAROLD R.	353	11/06/1968	---	790	10.0	P	140	1.5	198R	11/06/1968	H	
04S/02E-02BCA	CLAC	13540	451518122315901	DUNLAP, OWEN	169	10/25/1970	C	685	7.0	P	20	1.0	87.4	10/15/1971	H	
04S/02E-03ABB	CLAC	13561	451526122324401	GRAVES, EARL	200	09/24/1965	---	635	8.0	B	90	2.0	92R	09/24/1965	H	
04S/02E-03BCB	CLAC	13573	451517122332201	STELLE, J.C.	384	03/04/1967	---	615	20.0	B	8	6.0	338R	03/04/1967	H	
04S/02E-04ABC	CLAC	13589	451520122340000	IRWIN, LLOYD	642	06/10/1968	L	650	15.0	B	20	1.0	422.8	11/22/1996	H	N,S,B,1,B3
04S/02E-05Q1	CLAC	13637	451445122350500	FOSTER, C.T.	141	01/01/1961	---	560	10.0	B	60	1.0	60R	01/01/1961	H	
04S/02E-07CAD	CLAC	13661	451411122364001	HAYRE, JACK	430	07/27/1966	L	357	15.0	B	0	3.0	185.9	11/21/1996	H	Q,S
04S/02E-08G	CLAC	13742	451428122350201	BAUGHMAN, L.G.	437	03/26/1962	---	420	30.0	B	65	1.0	188R	03/26/1962	H	
04S/02E-09K1	CLAC	13779	451408122340201	ROSS, HOWARD S.	135	01/22/1959	---	580	12.0	B	20	1.0	80R	01/22/1959	H	
04S/02E-11N	CLAC	13808	451400122320801	RASMUSSEN, CY	127	06/22/1960	---	400	6.0	B	70	1.0	51R	06/22/1960	H	
04S/02E-13E1	CLAC	13845	451332122305401	WHITE, C.H.	195	08/28/1958	---	740	18.0	B	125	1.0	58R	08/28/1958	H	
04S/02E-29AAD	CLAC	14212	451154122344901	ARROWHEAD GOLF CLUB	200	07/20/1981	L	240	120.0	A	198	3.0	20.4	11/21/1996	I	S
04S/02E-29ADC1	CLAC	17958	451141122345501	DODSON, RANDY	85	06/13/1992	U	245	27.0	A	---	1.0	6.5	11/21/1996	H	S,B,1,B3
04S/02E-36H1	CLAC	14394	451051122295001	RICE, C.R.	265	09/24/1961	---	820	---	-	---	---	---	---	---	H
04S/03E-03BAA	CLAC	10935	451528122253301	MARPLE, LETHA	300	10/07/1967	---	1140	13.0	P	50	2.0	176R	10/07/1967	H	
04S/03E-03CBC	CLAC	10950	451455122255501	ERICKSON, PRESTON	73	09/07/1961	---	1350	30.0	B	20	1.0	28R	09/07/1961	H	
04S/03E-04DBC	CLAC	10965	451456122263001	BAUMEISTER, DORN	44	10/14/1971	---	1310	7.0	B	9	1.0	30R	10/14/1971	H	
04S/03E-04DCB	CLAC	10985	451449122262701	MARSHALL, R.B.	387	10/08/1955	---	1340	0.5	B	387	---	D	10/08/1955	H	
04S/03E-04DD	CLAC	10986	451450122260401	WOLLSLAIR, R.J.	110	01/29/1962	---	1360	13.0	B	40	1.5	50R	01/29/1962	H	
04S/03E-05AAC	CLAC	11003	451520122272801	DELAIR, MIKE	300	08/07/1970	---	1070	4.0	P	92	2.0	208R	08/07/1970	H	
04S/03E-05DBB	CLAC	11008	451504122275201	PHILLIPS, MICHAEL D.	112	10/15/1970	---	970	75.0	P	78	1.0	32R	10/15/1970	H	
04S/03E-06ADC	CLAC	11035	451510122284000	NEWCOMB, DON	61	08/22/1967	U	783	20.0	P	38	1.0	7.9	11/22/1996	H	N,S
04S/03E-07J	CLAC	11113	451411122284401	WIEGELE, FRD	113	08/11/1958	---	820	40.0	B	30	1.0	52R	08/11/1958	H	
04S/03E-08N1	CLAC	11138	451359122281701	DEBOER, DON	96	11/16/1961	---	880	15.0	B	20	1.0	20R	11/16/1961	H	
04S/03E-14H1	CLAC	11263	451332122234601	MITCHELL, STANLEY	212	03/05/1961	---	1085	15.0	B	45	3.0	105R	03/05/1961	H	
04S/03E-16N1	CLAC	11272	451259122265801	ROWLAND, CLARENCE	81	07/08/1961	---	920	30.0	B	30	1.0	10R	07/08/1961	H	
04S/03E-20D1	CLAC	11348	451248122281501	MARSHAL, CHARLES	81	06/09/1960	---	890	35.0	B	5	2.0	24R	06/09/1960	H	
04S/03E-21D1	CLAC	11356	451253122271401	LOW, J.T.	141	07/28/1960	---	960	15.0	B	90	1.0	28R	07/28/1960	H	
04S/03E-23Q1	CLAC	11371	451206122240301	LINDAHL, O.W.	258	12/03/1958	---	1040	10.0	B	60	2.0	150R	12/03/1958	H	
04S/03E-27D1	CLAC	11426	451203122260001	COURTNEY, CLARENCE	80	01/18/1962	---	910	24.0	B	43	2.0	37R	01/18/1962	H	
04S/03E-28BBB1	CLAC	11436	451202122271301	RODGERS, W.	166	11/26/1960	---	890	40.0	B	50	0.5	70R	11/26/1960	I	
04S/03E-28CDA	CLAC	11435	451125122264801	BEAUDRY, MACK & THERESA	485D	09/02/1972	L	920	---	-	---	---	402R	08/26/1976	H	Q,S,B,1,B3
04S/03E-29N	CLAC	11467	451135122281701	MARSHALL, LELAND G.	150	01/24/1958	---	850	15.0	B	105	1.5	45R	01/24/1958	H	
04S/03E-30B1	CLAC	11475	451154122290801	SCHRADER, JOHN	101	04/12/1962	---	890	40.0	B	30	1.0	54R	04/12/1962	H	
04S/03E-31B	CLAC	11490	451111122290201	TIMM, LEWIS	160	10/12/1961	---	880	10.0	B	100	2.0	40R	10/12/1961	H	
04S/04E-05CBD	CLAC	11632	451457122205601	ESTACADA GOLF COURSE	260	06/11/1970	---	1045	25.0	B	129	2.0	61R	06/11/1970	I	
04S/04E-16J1	CLAC	11774	451315122184601	VARITZ, A.T.	190	06/27/1959	---	1240	22.0	B	110	1.0	77R	06/27/1959	H	
04S/04E-20R	CLAC	11813	451206122201301	BLOCK, SAM	190	09/11/1958	---	1220	5.0	B	50	---	120R	09/11/1958	H	
04S/04E-22B1	CLAC	11844	451252122175101	WIDMAN, HAROLD O.	165	07/25/1959	---	1360	15.0	B	100	1.0	60R	07/25/1959	H	
04S/04E-22BBC1	CLAC	11824	451244122183601	RUSH, ERMA	76	12/12/1980	---	1303	12.0	B	39	1.0	11R	12/12/1980	H	

Table A1. Data for selected study wells and springs in the Willamette Basin, Oregon—Continued

Well location	Well-log ID	USGS Site ID	Owner	Depth drilled (feet)	Date drilled	Hydro-geologic unit	Altitude (feet)	Well Performance				Water level		Use	Remarks
								Yield (gpm)	Test Method	Draw-down (feet)	Test Period (hours)	Feet below datum	Date		
04S/04E-22BBC2	CLAC 18382	451242122183601	SKERJANEC, STACY	120	01/12/1993	U	1308	10.0	B	50	1.0	7.7	11/18/1996	H	S,B,1,B3
04S/04E-22BBC3	CLAC 20423	451241122183601	SKERJANEC, STACY	235	07/10/1995	U	1308	18.0	A	80	1.0	171.1	11/18/1996	H	Q,S,B,1,B3
04S/04E-30G1	CLAC 11904	451149122212901	WIKKEN, C.H.	47	07/15/1959	---	1100	30.0	B	15	1.0	7R	07/15/1959	H	
04S/01W-02BAC	MARI 242	451526122463701	KEIL, W.F.	26	---/1904	W	187	---	-	---	---	2.0	01/15/1962	H	E,D,B1
04S/01W-05CDB	MARI 290	451454122502401	LEAVY, PAT	258	07/26/1988	C	183	15.0	P	41	12.0	74.8	11/13/1996	H	Q,S,B,1,B3
04S/01W-05CDC	MARI 308	451447122502101	LEAVY, JOSEPH P.	120	07/--/1951	L	172	490.0	P	110	---	33.4	12/19/1999	U	S,R,O,D,1,B2,B4
04S/01W-06ADD	MARI 50403	451514122504401	NORTHWEST FLORICULTURE CO	365	03/31/1996	C	208	300.0	A	---	1.0	104.7	12/15/1999	U	B,1,B3
04S/01W-10DDC	MARI 405	451354122471701	BATES, HARRY	140	01/26/1978	C	182	30.0	P	11	2.0	91.0	11/15/1996	H	Q,S
04S/01W-12BBA	MARI 463	451437122453701	CHICKADEE NURSERY	150	01/27/1978	L	192	250.0	P	111	24.0	7.7	12/20/1999	U	R,D,1,B4
04S/01W-13BBB	MARI 479	451349122454301	KAHLE, JOHN	64	03/18/1982	U	131	15.0	B	35	1.0	32.2	11/15/1996	H	N,S,B,1,B3
04S/01W-15BDD	CLAC 1952	451333122474901	PULSCHNEIDER, WALLY	245	06/08/1979	C	173	200.0	P	190	1.0	78.4	12/14/1999	H	S,B,1,B3
04S/01W-17DAD	MARI 2234	451317122493101	HAENER, DELBERT	214	07/02/1990	L	189	600.0	A	---	5.0	45.5	11/15/1999	I	S
04S/01W-32ADB	MARI 905	451052122512501	DOUBRAVA, RAY	128	04/10/1951	U	175	340.0	P	40	---	26.0	12/14/1996	I	S,B,D,1,B3
04S/01W-34AA1	MARI 53584	451110122470301	OIL AND GAS WELL	2752	---/---/---	---	170	---	-	---	---	---	---/---/---	U	
04S/02W-02BBD	MARI 1044	451528122541301	OREGON DEPT OF PARKS & REC	165	11/01/1956	L	100.67L	70.0	P	21	7.0	17.7	12/02/1999	U	S,R,1,B4
04S/02W-06DAA	MARI 1082	451509122580901	MERTEN, PAT	260	10/20/1983	L	167	5.0	P	130	4.0	84.5	11/15/1996	H	S,B,1,B3
04S/02W-08F1	MARI 1114	451424122574401	TRIBBETT, NELSON	420D	12/30/1959	---	172	---	-	---	---	65R	12/30/1959	I	
04S/02W-18L1	MARI 1211	451313122590401	ZIELINSKI, F.L.	781D	12/04/1956	---	171	420.0	P	125	6.0	47.6	08/11/1961	I	
04S/02W-19AAA	MARI 17671	451259122581101	SCHNEIDER, NICK	128	02/04/1992	L	165	25.0	B	20	1.0	35.2	12/15/1999	H	S,B,1,B3
04S/02W-22ACA	MARI 1258	451242122544601	A & R SPADA NURSERY	306	03/05/1989	L	161	1200.0	P	45	10.0	37.2	11/22/1996	I	S
04S/02W-28CDB	MARI 1331	451124122563801	WOLF, JIM	216	10/29/1952	L	169	500.0	P	32	---	42.0	11/22/1996	I	S,D,2
04S/02W-34DDC	MARI 1388	451028122544601	JOHNSON SCHOOL	20	09/26/1928	W	173	3.0	-	---	---	4.0	01/15/1962	H	E,D,2,B1
04S/03W-01BDB	YAMH 3855	451515123001601	SMITH, CAROLYN	400	03/24/1995	---	145	35.0	A	---	3.0	55R	03/24/1995	I	
04S/03W-02DCB	YAMH 5151	451451123011401	RIHL, ANNE	79	08/09/1972	U,L	140	20.0	P	40	4.0	9.5	11/12/1996	H	Q,S
04S/03W-03BAC	YAMH 5161	451523123024401	FLEMING, NORM	265	06/26/1973	C	270	150.0	A	211	1.0	75.8	11/13/1996	H	S,B,1,B3
04S/03W-03CAB	YAMH 5171	451500123024101	WRIFFS, TED	342	06/21/1956	---	280	10.0	B	225	2.0	85R	06/21/1956	H	
04S/03W-04BDB	YAMH 50117	451519123040101	EVENSTAD, KEN	500	04/25/1996	---	700	15.0	A	---	1.0	354R	04/25/1996	U	
04S/03W-05DBB	YAMH 5189	451514123045201	COONEY, GERALD L.	455	04/13/1981	B	510	7.0	A	---	1.0	289.9	11/13/1996	H	S
04S/03W-09ABC1	YAMH 5280	451430123033801	CITY OF DAYTON	208	---/---/1949	---	180	150.0	R	80	---	120R	03/03/1965	P	
04S/03W-18BBA1	YAMH 5342	451347123063701	CITY OF LAFAYETTE	215D	10/28/1983	---	115	110.0	P	80	30.0	27R	10/28/1983	P	
04S/03W-33DBA	YAMH 5484	451045123032701	TRENT, CLAYTON	228	02/25/1959	W,U,L	162	350.0	P	90	4.0	8.6	01/20/2000	I	S,O,2,B2
04S/03W-36DA	MARI 53581	451037122593001	OIL AND GAS WELL	1040	---/---/1922	---	170	---	-	---	---	---	---/---/---	U	
04S/04W-01BBC	---	451527123075801	LAFAYETTE SPRING	---	---/---/---	---	130	---	-	---	---	---	---/---/---	U	I,Q
04S/04W-07ACC	YAMH 5590	451418123133501	ROERIG, KENT	172	02/17/1985	B	190	10.0	A	---	1.0	13.4	11/14/1996	H	S
04S/04W-14BAD	YAMH 5712	451341123084601	GIBSON, CHESTER	77	05/08/1969	W,U	90	42.0	B	58	2.0	8.1	11/19/1996	H	N,S
04S/04W-24DDB	YAMH 5840	451210123070601	KRUICKSHANK, DAVE	145	08/06/1957	U	152	500.0	P	50	8.0	17.9	08/30/1996	U	P,D,2,B2
04S/05W-22DA	YAMH 536	451222123165701	NOBLE, TIM	42	06/03/1989	B	390	100.0	A	---	1.0	2.1	11/14/1996	H	S
04S/05W-24DBD	YAMH 7992	451222123143901	HEISER, JAMES	261	10/07/1995	B	203	4.0	A	---	1.0	16.2	11/14/1996	U	S
05S/08.5E-11DAA1	WASC 3678	450857121443501	US FOREST SERVICE	50	06/03/1970	---	3270	8.0	R	50	3.0	F	06/13/1985	R	
05S/01E-11BAA01	CLAC 2049	450926122390001	KYLLO, HENRY	520	04/20/1957	---	255	450.0	P	74	5.5	52R	04/20/1957	N	
05S/01E-18ACC	CLAC 2555	450812122435101	BREMER, WARREN	97D	05/08/1957	U,L	170	130.0	P	86	4.5	F	04/16/1979	I	S,B,D,1,B3
05S/01E-20AC	ROS 0	450732122423601	OIL AND GAS WELL	3506	10/23/1983	---	192	---	-	---	---	---	---/---/---	U	
05S/01E-22DCC	CLAC 2616	450655122401101	ELMER LUCHT FARMS	345	05/11/1989	C	189	300.0	A	---	1.0	86.3	11/22/1996	I	S
05S/01E-23Q1	CLAC 2621	450704122385301	DEARDORFF, W.G.	210	08/10/1957	---	185	15.0	B	150	1.0	18R	08/10/1957	H	
05S/01E-27BCB	CLAC 2950	450634122404601	BARBER, DALE	353	04/01/1991	C	210	23.0	B	130	1.5	110.3	11/22/1996	H	Q,S,B,1,B3
05S/01E-28DDD01	CLAC 2676	450602122405101	SATRUM, MELVIN	195	07/20/1961	---	210	110.0	P	145	---	55R	07/20/1961	I	
05S/01E-30BAC01	CLAC 2716	450642122440401	BOND, GEORGE	484	11/17/1961	---	210	200.0	P	141	7.0	34R	11/17/1961	I	
05S/01E-30DD	AND 0	450604122432301	OIL AND GAS WELL	3406	10/02/1983	---	237	---	-	---	---	---	---/---/---	U	
05S/01E-30H1	CLAC 2712	450636122432601	THOMPSON, ELMER	79	05/05/1962	---	230	35.0	P	74	---	22R	05/05/1962	H	
05S/01E-33A2	CLAC 2763	450559122410101	SATRUM, MEL	456D	03/--/1957	---	244	9.0	B	192	1.0	40R	03/--/1957	H	
05S/01E-34A1	CLAC 2818	450600122394501	KINTZ, FRANK	187	06/24/1961	---	210	20.0	B	118	0.5	52R	06/24/1961	H	
05S/02E-06BBB	CLAC 154	451018122370501	CALLOWAY, DARYL L.	65	08/03/1990	U	280	50.0	B	2	1.0	30.5	11/22/1996	H	S,B,1,B3
05S/02E-14BBD1	CLAC 10188	450824122320401	CLACKAMAS COUNTY	85	02/25/1961	C	355	40.0	B	50	2.0	8.6	11/22/1996	H	S
05S/02E-17ACC1	CLAC 10285	450813122350501	BROCKART, HOWARD	92	01/16/1963	U	420	65.0	P	56	8.0	50.3	10/09/1986	I	D,2,B2
05S/02E-20P1	CLAC 10374	450700122352001	GREER, DWIGHT	406D	11/19/1957	---	410	27.0	B	15	---	24R	11/19/1957	H	
05S/02E-27Q1	CLAC 10489	450609122323701	BIGGINS, CHARLES	352	12/21/1957	---	855	---	-	---	---	80R	12/21/1957	H	
05S/02E-28C1	CLAC 10493	450643122342001	SHAFER, W.J.	294D	04/02/1958	---	525	15.0	B	5	1.0	245R	04/02/1958	H	
05S/02E-29C1	CLAC 10518	450651122353001	FREDRICKSON, HOMER	378	08/23/1961	---	430	---	-	---	---	D	08/23/1961	H	
05S/03E-02D1	CLAC 10621	451013122244601	ANDERSON, J.M.	500D	11/11/1957	---	870	4.0	B	90	---	40R	11/11/1957	H	
05S/03E-05ABB	CLAC 10681	451014122275101	HOOD, B.H.	133D	05/15/1959	---	500	90.0	P	20	25.0	11R	05/15/1959	H	
05S/03E-07A1	CLAC 10729	450926122284701	KARNEY, DELBERT	100	09/15/1955	---	590	22.0	B	43	---	48R	09/15/1955	H	

Table A1. Data for selected study wells and springs in the Willamette Basin, Oregon—Continued

Well location	Well-log ID	USGS Site ID	Owner	Depth drilled (feet)	Date drilled	Hydro-geologic unit	Altitude (feet)	Well Performance				Water level		Use	Remarks	
								Yield (gpm)	Test Method	Draw-down (feet)	Test Period (hours)	Feet below datum	Date			
05S/03E-08B1	CLAC 10778	450918122273801	HARPER, HAROLD	80	09/25/1961	---	710	12.0	B	26	1.0	32R	09/25/1961	H		
05S/03E-09F1	CLAC 10787	450914122264101	ROSENQUIST, DORTHY	146	08/04/1960	---	810	15.0	B	25	1.0	70R	08/05/1960	H		
05S/03E-09H1	CLAC 10788	450913122261201	RITTENHOUSE, DALE	132	03/01/1961	---	880	14.0	B	88	1.0	22R	03/01/1961	H		
05S/03E-17DAC	CLAC 18994	450802122273001	CLARK, RAYMOND & MARY	387	12/23/1993	L	1062	50.0	A	---	1.0	199.4	11/22/1996	H	S	
05S/03E-20G1	CLAC 10862	450726122274401	HANBY, HAROLD	78	11/23/1959	---	1170	22.0	B	10	1.0	55R	11/23/1959	H		
05S/03E-20H1	CLAC 10861	450722122273001	MARTIN, J.O.	350	06/16/1956	---	1200	6.0	B	180	1.0	120R	06/16/1956	H		
05S/03E-30BA	CLAC 10882	450650122291501	DOW, ANTHONY	91	10/21/1960	---	1010	20.0	B	35	1.0	35R	10/21/1960	H		
05S/03E-32DBB	CLAC 50106	450530122274501	JONES, HARLEY	99	01/08/1996	B	690	11.0	A	---	1.0	32.2	11/26/1996	U	S	
05S/01W-07CDB	MARI 1634	450846122513501	CITY OF WOODBURN	183	---/---/1952	L	178	500.0	R	---	---	48.8	12/01/1985	P	D,2,B2	
05S/01W-10ADD	MARI 1728	450908122470801	KAMIS, SAVIN	135	05/16/1978	U	143	500.0	P	85	5.0	22.3	11/12/1996	I	S	
05S/01W-18ABC3	MARI 1849	450829122512101	CITY OF WOODBURN	186	---/---/1925	L	179	425.0	P	80	---	45.0	12/01/1985	P	D,2,B2	
05S/01W-19BAD	MARI 1886	450734122512601	BELL PASSI CEMETERY	228	06/15/1974	U,L	180	300.0	P	30	5.0	42.0	11/17/1996	I	S	
05S/01W-26BDC	MARI 1984	450632122463201	ANNON, JOSEPH	500	11/12/1980	U,L	196	400.0	A	---	35.0	52.1	11/12/1996	I	S	
05S/01W-26DAB	MARI 1982	450627122460401	HOLT, LESLIE & KATHY	97	06/30/1986	U	202	40.0	B	18	1.0	49.3	12/14/1999	H	S,B,1,B3	
05S/01W-28DBB	MARI 2035	450623122484901	WOODBURN NURSERY	635	08/03/1985	C	174	1000.0	A	---	2.0	94.1	12/14/1999	I	S,B,1,B3	
05S/01W-33ACC	MARI 19214	450538122485201	FESSLER BOB	391	08/11/1994	---	171	400.0	A	---	1.0	98R	08/11/1994	H		
05S/01W-33CDD1	MARI 18242	450510122485401	HEMOSHORN, AGNES	233	11/08/1992	C	198	25.0	P	19	1.0	124.8	12/14/1999	H	S,B,1,B3	
05S/01W-34ABA1	MARI 2174	450557122472001	ERTELT, CHARLES	742	02/23/1963	---	190	330.0	P	228	6.0	66.5	11/30/1990	U	P	
05S/01W-34DDA	MARI 2160	450521122470401	BOCHSLER, CHRIS & JOE	688	04/10/1987	---	190	70.0	B	108	1.0	87R	04/11/1987	I		
05S/01W-36DDA1	MARI 2201	450517122443501	STUCKART, ROBERT M.	500	10/--/1953	---	210	300.0	P	103	---	60.0	06/20/1962	I		
05S/02W-01DDA	MARI 2218	450939122520901	CITY OF WOODBURN	197	07/15/1964	U,L	181.59L	750.0	P	52	8.0	38.2	12/07/1999	U	S,R,D,1,B2,B4	
05S/02W-05BCC	MARI 2331	450958122580201	MANEGRE, WILLIAM	99	---/---/1950	L	170	820.0	P	85	60.0	13.2	01/19/2000	I	S,O,2,B2	
05S/02W-08CCA2	MARI 52504	450851122579801	KIRSCH PAUL	106	09/18/1997	U	163	32.0	B	42	1.0	10.8	12/29/1999	U	R,B4	
05S/02W-08CCB1	MARI 52597	450851122580101	KIRSCH PAUL	203	---/---/1910	L	163	---	---	---	---	29.2	12/29/1999	U	R,B4	
05S/02W-10CDB2	MARI 2360	450853122552902	DECONINCK FARMS	166	10/27/1989	L	176	1000.0	P	60	1.0	23.2	11/13/1996	I	S	
05S/02W-19DCC	MARI 2541	450758122590201	LUCAS, JESS	130	07/--/1951	U	170	---	---	---	---	22.3	01/19/2000	I	S,O,2,B2	
05S/02W-20DD	WERN 0	450657122570301	OIL AND GAS WELL	3354	10/10/1982	---	189	---	---	---	---	---	---	---	U	
05S/02W-21DA1	MARI 53582	450709122554701	OIL AND GAS WELL	2511	02/19/1985	---	193	---	---	---	---	---	---	---	U	
05S/02W-21DC	MARI 53583	450656122561701	OIL AND GAS WELL	2808	11/27/1984	---	194	---	---	---	---	---	---	---	U	
05S/02W-25CBD	MARI 2666	450620122530501	AGRICULTURAL RESEARCH CORP	252	---/---/1930	U,L	180	940.0	P	49	---	21.3	01/19/2000	I	E,S,O,2,B1	
05S/02W-28CC1	BAGD 0	450612122563901	OIL AND GAS WELL	6010	11/17/1981	---	194	---	---	---	---	---	---	---	U	
05S/02W-31DBB	MARI 2760	450535122584601	GRASSMAN, RICHARD	112	10/09/1978	U	175	25.0	B	10	1.0	30.4	11/12/1996	H	S	
05S/03W-06CBD	YAMH 1928	450949123062901	MONROVIA NURSERY	355	11/13/1992	C	160	100.0	A	---	1.0	35.9	10/26/1996	U	P,D,1	
05S/03W-09ACD	YAMH 147	450906123033601	KOZZELL NURSERY	155	10/25/1990	W,U,L	160	200.0	A	---	1.0	75.7	11/15/1996	I	S	
05S/03W-13CBA	MARI 2910	450808123002601	PARTSCH, MARGARET	215	06/17/1986	L	162	20.0	A	---	2.0	59.7	11/12/1996	H	S,B,1,B3	
05S/03W-21CCD	YAMH 6572	450655123040601	STOCKHOFF, FRED C.	138	03/--/1952	U	165	800.0	P	40	---	37.9	01/20/2000	I	S,O,2,B2	
05S/03W-22AAA	YAMH 6576	450745123015801	FINNICUM, SHARREY&KEN	48	08/12/1987	U	110	28.0	B	7	4.0	27.0	11/15/1996	H	N,S,B,1,B3	
05S/03W-34CBB	YAMH 50041	450531123025901	SOVEY, AL & CAROL	57	02/14/1996	U	115	20.0	B	1	4.0	23.4	11/15/1996	H	Q,S	
05S/03W-36DAA	MARI 17239	450535122593201	WEDNER, ROGER	109	04/16/1991	U	173	100.0	A	---	5.0	68.9	11/12/1996	H	Q,S	
05S/04W-11BBC	YAMH 6929	450921123091201	ROSENAST, JOE	155	03/27/1963	U	163	470.0	R	1	---	23.6	09/26/1978	H	D,2,B2	
05S/04W-13DAD	YAMH 7924	450807123065201	MONROVIA NURSERY	405	08/30/1995	C	190	100.0	A	---	3.0	11.3	11/15/1996	U	P,S,B,1,B3	
05S/04W-14AB1	YAMH 672	450826123082601	BIGLAND BRUCE	262	01/11/1991	C	490	---	---	---	---	175.3	10/12/1998	U	R,1,B4	
05S/04W-20ACD	YAMH 7043	450723123120701	AMITY SCHOOL DIST	155	11/19/1980	U,B	160	100.0	A	---	1.0	35.0	11/15/1996	P	S	
05S/04W-20CCC	YAMH 7058	450659123125101	CITY OF AMITY	126	07/--/1953	U	162	60.0	R	67	---	21.3	01/09/1978	U	D,2,B2	
05S/04W-20CDC2	YAMH 2787	450658123123701	CITY OF AMITY	200	05/20/1993	U,B	155	37.5	B	21	1.0	33.1	12/13/1999	U	P,S,R,1,B4	
05S/04W-21BA	YAMH 3219	450648123110301	MCKAIG MR JOEL M	143	09/28/1994	---	420	30.0	A	---	1.0	92R	09/28/1994	H		
05S/04W-23BA	YAMH 1705	450752123081101	CUMMING RON	484	04/13/1992	---	615	10.0	A	---	1.0	127R	04/13/1992	H		
05S/04W-24BBA2	YAMH 599	450740123074401	SCHINDLER, RON	430	07/06/1978	B	360	18.0	A	328	4.0	76.8	12/04/1999	U	S,R,1,B4	
05S/04W-25BD	YAMH 2832	450638123073601	ROBSON DAVID	217	06/30/1993	---	500	30.0	A	---	1.0	145R	06/30/1993	H		
05S/04W-26AA	YAMH 95	450649123081101	HUDSON CRAIG W	384	08/21/1990	---	720	50.0	A	---	1.0	209R	08/21/1990	H	N,S	
05S/04W-26DB	YAMH 2885	450627123082501	BYARD DONALD R	280	08/17/1993	---	755	10.0	A	---	1.0	195R	08/17/1993	H		
05S/04W-27BCD	YAMH 7141	450632123102201	DARAEVE, MARVIN	77	03/--/1953	B	172	120.0	R	55	---	19.4	04/23/1979	I	D,2,B2	
05S/04W-35AB	YAMH 50172	450536123081901	CONFER GARTH	488	06/19/1996	---	934	30.0	A	---	1.0	340R	06/19/1996	H		
05S/04W-36DDB	YAMH 7222	450518123070401	HART, J.B.	110	09/06/1983	B	220	19.0	A	---	1.0	4.2	11/20/1996	H	Q,S	
05S/05W-01CAB	YAMH 7318	450957123150201	BERNARDS, MIKE	100	04/26/1981	U	142	35.0	B	20	2.0	18.7	11/19/1996	S	S	
05S/05W-13ABA	YAMH 7306	450833123143701	HUBBARD, BEN	63	06/19/1979	W,U	150	20.0	A	30	2.0	22.4	11/19/1996	H	N,S	
05S/05W-13ABC	YAMH 7310	450829123143801	FULLER, GEORGE	64	09/24/1928	U	150	7.0	P	---	---	10.5	01/20/2000	H	E,S,O,2,B1	
05S/05W-32BBA2	YAMH 7608	450600123201001	ARSANTO, JOE	202	07/25/1989	B	211	7.5	A	---	1.0	12.0	11/19/1996	S	S	
05S/06W-26AAA	YAMH 7529	450654123225401	ROBINSON, BARBARA	295D	04/01/1977	B	610	8.0	A	212	1.5	87.5	11/20/1996	H	Q,S	
05S/06W-32CDA	YAMH 7610	450519123271201	GALINAT, BOB	111	11/20/1981	B	215	5.0	A	---	1.0	22.0	11/20/1996	H	S	
05S/06W-32DAC	YAMH 666	450526123264401	KINGDOM HALL	100	12/07/1988	B	210	1.0	B	70	1.0	19.2	11/20/1996	H	S	

Table A1. Data for selected study wells and springs in the Willamette Basin, Oregon—Continued

Well location	Well-log ID	USGS Site ID	Owner	Depth drilled (feet)	Date drilled	Hydro-geologic unit	Altitude (feet)	Well Performance					Water level		Use	Remarks
								Yield (gpm)	Test Method	Draw-down (feet)	Test Period (hours)	Feet below datum	Date			
06S/01E-04R1	CLAC 15135	450424122410101	WEBB, RAY	299	10/30/1956	---	295	14.0	P	239	24.0	43R	10/30/1956	H		
06S/01E-06CDD	MARI 5539	450418122440201	GOSCHIE FARMS	508	06/17/1989	C	252	600.0	A	---	1.0	181.8	11/13/1996	I	S	
06S/01E-08L1	MARI 5580	450345122424501	WEEKS, WAYNE	175	06/28/1958	---	300	30.0	B	60	1.0	20R	06/28/1958	H		
06S/01E-09CCC	CLAC 18059	450426122405901	ZYRYANOFF ESIM	108	08/03/1992	---	302	75.0	A	---	1.0	29R	08/03/1992	H		
06S/01E-10BCC	CLAC 15181	450415122411101	SCHWARTOUT, CLIFFORD	120	02/26/1958	L	303	16.0	B	42	1.0	9.0	11/22/1996	H	S	
06S/01E-13R1	CLAC 15219	450234122371501	CREASON, W.K.	557	07/12/1957	---	980	270.0	-	---	1.0	200R	07/12/1997	H		
06S/01E-17BDA	MARI 5576	450311122424801	KRAMER, HAROLD	401	02/03/1977	C	315	1365.0	P	140	8.0	120.9	11/13/1996	I	S	
06S/01E-18BCA	MARI 5636	450310122441801	KRAEMER, HAROLD	500	04/10/1978	---	283	1000.0	P	269	8.0	95.5	09/23/1991	I		
06S/01E-19ABA	MARI 5663	450226122433901	KRAEMER, HAROLD	230	03/06/1976	---	333	600.0	P	60	4.0	59R	03/06/1976	I		
06S/01E-20BC	MARI 50446	450205122440201	TERLICKI BILL	380	04/11/1996	---	538	60.0	A	---	1.0	201R	04/11/1996	H		
06S/01E-20BCD	MARI 5706	450210122430401	JORDAN, DAVID	575D	08/09/1973	---	540	15.0	A	75	2.0	234R	08/16/1984	U		
06S/01E-20CDA	MARI 17959	450150122424401	GHOSOPH, NICK	235	07/06/1992	C	518	40.0	A	---	1.0	157.0	11/13/1996	H	Q,S,D,1,B3	
06S/01E-22R1	MARI 5747	450147122394501	RUTHERFORD, JACK	136	06/29/1956	---	825	8.0	B	26	---	100R	06/29/1956	H		
06S/01E-23BCB	CLAC 15268	450216122391601	GRODRIAN DR W E	76	12/01/1983	---	475	13.5	A	75	1.0	45R	12/01/1983	H		
06S/01E-34CAA2	MARI 18158	450019122402301	CHURCH, RONALD & JOYCE	608	10/07/1992	B	480	2.0	A	---	1.0	86.2	11/13/1996	U	S	
06S/01E-36DD	MARI 9402	450002122371801	BIELENBERG BERNARD M	427D	01/18/1997	C	1510	25.0	P	---	4.0	302R	07/22/1994	H		
06S/02E-08CC1	CLAC 15370	450329122354801	CHANCE, HOWARD W.	455D	10/07/1960	---	890	30.0	B	45	1.0	45R	10/07/1960	I		
06S/02E-08F	CLAC 15368	450359122352801	REED, GEORGE	168	02/19/1958	---	660	15.0	B	80	1.0	6R	02/19/1958	H		
06S/02E-14ABA	CLAC 15413	450321122312801	GEE, SCOTT	150	09/13/1955	L	1500	2.5	B	94	---	57.6	11/26/1996	H	S,D,2	
06S/01W-01ADB	MARI 2979	450452122444901	BUTSCH, JAMES	700D	04/05/1961	U,L,C,B	230	535.0	P	180	5.0	27.2	01/19/2000	I	S,D,2,B2	
06S/01W-01CDD	MARI 2978	450418122451201	PURDY, LEO	140D	09/30/1957	L	230	25.0	B	40	---	55.1	11/13/1996	H	S,D,D,1	
06S/01W-02BCD	MARI 3003	450444122464501	KRAEMER'S NURSERY	665	06/18/1988	C	190	600.0	R	---	1.0	111.4	11/13/1996	I	S	
06S/01W-02DCD1	MARI 3001	450421122460901	DUDA, WALTER	258	08/11/1959	---	210	200.0	R	79	8.0	61R	08/11/1959	I		
06S/01W-03ABC	MARI 50652	450458122472901	KRAEMER FARMS	527	06/08/1990	---	190	600.0	A	---	1.0	100R	06/08/1990	I		
06S/01W-03ACA	MARI 17676	450456122472501	RODRIGUEZ, NASARIO	438D	09/08/1995	C	191	40.0	A	---	1.0	113.1	11/13/1996	H	Q,S	
06S/01W-03BCB	MARI 3021	450452122481201	SCHMITZ, NORBERT	465	07/31/1953	---	205	550.0	A	---	2.0	65R	12/10/1981	I		
06S/01W-06CCC	MARI 3054	450423122514701	JEBOUSEK, WILLIAM	165	02/15/1968	U	153	300.0	P	29	6.0	15.0	01/19/2000	H	Q,S,O,2,B2	
06S/01W-09DCA	MARI 50456	450332122483801	CITY OF MT ANGEL	850	02/21/1996	F	140	1000.0	P	---	24.0	F	02/21/1996	P		
06S/01W-10BAA1	MARI 3105	450415122474001	CITY OF MT ANGEL	631	05/22/1962	---	220	650.0	P	208	8.0	9R	05/22/1962	P		
06S/01W-10BDD1	MARI 3113	450356122474001	CITY OF MT ANGEL	535	09/24/1956	---	175	450.0	P	360	24.0	F	12/25/1961	P		
06S/01W-11AA	MARI 3120	450409122455501	WOODBURN NURSERY	355	06/05/1987	---	220	1200.0	A	---	1.0	135R	06/05/1987	I		
06S/01W-11ABB	MARI 3132	450416122455001	DICKMAN FARMS	390D	08/18/1975	---	207	325.0	A	88	5.0	112R	08/19/1975	I		
06S/01W-12DAD1	MARI 5585	450345122373901	HAMMELMAN RICHARD	408	06/03/1975	---	250	360.0	A	---	2.0	100R	06/03/1975	I		
06S/01W-13ABB	MARI 18259	450327122450801	HAMMELMAN RICHARD	575	12/22/1992	---	263	600.0	A	---	1.0	78R	12/22/1992	I		
06S/01W-13CAA	MARI 3154	450257122451601	BUTSCH BROS FARMS	535D	04/27/1983	---	268	600.0	A	---	2.0	118.2	08/28/1991	I		
06S/01W-14N1	MARI 3173	450244122463901	AMAN, CAROLINE	556	06/13/1956	---	206	300.0	P	245	5.0	5R	06/13/1956	I		
06S/01W-15CCA	MARI 3186	450243122480201	WAVRA, CHARLES	700D	06/03/1971	---	192	500.0	P	130	8.0	66.0	07/27/1991	I		
06S/01W-21CAD	MARI 3266	450200122485301	VALKENAAR, ELMER	120	03/28/1985	U	180	100.0	A	---	1.0	35.2	12/14/1999	H	S,B,1,B3	
06S/01W-23AA	MARI 17908	450223122460101	DENNIS AMMON FARMS	245	06/02/1992	---	235	1000.0	P	125	1.0	94R	06/02/1992	I		
06S/01W-23BAC	MARI 19801	450220122463401	ANNEN BROTHERS FARMS	633	07/24/1995	---	218	800.0	R	---	1.0	76R	07/26/1995	I		
06S/01W-25ADA	MARI 3346	450122122443601	BIELENBERG, DAVE	265D	02/28/1976	C	319	16.0	A	54	1.0	175.4	12/14/1999	H	S,B,1,B3	
06S/01W-26BD	MARI 18235	450119122463201	PEMBROKE FARMS	530	11/30/1992	---	225	500.0	A	---	1.0	88R	11/30/1992	I		
06S/01W-28ACB	MARI 3471	450121122485001	SCHULTZ, PAUL	192D	12/15/1961	U,L	200	450.0	P	57	15.0	45.0	11/13/1996	H	S,D,2	
06S/01W-28CB	MARI 3442	450107122491901	ROTH BOB	575	10/01/1981	---	195	500.0	A	---	100.0	59.2	07/12/1999	I		
06S/01W-31DC	MARI 17083	445960122510601	HOLDEN VERL	227	12/11/1990	---	180	600.0	A	---	1.0	31R	12/11/1990	I		
06S/01W-33DAC	MARI 3533	450010122482801	J AND L NURSERY	245	06/18/1988	---	205	650.0	R	---	4.0	61.9	08/28/1991	I		
06S/01W-34BDB	MARI 19171	450031122474701	FELLOWSHIP CHURCH	230	05/11/1995	---	215	50.0	A	---	1.0	62R	05/11/1995	H		
06S/01W-35J1	MARI 3694	450013122454801	WICKHAM, CARL	343	05/08/1961	---	515	12.0	B	0	4.0	263R	05/08/1961	H		
06S/01W-36BBC	MARI 3653	450036122454101	MULLENS, TROY	176	10/06/1983	---	387	25.0	A	---	1.0	136R	10/06/1983	H	Q	
06S/01W-36DBC1	MARI 3657	450013122450001	MONTGOMERY, RICHARD	226	09/30/1980	---	460	13.0	A	---	1.0	121R	09/30/1980	H	Q	
06S/01W-36DBC2	MARI 3693	450010122450401	BRAATEN, KARL	228	10/18/1957	B	460	8.0	B	104	---	111.0	11/13/1996	U	S	
06S/01W-36DDC	MARI 3652	445959122445001	GRONENTHAL, JUDY & RICHARD	526	08/31/1984	B	525	20.0	A	---	1.0	287.1	11/14/1996	H	Q,S	
06S/02W-05CDD	MARI 3799	450423122573601	ZIELINSKY, FRED	123	--/--/1922	U	181	50.0	P	5	---	11.4	01/19/2000	U	S,O,2,B2	
06S/02W-06ABA	MARI 3803	450510122582901	WOODBURN RURAL FIRE DIST	120	04/10/1981	U	176	100.0	A	---	1.0	27.4	12/15/1999	F	S,B,1,B3	
06S/02W-06DAC	MARI 17263	450432122582001	GIBSON, JUNE	120	04/29/1991	U	172	75.0	A	---	1.0	31.3	10/07/1996	H	Q	
06S/02W-17DAD	MARI 4160	450246122564801	BROOKS MINT FIELD	136	08/01/1961	U	179	600.0	P	42	19.0	18.3	01/19/2000	I	S,O,2,B2	
06S/02W-17DBC	MARI 4092	450248122572601	MARION COUNTY FIRE DIST	315	05/18/1988	L	176	80.0	B	2	1.0	51.4	11/14/1996	F	Q,S	
06S/02W-30ADB	MARI 4559	450122122581901	BUNCH, MEL	50	09/15/1969	U	151	15.0	B	10	1.0	12.0	12/15/1999	H	N,S,B,1,B3	
06S/03W-04ACD	MARI 4816	450451123031901	OREGON PARKS & RECREATION DEPT	70	08/10/1974	U	109	750.0	P	2	4.0	-2.5	11/28/1999	U	P,S,R,1,B4	
06S/03W-06CBC	YAMH 1907	450435123063101	SWARTZ, CARL & PAM	205	10/16/1992	---	390	17.0	A	---	1.0	99R	10/16/1992	H	Q	
06S/03W-06R1	POLK 990	450427123053401	JANZEN, GUST	142	10/--/1952	---	190	---	-	---	---	F	10/--/1952	I		

Table A1. Data for selected study wells and springs in the Willamette Basin, Oregon—Continued

Well location	Well-log ID	USGS Site ID	Owner	Depth drilled (feet)	Date drilled	Hydro-geologic unit	Altitude (feet)	Well Performance				Water level		Use	Remarks	
								Yield (gpm)	Test Method	Draw-down (feet)	Test Period (hours)	Feet below datum	Date			
06S/03W-07AAA	POLK	1002	450418123052801	ESTATE OF BELLE SIML	250	09/01/1958	---	210	6.0	B	160	1.5	30R	09/01/1958	H	
06S/03W-07ADD	POLK	1003	450406123052601	PIETRAK, KEN	220	03/01/1955	C	250	21.0	B	---	---	74.3	11/14/1996	H	S,D,2
06S/03W-07DCD	POLK	992	450328123054601	ZOBRIST, CHARLES & JANETTE	200	03/24/1977	C	330	50.0	P	40	1.0	101.8	02/16/2000	H	S,B,1,B3
06S/03W-08DCD	POLK	1008	450333123043701	DAUM, GARY	253	08/15/1977	C	185	20.0	A	---	---	48.5	11/14/1996	H	S
06S/03W-08DDA	POLK	1023	450333123041301	DAUM, GARY	246	10/19/1978	U,B	140	10.0	A	---	1.0	21.9	11/02/1996	U	P,S
06S/03W-17DCB	POLK	1090	450240123044801	FABER, BERNARD	92D	04/24/1973	U	170	40.0	B	36	1.0	52.0	11/14/1996	H	S
06S/03W-19AAD	POLK	1070	450227123052701	POWELL, L.E.	105	04/12/1972	U	164	300.0	P	60	6.0	33.7	12/16/1999	U	S,B,1,B3
06S/03W-23CAA2	MARI	5030	450205123011201	CLEAR LAKE UNITED METHODIST CH	104	06/25/1969	U	181	30.0	B	20	1.0	69.0	12/15/1999	H	S,B,1,B3
06S/03W-29ACC	POLK	1109	450120123045001	RADLEY, DON	70	04/18/1977	U	120	1180.0	R	8	2.0	22.7	11/15/1996	I	S
06S/03W-32AC	POLK	1140	450034123044301	PERRYDALE DOMESTIC WATER ASSOC	575	06/15/1989	---	170	---	-	---	---	70R	06/15/1989	P	
06S/03W-32ADC	POLK	1158	450023123042201	TEDROW, FRED	89	08/23/1960	---	130	10.0	B	74	---	1R	08/23/1960	H	
06S/03W-32DBA	POLK	1150	450023123043901	BYERS, EDNA	328D	07/05/1985	C	210	18.0	A	---	1.0	99.3	11/14/1996	H	S
06S/03W-33DDD	MARI	5380	450003123030401	STOLZ, GIDEON E.	57	--/--/1928	U	133	---	-	---	---	21.4	01/15/1962	I	E,D,B1
06S/03W-36AAD	MARI	5425	450041122592701	DITCHEN, JERRY	105	04/15/1977	W,U	143	700.0	P	14	2.0	3.9	11/14/1996	I	S
06S/04W-03ABD	YAMH	3189	450502123092501	SCHULTZ, JOHN	382	08/16/1994	---	1020	20.0	A	---	4.0	285R	08/16/1994	H	Q
06S/04W-10BDB	POLK	1174	450402123100001	OLSON, RICHARD	110	06/06/1963	---	340	7.5	B	80	1.0	25R	06/06/1963	H	S
06S/04W-17DDB	POLK	1192	450300123121001	ROMIG, JOHN	270	11/12/1956	B	215	6.0	B	---	---	12.1	01/20/2000	H	S,O,2,B2
06S/04W-23DB	POLK	323	450211123084201	TILLGHAST BETH	190	06/24/1991	---	510	200.0	A	---	2.0	56R	06/24/1991	H	S
06S/04W-24ADB	POLK	1232	450218123064901	LOOP, ROGER & LOIS	91	03/31/1972	B	270	6.0	B	55	1.0	39.7	11/18/1996	H	S
06S/04W-35DAA	POLK	1253	450023123075401	BOYD, HAROLD	191	10/27/1981	C	405	30.0	P	122	2.0	44.3	12/16/1999	I	S,B,1,B3
06S/05W-01CBB	POLK	1293	450441123151401	WALKER FARMS	60	09/20/1972	U	162	10.0	A	---	1.0	9.5	11/19/1996	S	S
06S/05W-09AAC	POLK	1277	450412123175501	PERRYDALE FARM HUNTING CLUB	40	03/04/1967	U	160	9.0	B	28	1.0	2.5	11/21/1996	H	S
06S/05W-33ACC	POLK	1317	450031123181701	DESCHLER, TIM	120	10/19/1989	B	477	100.0	A	---	3.0	34.2	11/21/1996	H	Q,S
06S/06W-17DDB	POLK	1368	450248123262601	COLVIN, NORMAN	78	10/30/1973	B	295	7.0	A	67	1.0	9.5	11/18/1996	H	S
06S/07W-08DAD	---	---	450348123334001	FORT HILL SPRING	---	--/--/----	---	260	---	-	---	---	---	--/--/----	U	I,Q
07S/01E-04BDA	MARI	18889	445935122413701	MILLS ARTHUR	698	02/14/1994	---	1170	21.0	P	---	4.0	512R	02/14/1994	H	
07S/01E-06CDD	MARI	50461	445906122440601	MAULDING JIM	360	04/25/1996	---	820	20.0	A	---	1.0	245R	04/25/1996	H	
07S/01E-08BCC1	MARI	19522	445841122431801	FELLER MICHELLE	689D	11/29/1994	---	1050	6.1	B	20	2.0	590R	11/29/1994	H	
07S/01E-08BCC2	MARI	19817	445843122432301	FELLER MICHELLE	307	08/15/1995	---	1030	1.0	A	---	1.0	11R	08/15/1995	H	
07S/01E-08CBC	MARI	17621	445828122432201	JOHN GREALISH	727	11/27/1991	---	1060	9.5	A	---	1.0	610R	11/27/1991	H	
07S/01E-10BCB	MARI	18395	445847122405101	RICH MICHAEL	180	04/06/1993	---	1145	60.0	A	---	1.0	51R	04/06/1993	H	
07S/01E-15BAD	MARI	19330	445759122402101	WACHTMAN GARY	327	11/14/1994	---	1375	13.0	A	---	1.0	245R	11/14/1994	H	
07S/01E-35DDA	MARI	19205	445450122383401	NUSOM STEVE	467	09/14/1994	---	1840	25.0	A	467	1.0	357R	09/14/1994	H	
07S/02E-07ADA	MARI	18333	445845122361001	HELD GREG	159	03/13/1993	---	1820	8.5	A	---	1.0	56R	03/13/1993	H	
07S/02E-17ABB	MARI	18169	445810122351701	VERBIN KONSTANTINE	140	10/15/1992	---	1920	30.0	A	---	1.0	71R	10/15/1992	H	
07S/02E-21A2	MARI	8589	445708122334201	DORGAN, DANIEL R.	258	11/04/1960	---	2040	10.0	B	---	2.0	42R	11/04/1960	H	
07S/01W-01CDC1	MARI	5895	445907122451801	GOULD, PERCY	514	11/14/1978	B	450	1.0	A	380	1.0	90.3	12/08/1999	U	R,1,B4
07S/01W-01CDD	MARI	18505	445907122451201	BROCKAMP JIM	208	06/23/1993	---	458	6.5	A	---	1.0	87R	06/23/1993	H	
07S/01W-02CAD	MARI	18179	445921122462201	FENNIMORE RICHARD	137	10/23/1992	---	605	9.5	A	---	1.0	38R	10/23/1992	H	
07S/01W-02E1	MARI	5975	445942122465101	HUDDLESTON, J.	119	09/27/1955	---	470	2.0	B	39	---	80R	09/27/1955	H	
07S/01W-02F1	MARI	5945	445940122464201	BECKER, JOHN	150	02/12/1962	---	475	8.0	B	140	3.0	62R	02/12/1962	H	
07S/01W-03B1	MARI	6034	445946122473001	KYRK, HOWARD	181	09/24/1956	---	320	20.0	B	5	---	146R	09/24/1956	H	
07S/01W-03BA1	MARI	6033	445952122474201	GEORGE CLINE	172	09/22/1959	---	300	18.0	B	20	2.0	115R	09/22/1959	H	
07S/01W-03BB	MARI	18882	445946122475601	UNGER TOM	348	02/15/1994	---	300	1000.0	A	---	1.0	154R	02/15/1994	I	
07S/01W-04CA	MARI	6076	445923122485501	GEHRING L W	310	10/15/1976	---	245	250.0	P	161	4.0	79R	10/15/1976	H	
07S/01W-04DB	MARI	6079	445926122483901	GEHRING L W	370	09/29/1976	---	225	1125.0	P	190	4.0	50R	09/29/1976	I	
07S/01W-06DD	MARI	6113	445913122505101	STEFFEN, OLIVER E.	225D	09/16/1958	---	210	105.0	P	135	5.0	28R	04/04/1961	I	
07S/01W-07CC	MARI	17077	445817122514501	BLUE LINE FARMS	405	11/30/1990	---	225	500.0	A	---	1.0	65R	11/30/1990	I	
07S/01W-07DD1	MARI	19644	445819122505601	KUENZLI, MIKE	252	04/12/1995	C	185	40.0	A	---	1.0	31.8	12/14/1999	U	S,B,1,B3
07S/01W-09BA	MARI	6161	445855122485301	VONFLUE NORMA	350	01/10/1986	---	250	1800.0	A	---	3.0	95R	01/10/1986	I	
07S/01W-09BC	MARI	17772	445843122491501	VONFLUE ALFRED	350	04/06/1992	---	242	1000.0	A	183	1.0	80R	04/06/1992	I	
07S/01W-09CB	MARI	17787	445849122492301	MITCHELL MARK	168	04/16/1992	---	225	31.0	A	---	1.0	72R	04/16/1992	H	
07S/01W-12CC1	MARI	6238	445816122453101	SKAIFE, R.E.	403	02/04/1961	---	860	4.0	B	400	4.0	205R	02/04/1961	H	
07S/01W-18BB	MARI	6316	445805122514501	KING FARMS	415	05/14/1988	---	225	400.0	A	---	1.0	71R	05/14/1988	I	
07S/01W-19BB	MARI	6333	445712122514701	MANTIE DONALD	365	10/03/1978	---	230	250.0	A	---	1.5	37R	10/03/1978	I	
07S/01W-19H1	MARI	6335	445654122505101	THOMPSON, JAMES	433	02/11/1957	---	300	18.0	B	100	---	100R	02/11/1957	H	
07S/01W-20CC	MARI	6343	445632122502701	KUENZLI RICHARD	422	02/20/1987	---	385	100.0	A	---	6.0	179R	02/20/1987	H	
07S/01W-22DC	MARI	6369	445631122472801	RICHES ROBERT	750	08/04/1984	---	655	125.0	A	---	5.0	227R	08/04/1984	I	
07S/01W-27ABA1	MARI	6395	445621122472601	RICES ROBERT	535	05/01/1985	C,B	640	60.0	A	---	3.0	73R	04/18/1985	I	
07S/01W-27CCC	MARI	6404	445546122480201	KING, LEON	211	03/10/1960	C,B	594	55.0	P	120	8.0	61.0	11/14/1996	H	S,D,2
07S/01W-32CBA	MARI	50094	445503122502501	SMITH FRED	355	12/06/1995	---	557	30.0	A	---	1.0	232R	12/06/1995	H	

Table A1. Data for selected study wells and springs in the Willamette Basin, Oregon—Continued

Well location	Well-log ID	USGS Site ID	Owner	Depth drilled (feet)	Date drilled	Hydro-geologic unit	Altitude (feet)	Well Performance				Water level		Use	Remarks	
								Yield (gpm)	Test Method	Draw-down (feet)	Test Period (hours)	Feet below datum	Date			
07S/01W-34CA	MARI	17524	445504122473701	CARPENTER MONTE	343	10/16/1991	---	625	350.0	A	40	2.5	173R	10/17/1991	N	
07S/02W-04BDA	MARI	6564	445942122561801	WOELKE, P.W.	172	09/27/1957	U	192	500.0	P	39	5.5	36.4	01/18/2000	I	S,O,2,B2
07S/02W-10BC	MARI	50626	445844122552401	SQUIRE LEONARD	410	12/14/1979	---	215	400.0	B	210	3.0	38R	12/17/1979	I	
07S/02W-11ABA	MARI	6950	445902122532501	G & C FARMS	472	09/25/1985	---	210	---	-	---	---	42R	09/25/1985	I	
07S/02W-11ADB	MARI	17074	445850122532301	G AND C FARMS	507D	05/18/1990	---	209	400.0	A	461	1.0	46R	05/18/1990	I	
07S/02W-12AC1	MARI	7003	445850122521901	HERR CLIFFORD	420	05/10/1989	---	210	85.0	B	15	1.0	52R	05/10/1989	I	
07S/02W-13CAC	MARI	7019	445734122524301	KUENZI, ALVIN & MICHELLE	225	04/20/1989	C	225	30.0	B	15	1.0	58.5	12/14/1999	H	S,B,1,B3
07S/02W-13CBB	MARI	18003	445743122530101	G AND C FARMS	400	07/20/1992	---	224	285.0	A	---	1.0	82R	07/20/1992	I	
07S/02W-13L1	MARI	7051	445735122524501	MANTIE, CARL	97	04/19/1960	---	224	35.0	B	21	1.0	45R	04/19/1960	H	
07S/02W-14CBD	MARI	50040	445734122540601	GYDESEN BILLY	390	12/28/1995	---	217	400.0	P	215	5.0	60R	12/28/1995	I	
07S/02W-16BA1	MARI	20664	445811122561301	SATTER, RAY	501D	10/05/1987	---	200	80.0	P	330	4.0	65R	10/05/1987	I	
07S/02W-21CCA	MARI	50256	445630122564401	COLYER GEORGE	340	11/16/1995	---	220	100.0	A	---	1.0	40R	11/16/1995	H	
07S/02W-23ACD	MARI	7648	445635122533501	ROTH, CECIL	314	11/18/1978	---	230	850.0	A	100	2.0	67R	08/29/1990	I	
07S/02W-25ACB	MARI	7714	445608122522501	SIMMONS, CLARENCE	405D	08/31/1966	---	200	60.0	P	144	5.0	41.3	08/28/1990	I	
07S/02W-26ACC1	MARI	7743	445605122533601	BATSON, CORNELIUS	208	12/29/1955	---	230	135.0	P	112	8.0	34R	12/29/1955	I	D,2
07S/02W-26BAC	MARI	9943	445617122535801	SANDAU FARMS	370	09/14/1990	---	229	400.0	A	---	1.0	76R	09/14/1990	I	
07S/02W-26CCB	MARI	7736	445544122541601	CUSHING, B.F.	266D	07/19/1967	C	215	40.0	P	150	2.0	38.2	04/11/2000	H	Q,S,B,1,B3
07S/02W-26CCB2	MARI	7741	445549122541701	CUSHING, B.F.	97	07/26/1961	C	212	10.0	B	60	1.0	35.3	11/14/1996	H	S
07S/02W-27DBD	MARI	7750	445548122544701	JENSEN, CARL JR	400	06/27/1986	---	225	500.0	A	---	2.0	68.6	08/29/1990	I	
07S/02W-28ADD	MARI	7883	445606122554101	MATTSON, MARVIN	130D	07/03/1958	U	231	300.0	P	126	---	42.8	12/14/1999	H	S,B,1,B3
07S/02W-29DDDB	MARI	7894	445543122570801	HYNDS, JIM	325	07/22/1987	---	208	235.0	A	---	2.0	25.9	08/28/1990	I	
07S/02W-34BDC	MARI	18878	445510122551401	MCCOLLEY JERRY	247	02/02/1994	---	279	32.0	P	20	1.0	63R	02/02/1994	H	
07S/02W-34L1	MARI	16619	445508122550101	MOISEVE, CHARLES J.	203	05/10/1962	---	290	5.0	B	176	2.0	18R	05/10/1962	H	
07S/02W-35AB	MARI	8199	445529122533301	ROTH CECIL	405	07/02/1990	---	265	250.0	A	---	1.0	30R	07/02/1990	I	
07S/02W-36BBB	MARI	17928	445529122530401	BERRY GORDON	180	03/22/1992	---	340	100.0	A	---	1.0	41R	03/22/1992	H	
07S/03W-01ADA	MARI	30	445939122592001	KEUNZI, LOWELL	74	05/02/1990	U	180	30.0	B	10	1.0	41.4	11/14/1996	H	N,S
07S/03W-05B1	POLK	1160	445951123044001	HEFFLEY, JOHN	101	10/18/1960	---	235	40.0	B	31	2.0	14R	10/18/1960	H	
07S/03W-05CCA1	POLK	881	445918123050801	ROBINSON, TOM; REDHAWK VINEYAR	240	08/10/1994	C	340	3.0	A	---	1.0	110.2	12/13/1999	U	R,1,B4
07S/03W-05CCA2	POLK	125	445913123051101	ROBINSON, TOM; REDHAWK VINEYAR	200	05/25/1977	C	340	2.0	A	---	1.0	12.8	07/11/1999	U	R,1,B4
07S/03W-05CDB	POLK	880	445918123050201	ROBINSON, TOM; REDHAWK VINEYAR	220	08/16/1994	---	299	3.0	A	---	1.0	69R	08/16/1994	U	
07S/03W-06K1	POLK	1595	445922123055101	NOTEBOOM, R.E.	205	10/25/1963	---	480	0.7	B	---	1.0	145R	10/25/1963	H	
07S/03W-08ACA	POLK	1645	445849123043401	ROGERS, EMMETT	700	02/01/1964	---	240	150.0	P	16	16.0	85R	09/02/1963	P	
07S/03W-08DAD	POLK	1653	445831123042201	VICK BROS	326	04/16/1956	---	210	95.0	R	232	2.0	68R	04/16/1956	P	
07S/03W-08R	POLK	1655	445816123042901	BERNS, F.W.	110	02/17/1960	---	165	40.0	B	30	2.0	F	02/17/1960	H	
07S/03W-10BDC	POLK	1688	455845123023601	B & B FARMS	150	07/14/1961	U	130	570.0	R	1	5.0	30.4	09/17/1991	I	D,2,B2
07S/03W-17BDC	MARI	6710	445749123050801	LYMAN ROGER	411D	04/22/1987	---	407	25.0	A	---	1.0	76R	04/22/1987	H	
07S/03W-17CAC	POLK	1751	455740123050001	STRAUB, ROBERT W.	263	08/26/1968	C	420	12.0	R	91	1.0	135.2	04/13/1988	H	D,2,B2
07S/03W-17K2	POLK	1752	445733123043901	MUELHAUPT, DON SR.	147	09/29/1961	---	430	3.0	B	65	1.0	65R	09/29/1961	H	
07S/03W-18AB1	POLK	841	445808123055601	KERLEY, JOAN	440	07/20/1994	C	543	15.0	A	---	1.0	340.6	12/16/1999	U	B,1
07S/03W-18BAD	POLK	1777	445803123060701	KILLINGSWORTH, LARRY & MARY	303	09/06/1977	C	577	12.0	A	140	1.0	57.5	12/16/1999	H	S,B,1,B3
07S/03W-18BB1	POLK	766	445805123062201	CASTLE, JAMES & JANET	400	01/27/1994	C	595	10.0	A	---	1.0	311.1	08/19/1999	U	B,1
07S/03W-18CCB	POLK	387	445727123064301	FULTZ RANDY	395	12/03/1991	---	730	26.0	P	58	1.0	212R	12/03/1991	H	
07S/03W-18CDC	MARI	20012	445721123062401	INGRAM STEVE	288	09/20/1995	---	658	20.0	A	120	2.0	116R	09/20/1995	H	
07S/03W-18L1	POLK	50785	445748123060601	PERKINS, TONY	235	---/---/1951	C	510	---	-	---	---	20.1	09/06/1963	H	
07S/03W-19P1	POLK	1811	445643123061301	FERGUSON, CURT	154	10/03/1957	---	550	13.0	B	70	3.0	78R	10/03/1957	H	
07S/03W-20E1	POLK	1829	445704123051701	MURDOCK, VICTOR T.	45	09/24/1959	---	285	5.0	B	35	2.0	9R	09/24/1959	H	
07S/03W-22CCB	POLK	1844	445641123025101	NORTHWEST NATURAL GAS	400	09/19/1963	---	180	---	-	---	---	---	---/---/---	G	
07S/03W-25BA	MARI	20670	445619122595901	OREGON STATE HOSPITAL	361	07/---/1935	C	205	323.0	P	104	---	40R	07/---/1935	T	
07S/03W-27A1	MARI	20705	445617123015801	PACIFIC TELEPHONE & TELEGRAPH	321	11/29/1957	---	165	55.0	P	116	2.5	13R	11/29/1957	N	
07S/04W-01AC1	POLK	1899	445942123071101	ALLEN, CHAS E.	269	06/13/1957	---	300	7.0	B	189	4.0	---	---/---/---	H	
07S/04W-03CCC	POLK	1915	445911123101801	KLIMCZAK, STAN	200	08/13/1987	---	250	14.0	A	---	1.0	17R	08/13/1987	I	
07S/04W-06DDB	POLK	1928	445918123125901	LEPPIN, ARTHUR J.	89	10/02/1956	B	240	3.0	R	73	---	24.0	07/13/1979	H	D,2,B2
07S/04W-10AAD	POLK	1950	445858123091401	JENSEN, KELTON	245	09/01/1978	---	615	20.0	A	---	2.0	177R	09/01/1978	H	
07S/04W-12BAA	POLK	784	445902123072901	SIMMONS WAYNE	282	03/18/1994	---	771	20.0	A	---	1.0	155R	03/23/1994	H	
07S/04W-13CCC	POLK	1990	445722123074601	LINE, KEN	121	12/20/1985	---	850	22.0	A	---	2.0	30R	12/20/1985	H	
07S/04W-15K	POLK	2016	445738123092701	BISHOP, ARTHUR	61	07/21/1958	---	315	19.0	B	30	2.0	29R	07/21/1958	H	
07S/04W-21DCC2	POLK	2031	445631123105101	BICE, HOLLIS	90	08/11/1962	L,B	175	25.0	B	11	2.0	12.6	11/15/1996	H	S
07S/04W-23DCC	POLK	2054	445633123082501	HEINRICH, JOHN A.	180	10/10/1963	---	305	20.0	B	120	2.0	58R	10/10/1963	H	
07S/04W-26CAC	POLK	2115	445556123084101	WADE, GUY	106D	10/30/1969	---	240	17.5	P	50	1.0	35R	10/30/1969	H	
07S/04W-30DAD	POLK	2129	445551123125301	POLK CTY COOP	100	10/10/1968	L,B	194	15.0	B	88	1.5	5.6	11/15/1996	I	S
07S/04W-36BCD	POLK	2188	445512123074501	VAN DER HAVE, JOOST	47	04/03/1989	U	140	48.0	B	37	1.0	25.1	11/14/1996	H	N,S

Table A1. Data for selected study wells and springs in the Willamette Basin, Oregon—Continued

Well location	Well-log ID	USGS Site ID	Owner	Depth drilled (feet)	Date drilled	Hydro-geologic unit	Altitude (feet)	Well Performance				Water level		Use	Remarks	
								Yield (gpm)	Test Method	Draw-down (feet)	Test Period (hours)	Feet below datum	Date			
07S/05W-05DDA	POLK	373	445917123185901	HOEKSTRE, DONALD	140	10/14/1991	B	510	30.0	A	---	1.0	76.9	11/15/1996	H	S
07S/05W-06BBC	POLK	2208	445950123211901	IOTT, KEN	158	07/31/1979	B	240	1.0	A	140	1.0	4.9	11/15/1996	U	S
07S/05W-35CAB	POLK	88	445509123161001	DALLAS GOLF COURSE	75	10/31/1988	U	245	40.0	B	5	1.0	13.1	11/15/1996	I	S
07S/06W-12ADC	POLK	4293	445845123213001	GREEN, BOB	562	10/18/1995	B	620	0.8	A	---	1.0	95.9	11/21/1996	U	S
07S/06W-24CDC2	POLK	31	445636123221501	RIVERA, ARTHUR	210	06/07/1990	B	695	5.0	P	155	1.0	1.8	11/22/1996	H	Q,S
08S/01E-01DCA	MARI	17642	445409122373701	DAY JAMES A	440	01/11/1992	---	1850	15.0	A	---	1.0	226R	01/11/1992	H	
08S/01E-21BAD	MARI	19117	445155122412801	SIMS RICHARD E	175	07/22/1994	---	1265	60.0	A	---	1.0	41R	07/22/1994	H	
08S/01E-32BAD	MARI	19598	445013122425101	BASIL ARTHUR	147	03/10/1995	---	1064	40.0	A	147	1.0	41R	03/10/1995	H	
08S/02E-07CC	MARI	18916	445260122370801	OREGON DEPARTMENT OF TRANSPORT	277	03/09/1994	---	1470	190.0	A	4	24.0	164R	03/09/1994	A	
08S/01W-01BAD	MARI	8594	445433122451201	LIERMAN, ROBERT	195	04/25/1980	B	911	75.0	A	75	1.0	98.1	11/19/1996	I	S,B,1
08S/01W-04CBB	MARI	8602	445410122492301	OAK LANE FARMS	795D	03/02/1979	---	663	800.0	A	795D	3.0	115.5	08/23/1990	I	S
08S/01W-04DDA	MARI	19531	445360122481901	MILLER DAN	216	01/22/1995	---	608	13.0	A	60	1.0	155R	01/22/1995	H	
08S/01W-14CDC	MARI	8695	445205122463501	HENDRICKS, TONY	222	02/03/1983	C	632	800.0	A	---	1.5	55.4	10/15/1999	I	S,B,1,B3
08S/01W-22BBB	MARI	8840	445158122480801	BRUCE PACKING CO	270	04/07/1987	---	569	430.0	A	---	1.0	119.4	08/21/1990	N	
08S/01W-23ABD	MARI	8847	445157122460501	DORAN, TOM	395	11/16/1984	---	680	500.0	A	---	1.0	118.9	08/21/1990	I	
08S/01W-26ACA	MARI	8862	445053122460701	HEUBERGER, GERALD	333	05/15/1973	---	591	500.0	P	115	5.5	167.0	08/20/1990	I	
08S/01W-27CCA	MARI	8873	445029122475701	HUEBERGER, GERALD	400	06/24/1976	---	510	1000.0	P	95	9.0	112.8	08/21/1990	I	
08S/01W-28ACD1	MARI	8917	445048122483701	GERPACHER, JOSEPHINE	178	04/07/1960	---	480	90.0	P	48	3.0	112R	04/07/1960	I	
08S/01W-28CC	MARI	18770	445018122491501	WILSON GLENN	303	11/10/1993	---	494	34.0	P	11	1.0	128R	11/10/1993	H	
08S/01W-29DCB	MARI	17440	445030122495801	FRAZIER ROY	267	08/14/1991	---	461	25.0	A	---	1.0	103R	08/14/1991	H	
08S/01W-29DDC	MARI	19689	445025122494101	BUSCH TONY	208	06/08/1995	---	455	150.0	A	50	1.0	99R	06/08/1995	H	
08S/01W-30DBD	MARI	18366	445034122510101	BARNARD JAMES	149	08/26/1988	---	385	30.0	A	---	1.0	33R	08/26/1988	H	
08S/01W-30DDB1	MARI	8999	445032122505001	WADSWORTH, SCOTT	40	07/17/1972	U	392	10.0	B	16	1.0	8.6	12/15/1999	U	S,B,1,B3
08S/01W-30DDB2	MARI	8971	445033122505101	WADSWORTH, SCOTT	160	06/12/1989	C	389	100.0	A	---	1.0	30.0	12/15/1999	H	S,B,1,B3
08S/01W-33ABA	MARI	9104	445016122483201	LULAY, ADRIAN	385	09/19/1978	---	445	1300.0	P	28	5.0	90.7	08/20/1990	I	
08S/01W-33BCB1	MARI	9124	445006122492401	DUNCAN, GEORGE	213	06/20/1962	---	465	24.0	B	68	1.5	82R	06/19/1962	H	
08S/01W-33CCC	MARI	9122	444932122491601	SANTIAM GOLF CLUB	330	10/06/1965	---	411	205.0	P	119	3.0	6.3	08/17/1990	I	
08S/01W-34BCC	MARI	9143	444959122481001	FRANK, LAWRENCE	425	07/14/1986	---	482	1000.0	A	---	2.0	70.4	08/17/1990	I	
08S/01W-34C	MARI	9154	445011122474101	STUCKART, ROBERT M.	210D	10/24/1958	---	525	400.0	P	30	8.0	52R	10/24/1958	H	
08S/01W-34CAC1	MARI	9142	444944122474701	TOWN OF SUBLIMITY	317	10/21/1960	---	520	300.0	P	122	8.0	68R	10/21/1960	P	
08S/01W-35AAC	MARI	9157	445009122455601	SAMEK, TOM	342	06/28/1990	---	662	375.0	P	215	---	190.2	08/20/1990	I	
08S/01W-35BAA	MARI	9168	445019122462401	SCHUMACHER, RICHARD	456D	05/19/1959	C	565	350.0	P	110	0.5	113.3	05/01/1978	I	D,2,B2
08S/01W-35BBC	MARI	9170	445013122465601	SCHUMACHER, ROBERT	470D	12/01/1967	---	550	800.0	P	107	1.5	131.4	08/20/1990	I	
08S/01W-36G1	MARI	20860	445004122445501	TATE, RALPH	400D	09/16/1957	---	750	15.0	B	45	3.0	150R	09/16/1957	H	
08S/02W-01P1	MARI	9203	445351122523401	WALDO HILLS FARM	262	09/20/1961	---	450	180.0	P	265	4.0	26R	09/20/1961	I	
08S/02W-02CDB	MARI	17673	445401122535601	MARTINSON RON	268	02/10/1992	---	418	26.0	A	---	1.0	6R	02/10/1992	H	
08S/02W-03M1	MARI	9463	445412122551801	LEEVERS, HAROLD	460	10/03/1958	---	460	30.0	P	124	4.0	68R	10/03/1958	H	
08S/02W-04CAD	MARI	9542	445406122562201	MILLER, HARLAN	335	02/15/1966	---	260	500.0	P	74	4.0	30.0	08/27/1990	U	
08S/02W-09CDB	MARI	18127	445309122562201	HERITAGE SEEDLINGS INC.	268	09/17/1992	---	580	---	-	---	---	D	09/17/1992	U	
08S/02W-09DCA	MARI	17927	445306122555701	RHOTEN LINDA R	380	06/06/1992	---	625	3.0	A	---	1.0	162R	06/06/1992	H	
08S/02W-10DBB	MARI	19996	445317122545601	OLSON FARMS INC.	260	07/07/1995	---	523	450.0	A	---	1.0	126R	07/07/1995	H	
08S/02W-10DCA	MARI	10402	445308122545201	WOODS, GORDON	250	06/23/1973	---	509	300.0	A	---	1.0	16.6	08/27/1990	H	
08S/02W-11CBB	MARI	19189	445322122542001	HABURN WILLIAM B	200	08/31/1994	---	485	75.0	A	---	1.0	70R	08/31/1994	H	
08S/02W-11CDA	MARI	9897	445304122535101	OAK LANE FARMS	500D	10/17/1983	---	485	700.0	A	---	2.0	32.9	01/18/2000	I	S,O,2
08S/02W-11CDB	MARI	9915	445303122540301	HERMAN RIECH BROS	245D	07/21/1962	C	485	1000.0	P	44	---	57.5	07/15/1992	I	D,2,B2
08S/02W-11CDB1	MARI	9914	445304122540301	RIECK, BROS.	258	11/25/1961	C,B	489	75.0	P	57	1.0	3R	11/25/1961	Z	
08S/02W-13BBA	MARI	10187	445250122530001	FRANK LUMBER CO	800	06/23/1975	---	459	1000.0	A	400	2.0	129.3	08/22/1990	I	
08S/02W-13BCA	MARI	10198	445238122525401	FRANK LUMBER CO	583	06/17/1977	---	475	420.0	P	76	8.0	63.6	08/22/1990	I	
08S/02W-13M1	MARI	10225	445217122525601	COFFEY, THORNTON	223	09/15/1961	---	523	18.0	B	140	1.5	45R	09/15/1961	H	
08S/02W-14ADD	MARI	10199	445233122531101	FRANK LUMBER CO	1175D	05/13/1977	---	490	20.0	A	---	---	155.0	08/22/1990	I	
08S/02W-14BAA	MARI	10239	445255122534401	OAK LANE FARMS	275	05/29/1984	C	490	1100.0	P	35	8.0	72.7	11/20/1996	I	S
08S/02W-15DD1	MARI	18460	445206122541801	BUHR ALVIN	483	05/17/1993	---	550	75.0	A	180	1.0	154R	05/17/1993	H	
08S/02W-17DCD	MARI	18011	445206122571001	MORETT VICTOR	262	07/21/1992	---	405	12.0	A	---	1.0	162R	07/21/1992	H	
08S/02W-18CDD	MARI	18186	445206122585001	MORRISON LYN	328	10/22/1992	---	380	18.5	P	70	1.0	145R	10/22/1992	H	
08S/02W-23ABB1	MARI	18970	445205122533201	HILBORN JAMES W	230	04/12/1994	---	480	10.0	P	173	4.0	42R	04/12/1994	H	
08S/02W-24BAA	MARI	10834	445201122523601	HAU EUGENE L	410	09/16/1987	---	468	30.0	A	---	4.0	70R	09/16/1987	H	
08S/02W-25BBD	MARI	10917	445060122525001	BREWTON WINDELL	298D	12/20/1978	---	343	60.0	B	2	1.0	3R	12/20/1978	I	
08S/02W-26ABC	MARI	10995	445101122533501	BURNS MR ROBERT R	140	10/31/1980	---	335	100.0	A	---	1.0	F	10/31/1980	H	
08S/02W-27BDD	MARI	17695	445053122573101	WALLING HENRY	140	01/15/1992	---	272	25.0	A	---	1.0	4R	01/15/1992	H	
08S/02W-31DBC	MARI	11223	444943122584001	BELL MR RONALD W	180	10/15/1980	---	318	30.0	A	---	1.0	29R	10/15/1980	H	
08S/02W-31DCA	MARI	11229	444936122582801	HEIN, MRS RUBY & SONS	196	05/15/1975	C	312	150.0	A	---	2.0	19.0	11/18/1996	I	S,B,1,B3

Table A1. Data for selected study wells and springs in the Willamette Basin, Oregon—Continued

Well location	Well-log ID	USGS Site ID	Owner	Depth drilled (feet)	Date drilled	Hydro-geologic unit	Altitude (feet)	Well Performance				Water level		Use	Remarks
								Yield (gpm)	Test Method	Draw-down (feet)	Test Period (hours)	Feet below datum	Date		
08S/02W-33DCB	MARI 11267	444939122560301	ETZEL, DON	100	06/06/1957	U	305	500.0	P	63	8.0	-0.1	11/18/1996	I	S,D,2
08S/03W-01DAA	MARI 9635	445415122592201	POOLE'S INC	175	10/16/1969	---	215	85.0	P	100	2.0	5R	10/16/1969	Z	
08S/03W-02DAC	MARI 11348	445405123004901	OREGON FAIRVIEW HOMES	375	09/28/1940	---	210	280.0	P	72	16.0	24R	09/28/1940	I	
08S/03W-02DCC	MARI 11350	445357123010701	OREGON FAIRVIEW HOMES	265D	---/---/1922	---	225	320.0	P	130	---	45R	---/---/1922	I	
08S/03W-03H1	MARI 11356	445419123020101	CITY OF SALEM	396	06/30/1954	---	316	---	-	---	---	29R	06/30/1954	P	
08S/03W-03M1	MARI 11357	445415123024801	CITY OF SALEM	250	02/20/1958	---	352	45.0	P	123	2.0	177R	02/20/1958	P	
08S/03W-05DDD	MARI 11420	445357123041801	MEOLA, E.A.	210D	02/23/1960	B	280	25.0	B	25	1.0	74.4	03/30/1998	H	S,O,2,B2
08S/03W-09J1	MARI 11684	445314123030201	CITY OF SALEM	475	03/30/1957	---	429	600.0	P	101	24.0	243R	03/30/1957	P	
08S/03W-09K7	MARI 11658	445321123033101	UNITED GROWERS INC.	600	02/14/1947	C	465	375.0	P	20	---	313R	02/28/1962	N	
08S/03W-09P1	MARI 11661	445302123034001	CITY OF SALEM	450	10/20/1959	---	471	---	-	---	---	316R	10/20/1959	P	
08S/03W-10DBB	MARI 11683	445320123021701	CITY OF SALEM	345	02/05/1959	---	385	950.0	R	90	1.0	248.5	03/05/1980	P	D,2
08S/03W-10E2	MARI 11676	445329123025201	CITY OF SALEM	617	11/15/1958	---	421	270.0	P	78	2.0	256R	11/15/1958	P	
08S/03W-10K2	MARI 11677	445317123021101	CITY OF SALEM	292	08/---/1954	---	386	1000.0	P	5	---	192R	08/---/1954	P	
08S/03W-10R1	MARI 11692	445313123015801	EYERLY, LEE	305D	06/29/1956	---	410	15.0	B	100	---	200R	06/29/1956	U	
08S/03W-11AB1	MARI 11706	445340123010101	FAIRVIEW HOSPITAL	342	12/04/1970	---	260	410.0	P	52	6.0	99R	12/04/1970	P	
08S/03W-11CCC	MARI 11727	445304123014101	CRUMP, GEORGE	270	01/15/1960	C	430	100.0	P	0	---	20.4	12/20/1999	U	S,R,O,1,B2,B4
08S/03W-14CA	MARI 11715	445230123011501	KRAUS, GEORGE F.	290	05/17/1959	---	375	28.0	P	95	4.0	153R	05/17/1959	H	
08S/03W-14DDC	MARI 18490	445210123005001	BURGE GREG	338	05/12/1993	---	541	15.0	A	---	1.0	140R	05/12/1993	H	
08S/03W-21DAB	MARI 12216	445139123031101	JONES EVANS W.	128	04/15/1965	C	498	6.5	A	62	1.0	48.3	01/18/2000	H	S,O,2
08S/03W-21DAC	MARI 8202	445129123031401	SCHLAG KATHRYN	420	06/20/1990	---	550	5.0	A	---	1.0	87R	06/20/1990	H	
08S/03W-22CBC	MARI 8205	445129123025701	SUYDAM LEE	390	08/22/1990	---	662	12.0	A	210	1.0	180R	08/22/1990	H	
08S/03W-24BCB	MARI 12317	445152123003101	EVARTS	320	08/10/1988	---	435	6.5	A	302	1.5	18R	08/10/1988	H	
08S/03W-24DAA	MARI 12357	445135122592201	DANNER ROBERT	351	05/16/1989	---	589	71.0	A	---	1.0	110R	05/16/1989	P	
08S/03W-27AAB	MARI 12621	445115123015701	WATSON EUGENE	515	08/02/1986	---	615	4.0	A	---	3.0	58R	08/02/1986	H	
08S/03W-28CAB	MARI 19705	445045123035501	COLE ROBERT	478	05/27/1995	---	745	85.0	A	---	1.0	68R	05/27/1995	H	
08S/03W-29DCD	MARI 17426	445027123043901	PEARSON ALBERT M	340	07/15/1991	---	626	0.5	A	---	1.0	252R	07/15/1991	H	
08S/03W-30BCC	MARI 4180	445054123063901	ALLEN CLAY	325	07/20/1990	---	938	10.0	A	---	1.0	180R	07/20/1990	H	
08S/03W-32BB	MARI 18693	445013123052301	SALERNO JAMES	440	09/23/1993	C	948	30.0	A	---	1.0	281R	09/23/1993	H	
08S/03W-33ACA	MARI 12918	445008123032101	CORONA EFRAIN L	323	08/07/1988	---	650	75.0	A	---	2.0	95R	08/07/1988	I	
08S/03W-33DAB	MARI 12958	444956123031701	SIMS, M.	125	09/11/1961	C	616	20.0	B	95	1.5	7.1	01/18/2000	H	S,O,2,B2
08S/03W-35DDD	MARI 12984	444935123003701	GRAEN, LECTA	264	10/11/1980	C	583	30.0	A	---	2.0	141.5	12/07/1999	U	S,R,1,B4
08S/03W-36BCA	MARI 13012	445007123001801	FRAZIER RON	360	09/25/1989	---	542	20.0	A	193	1.0	167R	09/25/1989	H	
08S/04W-03ABD1	POLK 2799	445437123093001	MULLER, T	60	04/14/1962	U	169	400.0	R	28	6.0	34R	09/13/1991	I	D,2,B2
08S/04W-07CCA2	POLK 3227	445308123134701	WILLAMETTE POLLEN	80	07/09/1980	L	205	40.0	B	52	1.0	8.8	11/18/1996	I	S
08S/04W-19BCA	POLK 2914	445152123134701	FREDRICKSEN, BRUCE	120	08/29/1988	U	192	2.0	B	68	1.0	18.9	11/20/1996	I	Q,S
08S/04W-21DBC	POLK 219	445133123105701	CROW, KEVIN	48	07/21/1978	U	160	70.0	B	12	1.0	11.3	11/19/1996	H	N,S
08S/04W-24CA	MERR 0	445139123072301	OIL AND GAS WELL	5282	10/14/1975	---	892	---	-	---	---	---	---/---/---	U	
08S/04W-27CBA	MARI 13280	445044123100401	BREYMAN, JACK	38	---/---/1947	U	150	---	-	---	---	12.9	04/04/1978	I	D,2,B2
08S/05W-07BBB	POLK 3477	445352123212201	HATT, JIM	141	09/25/1972	B	405	11.0	A	88	1.0	8.3	11/22/1996	H	N,S
08S/05W-13ADD	POLK 3229	445236123141001	GRASSER, S.	98	07/---/1951	U	192	40.0	R	77	---	2.3	04/23/1979	I	D,2,B2
08S/06W-25DDD	POLK 3656	445028123213001	NORTON, MAX B.	52	---/---/1948	B	256	300.0	R	30	8.0	4.2	04/12/1988	I	D,2,B2
09S/01E-03BCC	MARI 15579	444903122404501	ETZEL, TED	400	04/22/1964	C	1150	325.0	P	232	3.5	104.0	11/15/1996	I	Q,S,D,2
09S/01E-03CB1	MARI 15581	444858122404901	ETZEL	203	06/26/1974	C	1125	50.0	A	---	1.5	64.7	11/15/1996	H	S
09S/01E-05CDA	MARI 15589	444844122424301	STINSON MICHAEL	370	09/08/1972	B	952	9.0	A	170	3.0	154.1	02/14/2000	H	S,O,2
09S/01E-19CBB	LINN 2150	444621122440201	CRAWFORD ALFORD	147	05/06/1994	---	790	30.0	A	20	2.0	82R	05/06/1994	H	
09S/01E-25BCC	LINN 3259	444536122382701	ROBERTSON, ERVIN	273	06/15/1965	---	1465	7.0	B	110	1.0	150R	06/15/1965	H	H
09S/01E-25DA	LINN 1418	444526122372701	NAGEL KENNETH	437	01/06/1992	---	1640	14.0	A	---	1.0	325R	01/06/1992	H	
09S/01E-32CCC	LINN 50067	444418122431401	SCHAEFER BROTHERS	301	02/23/1996	---	860	3.0	A	---	3.0	1R	02/23/1996	H	
09S/02E-10DCC	MARI 15788	444741122325201	ZELLER, LETA & ROBERT	160	04/11/1986	B	760	100.0	A	---	2.0	43.1	11/15/1996	H	S
09S/02E-26CA	LINN 50100	444522122314501	BARLOW ERV	310	11/22/1995	C	780	3.8	P	260	24.0	12R	11/22/1995	Z	
09S/02E-27DD	LINN 4063	444515122323801	BROWN AL	79	09/18/1993	---	890	15.0	P	44	1.0	27R	09/18/1993	H	
09S/02E-30CDB	LINN 50223	444513122364301	HALLSTAD BLANCA	535	04/19/1996	---	1630	7.0	A	---	1.0	120R	04/19/1996	H	
09S/03E-30DAC	MARI 15977	444525122310901	VANAGTMAEL, DEBI	194	08/24/1961	U,B	835	0.2	B	---	---	4.4	10/14/1981	U	D,2,B2
09S/03E-30DBD	MARI 15956	444522122285901	MOBERG, LARRY	52	04/19/1982	U	800	10.0	B	20	1.0	8.1	11/18/1996	U	S
09S/01W-01BCC	MARI 17126	444903122453201	ETZEL BROS	259	02/26/1958	---	509	330.0	P	108	1.0	51.3	10/30/1967	I	D,2
09S/01W-02BDA	MARI 17133	444914122462201	HOTTINGER, FRED	300	10/02/1962	---	489	160.0	P	247	3.0	27R	10/02/1962	I	
09S/01W-02DBA	MARI 17131	444901122460301	HASSLER, A.	147	12/13/1956	F	480	550.0	P	4	1.5	F	12/13/1956	I	D,2
09S/01W-02ddb	MARI 17130	444846122460201	ETZEL, AL	290	04/04/1962	C	530	400.0	P	140	2.0	131.6	10/13/1981	H	H,D,2,B2
09S/01W-04CCD	MARI 17154	444915122493801	DOZLER, PAUL	60	08/26/1978	U	420	40.0	B	15	1.0	8.1	11/18/1996	H	N,S
09S/01W-04N1	MARI 13500	444837122491001	NORTHWEST NATURAL GAS	362	10/17/1963	---	420	---	-	---	---	---	---/---/---	G	
09S/01W-10C1	MARI 13611	444824122475201	REGIS HIGH SCHOOL	250	08/28/1964	---	447	78.0	P	83	4.0	9R	08/28/1964	I	

Table A1. Data for selected study wells and springs in the Willamette Basin, Oregon—Continued

Well location	Well-log ID	USGS Site ID	Owner	Depth drilled (feet)	Date drilled	Hydro-geologic unit	Altitude (feet)	Well Performance				Water level		Use	Remarks
								Yield (gpm)	Test Method	Draw-down (feet)	Test Period (hours)	Feet below datum	Date		
09S/01W-11C1	MARI 13622	444829122463701	MILLER, WALTER	275	03/03/1965	---	500	80.0	A	---	2.0	63R	03/03/1965	I	
09S/01W-12ABB	MARI 13646	445019122462301	RIPP, WILLIAM	506D	08/22/1955	---	693	4.0	B	11	---	256.1	04/19/1988	I	D,2
09S/01W-14DCA	LINN 2705	444700122460701	FERY, JOHN	326	03/18/1964	C	550	600.0	P	62	3.0	138.3	02/14/2000	I	H,S,O,2,B2
09S/01W-18ADA	MARI 13715	444723122504001	SANTIAM WATER CONTROL DIST	51	05/22/1980	U	402	45.0	B	12	1.0	16.6	11/15/1996	H	N,S,B,1,B3
09S/01W-22E1	LINN 2776	444634122480801	FREY, RAYMOND	162	12/01/1966	---	455	35.0	B	20	1.0	45R	12/01/1966	H	
09S/01W-24B	LINN 2943	444648122445401	ADAMS, JIM	248	05/09/1966	---	695	7.5	A	150	1.0	86R	05/09/1966	H	
09S/01W-28R1	LINN 2999	444508122481301	KRONNER, FRED	150	08/24/1960	---	545	1.0	P	---	---	52R	08/24/1960	H	
09S/01W-31ACD	MARI 13834	444443122510401	SCHUMAKER, RICHARD	449	06/08/1972	C	415	300.0	P	160	6.0	60.6	11/13/1996	I	S
09S/02W-06ACD	MARI 13943	444906122582401	FOWLER, CHARLES JR	65	07/08/1983	C	324	60.0	B	38	1.0	7.4	11/19/1996	I	S,B,1,B3
09S/02W-06ADA	MARI 18448	444916122580701	TAYLOR JANET	183	05/18/1993	---	316	60.0	A	---	1.0	46R	05/18/1993	H	
09S/02W-15DBB	MARI 14169	444714122545101	COULTER, SUSAN	207	04/13/1985	U	340	60.0	B	74	2.0	5.5	11/18/1996	H	S
09S/02W-15DBB2	MARI 14171	444714122545102	COULTER FARMS	67	10/11/1988	U	340	50.0	B	13	1.0	6.1	11/18/1996	H	S
09S/02W-17CCD	MARI 19088	444656122574701	SILVA RICHARD	385	06/21/1994	---	764	12.5	A	89	2.0	206R	06/21/1994	H	
09S/02W-18BDC	MARI 19392	444724122585101	MAURO JOYCE	240	01/06/1994	---	960	30.0	A	---	1.0	155R	01/06/1994	H	
09S/02W-20BA2	MARI 14273	444649122574001	HARDING, C.L.	335	05/23/1963	---	680	60.0	P	120	8.0	140R	05/23/1963	I	
09S/02W-20BAA	MARI 19027	444652122572501	FARM IVAN	210	05/05/1994	---	642	8.0	P	51	4.0	133R	05/06/1994	H	
09S/02W-22ABA1	MARI 14078	444649122544301	BUD KEECH	1250	05/27/1983	U,L,C	350	225.0	R	---	---	F	05/25/1983	I	
09S/02W-27AAA	MARI 14491	444553122542701	SCHERMACHER, E.F., OIL AND GAS	2426D	04/15/1958	---	333	600.0	R	91	3.5	7.4	07/30/1990	I	
09S/02W-32H1	MARI 14623	444443122570101	BATCH, D.A.	180	09/08/1955	---	490	4.0	B	165	---	140R	09/08/1955	H	
09S/03W-01CAB	MARI 17538	444901123001401	WHITE BARBARA	120	10/05/1991	---	573	30.0	A	108	4.0	82R	10/05/1991	H	
09S/03W-01CAC	MARI 17738	444855123000901	PRATCHENKO MIKE	195	03/11/1992	---	600	80.0	A	34	1.0	67R	03/11/1992	H	
09S/03W-01DDA	MARI 50512	444846122592901	PANEK DON	226	05/13/1996	---	542	16.0	A	100	1.0	94R	05/13/1996	H	
09S/03W-03BCB	MARI 14847	444913123025201	BOEHMER, CLIFF	101	06/06/1980	C	610	58.0	A	77	2.0	19.5	11/15/1996	H	Q,S
09S/03W-08ABB	MARI 14890	444837123044201	PAYNE, JAMES L.	81	10/01/1965	U	203	160.0	P	26	16.0	35.2	11/15/1996	I	H,S
09S/03W-23DDB	MARI 15218	444608123004401	ANDERSON, AL	140	03/28/1960	L,B	255	20.0	B	70	1.0	17.9	11/15/1996	H	S
09S/03W-34DAD	MARI 15427	444434123014901	RIGGLE, TED	398	08/01/1961	B	221	80.0	P	250	---	37.4	10/15/1981	I	D,2,B2
09S/04W-08CCC	POLK 3783	444747123124001	CHRISTIANSON, D.W.	120	---/---/1948	B	262	50.0	R	40	---	16.0	10/15/1981	I	D,2,B2
09S/04W-11CAB	POLK 3812	444811123084101	COBINE, DONALD R.	37	03/27/1964	U	159	600.0	R	12	2.0	3.0	01/10/1978	I	D,2,B2
09S/04W-12ACD	POLK 3835	444815123070001	HAAS, INC.	38	06/12/1963	U	167	550.0	P	3	2.0	13.0	11/20/1996	U	S
09S/04W-15AAB	POLK 71	444744123092302	LUBBERS, RICHARD	60	09/22/1990	U	177	150.0	P	---	1.0	16.5	11/20/1996	U	S
09S/04W-18ABB	POLK 3899	444744123132401	HAIN, DONALD	120	09/24/1982	B	240	2.5	A	---	4.0	8.8	11/22/1996	U	S
09S/04W-28DBA	POLK 3950	444531123104501	PLATT'S DAIRY (JACK PLATT)	65	10/07/1966	L	200	25.0	B	33	1.0	2.7	11/20/1996	U	S
10S/01W-03D1	LINN 3593	444407122475501	LEFFLER, CECIL	58	06/24/1957	---	640	2.5	B	33	---	25R	06/24/1957	H	
10S/01W-04M1	LINN 3603	444338122491501	LEFFLER, ANGUS B.	106	08/21/1941	---	555	---	R	---	---	20R	08/21/1941	I	
10S/01W-05CAB	LINN 3621	444333122500701	HENDRICKSON A.M.	225	---/---/1951	---	420	670.0	R	1	---	14.5	04/19/1988	I	D,2,B2
10S/01W-16ADA	LINN 3778	444213122481301	LINN COUNTY SHOP DEPT	50	08/07/1973	L	365	75.0	B	31	1.0	1.8	11/15/1996	H	N,S
10S/02W-24AAC	LINN 4295	444128122520901	GROVE, GAIL JR	67	04/28/1977	L	320	17.0	B	25	1.0	12.7	11/13/1996	H	N,S
10S/03W-07BDA	LINN 4570	444308123060501	CHAMBERS, WAYNE	32	03/25/1976	U	185	132.0	B	4	1.0	15.4	11/12/1996	I	S
10S/03W-12DDDD	MARI 16246	444230122592201	VASEK, J.W.	23	08/---/1954	U	240	500.0	P	1	---	5.5	11/20/1996	I	S
10S/03W-30CAD	BENT 1557	444008123060001	SPRINGHILL COUNTRY CLUB	35	03/15/1964	U,B	192	400.0	P	13	---	8.6	02/16/2000	I	S,O,2,B2
10S/04W-04ABC2	POLK900003	444406123105501	OLSEN, H. G.	---	---/---/---	---	205	---	P	---	---	13.7	11/20/1996	U	S
10S/04W-10CDB1	BENT 1695	444238123100101	UNDERWOOD, RUSSEL	37	09/11/1962	U	182	500.0	P	4	2.0	17.4	11/12/1996	I	N,S,D,2
10S/04W-12CDA	LINN 5344	444242123072401	BENTLEY, DAVID	32	04/22/1963	U	181	300.0	P	7	2.0	14.1	11/13/1996	I	S
10S/04W-17AAA1	BENT 1751	444224123113201	ADAIR VILLAGE	320	08/08/1968	L,B	210	---	-	---	---	8.5	11/12/1996	U	S
10S/04W-17AAA2	BENT 1750	444227123113701	ADAIR VILLAGE	215	08/02/1968	L	210	---	-	---	---	124.3	11/12/1996	U	S
10S/04W-19ABD	BENT 1487	444131123131201	LADENDORFF, MARLENE	74	10/06/1994	B	300	41.5	P	40	4.0	13.5	11/12/1996	H	Q,S
10S/04W-23ABB	BENT 1805	444136123082401	RANTA, HAROLD	57	09/15/1982	U	195	150.0	B	4	1.0	11.0	11/13/1996	I	S
10S/04W-24AD	BENT 7800	444126123140601	FRAZIER, STEVE	402	06/20/1995	B	322	1.2	A	---	1.0	24.3	11/12/1996	U	S
10S/04W-27CDA	BENT 1899	444004123095201	LEMONS, EUGENE	115	04/25/1973	B	305	75.0	B	95	1.5	18.5	11/13/1996	H	Q,S
10S/05W-11AAB	---	444323123153201	NATIONAL GUARD SPRING	---	---/---/---	---	205	---	-	---	---	---	---/---/---	U	I,Q
10S/05W-14ABC	BENT 176	444222123154401	ANDREWS, MELVIN	175	05/02/1980	B	238	60.0	A	80	4.0	8.8	11/18/1996	H	Q,S
10S/06W-23BCC1	BENT 2309	444116123234101	ANDERSON, RON	190	07/22/1985	B	885	20.0	A	---	2.0	99.5	11/22/1996	H	Q,S
10S/06W-30DCA	BENT 2334	444011123280201	DAVIS, JIM	165	11/28/1972	B	382	1.0	A	140	1.0	27.3	11/13/1996	H	Q,S
10S/06W-30DDB	BENT 2326	444008123273801	WEESE, ELAINE	180	05/05/1973	B	335	6.0	A	136	1.0	11.8	07/20/1999	U	S,R,1,B4
10S/07W-27CCD	BENT 1479	444002123321501	DENVE, LARRY	180	10/13/1994	B	710	2.0	A	162	1.0	11.3	11/13/1996	H	Q,S
11S/01W-01CAD	LINN 5572	443824122451501	ARNOLD, ARTHUR	45	03/19/1979	B	395	30.0	P	20	1.0	2.0	11/13/1996	H	N,S
11S/02W-12ADC	LINN 1643	443743122520201	HOCKETT, GUY	285	08/20/1992	B	300	30.0	A	---	1.0	28.6	11/22/1996	H	S
11S/02W-15CB	LINN 6700	443646122552701	VOGT, ORVILLE	35	09/28/1973	U	290	100.0	B	8	1.0	6.7	11/14/1996	H	N,S,B,1,B3
11S/02W-29ADC	LINN 6902	443510122565601	HOLLINGSWORTH, NEAL	145	04/14/1959	U	305	400.0	P	57	3.0	1.1	04/05/1978	I	D,2,B2
11S/03W-26AAA	LINN 7478	443601123003501	ROTH, LEONARD	151	10/23/1952	U	273	225.0	P	120	---	6.4	02/14/2000	I	H,S,O,2,B2
11S/04W-01CBB	BENT 961	443834123073501	ARNOLD, PAUL	36	07/14/1992	U	202	30.0	B	5	1.0	18.5	11/19/1996	H	Q,S

Table A1. Data for selected study wells and springs in the Willamette Basin, Oregon—Continued

Well location	Well-log ID	USGS Site ID	Owner	Depth drilled (feet)	Date drilled	Hydro-geologic unit	Altitude (feet)	Well Performance				Water level		Use	Remarks		
								Yield (gpm)	Test Method	Draw-down (feet)	Test Period (hours)	Feet below datum	Date				
11S/04W-05CDD	BENT	2544	443812123120001	OSU EXPERIMENTAL STATION	103	01/07/1957	U	227	260.0	P	13	3.0	11.1	02/16/2000	I	S,O,2,B2	
11S/04W-05DDB	BENT	2545	443817123113301	OSU EXPERIMENTAL STATION	100	01/07/1957	U,L	228	200.0	R	29	3.0	28.6	10/09/1985	I	D,2,B2	
11S/04W-24CBD	LINN	8508	443547123073101	MADDY, RAY	80	09/21/1965	U	211	85.0	B	4	1.0	8.9	02/14/2000	U	S,O,2,B2	
11S/04W-28BDD1	LINN	4146	443512123105001	ROSS, BOB	54	10/22/1993	U	225	30.0	B	8	1.0	34.2	11/14/1996	H	Q,S	
11S/04W-28CAA	LINN	14280	443500123105001	STICH, LUTHER	60	08/25/1995	U	232	30.0	B	4	1.0	34.6	11/14/1996	H	Q,S,D,1	
11S/04W-34CDA	LINN	8753	443358123093601	GLASER, STEVE	60	07/30/1988	U	227	60.0	B	13	1.0	11.3	11/14/1996	H	Q,S	
11S/04W-34DDC	LINN	8756	443352123090401	KOA CAMPGROUND	104	10/13/1986	---	226	330.0	P	68	4.0	17R	10/13/1986	P	Q	
11S/05W-23AC	BENT	3838	443609123153101	BALSTED, DEREK	165	07/18/1974	B	358	30.0	A	72	1.0	56.5	11/21/1996	H	Q,S	
11S/05W-35DDD	LINN	10841	443349123150501	FLOWMATCHER	45	02/22/1975	U	217	231	100.0	B	10	1.0	16.0	12/07/1999	U	S,R,1,B4
11S/06W-14CCC	BENT	4268	443630123232701	WALLACE, JIM	312	09/23/1989	B	610	6.0	A	281	1.0	29.6	11/20/1996	H	S	
11S/07W-08CAB	BENT	1205	443742123341001	WHITNEY	180	07/19/1993	B	760	3.0	A	119	1.0	56.3	11/21/1996	U	S	
11S/07W-28BDA	BENT	403	443523123324701	DIMMITT, RAY	415	10/17/1986	B	720	0.3	A	---	1.0	19.8	12/07/1999	U	S,R,1,B4	
12S/01W-12BCD	LINN	6586	443234122453301	OSBORNE, CRAIG	141	05/16/1995	B	540	50.0	A	---	1.0	69.6	11/22/1996	H	S	
12S/01W-30DDD	LINN	9725	442929122504801	PINEWAY GOLF COURSE	270	04/07/1979	B	438	5.0	A	243	1.0	10.2	07/22/1999	U	P,S,R,1,B4	
12S/01W-33CBD	LINN	11366	442851122491201	LEBANON FIRE DEPT STATION 33	68	11/25/1975	U	449	48.0	B	31	1.0	12.6	11/15/1996	H	S	
12S/02W-32BAC	LINN	7644	443336122535701	WATTERS, KEN	100	11/26/1957	U,L	336	300.0	R	22	4.0	21.6	10/14/1981	I	D,2,B2	
12S/02W-12DAD	LINN	14489	443216122515201	HARDWOOD, J.D.	302	07/07/1995	B	480	12.0	A	---	1.0	24.1	11/22/1996	H	S	
12S/02W-19CCB1	LINN	8054	443028122590901	WHEELER, SCOTT	47	08/19/1966	B	319	50.0	B	0	2.0	0.9	11/25/1996	S	Q,S	
12S/02W-22BBB	LINN	8062	443109122552301	MARTENEY, JOHN	66	07/22/1983	U	357	30.0	B	32	1.0	9.7	11/22/1996	H	N,S,B,1,B3	
12S/02W-36ADC	---	---	442904122520301	SODAVILLE SPRING	---	---	---	480	---	---	---	---	---	---	---	U	I,Q
12S/03W-07BCC2	LINN	50852	443234123063101	TOWNSEND SEED TESTING	51	09/15/1985	U	242	30.0	B	15	1.0	8.5	11/14/1996	H	Q,S	
12S/03W-07CCB	LINN	50103	443211123062901	DUNKIN, DAN	80	11/29/1995	U	243	100.0	A	---	1.0	11.8	10/22/1996	H	Q,S	
12S/03W-09BDC2	LINN	50853	443232123034501	TRAIN, CHERYL (RENTER)	80	06/13/1987	U	263	40.0	B	32	1.0	7.9	11/15/1996	H	Q,S	
12S/03W-09R1	LINN	14607	443213123025301	SWATZKA, J.H.	20	---	W,U	273	---	---	---	---	3.3	06/02/1953	H	E,D,B1	
12S/03W-11BDD	LINN	50855	443231123011101	GLASER, DENNIS	189	10/29/1983	U	285	70.0	B	5	1.0	11.1	11/14/1996	U	S,B,1,B3	
12S/03W-12BAA	LINN	10391	443252122595301	RAMSEY, MARVIN	65	05/18/1982	U	297	48.0	B	37	1.0	13.6	10/17/1996	H	Q,B,1,B3	
12S/03W-25ABB1	LINN	832	443014122594801	WHEELER, ALFRED	175	07/19/1977	B	331	10.0	P	25	1.0	47.5	11/15/1996	H	S	
12S/03W-29CDD	LINN	10562	442931123044801	WIRTH, R.L.	126	05/16/1952	U	256	280.0	P	50	---	1.9	02/14/2000	I	S,O,2,B2	
12S/03W-34BDD	LINN	50854	442900123021701	KOOS, ROGER	230	04/09/1981	U,L	271	400.0	P	140	12.0	6.5	11/15/1996	I	S	
12S/04W-01ABB	LINN	50097	443343123070501	LINN & BENTON BOARD OF COMMISI	65	11/30/1995	U	237	60.0	B	6	1.0	11.7	11/15/1996	H	Q,S,B,1,B3	
12S/04W-21CAB	LINN	10769	443042123110501	CARPENTER, JOHN	40	02/22/1977	U	246	20.0	P	20	2.0	18.6	11/14/1996	H	S,B,1,B3	
12S/04W-33ADA	LINN	10808	442910123101401	RADKE, WILLIAM & TRUDY	155	06/11/1981	L	255	88.0	B	4	1.5	19.1	11/21/1996	I	S	
12S/04W-34BCB	LINN	1332	442910123101301	RADKE, WILLIAM & TRUDY	46	10/11/1991	U	255	25.0	B	10	1.0	16.4	11/21/1996	H	S	
12S/04W-35CDC	LINN	10817	442838123083001	PUGH, PAUL	115	05/28/1959	U,L	251	70.0	B	6	1.0	2.6	02/14/2000	I	S,O,2,B2	
12S/05W-01BCB	LINN	10846	443330123145901	JACOBS, JESTINE	44	04/13/1973	U	215	50.0	B	0	1.0	21.0	11/15/1996	H	N,S	
12S/05W-02AAA	LINN	12120	443348123150201	CITY OF CORVALLIS	260	06/05/1995	L,B	215	791	---	---	---	8.3	12/07/1999	U	P,S,R,1,B4	
12S/05W-06DCA	BENT	4951	443304123201701	MID VALLEY GRAVEL	290	07/23/1987	B	294	9.0	A	172	1.0	16.5	11/14/1996	H	S	
12S/05W-13DDC2	BENT	5182	443117123140101	EVANS, TOM	40	03/31/1988	U	223	60.0	A	---	1.0	13.8	11/14/1996	U	S	
12S/05W-18ABA	BENT	768	443158123201801	RIES, TOM	470	09/09/1991	B	270	1.0	A	407	1.0	30.8	11/14/1996	U	S,D,1	
12S/05W-20DBA	BENT	50297	443310123183601	LACHEK, JOSEPH	100	08/11/1959	L	238	200.0	R	58	3.0	5.1	02/16/2000	I	S,O,2,B2	
12S/06W-11DDA	BENT	5672	443217123222301	CITY OF PHILOMATH	170	01/17/1980	L	264	40.0	P	120	1.0	8.0	07/20/1999	U	P,S,R,1,B4	
12S/06W-12CDD	BENT	7884	443209123214701	PHILOMATH FOREST PRODUCTS	154	07/30/1957	L	265	125.0	P	75	4.0	11.8	11/16/1996	N	S,D,2	
12S/06W-34ABB	BENT	7842	442924123240801	GIESY, BETTY JO	490	07/26/1995	B	475	10.0	A	451	1.0	24.0	11/14/1996	H	S	
13S/04E-26DDA	---	---	442420122170001	UPPER SODA SPRING	---	---	---	1360	---	---	---	---	---	---	---	U	I,Q
13S/01W-02CDD	LINN	4103	442747122461101	PETERSON, JOE & MARLENE	60	10/06/1993	B	431	30.0	A	---	1.0	16.5	11/15/1996	H	Q,S	
13S/01W-07BCC	LINN	11056	442716122514901	WARD, ROBERT	95	04/01/1967	B	875	10.0	B	39	1.0	61.8	11/22/1996	H	Q,S	
13S/01W-07CBB	LINN	11061	442746122514701	WARD, ROBERT	129	02/15/1975	B	883	12.0	B	35	1.0	61.5	11/22/1996	H	Q,S	
13S/01W-23BDC	LINN	1842	442531122463101	TOPP, MRS THEODORA	80	12/28/1992	U,B	484	30.0	B	18	1.0	10.8	11/22/1996	H	S	
13S/02W-20BBC2	LINN	11661	442547122575501	GILMORE, DOROTHY	280	09/15/1965	B	437	---	---	---	---	2.7	11/21/1996	U	S	
13S/02W-20BBC3	LINN	935	442549122575001	GILMORE, DOROTHY	120	09/28/1987	B	435	7.0	B	55	1.0	50.9	11/21/1996	H	Q,S	
13S/03W-07BBC2	LINN	12050	442733123063101	HALSEY-SHED FIRE DISTRICT	46	05/15/1968	U	264	120.0	B	3	1.5	6.8	11/21/1996	F	S	
13S/03W-27ABD	LINN	1993	442455123020101	FISHER, ROLAND	600	06/28/1993	B	362	8.0	A	---	1.0	76.6	12/07/1999	U	S,R,1,B4	
13S/03W-30BCC	LINN	11952	442442123063001	SMITH, JOHN	59	08/26/1987	U	275	60.0	B	10	1.0	5.2	11/20/1996	H	N,S	
13S/03W-36ADA	LINN	11999	442351122592301	IRWIN, ALBERT T.	100	05/05/1959	B	310	60.0	B	---	1.5	6.9	02/14/2000	U	S,O,2,B2	
13S/04W-08CDC	LINN	91	442653123121301	HALSEY SHEDD FIRE DEPT	60	08/08/1990	U	257	20.0	B	7	1.0	24.3	11/21/1996	F	S	
13S/04W-24CDD	LINN	12089	442507123071301	CURRAIN, JONI	42	03/04/1969	U	267	50.0	B	4	1.5	3.0	11/20/1996	H	S	
13S/05W-03AAA	BENT	6206	442833123162401	SEED RESEARCH OF OREGON INC	52	04/06/1989	U	248	40.0	A	---	1.0	18.9	11/14/1996	H	N,S	
13S/05W-07DAD	BENT	6251	442704123200001	BAILEE, BRUCE D.	60	---	U	251	200.0	P	---	---	8.4	11/14/1996	I	H,S,D,2	
13S/06W-06ABA	BENT	6475	442831123273801	DELASKY, BARNEY	115	09/11/1987	B	460	0.5	A	---	1.0	24.8	11/14/1996	H	Q,S	
13S/06W-22DAD	BENT	1408	442523123234401	KAHLE, LARRY	350	07/07/1994	B	550	1.3	A	---	1.0	113.4	11/15/1996	U	S	
14S/01W-07CCD	LINN	13101	442139122513101	WALL, TOM	105	06/07/1989	U	490	14.0	A	---	1.0	0.9	11/21/1996	H	Q,S	

Table A1. Data for selected study wells and springs in the Willamette Basin, Oregon—Continued

Well location	Well-log ID	USGS Site ID	Owner	Depth drilled (feet)	Date drilled	Hydro-geologic unit	Altitude (feet)	Well Performance				Water level		Use	Remarks
								Yield (gpm)	Test Method	Draw-down (feet)	Test Period (hours)	Feet below datum	Date		
14S/01W-08ADD	LINN 2571	442206122492701	COTA, JIM & AUDREY	90	10/09/1994	B	620	15.0	P	5	1.0	20.8	11/21/1996	H	Q,S
14S/01W-14BBB	LINN 13200	442134122465801	SWEET HOME SCHOOL DIST	285	07/22/1982	B	680	12.0	A	---	1.0	102.2	11/21/1996	H	Q,S
14S/01W-15DAB	LINN 2333	442104122471801	ULEP, DONNA	102	07/05/1994	---	480	25.0	A	---	1.0	19R	07/05/1994	H	Q
14S/01W-18ABC	LINN 1285	442126122510901	WARREN, DENNIS	164	08/20/1991	---	460	18.0	B	120	1.0	44R	08/20/1991	H	Q
14S/02W-10CAB	LINN 14614	442205122550401	ANDERSON, REED	64	07/12/1965	L	397	88.0	B	24	1.0	1.4	11/21/1996	I	S,D,2
14S/02W-10BBD2	LINN 13434	442150122543801	NICKERSON, LINDA	192	04/30/1960	B	420	1.0	B	---	---	2.9	11/21/1996	U	S
14S/02W-21AAA	LINN 1070	442040122552901	WILLIAMSON, HAROLD	105	07/22/1980	B	475	14.0	B	62	2.0	60.4	11/21/1996	H	S
14S/02W-21ADC	LINN 13508	442020122554901	WILLIAMSON, HAROLD	166	09/30/1972	B	540	12.0	B	100	1.0	33.3	11/21/1996	U	S
14S/03W-02DBA	LINN 13545	442252123004201	REAM, MERLE	58	09/02/1970	L	307	90.0	B	21	1.5	1.6	11/18/1996	H	H,S
14S/03W-07DDC	LINN 13576	4421401233052601	KIRK, HENRY H.	123	03/14/1953	U,L	288	230.0	P	100	---	1.6	02/14/2000	I	H,S,O,2,B2
14S/03W-13BBC	LINN 13620	442123123001901	FITZMORRIS, CHRIS	210	08/06/1979	B	475	10.0	A	---	1.0	52.5	11/22/1996	H	Q,S
14S/03W-24ACD	LINN 13517	442018122592901	NORRIS, RON	350	10/28/1978	---	660	2.5	A	300	1.0	50R	10/28/1978	H	Q
14S/03W-30DDC1	LINN 13680	441902123052501	KROPP, FLOYD	45	04/25/1968	L	300	25.0	B	45	1.5	2.7	11/20/1996	U	S,B,1,B3
14S/03W-30DDC3	LINN 14778	441860123052201	KROPP, FLOYD	40	09/28/1995	U	300	6.5	A	30	1.0	2.5	11/20/1996	U	S,B,1,B3
14S/04W-06ADD	LINN 13739	442300123123801	BIRKY, DELBERT	41	08/13/1969	U	270	105.0	B	13	1.0	12.2	11/20/1996	U	S,B,1,B3
14S/04W-20AAD	LINN 1091	442036123112301	RUCKERT, MICHAEL & JOYCE	69	05/06/1971	U,L	286	130.0	B	11	1.5	10.3	11/18/1996	I	S
14S/04W-36BCC	LINN 2140	441838123073801	CURTIS, JOHN	43	03/12/1994	U	301	60.0	B	14	1.0	8.4	11/20/1996	H	S
14S/05W-06ACA1	BENT 6679	442309123200801	LEE, RICHARD	145	09/18/1985	B	340	2.0	A	---	2.0	29.9	11/14/1996	H	Q,S
14S/05W-08AAB	BENT 6693	442226123184901	RANDALL, DON W.	55	10/13/1970	U	272	100.0	B	30	1.0	18.3	11/21/1996	I	S
14S/05W-10DCA	BENT 6729	442145123163201	LINDESETH, CHRIS	19	---/---/---	U	267	5.0	R	---	---	8.7	01/08/1962	S	E,D,2,B1
14S/06W-22BDC1	BENT 7238	442024123241301	JEPSEN, DAN	853	07/28/1980	B	685	1.0	A	551	4.0	87.5	11/14/1996	H	S
14S/06W-26ADA2	BENT 7383	441933123222201	MCPARTLIN, ELIZABETH	150	06/11/1969	B	302	60.0	B	120	1.0	6.8	11/14/1996	U	S
15S/01W-23CCA	LANE 50736	441447122464501	DEACON, ERNEST	200	05/17/1996	F	775	5.0	A	195	1.0	F	08/14/1996	H	Q,S
15S/01W-23CCC1	LANE 5902	441443122465601	BRYANT, RUTH	220	04/20/1984	B	700	6.0	A	---	1.0	6.5	11/15/1996	H	S
15S/01W-23CCC2	LANE 5873	441446122465701	JURGENSEN, JAN	120	06/21/1979	B	725	5.0	A	80	2.0	9.7	11/15/1996	H	Q,S
15S/03W-19ACD1	LINN 14047	441508123053001	GRIMES, EDGAR B.	98	07/10/1959	U,L	327	60.0	B	20	2.0	3.0	02/14/2000	U	S,O,2,B2
15S/04W-07ADE2	BENT 1444	441656123124201	HUBBARD, LINDA	39	09/01/1994	U	300	300.0	A	---	1.0	9.5	11/13/1996	H	S
15S/04W-07DDD	LANE 50039	441630123123201	IDDINGS, RON	100	11/08/1995	L	297	12.0	A	5	2.0	17.0	11/13/1996	H	S
15S/04W-09ADD1	LINN 14111	441649123101101	MORSE BROS	34	02/02/1960	U	307	60.0	P	0	1.0	14.3	11/18/1996	H	S
15S/04W-09DAB	LINN 2123	441647123101401	MORSE BROS	135	02/08/1994	L	307	15.0	P	42	2.0	16.2	11/18/1996	H	Q,S
15S/04W-17DBC	LANE 5976	441545123114801	BROWN, DON	35	08/13/1981	U	310	30.0	B	3	1.0	18.1	11/13/1996	H	S
15S/04W-26BCC	LINN 163	441415123084801	STRODA, GEORGE	30	09/14/1990	U	320	250.0	A	---	1.0	1.4	11/20/1996	I	S
15S/04W-29BDC	LANE 6212	441414123121001	HANSEN, OLE	40	01/22/1987	U	315	40.0	B	4	1.0	13.2	11/14/1996	H	N,S
15S/04W-32CB1	LANE 6412	441312123121401	CITY OF JUNCTION CITY	20	---/---/---	U	323	---	---	---	---	12.9	09/29/1960	Z	E,D,B1
15S/05W-09ACD	LANE 6479	441657123174701	STRODA, BOB	150	09/08/1983	B	400	22.0	B	33	2.0	76.9	11/13/1996	H	S
15S/05W-09ADC	LANE 6478	441653123173601	STRODA, TONY	60	06/01/1984	B	330	48.0	B	24	1.0	16.9	11/13/1996	H	Q,S
15S/05W-09BCB	BENT 7691	441643123181501	DIXON, BILL	500	11/18/1970	B	495	90.0	A	420	1.0	28.1	11/13/1996	U	S
15S/05W-09BCD2	LANE 6483	441657123182301	DIXSON, BILL	160	10/15/1987	B	490	2.5	A	---	1.0	52.2	11/13/1996	H	S
15S/05W-12BCC	BENT 6612	441701123145501	SHOOP, MRS	60	05/27/1976	U	297	250.0	A	15	2.0	8.0	11/13/1996	U	S,B,1,B3
15S/05W-20DCC	LANE 6584	441448123190801	THOELE, LYNN	150	04/04/1967	B	350	35.0	B	100	1.0	10.4	11/13/1996	H	S
15S/05W-26BDC	LANE 6633	441416123154701	KOKKELER, JOHN	59	10/29/1992	L	313	30.0	B	27	1.0	6.8	11/14/1996	H	N,S,B,1,B3
15S/05W-31ABD	LANE 6678	441342123201101	PALLADINO, AL	300	02/15/1980	B	560	---	---	---	---	30.7	11/14/1996	U	S
15S/06W-24BDB	LANE 4857	441459123212701	DORSEY, SAGE	170	06/24/1994	B	380	14.0	A	---	1.0	21.9	11/18/1996	H	Q,S
16S/03W-02BAC	LANE 7346	441241123011301	BUTCHKO, MIKE & ARLENE	215	07/28/1968	---	740	20.0	A	185	1.0	57.8	10/05/1990	H	Q
16S/03W-09AAC2	LANE 7370	441152123030001	CHRISTENSEN, MARK	225	08/25/1987	B	395	10.0	A	---	1.0	44.0	11/21/1996	H	Q,S
16S/03W-09BAC	LANE 7371	441152123033101	CHRISTENSEN, MARK	36	08/05/1981	U	367	28.0	A	---	1.0	1.2	11/21/1996	U	S
16S/03W-17CDD	LANE 3382	441023123044001	HAYWARD, JOHN	76	10/23/1992	U	373	90.0	A	52	1.0	1.9	11/15/1996	U	S,R,1,B4
16S/03W-22CBA	LANE 7413	440951123023501	WOODRUFF, JOHN	65	03/23/1965	B	439	5.0	B	35	2.0	5.8	12/08/1999	U	S,R,1,B4
16S/03W-32DBB	LANE 7596	440803123042601	GUTOSKI, PETER	40D	08/21/1928	U	385	150.0	P	12	1.0	15.7	11/21/1996	U	E,S,D,2,B1
16S/04W-04ACD	LANE 7719	441229123102801	CAMPBELL, DAVID & DOROTHY	46	08/13/1987	U	333	30.0	B	8	1.0	14.1	11/14/1996	H	N,S,B,1,B3
16S/04W-06BDA	LANE 7778	441237123130701	HAMSEY, RICK	120	07/09/1986	L	322	60.0	A	---	1.0	9.2	11/14/1996	I	S,B,1,B3
16S/04W-13DCC	LANE 752	441021123065601	ZELLNER, GEORGE	60	06/02/1977	U	350	200.0	B	37	4.0	0.6	11/21/1996	U	S,B,1,B3
16S/04W-16ACC	LANE 7996	441046123103701	SMITH, ALAN	46	08/26/1982	U	342	75.0	A	---	1.0	12.1	11/14/1996	I	S
16S/04W-16CAC	LANE 8029	441035123105001	SHADOWHILL GOLF CLUB	140	10/16/1961	U	335	100.0	P	120	6.0	4.5	02/17/2000	I	S,O,2,B2
16S/04W-33CDC	LANE 88	440744123105301	ARMSTRONG, JUDY	114	05/10/1990	U	364	40.0	B	10	1.0	9.1	11/13/1996	H	S
16S/05W-03CCC	LANE 8406	441206123171101	OSMON	23	01/10/1983	U	327	12.0	B	8	1.0	8.1	11/14/1996	H	Q,S
16S/05W-04AAB1	LANE 8410	441250123173301	DANISH CEMETERY ASSOC	135	12/30/1981	B	327	---	---	---	---	9.6	04/15/1996	U	B,1,B3
16S/05W-04AAB2	LANE 8411	441255123173401	DANISH CEMETERY ASSOC	220	01/12/1982	B	325	---	---	---	---	6.0	11/14/1996	U	S
16S/05W-24AAB2	LANE 8712	441018123135501	HUNTON, EVERETT	142	03/26/1971	U,L	337	450.0	P	40	3.0	8.9	11/14/1996	I	S
16S/05W-26AAD	LANE 8725	440915123145601	JACOBS, MARY & EDMOND	30	07/02/1987	U	343	15.0	A	---	1.0	1.1	12/07/1999	U	S,R,1,B4
16S/05W-28BBB	LANE 8733	440925123182501	FRANKLIN FIRE STATION	100	06/18/1982	B	403	23.0	A	---	1.5	22.4	11/14/1996	F	S,B,1,B3

Table A1. Data for selected study wells and springs in the Willamette Basin, Oregon—Continued

Well location	Well-log ID	USGS Site ID	Owner	Depth drilled (feet)	Date drilled	Hydro-geologic unit	Altitude (feet)	Well Performance				Water level		Use	Remarks
								Yield (gpm)	Test Method	Draw-down (feet)	Test Period (hours)	Feet below datum	Date		
16S/05W-30DCA	LANE 8773	440845123201001	BEUTLER-ABBEY, NANCY	97	12/09/1966	B	770	14.0	B	4	1.0	77.5	11/14/1996	H	Q,S
16S/06W-33AAA	LANE 9114	440831123244301	SIMONDS, PAUL	430	08/11/1981	B	640	1.0	A	---	1.0	101.8	11/19/1996	H	Q,S
17S/01W-24DCA	LANE 2085	440420122445701	SCHUMACHER, ROBERT	145	06/03/1991	B	670	7.5	A	88	1.0	48.1	11/15/1996	H	Q,S
17S/01W-24DCD	LANE 9935	440418122445901	JOHNSON, BUD	500	11/09/1976	---	670	5.0	A	430	1.0	70R	11/09/1976	H	Q
17S/01W-29ACC	LANE 10127	440354122495501	ELWOOD, MATHEW	43	05/01/1948	U	561	120.0	P	5	---	9.8	01/04/2000	I	S,O,2,B2
17S/02W-04CCA	LANE 10449	440701122562701	BURLESON, HAROLD	88	09/04/1974	B	515	12.0	A	68	1.0	8.2	10/28/1996	H	Q
17S/02W-30CAA1	LANE 10761	440341122584001	SPRINGFIELD UTILITY BOARD	249	10/22/1980	U	473.49L	300.0	P	75	30.0	18.9	12/17/1998	U	S,R,1,B4
17S/02W-30CAA2	LANE 10762	440341122584002	SPRINGFIELD UTILITY BOARD	50	10/31/1980	U	473.51L	---	-	---	---	9.8	03/23/1998	U	S,R,1,B4
17S/02W-32BAD	LANE 10801	440310122572501	WEYERHAEUSER	175	08/16/1957	U	486	175.0	P	35	2.0	6.2	04/29/1992	U	D,2,B2
17S/02W-32BCC	LANE 51613	440304122573201	WEYERHAEUSER CO	105	08/21/1991	U	483	---	-	---	---	16.0	01/04/2000	U	S,O,2
17S/03W-15ADA1	LANE 11099	440541123013701	BOWERMAN, WILLIAM J.	80	12/27/1989	U	425	65.0	B	2	1.0	8.7	11/20/1996	U	S
17S/03W-16BCA	LANE 11159	440543123034201	WALKER, BARNEY	46	09/14/1988	U	415	25.0	A	---	1.0	14.9	11/20/1996	H	N,S
17S/03W-30AAD	LANE 11461	440405123051301	EUGENE COUNTRY CLUB	300	08/06/1982	B	415	150.0	A	---	1.0	6.7	11/08/1996	H	S
17S/04W-09DAD1	LANE 11804	440616123100701	GEORGIA PACIFIC CORP	126	11/08/1962	U	380	400.0	P	50	2.0	9.4	11/14/1996	U	S,B,1,B3
17S/04W-30CCA	LANE 12505	440331123133001	STEVE, P. & TANA STUART	458	03/27/1977	B	470	5.0	B	375	1.0	68.8	11/08/1996	H	Q,S
17S/04W-31CAB2	LANE 12554	440255123131701	LONG, JIM	103	10/22/1976	B	570	20.0	P	50	2.0	71.7	11/14/1996	U	D,2,B2
17S/04W-31CAB4	LANE 12337	440256123131701	LONG, JIM	140	03/05/1979	---	570	15.0	A	100	1.0	95R	03/05/1979	H	Q
17S/05W-02BAC1	LANE 12676	440736123154701	LANE COUNTY RURAL FIRE DIST	105	07/23/1982	U	380	25.0	A	---	2.0	23.8	11/18/1996	H	S,B,1,B3
17S/05W-02BAC2	LANE 3203	440735123154601	LANE COUNTY RURAL FIRE DIST	25	08/10/1992	W	380	---	-	---	---	6.7	11/18/1996	U	S,B,1,B3
17S/05W-06BCB	LANE 12844	440726123205601	MAITLAND, JOHN & LAURA	74	04/29/1966	B	470	45.0	B	30	1.0	36.3	11/19/1996	H	Q,S
17S/05W-08CBC	LANE 12862	440618123194501	GARBER, AARON	82	03/14/1984	U	405	25.0	A	---	1.0	25.2	11/19/1996	H	S
17S/05W-13BDD	LANE 13051	440534123142601	GRIESEL EBERT	96	05/09/1960	U	390	120.0	P	4	1.0	13.1	02/17/2000	I	S,O,2,B2
17S/05W-34DCC	LANE 13575	440232123164101	OR DEPT FISH & WILDLIFE	148	08/26/1982	B	380	25.0	A	---	2.0	8.8	11/15/1996	H	S
17S/06W-07DDD	LANE 3479	440601123270901	KERSGAARD, ERNEST	304	12/01/1992	B	660	10.0	A	---	1.0	78.8	11/19/1996	H	Q,S
17S/06W-24DCB2	LANE 14118	440422123213701	FERN RIDGE SCHOOL DIST	120	07/01/1970	U	410	50.0	B	32	2.0	4.8	11/19/1996	P	S
17S/06W-36CDD1	LANE 14459	440235123214101	HUNTER, RICK	194	02/28/1964	B	480	18.0	B	6	1.0	31.8	11/15/1996	U	S
17S/06W-36CDD2	LANE 14458	440232123214301	BURKHART, DAN	351	05/12/1964	B	480	8.0	B	290	1.5	41.7	11/15/1996	U	S
17S/06W-36DCD	LANE 14473	440058123254001	IVERSON, BOYD	91	07/09/1959	B	425	22.0	R	0	1.0	71.7	07/20/1988	U	D,2,B2
18S/02W-14CCC	LANE 15398	435953122541201	PLEASANT HILL FIRE DISTRICT	280	06/29/1983	B	541	2.5	A	---	1.0	18.8	11/07/1996	H	S
18S/02W-34DBD	LANE 15943	435726122544301	PLEASANT HILL SCHOOL DIST	201	09/30/1974	U	675	46.0	B	0	1.0	62.9	11/05/1996	H	S
18S/02W-35CAD	LANE 16030	435555123515701	LYDAY, RICHARD	137	05/15/1963	U	650	21.0	B	100	1.0	16.4	01/04/2000	H	S,O,2,B2
18S/03W-15AAD	LANE 4663	440031123013801	OAK HILL SCHOOL	200	04/22/1994	B	560	40.0	A	185	1.0	17.6	11/05/1996	H	S
18S/03W-23AAC	LANE 16438	435939123003701	BROOKS, BRUCE	75	09/14/1961	B	495	25.0	B	20	2.0	7.8	11/20/1996	U	S
18S/04W-14ACA	LANE 17048	440029123080301	MUSTER, ERNEST	340D	07/30/1974	B	740	2.0	A	325	1.0	2.1	11/14/1996	H	Q,S
18S/04W-14BBA	LANE 16780	440036123083201	GAUDIA, DR GIL	190	01/18/1989	B	700	9.0	A	---	1.0	49.4	11/15/1996	H	Q,S
18S/05W-12ADC	LANE 2328	440112123135901	STEEL, JOHN	40	09/16/1991	B	420	7.0	A	---	1.0	6.3	11/15/1996	H	Q,S
18S/06W-08ABA	LANE 18864	440131123260901	WILLAMETTE IND	270	08/12/1977	B	560	60.0	A	189	1.0	67.8	11/19/1996	U	S
18S/06W-24BBB	LANE 18890	435948123220801	JOHNSON, ALLEN	270	01/08/1982	B	540	5.5	A	---	1.0	35.2	11/20/1996	H	Q,S
19S/01W-02DBC	LANE 19412	435637122462201	FALL CREEK TAVERN	410	08/05/1973	B	667	100.0	A	391	1.0	18.6	11/07/1996	H	Q,S
19S/01W-03ADB	LANE 19429	435656122471801	SHAMBLIN, DON	155	09/01/1989	B	650	7.5	A	---	1.0	7.6	11/14/1996	H	Q,S
19S/01W-16CBD	LANE 1640	435454122431601	DEXTER FIRE DEPT.	100	10/05/1978	B	667	89.0	P	37	15.0	16.5	11/07/1996	H	Q,S
19S/02W-07DDA	LANE 20028	435513123013401	WAGERS, CHET & SUSAN	148	03/03/1953	B	555	---	-	---	---	4.7	01/04/2000	I	Q,S,O,2,B2
19S/03W-14BCC	LANE 20573	435504123012701	CITY OF CRESWELL	171D	08/06/1957	U	545	40.0	B	75	2.5	22.3	11/04/1996	I	S
19S/03W-15AAB	LANE 20567	435525123014601	CRESWELL HIGH SCHOOL	155	08/09/1967	U,B	543	350.0	B	90	1.0	24.6	11/04/1996	I	S
20S/01W-03BBB	LANE 21731	435727122544301	KAMPSTRA, CHARLENE	110	07/06/1978	B	920	5.0	B	39	1.0	80.2	11/05/1996	H	S
20S/03W-11BAB	LANE 22027	435024123053401	OREGON DEPT OF TRANSPORTATION	415	12/30/1964	B	587	7.0	B	30	1.0	2.2	01/04/2000	U	P,S,R,O,1,B2,B4
21S/03E-08CBD1	LANE 23566	434528122291101	O'KELLY, AL & JODIE	140	01/21/1990	B	1190	4.0	B	129	1.0	9.9	11/14/1996	H	Q,S
21S/03E-08CBD2	LANE 23527	434528122290901	PORTER, JAMES & LAURA	100	02/08/1984	---	1195	120.0	B	13	1.5	45R	02/08/1984	H	Q
21S/03E-16DAC	LANE 23679	434144123310701	CITY OF OAKRIDGE	215	07/26/1965	U	1200	1000.0	R	66	21.0	78.0	01/06/1986	P	D,2,B2
22S/03W-30AAD	---	433758123051501	LONDON SPRING	---	--/--/----	---	860	---	-	---	---	---	--/--/----	U	I,Q

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APPENDIX B: Summary of Water-Level-Measurement Data and Hydrographs for Selected Wells in the Willamette Basin, Oregon

A summary of the number of water-level measurements and period of record for 1,234 study wells is presented in table B1 and in a text file called TABLE_B1.TXT in a subdirectory called "[WATERLEV](#)" on the CD-ROM. These data contain the well-location number, the OWRD well-log ID, the USGS site ID, year of first measurement (generally this measurement was reported by the driller), year of last measurement, the number of measurements, and remark codes. The remark codes indicate if the well is part of an observation network maintained by either the USGS or the OWRD, if a water-level measurement was made during the November synoptic of 1996, and if a hydrograph was made for the well. For selected wells, hydrographs were made for three periods: 1920 to 2000, 1960 to 2000, and 1996 to 2000. Water-level measurements for these hydrographs included both the manual water-level measurements and the daily noon measurements for those wells equipped with a digital recorder. Hydrographs for the period 1920 to 2000 were made for nine wells that were originally measured during a USGS study by Piper (1942) and subsequently were added to the statewide observation network maintained by OWRD (fig. B1). Only two of the nine wells are currently measured. In addition, hydrographs for the period 1960 to 2000 were made for 117 wells that were part of the statewide observation network maintained by OWRD (fig. B2). Only 70 of the 117 wells are currently measured. Hydrographs for the period 1996 to 2000 were made for 89 of the 91 wells originally measured bimonthly for this study and for 44 of the 47 wells measured quarterly as part of the observation network maintained by the State Watermaster of Washington County (fig. B3), and for 33 wells equipped with a digital recorder (fig. B4) for this study. Some wells had hydrographs made for more than one period or are no longer part of an observation network maintained by the USGS and OWRD. Images of the hydrographs for the wells in figures B1, B2, and B3 are included in the "[WATERLEV](#)" subdirectory on the CD-ROM. In addition, images of the hydrographs for the 33 wells equipped with a digital recorder (fig. B4) are included in the "[RECORDER](#)" subdirectory. Images of the hydrographs were recorded in three different formats: PNG (Portable Network Graphics), JPG or JPEG (Joint Photographic Experts Group), and GIF (Graphics Interchange Format).

Water-level measurements for the 1,234 study wells and for another approximately 4,150 nonstudy wells in the Willamette Basin are listed in table B2 and in a text file called TABLE_B2.TXT in a subdirectory called "[WATERLEV](#)" on the CD-ROM. Approximately 73,000 measurements were compiled in this text file which includes both the manual water-level measurements and the daily noon measurements for those wells equipped with a digital recorder. The locations of the selected observation wells and the wells equipped with a digital recorder are identified by the remarks codes in the GIS files recorded in a subdirectory called "[STUDY](#)" on the CD-ROM.

A summary of the number of water-level measurements and period of record for the 33 wells equipped with a digital recorder is listed in table B3 and in a text file called TABLE_B3.TXT in a subdirectory called "[RECORDER](#)" on the CD-ROM. In addition, the daily noon water-level measurements for the 33 wells are listed in table B4 and in a text file called TABLE_B4.TXT in a subdirectory called "[RECORDER](#)" on the CD-ROM. Water-level measurements for wells equipped with a digital recorder, set at 2-hour to 1-minute sampling increments, are contained in a text file for each well on the CD-ROM.

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Table B1. Summary data of water-level measurements for selected wells in the Willamette Basin, Oregon

Well location: See "Well- and Spring-Location System" section for explanation. Sorted on this item.
 Well Log ID: Unique identifier combining a four-letter county code and a well-log number with up to 6 digits, which is assigned to the well when a water well report is filed by the well driller with the Oregon Water Resources Department and recorded in Ground Water Resource Information Distribution (GRID), a statewide computer database maintained by Oregon Water Resources Department.
 USGS Site ID: Site identification number permanently assigned to the well by the U.S. Geological Survey and recorded in National Water Information System (NWIS), a national computer database maintained by U.S. Geological Survey.
 Starting year: Year the water level was first measured, generally by driller during original construction.
 Ending year: Year the water level was last measured, generally by U.S. Geological Survey or Oregon Water Resources Department personnel.
 Number of measurements: Number of measurements, includes those by reported by driller, and by U.S. Geological Survey and Oregon Water Resources Department personnel. For wells equipped with a digital recorder, the number of daily-noon measurements were included in the frequency count.

Remarks:

- B, bimonthly observation well for Willamette Basin study;
- O, Oregon Water Resources Department observation well;
- R, observation well equipped with a digital recorder for Willamette Basin study;
- S, visited during November 1996 synoptic;
- B1, hydrograph included in figure B1;
- B2, hydrograph included in figure B2;
- B3, hydrograph included in figure B3;
- B4, hydrograph included in figure B4.

---: no data.

Location	Well-Log ID	USGS Site ID	Starting Year	Ending Year	Number of Measurements	Remarks
01N/01E-18CCAD	MULT 841	453354122442001	1965	1965	1	
01N/01E-27ACDC	MULT 1008	453232122400201	1985	1985	1	
01N/01E-28CAB1	MULT 1013	453227122414801	1946	1946	1	
01N/01E-29AAB	MULT 1017	453251122422301	1962	1962	2	
01N/01E-29ABA	MULT 1018	453248122423301	1963	1963	1	
01N/01E-33CAD	MULT 1038	453129122413601	1946	1992	89	B2
01N/01E-34CAAD	MULT 5135	453131122401601	1986	1986	1	
01N/01E-34CCAB	MULT 1083	453122122404101	1950	1988	12	
01N/01E-34CCB	MULT 5133	453117122404901	1986	1986	1	
01N/01E-34CCBC	MULT 1061	453117122405001	1958	1989	23	
01N/01E-34CCDA2	MULT 1064	453115122403604	1946	1988	13	
01N/01E-34CCDD1	MULT 1073	453113122403501	1940	1990	363	B2
01N/01E-36ADCD1	MULT 1099	453139122372201	1965	1989	15	
01N/02E-09CCB	MULT 1113	453449122342801	1963	2000	97	O, B2
01N/02E-23AACB1	MULT 52396	453338122311001	1967	2000	85	O, B2
01N/01W-05BBC	MULT 679	453615122504201	1947	1964	2	
01N/01W-07DAB1	WASH 3047	453502122510001	1993	1998	12	S, O, B3
01N/01W-12CDD	MULT 801	453439122452201	1985	1985	1	
01N/01W-17CDA1	WASH 4627	453357122501001	1986	1996	2	
01N/01W-17DAA	WASH 4632	453410122493501	1981	1998	11	S, O, B3
01N/01W-17DAB	WASH 4662	453412122494801	1978	1998	8	S, O
01N/01W-17DAC	WASH 4639	453407122494501	1976	1998	9	S, O
01N/01W-17L1	WASH 4659	453401122500901	1954	1954	1	
01N/01W-20ADC	WASH 4710	453324122494401	1951	1951	1	
01N/01W-20CCC	WASH 330	453302122504101	1989	1998	12	S, O
01N/01W-20DDB1	WASH 76	453308122494701	1990	1990	1	
01N/01W-21CAB	WASH 4787	453315122491201	1953	1997	109	S, B2
01N/01W-23DBA	MULT 861	453316122460901	1976	1989	58	
01N/01W-33AAA	WASH 4930	453201122481801	1953	1953	1	
01N/01W-34CAA	WASH 4938	453135122474501	1967	1986	2	
01N/01W-35H1	WASH 4956	453143122460401	1948	1948	1	
01N/01W-36BCC	MULT 901	453139122454001	1951	1982	31	
01N/02W-01CBC	WASH 1193	453550122530801	1991	1998	12	O, B3
01N/02W-03ABA	WASH 14	453618122544701	1990	1998	12	O, B3
01N/02W-03DDB1	WASH 5074	453554122545901	1978	1998	12	S, O
01N/02W-05CCB	WASH 5148	453546122580201	1956	1998	25	S, O, B3
01N/02W-05R2	WASH 5133	453544122565801	1953	1953	1	
01N/02W-06CBD	WASH 13832	453548122591001	1950	1950	1	
01N/02W-08BCA	WASH 5173	453514122575801	1951	2000	187	S, O, B2
01N/02W-15BAB	WASH 5351	453435122551701	1948	1948	1	
01N/02W-17ACC	WASH 5382	453417122572901	1970	1998	10	S, B, B3
01N/02W-17DAB	WASH 5377	453414122571001	1977	1998	12	S, B, B3
01N/02W-23BCA	WASH 5539	453328122541401	1977	1978	2	
01N/02W-28DAB	WASH 5586	453230122555701	1987	1998	23	S, O
01N/02W-33DBA	WASH 5778	453138122560201	1987	1990	2	
01N/03W-01DBD	WASH 5929	453550122595001	1949	1950	2	
01N/03W-01G1	WASH 5950	453603123000101	1953	1953	1	
01N/03W-05CDD1	WASH 3127	453540123045702	1993	1998	8	S, O
01N/03W-07AAB	WASH 6049	453532123054801	1951	1951	1	

Table B1. Summary data of water-level measurements for selected wells in the Willamette Basin, Oregon—Continued

Location	Well-Log ID	USGS Site ID	Starting Year	Ending Year	Number of Measurements	Remarks	
01N/03W-12ABD	WASH	1215	453522122594401	1991	1991	1	
01N/03W-12BA1	WASH	6109	453523123000601	1979	1979	1	
01N/03W-15CBA	WASH	6123	453412123025601	1987	1998	9	O, B3
01N/03W-16AAB	WASH	6150	453441123032001	1986	1996	3	S
01N/03W-24DDB1	WASH	5415	453306122593501	1973	1998	10	B, B3
01N/03W-24DDB2	WASH	6279	453306122593502	1976	1998	9	B, B3
01N/03W-30BDB1	WASH	146	453242123062201	1990	1998	9	S, B
01N/03W-36DDC	WASH	6528	453117122593602	1956	1998	127	S, O, B2
01N/04W-01ABC1	WASH	6532	453614123072102	1978	1996	2	S
01N/04W-02BBC1	WASH	6543	453615123090601	1977	1997	7	S, B, B3
01N/04W-02CAA	WASH	6536	453559123084401	1988	1988	1	
01N/04W-02CBA1	WASH	6542	453559123090301	1977	1998	13	S, B, O, B3
01N/04W-02CDA	WASH	6537	453546123084301	1984	1991	2	
01N/04W-03DDD	WASH	6556	453535123092301	1950	1950	1	
01N/04W-08DAD	WASH	6617	453502123115201	1980	1998	11	O, B3
01N/04W-14B1	WASH	6695	453436123082401	1950	1950	1	
01N/04W-15ACC	WASH	6719	453418123095101	1980	1998	11	O, B3
01N/04W-23DDA	WASH	6781	453309123081001	1950	1950	1	
01N/04W-28BAD1	WASH	1664	453249123111701	1992	1998	9	S, B, B3
01N/04W-31CBD1	WASH	50022	453130123135801	1995	1997	7	S, O
02N/01W-27CDC1	MULT	1732	453717122475601	1959	1959	1	
02N/01W-31Q1	MULT	1794	453626122512101	1938	1938	1	
02N/02W-13ACC1	MULT	1917	453928122523401	1969	1988	2	
02N/02W-19ACD1	WASH	6959	453839122582901	1983	1983	1	
02N/02W-28BCB	WASH	7022	453750122564601	1989	1998	11	O, B3
02N/02W-32AAD1	WASH	7121	453705122570201	1969	1996	2	S
02N/02W-33ACC	WASH	3175	453655122561501	1993	1998	12	O, B3
02N/02W-33ACD1	WASH	7155	453655122561301	1973	1996	4	S
02N/02W-33BBB1	WASH	7175	453709122564701	1977	1996	2	S
02N/03W-18CCD1	WASH	7394	453909123063401	1973	1998	16	S, O, B3
02N/03W-25ADC	WASH	3481	453745122593501	1993	1998	10	O, B3
02N/03W-25BBB1	WASH	3779	453805123003201	1994	1996	2	S
02N/03W-28CCC	WASH	7581	453723123041901	1973	1998	13	O, B3
02N/03W-35CDD	WASH	5956	453628123012101	1960	1999	827	R, B4
02N/04W-03DAA1	WASH	7726	454106123092001	1975	1996	2	S
02N/04W-13DDD	WASH	7934	453906123065401	1970	1998	13	O, B3
02N/04W-33BBB	WASH	8198	453715123114301	1980	1998	11	O, B3
03N/01W-06BAA1	COLU	3379	454645122512201	1967	2000	101	O, B2
03N/02W-24CCB1	COLU	3206	454329122531201	1973	1973	1	
04N/01W-05DDB1	9999999999	9999999999	455117122493801	1940	1990	11	
04N/01W-07BCBB	COLU	3273	455053122515701	1982	1982	1	
04N/01W-07CCA1	COLU	3274	455026122514201	1982	1988	2	
04N/01W-07CCA2	COLU	3275	455026122514202	1981	1981	1	
04N/01W-17BDD1	COLU	121	454949122501401	1988	1988	1	
04N/01W-17CAA1	COLU	3312	454944122501501	1988	1989	3	
04N/02W-12DCC1	COLU	3480	455020122523501	1968	1988	2	
04N/02W-13BDC	COLU	3486	454953122523701	1950	1988	54	B2
04N/02W-24ABB1	COLU	3617	454917122523401	1967	1989	4	
01S/01E-03BBAC	MULT	2726	453106122404102	1955	1988	12	
01S/01E-03BBAD	MULT	2732	453106122403801	1959	1987	48	B2
01S/01E-03BBB	MULT	5132	453105122404501	1986	1986	1	
01S/01E-03BCBD	MULT	2745	453045122403701	1965	1965	1	
01S/01E-03BCBD1	MULT	2739	453053122404401	1963	1989	8	
01S/01E-03CBCA	MULT	2743	453037122404501	1962	1988	64	B2
01S/01E-04AAA2	MULT	2747	453110122405801	1958	1958	1	
01S/01E-04ADDD	MULT	2750	453048122405501	1968	1988	6	
01S/01E-06BAC	WASH	2758	453104122441501	1954	1954	1	
01S/01E-16DCD	MULT	2791	452834122411801	1985	1985	1	
01S/01E-19P1	MULT	2802	452747122440301	1946	1946	1	
01S/01E-25CBD	CLAC	304	452706122380701	1969	1969	2	
01S/01E-25DAD2	CLAC	305	452708122371301	1963	1989	4	
01S/01E-26CAB	CLAC	311	452712122391701	1975	1975	1	
01S/01E-26CAD	CLAC	312	452707122390101	1968	1968	1	
01S/01E-28AADA	MULT	2813	452733122405201	1984	1984	1	
01S/01E-31C1	MULT	2819	452648122441101	1951	1951	1	
01S/01E-31D1	MULT	2820	452638122442401	1953	1953	1	
01S/01E-33DABB	MULT	2827	452624122410801	1969	1969	1	
01S/01E-36ADB	CLAC	315	452637122372301	1982	1989	5	
01S/02E-22CCC	MULT	2901	452746122331901	1953	1989	5	
01S/02E-22DDD	MULT	2903	452745122321901	1967	1989	8	
01S/02E-27AAB	CLAC	337	452736122322901	1950	1989	4	
01S/02E-33DAC1	CLAC	390	452611122334301	1960	1989	4	
01S/02E-34CBB1	CLAC	395	452620122332101	1958	1989	4	
01S/03E-10CCA	MULT	2164	452938122254801	1959	2000	175	O, B2
01S/03E-25DDB1	CLAC	452	452657122223001	1973	1988	3	
01S/03E-33DCA	CLAC	755	452607122262001	1955	1989	4	

Table B1. Summary data of water-level measurements for selected wells in the Willamette Basin, Oregon—Continued

Location	Well-Log ID	USGS Site ID	Starting Year	Ending Year	Number of Measurements	Remarks
01S/03E-35DDA1	CLAC 51848	452418122234001	1997	1997	1	
01S/04E-11ACC	MULT 56742	452953122164301	1981	1981	1	
01S/04E-14CCC	MULT 2514	452840122171901	1974	1990	17	
01S/04E-16ADB	MULT 2198	452908122185101	1969	1969	1	
01S/04E-28ADD1	CLAC 935	452716122184401	1985	1985	1	
01S/04E-29CBD	CLAC 971	452708122205401	1985	1985	1	
01S/04E-30CBB	CLAC 1066	452713122221401	1953	1988	5	
01S/04E-30CDC	CLAC 1087	452652122212801	1980	1988	29	
01S/05E-31ACA	CLAC 53950	452634122140901	1980	1980	1	
01S/01W-01B1	WASH 8637	453107122450501	1951	1951	1	
01S/01W-01BB1	WASH 89	453103122443401	1990	1996	2	S
01S/01W-02CAB	WASH 8650	453040122464401	1951	1951	1	
01S/01W-02CDC	WASH 8654	453023122463701	1953	1953	2	
01S/01W-02DAC	WASH 8648	453033122460201	1942	1953	2	
01S/01W-05DCD	WASH 8684	453026122494801	1988	1989	2	
01S/01W-11CAB	WASH 8791	452951122463301	1932	1957	4	
01S/01W-17AAD1	WASH 8851	452916122493401	1954	1996	3	S
01S/01W-17CDB	WASH 8862	452845122502301	1959	2000	114	O, B2
01S/01W-19DDC	WASH 8927	452749122510001	1946	1993	100	B2
01S/01W-21CDD2	WASH 8988	452751122485401	1945	1998	187	
01S/01W-21DAD2	WASH 8976	452757122482001	1968	2000	66	O, B2
01S/01W-24ACC	WASH 9031	452813122450501	1938	1953	2	
01S/01W-24BBB2	WASH 9029	452830122454401	1951	1996	3	S
01S/01W-24F2	WASH 9032	452819122450701	1953	1953	1	
01S/01W-27ABC	WASH 9053	452737122473601	1952	1952	1	
01S/01W-30BBB1	WASH 9148	452713122583601	1969	1988	2	
01S/01W-31DAB	WASH 9162	452623122510101	1968	1998	26	
01S/01W-33CBC	WASH 9205	452619122492401	1982	2000	1535	S, R, O, B4
01S/01W-33CCA	WASH 9201	452611122491301	1952	1989	4	
01S/01W-34DAA	WASH 9228	452623122470801	1956	1998	12	S, B, B3
01S/02W-08ADA	WASH 50197	453004122565501	1996	1996	1	
01S/02W-09BCB	WASH 4551	453005122565401	1995	1995	1	
01S/02W-13DCD	WASH 9828	452842122520801	1961	2000	97	O, B2
01S/02W-16DAC	WASH 9903	452854122555601	1986	1998	11	S, B, B3
01S/02W-18AAC	WASH 9959	452916122582001	1963	1996	5	S
01S/02W-18ABD	WASH 9987	452917122583201	1987	1996	3	S
01S/02W-19AAB	WASH 10015	452831122582601	1950	1953	3	
01S/02W-21AAB	WASH 10042	452836122555001	1987	1996	4	S
01S/02W-21BBA	WASH 10062	452831122564501	1970	1996	4	S
01S/02W-23ACB	WASH 10143	452817122561501	1962	2000	110	O, B2
01S/02W-23DCB	WASH 10114	452751122534801	1952	2000	66	O, B2
01S/02W-24DAC1	WASH 10200	442800122520001	1958	2000	54	O
01S/02W-25DAB	WASH 10236	452713122521401	1958	1958	1	
01S/02W-26ACC	WASH 10304	452725122512001	1961	2000	115	O, B2
01S/02W-26BDC	WASH 10306	452721122513601	1957	2000	149	O, B2
01S/02W-26DCD	WASH 10307	452654122533601	1958	2000	114	O, B2
01S/02W-28AAB	WASH 10379	452510122581901	1965	2000	94	O, B2
01S/02W-28CAB	WASH 10348	452713122563001	1988	1996	3	S
01S/02W-29DBD	WASH 10406	452707122572201	1973	1997	8	S
01S/02W-29DCC	WASH 10409	452657122572901	1951	1951	1	
01S/02W-31BA1	WASH 10450	452641122584701	1977	1998	10	S, O, B3
01S/02W-31BAD	WASH 10465	452643122585101	1949	1949	1	
01S/02W-31DCA	WASH 10446	452610122582901	1982	1998	11	S, B, B3
01S/02W-31F1	WASH 10466	452629122585501	1997	1997	1	
01S/02W-33BBA	WASH 10475	452651122565001	1970	1970	1	
01S/02W-35BBA	WASH 10514	452652122541601	1962	2000	62	O, B2
01S/02W-36BAC	WASH 10523	452643122524801	1973	2000	60	O, B2
01S/03W-02DDA	WASH 10569	453031123004201	1963	1996	4	S
01S/03W-13BAD	WASH 10686	452917123000601	1969	1996	3	S
01S/03W-15BBB1	WASH 10710	452928123030401	1971	1991	2	
01S/03W-16BAC1	WASH 620	452918123032001	1987	1987	1	
01S/03W-16BCA1	WASH 1516	452921123021801	1992	1992	1	
01S/03W-17DDD1	WASH 10760	452840123042101	1978	1998	195	S, B, B2, B3
01S/03W-17DDD2	WASH 10758	452842123042201	1969	1998	11	S, B, B3
01S/03W-19CAD1	WASH 10784	452801123061901	1965	1998	10	S, B, B3
01S/03W-24ddb	WASH 10893	452753122593301	1951	1951	1	
01S/03W-27CBB1	WASH 10309	452714123025701	1989	1998	12	S, O, B3
01S/03W-27DC	WASH 1598	452659123022301	1992	1992	1	
01S/03W-28DBD	WASH 4236	452708123033201	1994	1998	814	S, B4
01S/04W-02ADD	WASH 11109	453020123063601	1953	1996	100	S, B2
01S/04W-14DCD2	WASH 3235	452844123082301	1993	1996	2	S
02S/01E-01BCD	CLAC 2455	452535122380501	1970	1988	3	
02S/01E-02DBB	CLAC 2960	452528122385401	1971	1989	4	
02S/01E-03CAC	CLAC 2970	452520122402301	1939	1939	1	
02S/01E-08CCD	CLAC 3027	452421122430101	1945	1945	1	
02S/01E-09BAC	CLAC 3033	452500122414501	1946	1946	1	

Table B1. Summary data of water-level measurements for selected wells in the Willamette Basin, Oregon—Continued

Location	Well-Log ID	USGS Site ID	Starting Year	Ending Year	Number of Measurements	Remarks
02S/01E-11AABC	CLAC 3038	452501122383801	1985	1985	1	
02S/01E-12DDA	CLAC 3046	452424122371001	1986	1989	3	
02S/01E-13DDB	CLAC 3072	452330122372001	1980	1989	4	
02S/01E-14BDD	CLAC 3079	452351122390201	1947	1947	1	
02S/01E-14DCAA	CLAC 3074	452333122384401	1984	1984	1	
02S/01E-15BAC	CLAC 3092	452407122402801	1935	1935	1	
02S/01E-16ACC	CLAC 3106	452351122412701	1969	1969	1	
02S/01E-16BDD	CLAC 3107	452352122413600	1969	1976	2	
02S/01E-19CCB	CLAC 3126	452242122442201	1974	1974	1	
02S/01E-20BBA	CLAC 3189	452317122430401	1967	1967	1	
02S/01E-20CBD1	CLAC 12346	452249122430801	1991	2000	21	S, B, B3
02S/01E-20CBD2	CLAC 3165	452249122430901	1980	2000	21	S, B, B3
02S/01E-20DDA	CLAC 3171	452240122420701	1967	1967	1	
02S/01E-21CCC	CLAC 3246	452234122415901	1963	2000	78	S, B, B2, B3
02S/01E-22BAC	CLAC 3315	452314122402601	1945	1945	1	
02S/01E-23BBD	CLAC 3348	452309122392501	1965	1965	1	
02S/01E-24CDA	CLAC 3374	452237122375401	1984	1984	1	
02S/01E-25BCD	CLAC 3388	452210122380101	1949	1949	1	
02S/01E-30DBC	CLAC 3635	452154122435301	1962	1989	5	
02S/01E-32DAC	CLAC 3767	452106122421301	1972	1972	1	
02S/01E-33BBB	CLAC 3814	452136122415700	1973	1976	2	
02S/01E-35AAB	CLAC 3407	452136122383801	1976	1976	1	
02S/02E-06ABDA	CLAC 3990	452550122362301	1985	1988	3	
02S/02E-07DDD	CLAC 3991	452416122355801	1981	1989	3	
02S/02E-08CCD	CLAC 4120	452414122354701	1978	1989	4	
02S/02E-11DAB	CLAC 4041	452431122310701	1973	1989	5	
02S/02E-15BBB	CLAC 4146	452407122332101	1954	2000	132	S, O, B2
02S/02E-17BDA	CLAC 4196	452354122352401	1961	1988	9	
02S/02E-17CBBB	CLAC 4191	452345122355201	1973	1973	1	
02S/02E-18ACB	CLAC 4199	452358122362901	1962	1989	5	
02S/02E-18BDD	CLAC 4209	452353122363101	1972	1987	2	
02S/02E-19ACB	CLAC 4211	452302122362301	1971	1971	1	
02S/02E-20BBD	CLAC 4234	452315122354101	1965	1989	4	
02S/02E-21BAC	CLAC 4240	452309122342101	1968	1968	1	
02S/02E-22ACC	CLAC 4270	452300122324501	1970	1970	1	
02S/02E-27ABC	CLAC 4372	452215122324901	1970	1970	1	
02S/02E-27BAA	CLAC 4368	452222122325201	1979	1979	1	
02S/02E-27BAD	CLAC 5157	452219122325301	1979	1979	1	
02S/02E-28BAA	CLAC 4392	452224122340901	1963	1963	1	
02S/02E-30BDD	CLAC 4227	452206122363901	1987	1987	1	
02S/02E-32BAC	CLAC 4427	452125122353601	1967	1967	2	
02S/03E-05DDBC	CLAC 4579	452511122272901	1963	1989	6	
02S/03E-06BDB	CLAC 4614	452539122291701	1952	2000	123	S, O, B2
02S/03E-07BAC	CLAC 4618	452456122291801	1982	1989	4	
02S/03E-08BAD	CLAC 4662	452454122275201	1977	1987	2	
02S/03E-09AAB	CLAC 4679	452503122261201	1983	1989	3	
02S/03E-09ACA1	CLAC 4683	452446122262001	1976	1989	4	
02S/03E-09ACA2	CLAC 4682	452446122262101	1979	1989	4	
02S/03E-09CDD	CLAC 402	452416122265301	1977	1990	11	
02S/03E-09CDD	CLAC 4678	452415122264501	1987	1987	1	
02S/03E-14CBC	CLAC 4817	452336122243801	1948	1973	2	
02S/03E-15CCD	CLAC 4847	452326122254701	1971	1988	3	
02S/03E-17ABA	CLAC 4862	452407122274101	1987	1988	2	
02S/03E-17BAD	CLAC 4863	452360122275801	1983	1989	4	
02S/03E-31CAA	CLAC 5246	452107122291501	1959	1996	44	S, B2
02S/04E-01CBA1	CLAC 5345	452530122155001	1986	1986	2	
02S/04E-02CDD2	CLAC 5364	452511122165301	1984	1984	1	
02S/04E-03CDD	CLAC 5478	452514122181201	1958	1994	135	B2
02S/04E-05CBB	CLAC 5535	452528122205501	1958	2000	148	S, O, B2
02S/04E-07CAB	CLAC 5607	452438122215601	1958	1973	2	
02S/04E-07CBC	CLAC 4741	452429122221301	1982	1982	1	
02S/04E-08BAA	CLAC 5617	452505122203601	1987	1988	16	
02S/04E-10CDA	CLAC 19430	452422122180801	1994	1994	1	
02S/04E-17CCB	CLAC 5961	452333122205901	1947	1947	1	
02S/04E-18ADD	CLAC 5955	452352122210601	1969	1969	1	
02S/04E-18DAD	CLAC 5924	452337122210601	1971	1971	2	
02S/04E-22CBC	CLAC 6061	452247122183401	1952	1952	1	
02S/04E-28BDB	CLAC 6306	452213122192801	1984	1984	1	
02S/04E-29DAD	CLAC 6388	452033122195901	1958	2000	124	S, O, B2
02S/04E-34DAD	CLAC 6577	452059122172601	1987	1987	1	
02S/04E-34DBA	CLAC 6584	452111122174901	1978	1978	1	
02S/04E-36DCA1	CLAC 6616	452054122152101	1982	1982	1	
02S/05E-07BDB	CLAC 6723	452451122143801	1969	1969	1	
02S/05E-10DAB	CLAC 6756	452440122102101	1967	1967	1	
02S/05E-18ACC	CLAC 6835	452351122141101	1971	1971	1	
02S/05E-24BBD2	CLAC 6978	452314122083701	1971	1971	1	

Table B1. Summary data of water-level measurements for selected wells in the Willamette Basin, Oregon—Continued

Location	Well-Log ID	USGS Site ID	Starting Year	Ending Year	Number of Measurements	Remarks
02S/05E-29DAC	CLAC 7104	452155122124201	1968	1968	1	
02S/05E-32ABA	CLAC 7235	452136122125301	1971	1971	1	
02S/05E-32DDD	CLAC 7243	452049122123601	1967	1972	2	
02S/05E-33ABB	CLAC 7276	452135122114701	1969	1969	1	
02S/05E-33DAD	CLAC 7295	452105122112301	1963	1963	1	
02S/05E-34BAB	CLAC 7319	452132122105701	1971	1971	1	
02S/05E-34DDC	CLAC 7315	452052122101601	1970	1970	1	
02S/07E-30ACB	CLAC 7583	452210121593000	1968	1968	1	
02S/07E-34BBD	CLAC 7705	452124121561601	1966	1966	1	
02S/01W-01M1	WASH 11408	452532122453701	1961	1961	1	
02S/01W-04ACC	WASH 11449	452534122485101	1958	1998	169	O, B2
02S/01W-04BAD	WASH 11436	452551122485801	1960	1994	97	B2
02S/01W-06BCC	WASH 11510	452536122515501	1953	1998	57	O, B2
02S/01W-06CAB	WASH 11504	452531122513001	1965	1997	54	O, B2
02S/01W-07ACD1	WASH 11516	452443122510301	1964	1998	76	O, B2
02S/01W-08ACA	WASH 11542	452453122495001	1946	1946	1	
02S/01W-10ADA	WASH 11594	452351122465901	1947	1998	184	O, B2
02S/01W-10BAB	WASH 11592	452501122475701	1949	1998	155	O, B2
02S/01W-12ADC	WASH 11613	452445122445001	1990	1990	1	
02S/01W-12DCD	WASH 11645	452421122445501	1989	1991	2	
02S/01W-14AAB	WASH 11707	452411122460701	1953	1998	20	O
02S/01W-14ACA	WASH 11705	452402122461501	1971	1971	1	
02S/01W-15BDA	WASH 11789	452359122475701	1962	1997	6	
02S/01W-16ABB	WASH 11552	452415122485101	1960	1998	54	O, B2
02S/01W-20DAB	WASH 703	452255122494101	1974	1974	1	
02S/01W-22CDC	WASH 11930	452237122475501	1966	1966	1	
02S/01W-24CAB	WASH 11969	452256122452801	1951	1951	1	
02S/01W-27CCD	WASH 12038	452146122480401	1971	1971	1	
02S/01W-30ACC	WASH 12111	452206122511401	1967	1967	1	
02S/01W-32ADD	WASH 51903	452113122493001	1997	1997	1	
02S/01W-32BDD	WASH 1823	452120122501601	1946	1993	184	B2
02S/01W-32CBC	WASH 717	452105122503701	1984	1993	49	
02S/01W-36DDD	WASH 13575	452050122443701	1974	1998	10	O, B3
02S/02W-01DAB	WASH 12375	452531122521201	1951	1988	3	
02S/02W-02BBD1	WASH 12399	452549122541301	1972	1997	63	O, B2
02S/02W-02BCA	WASH 12398	452543122540901	1973	1994	7	
02S/02W-02DCC1	WASH 12405	452514122534301	1963	1998	97	O, B2
02S/02W-06BBB	WASH 12442	452556122592001	1951	1997	170	S, O, B2
02S/02W-08AC	WASH 12486	452448122572501	1983	1983	1	
02S/02W-08ACB	WASH 943	452452122573101	1991	1996	14	
02S/02W-08BBD	WASH 746	452456122580001	1980	1980	1	
02S/02W-09AAD	WASH 10447	452559122584701	1979	1991	2	
02S/02W-09BBA	WASH 12496	452505122564301	1956	1956	1	
02S/02W-16BCD	WASH 12676	452349122564301	1962	1975	3	
02S/02W-16CCA	WASH 12679	452335122564301	1953	1998	95	O, B2
02S/02W-17CBB	WASH 3110	452345122580601	1993	1998	11	S, O, B3
02S/02W-18DDA	WASH 12757	452331122581501	1972	1998	13	S
02S/02W-19ABD	WASH 12803	452313122583101	1973	1975	2	
02S/02W-19CDC	WASH 12838	452236122585801	1969	1969	1	
02S/02W-24CBB	WASH 12978	452256122530801	1988	1998	11	O, B3
02S/02W-25AAA	WASH 13017	452227122520401	1971	1971	1	
02S/02W-25CDC	WASH 985	452145122525301	1991	1998	11	O, B3
02S/02W-26BB	WASH 315	452224122542001	1991	1991	1	
02S/02W-30ADB	WASH 12869	452215122582001	1973	1973	1	
02S/02W-31BDC	YAMH 916	452114122590101	1972	1975	2	
02S/02W-34ACD	WASH 3443	452118122545001	1982	1998	11	O, B3
02S/02W-34ADB	WASH 13210	452119122544001	1977	1998	11	O, B3
02S/02W-34DCB	WASH 818	452053122545601	1971	1975	2	
02S/02W-36ABA	WASH 13298	452136122522001	1969	1976	2	
02S/03W-01A1	WASH 13321	452552122592901	1951	1951	1	
02S/03W-01AC	WASH 13306	452540122595501	1988	1988	1	
02S/03W-01BAC	WASH 13322	452548123001401	1950	1950	1	
02S/03W-10BBB	WASH 13411	452507123025601	1967	1967	1	
02S/03W-12AAB	WASH 13469	452507122594001	1970	1998	13	S, O, B3
02S/03W-13ABC	WASH 13506	452405122595000	1968	1998	23	S, B, B3
02S/03W-14BAC	WASH 13522	452410123012500	1973	1974	2	
02S/03W-15BBD	YAMH 946	452410123025500	1964	1998	11	S, B, B3
02S/03W-31ACB	YAMH 1127	452120123060500	1963	1996	57	S, B2
03S/01E-04ACC	CLAC 8886	452028122411601	1970	1989	5	
03S/01E-04BAB	CLAC 8879	452041122413701	1944	1945	2	
03S/01E-04DB	CLAC 12223	452009122411401	1991	1991	1	
03S/01E-06DAC	CLAC 9035	452014122433001	1965	1965	1	
03S/01E-10BA	CLAC 10322	451947122401501	1991	1991	1	
03S/01E-12ABC1	CLAC 9170	451944122374801	1967	1967	1	
03S/01E-12CCC	CLAC 9184	451905122381801	1970	1970	1	
03S/01E-16BB	CLAC 285	451860122414501	1990	1990	1	

Table B1. Summary data of water-level measurements for selected wells in the Willamette Basin, Oregon—Continued

Location	Well-Log ID	USGS Site ID	Starting Year	Ending Year	Number of Measurements	Remarks
03S/01E-16CAD	CLAC 9316	451828122412800	1970	1971	2	
03S/01E-16DDD	CLAC 9327	451815122405401	1972	2000	20	S,B,B3
03S/01E-17AB	CLAC 279	451856122423001	1990	1990	1	
03S/01E-17ACA	CLAC 9340	451845122423101	1976	2000	20	S,B,B3
03S/01E-18BDB01	CLAC 9374	451848122440901	1971	1971	1	
03S/01E-23BBC	CLAC 9573	451758122393101	1959	1959	1	
03S/01E-24ADD	CLAC 9596	451747122371501	1961	1961	1	
03S/01E-26BCD	CLAC 9648	451656122391801	1955	2000	129	S,O,B2
03S/01E-27CBD	CLAC 9679	451640122403701	1977	1999	16	S,B3
03S/01E-27DAD1	CLAC 9665	451642122394201	1967	1967	1	
03S/01E-27DAD2	CLAC 9687	451643122393901	1997	1999	14	B,B3
03S/01E-33CBD	CLAC 12064	451546122415301	1927	1927	1	
03S/01E-36CCC	CLAC 12211	451536122382101	1959	2000	126	S,O,B2
03S/02E-01CCC	CLAC 17214	451952122305601	1964	1964	1	
03S/02E-04ADD	CLAC 17257	452019122333501	1958	1958	1	
03S/02E-05BAC	CLAC 17272	452034122353601	1971	1971	1	
03S/02E-06CCA	CLAC 17266	452000122365000	1966	1966	1	
03S/02E-08BCA	CLAC 17295	451930122353000	1967	1977	3	
03S/02E-09BBA	CLAC 17251	451950122343000	1968	1968	1	
03S/02E-09DCD	CLAC 17420	451900122335000	1958	1958	1	
03S/02E-09DDA	CLAC 17312	451913122333201	1974	1974	1	
03S/02E-15ABC	CLAC 18421	451856122324701	1993	1996	4	S
03S/02E-15BDD	CLAC 17402	451841122325301	1962	1962	1	
03S/02E-17AAA	CLAC 17429	451856122344601	1968	1968	1	
03S/02E-19DDD1	CLAC 17488	451720122355901	1966	1966	1	
03S/02E-21CCD1	CLAC 17500	451721122343001	1971	1971	1	
03S/02E-24BCA	CLAC 17561	451751122304601	1967	1967	1	
03S/02E-25BAA	CLAC 17599	451713122302801	1963	1971	2	
03S/02E-25CBC	CLAC 17600	451640122305000	1962	1973	2	
03S/02E-26ACB	CLAC 16085	451659122313601	1968	1968	1	
03S/02E-27CCA	CLAC 16123	451630122331000	1968	1968	1	
03S/02E-28CBD	CLAC 16154	451639122342501	1966	1973	3	
03S/02E-29ABB	CLAC 16184	451710122352000	1967	1967	1	
03S/02E-29BBB	CLAC 16166	451712122355101	1969	1969	1	
03S/02E-32CCD	CLAC 16260	451530122354000	1968	1968	1	
03S/02E-34AAB	CLAC 16333	451619122322601	1968	1968	1	
03S/02E-34ACB	CLAC 20274	451611122324501	1995	1995	1	
03S/02E-34BDA	CLAC 16337	451606122325201	1970	1970	1	
03S/02E-35ABA	CLAC 16383	451620122312000	1956	1996	3	S
03S/02E-36CDB	CLAC 16395	451540122304201	1968	1968	1	
03S/03E-06AAD	CLAC 16486	452034122283201	1965	1972	3	
03S/03E-07AAD	CLAC 16533	451941122283901	1984	1996	3	S
03S/03E-07DCD	CLAC 16510	451904122285201	1968	1968	1	
03S/03E-08ABA	CLAC 53949	451950122274000	1972	1973	3	
03S/03E-08ABB	CLAC 16549	451949122275101	1972	1972	1	
03S/03E-08CDB	CLAC 16556	451907122280801	1970	1970	1	
03S/03E-15BCD	CLAC 16746	451841122254901	1970	1972	2	
03S/03E-17CBB1	CLAC 16779	451826122282501	1970	1970	1	
03S/03E-30BBB	CLAC 17004	451711122294401	1969	1969	1	
03S/03E-31DAD	CLAC 17023	451547122283801	1970	1970	1	
03S/03E-32ADA	CLAC 17036	451611122272201	1971	1971	1	
03S/03E-33CCB	CLAC 17047	451540122271000	1972	1972	1	
03S/03E-34ADC	CLAC 17076	451600122250301	1972	1996	3	S
03S/03E-35DCD	CLAC 17162	451537122235501	1971	1971	1	
03S/03E-36CCA	CLAC 16983	451542122231801	1967	1967	1	
03S/04E-01CAD	CLAC 15610	452012122153801	1971	1971	1	
03S/04E-02DDC	CLAC 15622	451956122162001	1970	1973	3	
03S/04E-03ACA	CLAC 15636	452033122174401	1971	1973	3	
03S/04E-05BDC	CLAC 15715	452020122204401	1970	1970	1	
03S/04E-10CDB	CLAC 15836	451908122181901	1971	1973	3	
03S/04E-11ACB	CLAC 15850	451937122164301	1961	1961	1	
03S/04E-12BCB	CLAC 15856	451935122160401	1969	1969	1	
03S/04E-13CCD	CLAC 15863	451813122155301	1969	1973	3	
03S/04E-14CAC	CLAC 15891	451829122170601	1967	1967	1	
03S/04E-15ADD	CLAC 15947	451842122172601	1968	1973	3	
03S/04E-15BAD	CLAC 14552	451853122180301	1971	1973	3	
03S/04E-21ADC	CLAC 14516	451748122184701	1968	1972	2	
03S/04E-23ABC	CLAC 14587	451800122164701	1971	1971	1	
03S/04E-23BBD	CLAC 14586	451801122170801	1970	1970	1	
03S/04E-23DCA	CLAC 14585	451728122163601	1971	1971	1	
03S/04E-25BDC1	CLAC 14639	451650122160000	1968	1973	3	
03S/04E-25BDC2	CLAC 14634	451655122155201	1972	1972	1	
03S/04E-26CDB	CLAC 14665	451636122165701	1963	2000	119	S,O,B2
03S/04E-27CDB	CLAC 14700	451633122181901	1971	1971	1	
03S/04E-28BDD	CLAC 14743	451655122192401	1967	1972	2	
03S/04E-29CCA3	CLAC 14822	451632122205301	1971	1973	3	

Table B1. Summary data of water-level measurements for selected wells in the Willamette Basin, Oregon—Continued

Location	Well-Log ID	USGS Site ID	Starting Year	Ending Year	Number of Measurements	Remarks
03S/04E-29DBD	CLAC 14832	451640122201501	1969	1969	1	
03S/04E-30CAA	CLAC 14881	451647122215401	1969	1972	2	
03S/04E-33CDB	CLAC 14952	451544122193001	1967	1973	3	
03S/04E-34ADD	CLAC 14963	451600122172801	1970	1970	1	
03S/04E-35DBC	CLAC 14999	451548122164301	1969	1969	1	
03S/04E-36DDB	CLAC 15033	451542122151301	1970	1973	3	
03S/05E-02ADA	CLAC 1557	452026122085401	1965	1965	1	
03S/05E-03CCA	CLAC 1568	452006122110201	1969	1969	1	
03S/05E-04CAD	CLAC 1600	452010122115000	1972	1972	1	
03S/05E-05ABA	CLAC 1632	452045122124901	1971	1971	1	
03S/05E-06ACA	CLAC 1669	452027122140901	1967	1967	1	
03S/05E-07BAB	CLAC 1679	451950122143201	1969	1969	1	
03S/05E-17BDA	CLAC 1713	451841122131501	1966	1966	1	
03S/05E-19BCA	CLAC 1742	451753122144601	1964	1964	1	
03S/05E-20BDD	CLAC 1759	451745122131601	1971	1971	1	
03S/05E-22ACD	CLAC 1770	451744122102601	1972	1972	1	
03S/05E-28CAC	CLAC 1783	451635122121000	1963	1972	2	
03S/05E-29ABA	CLAC 1788	451713122125301	1967	1967	1	
03S/05E-30DDC	CLAC 1807	451626122140001	1969	1969	1	
03S/01W-01ADB	WASH 13582	452032122444801	1969	1972	2	
03S/01W-05BCD	CLAC 7836	452026122502501	1968	1975	2	
03S/01W-07CDC	WASH 1915	451904122513501	1972	1992	3	
03S/01W-10CCD	CLAC 8009	451905122475801	1951	1997	220	S, B2
03S/01W-14AAA	CLAC 8145	451857122455601	1962	1962	1	
03S/01W-14ABA	CLAC 50585	451903122460801	1996	1999	931	S, R, B4
03S/01W-14DAA	CLAC 8133	451833122455301	1967	1967	1	
03S/01W-15CAC	CLAC 8184	451747122484801	1958	2000	135	S, O, B2
03S/01W-16DDD	CLAC 8231	451813122481801	1960	2000	148	O, B2
03S/01W-23DAA	CLAC 8478	451738122454900	1956	1956	1	
03S/01W-24BCD	CLAC 8498	451752122453501	1973	1999	1328	S, R, B4
03S/01W-25CBD	CLAC 8562	451642122453301	1984	2000	21	S, B, B3
03S/01W-27DDB	CLAC 8638	451636122471801	1962	1996	3	S
03S/01W-36DDD	CLAC 8794	451541122444301	1985	2000	21	S, B, B3
03S/02W-03BDC	YAMH 50077	452025122551501	1995	1995	1	
03S/02W-05BAB	YAMH 3122	452039122573601	1994	1994	1	
03S/02W-17AAB	YAMH 2410	451900122571001	1950	2000	141	S, O, B2
03S/02W-19CCB	YAMH 2428	451730122591500	1958	1996	46	S, B2
03S/02W-23BBA	YAMH 168	451805122541801	1990	1997	22	S, O
03S/03W-28DBD	YAMH 4572	451645123033001	1987	1987	1	
03S/03W-28DCA	YAMH 1713	451635123032801	1992	1992	1	
03S/03W-28DCC	YAMH 1725	451632123033801	1992	1992	1	
03S/03W-30DAB	YAMH 4591	451650123054501	1960	1996	72	S, B2
03S/03W-33BD	YAMH 1820	451601123040201	1992	1992	1	
03S/03W-34DB1	YAMH 4640	451557123022201	1979	1979	1	
03S/03W-35ABA	YAMH 1658	451621123005701	1992	1992	1	
03S/03W-35DCA2	YAMH 2925	451546123005701	1993	2000	21	S, B, B3
03S/03W-36DCB	YAMH 4669	451545123000001	1969	2000	21	S, B, B3
03S/04W-05CCC2	YAMH 4725	452000123125001	1967	1996	3	S
04S/01E-02ABB	CLAC 12854	451528122385501	1969	1971	2	
04S/01E-20BAC	CLAC 13431	451251122425901	1960	2000	111	S, O, B2
04S/01E-20BBD	CLAC 12648	451249122430101	1966	1966	1	
04S/01E-30AAB	CLAC 12655	451201122432901	1979	1979	1	
04S/01E-32ADD	CLAC 13378	451048122420501	1976	2000	22	S, B, B3
04S/02E-01BDA	CLAC 13500	451516122302901	1968	1968	1	
04S/02E-02BCA	CLAC 13540	451518122315901	1970	1971	2	
04S/02E-03ABB	CLAC 13561	451526122324401	1965	1965	1	
04S/02E-03BCB	CLAC 13573	451517122332201	1967	1967	1	
04S/02E-04ABC	CLAC 13589	451520122340000	1968	1999	18	S, B, B3
04S/02E-05Q1	CLAC 13637	451445122350500	1961	1961	1	
04S/02E-07CAD	CLAC 13661	451411122364001	1966	1996	3	S
04S/02E-08G	CLAC 13742	451428122350201	1962	1962	1	
04S/02E-09K1	CLAC 13779	451408122340201	1959	1959	1	
04S/02E-11N	CLAC 13808	451400122320801	1960	1960	1	
04S/02E-13E1	CLAC 13845	451332122305401	1958	1958	1	
04S/02E-29ADC1	CLAC 17958	451141122345501	1992	2000	20	S, B, B3
04S/02E-36H1	CLAC 14394	451051122295001	1961	1961	1	
04S/03E-03BAA	CLAC 10935	451528122253301	1967	1967	1	
04S/03E-03CBC	CLAC 10950	451455122255501	1961	1961	1	
04S/03E-04DBC	CLAC 10965	451456122263001	1971	1971	1	
04S/03E-04DCB	CLAC 10985	451449122262701	1955	1955	1	
04S/03E-04DD	CLAC 10986	451450122260401	1962	1962	1	
04S/03E-05AAC	CLAC 11003	451520122272801	1970	1970	1	
04S/03E-05DBB	CLAC 11008	451504122275201	1970	1970	1	
04S/03E-06ADC	CLAC 11035	451510122284000	1967	1996	3	S
04S/03E-07J	CLAC 11113	451411122284401	1958	1958	1	
04S/03E-08N1	CLAC 11138	451359122281701	1961	1961	1	

Table B1. Summary data of water-level measurements for selected wells in the Willamette Basin, Oregon—Continued

Location	Well-Log ID	USGS Site ID	Starting Year	Ending Year	Number of Measurements	Remarks
04S/03E-14H1	CLAC 11263	451332122234601	1961	1961	1	
04S/03E-16N1	CLAC 11272	451259122265801	1961	1961	1	
04S/03E-20D1	CLAC 11348	451248122281501	1960	1960	1	
04S/03E-21D1	CLAC 11356	451253122271401	1960	1960	1	
04S/03E-23Q1	CLAC 11371	451206122240301	1958	1958	1	
04S/03E-27D1	CLAC 11426	451203122260001	1962	1962	1	
04S/03E-28BBB1	CLAC 11436	451202122271301	1960	1960	1	
04S/03E-28CDA	CLAC 11435	451125122264801	1976	1999	15	S, B, B3
04S/03E-29N	CLAC 11467	451135122281701	1958	1958	1	
04S/03E-30B1	CLAC 11475	451154122290801	1962	1962	1	
04S/03E-31B	CLAC 11490	451111122290201	1961	1961	1	
04S/04E-05CBD	CLAC 11632	451457122205601	1970	1970	1	
04S/04E-16J1	CLAC 11774	451315122184601	1959	1959	1	
04S/04E-20R	CLAC 11813	451206122201301	1958	1958	1	
04S/04E-22B1	CLAC 11844	451252122175101	1959	1959	1	
04S/04E-22BBC1	CLAC 11824	451244122183601	1980	1980	1	
04S/04E-22BBC2	CLAC 18382	451242122183601	1993	1998	13	S, B, B3
04S/04E-22BBC3	CLAC 20423	451241122183601	1995	1998	12	S, B, B3
04S/04E-30G1	CLAC 11904	451149122212901	1959	1959	1	
04S/01W-02BAC	MARI 242	451526122463701	1928	1962	151	B1
04S/01W-05CDB	MARI 290	451454122502401	1988	1998	9	S, B, B3
04S/01W-05CDC	MARI 308	451447122502101	1960	1999	917	S, R, O, B2, B4
04S/01W-06ADD	MARI 50403	451514122504401	1996	2000	20	B, B3
04S/01W-10DDC	MARI 405	451354122471701	1978	1996	3	S
04S/01W-12BBA	MARI 463	451437122453701	1978	1999	881	R, B4
04S/01W-13BBB	MARI 479	451349122454301	1982	1998	10	S, B, B3
04S/01W-15BDD	CLAC 1952	451333122474901	1979	2000	21	S, B, B3
04S/01W-32ADB	MARI 905	451052122512501	1951	2000	99	S, B, B3
04S/02W-02BBD	MARI 1044	451528122541301	1956	1999	1167	S, R, B4
04S/02W-06DAA	MARI 1082	451509122580901	1983	1998	12	S, B, B3
04S/02W-08F1	MARI 1114	451424122574401	1959	1959	1	
04S/02W-18L1	MARI 1211	451313122590401	1956	1961	8	
04S/02W-19AAA	MARI 17671	451259122581101	1992	2000	21	S, B, B3
04S/02W-34DDC	MARI 1388	451028122544601	1928	1962	154	B1
04S/03W-01BDB	YAMH 3855	451515123001601	1995	1995	1	
04S/03W-02DCB	YAMH 5151	451451123011401	1972	1996	4	S
04S/03W-03BAC	YAMH 5161	451523123024401	1973	2000	21	S, B, B3
04S/03W-03CAB	YAMH 5171	451500123024101	1956	1956	1	
04S/03W-04BDB	YAMH 50117	451519123040101	1996	1996	1	
04S/03W-09ABC1	YAMH 5280	451430123033801	1965	1965	1	
04S/03W-18BBA1	YAMH 5342	451347123063701	1983	1983	1	
04S/03W-33DBA	YAMH 5484	451045123032701	1959	2000	120	S, O, B2
04S/04W-24DDB	YAMH 5840	451210123070601	1957	1996	61	B2
05S/08.5E-11DAA1	WASC 3678	450857121443501	1970	1985	2	
05S/01E-11BAA01	CLAC 2049	450926122390001	1957	1957	1	
05S/01E-18ACC	CLAC 2555	450812122435101	1957	2000	70	S, B, B3
05S/01E-22DCC	CLAC 2616	450655122401101	1989	1996	3	S
05S/01E-23Q1	CLAC 2621	450704122385301	1957	1957	1	
05S/01E-27BCB	CLAC 2950	450634122404601	1991	2000	21	S, B, B3
05S/01E-28DDD01	CLAC 2676	450602122405101	1961	1961	1	
05S/01E-30BAC01	CLAC 2716	450642122440401	1961	1961	1	
05S/01E-30H1	CLAC 2712	450636122432601	1962	1962	1	
05S/01E-33A2	CLAC 2763	450559122410101	1957	1957	1	
05S/01E-34A1	CLAC 2818	450600122394501	1961	1961	1	
05S/02E-06BBB	CLAC 154	451018122370501	1990	2000	21	S, B, B3
05S/02E-17ACC1	CLAC 10285	450813122350501	1963	1986	69	B2
05S/02E-20P1	CLAC 10374	450700122352001	1957	1957	1	
05S/02E-27Q1	CLAC 10489	450609122323701	1957	1957	1	
05S/02E-28C1	CLAC 10493	450643122342001	1958	1958	1	
05S/02E-29C1	CLAC 10518	450651122353001	1961	1961	1	
05S/03E-02D1	CLAC 10621	451013122244601	1957	1957	1	
05S/03E-05ABB	CLAC 10681	451014122275101	1959	1959	1	
05S/03E-07A1	CLAC 10729	450926122284701	1955	1955	1	
05S/03E-08B1	CLAC 10778	450918122273801	1961	1961	1	
05S/03E-09F1	CLAC 10787	450914122264101	1960	1960	1	
05S/03E-09H1	CLAC 10788	450913122261201	1961	1961	1	
05S/03E-20G1	CLAC 10862	450726122274401	1959	1959	1	
05S/03E-20H1	CLAC 10861	450722122273001	1956	1956	1	
05S/03E-30BA	CLAC 10882	450650122291501	1960	1960	1	
05S/01W-07CDB	MARI 1634	450846122513501	1962	1985	134	B2
05S/01W-18ABC3	MARI 1849	450829122512101	1925	1985	190	B2
05S/01W-26DAB	MARI 1982	450627122460401	1986	2000	21	S, B, B3
05S/01W-28DBB	MARI 2035	450623122484901	1985	2000	22	S, B, B3
05S/01W-33ACC	MARI 19214	450538122485201	1994	1994	1	
05S/01W-33CDD1	MARI 18242	450510122485401	1992	2000	21	S, B, B3
05S/01W-34ABA1	MARI 2174	450557122472001	1963	1990	2	

Table B1. Summary data of water-level measurements for selected wells in the Willamette Basin, Oregon—Continued

Location	Well-Log ID	USGS Site ID	Starting Year	Ending Year	Number of Measurements	Remarks	
05S/01W-34DDA	MARI	2160	450521122470401	1987	1987	1	
05S/01W-36DDA1	MARI	2201	450517122443501	1953	1962	4	
05S/02W-01DDA	MARI	2218	450939122520901	1964	1999	1589	S,R,B2,B4
05S/02W-05BCC	MARI	2331	450958122580201	1950	2000	126	S,O,B2
05S/02W-08CCA2	MARI	52504	450851122575801	1997	1999	677	R,B4
05S/02W-08CCB1	MARI	52597	450851122580101	1997	1999	787	R,B4
05S/02W-19DCC	MARI	2541	450758122590201	1951	2000	128	S,O,B2
05S/02W-25CBD	MARI	2666	450620122530501	1930	2000	262	S,O,B1
05S/03W-06CBD	YAMH	1928	450949123062901	1992	1996	2	
05S/03W-13CBA	MARI	2910	450808123002601	1986	1998	10	S,B,B3
05S/03W-21CCD	YAMH	6572	450655123040601	1952	2000	115	S,O,B2
05S/03W-22AAA	YAMH	6576	450745123015801	1987	2000	22	S,B,B3
05S/03W-34CBB	YAMH	50041	450531123025901	1996	1996	3	S
05S/03W-36DAA	MARI	17239	450535122593201	1991	1996	4	S
05S/04W-11BBC	YAMH	6929	450921123091201	1963	1978	53	B2
05S/04W-13DAD	YAMH	7924	450807123065201	1995	2000	21	S,B,B3
05S/04W-14AB1	YAMH	672	450826123082601	1991	1999	671	R,B4
05S/04W-20CCC	YAMH	7058	450659123125101	1953	1978	75	B2
05S/04W-20CDC2	YAMH	2787	450658123123701	1993	1999	1136	S,R,B4
05S/04W-21BA	YAMH	3219	450648123110301	1994	1994	1	
05S/04W-23BA	YAMH	1705	450752123081101	1992	1992	1	
05S/04W-24BBA2	YAMH	599	450740123074401	1978	1999	1401	S,R,B4
05S/04W-25BD	YAMH	2832	450638123073601	1993	1993	1	
05S/04W-26AA	YAMH	95	450649123081101	1990	1990	1	
05S/04W-26DB	YAMH	2885	450627123082501	1993	1993	1	
05S/04W-27BCD	YAMH	7141	450632123102201	1953	1979	76	B2
05S/04W-35AB	YAMH	50172	450536123081901	1996	1996	1	
05S/04W-36DDB	YAMH	7222	450518123070401	1983	1996	2	S
05S/05W-13ABC	YAMH	7310	450829123143801	1928	2000	247	S,O,B1
05S/06W-26AAA	YAMH	7529	450654123225401	1977	1996	4	S
06S/01E-04R1	CLAC	15135	450424122410101	1956	1956	1	
06S/01E-06CDD	MARI	5539	450418122440201	1989	1996	3	S
06S/01E-08L1	MARI	5580	450345122424501	1958	1958	1	
06S/01E-09CCC	CLAC	18059	450426122405901	1992	1992	1	
06S/01E-13R1	CLAC	15219	450234122371501	1997	1997	1	
06S/01E-17BDA	MARI	5576	450311122424801	1977	1996	3	S
06S/01E-18BCA	MARI	5636	450310122441801	1978	1991	2	
06S/01E-19ABA	MARI	5663	450226122433901	1976	1976	1	
06S/01E-20BC	MARI	50446	450205122440201	1996	1996	1	
06S/01E-20BCD	MARI	5706	450210122430401	1973	1984	2	
06S/01E-20CDA	MARI	17959	450150122424401	1992	1997	7	S,B3
06S/01E-22R1	MARI	5747	450147122394501	1956	1956	1	
06S/01E-23BCB	CLAC	15268	450216122391601	1983	1983	1	
06S/01E-36DD	MARI	9402	450002122371801	1977	1994	2	
06S/02E-08CC1	CLAC	15370	450329122354801	1960	1960	1	
06S/02E-08F	CLAC	15368	450359122352801	1958	1958	1	
06S/01W-01ADB	MARI	2979	450452122444901	1961	2000	111	S,B2
06S/01W-02BCD	MARI	3003	450444122464501	1988	1996	4	S
06S/01W-02DCD1	MARI	3001	450421122460901	1959	1959	1	
06S/01W-03ABC	MARI	50652	450458122472901	1990	1990	1	
06S/01W-03ACA	MARI	17676	450456122472501	1995	1996	3	S
06S/01W-03BCB	MARI	3021	450452122481201	1981	1981	1	
06S/01W-06CCC	MARI	3054	450423122514701	1968	2000	105	S,O,B2
06S/01W-09DCA	MARI	50456	450332122483801	1996	1996	1	
06S/01W-10BAA1	MARI	3105	450415122474001	1962	1962	1	
06S/01W-10BDD1	MARI	3113	450356122474001	1961	1961	1	
06S/01W-11AA	MARI	3120	450409122455501	1987	1987	1	
06S/01W-11ABB	MARI	3132	450416122455001	1975	1975	1	
06S/01W-12DAD1	MARI	5585	450345122373901	1975	1975	1	
06S/01W-13ABB	MARI	18259	450327122450801	1992	1992	1	
06S/01W-13CAA	MARI	3154	450257122451601	1983	1991	3	
06S/01W-14N1	MARI	3173	450244122463901	1956	1956	1	
06S/01W-15CCA	MARI	3186	450243122480201	1971	1991	3	
06S/01W-21CAD	MARI	3266	450200122485301	1985	2000	21	S,B,B3
06S/01W-23AA	MARI	17908	450223122460101	1992	1992	1	
06S/01W-23BAC	MARI	19801	450220122463401	1995	1995	1	
06S/01W-25ADA	MARI	3346	450122122443601	1976	2000	22	S,B,B3
06S/01W-26BD	MARI	18235	450119122463201	1992	1992	1	
06S/01W-28CB	MARI	3442	450107122491901	1981	1999	3	
06S/01W-31DC	MARI	17083	445960122510601	1990	1990	1	
06S/01W-33DAC	MARI	3533	450010122482801	1988	1991	3	
06S/01W-34BDB	MARI	19171	450031122474701	1995	1995	1	
06S/01W-35J1	MARI	3694	450013122454801	1961	1961	1	
06S/01W-36BBC	MARI	3653	450036122454101	1983	1983	1	
06S/01W-36DBC1	MARI	3657	450013122450001	1980	1980	1	
06S/01W-36DBC2	MARI	3693	450010122450401	1957	1996	3	S

Table B1. Summary data of water-level measurements for selected wells in the Willamette Basin, Oregon—Continued

Location	Well-Log ID	USGS Site ID	Starting Year	Ending Year	Number of Measurements	Remarks	
06S/01W-36DDC	MARI	3652	445959122445001	1984	1996	3	S
06S/02W-05CDD	MARI	3799	450423122573601	1957	2000	116	S,O,B2
06S/02W-06ABA	MARI	3803	450510122582901	1981	2000	21	S,B,B3
06S/02W-06DAC	MARI	17263	450432122582001	1991	1996	3	
06S/02W-17DAD	MARI	4160	450246122564801	1961	2000	121	S,O,B2
06S/02W-17DBC	MARI	4092	450248122572601	1988	1996	3	S
06S/02W-30ADB	MARI	4559	450122122581901	1969	2000	22	S,B,B3
06S/03W-04ACD	MARI	4816	450451123031901	1974	1999	1105	S,R,B4
06S/03W-06CBC	YAMH	1907	450435123063101	1992	1992	1	
06S/03W-06R1	POLK	990	450427123053401	1952	1952	1	
06S/03W-07AAA	POLK	1002	450418123052801	1958	1958	1	
06S/03W-07ADD	POLK	1003	450406123052601	1955	1996	3	S
06S/03W-07DCD	POLK	992	450328123054601	1977	2000	11	S,B,B3
06S/03W-08DDA	POLK	1023	450333123041301	1978	1996	2	S
06S/03W-19AAD	POLK	1070	450227123052701	1972	2000	22	S,B,B3
06S/03W-23CAA2	MARI	5030	450205123011201	1969	2000	21	S,B,B3
06S/03W-32AC	POLK	1140	450034123044301	1989	1989	1	
06S/03W-32ADC	POLK	1158	450023123042201	1960	1960	1	
06S/03W-33DDD	MARI	5380	450003123030401	1929	1962	147	B1
06S/04W-03ABD	YAMH	3189	450502123092501	1994	1994	1	
06S/04W-10BDB	POLK	1174	450402123100001	1963	1963	1	
06S/04W-17DDB	POLK	1192	450300123121001	1956	2000	117	S,O,B2
06S/04W-23BD	POLK	323	450211123084201	1991	1991	1	
06S/04W-35DAA	POLK	1253	450023123075401	1981	2000	19	S,B,B3
06S/05W-33ACC	POLK	1317	450031123181701	1989	1996	3	S
07S/01E-04BDA	MARI	18889	445935122413701	1994	1994	1	
07S/01E-06CDD	MARI	50461	445906122440601	1996	1996	1	
07S/01E-08BCC1	MARI	19522	445841122431801	1994	1994	1	
07S/01E-08BCC2	MARI	19817	445843122432301	1995	1995	1	
07S/01E-08CBC	MARI	17621	445828122432201	1991	1991	1	
07S/01E-10BCB	MARI	18395	445847122405101	1993	1993	1	
07S/01E-15BAD	MARI	19330	445759122402101	1994	1994	1	
07S/01E-35DDA	MARI	19205	445450122383401	1994	1994	1	
07S/02E-07ADA	MARI	18333	445845122361001	1993	1993	1	
07S/02E-17ABB	MARI	18169	445810122351701	1992	1992	1	
07S/02E-21A2	MARI	8589	445708122334201	1960	1960	1	
07S/01W-01CDD1	MARI	5895	445907122451801	1978	1999	1092	R,B4
07S/01W-01CDD	MARI	18505	445907122451201	1993	1993	1	
07S/01W-02CAD	MARI	18179	445921122462201	1992	1992	1	
07S/01W-02E1	MARI	5975	445942122465101	1955	1955	1	
07S/01W-02F1	MARI	5945	445940122464201	1962	1962	1	
07S/01W-03B1	MARI	6034	445946122473001	1956	1956	1	
07S/01W-03BA1	MARI	6033	445952122474201	1959	1959	1	
07S/01W-03BB	MARI	18882	445946122475601	1994	1994	1	
07S/01W-04CA	MARI	6076	445923122485501	1976	1976	1	
07S/01W-04DB	MARI	6079	445926122483901	1976	1976	1	
07S/01W-06DD	MARI	6113	445913122505101	1961	1961	1	
07S/01W-07CC	MARI	17077	445817122514501	1990	1990	1	
07S/01W-07DD1	MARI	19644	445819122505601	1995	2000	21	S,B,B3
07S/01W-09BA	MARI	6161	445855122485301	1986	1986	1	
07S/01W-09BC	MARI	17772	445843122491501	1992	1992	1	
07S/01W-09BC	MARI	17787	445849122492301	1992	1992	1	
07S/01W-12CC1	MARI	6238	445816122453101	1961	1961	1	
07S/01W-18BB	MARI	6316	445805122514501	1988	1988	1	
07S/01W-19BB	MARI	6333	445712122514701	1978	1978	1	
07S/01W-19H1	MARI	6335	445654122505101	1957	1957	1	
07S/01W-20CC	MARI	6343	445632122502701	1987	1987	1	
07S/01W-22DC	MARI	6369	445631122472801	1984	1984	1	
07S/01W-27ABA1	MARI	6395	445621122472601	1985	1985	1	
07S/01W-27CCC	MARI	6404	445546122480201	1960	1997	4	S
07S/01W-32CBA	MARI	50094	445503122502501	1995	1995	1	
07S/01W-34CA	MARI	17524	445504122473701	1991	1991	1	
07S/02W-04BDA	MARI	6564	445942122561801	1957	2000	116	S,O,B2
07S/02W-10BC	MARI	50626	445844122552401	1979	1979	1	
07S/02W-11ABA	MARI	6950	445902122532501	1985	1985	1	
07S/02W-11ADB	MARI	17074	445850122532301	1990	1990	1	
07S/02W-12AC1	MARI	7003	445850122521901	1989	1989	1	
07S/02W-13CAC	MARI	7019	445734122524301	1989	2000	21	S,B,B3
07S/02W-13CBB	MARI	18003	445743122530101	1992	1992	1	
07S/02W-13L1	MARI	7051	445735122524501	1960	1960	1	
07S/02W-14CBD	MARI	50040	445734122540601	1995	1995	1	
07S/02W-16BA1	MARI	20664	445811122561301	1987	1987	1	
07S/02W-21CCA	MARI	50256	445630122564401	1995	1995	1	
07S/02W-23ACD	MARI	7648	445635122533501	1978	1990	2	
07S/02W-25ACB	MARI	7714	445608122522501	1966	1990	3	
07S/02W-26ACC1	MARI	7743	445605122533601	1955	1955	1	

Table B1. Summary data of water-level measurements for selected wells in the Willamette Basin, Oregon—Continued

Location	Well-Log ID	USGS Site ID	Starting Year	Ending Year	Number of Measurements	Remarks	
07S/02W-26BAC	MARI	9943	445617122535801	1990	1990	1	
07S/02W-26CCB	MARI	7736	445544122541601	1967	2000	24	S, B, B3
07S/02W-27DBD	MARI	7750	445548122544701	1986	1990	2	
07S/02W-28ADD	MARI	7883	445606122554101	1958	2000	22	S, B, B3
07S/02W-29ddb	MARI	7894	445543122570801	1987	1990	2	
07S/02W-34BDC	MARI	18878	445510122551401	1994	1994	1	
07S/02W-34L1	MARI	16619	445508122550101	1962	1962	1	
07S/02W-35AB	MARI	8199	445529122533301	1990	1990	1	
07S/02W-36BBB	MARI	17928	445529122530401	1992	1992	1	
07S/03W-05B1	POLK	1160	445951123044001	1960	1960	1	
07S/03W-05CCA1	POLK	881	445918123050801	1994	1999	918	R, B4
07S/03W-05CCA2	POLK	125	445913123051101	1977	1999	723	R, B4
07S/03W-05CDB	POLK	880	445918123050201	1994	1994	1	
07S/03W-06K1	POLK	1595	445922123055101	1963	1963	1	
07S/03W-08ACA	POLK	1645	445849123043401	1963	1963	1	
07S/03W-08DAD	POLK	1653	445831123042201	1956	1956	1	
07S/03W-08R	POLK	1655	445816123042901	1960	1960	1	
07S/03W-10BDC	POLK	1688	455845123023601	1962	1991	71	B2
07S/03W-17BDC	MARI	6710	445749123050801	1987	1987	1	
07S/03W-17CAC	POLK	1751	455740123050001	1969	1988	47	B2
07S/03W-17K2	POLK	1752	445733123043901	1961	1961	1	
07S/03W-18BAD	POLK	1777	445803123060701	1977	2000	22	S, B, B3
07S/03W-18CCB	POLK	387	445727123064301	1991	1991	1	
07S/03W-18CDC	MARI	20012	445721123062401	1995	1995	1	
07S/03W-18L1	POLK	50785	445748123060601	1951	1963	2	
07S/03W-19P1	POLK	1811	445643123061301	1957	1957	1	
07S/03W-20E1	POLK	1829	445704123051701	1959	1959	1	
07S/03W-22CCB	POLK	1844	445641123025101	1963	1963	1	
07S/03W-25BA	MARI	20670	445619122595901	1935	1935	1	
07S/03W-27A1	MARI	20705	445617123015801	1957	1957	1	
07S/04W-01AC1	POLK	1899	445942123071101	1957	1957	1	
07S/04W-03CCC	POLK	1915	445911123101801	1987	1987	1	
07S/04W-06ddb	POLK	1928	445918123125901	1965	1979	49	B2
07S/04W-10AAD	POLK	1950	445858123091401	1978	1978	1	
07S/04W-12BAA	POLK	784	445902123072901	1994	1994	1	
07S/04W-13CCC	POLK	1990	445722123074601	1985	1985	1	
07S/04W-15K	POLK	2016	445738123092701	1958	1958	1	
07S/04W-23DCC	POLK	2054	445633123082501	1963	1963	1	
07S/04W-26CAC	POLK	2115	445556123084101	1969	1969	1	
07S/06W-24CDC2	POLK	31	445636123221501	1990	1996	2	S
08S/01E-01DCA	MARI	17642	445409122373701	1992	1992	1	
08S/01E-21BAD	MARI	19117	445155122412801	1994	1994	1	
08S/01E-32BAD	MARI	19598	445013122425101	1995	1995	1	
08S/02E-07CC	MARI	18916	445260122370801	1994	1994	1	
08S/01W-04CBB	MARI	8602	445410122492301	1979	1990	3	
08S/01W-04DDA	MARI	19531	445360122481901	1995	1995	1	
08S/01W-14CDC	MARI	8695	445205122463501	1983	2000	13	S, B, B3
08S/01W-22BBB	MARI	8840	445158122480801	1987	1990	2	
08S/01W-23ABD	MARI	8847	445157122460501	1984	1990	2	
08S/01W-26ACA	MARI	8862	445053122460701	1973	1990	2	
08S/01W-27CCA	MARI	8873	445029122475701	1976	1990	2	
08S/01W-28ACD1	MARI	8917	445048122483701	1960	1960	1	
08S/01W-28CC	MARI	18770	445018122491501	1993	1993	1	
08S/01W-29DCB	MARI	17440	445030122495801	1991	1991	1	
08S/01W-29DDC	MARI	19689	445025122494101	1995	1995	1	
08S/01W-30DBD	MARI	18366	445034122510101	1988	1988	1	
08S/01W-30ddb1	MARI	8999	445032122505001	1972	2000	14	S, B, B3
08S/01W-30ddb2	MARI	8971	445033122505101	1989	2000	14	S, B, B3
08S/01W-33ABA	MARI	9104	445016122483201	1978	1990	2	
08S/01W-33CB1	MARI	9124	445006122492401	1962	1962	1	
08S/01W-33CCC	MARI	9122	444932122491601	1965	1990	2	
08S/01W-34BCC	MARI	9143	444959122481001	1986	1990	2	
08S/01W-34C	MARI	9154	445011122474101	1958	1958	1	
08S/01W-34CAC1	MARI	9142	444944122474701	1960	1960	1	
08S/01W-35AAC	MARI	9157	445009122455601	1976	1990	2	
08S/01W-35BAA	MARI	9168	445019122462401	1959	1978	46	B2
08S/01W-35BBC	MARI	9170	445013122465601	1967	1990	3	
08S/01W-36G1	MARI	20860	445004122445501	1957	1957	1	
08S/02W-01P1	MARI	9203	445351122523401	1961	1961	1	
08S/02W-02CDB	MARI	17673	445401122535601	1992	1992	1	
08S/02W-03M1	MARI	9463	445412122551801	1958	1958	1	
08S/02W-04CAD	MARI	9542	445406122562201	1966	1990	2	
08S/02W-09CDB	MARI	18127	445309122562201	1992	1992	1	
08S/02W-09DCA	MARI	17927	445306122555701	1992	1992	1	
08S/02W-10DBB	MARI	19996	445317122545601	1995	1995	1	
08S/02W-10DCA	MARI	10402	445308122545201	1973	1990	2	

Table B1. Summary data of water-level measurements for selected wells in the Willamette Basin, Oregon—Continued

Location	Well-Log ID	USGS Site ID	Starting Year	Ending Year	Number of Measurements	Remarks	
08S/02W-11CBB	MARI	19189	445322122542001	1994	1994	1	
08S/02W-11CDA	MARI	9897	445304122535101	1983	2000	40	S,O
08S/02W-11CDB	MARI	9915	445303122540301	1962	1992	110	B2
08S/02W-11CDB1	MARI	9914	445304122540301	1961	1961	1	
08S/02W-13BBA	MARI	10187	445250122530001	1975	1990	2	
08S/02W-13BCA	MARI	10198	445238122525401	1977	1990	2	
08S/02W-13M1	MARI	10225	445217122525601	1961	1961	1	
08S/02W-14ADD	MARI	10199	445233122531101	1977	1990	2	
08S/02W-14BAA	MARI	10239	445255122534401	1984	1996	3	S
08S/02W-15DD1	MARI	18460	445206122541801	1993	1993	1	
08S/02W-17DCD	MARI	18011	445206122571001	1992	1992	1	
08S/02W-18CDD	MARI	18186	445206122585001	1992	1992	1	
08S/02W-23ABB1	MARI	18970	445205122533201	1994	1994	1	
08S/02W-24BAA	MARI	10834	445201122523601	1987	1987	1	
08S/02W-25BBD	MARI	10917	445060122525001	1978	1978	1	
08S/02W-26ABC	MARI	10995	445101122533501	1980	1980	1	
08S/02W-27BDD	MARI	17695	445053122573101	1992	1992	1	
08S/02W-31DBC	MARI	11223	444943122584001	1980	1980	1	
08S/02W-31DCA	MARI	11229	444936122582801	1975	1998	10	S,B,B3
08S/03W-01DAA	MARI	9635	445415122592201	1969	1969	1	
08S/03W-02DAC	MARI	11348	445405123004901	1940	1940	1	
08S/03W-02DCC	MARI	11350	445357123010701	1922	1922	1	
08S/03W-03H1	MARI	11356	445419123020101	1954	1954	1	
08S/03W-03M1	MARI	11357	445415123024801	1958	1958	1	
08S/03W-05DDD	MARI	11420	445357123041801	1960	1998	100	S,O,B2
08S/03W-09J1	MARI	11684	445314123030201	1957	1957	1	
08S/03W-09K7	MARI	11658	445321123033101	1947	1962	2	
08S/03W-09P1	MARI	11661	445302123034001	1959	1959	1	
08S/03W-10DBB	MARI	11683	445320123021701	1959	1980	52	
08S/03W-10E2	MARI	11676	445329123025201	1958	1958	1	
08S/03W-10K2	MARI	11677	445317123021101	1954	1954	1	
08S/03W-10R1	MARI	11692	445313123015801	1956	1956	1	
08S/03W-11AB1	MARI	11706	445340123010101	1970	1970	1	
08S/03W-11CCC	MARI	11727	445304123014101	1960	1999	1594	S,R,O,B2,B4
08S/03W-14CA	MARI	11715	445230123011501	1959	1959	1	
08S/03W-14DDC	MARI	18490	445210123005001	1993	1993	1	
08S/03W-21DAC	MARI	8202	445129123031401	1990	1990	1	
08S/03W-22CBC	MARI	8205	445129123025701	1990	1990	1	
08S/03W-24BCB	MARI	12317	445152123003101	1988	1988	1	
08S/03W-24DAA	MARI	12357	445135122592201	1989	1989	1	
08S/03W-27AAB	MARI	12621	445115123015701	1986	1986	1	
08S/03W-28CAB	MARI	19705	445045123035501	1995	1995	1	
08S/03W-29DCD	MARI	17426	445027123043901	1991	1991	1	
08S/03W-30BCC	MARI	4180	445054123063901	1990	1990	1	
08S/03W-32BB	MARI	18693	445013123052301	1993	1993	1	
08S/03W-33ACA	MARI	12918	445008123032101	1988	1988	1	
08S/03W-33DAB	MARI	12958	444956123031701	1962	2000	123	S,O,B2
08S/03W-35DDD	MARI	12984	444935123003701	1980	1999	1298	S,R,B4
08S/03W-36BCA	MARI	13012	445007123001801	1989	1989	1	
08S/04W-03ABD1	POLK	2799	445437123093001	1962	1991	60	B2
08S/04W-19BCA	POLK	2914	445152123134701	1988	1996	3	S
08S/04W-27CBA	MARI	13280	445044123100401	1963	1978	57	B2
08S/05W-13ADD	POLK	3229	445236123141001	1963	1979	62	B2
08S/06W-25DDD	POLK	3656	445028123213001	1963	1988	69	B2
09S/01E-03BCC	MARI	15579	444903122404501	1964	1997	77	S
09S/01E-19CB	LINN	2150	444621122440201	1994	1994	1	
09S/01E-25BCC	LINN	3259	444536122382701	1965	1965	1	
09S/01E-25DA	LINN	1418	444526122372701	1992	1992	1	
09S/01E-32CCC	LINN	50067	444418122431401	1996	1996	1	
09S/02E-26CA	LINN	50100	444522122314501	1995	1995	1	
09S/02E-27DD	LINN	4063	444515122323801	1993	1993	1	
09S/02E-30CDB	LINN	50223	444513122364301	1996	1996	1	
09S/03E-30DAC	MARI	15977	444525122310901	1964	1981	46	B2
09S/01W-01BCC	MARI	17126	444903122453201	1958	1967	25	
09S/01W-02BDA	MARI	17133	444914122462201	1962	1962	1	
09S/01W-02DBA	MARI	17131	444901122460301	1956	1956	1	
09S/01W-02ddb	MARI	17130	444846122460201	1962	1981	69	B2
09S/01W-04N1	MARI	13500	444837122491001	1963	1963	1	
09S/01W-10C1	MARI	13611	444824122475201	1964	1964	1	
09S/01W-11C1	MARI	13622	444829122463701	1965	1965	1	
09S/01W-12ABB	MARI	13646	445019122462301	1955	1988	95	
09S/01W-14DCA	LINN	2705	444700122460701	1964	2000	125	S,O,B2
09S/01W-18ADA	MARI	13715	444723122504001	1980	1998	10	S,B,B3
09S/01W-22E1	LINN	2776	444634122480801	1966	1966	1	
09S/01W-24B	LINN	2943	444648122445401	1966	1966	1	
09S/01W-28R1	LINN	2999	444508122481301	1960	1960	1	

Table B1. Summary data of water-level measurements for selected wells in the Willamette Basin, Oregon—Continued

Location	Well-Log ID	USGS Site ID	Starting Year	Ending Year	Number of Measurements	Remarks
09S/01W-31ACD	MARI 13834	444443122510401	1972	1996	4	S
09S/02W-06ACD	MARI 13943	444906122582401	1983	1998	10	S,B,B3
09S/02W-06ADA	MARI 18448	444916122580701	1993	1993	1	
09S/02W-17CCD	MARI 19088	444656122574701	1994	1994	1	
09S/02W-18BDC	MARI 19392	444724122585101	1994	1994	1	
09S/02W-20BA2	MARI 14273	444649122574001	1963	1963	1	
09S/02W-20BAA	MARI 19027	444652122572501	1994	1994	1	
09S/02W-22ABA1	MARI 14078	444649122544301	1983	1983	1	
09S/02W-27AAA	MARI 14491	444553122542701	1963	1990	2	
09S/02W-32H1	MARI 14623	444443122570101	1955	1955	1	
09S/03W-01CAB	MARI 17538	444901123001401	1991	1991	1	
09S/03W-01CAC	MARI 17738	444855123000901	1992	1992	1	
09S/03W-01DDA	MARI 50512	444846122592901	1996	1996	1	
09S/03W-03BCB	MARI 14847	444913123025201	1980	1996	3	S
09S/03W-34DAD	MARI 15427	444434123014901	1964	1981	69	B2
09S/04W-08CCC	POLK 3783	444747123124001	1963	1981	69	B2
09S/04W-11CAB	POLK 3812	444811123084101	1965	1978	51	B2
10S/01W-03D1	LINN 3593	444407122475501	1957	1957	1	
10S/01W-04M1	LINN 3603	444338122491501	1941	1941	1	
10S/01W-05CAB	LINN 3621	444333122500701	1962	1988	93	B2
10S/03W-30CAD	BENT 1557	444008123060001	1964	2000	56	S,O,B2
10S/04W-19ABD	BENT 1487	444131123131201	1994	1996	3	S
10S/04W-27CDA	BENT 1899	444004123095201	1973	1996	4	S
10S/05W-14ABC	BENT 176	444222123154401	1980	1996	2	S
10S/06W-23BCC1	BENT 2309	444116123234101	1985	1996	2	S
10S/06W-30DCA	BENT 2334	444011123280201	1972	1996	4	S
10S/06W-30ddb	BENT 2326	444008123273801	1973	1999	1252	S,R,B4
10S/07W-27CCD	BENT 1479	444002123321501	1994	1996	3	S
11S/02W-15CB	LINN 6700	443646122552701	1973	1998	8	S,B,B3
11S/02W-29ADC	LINN 6902	443510122565601	1959	1978	71	B2
11S/03W-26AAA	LINN 7478	443601123003501	1952	2000	141	S,O,B2
11S/04W-01CBB	BENT 961	443834123073501	1992	1996	2	S
11S/04W-05CDD	BENT 2544	443812123120001	1957	2000	181	S,O,B2
11S/04W-05ddb	BENT 2545	443817123113301	1965	1985	126	B2
11S/04W-24CBD	LINN 8508	443547123073101	1965	2000	88	S,O,B2
11S/04W-28BDD1	LINN 4146	443512123105001	1993	1996	3	S
11S/04W-28CAA	LINN 14280	443500123105001	1995	1996	4	S
11S/04W-34CDA	LINN 8753	443358123093601	1988	1996	3	S
11S/04W-34DDC	LINN 8756	443352123090401	1986	1986	1	
11S/05W-23AC	BENT 3838	443609123153101	1974	1996	2	S
11S/05W-35DDD	LINN 10841	443349123150501	1975	1999	1275	S,R,B4
11S/07W-28BDA	BENT 403	443523123324701	1986	1999	1123	S,R,B4
12S/01W-30DDD	LINN 9725	442929122504801	1979	1999	1005	S,R,B4
12S/02W-02BAC	LINN 7644	443336122535701	1962	1981	81	B2
12S/02W-19CCB1	LINN 8054	443028122590901	1966	1996	4	S
12S/02W-22BBB	LINN 8062	443109122552301	1983	1998	10	S,B,B3
12S/03W-07BCC2	LINN 50852	443234123063101	1985	1996	3	S
12S/03W-07CCB	LINN 50103	443211123062901	1995	1996	3	
12S/03W-09BDC2	LINN 50853	443232123034501	1987	1996	3	S
12S/03W-09R1	LINN 14607	443213123025301	1928	1953	132	B1
12S/03W-11BDD	LINN 50855	443231123011101	1983	1998	10	S,B,B3
12S/03W-12BAA	LINN 10391	443252122595301	1982	1998	10	B,B3
12S/03W-29CDD	LINN 10562	442931123044801	1962	2000	116	S,O,B2
12S/04W-01ABB	LINN 50097	443343123070501	1995	1998	10	S,B,B3
12S/04W-21CAB	LINN 10769	443042123110501	1977	1998	10	S,B,B3
12S/04W-35CDC	LINN 10817	442838123083001	1959	2000	127	S,O,B2
12S/05W-02AAA	LINN 12120	443348123150201	1995	1999	1214	S,R,B4
12S/05W-20DBA	BENT 50297	443310123183601	1959	2000	116	S,O,B2
12S/06W-11DDA	BENT 5672	443217123222301	1980	1999	1114	S,R,B4
13S/01W-02DCD	LINN 4103	442747122461101	1993	1996	3	S
13S/01W-07BCC	LINN 11056	442716122514901	1967	1996	3	S
13S/01W-07CBB	LINN 11061	442746122514701	1975	1996	3	S
13S/02W-20BCC3	LINN 935	442549122575001	1987	1996	3	S
13S/03W-27ABD	LINN 1993	442455123020101	1993	1999	1091	S,R,B4
13S/03W-36ADA	LINN 11999	442351122592301	1959	2000	113	S,O,B2
13S/06W-06ABA	BENT 6475	442831123273801	1987	1996	3	S
14S/01W-07CCD	LINN 13101	442139122513101	1989	1996	3	S
14S/01W-08ADD	LINN 2571	442206122492701	1994	1996	3	S
14S/01W-14BBB	LINN 13200	442134122465801	1982	1996	3	S
14S/01W-15DAB	LINN 2333	442104122471801	1994	1994	1	
14S/01W-18ABC	LINN 1285	442126122510901	1991	1991	1	
14S/03W-07DDC	LINN 13576	442140123052601	1953	2000	305	S,O,B2
14S/03W-13BBC	LINN 13620	442123123001901	1979	1996	3	S
14S/03W-24ACD	LINN 13517	442018122592901	1978	1978	1	
14S/03W-30DDC1	LINN 13680	441902123052501	1968	1998	10	S,B,B3
14S/03W-30DDC3	LINN 14778	441860123052201	1995	1998	9	S,B,B3

Table B1. Summary data of water-level measurements for selected wells in the Willamette Basin, Oregon—Continued

Location	Well-Log ID	USGS Site ID	Starting Year	Ending Year	Number of Measurements	Remarks	
14S/04W-06ADD	LINN	13739	442300123123801	1969	1998	10	S, B, B3
14S/05W-06ACA1	BENT	6679	442309123200801	1985	1996	3	S
14S/05W-10DCA	BENT	6729	442145123163201	1929	1962	125	B1
15S/01W-23CCA	LANE	50736	441447122464501	1996	1996	2	S
15S/01W-23CCC2	LANE	5873	441446122465701	1979	1997	6	S
15S/03W-19ACD1	LINN	14047	441508123053001	1959	2000	127	S, O, B2
15S/04W-09DAB	LINN	2123	441647123101401	1994	1996	3	S
15S/04W-32CB1	LANE	6412	441312123121401	1928	1960	567	B1
15S/05W-09ADC	LANE	6478	441653123173601	1984	1996	3	S
15S/05W-12BCB	BENT	6612	441701123145501	1976	1998	11	S, B, B3
15S/05W-26BDC	LANE	6633	441416123154701	1980	1998	10	S, B, B3
15S/06W-24DBD	LANE	4857	441459123212701	1994	1996	3	S
16S/03W-02BAC	LANE	7346	441241123011301	1968	1990	2	
16S/03W-09AAC2	LANE	7370	441152123030001	1987	1996	3	S
16S/03W-17CDD	LANE	3382	441023123044001	1992	1998	728	S, B4
16S/03W-22CBA	LANE	7413	440951123023501	1965	1999	1177	S, R, B4
16S/03W-32DBB	LANE	7596	440803123042601	1928	1996	231	S, B1
16S/04W-04ACD	LANE	7719	441229123102801	1987	1998	11	S, B, B3
16S/04W-06BDA	LANE	7778	441237123130701	1986	1998	10	S, B, B3
16S/04W-13DCC	LANE	752	441021123065601	1977	1998	11	S, B, B3
16S/04W-16CAC	LANE	8029	441035123105001	1961	2000	100	S, O, B2
16S/05W-03CCC	LANE	8406	441206123171101	1983	1996	3	S
16S/05W-04AAB1	LANE	8410	441250123173301	1997	1998	8	B, B3
16S/05W-26AAD	LANE	8725	440915123145601	1987	1999	1142	S, R, B4
16S/05W-28BBB	LANE	8733	440925123182501	1982	1998	10	S, B, B3
16S/05W-30DCA	LANE	8773	440845123201001	1966	1996	4	S
16S/06W-33AAA	LANE	9114	440831123244301	1981	1996	3	S
17S/01W-24DCA	LANE	2085	440420122445701	1991	1997	5	S
17S/01W-24DCD	LANE	9935	440418122445901	1976	1976	1	
17S/01W-29ACC	LANE	10127	440354122495501	1948	2000	111	S, O, B2
17S/02W-04CCA	LANE	10449	440701122562701	1974	1996	2	
17S/02W-30CAA1	LANE	10761	440341122584001	1980	1998	883	S, B4
17S/02W-30CAA2	LANE	10762	440341122584002	1980	1998	549	S, B4
17S/02W-32BAD	LANE	10801	440310122572501	1957	1992	89	B2
17S/04W-09DAD1	LANE	11804	440616123100701	1962	1998	11	S, B, B3
17S/04W-30CCA	LANE	12505	440331123133001	1977	1996	2	S
17S/04W-31CAB4	LANE	12337	440256123131701	1979	1979	1	
17S/05W-02BAC1	LANE	12676	440736123154701	1996	1998	9	S, B, B3
17S/05W-02BAC2	LANE	3203	440735123154601	1992	1998	10	S, B, B3
17S/05W-06BCB	LANE	12844	440726123205601	1966	1996	3	S
17S/05W-13BDD	LANE	13051	440534123142601	1960	2000	107	S, O, B2
17S/06W-07DDD	LANE	3479	440601123270901	1992	1996	3	S
17S/06W-36DCD	LANE	14473	440058123254001	1959	1988	68	B2
18S/02W-35CAD	LANE	16030	435555123515701	1963	2000	106	S, O, B2
18S/04W-14ACA	LANE	17048	440029123080301	1974	1996	3	S
18S/04W-14BBA	LANE	16780	440036123083201	1989	1997	9	S
18S/05W-12ADC	LANE	2328	440112123135901	1991	1996	2	S
18S/06W-24BBBD	LANE	18890	435948123220801	1982	1996	3	S
19S/01W-02DBC	LANE	19412	435637122462201	1973	1996	2	S
19S/01W-03ADB	LANE	19429	435656122471801	1989	1997	6	S
19S/01W-16CBD	LANE	1640	435454122431601	1978	1996	2	S
19S/02W-07DDA	LANE	20028	435513123013401	1962	2000	100	S, O, B2
20S/03W-11BAB	LANE	22027	435024123053401	1964	2000	1144	S, R, O, B2, B4
21S/03E-08CBD1	LANE	23566	434528122291101	1990	1996	3	S
21S/03E-08CBD2	LANE	23527	434528122290901	1984	1984	1	
21S/03E-16DAC	LANE	23679	434144123310701	1966	1986	146	B2

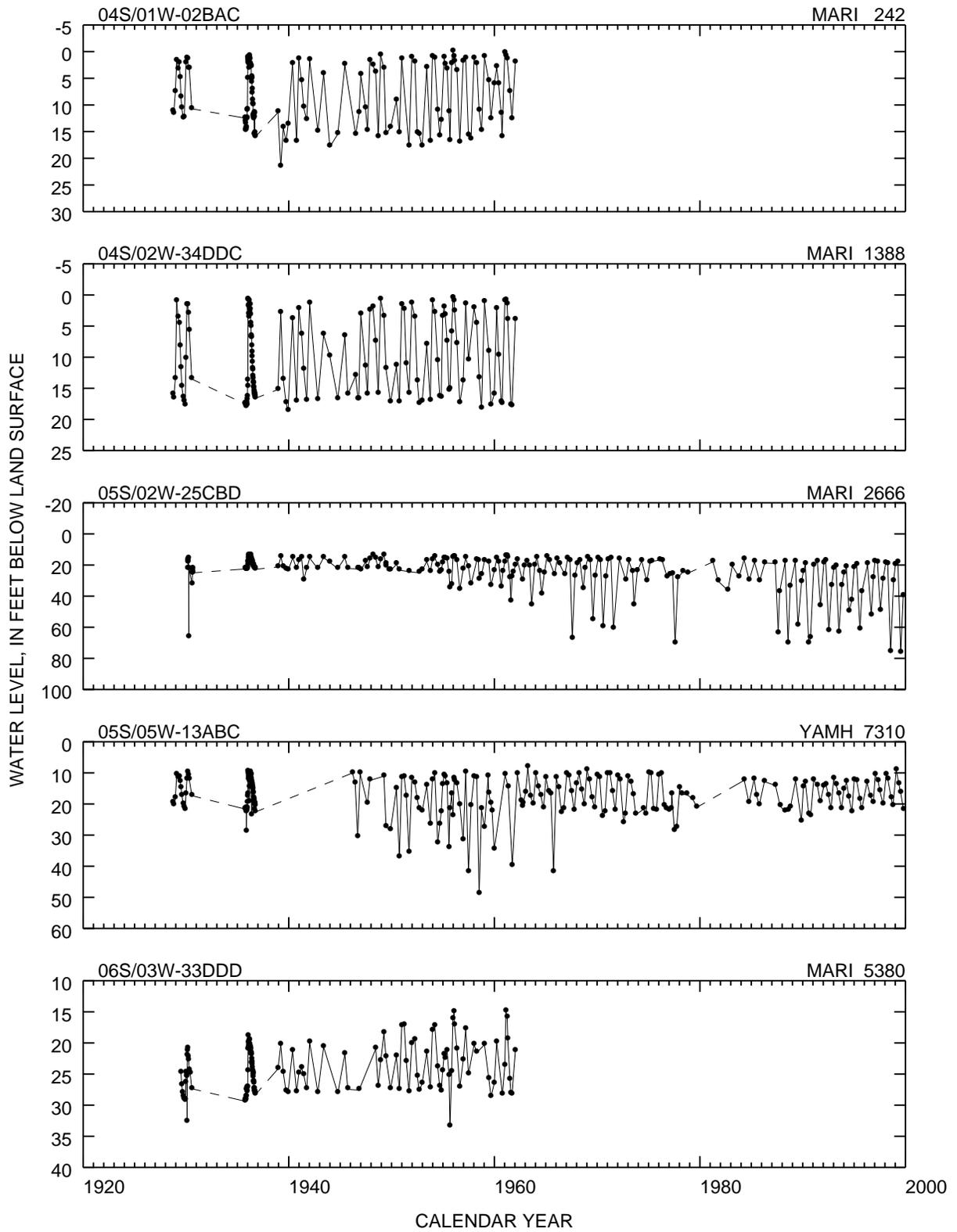


Figure B1. Hydrographs from long-term observation wells in the Willamette Basin. Well location and Oregon Water Resources Department well-log Identification are above each hydrograph. Dashed lines indicate periods of missing record.

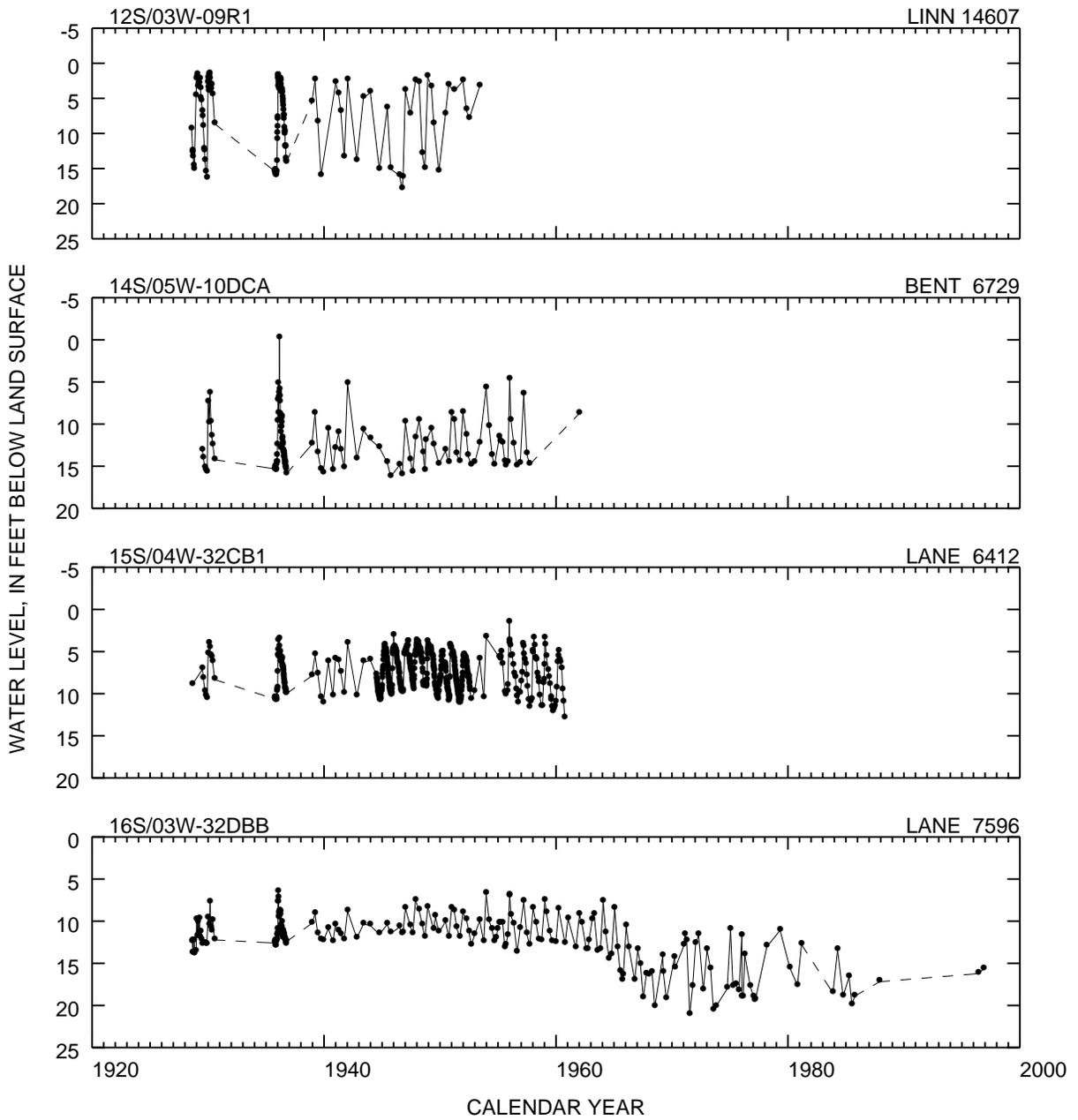


Figure B1. Hydrographs from long-term observation wells in the Willamette Basin—Continued. Well location and Oregon Water Resources Department well-log Identification are above each hydrograph. Dashed lines indicate periods of missing record.

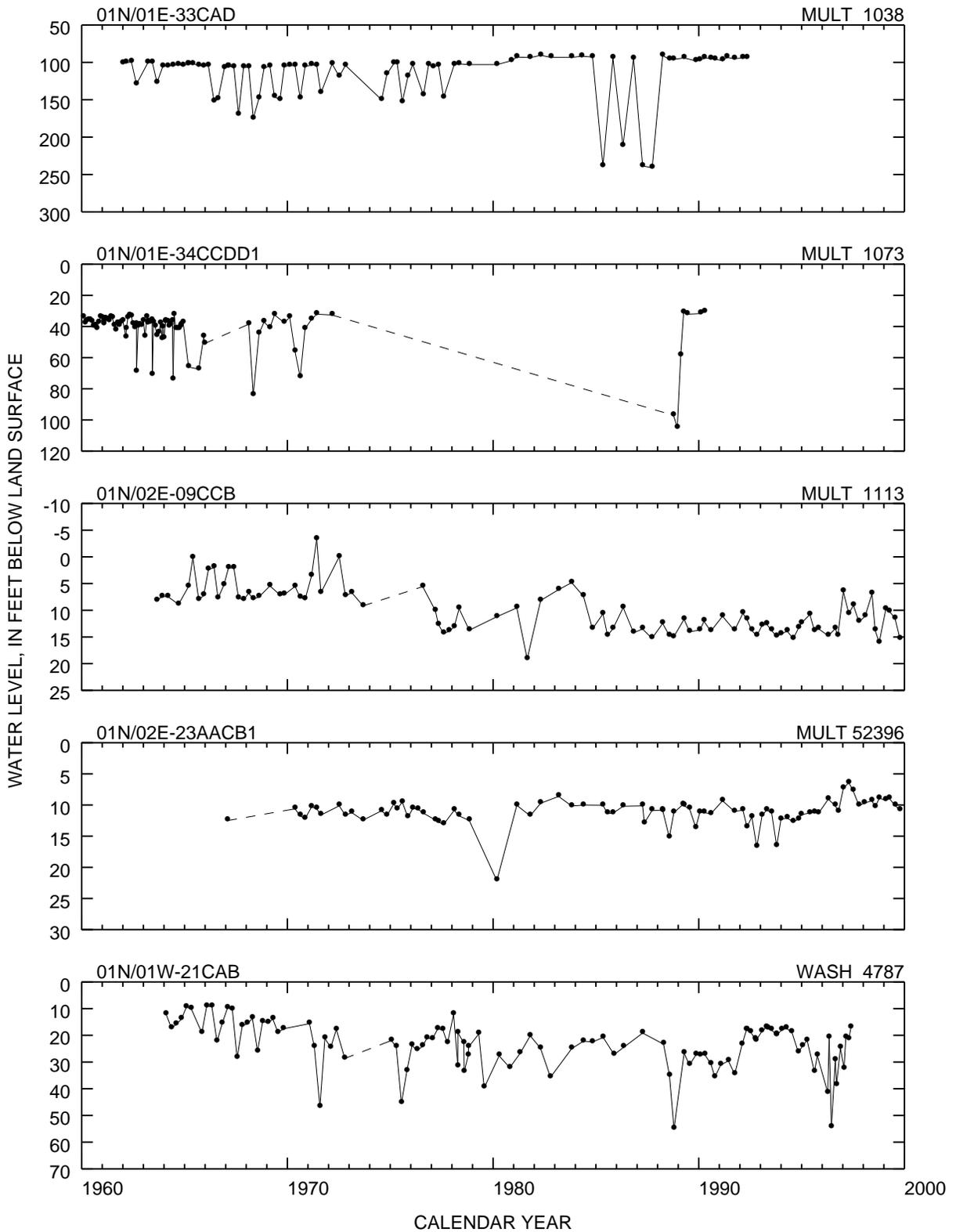


Figure B2. Hydrographs from state observation wells in the Willamette Basin. Well location and Oregon Water Resources Department well-log Identification are above each hydrograph. Dashed lines indicate periods of missing record. Also includes daily 12:00 p.m. measurements for wells equipped with digital recorders made during the 1996–98 period.

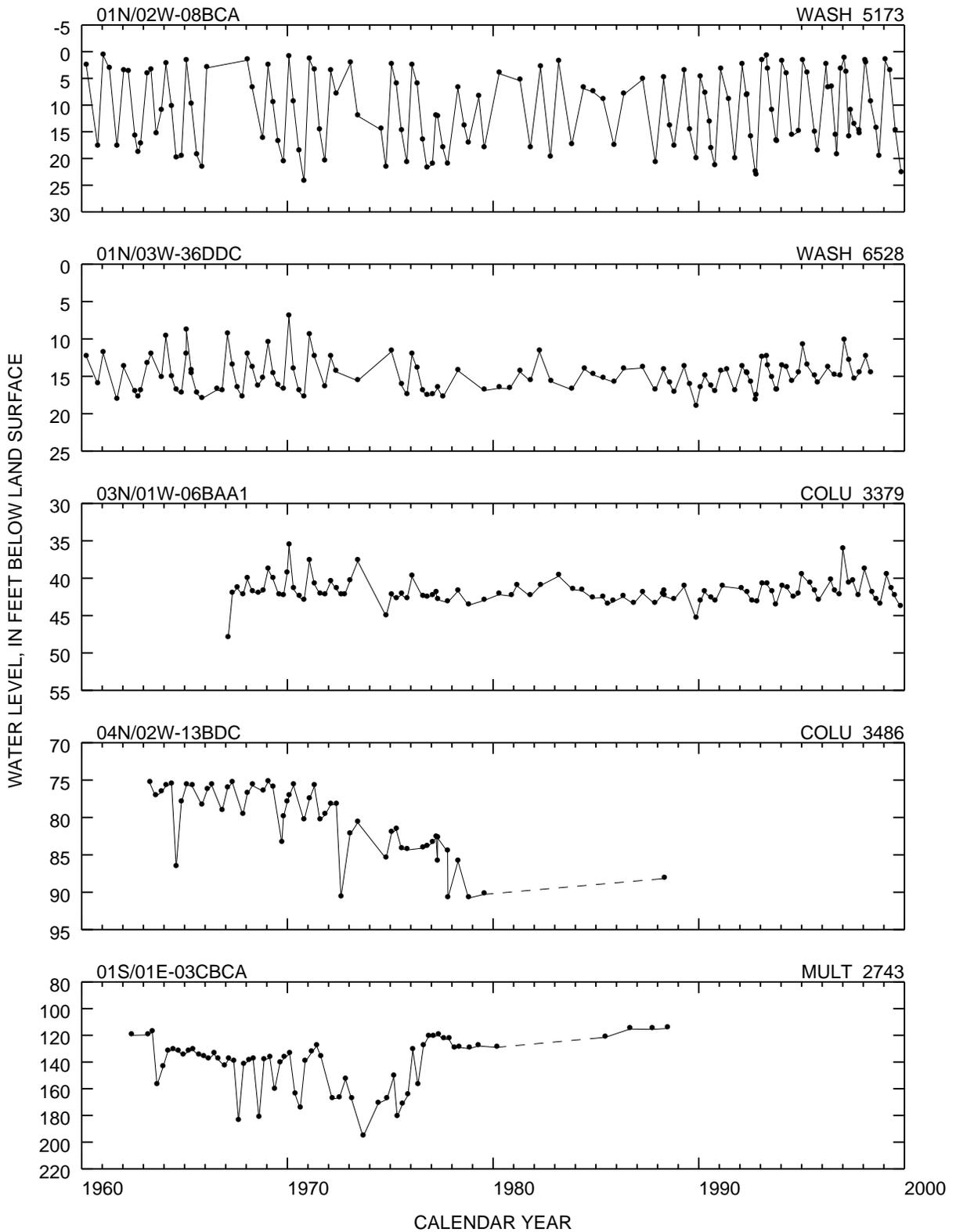


Figure B2. Hydrographs from state observation wells in the Willamette Basin—Continued. Well location and Oregon Water Resources Department well-log Identification are above each hydrograph. Dashed lines indicate periods of missing record. Also includes daily 12:00 p.m. measurements for wells equipped with digital recorders made during the 1996–98 period.

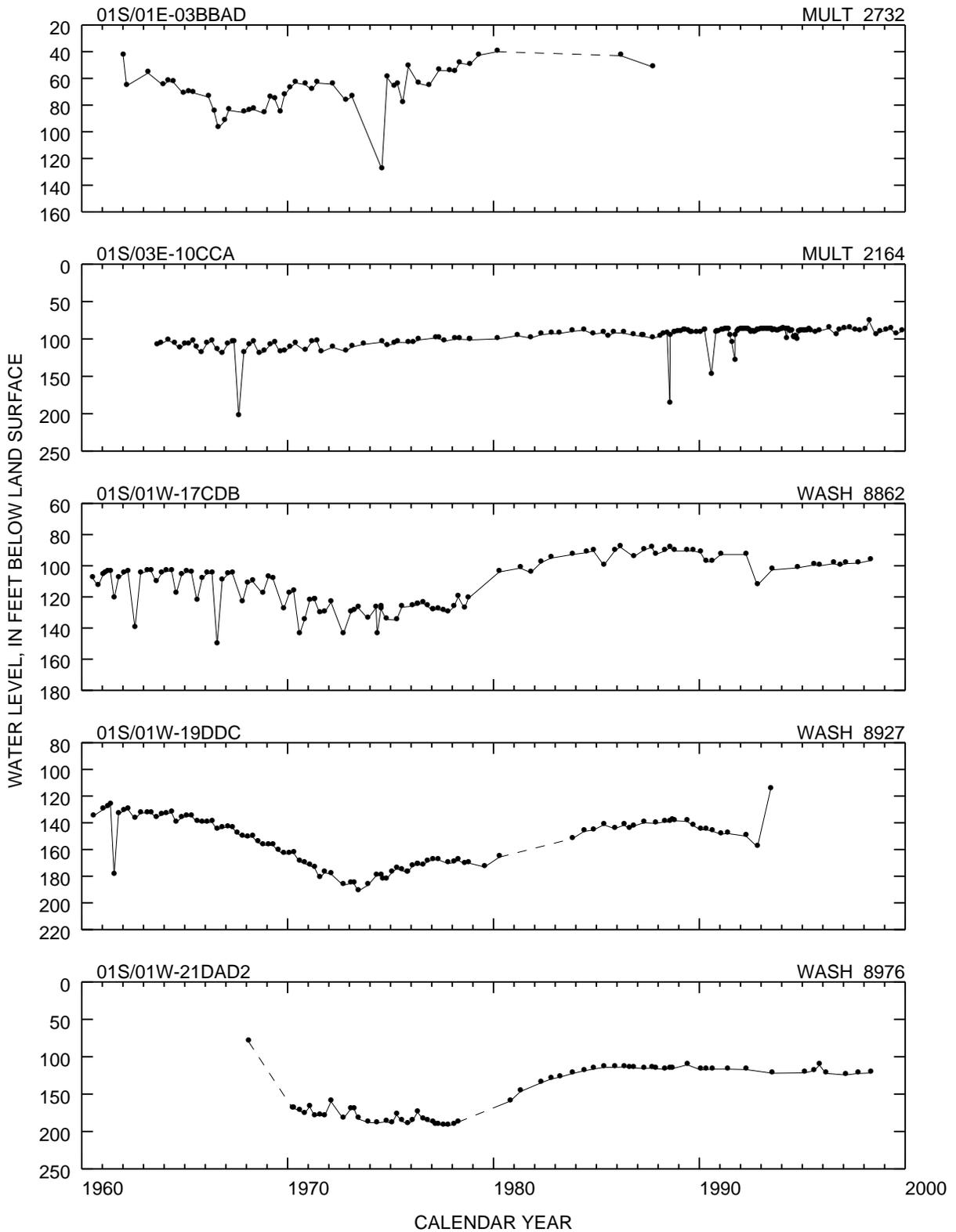


Figure B2. Hydrographs from state observation wells in the Willamette Basin—Continued. Well location and Oregon Water Resources Department well-log Identification are above each hydrograph. Dashed lines indicate periods of missing record. Also includes daily 12:00 p.m. measurements for wells equipped with digital recorders made during the 1996–98 period.

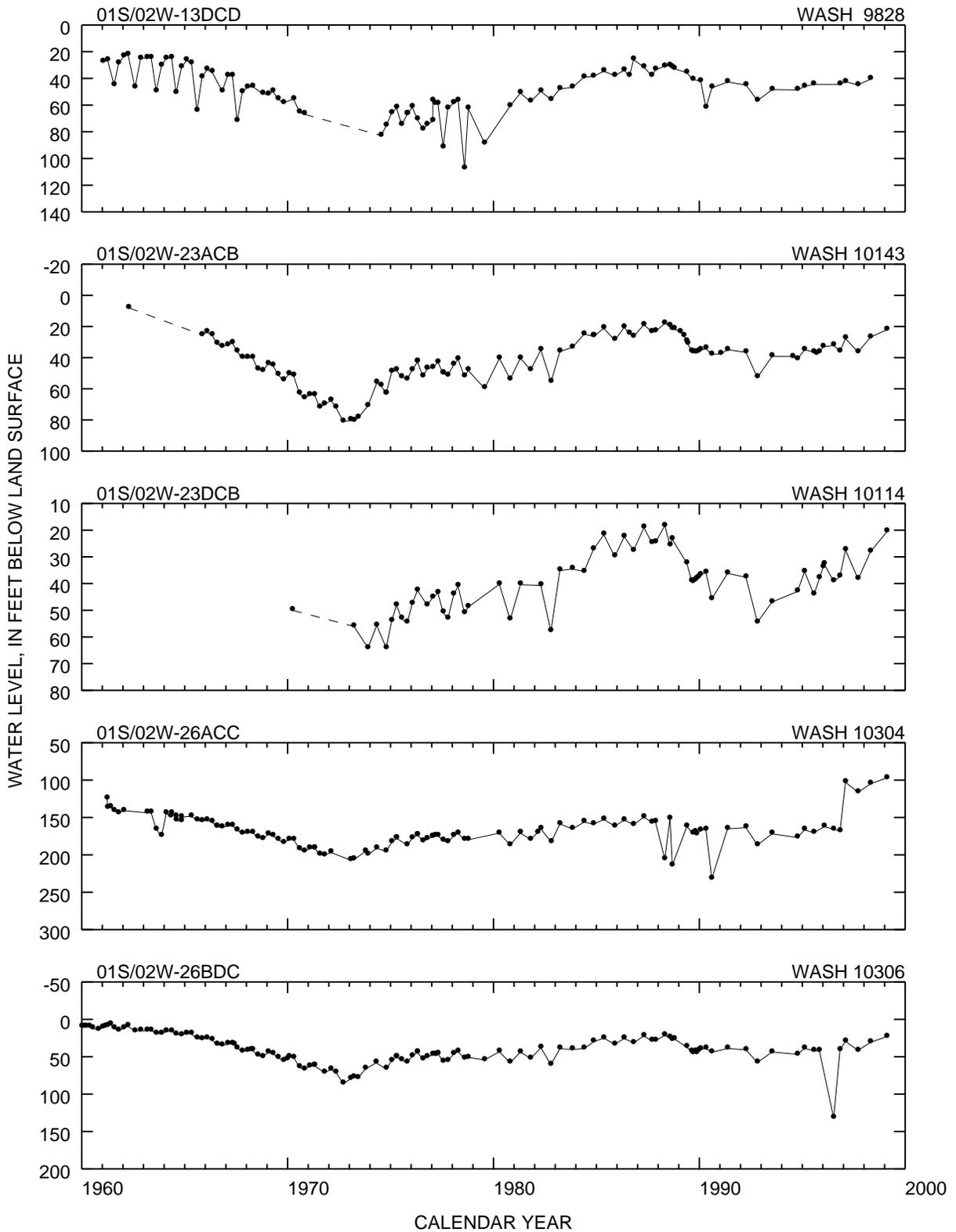


Figure B2. Hydrographs from state observation wells in the Willamette Basin—Continued. Well location and Oregon Water Resources Department well-log Identification are above each hydrograph. Dashed lines indicate periods of missing record. Also includes daily 12:00 p.m. measurements for wells equipped with digital recorders made during the 1996–98 period.

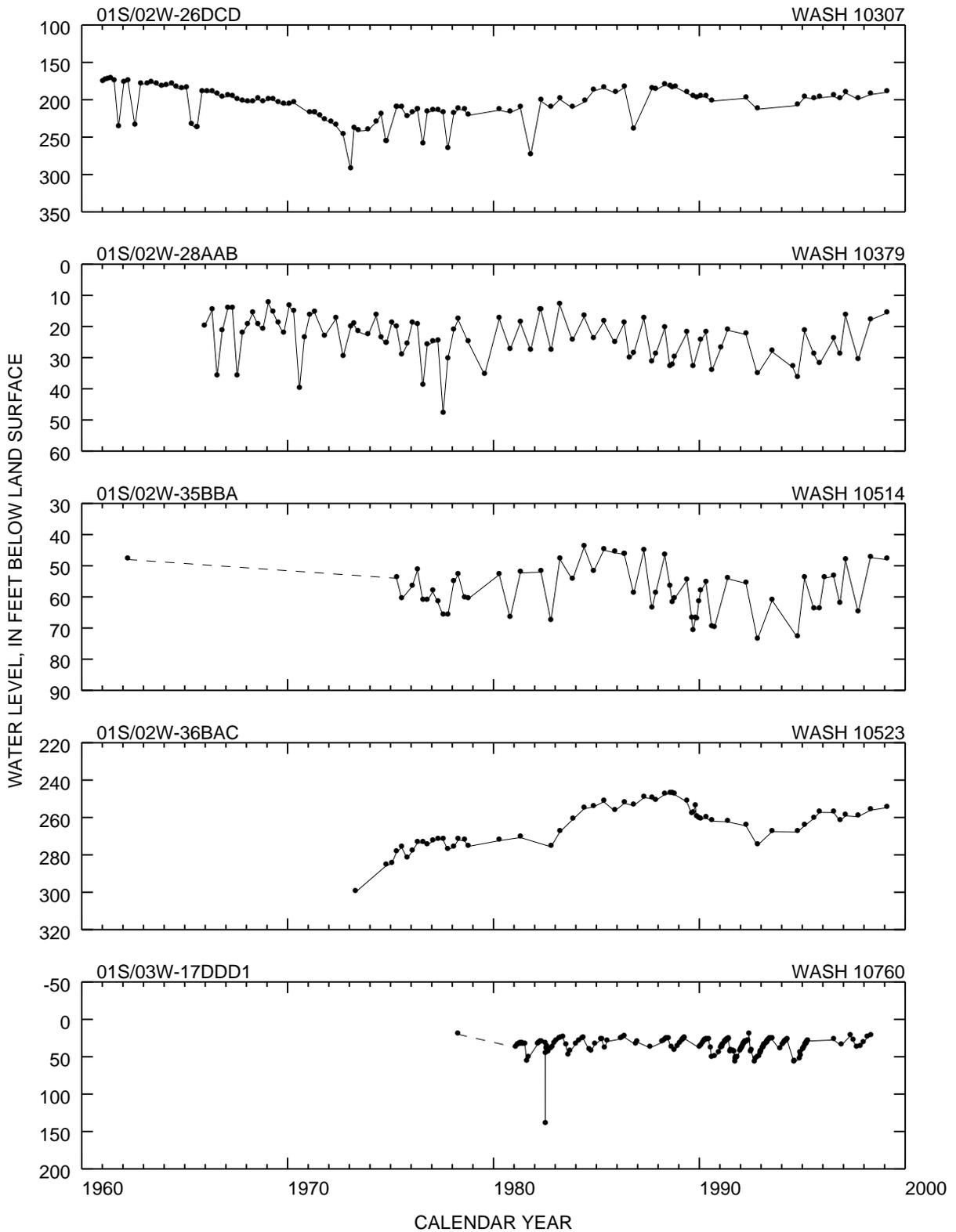


Figure B2. Hydrographs from state observation wells in the Willamette Basin—Continued. Well location and Oregon Water Resources Department well-log Identification are above each hydrograph. Dashed lines indicate periods of missing record. Also includes daily 12:00 p.m. measurements for wells equipped with digital recorders made during the 1996–98 period.

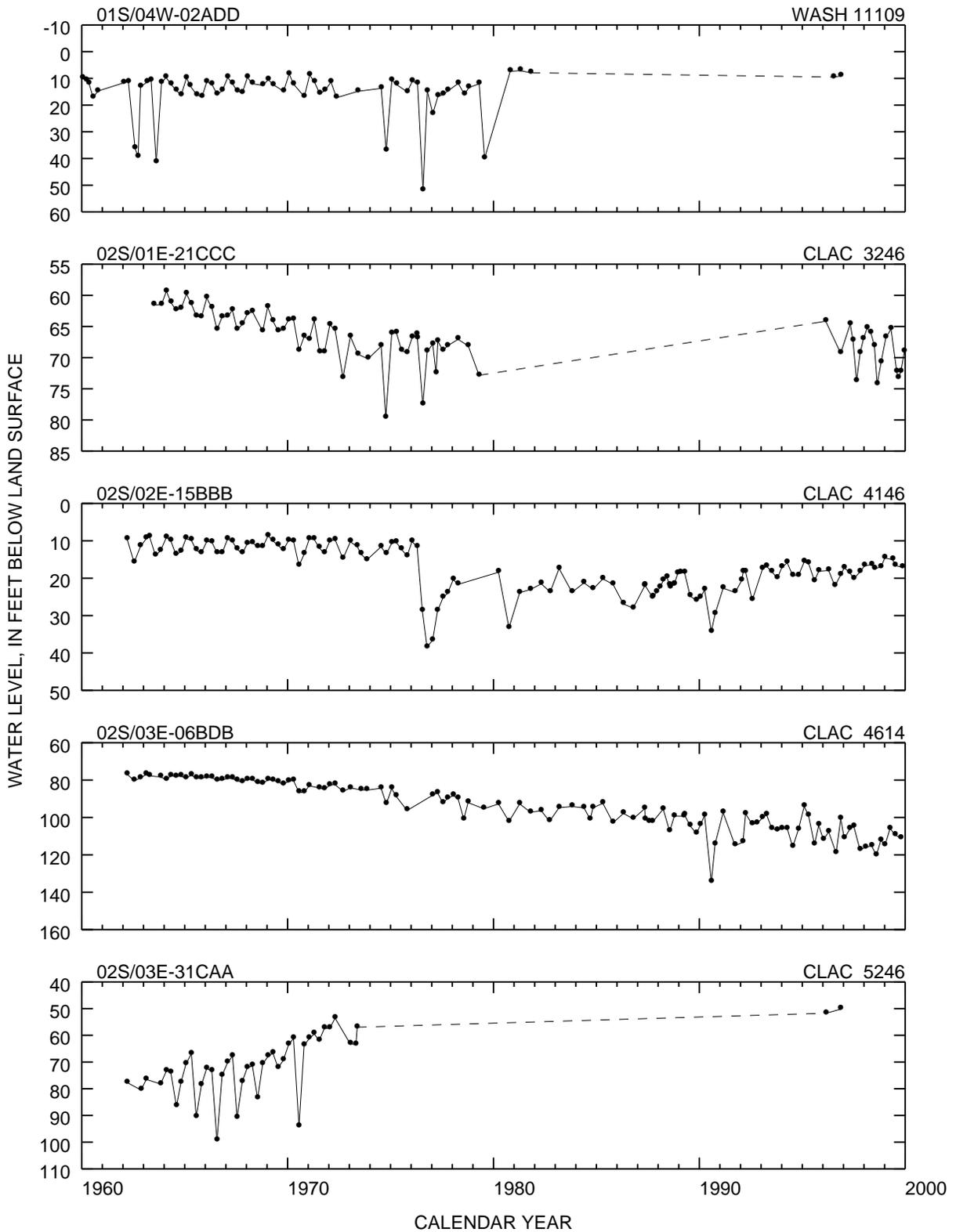


Figure B2. Hydrographs from state observation wells in the Willamette Basin—Continued. Well location and Oregon Water Resources Department well-log Identification are above each hydrograph. Dashed lines indicate periods of missing record. Also includes daily 12:00 p.m. measurements for wells equipped with digital recorders made during the 1996–98 period.

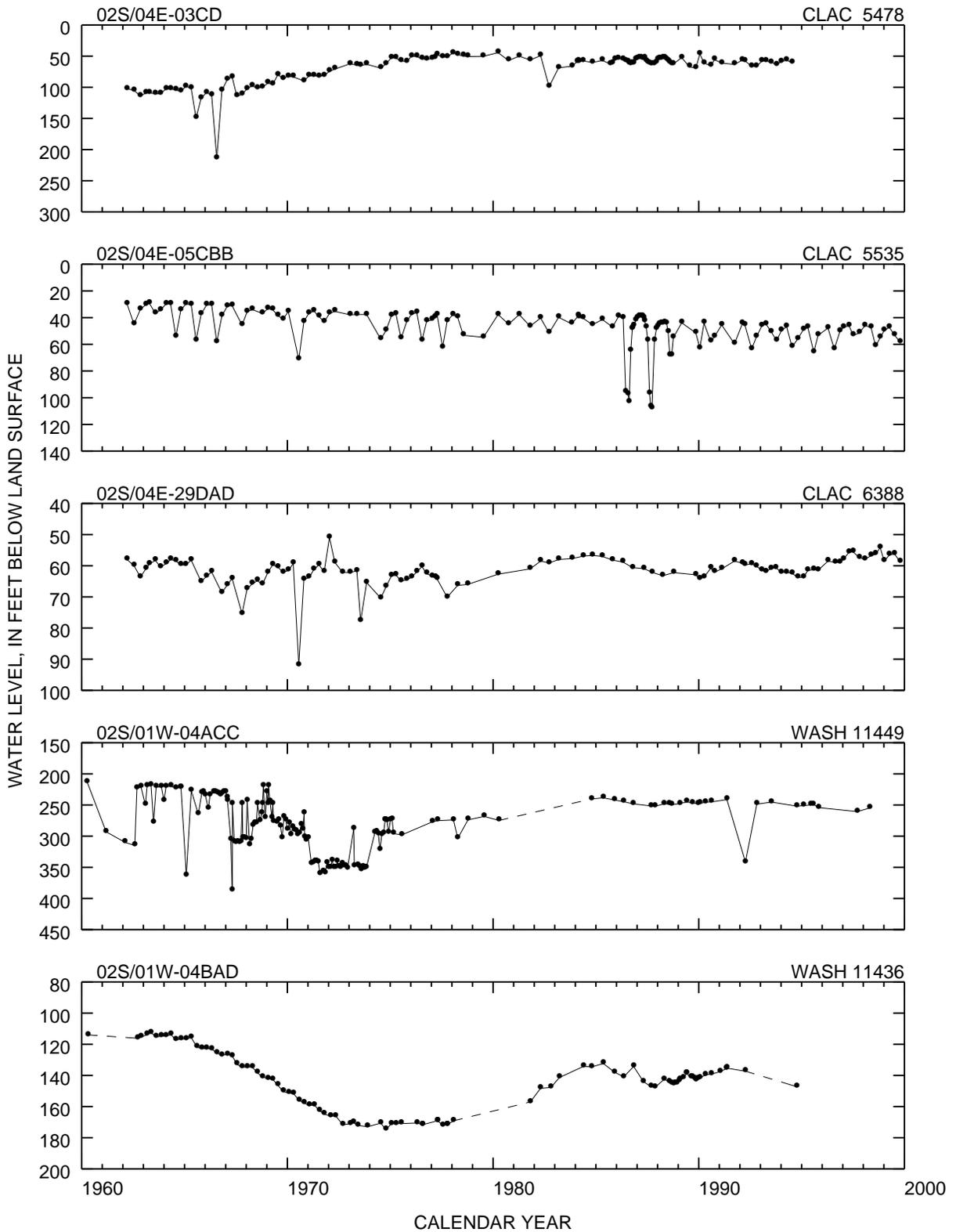


Figure B2. Hydrographs from state observation wells in the Willamette Basin—Continued. Well location and Oregon Water Resources Department well-log Identification are above each hydrograph. Dashed lines indicate periods of missing record. Also includes daily 12:00 p.m. measurements for wells equipped with digital recorders made during the 1996–98 period.

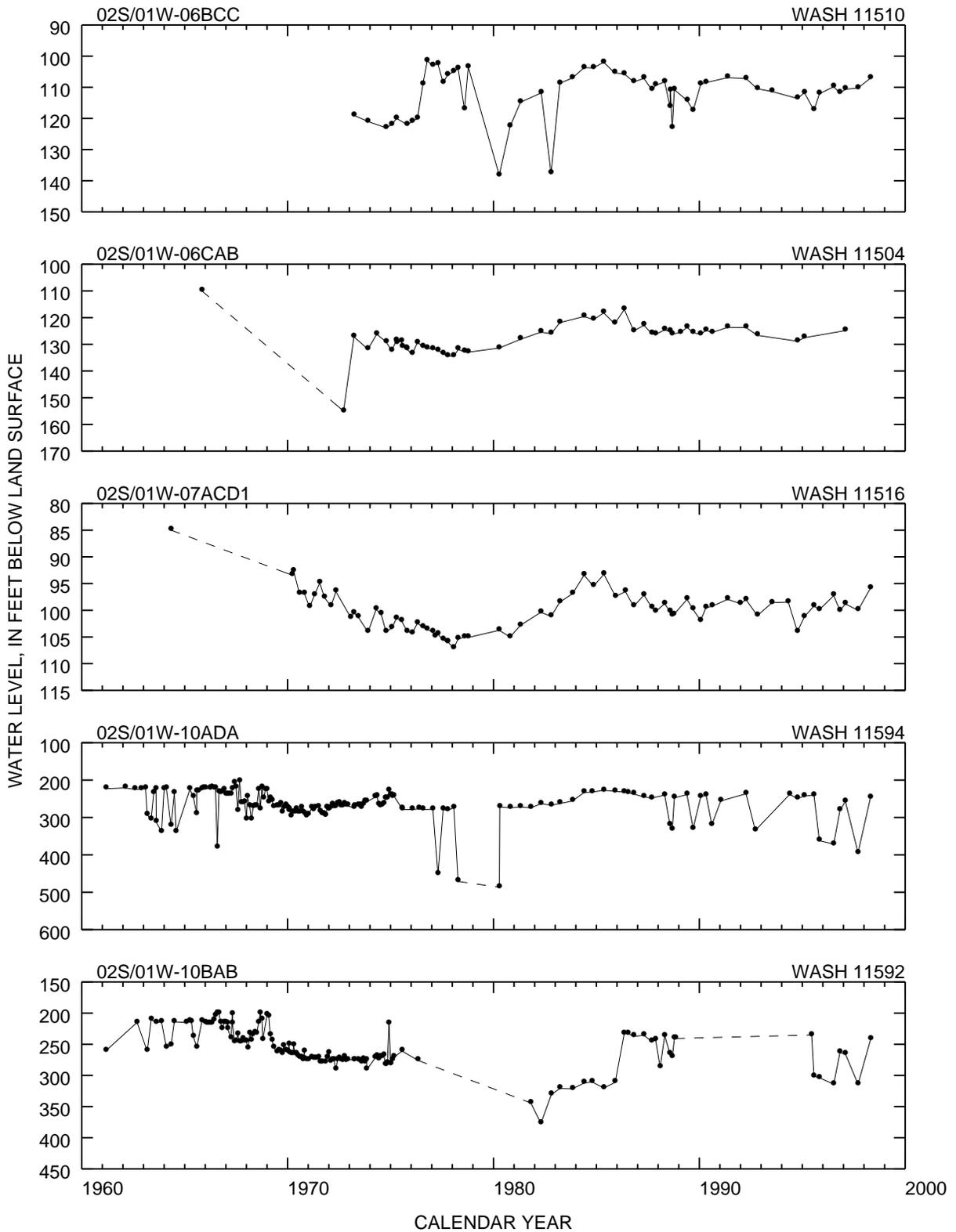


Figure B2. Hydrographs from state observation wells in the Willamette Basin—Continued. Well location and Oregon Water Resources Department well-log Identification are above each hydrograph. Dashed lines indicate periods of missing record. Also includes daily 12:00 p.m. measurements for wells equipped with digital recorders made during the 1996–98 period.

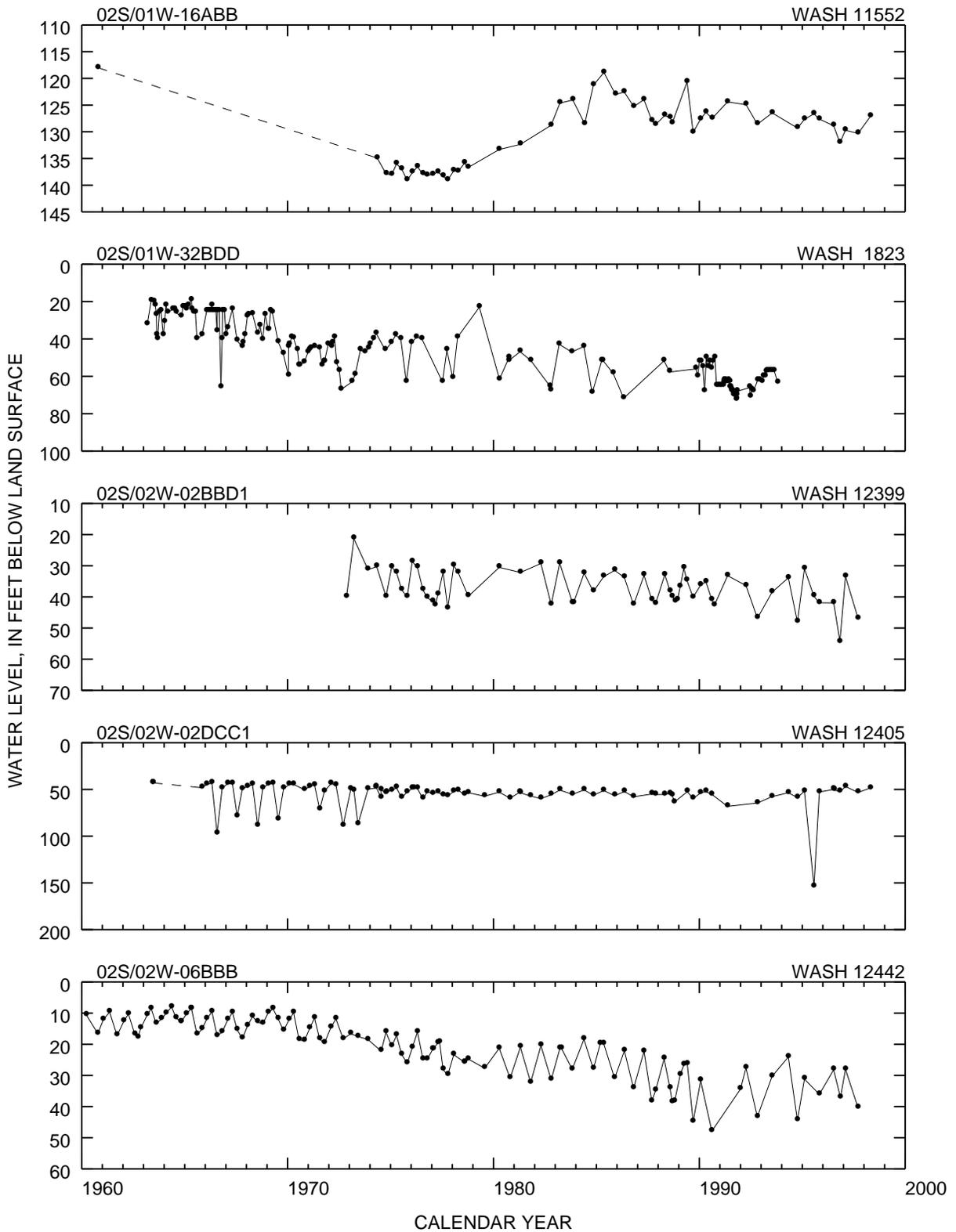


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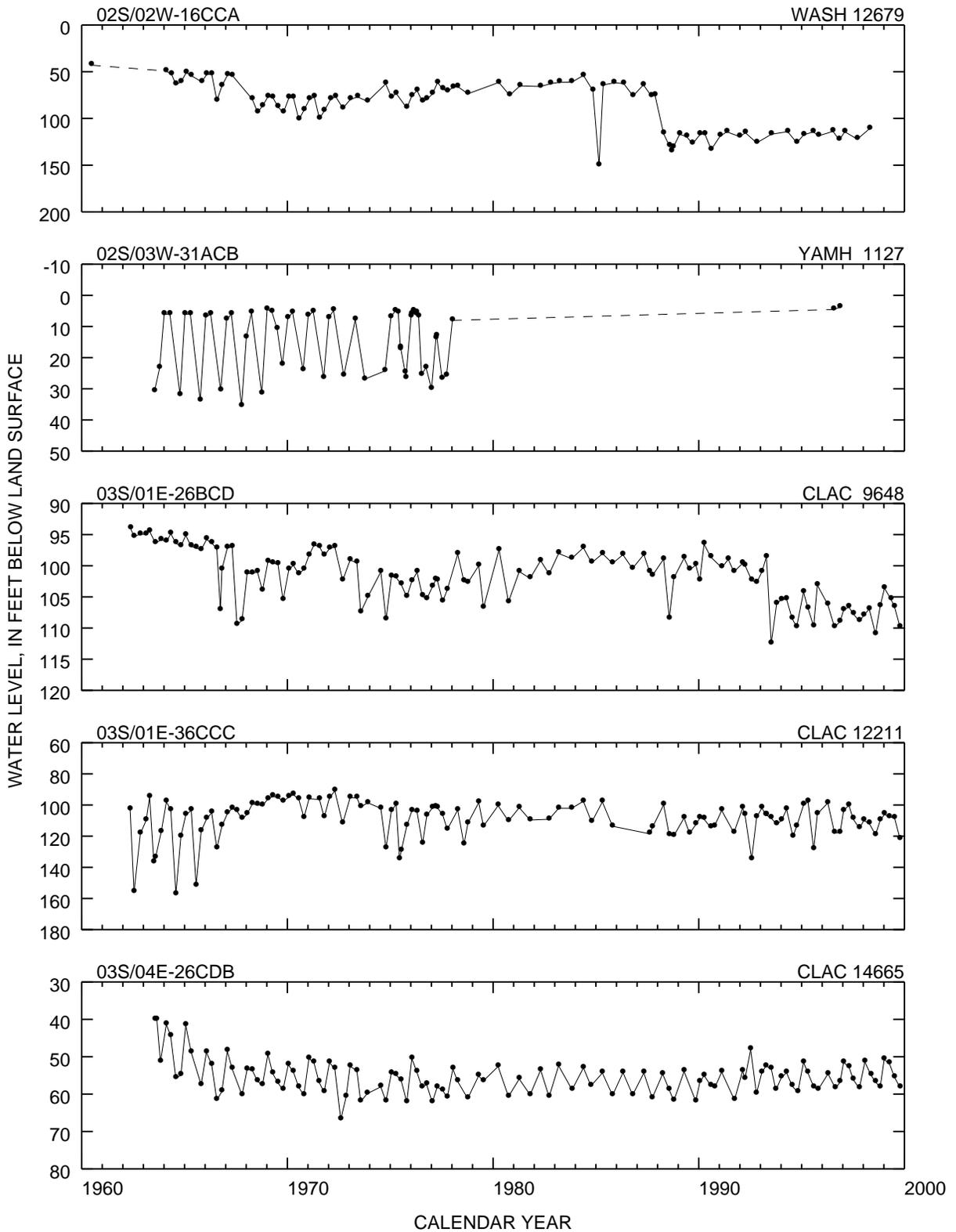


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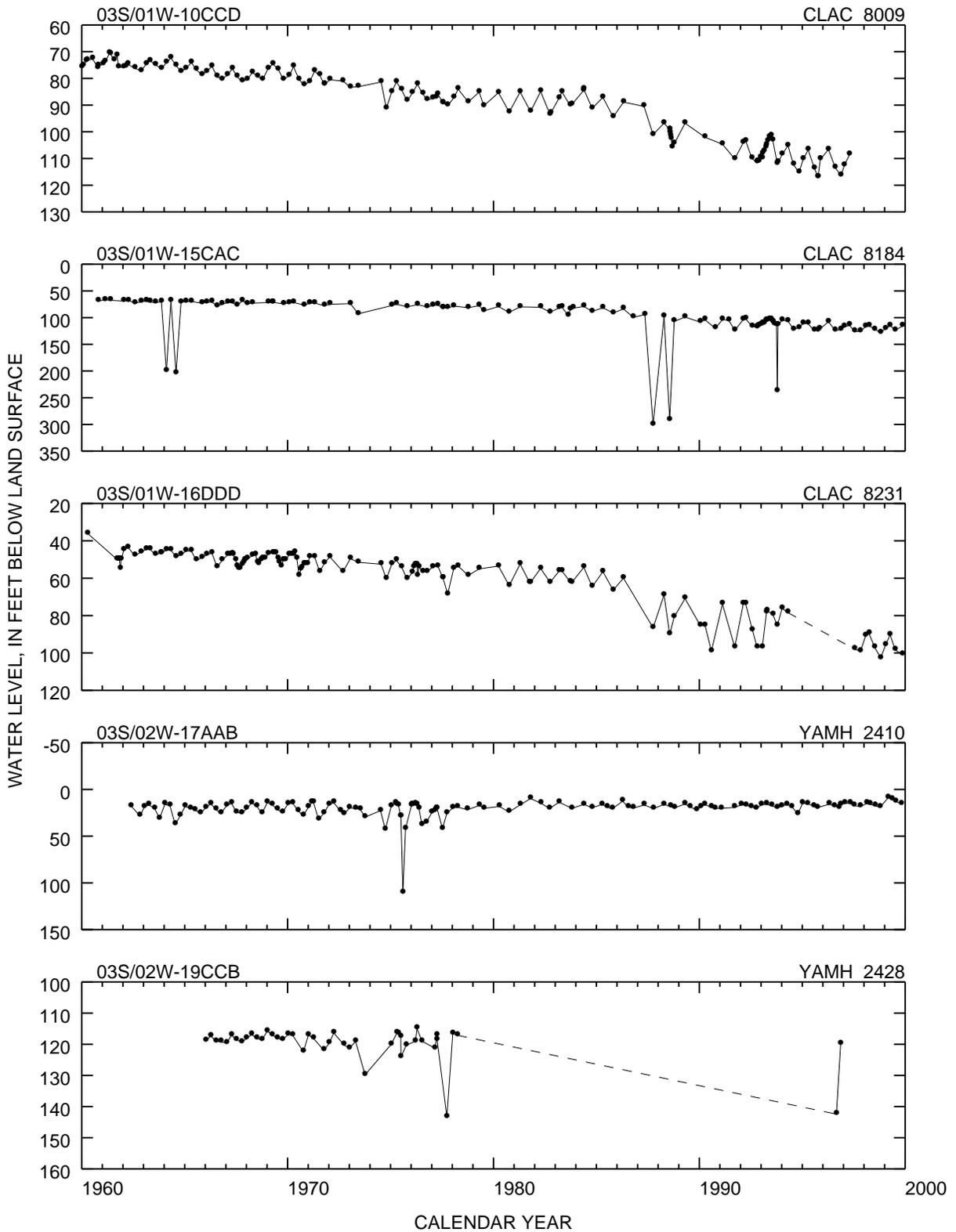


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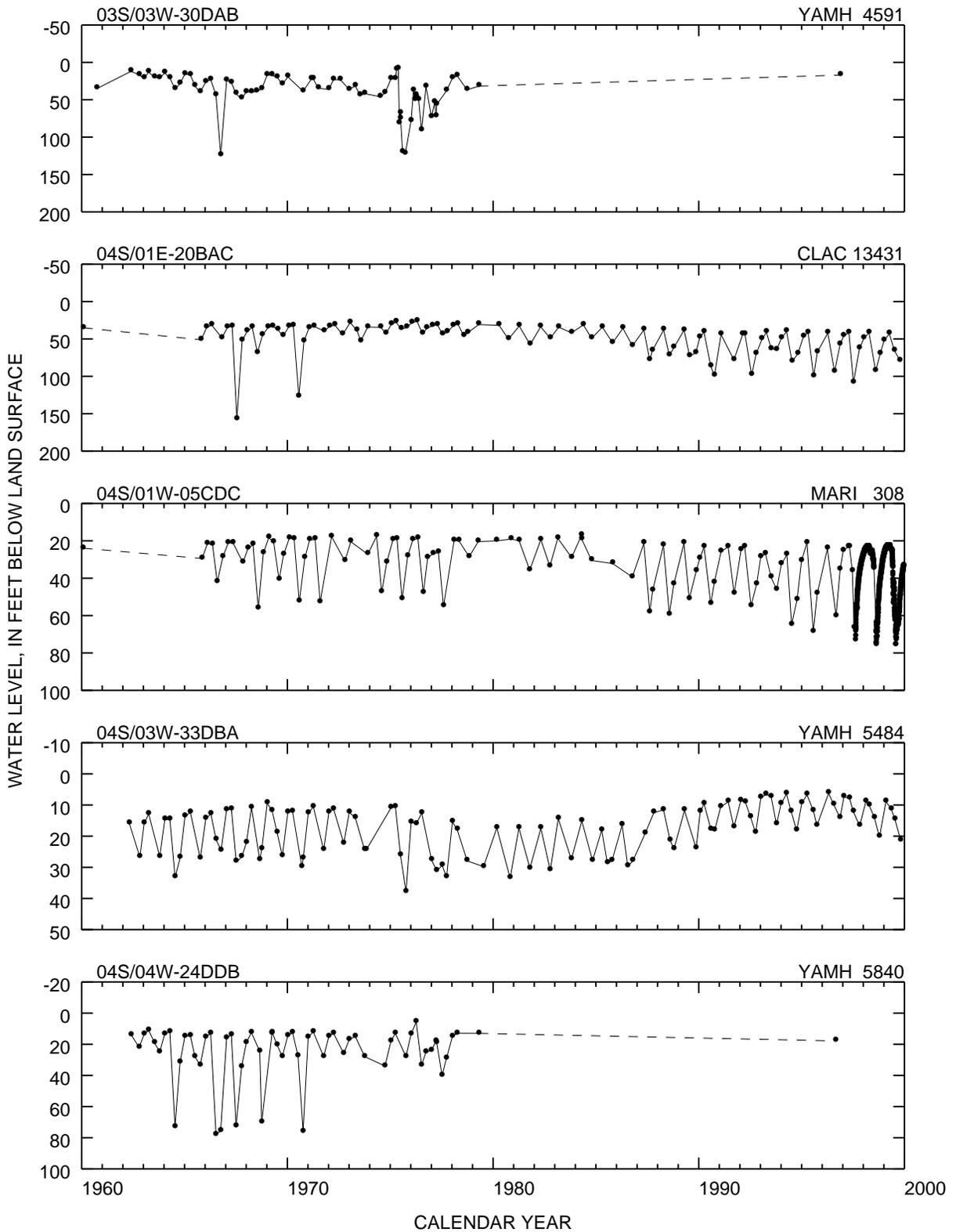


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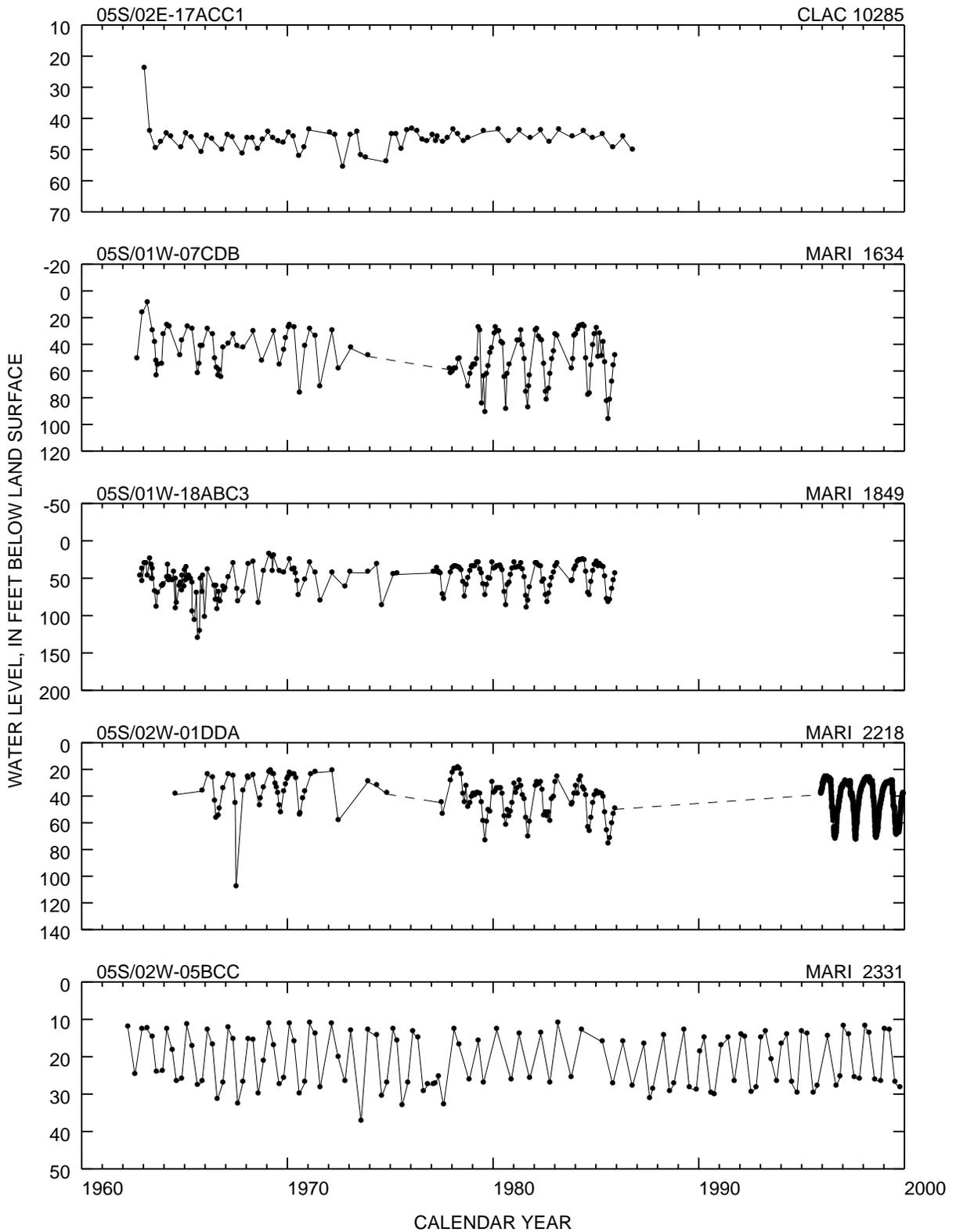


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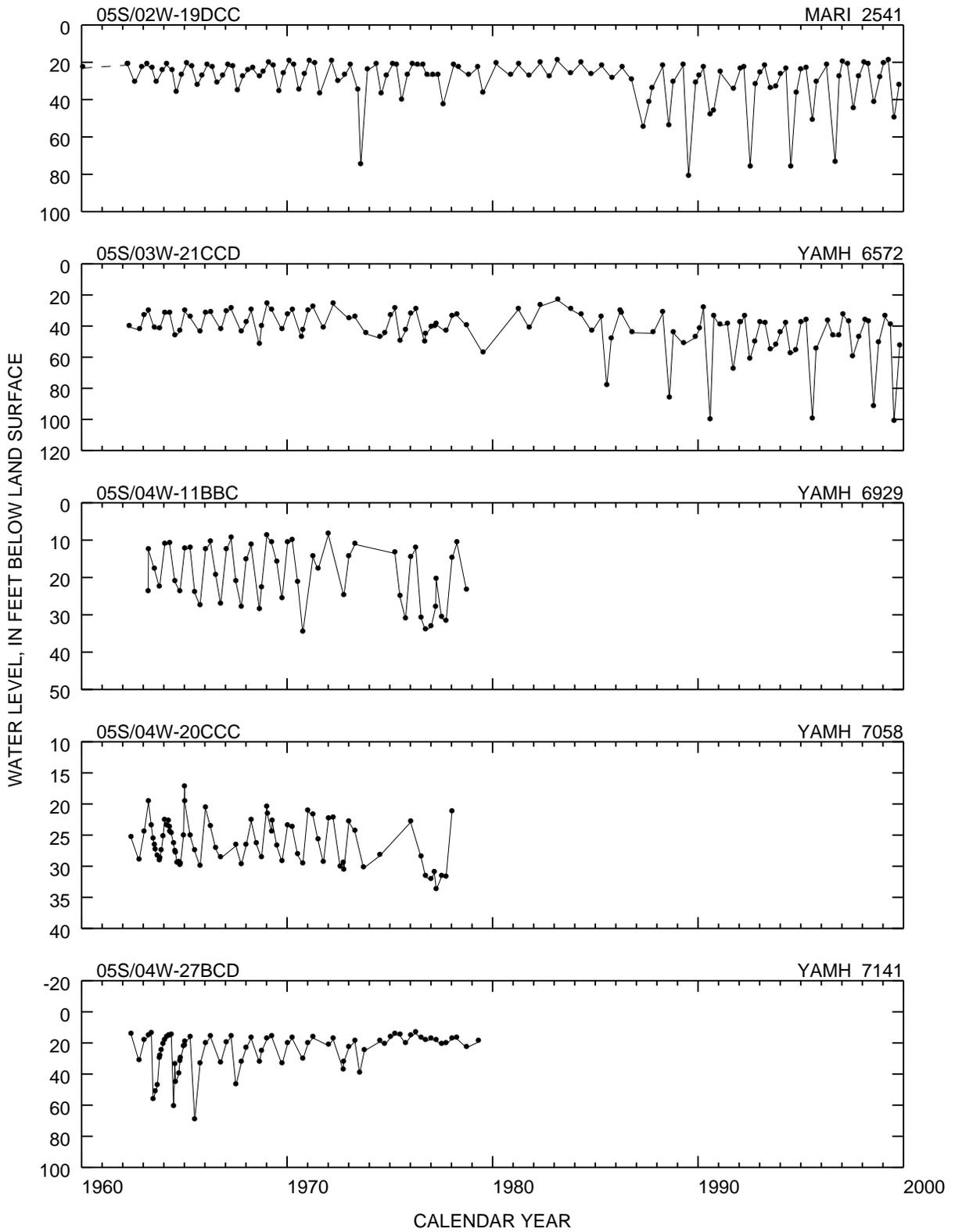


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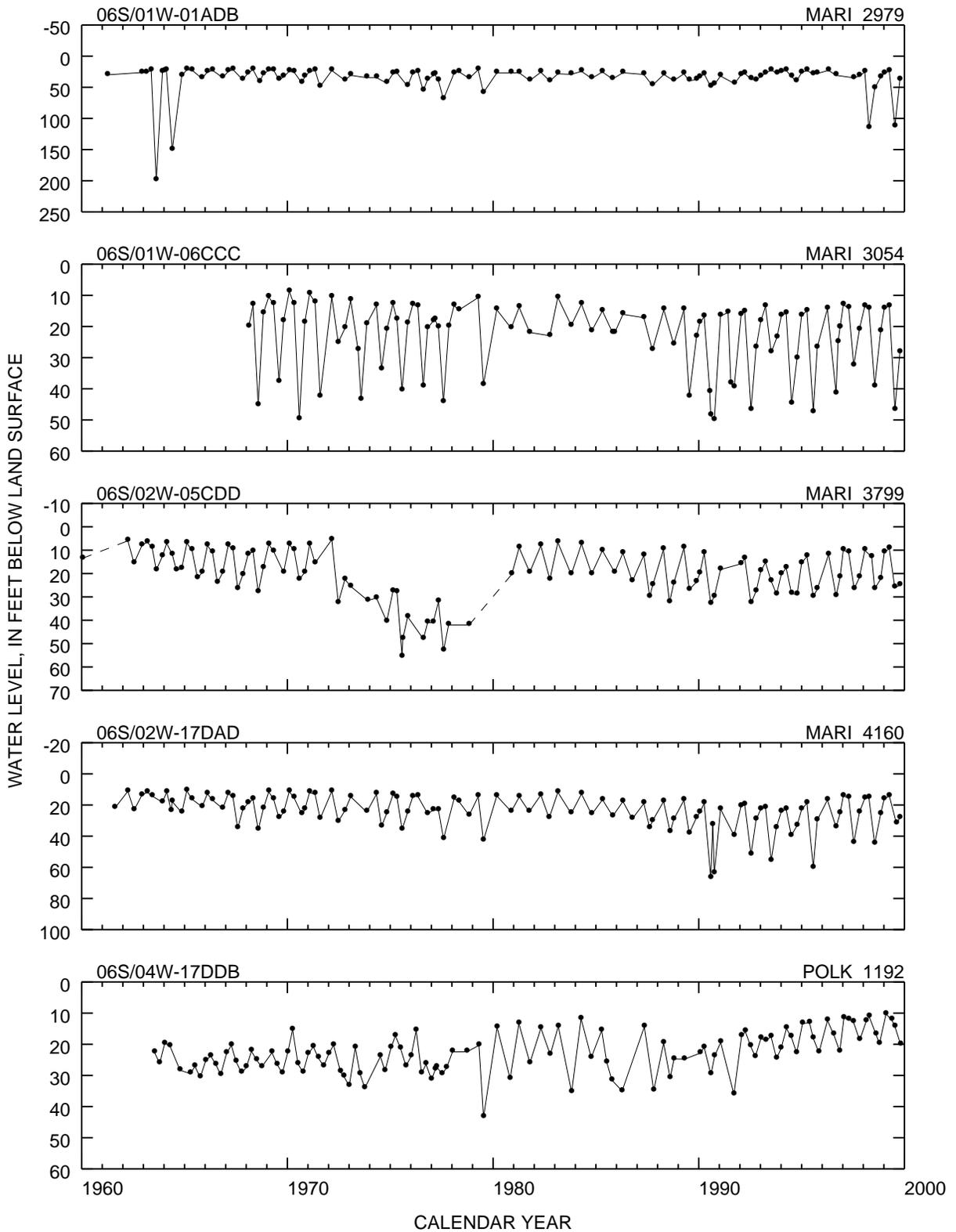


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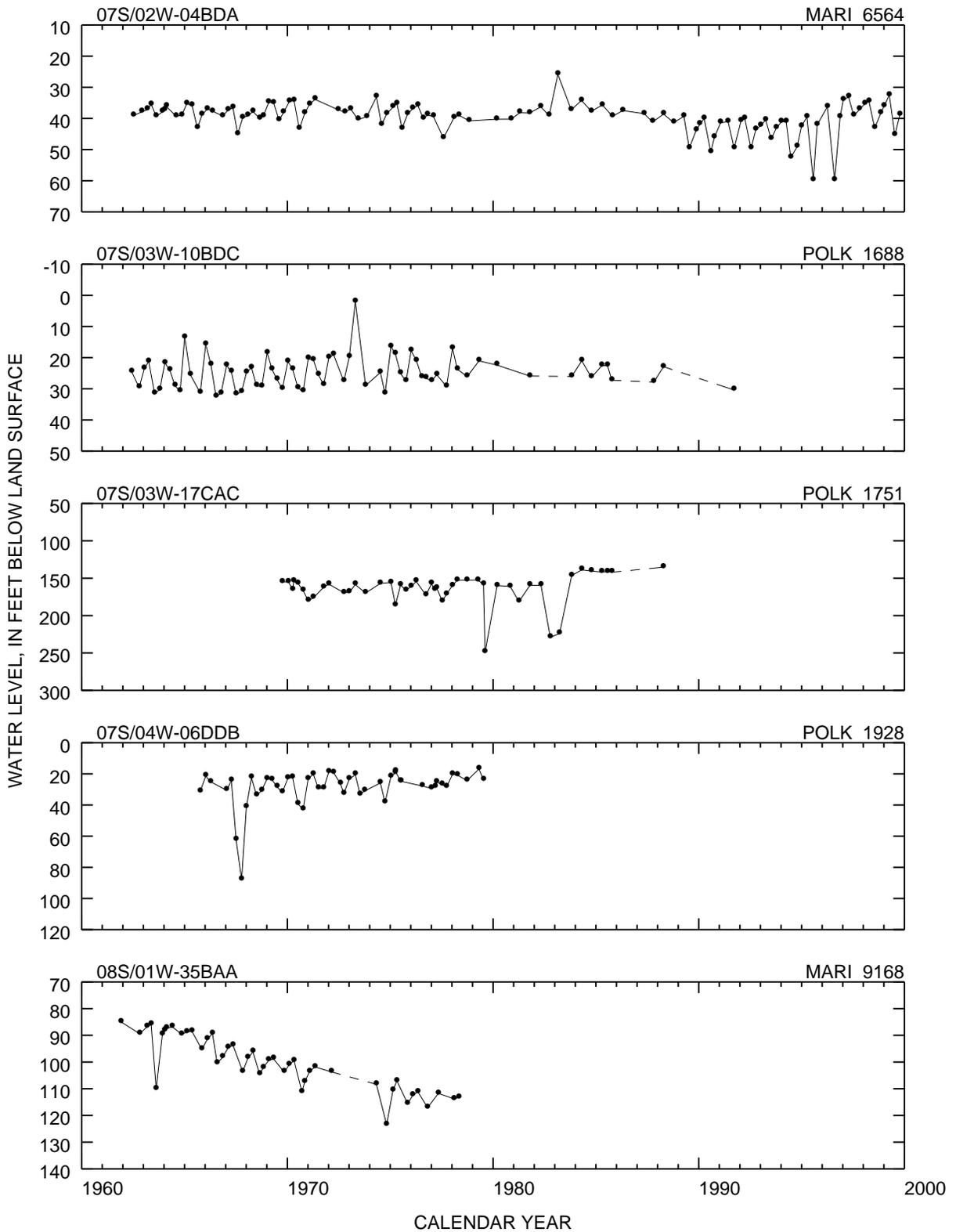


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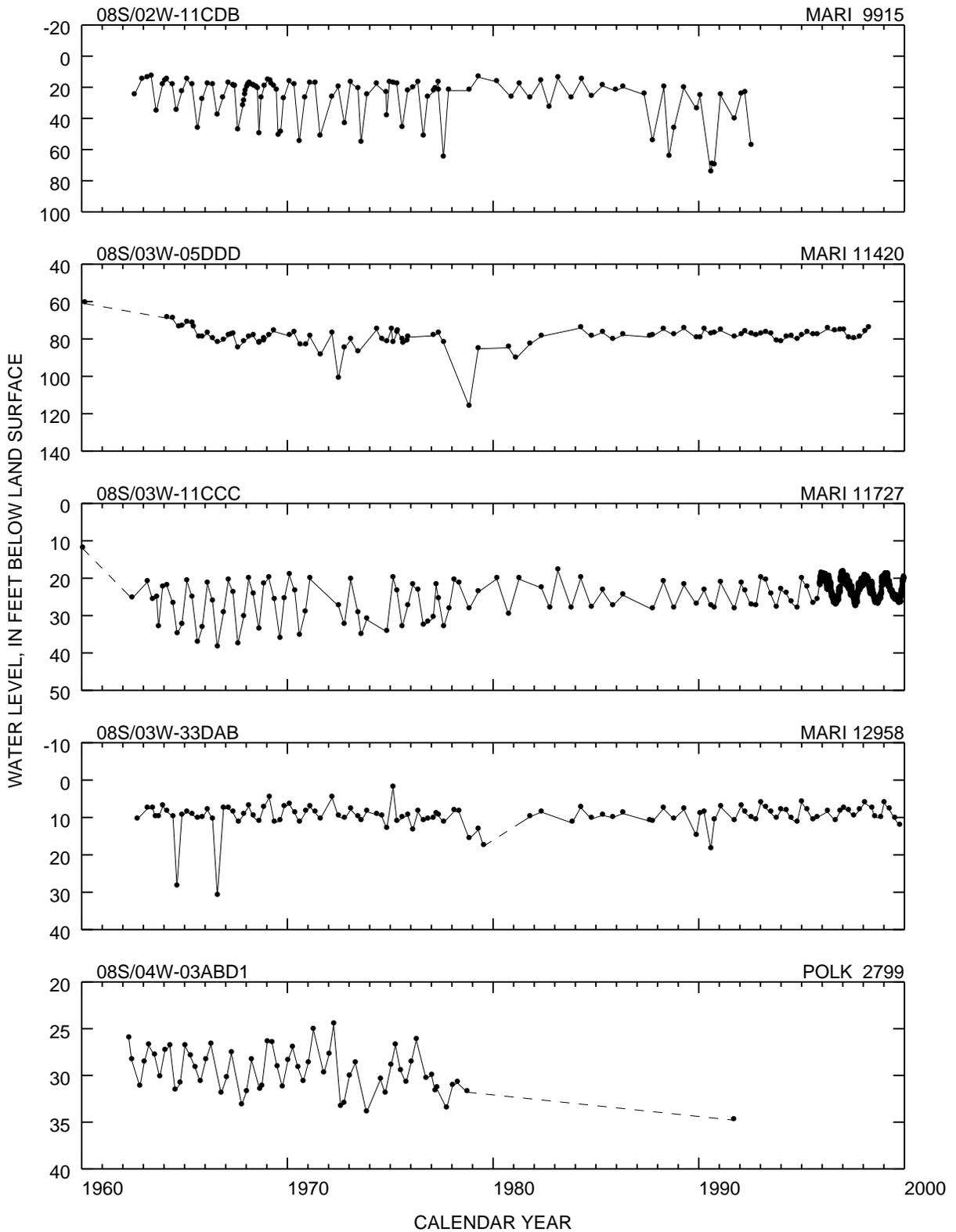


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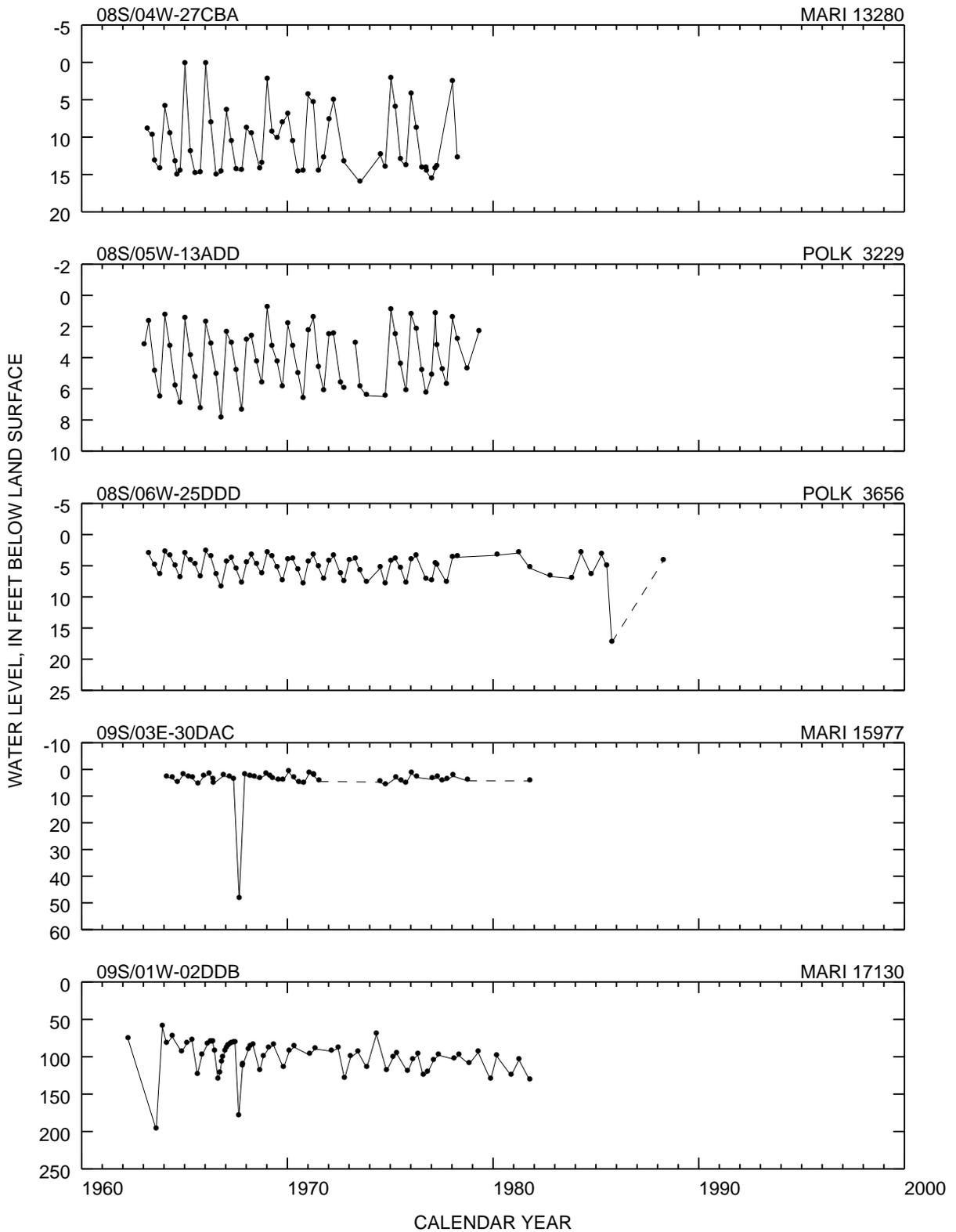


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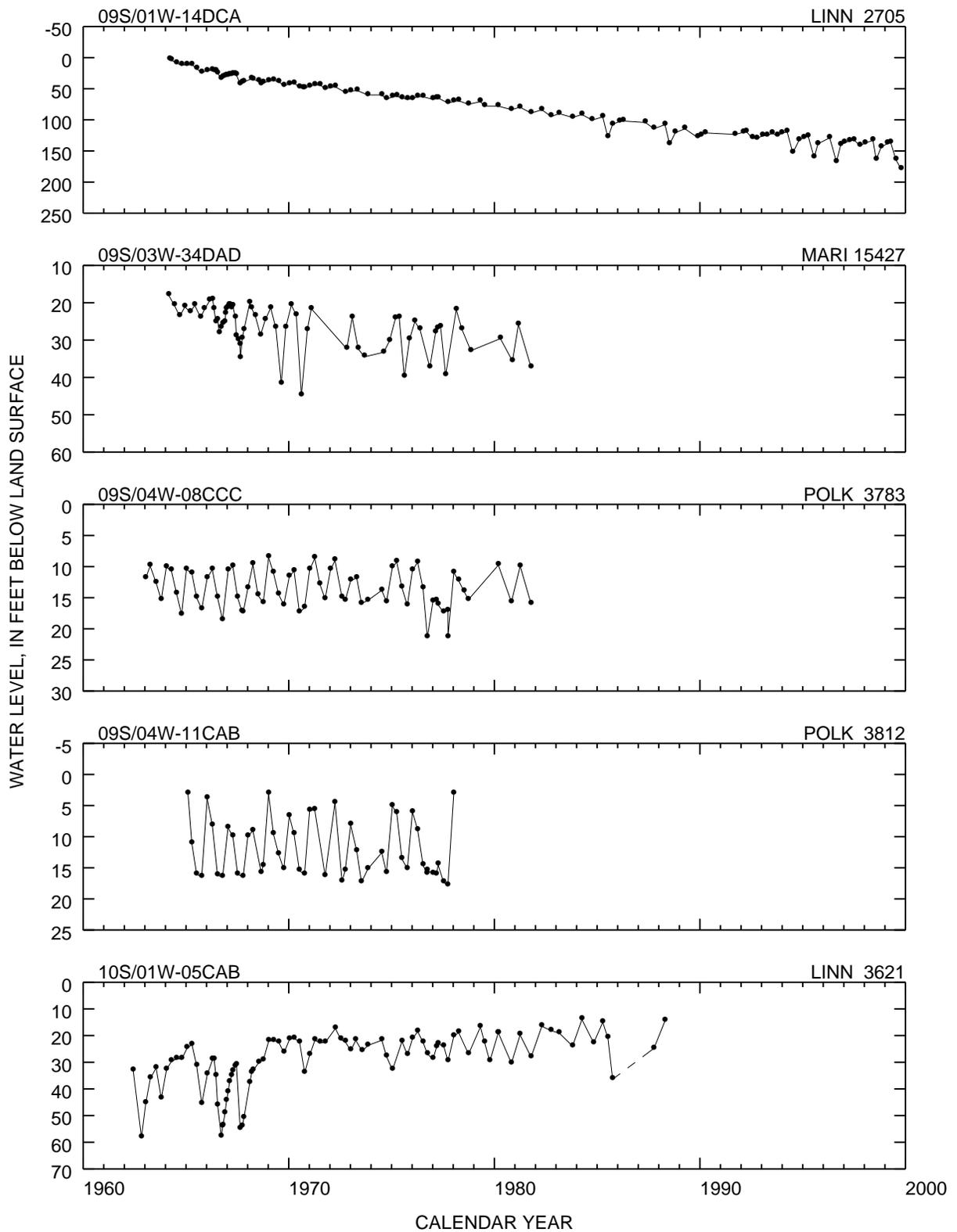


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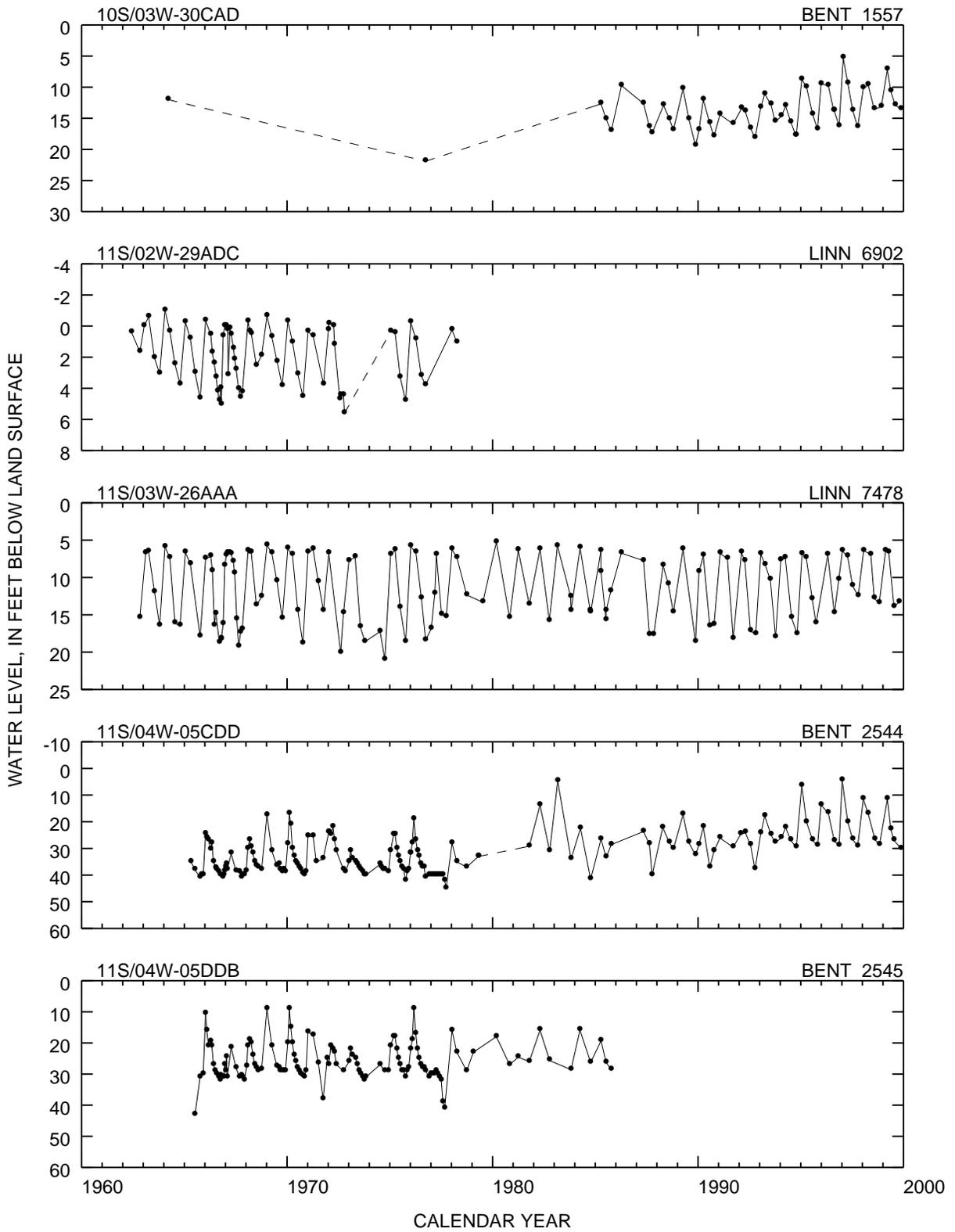


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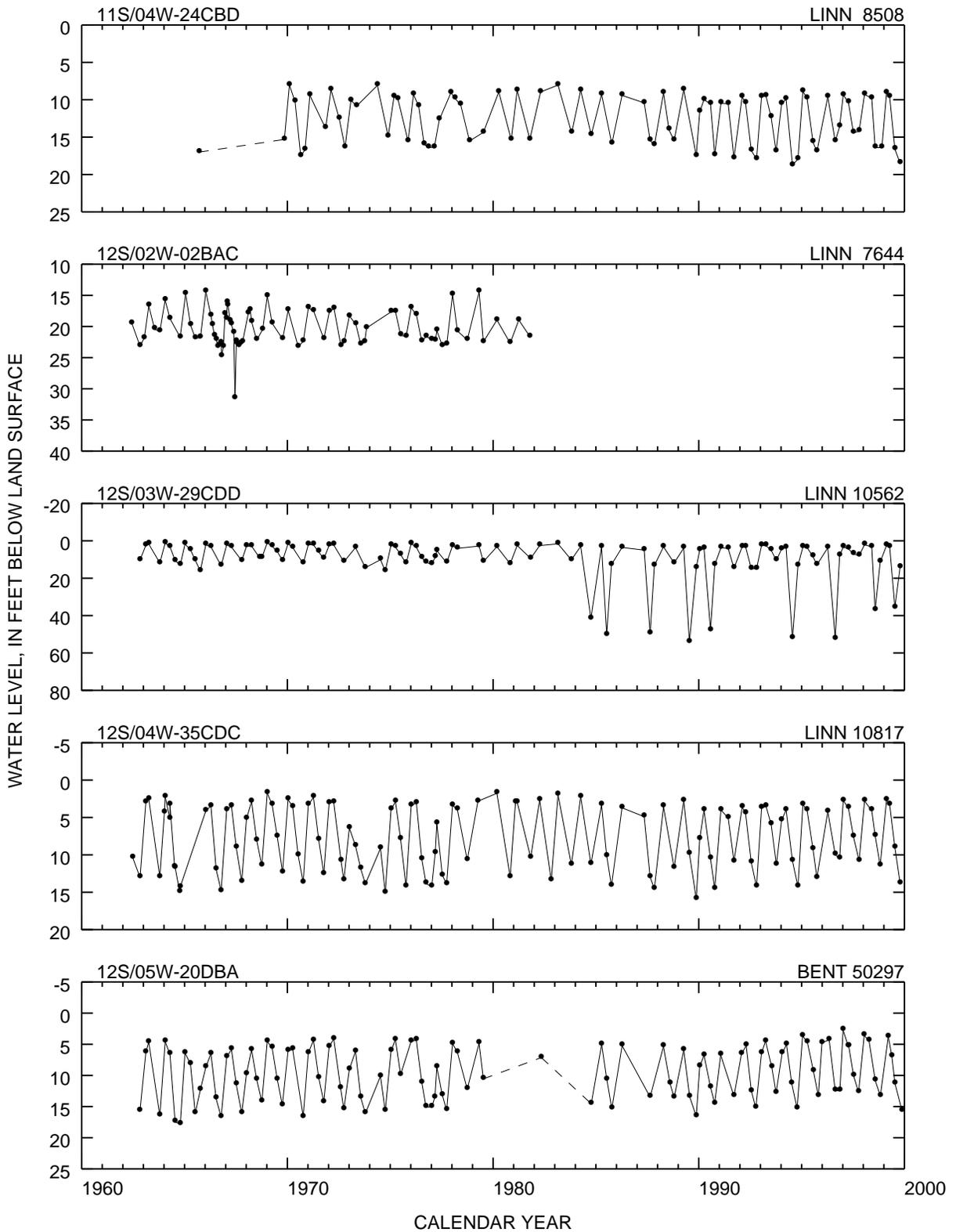


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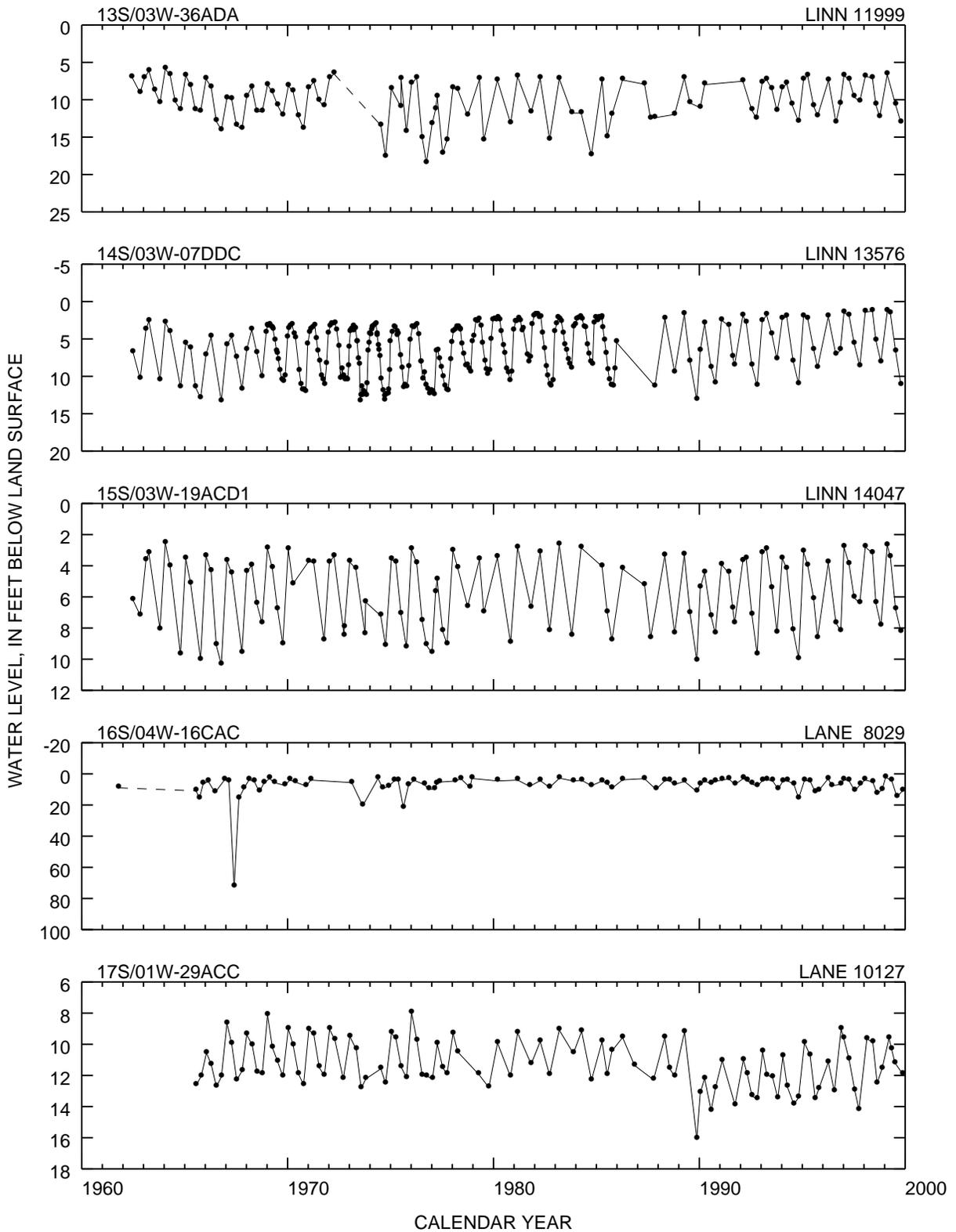


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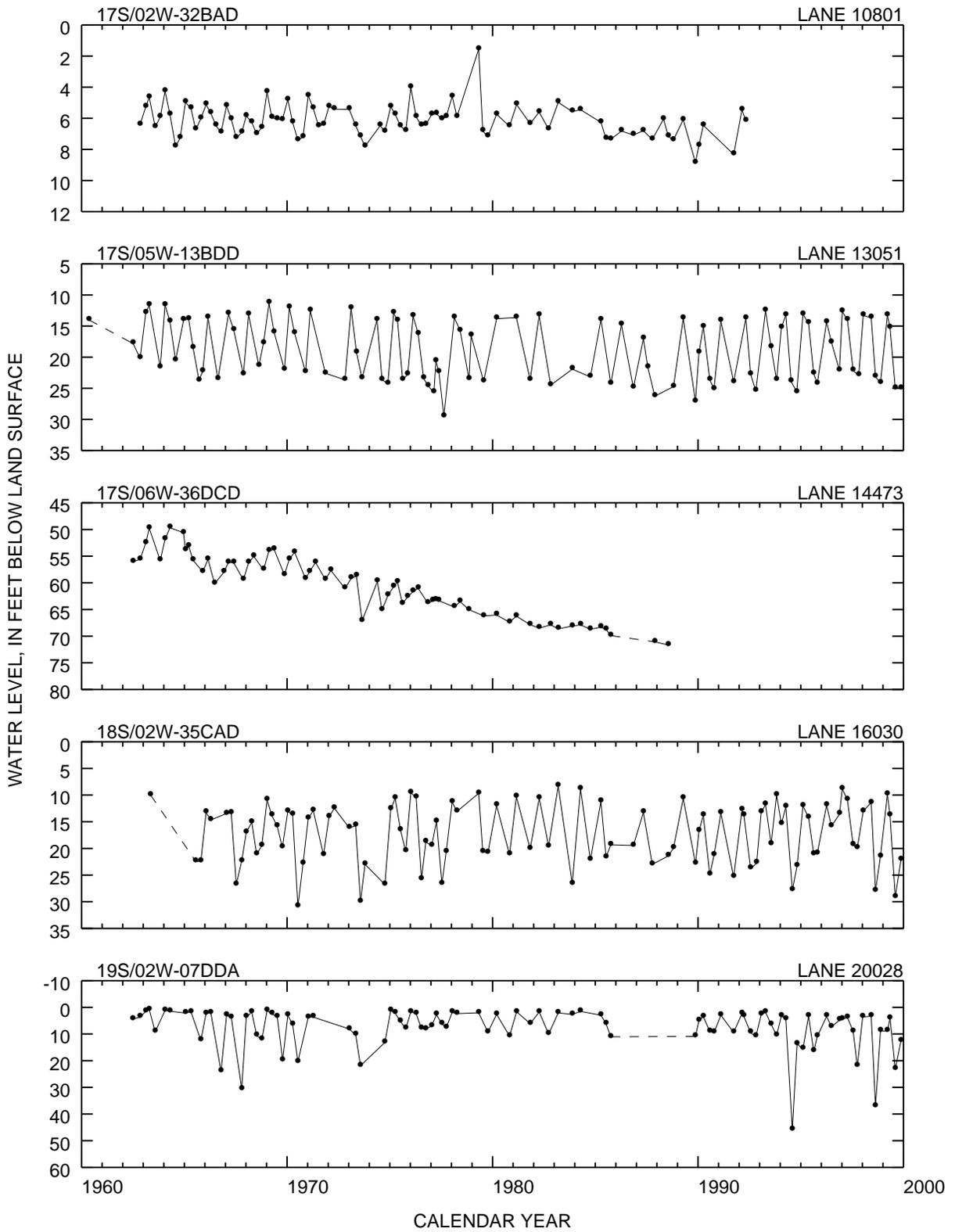


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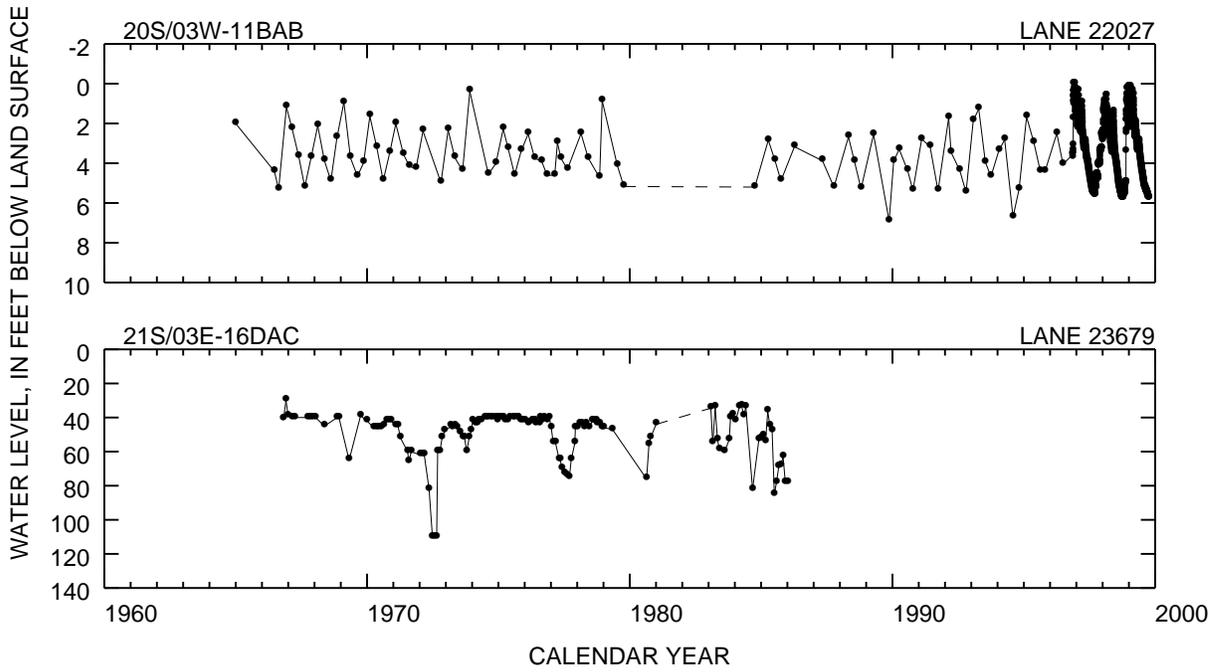


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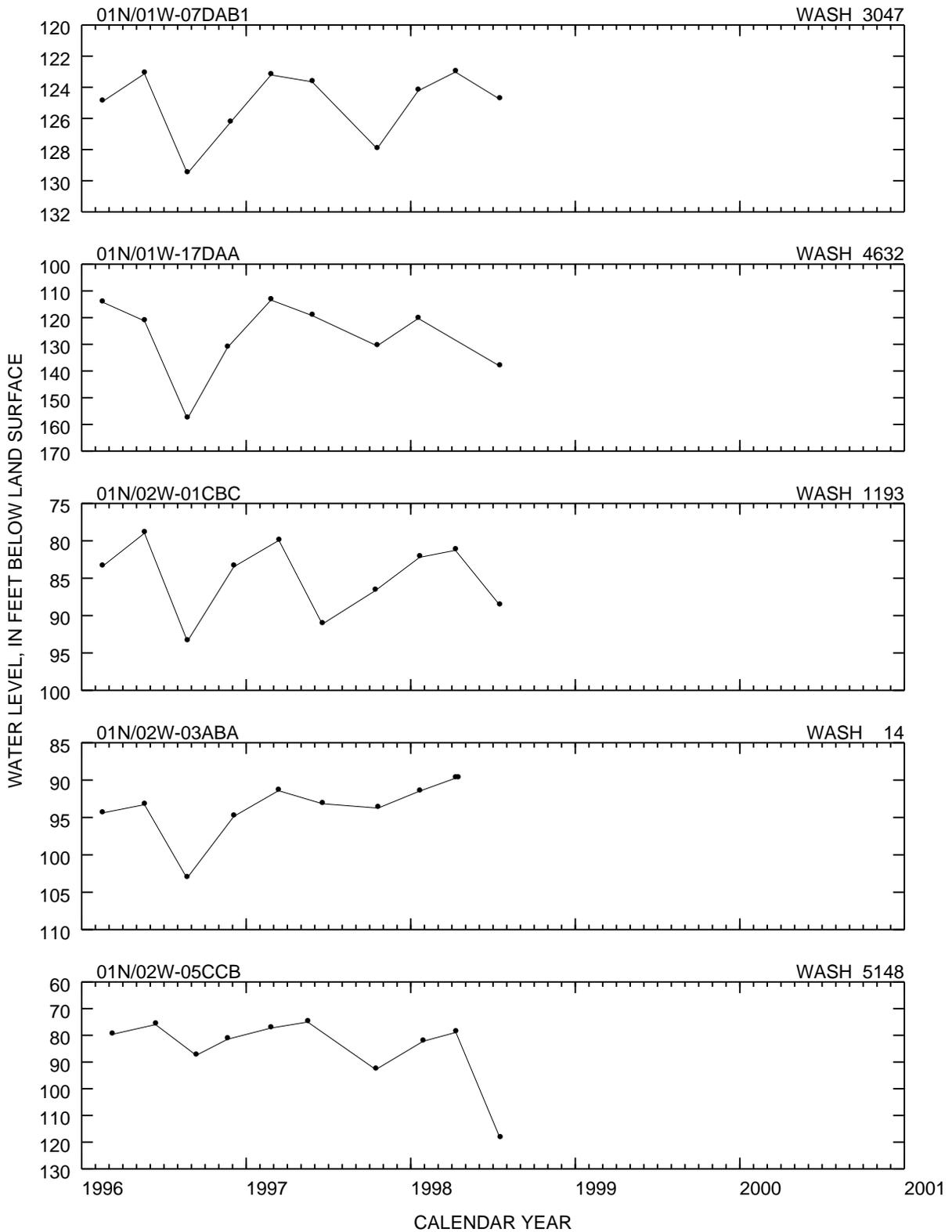


Figure B3. Hydrographs from wells measured bimonthly for the Willamette Basin study. Well location and Oregon Water Resources well-log identification are above each hydrograph. Dashed lines indicate periods of missing record.

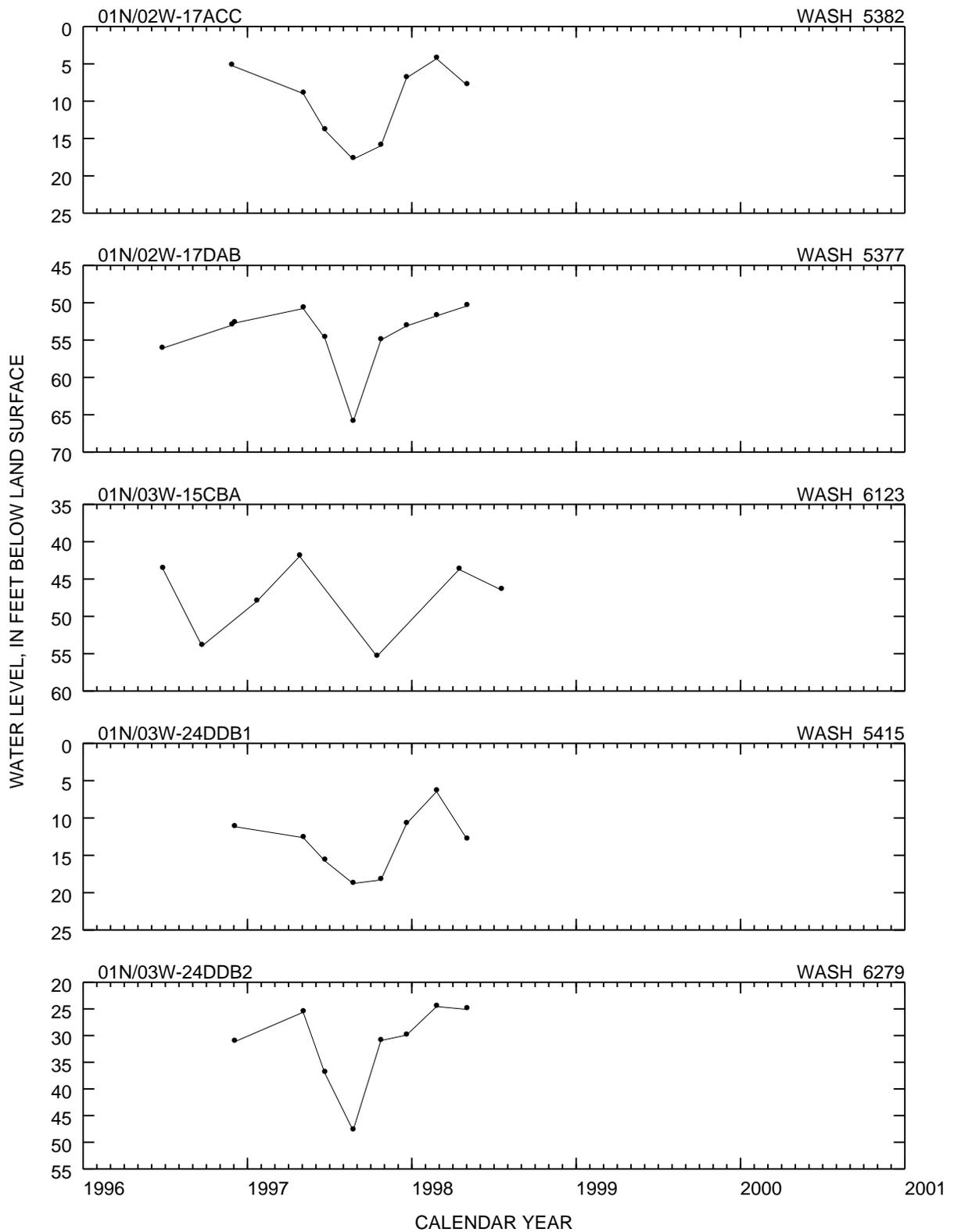


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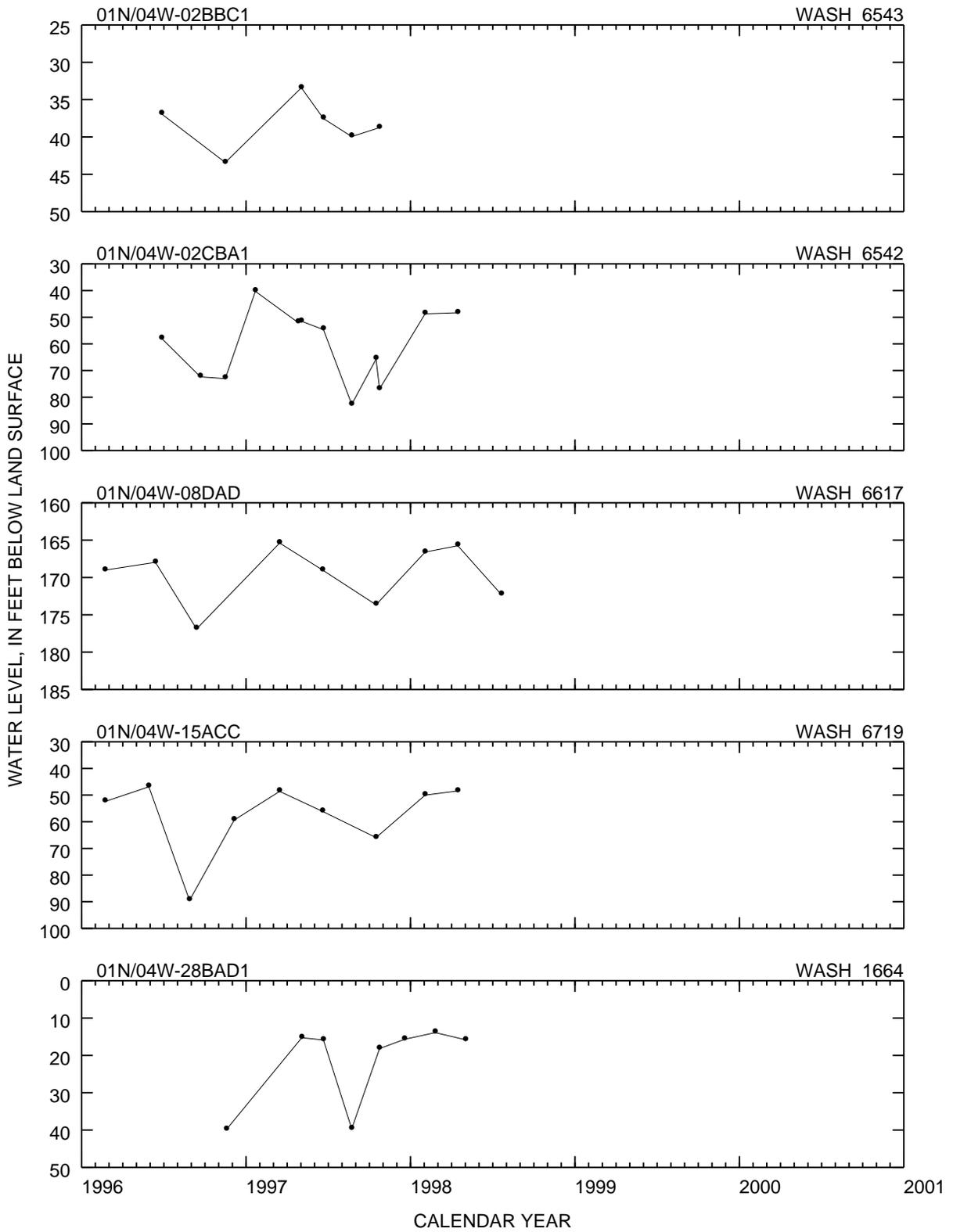


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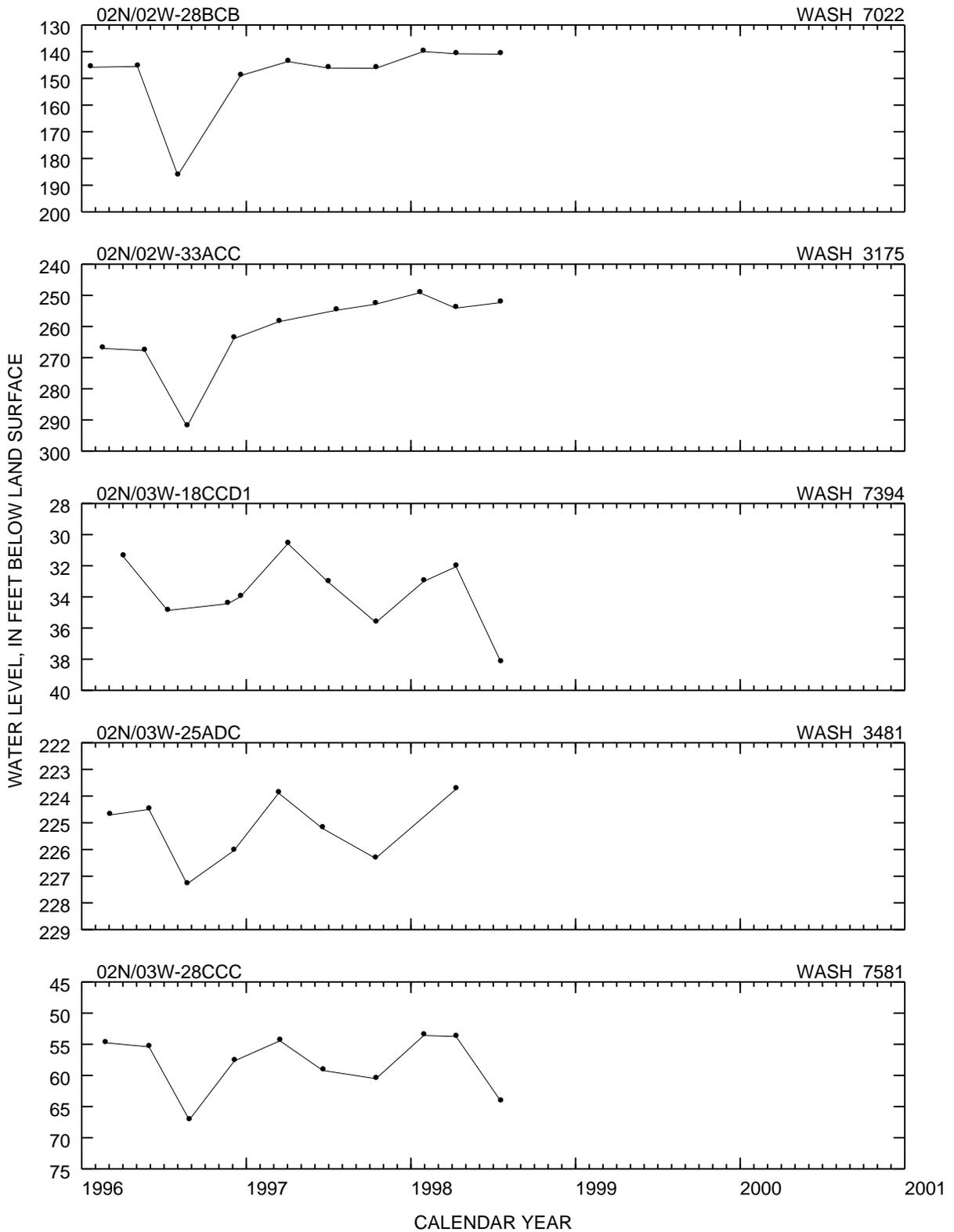


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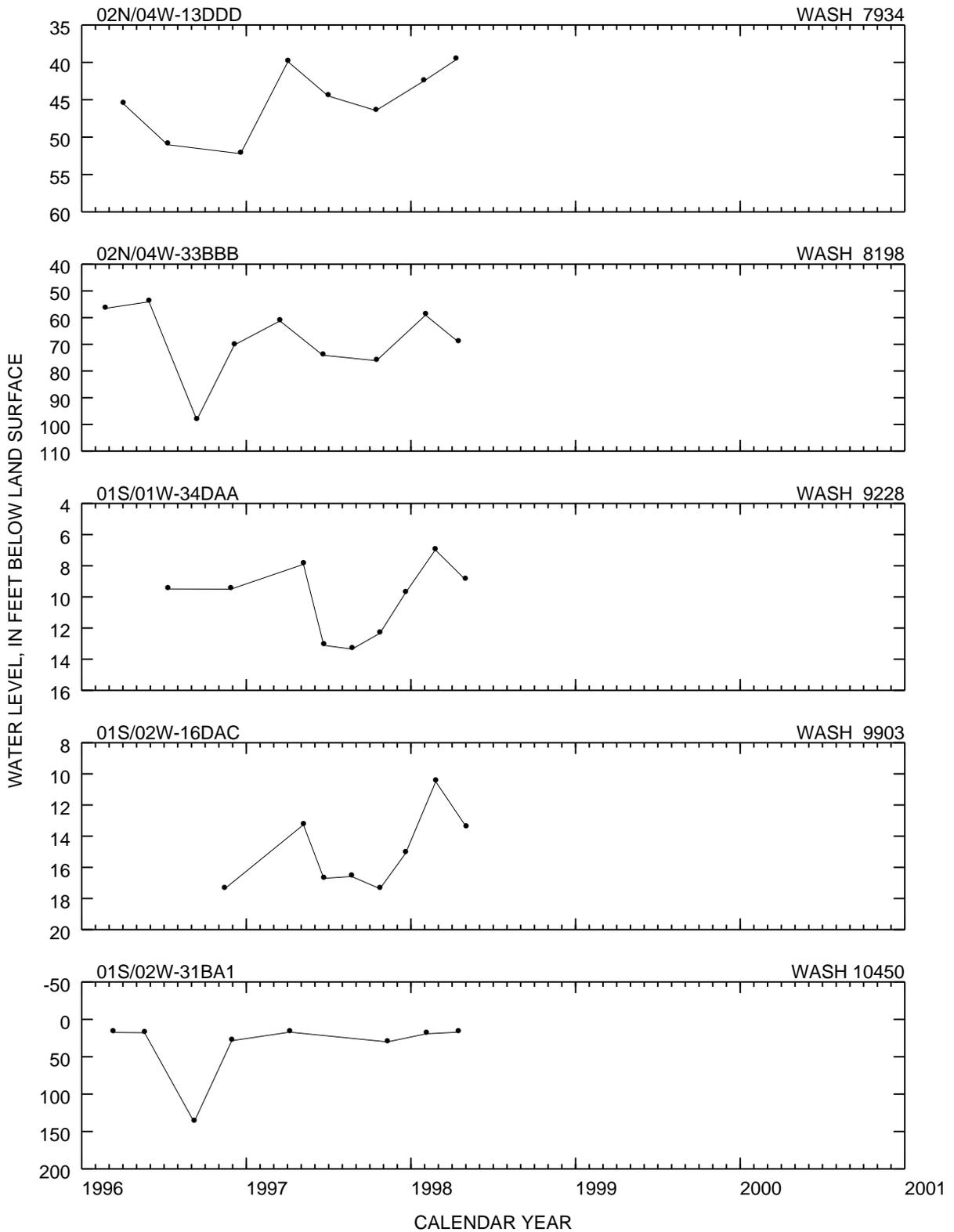


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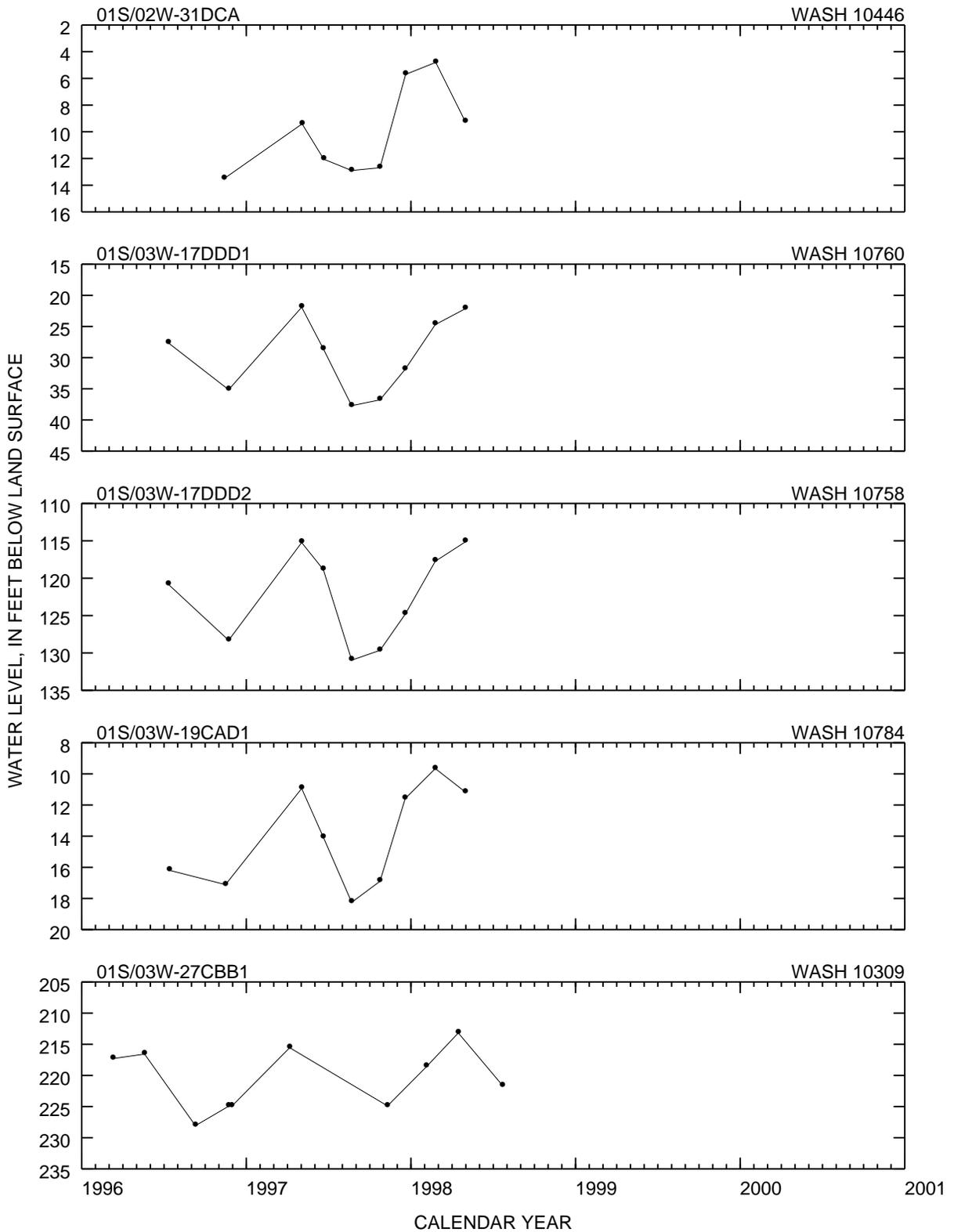


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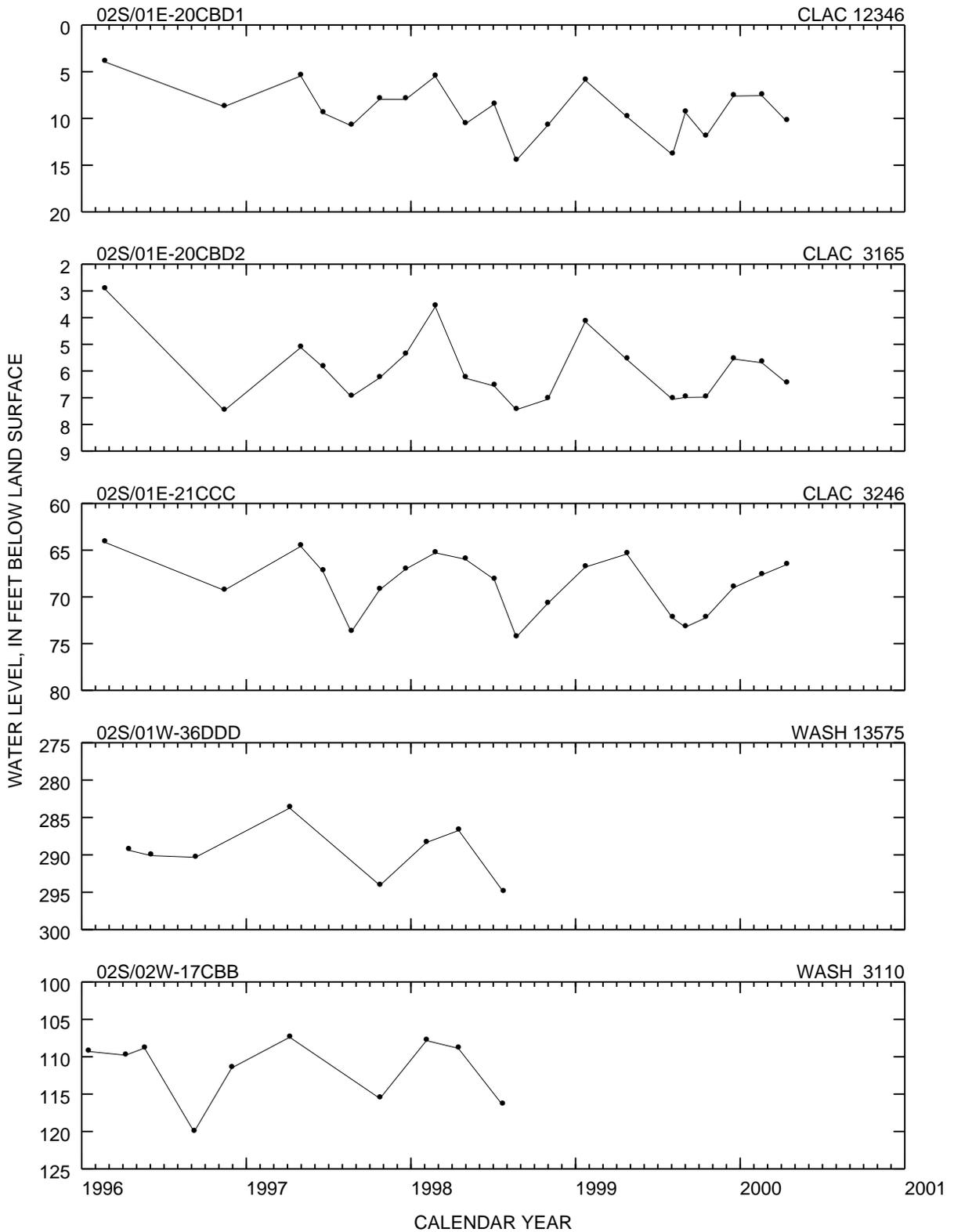


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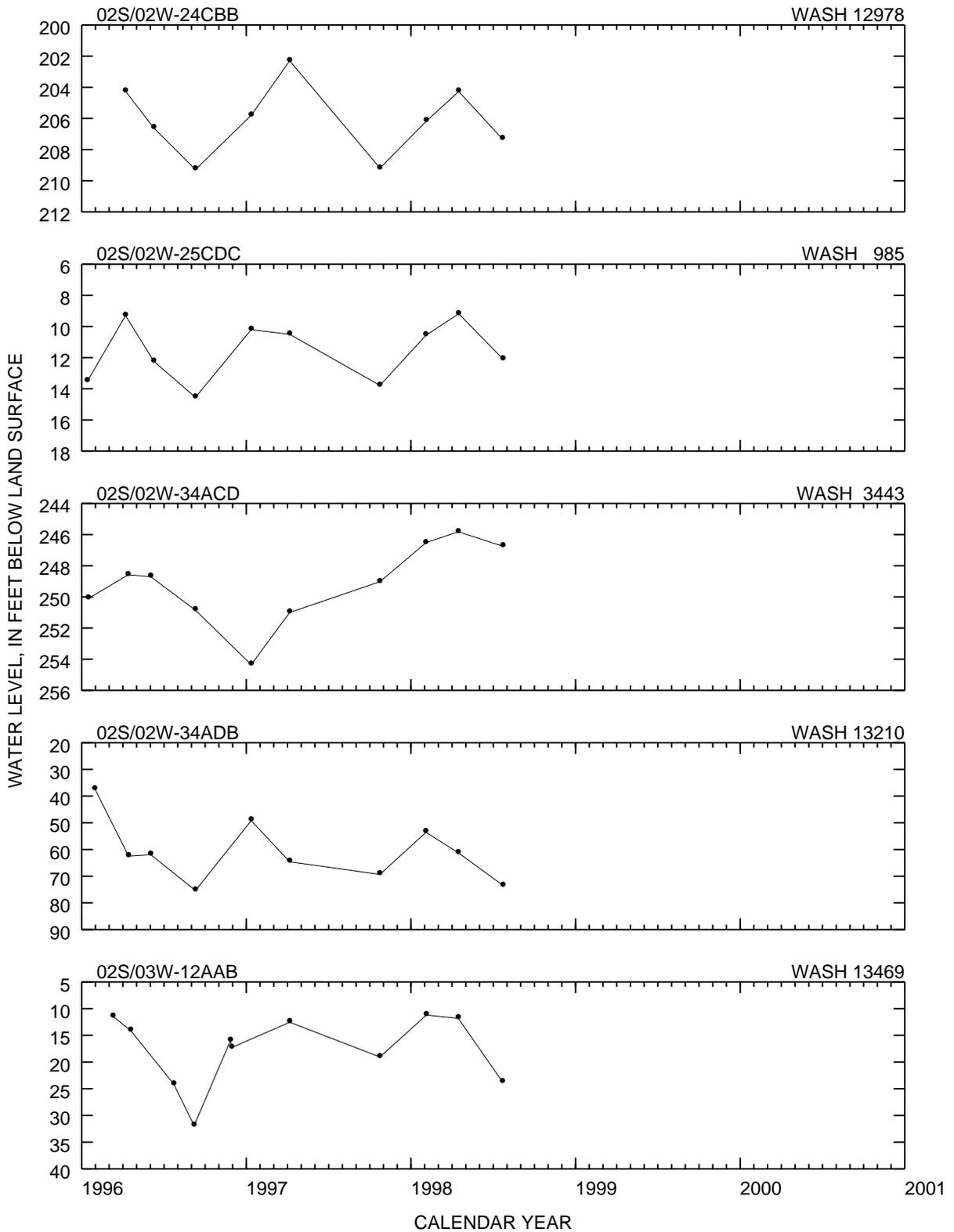


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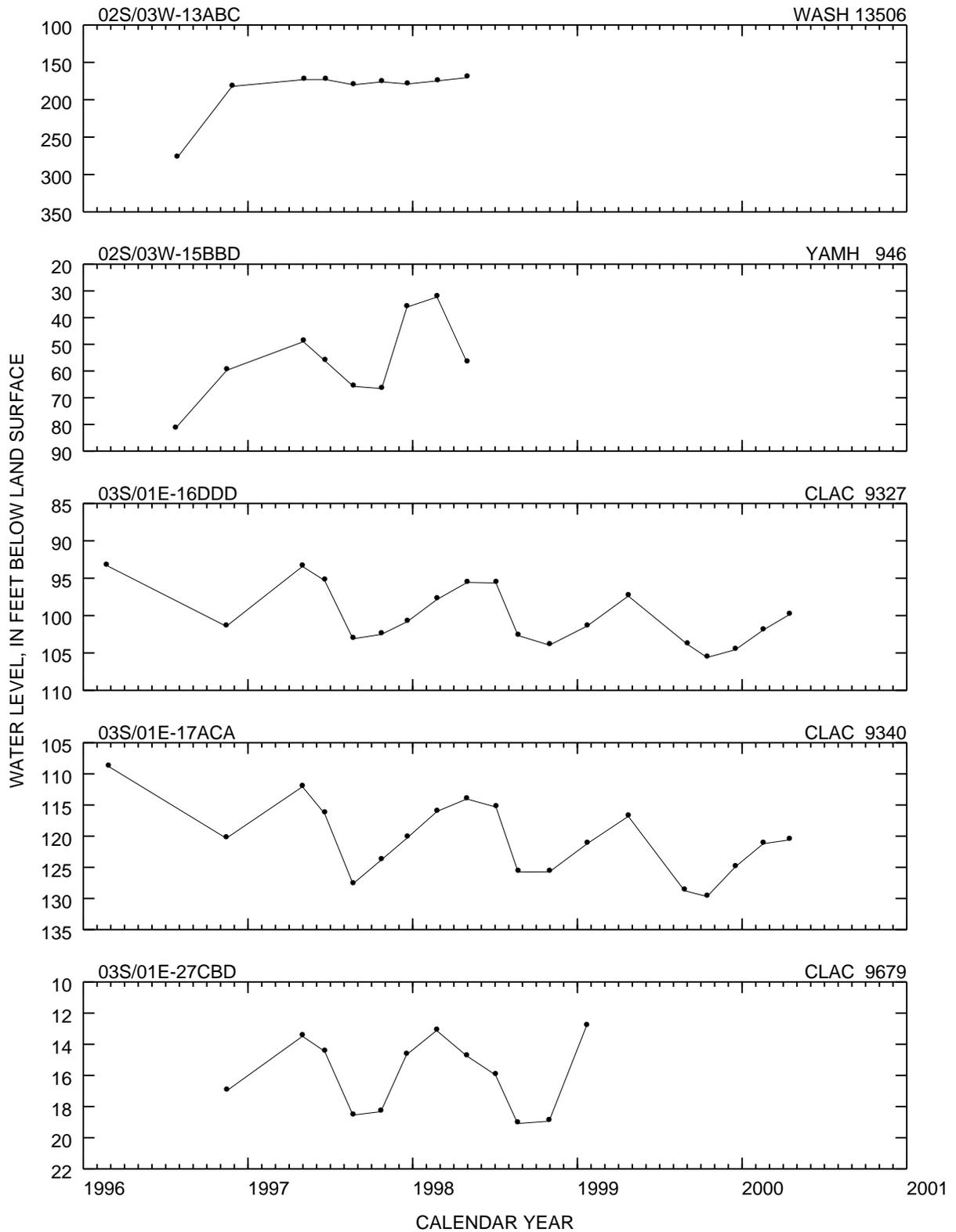


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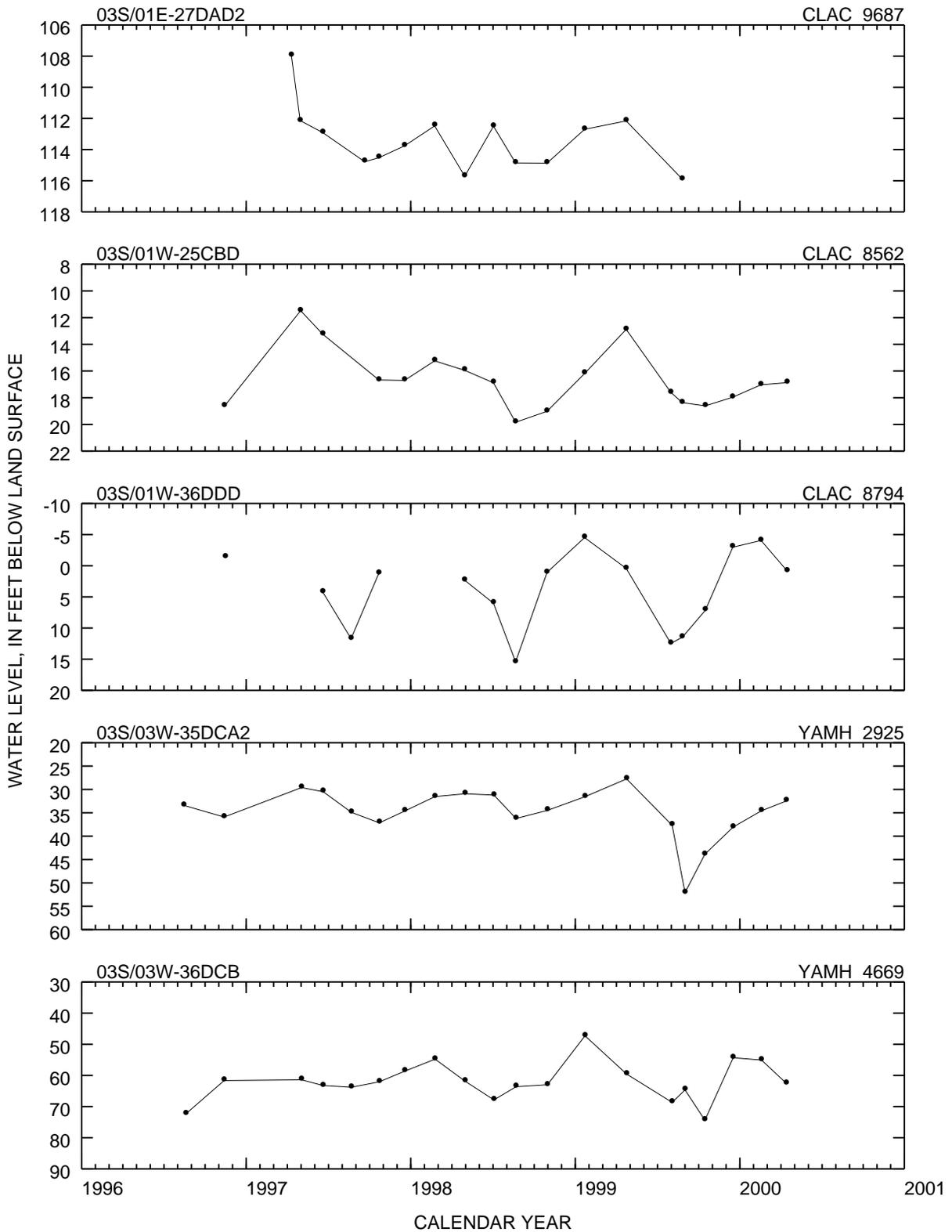


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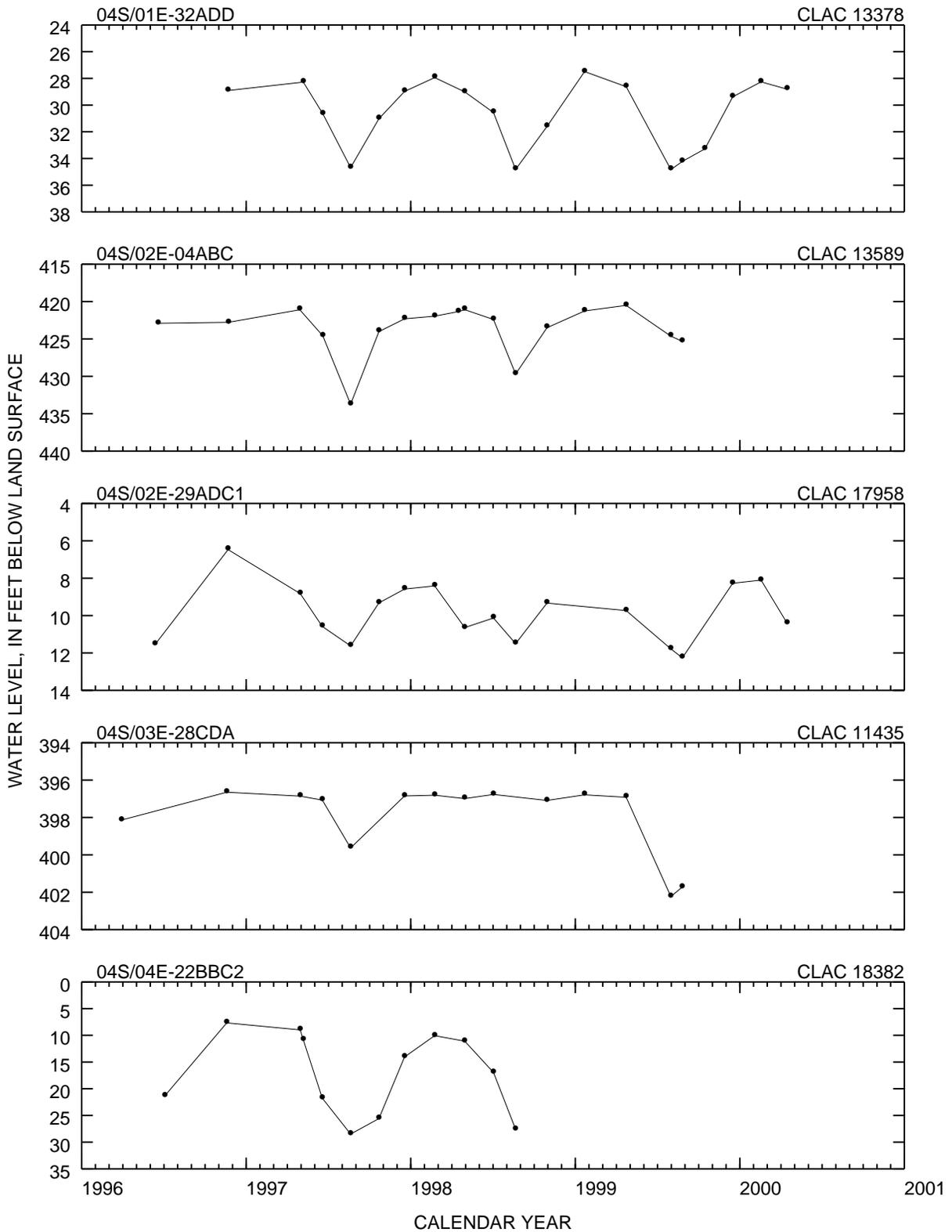


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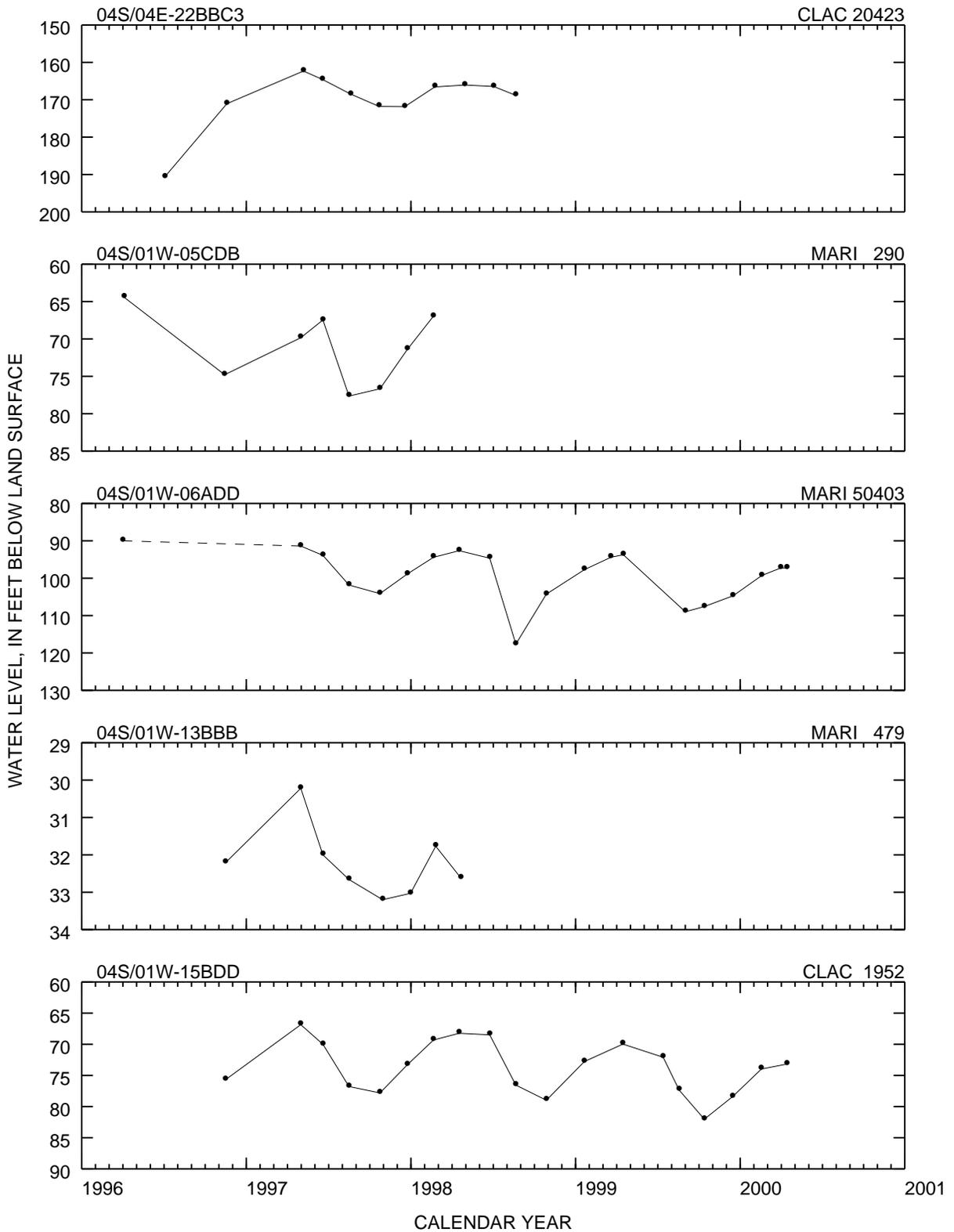


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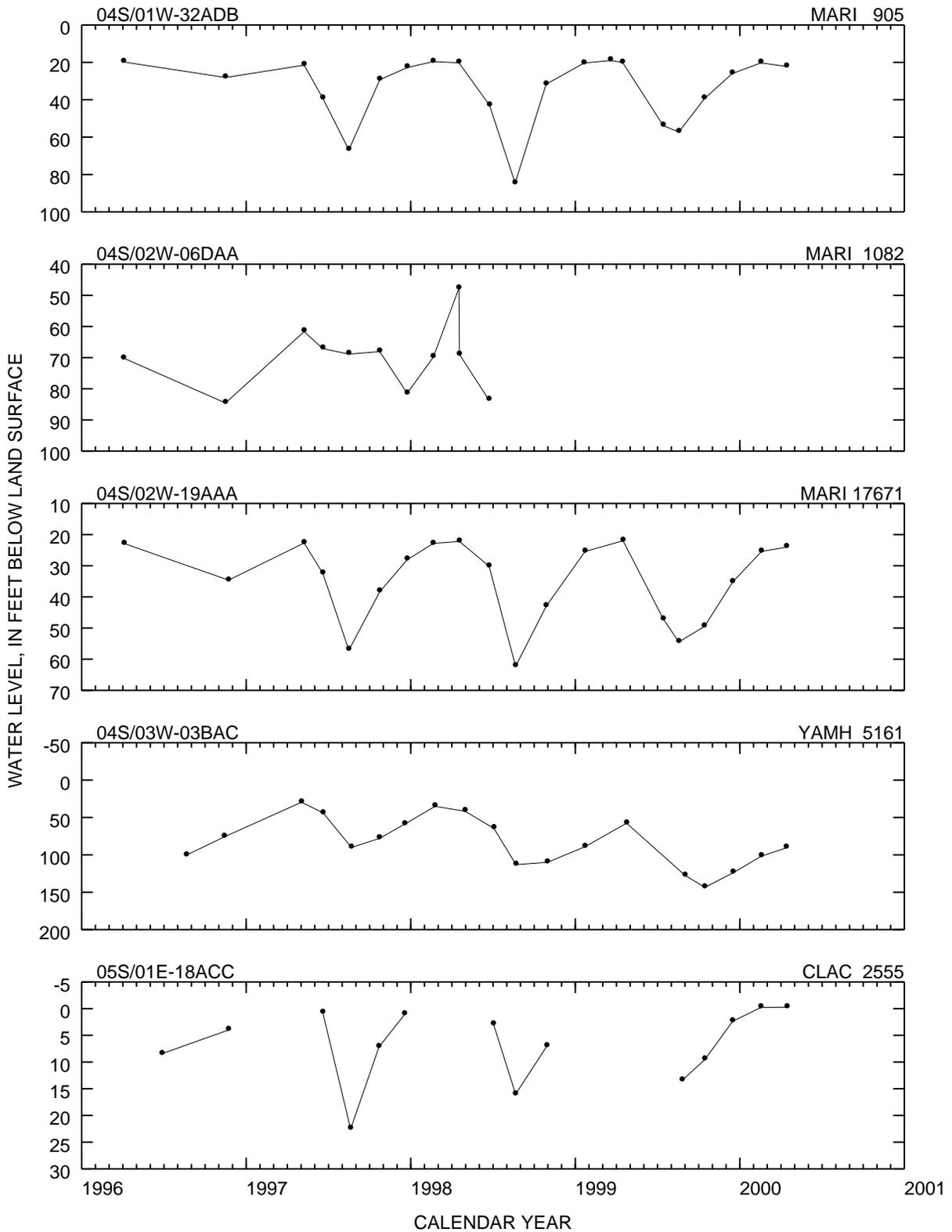


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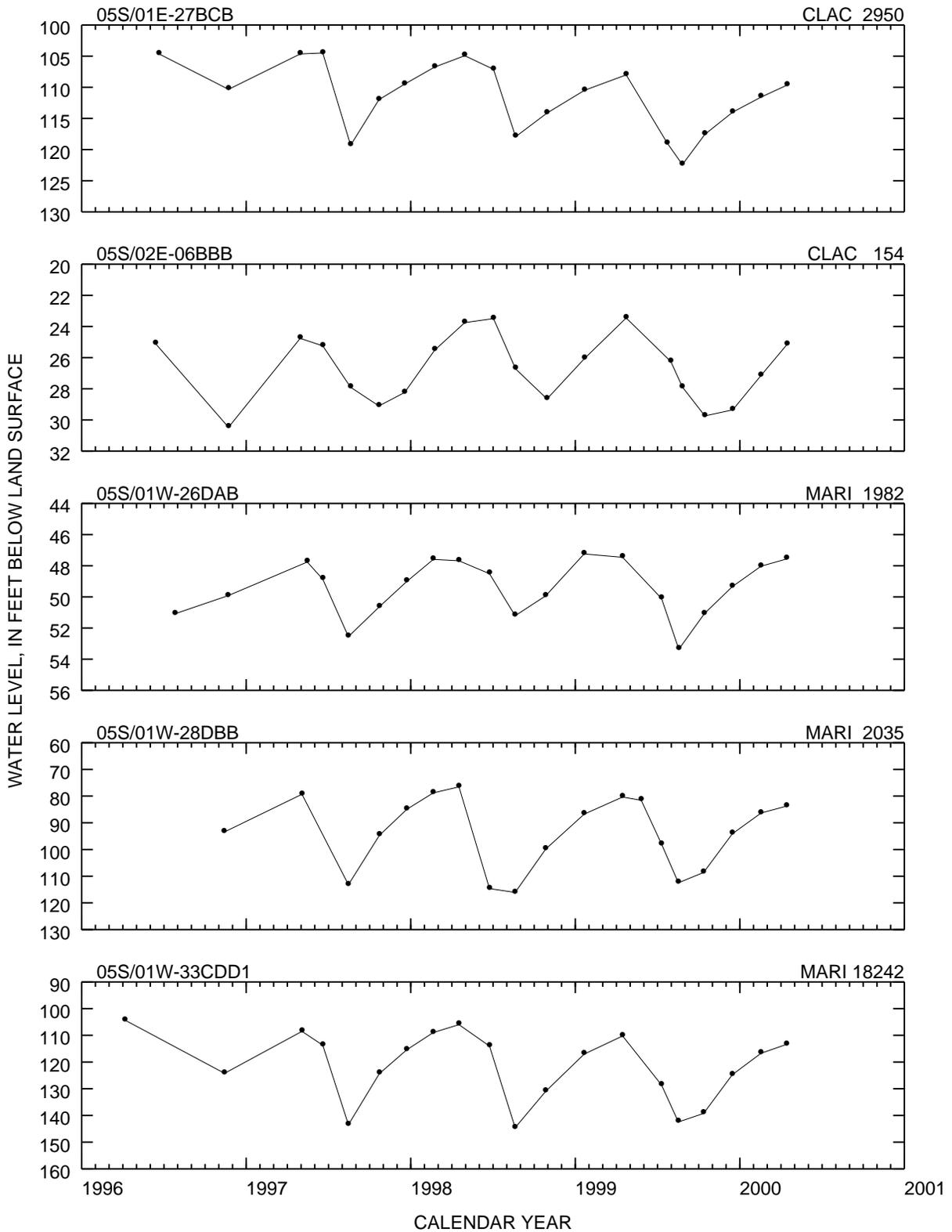


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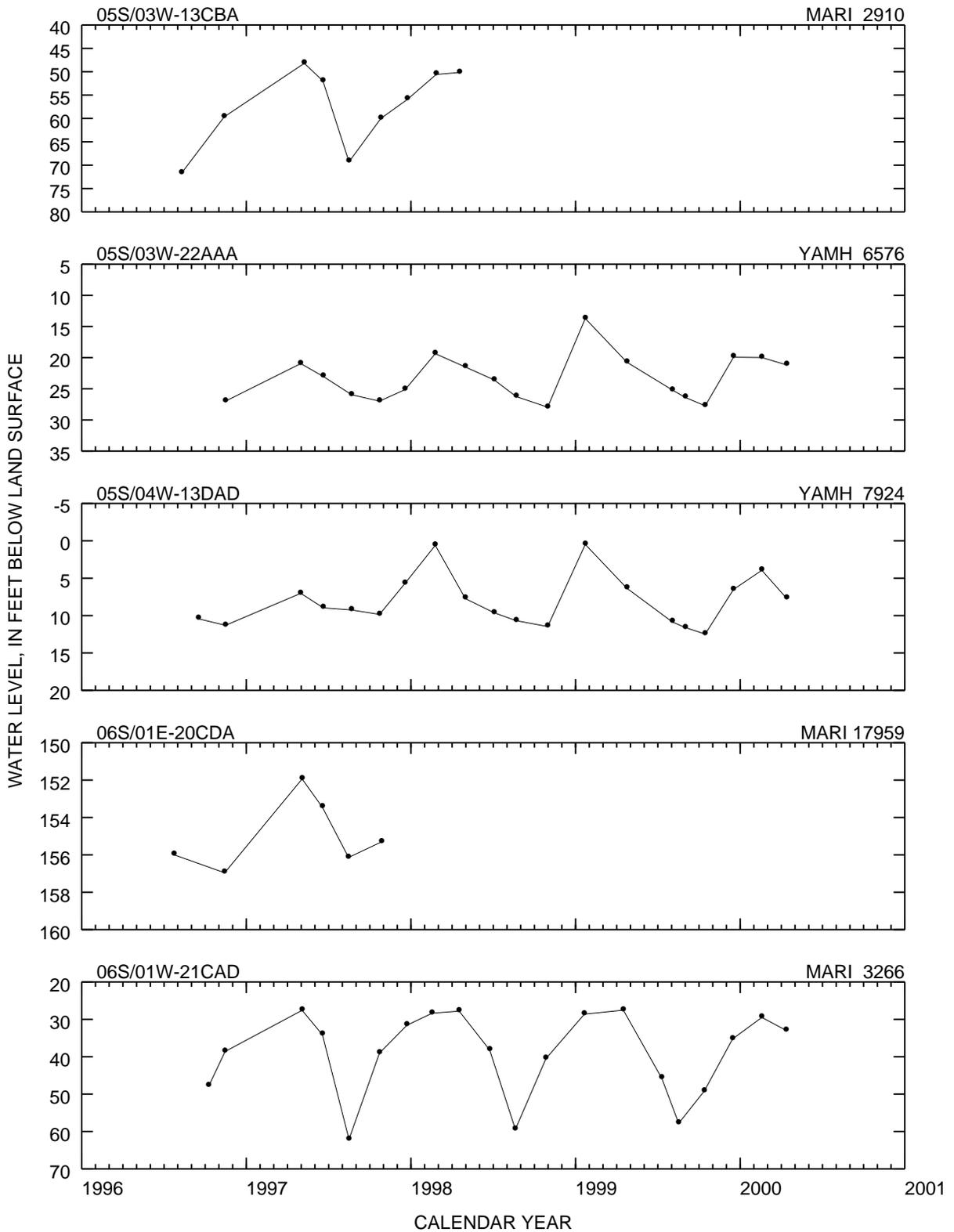


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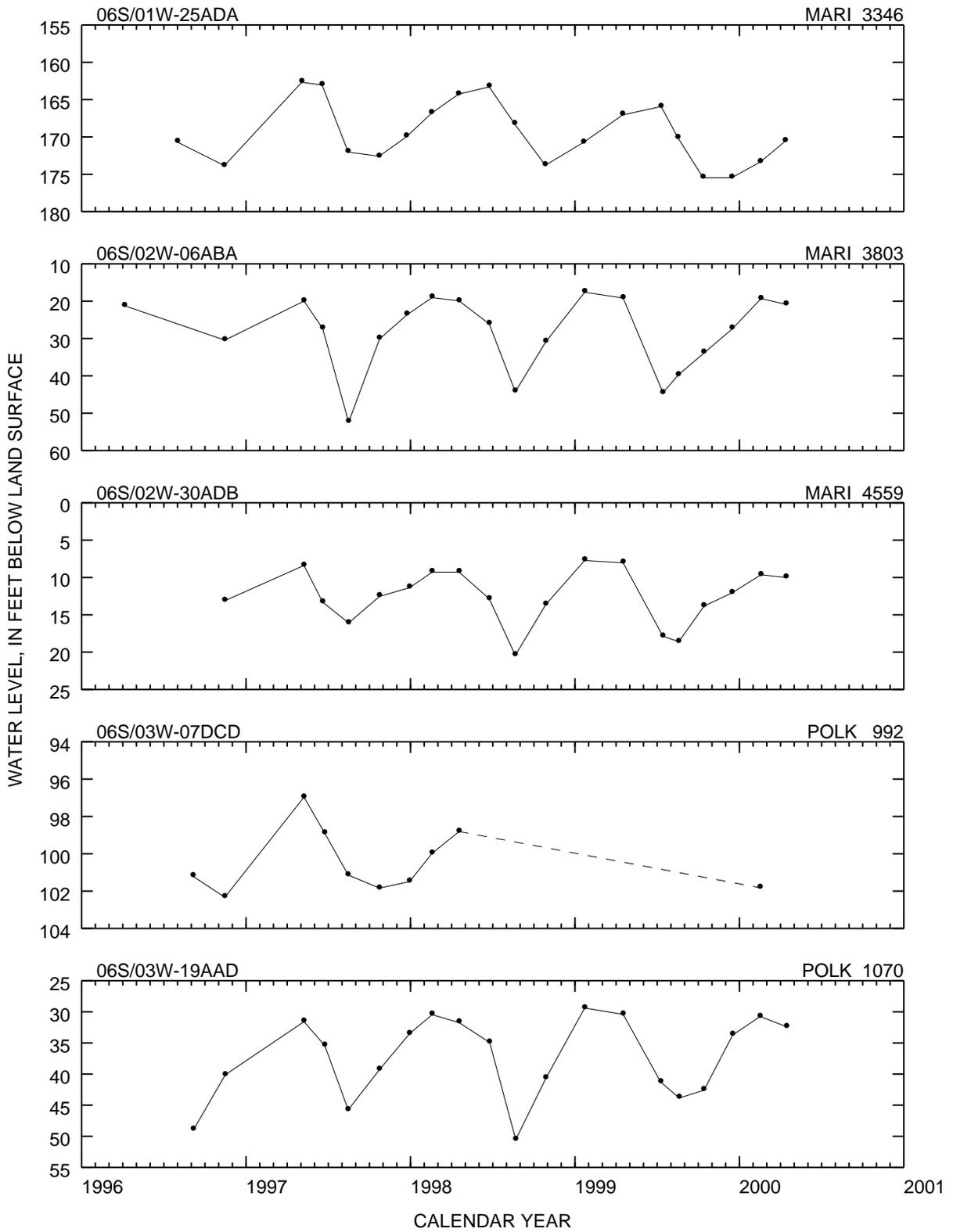


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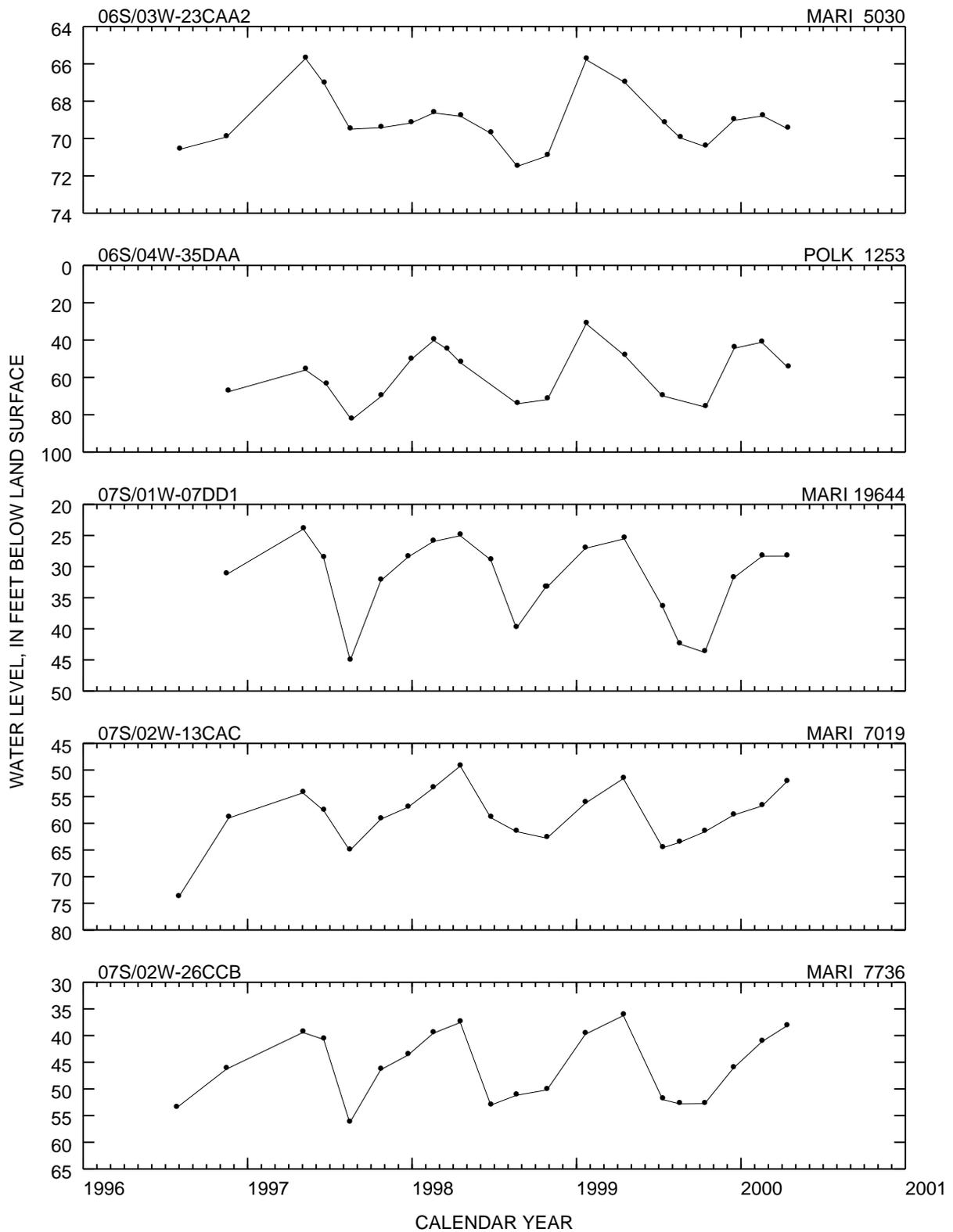


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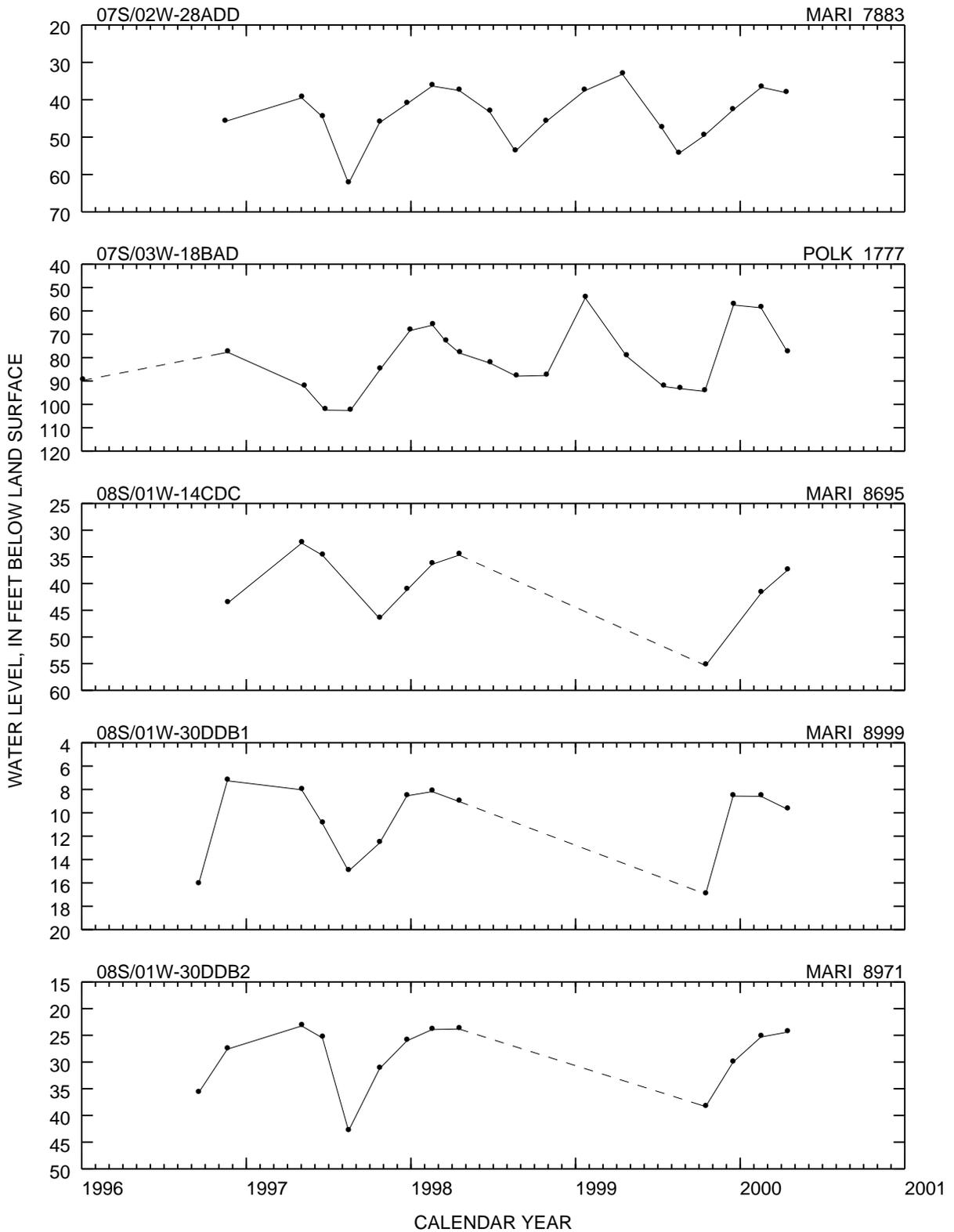


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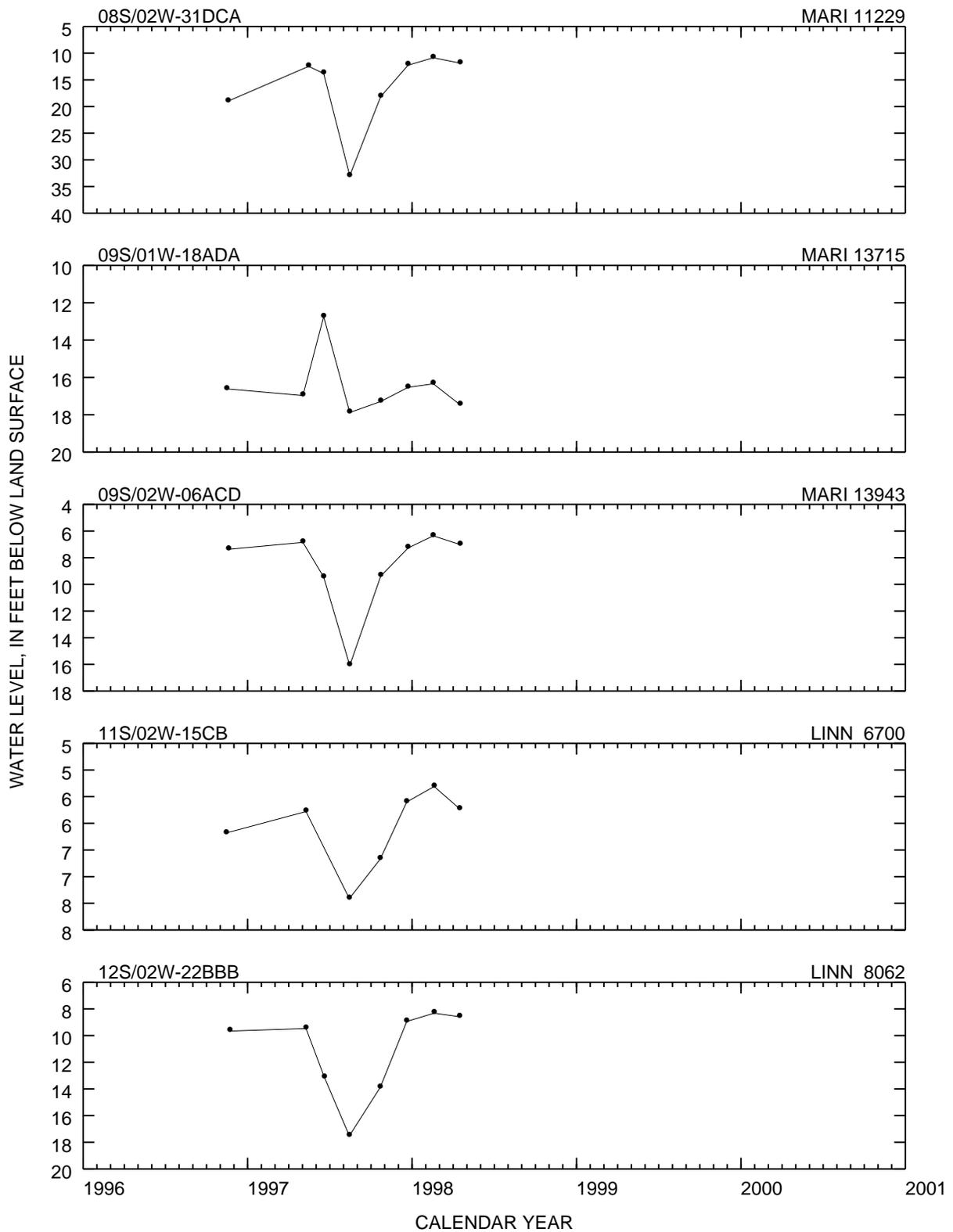


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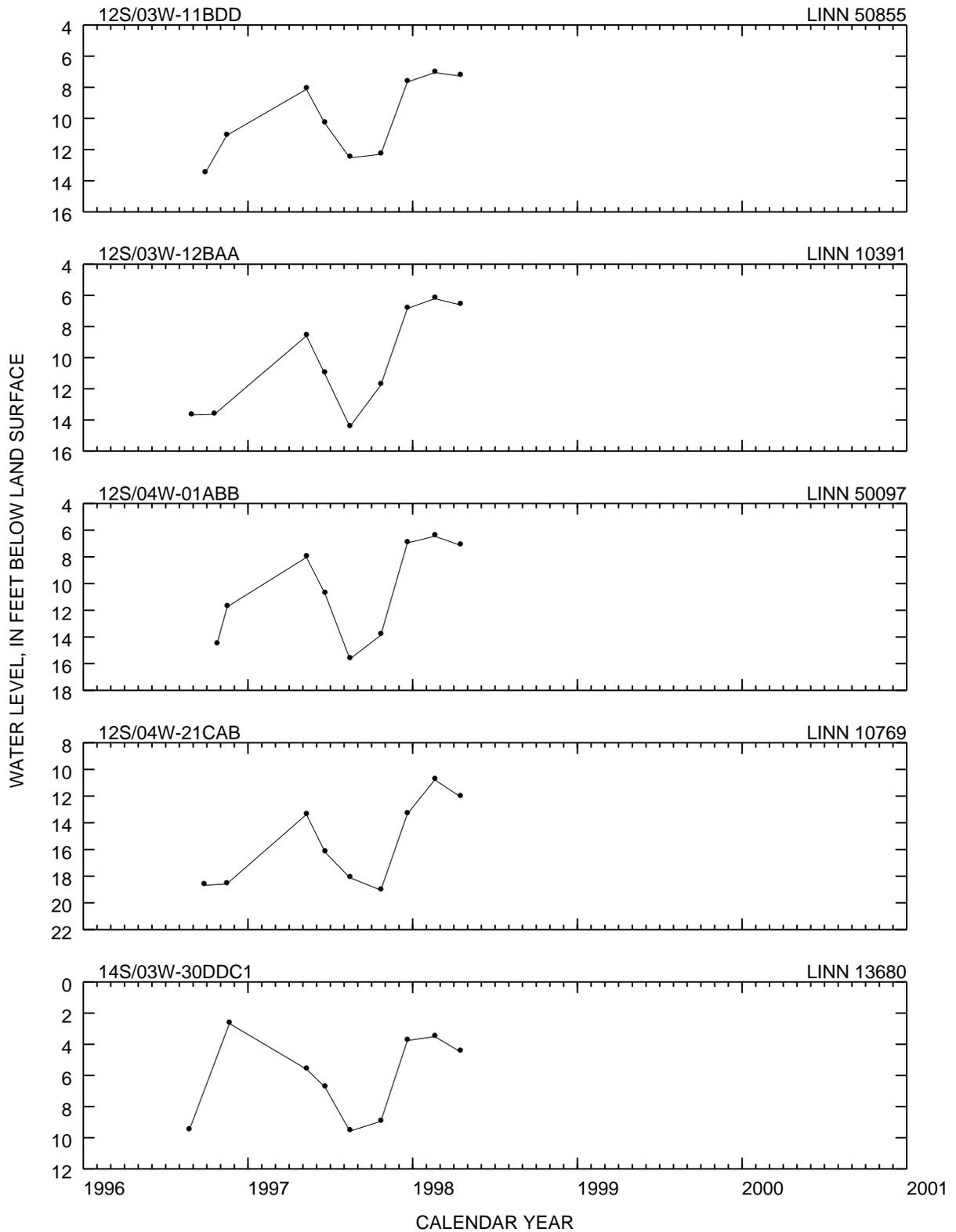


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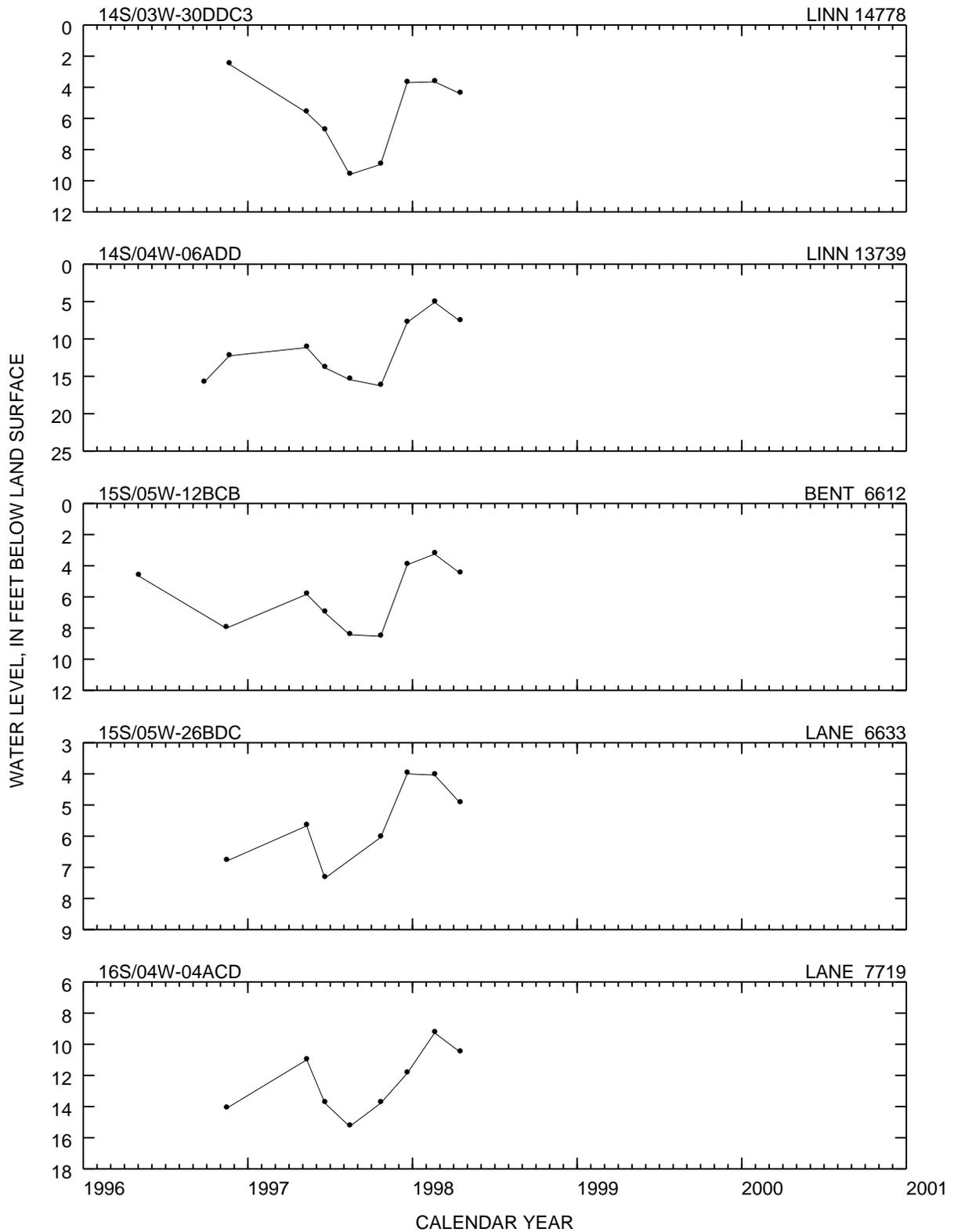


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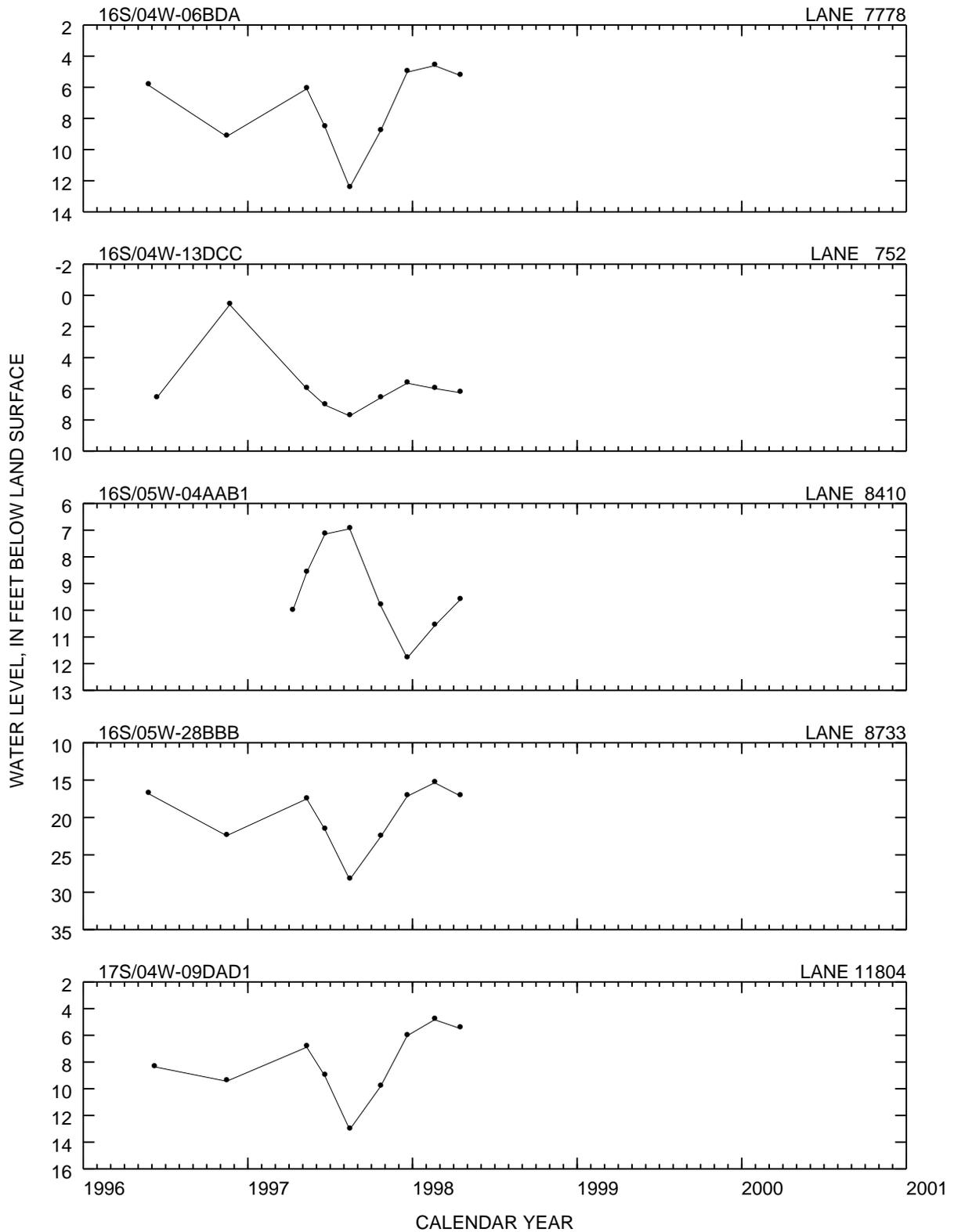


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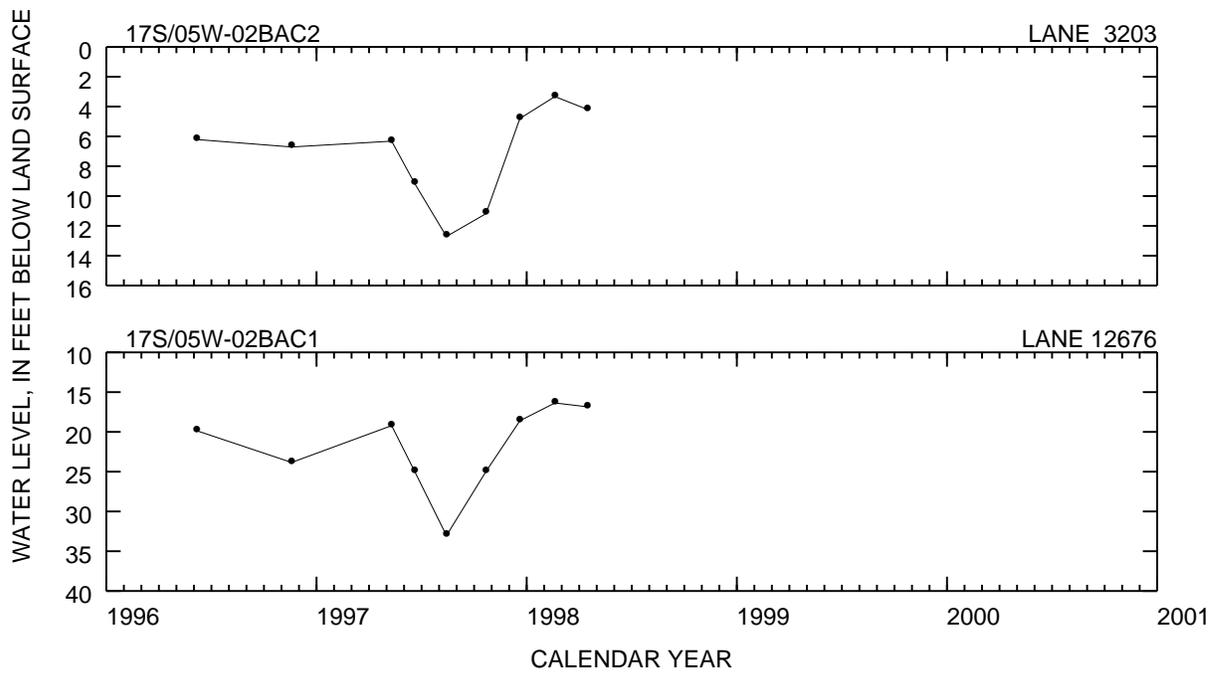


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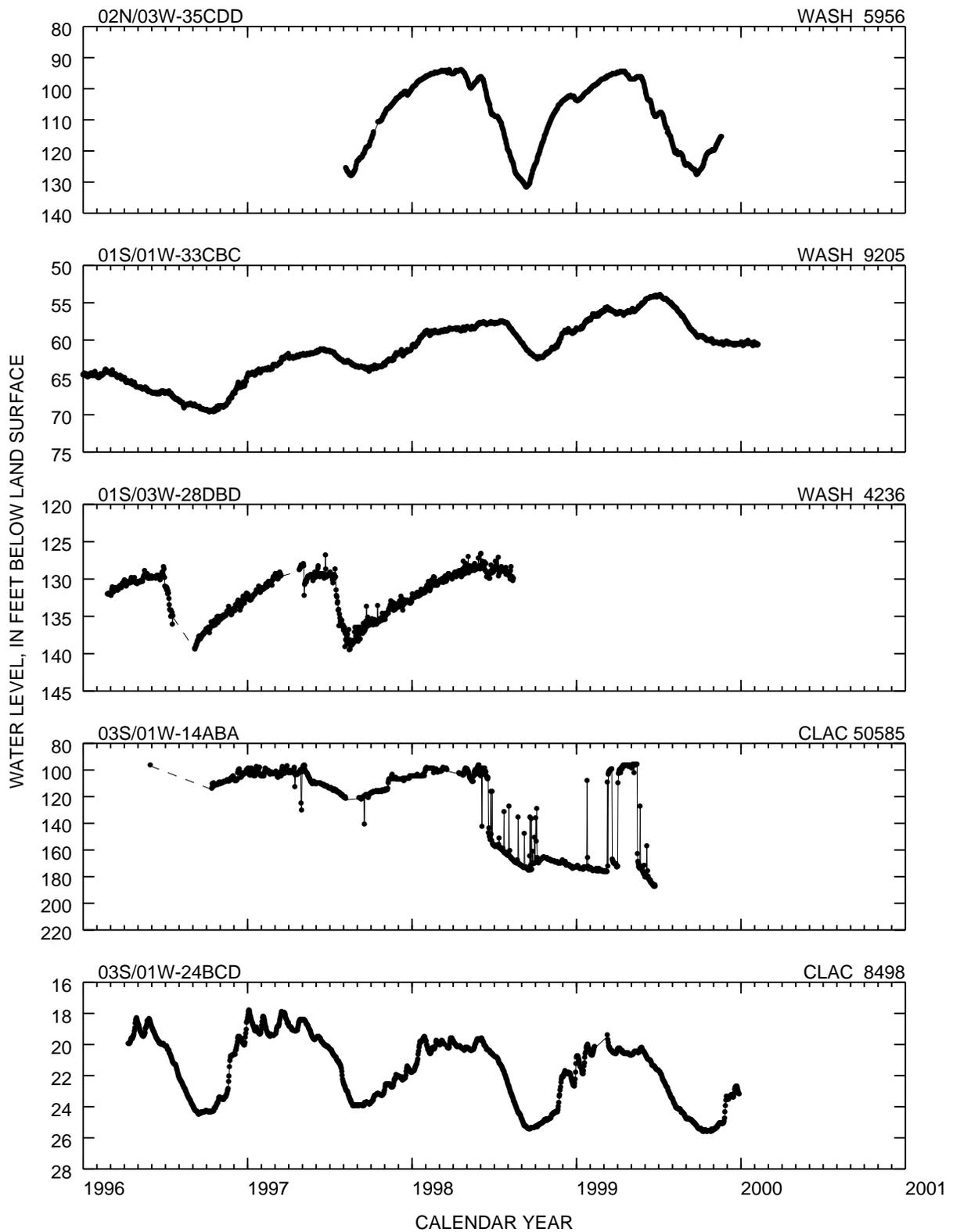


Figure B4. Hydrographs from recorder wells in the Willamette Basin. Water levels shown are daily 12:00 p.m. measurements. Well location and Oregon Water Resources Department well-log identification are above each hydrograph. Dashed lines indicate periods of missing record. Also includes manual measurements made during the 1996–98 period.

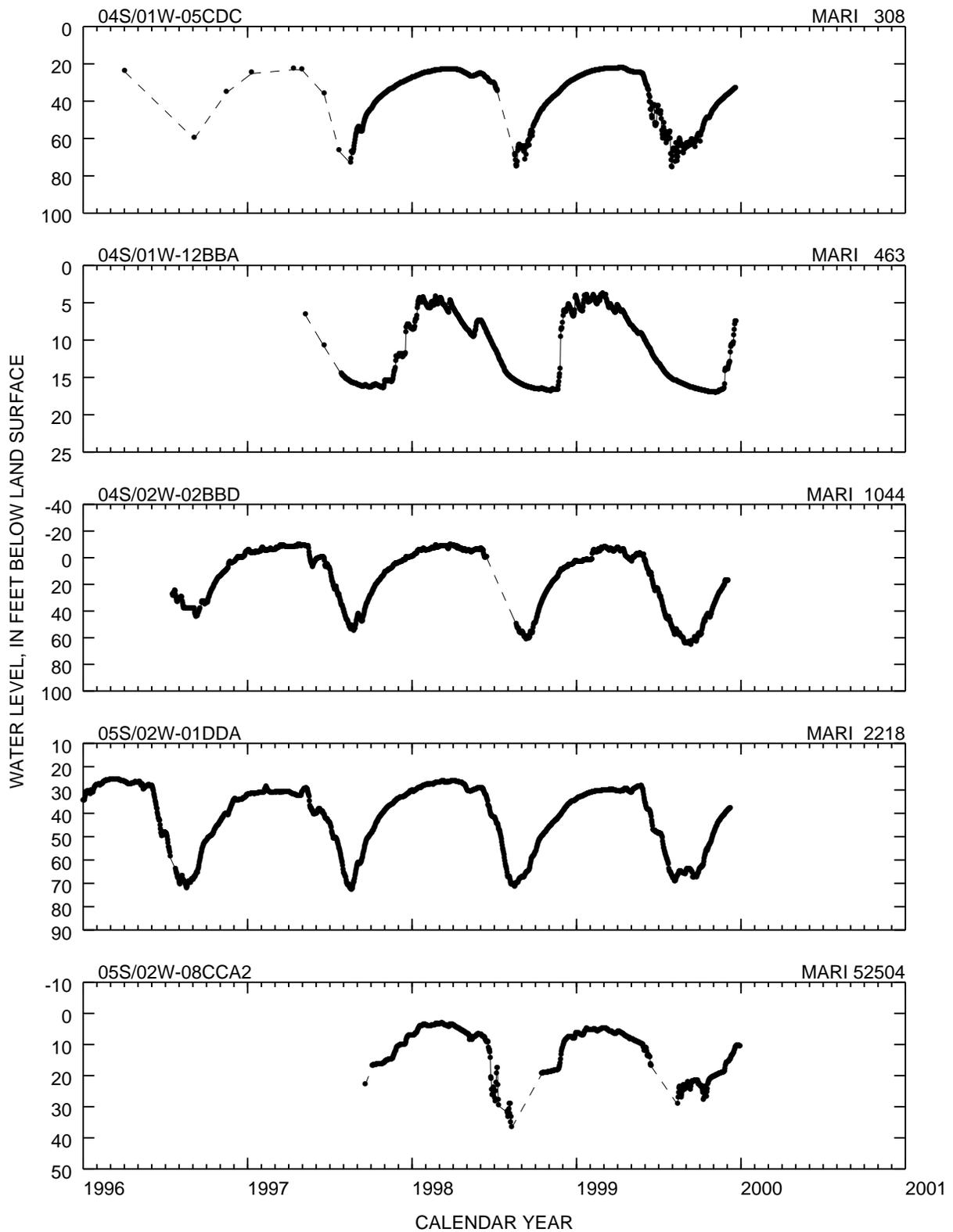


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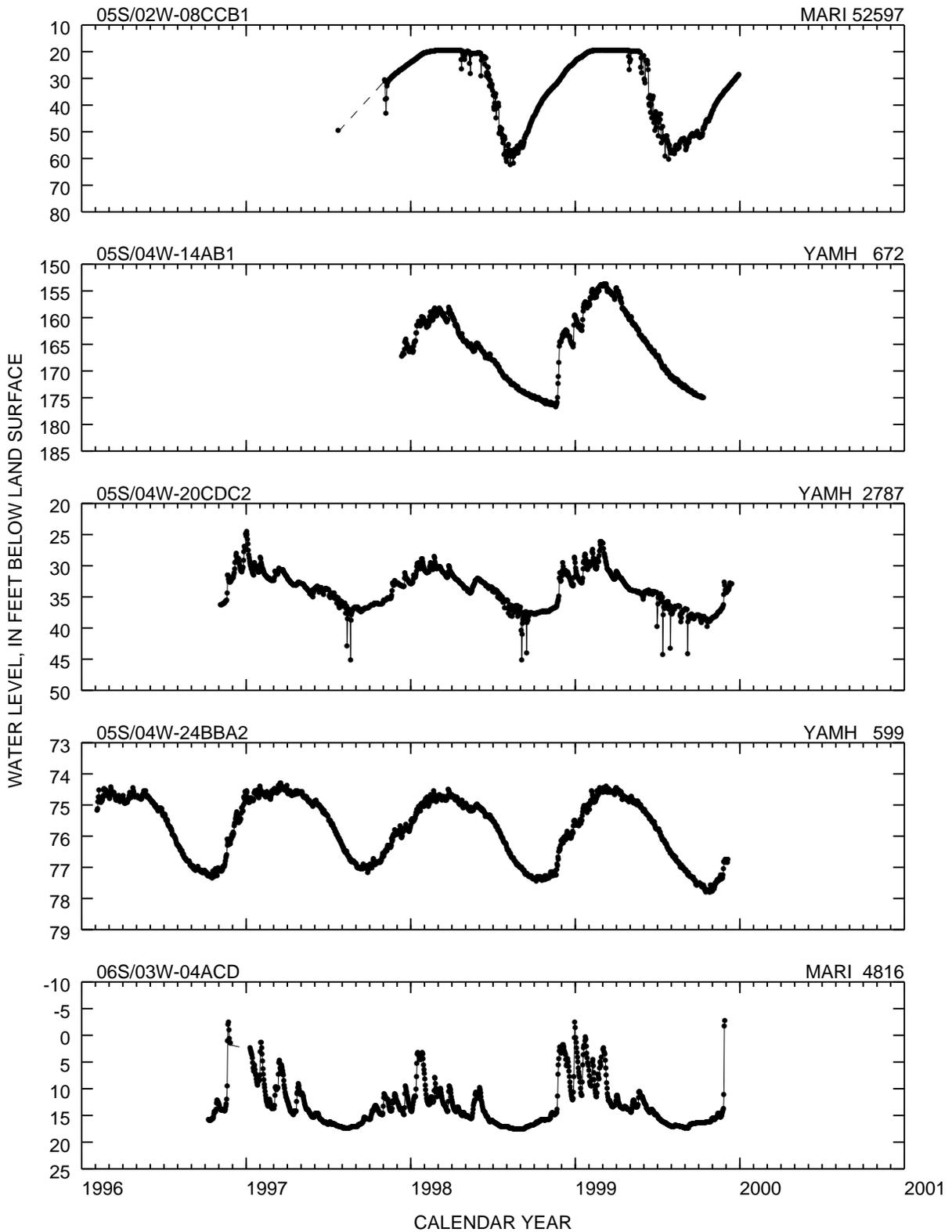


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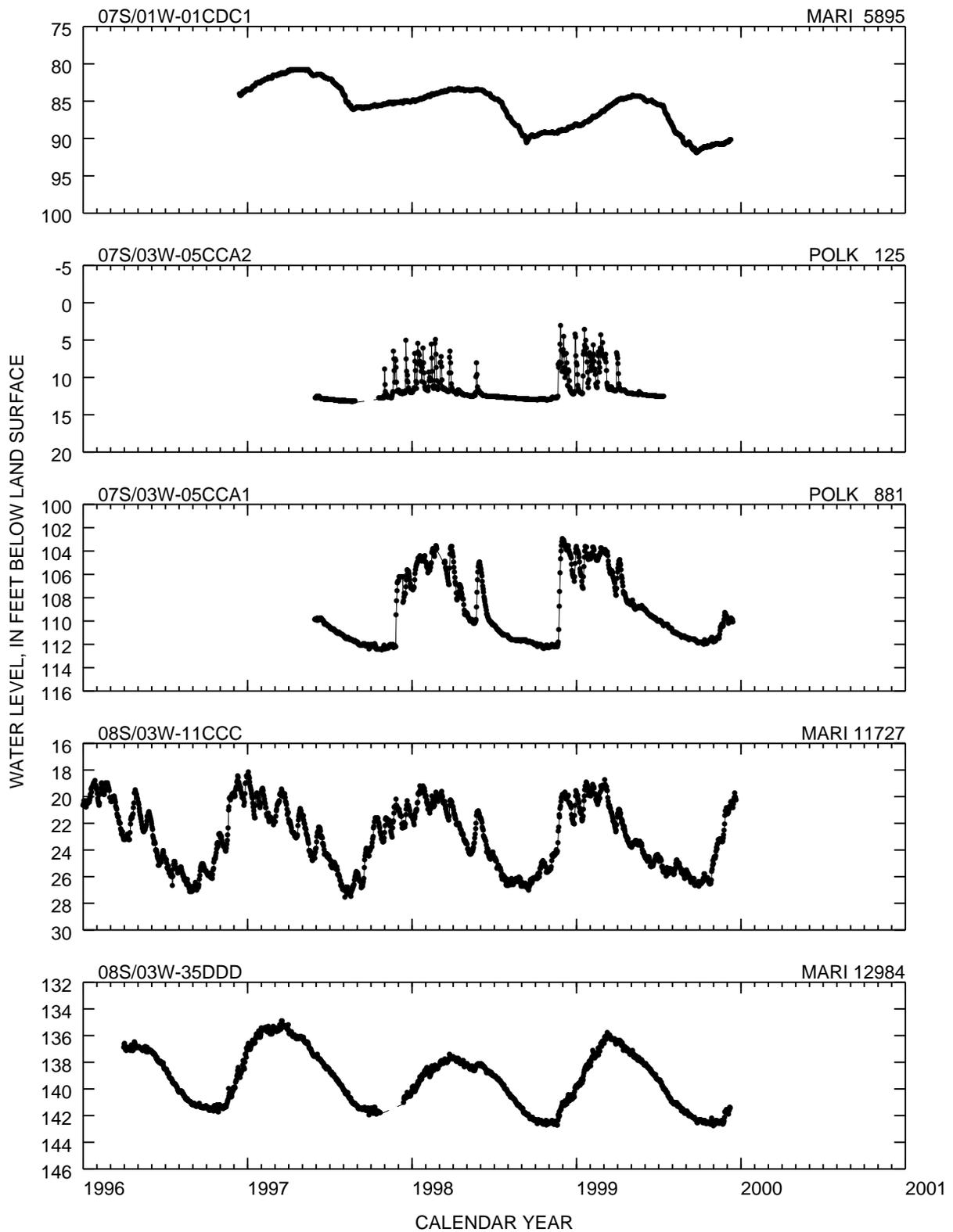


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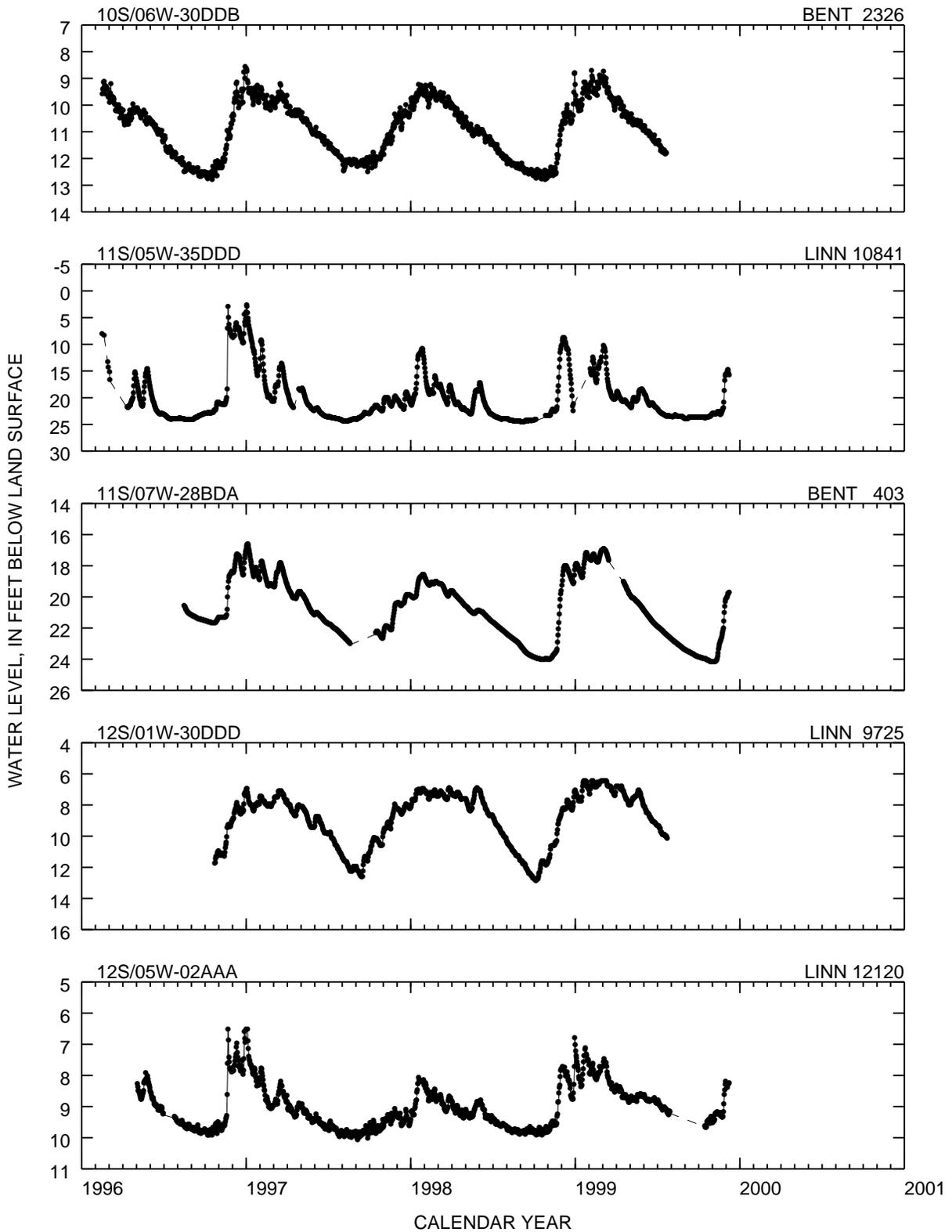


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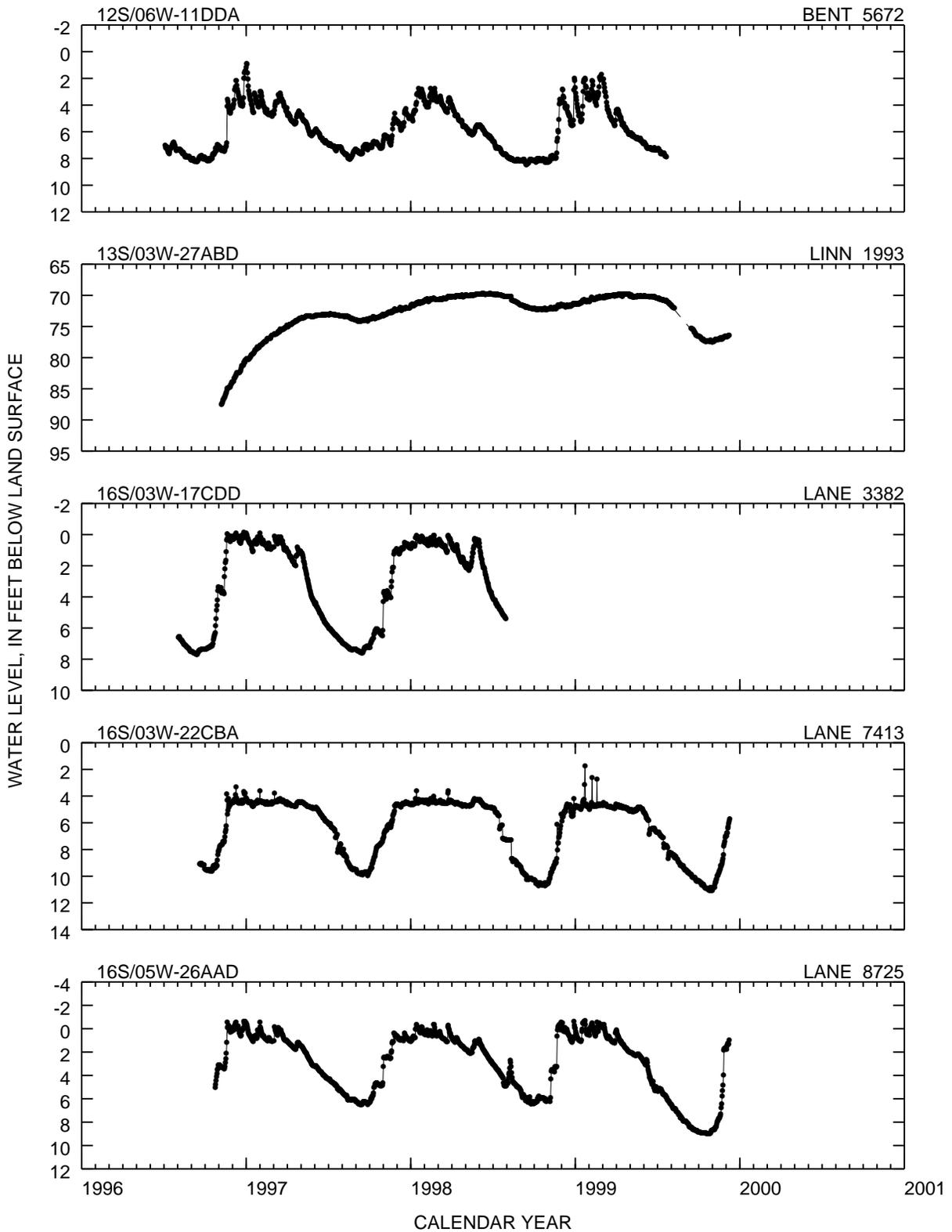


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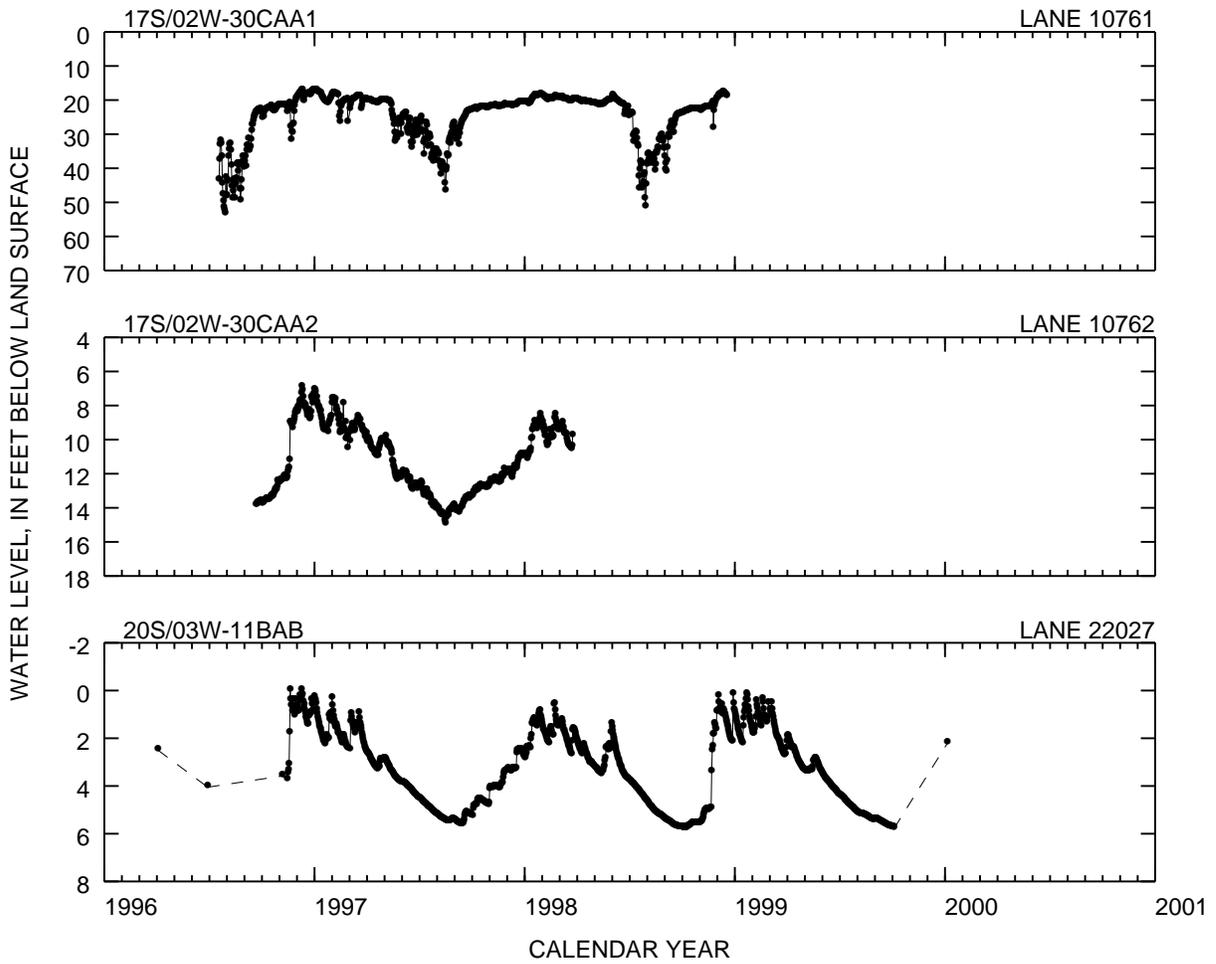


Figure B4. Hydrographs from recorder wells in the Willamette Basin—Continued. Water levels shown are daily 12:00 p.m. measurements. Well location and Oregon Water Resources Department well-log identification are above each hydrograph. Dashed lines indicate periods of missing record. Also includes manual measurements made during the 1996–98 period.

APPENDIX C:

Summary of Borehole Geophysical Data for Selected Wells in the Willamette Basin, Oregon

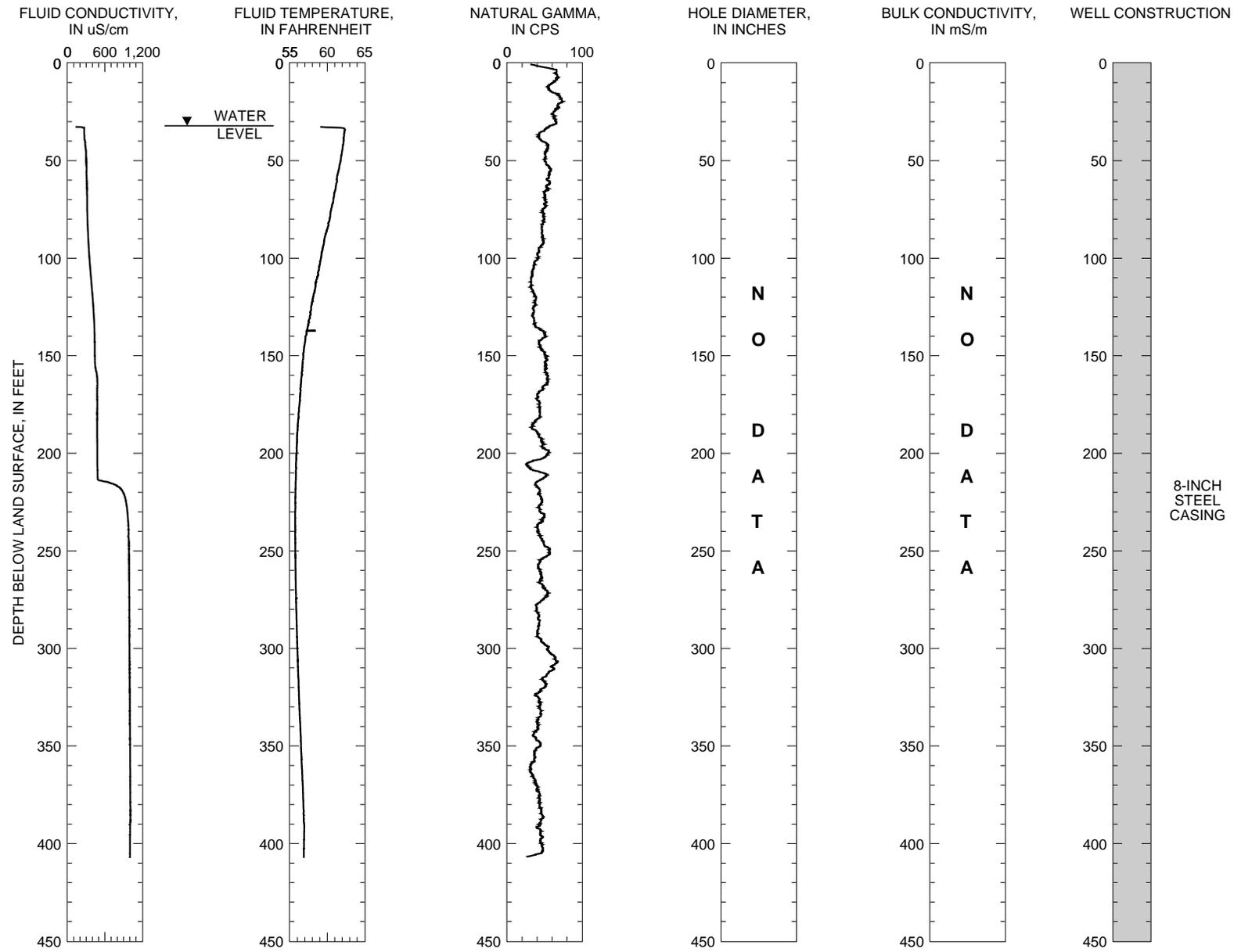
A summary of borehole geophysical data for 16 wells in the Willamette Basin, Oregon, is included in table C1 and in a text file called TABLE_C1.TXT in a subdirectory called "[GEOPHYS](#)" on the CD-ROM. The summary data contain the well location number, the OWRD well-log ID, the USGS site ID, the data logged, and the type of log collected for fluid and geologic material properties. In addition, figures showing the borehole geophysical data for the wells are presented (fig. C1). Three geophysical probes were used to measure the fluid and geologic material properties. The caliper probe was limited to measuring a borehole diameter of up to 20 inches. Values for the borehole diameter, bulk conductivity (of the combined pore water and rock or soil matrix), natural gamma radiation, fluid temperature, and fluid conductivity that were measured for each well logged were recorded in separate text files in a subdirectory called "GEOPHYS" on the CD-ROM. In addition, images showing the borehole geophysical data (fig. C1) are included in the "GEOPHYS" on the CD-ROM. Images showing the borehole geophysical data were recorded in three different formats: PNG (Portable Network Graphics), JPG or JPEG (Joint Photographic Experts Group), and GIF (Graphics Interchange Format). The locations of the 16 wells with borehole geophysical data are identified by the remark codes in the GIS files recorded in the main directory containing the "[STUDY](#)" subdirectory.

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Table C1. Summary of borehole geophysical data for selected wells in the Willamette Basin, Oregon

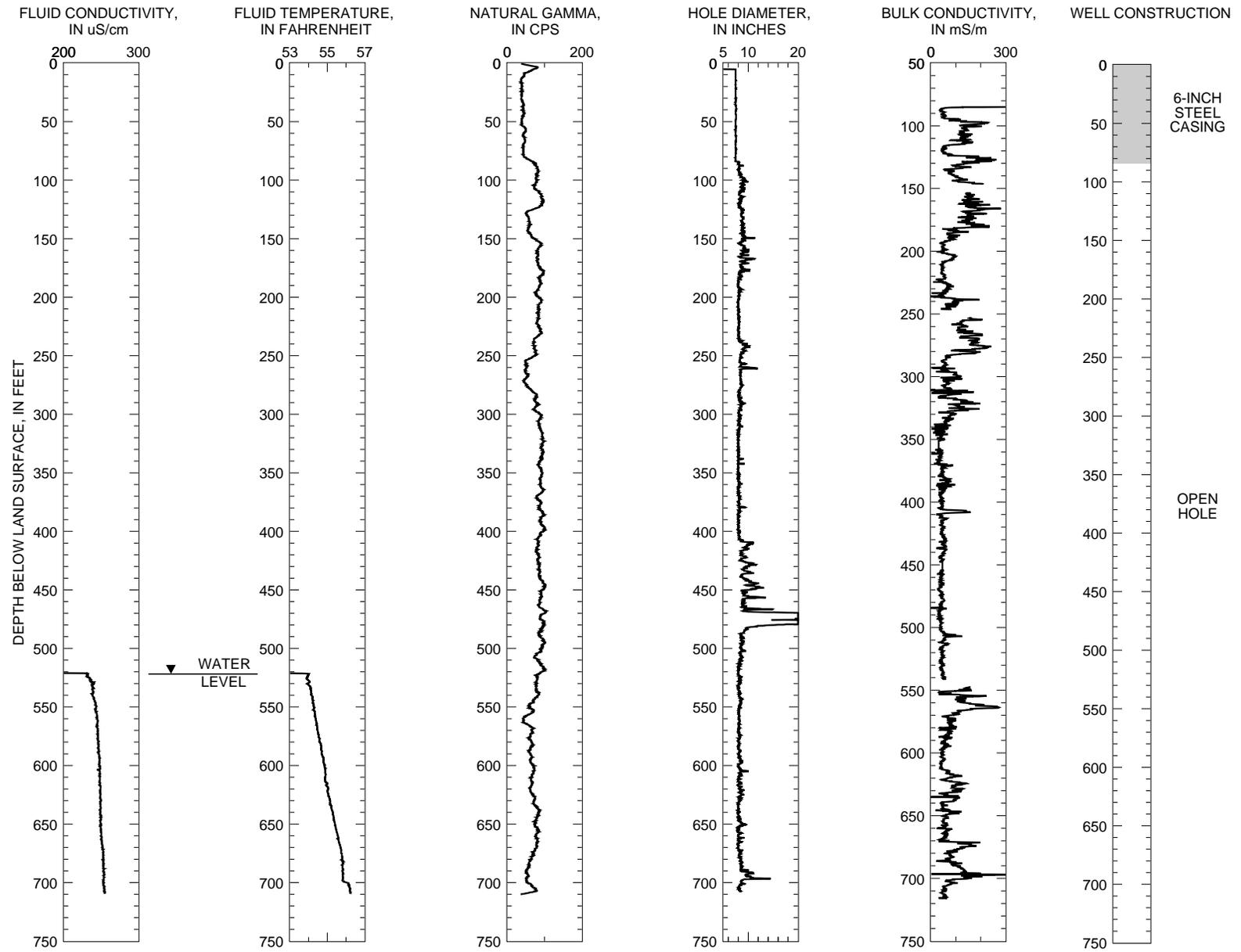
Well location: See "Well- and Spring-Location System" section for explanation. Sorted on this item.
 Well Log ID: Unique identifier combining a four-letter county code and six-digit well-log number, which is assigned to the well when a water well report is filed by the well driller with the Oregon Water Resources Department and recorded in Ground Water Resource Information Distribution (GRID), a statewide computer database maintained by Oregon Water Resources Department.
 USGS Site ID: Site identification number permanently assigned to the well by the U.S. Geological Survey (USGS) and recorded in Ground Water Site Inventory (GWSI), a national computer database maintained by U.S. Geological Survey.
 Fluid conductivity log: Log of fluid conductivity, reported in units of microsiemens per centimeter (uS/cm).
 Fluid temperature log: Log of fluid temperature, reported in units of degree Fahrenheit (F).
 Natural gamma log: Log of natural gamma, reported in units of counts per second (cps).
 Hole diameter log: Log of diameter of bore hole, reported in units of inches.
 Bulk conductivity log: Log of bulk (pore water and rock or soil matrix) conductivity, reported in units of milliSiemens per meter (mS/m), logged in millimho per meter.
 Hydrogeologic unit: Hydrogeologic unit(s) present in the portion of the well bore that was logged (see Gannett and Caldwell, 1998);
 W, Willamette Silt unit; U, Willamette Aquifer Unit; L, Willamette Confining Unit; C, Columbia River basalt; B, Basement Confining unit.
 Depth logged: Depth logged, in feet.
 x, data logged.
 -, no data, instrument problems.
 c, no data, steel casing.

Well Location	Well log ID	USGS site ID	Available Logs					Hydrogeologic unit	Depth logged (feet)
			Fluid conductivity log (uS/cm)	Fluid temperature log (F)	Natural gamma log (cps)	Hole diameter log (inches)	Bulk conductivity log (mS/m)		
01S/01W-17AAD1	WASH 8851	452916122493401	x	x	x	c	c	L	410
01S/01W-31DAB	WASH 9162	452623122510101	x	x	x	x	x	C	710
01S/03E-35DDA1	CLAC 51848	452418122234001	x	x	x	x	x	U,L,C	1600
02S/01W-32ADD	WASH 51903	452113122493001	x	x	x	x	x	C,B	1030
03S/01W-14ABA	CLAC 50585	451903122460801	x	x	x	x	x	W,U,L,C	657
04S/04W-24DDB	YAMH 5840	451210123070601	x	x	x	c	c	W,U	110
05S/01W-34ABA1	MARI 2174	450557122472001	-	-	x	-	x	W,U,L,C	710
05S/03W-06CBD	YAMH 1928	450949123062901	x	x	x	c	-	W,C	355
05S/04W-13DAD	YAMH 7924	450807123065201	-	-	x	c	c	C	400
05S/04W-20CDC2	YAMH 2787	450658123123701	x	x	x	x	x	W,U,L,B	195
06S/03W-04ACD	MARI 4816	450451123031901	x	x	x	c	c	U,L	65
06S/03W-08DDA	POLK 1023	450333123041301	x	x	x	c	c	W,U,L	58
12S/01W-30DDD	LINN 9725	442929122504801	x	x	x	c	x	B	260
12S/05W-02AAA	LINN 12120	443348123150201	x	x	x	-	-	U,L,B	67
12S/06W-11DDA	BENT 5672	443217123222301	x	x	x	x	x	W,U,L,B	170
20S/03W-07DCA	LANE 22027	435024123053401	x	x	x	x	x	B	335



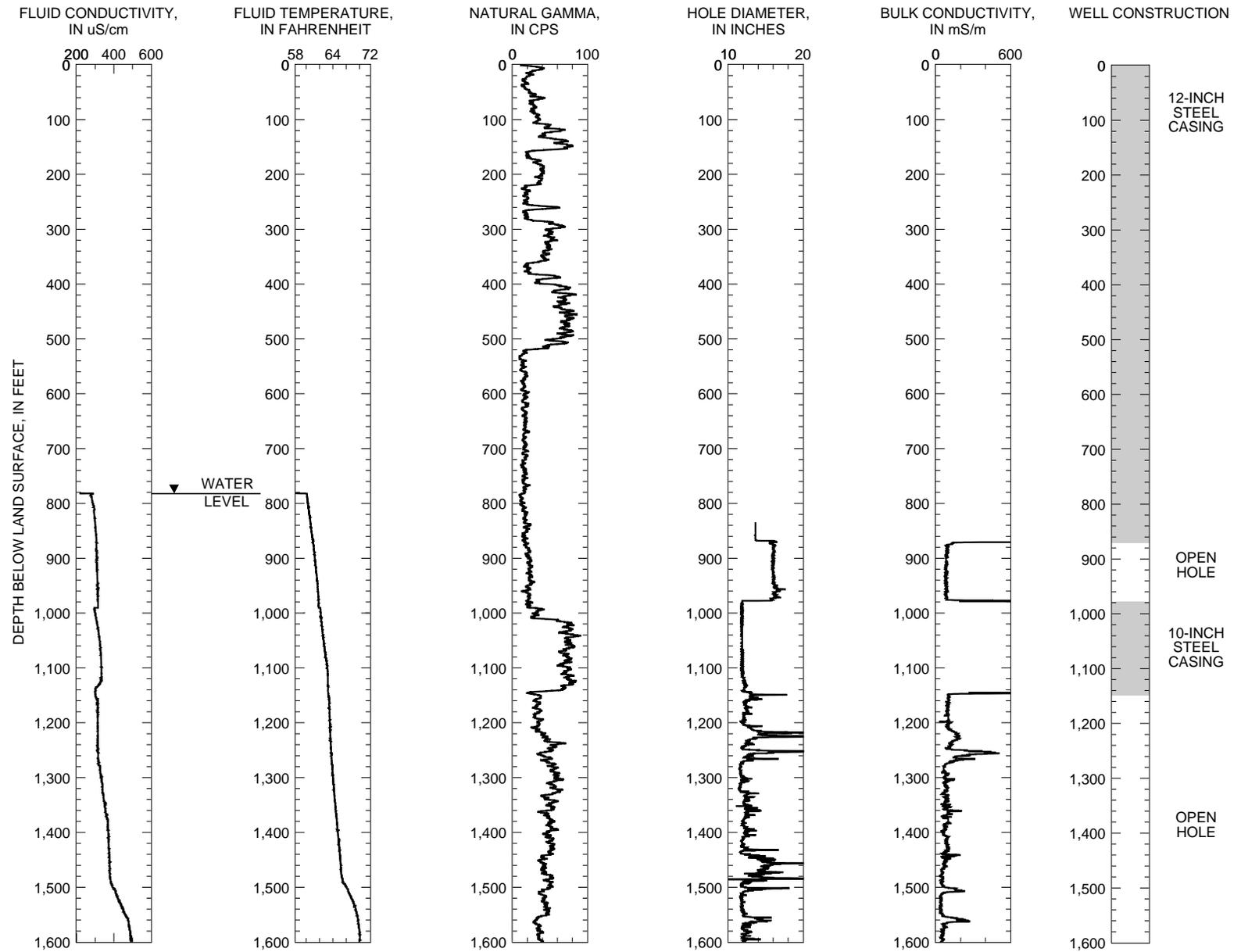
WASH 8851

Figure C1. Geophysical logs for selected wells in the Willamette Basin.



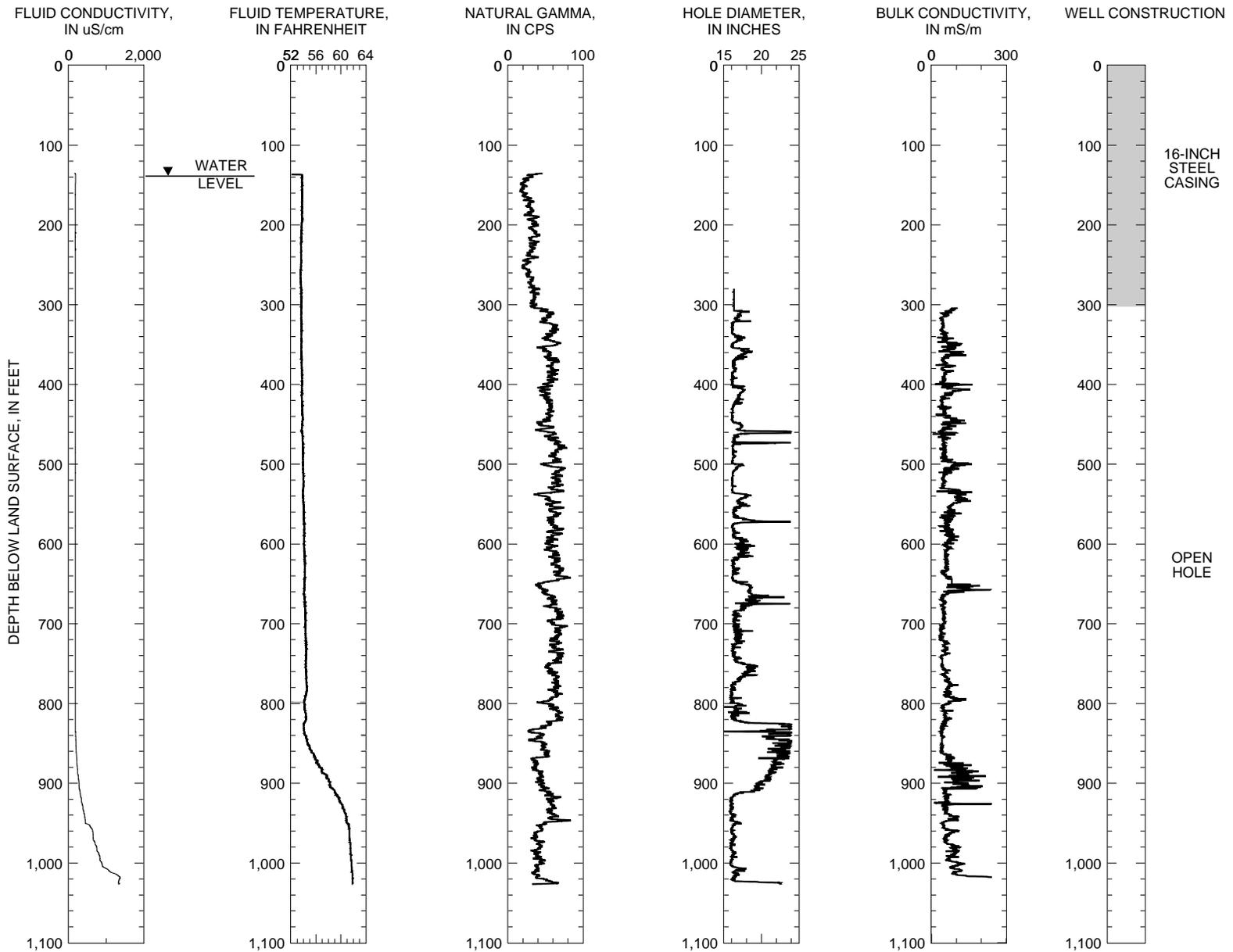
WASH 9162

Figure C1. Geophysical logs for selected wells in the Willamette Basin—Continued.



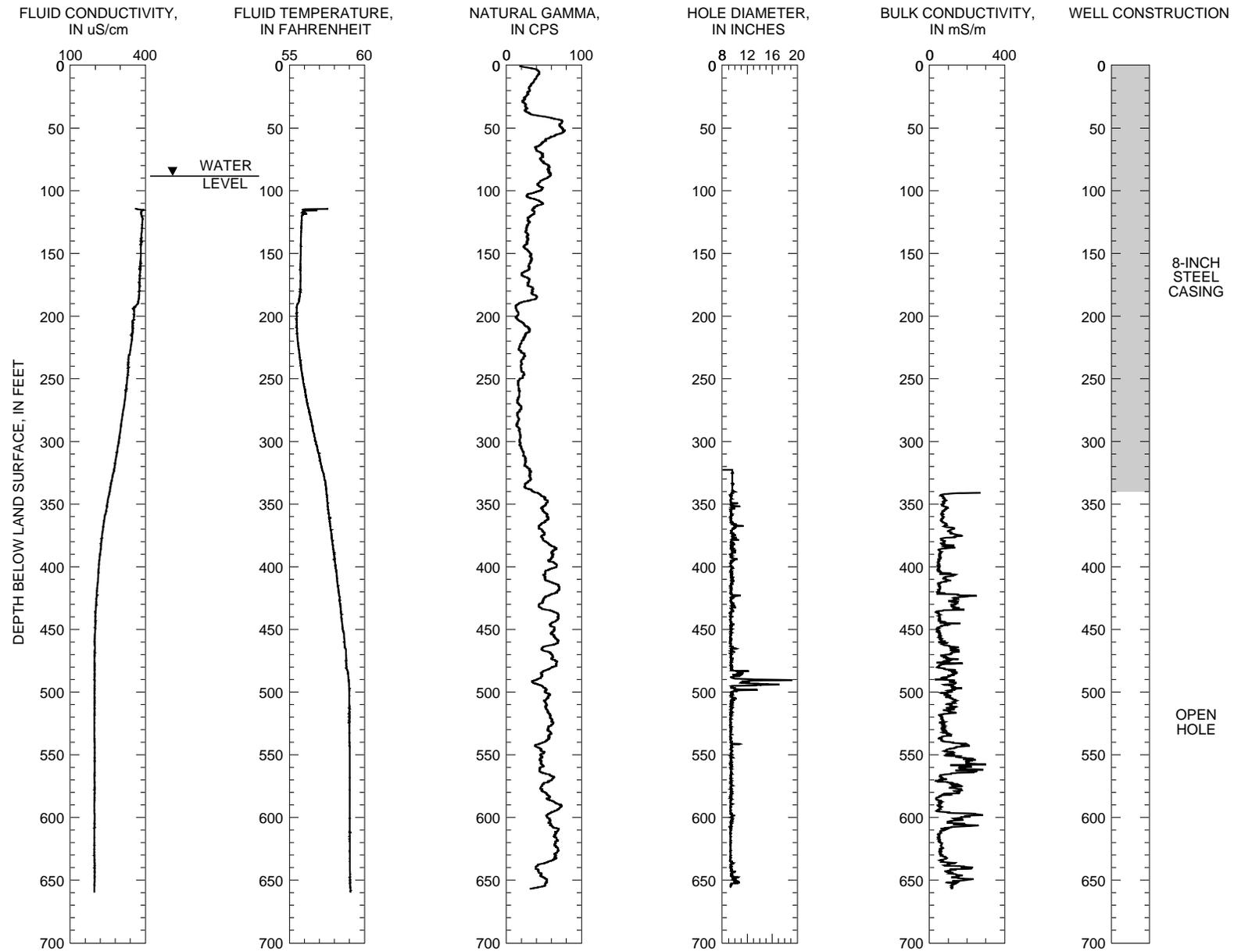
CLAC 51848

Figure C1. Geophysical logs for selected wells in the Willamette Basin—Continued.



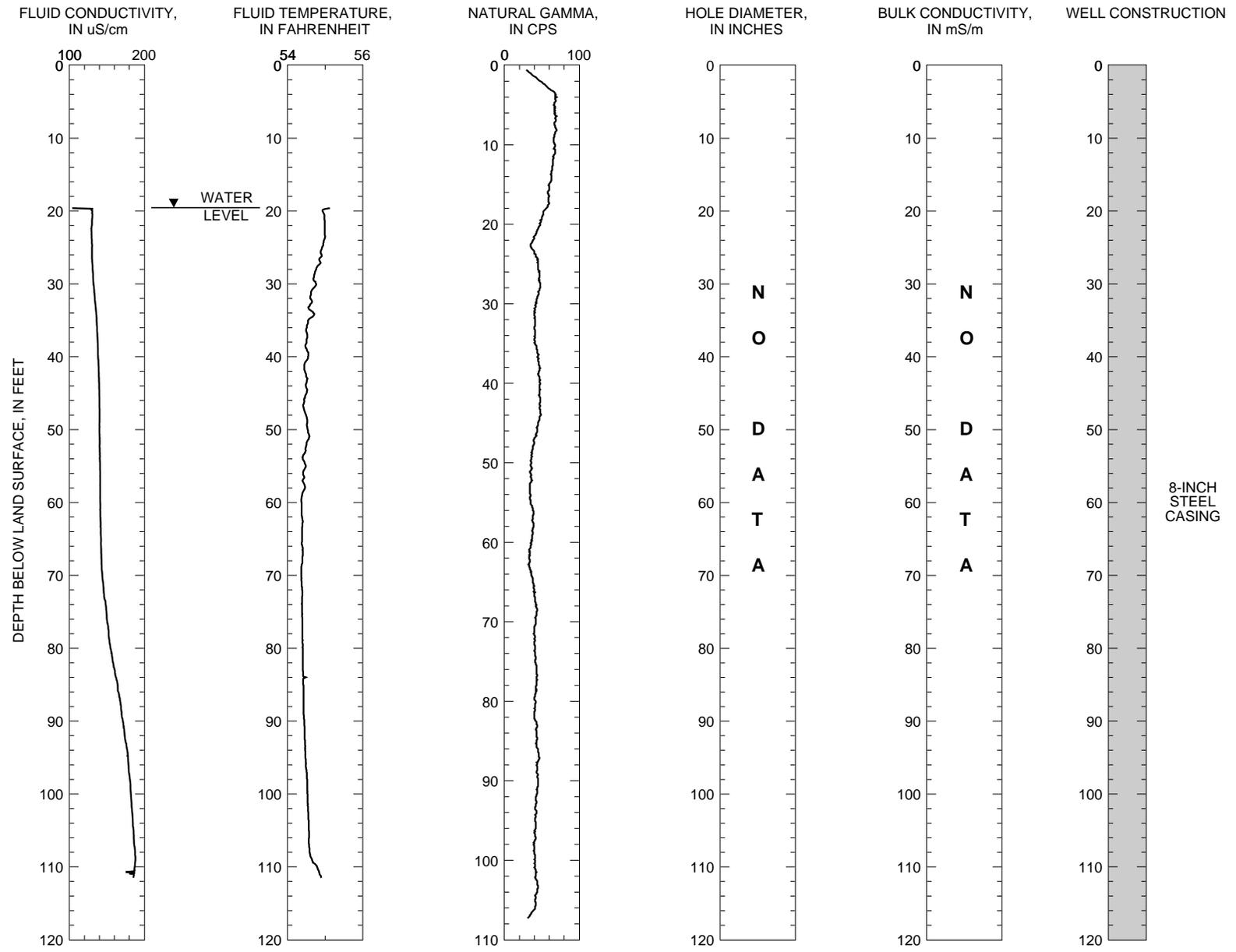
WASH 51903

Figure C1. Geophysical logs for selected wells in the Willamette Basin—Continued.



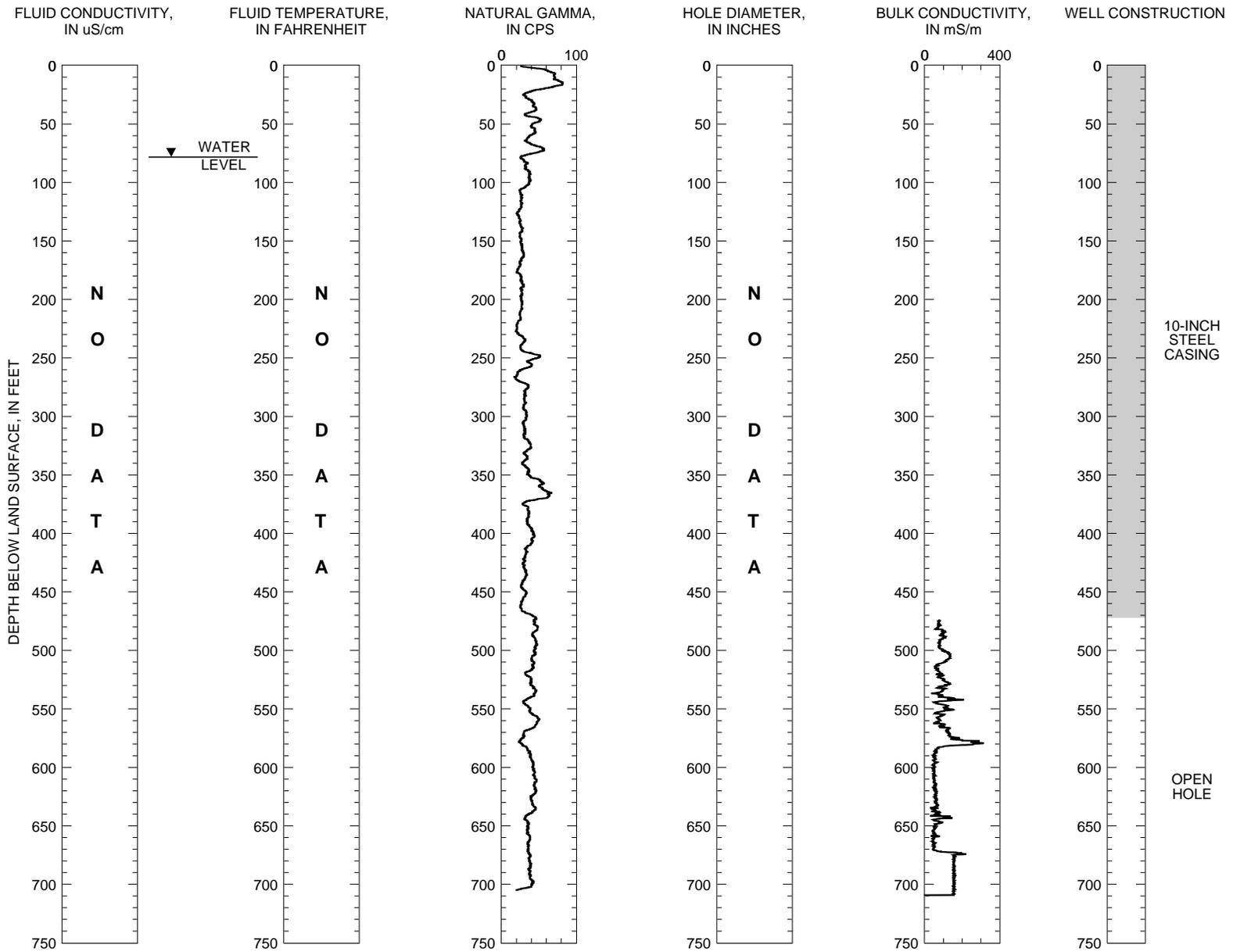
CLAC 50585

Figure C1. Geophysical logs for selected wells in the Willamette Basin—Continued.



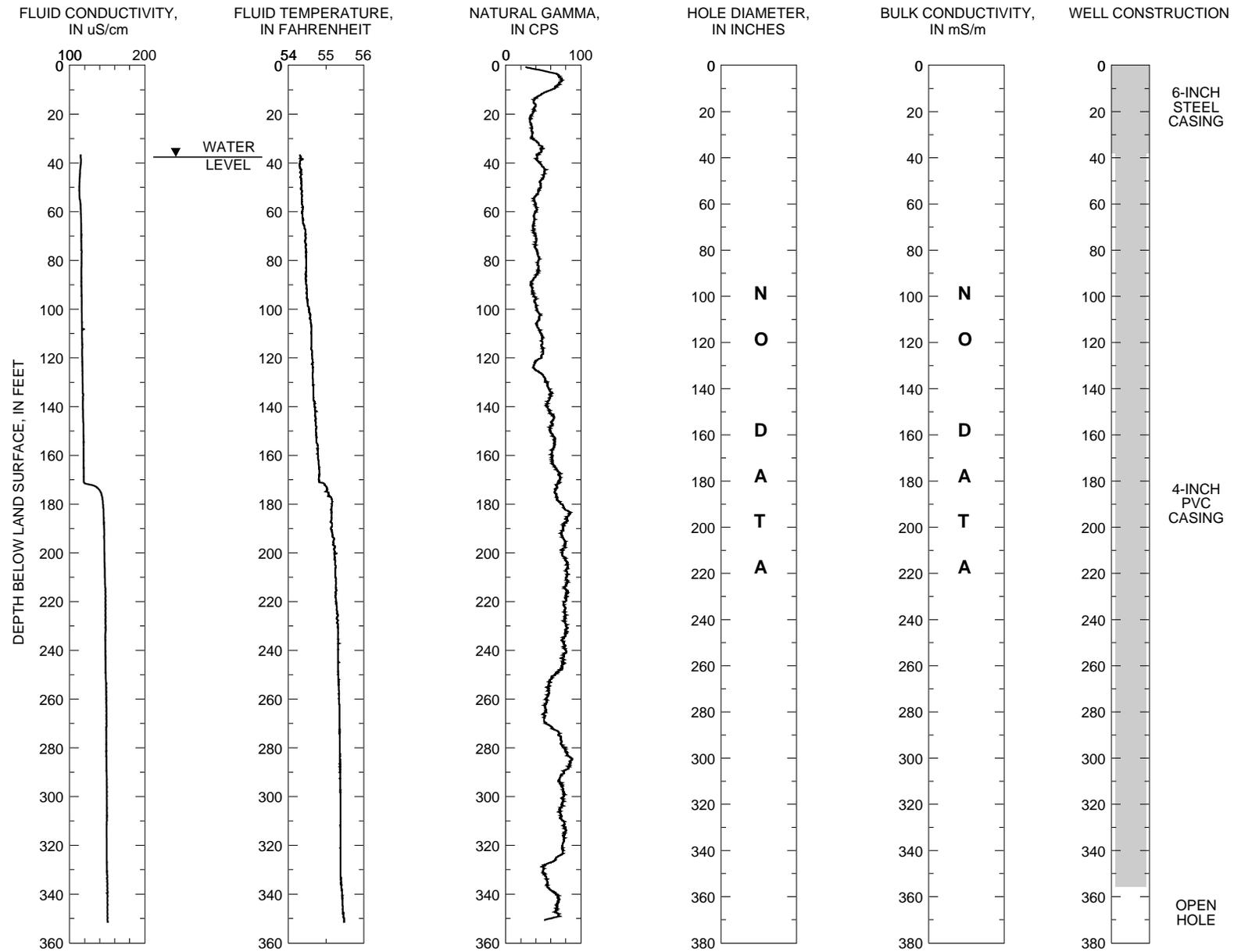
YAMH 5840

Figure C1. Geophysical logs for selected wells in the Willamette Basin—Continued.



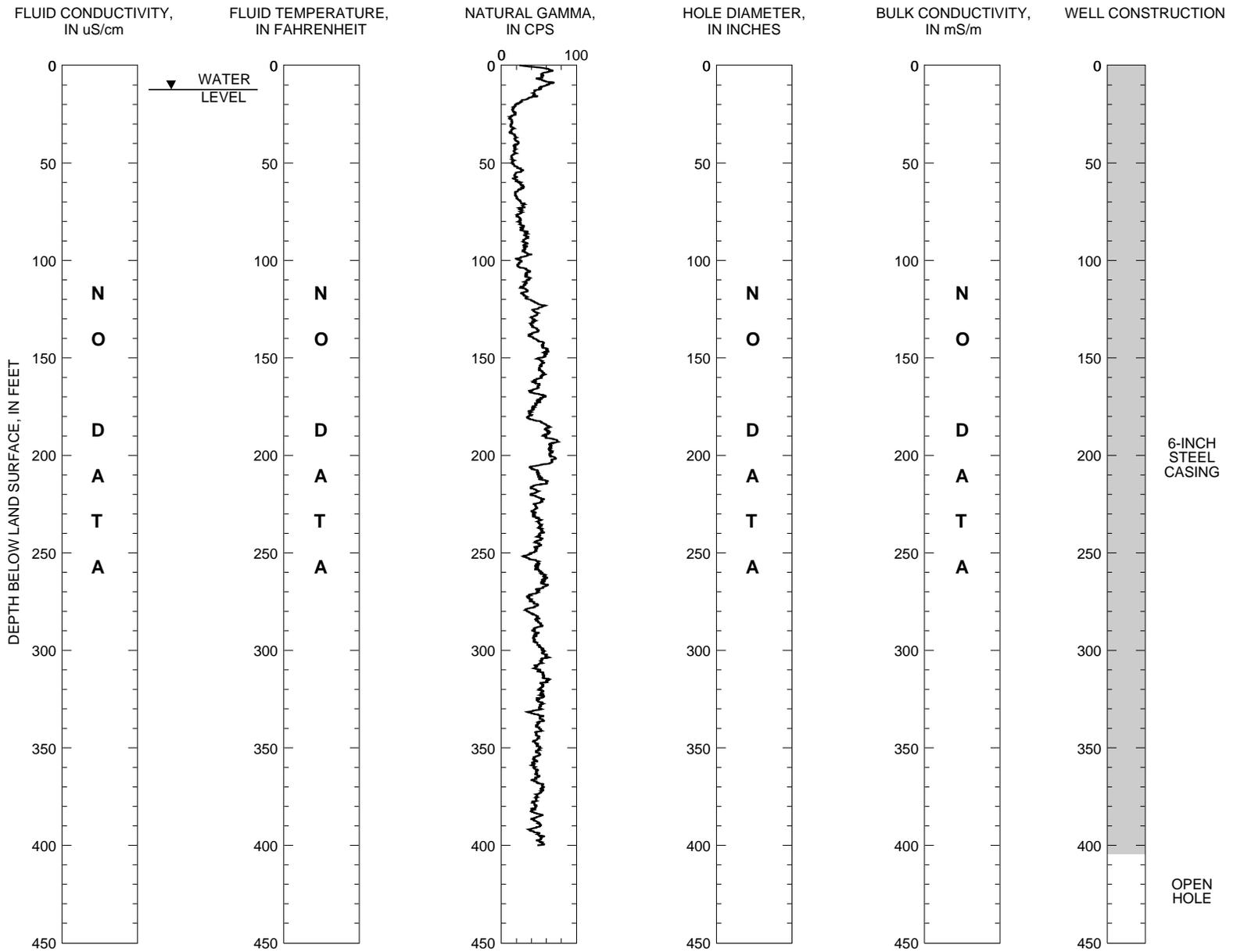
MARI 2174

Figure C1. Geophysical logs for selected wells in the Willamette Basin—Continued.



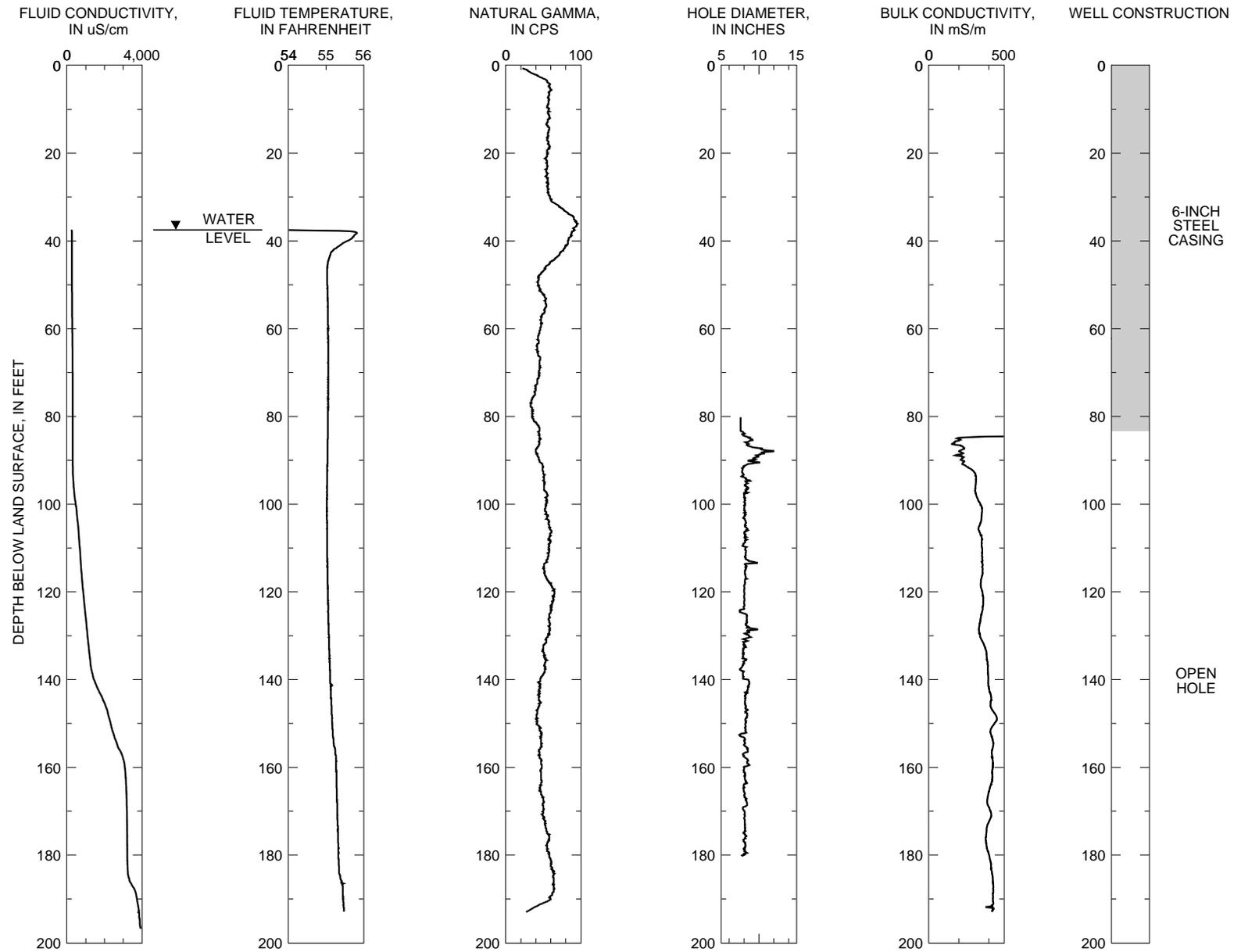
YAMH 1928

Figure C1. Geophysical logs for selected wells in the Willamette Basin—Continued.



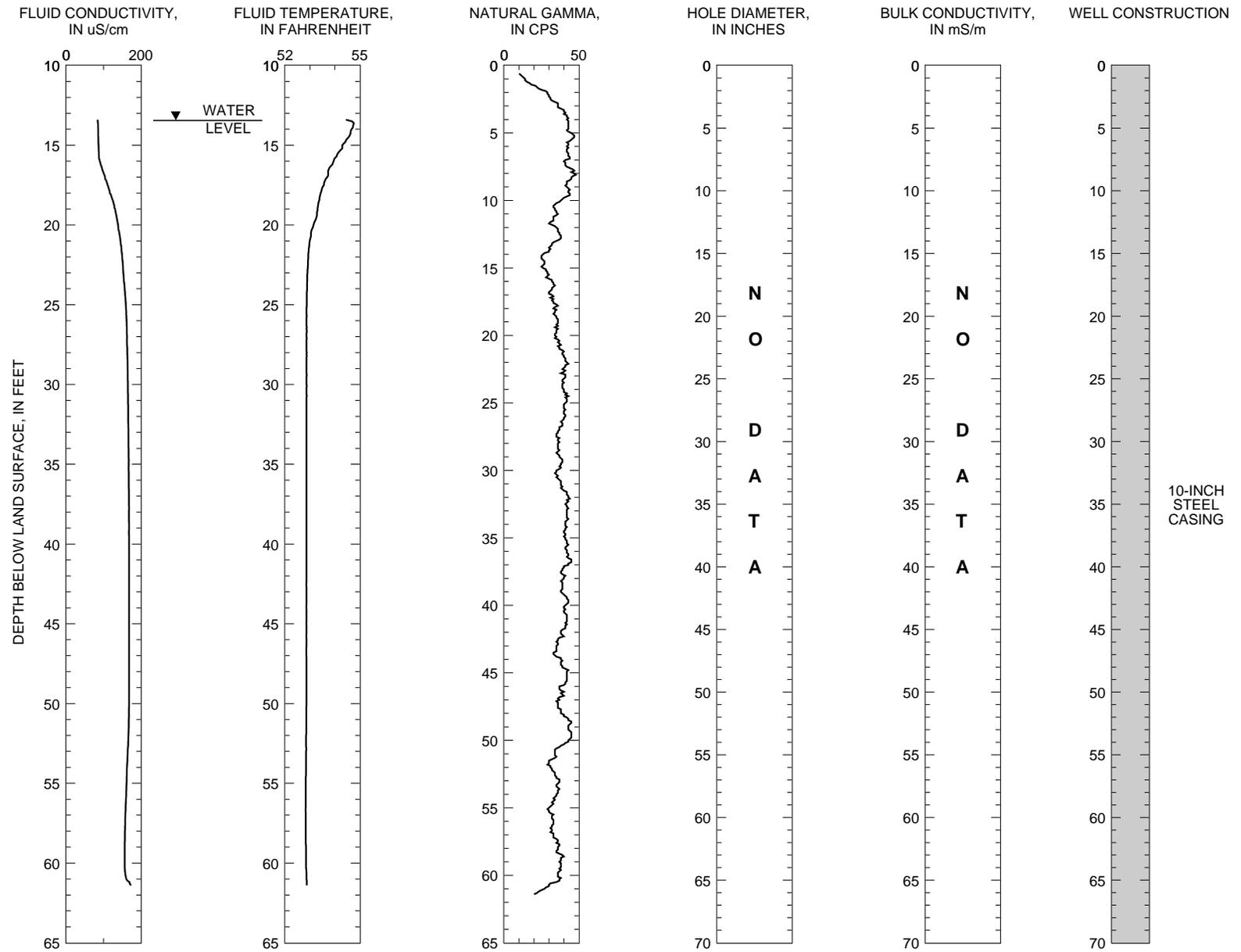
YAMH 7924

Figure C1. Geophysical logs for selected wells in the Willamette Basin—Continued.



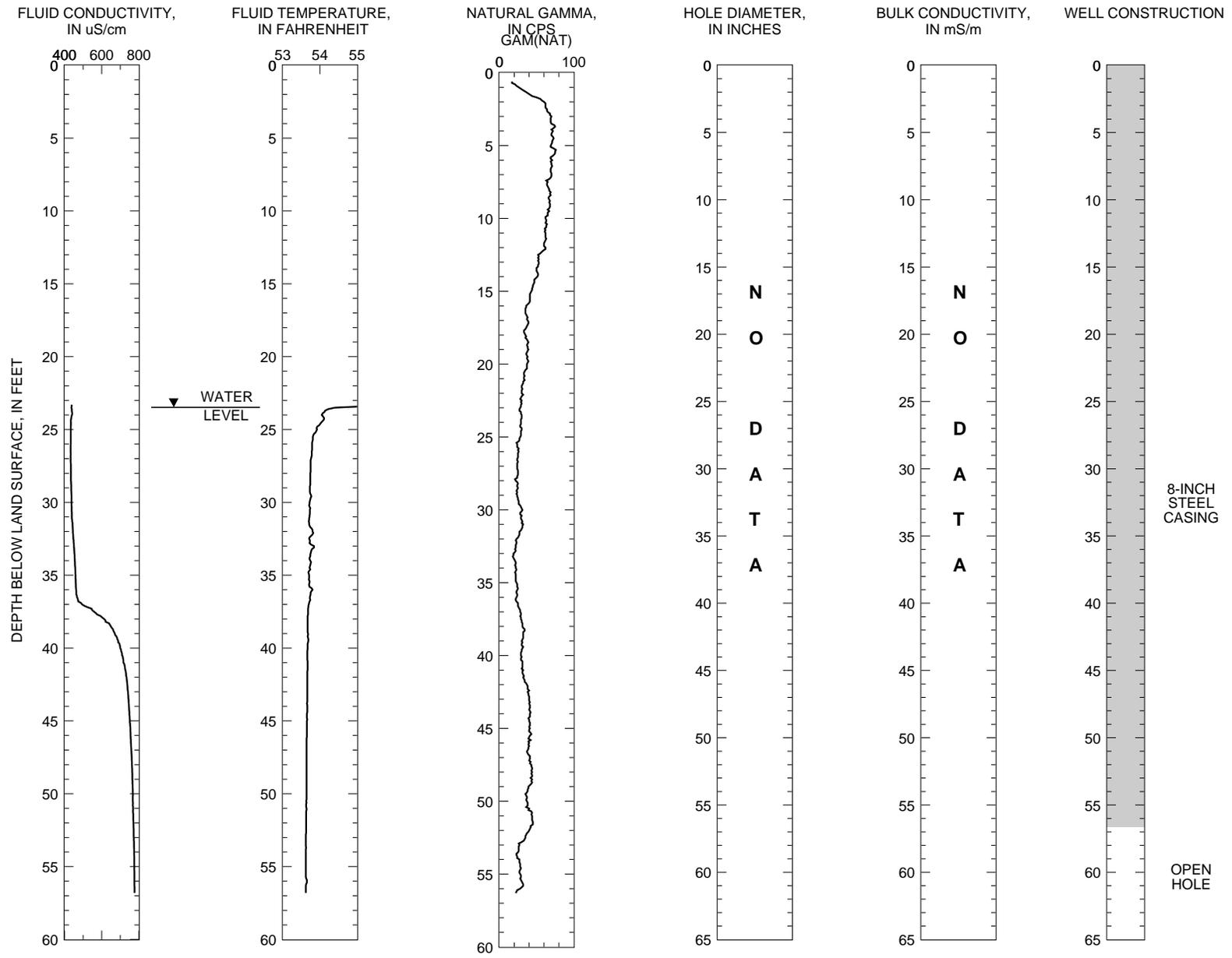
YAMH 2787

Figure C1. Geophysical logs for selected wells in the Willamette Basin—Continued.



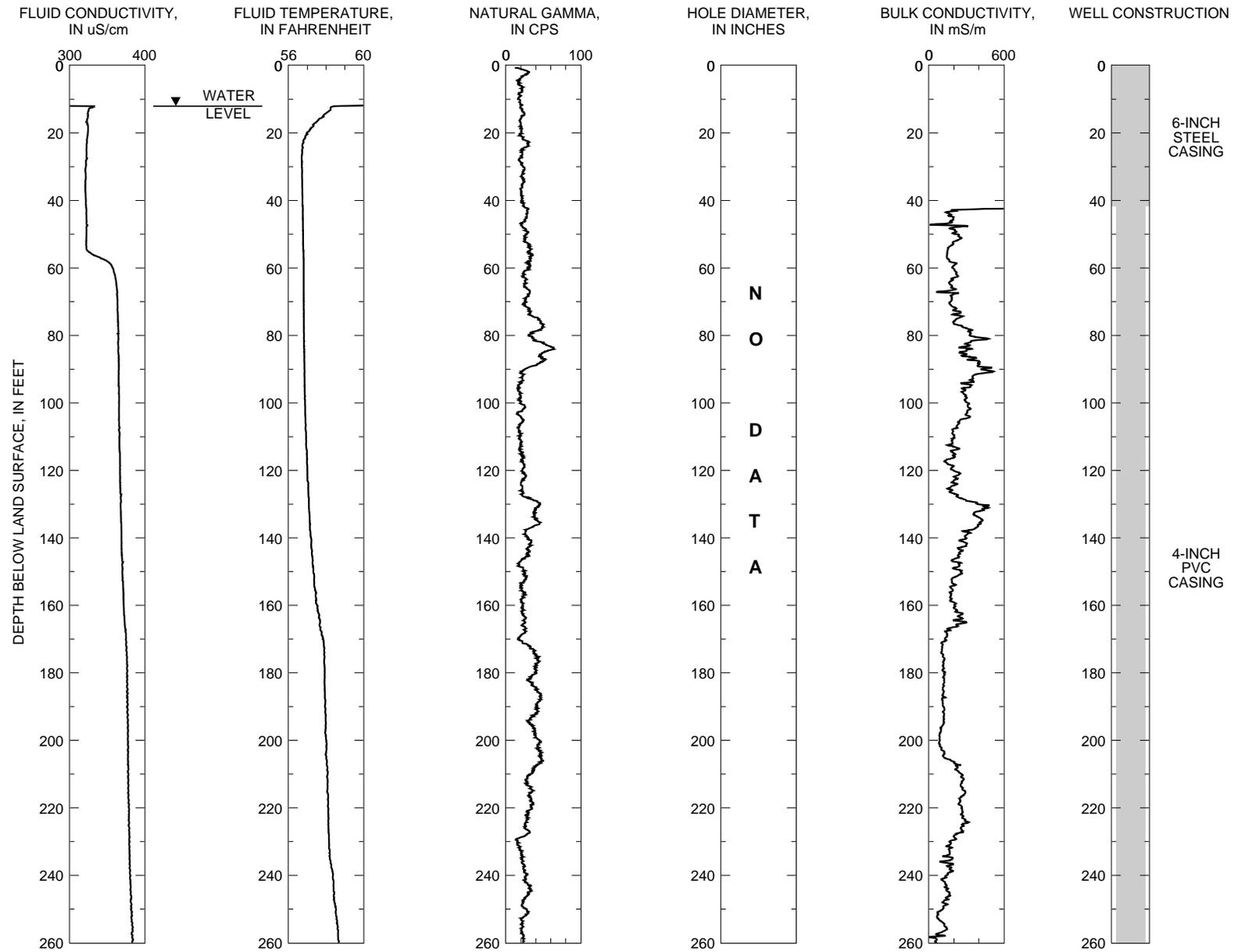
MARI 4816

Figure C1. Geophysical logs for selected wells in the Willamette Basin—Continued



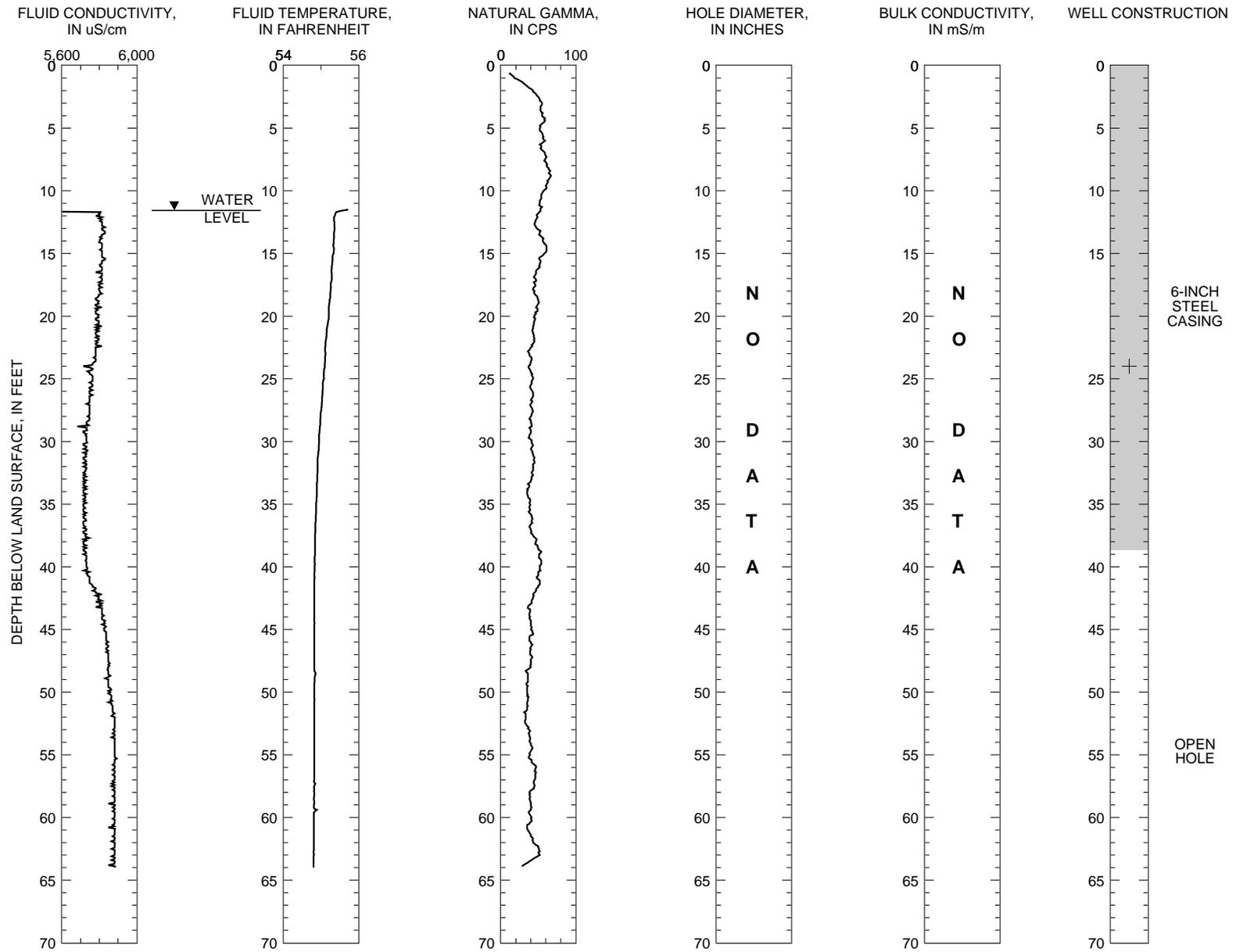
POLK 1023

Figure C1. Geophysical logs for selected wells in the Willamette Basin—Continued.



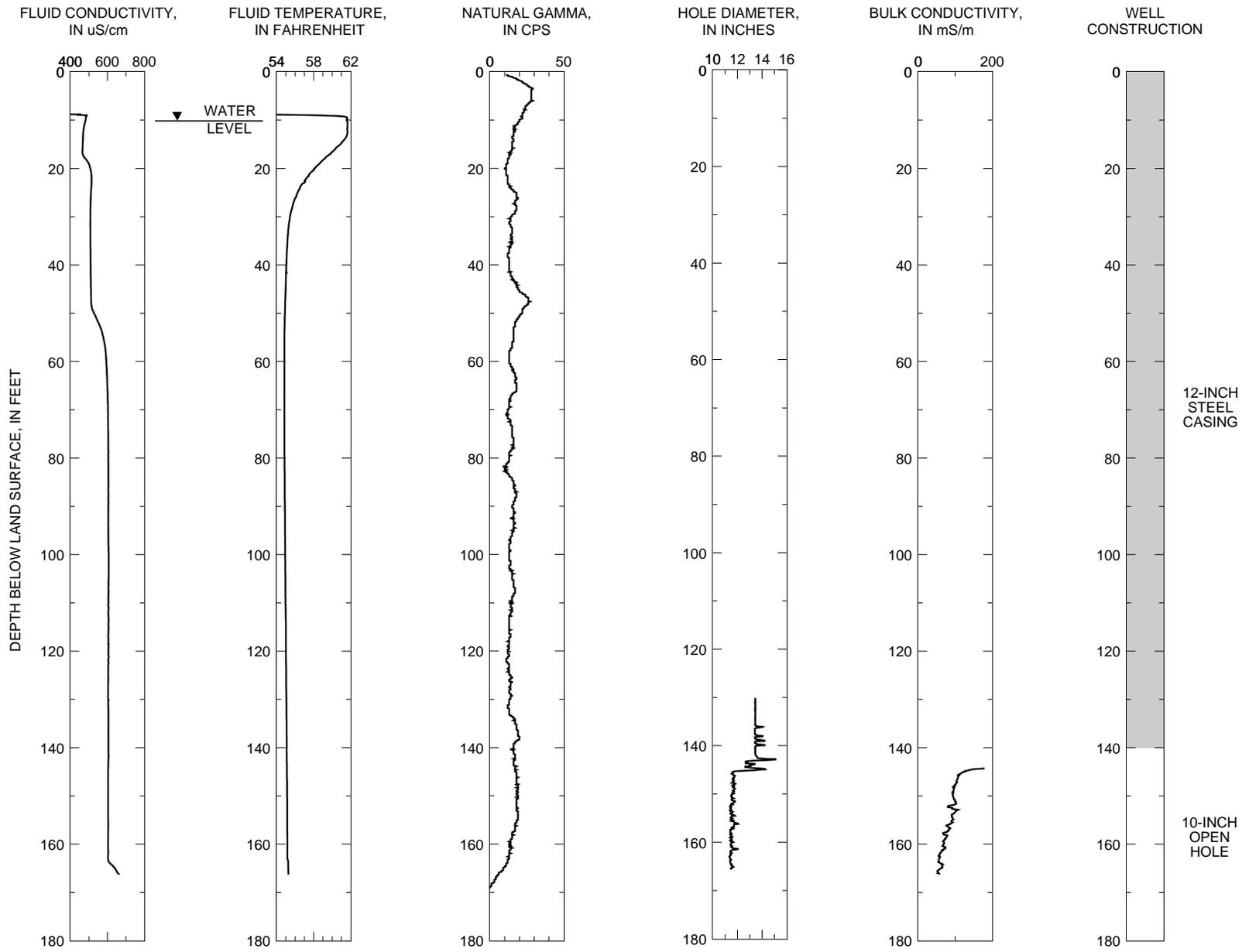
LINN 9725

Figure C1. Geophysical logs for selected wells in the Willamette Basin—Continued.



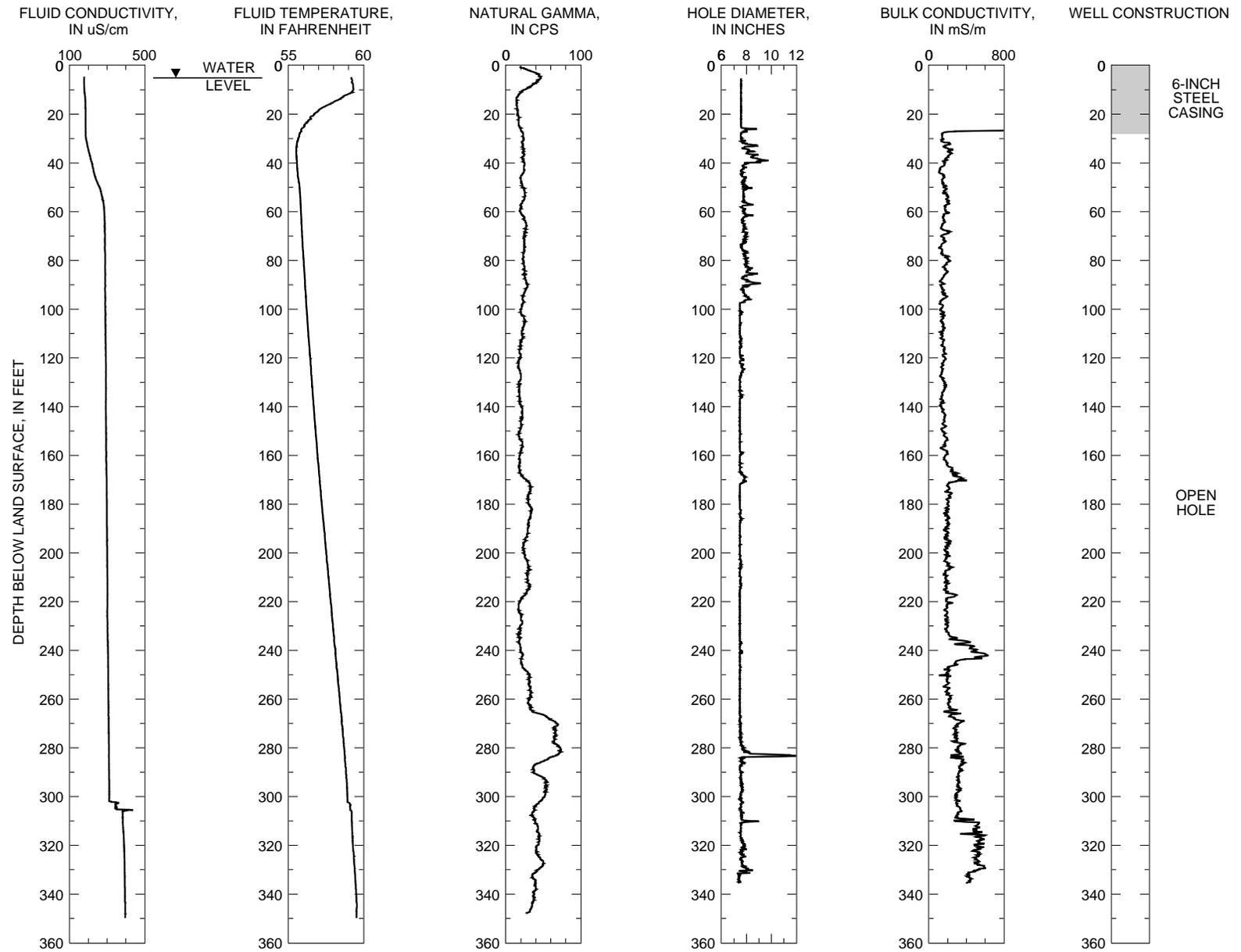
LINN 12120

Figure C1. Geophysical logs for selected wells in the Willamette Basin—Continued.



BENT 5672

Figure C1. Geophysical logs for selected wells in the Willamette Basin—Continued.



LANE 22027

Figure C1. Geophysical logs for selected wells in the Willamette Basin—Continued.

APPENDIX D:
Water-Chemistry Data for Selected Wells and Springs in the Willamette Basin, Oregon

Water-chemistry, arsenic and chloride concentrations and measured values of specific conductance for 125 wells and 6 cold springs in the Willamette Basin are included in table D1 and in a text file called TABLE_D1.TXT in a subdirectory called "[WATERCHM](#)" on the CD-ROM. Water samples were collected during the period August 1996 to September 1997. Table D1 includes arsenic concentrations for water from the 125 wells and 6 springs, chloride concentrations for water from 109 of the wells and 6 springs, and values of specific conductance for water from 114 of the wells and 6 springs. Table D1 also includes the well location number, the OWRD well-log ID, and the USGS site ID. On the CD-ROM, arsenic concentration data for an additional 597 nonstudy wells and springs (Hinkle and Polette, 1999) are included in table D2 and in a text file called TABLE_D2.TXT in a subdirectory called "WATERCHM." The locations of the 125 wells and 6 springs with water-chemistry data along with the additional 597 nonstudy wells and springs that are identified by the remark codes are included in the GIS files recorded in the main directory containing the "[STUDY](#)" subdirectory.

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Table D1. Water-chemistry data for selected wells and springs in the Willamette Basin, Oregon

Well location: See "Well- and Spring-Location System" section for explanation. Sorted on this item.

Well Log ID: Unique identifier combining a four-letter county code and a well-log number with up to 6 digits, which is assigned to the well when a water well report is filed by the well driller with the Oregon Water Resources Department (OWRD) and recorded in Ground Water Resource Information Distribution (GRID), a statewide computer database maintained by Oregon Water Resources Department.

USGS Site ID: Site identification number permanently assigned to the well by the U.S. Geological Survey (USGS) and recorded in National Water Information System (NWIS), a national computer database maintained by U.S. Geological Survey.

Date sampled: Date water sample was collected from well or spring.

Specific conductance lab: Values for specific conductance were measured at the USGS Oregon District laboratory, in microsiemens per centimeter at 25 degrees Celsius.

Specific conductance field: Values for specific conductance were measured in the field by the USGS and OWRD personnel, in microsiemens per centimeter at 25 degrees Celsius.

Arsenic filtered: Concentration of arsenic in filtered water sample, in micrograms per liter.

Arsenic total: Concentration of arsenic in unfiltered water sample, in micrograms per liter.

Chloride filtered: Concentration of chloride in filtered water sample, in milligrams per liter.

Chloride total: Concentration of chloride in unfiltered water sample, in milligrams per liter.

Remarks: I, spring visited for Willamette Basin study.

e, estimated value

---, no data.

Well Location	Well Log ID	USGS Site ID	Date Sampled	Specific Conductance Lab (uS/cm)	Specific Conductance Field (uS/cm)	Arsenic Filtered (ug/l)	Arsenic Total (ug/l)	Chloride Filtered (mg/l)	Chloride Total (mg/l)	Remarks
01N/01W-07DAB1	WASH 3047	453502122510001	11/26/1996	1740	---	---	<1	---	440	
01N/02W-03DBB1	WASH 5074	453554122545901	11/26/1996	323	---	---	<1	---	6.5	
01N/02W-17DAB	WASH 5377	453414122571001	12/02/1996	466	---	---	<1	---	13	
01N/02W-33DBA	WASH 5778	453138122560201	11/14/1996	---	---	---	<1	---	--	
01N/03W-05CDD1	WASH 3127	453540123045702	11/18/1996	196	---	---	<1	---	3.7	
01N/03W-30BDB1	WASH 146	453242123062201	11/15/1996	259	---	---	23	---	2.6	
01N/04W-01ABC1	WASH 6532	453614123072102	11/27/1996	170	---	---	2	---	5.1	
01N/04W-02BBC1	WASH 6543	453615123090601	11/15/1996	49	---	---	<1	---	3.5	
01N/04W-02CBA1	WASH 6542	453559123090301	11/15/1996	209	---	---	<1	---	2.0	
01N/04W-31CBD1	WASH 50022	453130123135801	11/18/1996	281	---	---	<1	---	2.0	
01S/02W-08ADA	WASH 50197	453004122565501	11/26/1996	3780	---	---	<1	---	e1100	
01S/02W-09BCB	WASH 4551	453005122565401	11/26/1996	3190	---	---	<1	---	1000	
01S/02W-16DAC	WASH 9903	452854122555601	11/13/1996	---	---	---	6	---	--	
01S/02W-18AAC	WASH 9959	452916122582001	11/13/1996	---	---	---	<1	---	--	
01S/02W-18ABD	WASH 9987	452917122583201	11/13/1996	---	---	---	<1	---	--	
01S/02W-21AAB	WASH 10042	452836122555001	11/13/1996	---	---	---	4	---	--	
01S/02W-21BBA	WASH 10062	452831122564501	11/13/1996	---	---	---	10	---	--	
01S/02W-28CAB	WASH 10348	452713122563001	11/13/1996	---	---	---	4	---	--	
01S/02W-29DBD	WASH 10406	452707122572201	11/12/1996	---	---	---	33	---	--	
01S/02W-31DCA	WASH 10446	452610122582901	11/12/1996	---	---	---	1	---	--	
01S/02W-33BBA	WASH 10475	452651122565001	11/12/1996	---	---	---	12	---	--	
01S/03W-02DDA	WASH 10569	453031123004201	11/14/1996	---	---	---	8	---	--	
01S/03W-13BAD	WASH 10686	452917123000601	11/13/1996	568	---	---	2	---	23	
01S/03W-17DDD2	WASH 10758	452842123042201	11/22/1996	304	---	---	<1	---	3.2	
01S/03W-27CBB1	WASH 10309	452714123025701	11/22/1996	220	---	---	<1	---	2.1	
01S/04W-14DCD2	WASH 3235	452844123082301	11/20/1996	1050	---	---	<1	---	7.7	
02N/02W-19ACD1	WASH 6959	453839122582901	11/19/1996	269	---	---	<1	---	17	
02N/02W-32AAD1	WASH 7121	453705122570201	11/26/1996	130	---	---	<1	---	2.7	
02N/02W-33ACD1	WASH 7155	453655122561301	11/18/1996	266	---	---	<1	---	4.2	
02N/02W-33BBB1	WASH 7175	453709122564701	11/21/1996	209	---	---	<1	---	2.7	
02N/03W-18CCD1	WASH 7394	453909123063401	11/20/1996	244	---	---	2	---	2.9	

Table D1. Water-chemistry data for selected wells and springs in the Willamette Basin, Oregon—Continued

Well Location	Well Log ID	USGS Site ID	Date Sampled	Specific Conductance Lab (uS/cm)	Specific Conductance Field (uS/cm)	Arsenic Filtered (ug/l)	Arsenic Total (ug/l)	Chloride Filtered (mg/l)	Chloride Total (mg/l)	Remarks
02N/03W-25BBB1	WASH 3779	453805123003201	11/20/1996	239	---	---	<1	---	3.6	
02N/04W-03DAA1	WASH 7726	454106123092001	11/27/1996	133	---	---	<1	---	2.7	
02S/01E-20CBD1	CLAC 12346	452249122430801	11/12/1996	1080	---	---	<1	---	260	
02S/02W-02BCA	WASH 12398	452543122540901	11/27/1996	204	---	---	<1	---	3.0	
02S/02W-18DDA	WASH 12757	452331122581501	11/27/1996	89	---	---	<1	---	1.9	
02S/03W-12AAB	WASH 13469	452507122594001	11/26/1996	265	---	---	<1	---	2.2	
03S/01E-16DDD	CLAC 9327	451815122405401	11/13/1996	243	---	---	1	---	3.0	
03S/03E-07AAD	CLAC 16533	451941122283901	11/14/1996	177	---	---	<1	---	2.0	
03S/03W-36DCB	YAMH 4669	451545123000001	11/12/1996	251	---	---	3	---	3.3	
04S/01W-05CDB	MARI 290	451454122502401	11/13/1996	368	---	---	<1	---	11	
04S/01W-10DDC	MARI 405	451354122471701	11/15/1996	459	---	---	<1	---	41	
04S/02E-07CAD	CLAC 13661	451411122364001	11/21/1996	246	---	---	3	---	3.7	
04S/03E-28CDA	CLAC 11435	451125122264801	11/18/1996	253	---	---	<1	---	11	
04S/03W-02DCB	YAMH 5151	451451123011401	11/12/1996	407	---	---	34	---	6.6	
04S/04E-22BBC3	CLAC 20423	451241122183601	11/18/1996	94	---	---	<1	---	1.1	
04S/04W-01BBC	---	451527123075801	09/03/1997	---	79000	<1	---	32000	---	I
05S/01E-27BCB	CLAC 2950	450634122404601	11/22/1996	606	---	---	<1	---	84	
05S/03W-34CBB	YAMH 50041	450531123025901	10/15/1996	---	202	---	<1	---	--	
05S/03W-36DAA	MARI 17239	450535122593201	10/07/1996	---	229	---	3	---	--	
05S/04W-36DDB	YAMH 7222	450518123070401	11/20/1996	340	---	---	<1	---	7.2	
05S/06W-26AAA	YAMH 7529	450654123225401	11/20/1996	133	---	---	<1	---	3.8	
06S/01E-20CDA	MARI 17959	450150122424401	11/13/1996	102	---	---	2	---	1.5	
06S/01W-03ACA	MARI 17676	450456122472501	11/13/1996	733	---	---	<1	---	170	
06S/01W-06CCC	MARI 3054	450423122514701	10/08/1996	---	265	---	2	---	--	
06S/01W-36BBC	MARI 3653	450036122454101	10/09/1996	---	354	---	<1	---	6.8	
06S/01W-36DBC1	MARI 3657	450013122450001	10/11/1996	---	307	---	3	---	3.1	
06S/01W-36DDC	MARI 3652	445959122445001	10/11/1996	---	616	---	17	---	20	
06S/02W-06DAC	MARI 17263	450432122582001	10/07/1996	---	274	---	16	---	--	
06S/02W-17DBC	MARI 4092	450248122572601	10/21/1996	---	210	---	2	---	6.1	
06S/03W-06CBC	YAMH 1907	450435123063101	10/15/1996	---	120	---	<1	---	2.2	
06S/04W-03ABD	YAMH 3189	450502123092501	10/10/1996	---	280	---	6	---	2.9	
06S/05W-33ACC	POLK 1317	450031123181701	11/25/1996	631	---	---	<1	---	14	
06S/07W-08DAD	---	450348123334001	09/05/1997	---	49700	<1	---	19000	---	I
07S/02W-26CCB	MARI 7736	445544122541601	11/14/1996	234	---	---	<1	---	4.3	
07S/06W-24CDC2	POLK 31	445636123221501	11/22/1996	173	---	---	<1	---	3.8	
08S/04W-19BCA	POLK 2914	445152123134701	11/20/1996	864	---	---	<1	---	120	
09S/01E-03BCC	MARI 15579	444903122404501	11/15/1996	69	---	---	<1	---	3.3	
09S/03W-03BCB	MARI 14847	444913123025201	11/15/1996	62	---	---	<1	---	1.8	
10S/04W-19ABD	BENT 1487	444131123131201	11/12/1996	228	---	---	<1	---	4.5	
10S/04W-27CDA	BENT 1899	444004123095201	11/13/1996	255	---	---	<1	---	9.3	
10S/05W-11AAB	---	444323123153201	09/05/1997	---	33300	<1	---	12000	---	I
10S/05W-14ABC	BENT 176	444222123154401	11/18/1996	204	---	---	<1	---	14	
10S/06W-23BCC1	BENT 2309	444116123234101	11/22/1996	210	---	---	<1	---	4.2	
10S/06W-30DCA	BENT 2334	444011123280201	11/13/1996	5720	---	---	<1	---	e1600	
10S/07W-27CCD	BENT 1479	444002123321501	11/13/1996	284	---	---	5	---	4.2	
11S/04W-01CBB	BENT 961	443834123073501	11/19/1996	472	---	---	1	---	70	
11S/04W-28BDD1	LINN 4146	443512123105001	10/24/1996	---	462	---	<1	---	26	
11S/04W-28CAA	LINN 14280	443500123105001	10/17/1996	---	526	---	1	---	51	
11S/04W-34CDA	LINN 8753	443358123093601	10/16/1996	---	587	---	12	---	29	
11S/04W-34DDC	LINN 8756	443352123090401	10/17/1996	---	618	---	2	---	74	
11S/05W-23AC	BENT 3838	443609123153101	11/21/1996	485	---	---	<1	---	20	
12S/02W-19CCB1	LINN 8054	443028122590901	10/23/1996	---	367	---	1	---	11	
12S/02W-36ADC	---	442904122520301	09/06/1996	---	5040	240	---	1100	---	I

Table D1. Water-chemistry data for selected wells and springs in the Willamette Basin, Oregon—Continued

Well Location	Well Log ID	USGS Site ID	Date Sampled	Specific Conductance Lab (uS/cm)	Specific Conductance Field (uS/cm)	Arsenic Filtered (ug/l)	Arsenic Total (ug/l)	Chloride Filtered (mg/l)	Chloride Total (mg/l)	Remarks
12S/03W-07BCC2	LINN 50852	443234123063101	10/22/1996	---	364	---	1	---	11	
12S/03W-07CCB	LINN 50103	443211123062901	10/22/1996	---	321	---	2	---	12	
12S/03W-09BDC2	LINN 50853	443232123034501	10/23/1996	---	370	---	2	---	12	
12S/03W-12BAA	LINN 10391	443252122595301	10/17/1996	---	246	---	2	---	8.8	
12S/04W-01ABB	LINN 50097	443343123070501	10/23/1996	---	358	---	1	---	8.9	
13S/01W-02DCD	LINN 4103	442747122461101	05/29/1997	247	---	---	<1	---	6.3	
13S/01W-07BCC	LINN 11056	442716122514901	05/30/1997	391	---	---	<1	---	4.9	
13S/01W-07CBB	LINN 11061	442746122514701	05/30/1997	306	---	---	1	---	4.4	
13S/02W-20BBC3	LINN 935	442549122575001	05/29/1997	1830	---	---	<1	---	470	
13S/04E-26DDA	---	442420122170001	09/06/1996	---	12200	380	---	3500	---	I
13S/06W-06ABA	BENT 6475	442831123273801	11/14/1996	57	---	---	<1	---	3.0	
14S/01W-07CCD	LINN 13101	442139122513101	05/29/1997	286	---	---	7	---	16	
14S/01W-08ADD	LINN 2571	442206122492701	05/29/1997	287	---	---	8	---	2.1	
14S/01W-14BBB	LINN 13200	442134122465801	05/29/1997	180	---	---	<1	---	1.3	
14S/01W-15DAB	LINN 2333	442104122471801	08/15/1996	---	178	---	1	---	5.1	
14S/01W-18ABC	LINN 1285	442126122510901	08/15/1996	---	915	---	6	---	220	
14S/03W-13BBC	LINN 13620	442123123001901	05/29/1997	677	---	---	<1	---	2.3	
14S/03W-24ACD	LINN 13517	442018122592901	09/03/1996	---	789	---	<1	---	20	
14S/05W-06ACA1	BENT 6679	442309123200801	11/14/1996	423	---	---	<1	---	9.4	
15S/01W-23CCA	LANE 50736	441447122464501	08/14/1996	---	268	---	19	---	1.1	
15S/01W-23CCC2	LANE 5873	441446122465701	08/14/1996	---	164	---	11	---	1.5	
15S/04W-09DAB	LINN 2123	441647123101401	05/29/1997	284	---	---	4	---	20	
15S/05W-09ADC	LANE 6478	441653123173601	11/13/1996	729	---	---	<1	---	4.3	
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18S/04W-14BBA	LANE 16780	440036123083201	09/04/1996	---	1040	---	830	---	28	
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19S/01W-03ADB	LANE 19429	435656122471801	09/04/1996	---	188	---	15	---	3.5	
19S/01W-16CBD	LANE 1640	435454122431601	11/20/1996	390	---	---	22	---	32	
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21S/03E-08CBD2	LANE 23527	434528122290901	09/05/1996	---	1590	---	140	---	290	
22S/03W-30AAD	---	433758123051501	09/05/1996	---	6650	75	---	2100	---	I

APPENDIX E: Selected Data for Field-Located Wells and Springs in the Willamette Basin, Oregon, on the CD-ROM

Selected data for about 5,993 field-located wells and springs in the Willamette Basin, Oregon, are included in files on the CD-ROM. Data for the 1,234 study wells and 6 springs were verified. Data for the remaining 4,753 nonstudy wells and springs were not verified. The files are organized on the CD-ROM in subject-specific subdirectories as shown in table E1. These files include all data for the 1,234 study wells and 6 springs listed in appendixes A-D. The spatial locations of both the study and nonstudy wells and springs are also included on the CD-ROM in several GIS format files. In addition, the digital basemap used to create plate 1 accompanying this report was included on the CD-ROM to help guide the readers using the GIS files.

To guide the readers through the contents of the CD-ROM, a Web browser can be used to investigate the selected data. "[README](#)" files in HyperText Markup Language (HTML) were included to guide the readers through subject-specific subdirectories. Images of the figures from this report and additional figures that link tables of information about wells and images of hydrographs were included in specific "README" files. Differences in the capabilities of each type of Web browser can limit or hinder the user's ability to properly view these figures and images. Some of the additional problems viewing these images can be attributed to differences in computer hardware, such as the specifications of the monitor, and operating system settings. For the best results, newer versions of the Web browsers, such as Microsoft Internet Explorer 4.0 and higher or Netscape Navigator 4.04 and higher, should be used. Additionally, other Web browser settings may need to be reset such as the application settings under the "Preferences" options for Netscape Navigator. To help overcome most viewing problems of a Web browser, images of the hydrographs and the borehole geophysical data for the selected wells were recorded in three formats: PNG (Portable Network Graphics), JPG or JPEG (Joint Photographic Experts Group), and GIF (Graphics Interchange Format). In addition, these images can be viewed by using other graphical programs rather than by using a Web browser.

Each well or spring was assigned a unique 15-digit USGS site ID recorded in the National Water Information System, a national computer database, maintained by the USGS. In addition, each study well was correlated to an OWRD well-log ID, a combination of a four-letter county code and a well-log number with up to six digits (e.g. MARI 2218) which uniquely identifies each water well report filed by the well driller and recorded in Ground Water Resource Information Distribution (GRID), a statewide computer database maintained by OWRD. For most of the nonstudy wells, an OWRD well-log ID was assigned. Both the USGS site ID and the OWRD well-log ID can be used to correlate the data available in the text files on the CD-ROM and in the printed tables of the appendixes with a spatial location in the GIS files. In addition, the remark codes were appended into the GIS files to (1) identify whether a well was included in an observation network maintained by the USGS or OWRD, (2) distinguish between a well or spring, (3) indicate water-chemistry or borehole geophysical data are available, and (4) indicate whether a water-level measurement was made during the November 1996 synoptic or whether a hydrograph was made for a well.

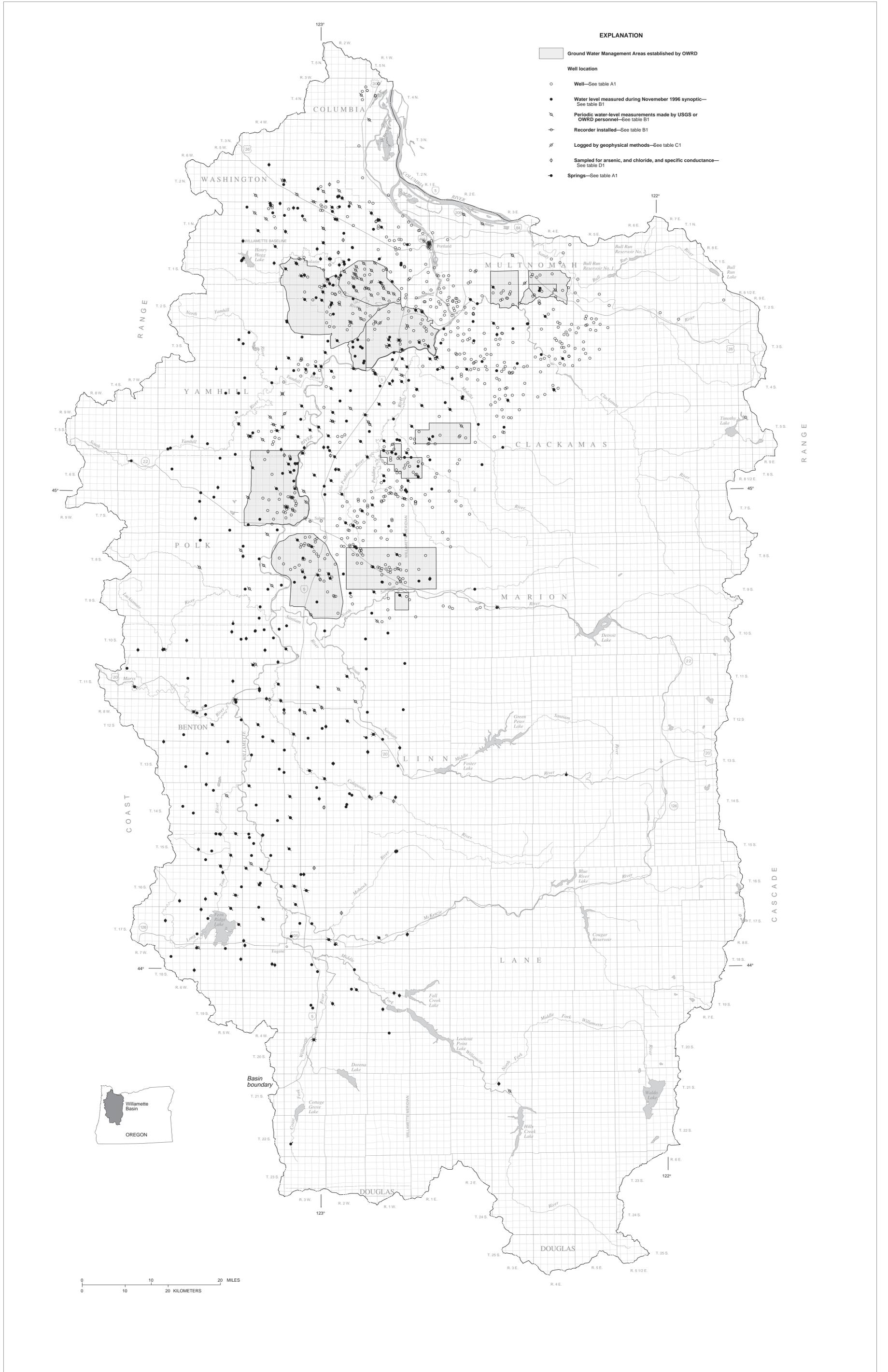
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Table E1. Summary of CD-ROM subject-specific subdirectories containing selected data for field-located wells and springs in the Willamette Basin, Oregon

Directory name: Name of directory where files have been recorded on the CD-ROM. Description: Describes the contents of the file.

Directory name	Description
STUDY	Selected Data for 1,240 Study Wells and Springs
WATERLEV	Water-Level-Measurement Data and Hydrographs for Selected Wells
RECORDER	Water-Level-Measurement Data and Hydrographs for 33 Wells Equipped with Digital Recorders
GEOPHYS	Summary of Borehole Geophysical Data for 16 Wells
WATERCHM	Water-Chemistry Data for Selected Wells and Springs
NONSTUDY	Selected Data for 4,753 Nonstudy Wells and Springs (Compiled as part of this and previous studies in the Willamette Basin, Oregon)
GEOL	Geologic maps of the Willamette Lowland, Oregon and Washington
REPORT	This report in Adobe PDF (Portable Document Format)
GISTOOL	Free viewer for the GIS (Geographic Information System) data recorded on the accompanying CD-ROM

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Base modified from U.S. Geological Survey Digital base from
U.S. Geological Survey Digital Line Graphs published at 1:100,000, 1987;
U.S. Bureau of the Census, TIGER/Line(R), published at 1:100,000, 1990
U.S. Geological Survey Digital Line Graphs published at 1:100,000, 1999
and modified by the State of Oregon
U.S. Geological Survey quadrangle maps published at 1:24,000
as digitized by Oregon Department of Transportation
Universal Transverse Mercator projection, Zone 10
1927 North American Datum

STUDY WELLS AND SPRINGS IN THE WILLAMETTE BASIN, OREGON

By
Danial J. Polette and Leonard L. Orzol
1999