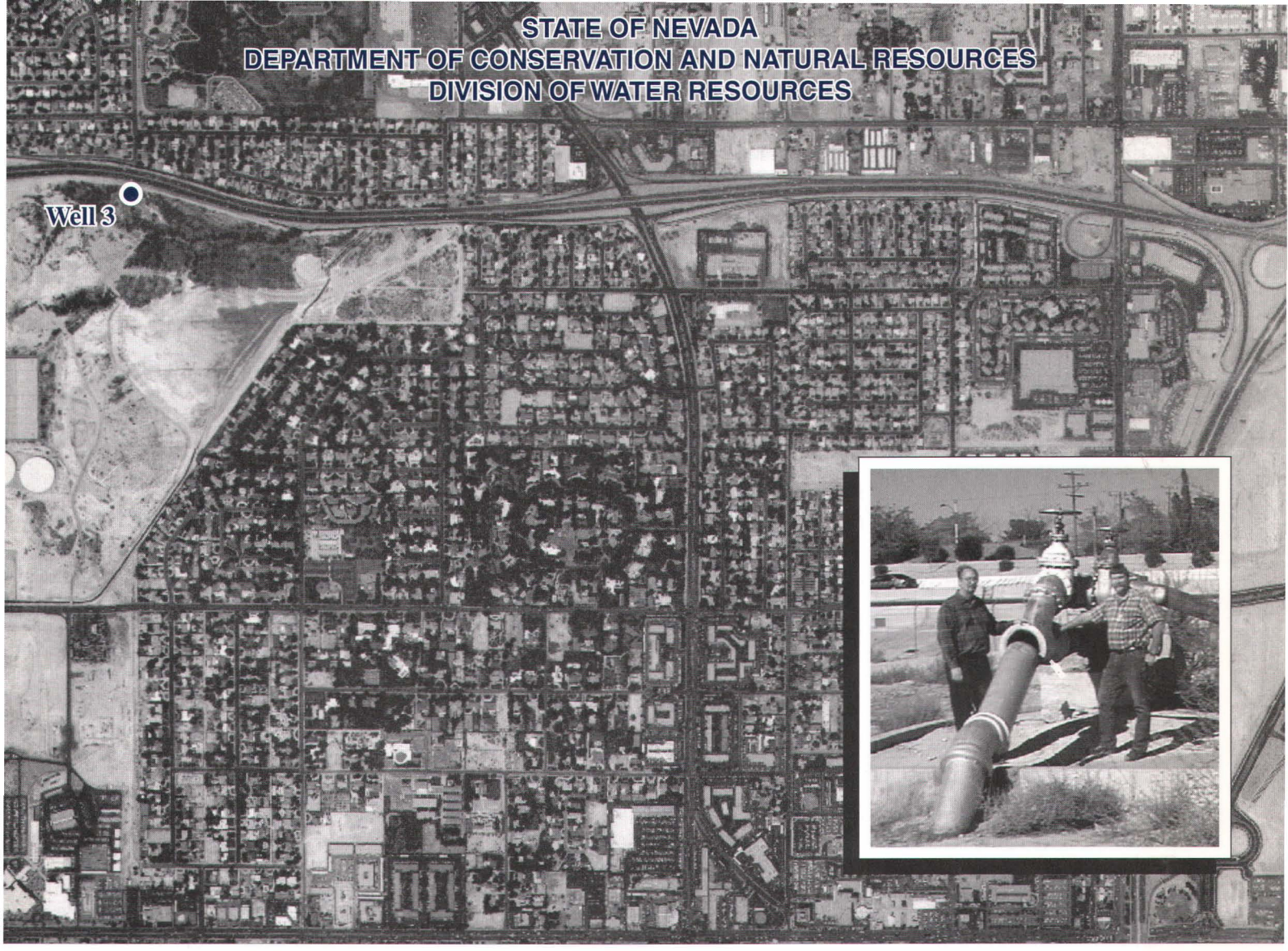
STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF WATER RESOURCES



WATER USE AND ASSOCIATED EFFECTS ON GROUND-WATER LEVELS, LAS VEGAS VALLEY AND VICINITY, CLARK COUNTY, NEVADA, 1980-95

By
David B. Wood
U.S. Geological Survey

WATER-RESOURCES INFORMATION REPORT 35

Prepared by the
U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
in cooperation with the
NEVADA DIVISION OF WATER RESOURCES
and
LAS VEGAS VALLEY WATER DISTRICT

FRONT COVER: **Principal photograph.**—Vertical aerial view in July 1997, showing Las Vegas Valley Water District (LVVWD) main well field (cleared area on left side of image) and location of now-abandoned Las Vegas Land and Water Company (LVLWC) Well 3. North is at top. Area shown is about 2.0 miles (east-west) by 1.4 miles (north-south). U.S. Highway 95 freeway extends eastward across image near top; Rancho Drive (formerly U.S. Highway 95) extends southward in center; Charleston Blvd. is at bottom. Image is mosaic of photographs taken by Rupp Aerial Photography, Inc., and provided by LVVWD and Southern Nevada Water Authority (SNWA). **Inset photograph.**—View of abandoned LVLWC Well 3 in November 1998. On left is David J. Donovan, SNWA; on right is David B. Wood, U.S. Geological Survey (USGS). View is northward, with U.S. Highway 95 in background. Photograph by Gavin M. Kistinger, SNWA.

BACK COVER: **Upper photograph.**—Vertical view showing same area depicted in principal photograph on front cover, almost half a century earlier, in July 1950. LVLWC well field (including Well 3) and Las Vegas Springs are on left side of image; spring-fed Las Vegas Creek, which flowed from west (left) to east (right), is dark linear feature near top of image. In 1950, U.S. Highway 95 extended southeastward, then southward, on Rancho Road in center of image, and curved eastward onto Charleston Blvd. at bottom. Photograph taken by USGS and provided by LVVWD/SNWA. **Lower photograph.**—View of flowing LVLWC Well 3 in about March 1940, when construction was almost completed. View is northward; Las Vegas Creek was behind well and adjacent trees. Photographer unknown; image provided by LVVWD/SNWA.

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U.S. Geological Survey

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March 20, 2002	David B. Wood	(702) 897-4038	(702) 897-4055

Report Describes Water Use and Associated Effects on Ground-Water Levels in Las Vegas Valley

A recently released report summarizes historical surface-water and ground-water use and presents contour maps of changes in ground-water levels in Las Vegas Valley from 1980 through 1995. The maps indicate that the ground-water levels have begun to recover from historical declines. The recovery is probably due to a combination of decreased reliance on ground water, increased reliance on Colorado River water from Lake Mead, and the use of treated Lake Mead water to artificially recharge the ground-water supply.

The report was prepared by the U.S. Geological Survey, in cooperation with the Nevada Division of Water Resources and Las Vegas Valley Water District.

The 101-page report, titled "Water Use and Associated Effects on Ground-Water Levels, Las Vegas Valley and Vicinity, Clark County, Nevada, 1980-95" by David B. Wood, is Nevada Division of Water-Resources Information Report 35. The report is available for inspection at the Nevada Division of Water Resources office in Carson City (123 W. Nye Lane) and the Geological Survey offices in Las Vegas (6770 South Paradise Road) and Carson City (333 West Nye Lane, Room 102), and also may be inspected at the U.S. Geological Survey libraries in Menlo Park, Calif., Denver, Colo., and Reston, Va.

Additional information about this and other USGS studies of water resources in Nevada may be obtained by e-mail to <**GS-W-NVpublic-info@usgs.gov**> or by visiting the USGS home page at <**http://nevada.usgs.gov**>.

(MORE)

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In-depth information about USGS programs may be found on the USGS home page at <**http://www.usgs.gov**>. To receive the latest USGS news releases automatically by e-mail, send a request to <**listproc@listserver.usgs.gov**>. Specify the listserver(s) of interest from the following names: water-pr; geologic-hazards-pr; biological-pr; mapping-pr; products-pr; lecture-pr. In the body of the message write: subscribe (name of listserver) (your name). Example: subscribe water-pr joe smith.

(Editors: Review copies of the report are available to the news media from the USGS Public Information Assistant in Carson City; call 775-887-7649)

State of Nevada
Department of Conservation and Natural Resources
Division of Water Resources
Water-Resources Information Report 35

ERRATA SHEET

Page 8 -- Figure 3 caption should read only:

Figure 3. Reported discharge from three Las Vegas springs and Las Vegas Creek in Las Vegas Valley, Nevada, calendar years 1912-55.

Page 49 -- EXPLANATIONS AND ABBREVIATIONS FOR TABLES 1-3:
Application or permit number remarks, should read:

Application or permit number, or driller's log number remarks:

Page 51 -- Water use:
NDWR abbrev.
MN -or- MUN -or- QM -or- PRO, should read:

WS -or- MN -or- MUN -or- QM -or- PRO

Page 53 -- Table 1: The information that appears in the line between map numbers 44 and 45 (LVVWD AR114 – LVVWD AR???) is incorrect. That line should be blank.

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Carson City, Nevada
2000

CONTENTS

ILLUSTRATIONS

[Plate in pocket at back of report]

TABLES

CONVERSION FACTORS AND VERTICAL DATUM

Multiply	*By*	*To obtain*
acre-foot per year (acre-ft/yr)	1,233	cubic meter per year
acre-foot (acre-ft)	1,233	cubic meter
cubic foot per second (ft^3/s)	448.8	gallon per minute
foot (ft)	0.3048	meter
gallon	3.785	liter
gallon per minute (gal/min)	0.06308	liter per second
inch (in)	25.40	millimeter
mile (mi)	1.609	kilometer
million gallons	3.785	million liters
square mile (mi^2)	2.590	square kilometer

SEA LEVEL

In this report, "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929, formerly called "Sea-Level Datum of 1929"), which is derived from a general adjustment of the first-order leveling networks of the United States and Canada.

WATER USE AND ASSOCIATED EFFECTS ON GROUND-WATER LEVELS, LAS VEGAS VALLEY AND VICINITY, CLARK COUNTY, NEVADA, 1980-95

By David B. Wood

ABSTRACT

Water-use practices throughout Las Vegas Valley have led to dramatic changes in ground-water levels. Large artesian springs first attracted settlers to Las Vegas and were the sole source of municipal water supply for the city until 1924. The last of these, the Las Vegas Springs, ceased to flow in the 1960's. The drilling of the first flowing well in the valley in 1907 began a practice of allowing constant free flow from wells. This practice led to passage of the Comprehensive Underground Water Act by the Nevada State Legislature in 1939. Between 1912 and 1980, water levels in the principal-aquifer system declined more than 300 feet in the west-central part of the valley. Between 1955 and 1973, water levels in the near-surface reservoir declined more than 160 feet in the northwest part of the valley.

Completion of the Southern Nevada Water Project pipeline late in 1971 brought about a major change in water use and ground-water levels began to rise. For the first time, large quantities of treated surface water were imported to Las Vegas Valley. Lake Mead, on the Colorado River, currently (1995) provides more than 300,000 acre-feet of water, which is about 80 percent of the total water supply. Annual ground-water withdrawals have decreased from a peak of about 86,000 acre-feet in 1968 to 73,000 in 1995. The Las Vegas Valley Water District instituted a program of injecting treated Lake Mead water to artificially recharge the principal-aquifer system late in 1987. The City of North Las Vegas followed in 1990 and currently (1995) about 25 percent of annual ground-water withdrawals are artificially recharged to the principal-aquifer system by the two entities.

This report presents graphs of historical water use, artificial ground-water recharge, and net water-level change in both the principal-aquifer system and near-surface reservoir for 5-year periods between 1980 and 1995. A compilation of wells owned by the major water suppliers is provided also. Between 1990 and 1995, water levels in the principal-aquifer system rose throughout most of the valley with increases in excess of 100 feet in the west-central part of the valley while water levels continued to decline in the northern and southern margins of the valley where residents rely upon domestic ground-water supply. However, maximum rises in the principal-aquifer system between 1990 and 1995 may be influenced by localized mounds due to concentrated artificial recharge in the vicinity. During the same period, water levels in the near-surface reservoir continued to rise due to an increasing supply of secondary recharge. This secondary recharge introduces poor quality water to the aquifer system and saturates surface soils, which are growing concerns for residents, developers, and local utilities.

INTRODUCTION

The study area coincides with the Las Vegas Valley Hydrographic Area[1] (pl. 1). Las Vegas is a rapidly growing metropolitan area in the arid southwest where water is a limited and valued resource. Presently, most of the population of the State of Nevada resides in the Las Vegas Valley. Local and regional planners forecast an ever increasing water demand as a consequence of continued growth.

Prior to 1973, Las Vegas Valley relied primarily on ground water to meet its needs. During 1973, treated surface water imported from Lake Mead slightly exceeded ground-water withdrawals. Since 1973, treated surface water imported from Lake Mead has become the primary source of water. However, ground-water withdrawals continue to exceed natural ground-water recharge, which has been estimated at 25,000-35,000 acre-feet per year (Morgan and Dettinger, 1996, p. B24-B25). Ground-water withdrawals have exceeded recharge since the mid-1940's. This overdrafting has caused water-level declines in excess of 300 feet and land subsidence in excess of 5 feet (Bell and Price, 1993). During 1995, ground-water withdrawals totaled about 73,000 acre-feet and treated surface-water imports from Lake Mead totaled about 327,000 acre-feet (Coache, 1995).

[1] Formal Hydrographic Areas in Nevada were delineated systematically by the U.S. Geological Survey and Nevada Division of Water Resources in the late 1960's for scientific and administrative purposes (Rush, 1968; Cardinalli and others, 1968). The official Hydrographic Area names, numbers, and geographic boundaries continue to be used in Geological Survey scientific reports and Division of Water Resources administrative activities.

Injection of treated Lake Mead water into selected wells has been used to recharge ground water in an effort to decrease water-level declines and land subsidence. The Las Vegas Valley Water District has a large ongoing injection program. In 1995, approximately 17,000 acre-feet of treated water was injected. Since the beginning of this program in 1987, approximately 106,000 acre-feet has been injected. In a similar effort, the City of North Las Vegas also has an artificial recharge program, injecting about 3,000 acre-feet during 1995 and a total of approximately 8,200 acre-feet since the program began in 1990 (Coache, 1995).

Surface water was first imported from Lake Mead (Colorado River) to Las Vegas Valley during World War II to supply water for the industrial complex near Henderson. Lake Mead water was delivered to the Las Vegas distribution system in September 1955 but did not become a major source until water was delivered through the Southern Nevada Water System in June 1971. The volume of surface water has exceeded ground-water withdrawals since 1975. In 1995, Nevada diverted 359,858 acre-ft and returned 142,419 acre-ft, thus consuming 217,439 acre-ft of its 300,000 acre-ft of consumptive-use appropriation of Colorado River water (Coache, 1995).

Purpose and Scope

This report summarizes ground-water data collected from early 1980 through early 1995. Information for 1971-85 has been listed and summarized in previously published reports (Harrill, 1972, 1973, 1974, 1976a, 1976b, 1977; Katzer, 1977; Wood, 1979, 1988a, 1988b, 1991a, 1991b). Burbey (1995) reported similar data for the principal-aquifer system for 1980-90 but did not address changes in the near-surface reservoir. Information for the current report was compiled by the U.S. Geological Survey, in cooperation with the Nevada Department of Conservation and Natural Resources, Division of Water Resources, and the Las Vegas Valley Water District.

Specifically, this report presents net water-level change for the three 5-year intervals between 1980 and 1995 for the principal-aquifer system and near-surface reservoir; distribution of ground-water withdrawals for 1980, 1985, 1990, and 1995; available records of well drilling, total discharge from springs, total ground-water withdrawals by user, total artificial ground-water recharge by user, total treated surface-water imported from Lake Mead by user, and surface-water outflow through Las Vegas Wash to Lake Mead. Additionally, available records of springs and wells owned by major water suppliers were compiled and are listed in the supplemental data section at the back of the report.

Historical Perspective

Native Americans were the first people to discover and live in Las Vegas Valley. Archeological evidence left by ancient American Indians near Tule Springs (current Floyd Lamb State Park) has been dated at between 10,000 and 13,000 years old (Fowler and Madsen, 1986, p. 173). Evidence suggests that Anasazi, Mojave, and Paiute Indians have lived in Las Vegas Valley during the past several hundred years (Warren and Crabtree, 1986, p. 191). Evidence even suggests that small-scale agriculture was attempted near the large springs in the valley (Kelly and Fowler, 1986, p. 371). Paiute Indians had thoroughly explored southern Nevada centuries before the first people of European descent entered the area and subsequently received credit for blazing trails and establishing routes throughout the region (Kelly and Fowler, 1986, p. 370, 377).

Explorer John C. Fremont was the first to document (in maps and notes published in 1845) his visits to the large springs in Las Vegas. Fremont points out that he followed existing trails such as the Old Spanish Trail (Hafen and Hafen, 1954, p. 295). The springs in Las Vegas were a regular stop on the trail, which was used by Mexican trading caravans traveling between Santa Fe, N. Mex., and Los Angeles, Calif. (Mendenhall, 1909, p. 26). Las Vegas, which means "the Meadows," was named by a Spanish or Mexican traveler (Carpenter, 1915, p. 31).

A group of Mormon missionaries, led by William Bringhurst, were the first European descendents known to use the water resources of Las Vegas Valley for more than simply a drinking-water supply. They arrived in 1855 and built a fort (just north of present day Cashman Field), established farms, diverted water from nearby Las Vegas Creek (supplied by the Las Vegas Springs about 3 miles west), attempted lead mining at Potosi Mountain, and made friends with the local Paiute Indians. The lead mining was unsuccessful and alkali in the soil made farming difficult so they abandoned their colony in 1857 and returned to Utah (Jones and Cahlan, 1975, p. 8).

Octavius Decatur Gass acquired the old fort and the adjoining property in 1865 and developed a flourishing ranch. Gass increased his ranching operations and purchased more land, including the area of the Las Vegas Springs. Conrad Kiel, one of Gass's employees, started his own small ranch at a spring about 2 miles northwest of the Gass ranch. The spring was later named after him, although the spelling was changed to "Kyle." Kiel also set up a sawmill in the Charleston Peak area. Due to financial problems, Gass was forced to secure a loan in 1879. He was unable to repay the loan and the lender, Archibald Stewart, took possession of the ranch in 1881. Stewart was killed in 1882 but his wife Helen continued to run a successful ranching operation (Jones and Cahlan, 1975, p. 8-11).

The coming of the railroad made Las Vegas a town. The Stewart Ranch was purchased by Senator William A. Clark of Montana in 1902 for his proposed San Pedro, Los Angeles, and Salt Lake Railroad. The railroad was completed and Clark's townsite became the City of Las Vegas in 1905. To meet the water-supply needs of the railroad and to provide a domestic water system for the new town, the Las Vegas Land and Water Company was formed in 1905. The incorporators were all railroad people and the company was controlled by railroad stock ownership. Also in 1905, the Vegas Artesian Water Syndicate was organized for the purpose of "boring for artesian water in the Las Vegas Valley" (Jones and Cahlan, 1975, p. 11, 15-34). Their practice of allowing constant free flow from wells eventually led to the passage of the Comprehensive Underground Water Act in 1939 (Shamberger, 1991, p. 57). However, the State Engineer could not proceed with administration of the 1939 act until the Las Vegas Basin was designated in 1941. Designation was made possible upon receipt of a petition signed by well owners requesting administration of public waters (Shamberger, 1991, p. 58).

The construction of Hoover Dam was probably the most significant event in the growth of Las Vegas (Jones, 1975, p. 3; Reisner, 1993, p. 120-121). Not only did it bring Las Vegas through the Great Depression, but it also ensured a permanent water and power supply that would prove critical for growth. The Boulder Canyon Project Act was signed in 1928 and Hoover Dam was completed in 1935 (Jones and Cahlan, 1975, p. 66, 93). Nevada secured an annual consumptive-use apportionment of 300,000 acre-ft of Colorado River water in 1928 when the Boulder Canyon Project Act was signed. In 1964, the U.S. Supreme Court Decree, *Arizona v. California* confirmed Nevada's apportionment and defined consumptive use as diversions less return flows (U.S. Supreme Court, 1964).

Defense programs associated with World War II brought Lake Mead (Colorado River) water into Las Vegas Valley in 1942. The local economy was stimulated with the construction of the Basic Magnesium, Inc. (BMI) pipeline, the BMI plant (now Black Mountain Industrial Center), the accompanying townsite for employee housing (now the City of Henderson), and the Army Aerial Gunnery School (now Nellis Air Force Base) in North Las Vegas (Jones and Cahlan, 1975, p. 112-122).

Gambling houses and gaming have been a part of Las Vegas, legal or not, since Las Vegas became a town; however, gaming did not become the main industry until the 1940's. The resort hotel industry began in 1941 when Thomas Hull of Hollywood opened the El Rancho Hotel on the now famous Las Vegas "Strip." Others quickly followed (Moehring, 1989, p. 13, 20, 43-54).

The Nevada Test Site was established in 1950 as the continental proving ground for testing nuclear weapons (U.S. Congress, 1989, p. 11). The Test Site is 65 miles northwest of Las Vegas. There were 935 nuclear tests detonated in Nevada. Nuclear tests were detonated on or above the land surface during 1951-62. During this period, 100 atmospheric tests were detonated at the Nevada Test Site and 5 at the Nellis Air Force Range. Nuclear tests were detonated underground from 1957-92. During this period, 828 underground tests were detonated at the Nevada Test Site, 1 in Hot Creek Valley, and 1 in Fairview Valley in central Nevada (U.S. Department of Energy, 1995). These activities, which caused an increase in population, resulted in additional water use.

The Southern Nevada Water System was approved by Congress in 1965, Congressional funding was approved in 1967, and construction began in 1968 (Jones, 1975, p. 98, 128, 174). Completion of the Southern Nevada Water System pipeline in 1971 made it possible for the first time to import large quantities of treated Lake Mead water into Las Vegas. The pipeline went into full production in 1972.

The number of residents in Clark County, primarily Las Vegas Valley, has exceeded 50 percent of the State's population since 1963 and was 65 percent of the population of Nevada in 1995 (Dean H. Judson, Nevada State Demographer, written commun., 1997). The population growth in Clark County for 1910, 1920, and 1930-95 is shown in figure 1.

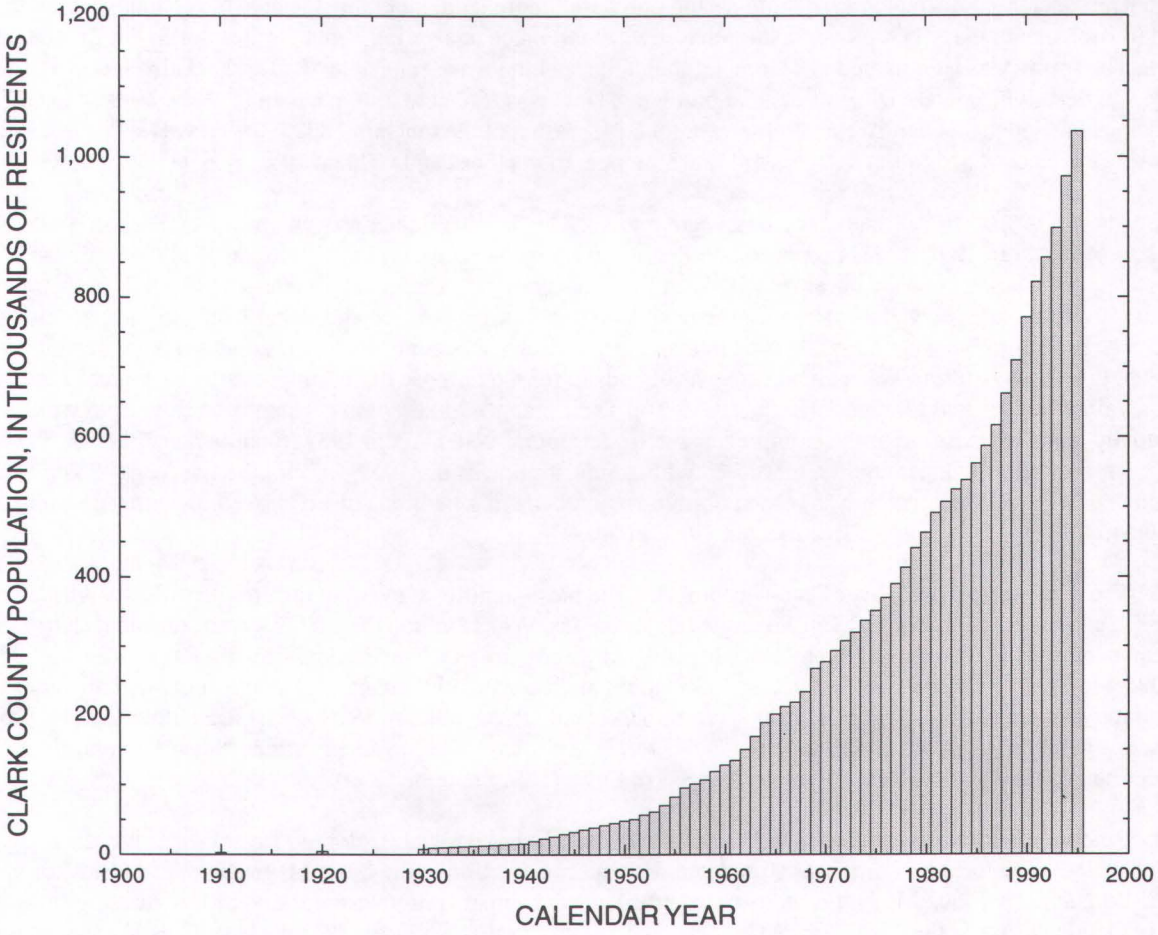

Figure 1. Number of residents in Clark County, Nevada, calendar years 1910, 1920, and 1930-95 (Dean H. Judson, Nevada State Demographer, written commun., 1997).

Geohydrologic Setting

Las Vegas Valley is entirely within the Great Basin region of the Basin and Range physiographic province and covers about 1,564 square miles of geographic area (Rush, 1968, table 1). The region is characterized by mountain ranges with a general north-south orientation separated by basins (valleys) that are filled by accumulations of unconsolidated to partly consolidated sedimentary deposits and underlain by consolidated rocks that also form the surrounding ranges (Stewart, 1980). The geohydrologic setting of Las Vegas Valley is similar to that of most of the Basin and Range Province—it is characterized by localized aquifers within the basin-fill deposits (Longwell and others, 1965). However, the basin contains a major structural feature in the northern part of the valley: the Las Vegas Valley shear zone, a northwest-trending right-lateral fault that underlies the basin-fill deposits (Longwell and others, 1965, pl. 5).

The geology shown on plate 1 has been simplified from the geologic map by Stewart and Carlson (1978; Turner and Bawiec, 1991). Map units have been combined into four types of sedimentary rocks and two types of igneous and metamorphic rocks. The sedimentary rocks are grouped as basin-fill, carbonate, clastic, and other sedimentary. Other rocks are grouped as volcanic and other igneous and metamorphic.

The stratigraphy of the basin-fill deposits is complicated. Layers of caliche and interbedded lenses (horizons) of gravels, sands, silts, and clays are discussed by Stewart (1980, p. 93-97) and Longwell and others (1965, p. 49-54). These units vary greatly in thickness, and extents are largely unknown. Basin-fill deposits grade from coarse in the western and southern parts of the valley to fine-grained deposits in the central and eastern parts of the valley (Maxey and Jameson, 1948, pl. 6B; Longwell and others, 1965, p. 48; Plume, 1989, pl. 3). Thousands of wells have been sunk

into the basin-fill deposits of the Las Vegas Valley and Nevada well drillers' reports are available for most of them. However, as noted by Plume (1989, p. A9), although the drillers' logs provide a valuable resource, the lithologic descriptions are much too subjective to construct detailed lithologic cross-sections of the basin fill (Plume, 1989, pl. 2). Additionally, numerous episodes of faulting have displaced lithologic units (Bell, 1981, pl. 1; Plume, 1989, pl. 1).

Earlier investigators understood that the aquifers contained within the basin-fill deposits are part of a heterogeneous multi-aquifer system, but for the purpose of data analysis, it was necessary to simplify the complex hydrologic framework. Maxey and Jameson (1948) were the earliest investigators known to define the composition and extent of the basin aquifers and Donovan (1996) the most recent, although Donovan's study area was restricted to the northwest part of Las Vegas Valley. Between the earliest and most recent investigations, the composition and extent of the basin aquifers were studied and refined by other investigators (Malmberg, 1965; Harrill, 1976a; Morgan and Dettinger, 1996).

In this report, basin-fill deposits are divided into two water-bearing units, an upper unit (the near-surface reservoir) and a lower unit (the principal-aquifer system). The **near-surface reservoir** extends from land surface to a depth of about 200-300 feet and conforms with the "surface water" described by Maxey and Jameson (1948, p. 81); the "near-surface zone of aquifers" or "near-surface reservoir" described by Malmberg (1965, p. 24) and Harrill (1976a, p. 9); the "near-surface aquifers" described by Morgan and Dettinger (1996, p. B22); and the "Las Vegas Wash aquitard" described by Donovan (1996, p. 49). The **principal-aquifer system** extends from about 200-300 feet below land surface to more than 1,000 feet and coincides with the "shallow, middle, and deep zones of aquifers" described by Maxey and Jameson (1948, p. 82); the "artesian aquifers" described by Malmberg (1965, p. 24); the "principal aquifers" described by Harrill (1976a, p. 11); the "developed-zone aquifers" and upper part of the "deep-zone aquifers" described by Morgan and Dettinger (1996, p. B23); and the "Las Vegas Springs and Duck Creek aquifers" described by Donovan (1996, p. 49).

Site Designations

Sites used in this report are identified by the U.S. Geological Survey (USGS) site designation (table 1) and by the Nevada Division of Water Resources (NDWR) site designation (table 2). The USGS site designations are the standard identification and local numbers described below. The NDWR site designations are the local field number, the application or permit number, and the drillers' log number.

Standard Identification Number

The U.S. Geological Survey system for site identification is based on the latitude-longitude grid. Each site is identified by a unique 15-digit number: The first six digits are the degrees, minutes, and seconds of latitude; the next seven digits are the degrees, minutes, and seconds of longitude; and the last two digits constitute the sequence number of the site within the 1-second grid of latitude and longitude. The assigned number is retained as a permanent identifier even if a more precise latitude and longitude are later determined (U.S. Geological Survey, 1989, p. 2-10). Therefore, to determine the geographic location of a site, the latitude and longitude coordinates (which are listed herein) should be used rather than the USGS standard identification.

Local Number

The local site designation system used in this report is based on an index of hydrographic areas in Nevada (Rush, 1968) and on the official rectangular subdivision of the public lands referenced to the Mount Diablo base line and meridian. Each designation consists of four units: The first unit is the hydrographic area number; the second unit is the township, preceded by an N or S to indicate location north or south of the base line. The third unit is the range, preceded by an E to indicate location east of the meridian. The fourth unit consists of the section number and letters designating the quarter section, quarter-quarter section, and so on (A, B, C, and D indicate the northeast, northwest, southwest, and southeast quarters, respectively), followed by a number indicating the sequence in which the site was recorded. For example, well 212 S19 E60 04DAB 1 is in Las Vegas Valley (hydrographic area 212). It is the first well recorded in the northwest quarter of the northeast quarter of the southeast quarter of section 4, Township 19 South, Range 60 East.

Acknowledgments

The author appreciates the cooperation of the many residents of Clark County who graciously granted the USGS permission to use their wells for measuring water levels. This report would not have been possible without the support of the following agencies: City of North Las Vegas and Las Vegas Valley Water District personnel provided access to their wells, water-level measurements, records of well drilling and water-use permits, and records of ground-water withdrawals and artificial recharge. The Colorado River Commission provided records of treated Lake Mead water imported to Las Vegas Valley. Nevada Division of Water Resources personnel provided water-level measurements, records of well drilling and water-use permits, records of ground-water withdrawals and artificial recharge, and records of treated Lake Mead water imported to Las Vegas Valley. Southern Nevada Water Authority personnel provided water-level measurements, records of well drilling and water-use permits, and records of ground-water withdrawals and artificial recharge. U.S. Air Force personnel stationed at Nellis and Indian Springs Air Force Bases provided access to their wells, records of well drilling and water-use permits, and records of ground-water withdrawals. Personnel from Boulder City, Bureau of Land Management, Bureau of Reclamation, City of Henderson, City of Las Vegas, City of North Las Vegas, Clark County, Community College of Southern Nevada, Nevada Bureau of Mines and Geology, Nevada Division of Water Planning, Nevada Historical Society, Nevada State Demographer's Office, University of Nevada, and the U.S. Fish and Wildlife Service also provided valuable information. The author extends special thanks to Desiree S. Brantley of the Nevada Division of Water Resources and Gavin M. Kistinger of the Southern Nevada Water Authority for the many hours spent searching historical files. The author also thanks Michael M. Wallen of the Las Vegas Valley Water District and Larry K. McCutchen of the City of North Las Vegas for providing invaluable historical records of production wells, Robert Coache of the Nevada Division of Water Resources for providing water-use data, Dean Goodale of the Nevada Division of Water Resources for providing water-level measurement data, and Jeffrey A. Johnson of the Southern Nevada Water Authority and Hugh Ricci of the Nevada Division of Water Resources for providing clarification of Colorado River water rights for Nevada. The author also extends his gratitude to James R. Harrill, U.S. Geological Survey, retired, and David J. Donovan, Southern Nevada Water Authority, for providing colleague reviews that improved this report.

WATER USE

The first Colorado River water from Lake Mead water flowed to the Basic Magnesium, Inc., plant in Henderson on April 7, 1942, through the newly completed BMI pipeline. The first treated water flowed into the valley through the Southern Nevada Water System pipeline on June 16, 1971.

Total water use was about 23,000 acre-ft in 1942 and increased to about 136,000 acre-ft in 1972. Water use has increased steadily with population growth to about 400,000 acre-ft in 1995. Ground-water withdrawals accounted for about 90 percent of water use in 1942, decreased to about 50 percent in 1972, and were only about 20 percent in 1995. Treated surface water imported from Lake Mead (Colorado River) accounted for about 10 percent of water use in 1942, increased to about 50 percent in 1972, and was about 80 percent in 1995. Injection of treated Lake Mead water to artificially recharge the principal-aquifer system accounted for about 5 percent of water use in 1995. Records of surface-water discharge to Lake Mead through Las Vegas Wash are not available until 1958 when discharge accounted for about 25 percent of water use, it increased to about 35 percent of total water use in 1995.

Although data were not readily available to compare water use with the total number of people who visit Las Vegas each year, data from the Nevada State Demographer's office were used to make comparisons to permanent Las Vegas Valley residents. Water use per permanent resident—

- Was about 1.0 acre-ft (about 326,000 gallons) in 1942 with about 23,000 permanent residents.
- Reached a maximum of 1.5 acre-ft per permanent resident in 1943 with about 26,000 residents.
- Decreased to about 0.4 acre-foot (about 130,000 gallons) in 1972 with about 307,000 residents.
- Remained about 0.4 acre-foot in 1995 with about 1,000,000 permanent residents.

Ground Water

Ground water has been withdrawn continuously from the basin-fill deposits in Las Vegas Valley since the first flowing well was sunk in 1907 (Jones and Cahlan, 1975, p. 32-33). Estimates of natural annual ground-water recharge range from 25,000 to 35,000 acre-ft (Morgan and Dettinger, 1996, p. B24-B25). Most natural ground-water recharge is derived from precipitation in the northern Spring Mountains, Sheep Range, and Las Vegas Range (Morgan and Dettinger, 1996, p. B70). Ground-water withdrawals have exceeded natural ground-water recharge since the mid-1940's (Malmberg, 1965, p. 63) and reached a peak of 86,000 acre-ft[1] in 1968 (Coache, 1995, p. 18). Ground-water discharge from springs and wells during 1905-95 is shown in figure 2. Data were recompiled from Maxey and Jameson (1948, p. 94-95) for spring discharge for 1905-07, 1912, and 1924-46 and for well discharge for 1912 and 1924-46; from Malmberg (1965, p. 60, 63) for discharge from springs and wells for 1947-55; and from Coache (1995, p. 18-19) for discharge from wells for 1956-95. Data for spring discharge were interpolated for 1908-11 and 1913-23 and estimated for 1956-95. Data were estimated as zero for everything but Corn Creek Springs by 1967. Data for well discharge were interpolated for 1907-11 and 1913-23. The range of annual estimated natural ground-water recharge shown on figure 2 is taken from Morgan and Dettinger (1996, p. B25).

[1] Harrill (1976, p. 19) originally reported 88,000 acre-ft, which was revised by Coache (1995, p. 18).

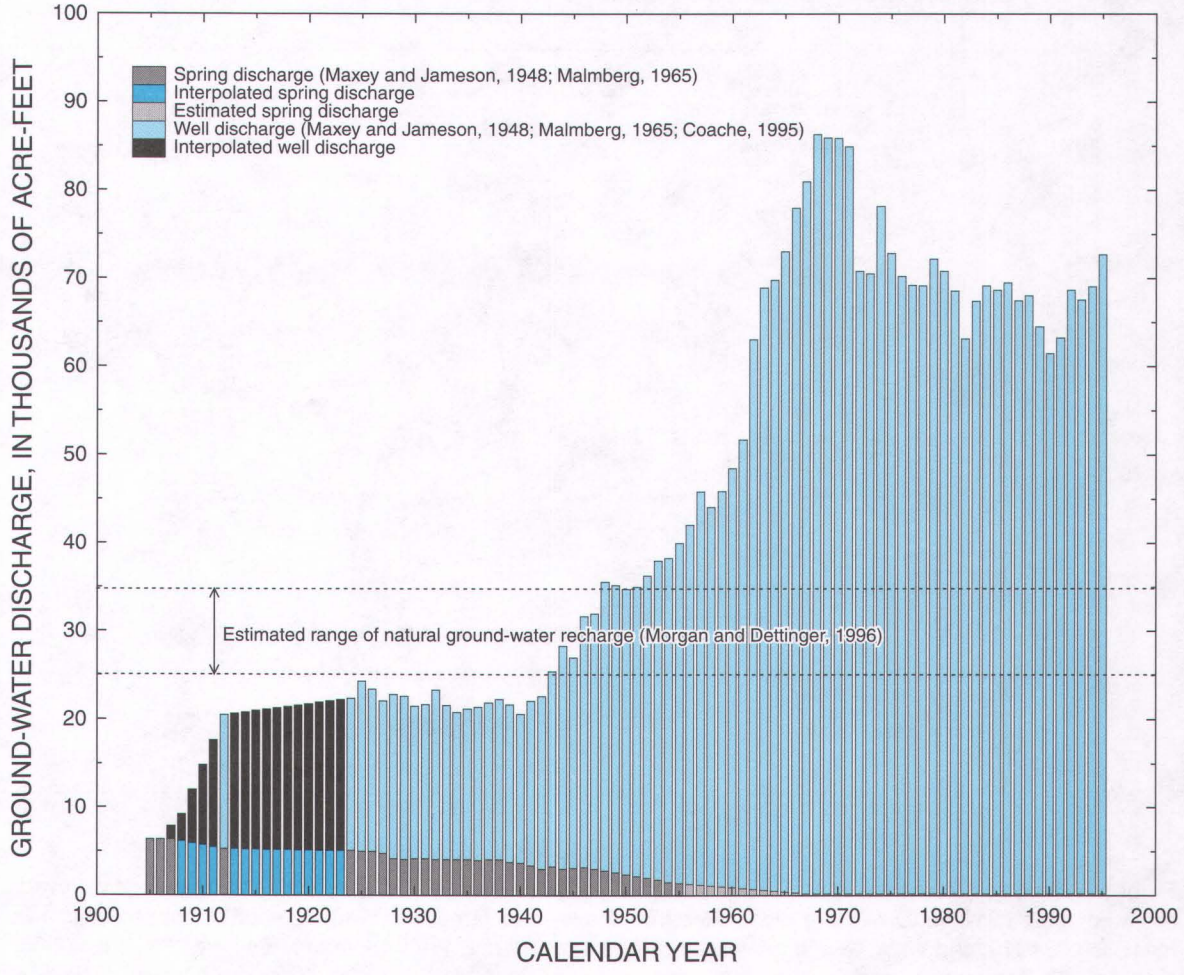

Figure 2. Ground-water discharge from springs and wells in Las Vegas Valley, Nevada, calendar years 1905-95.

Springs

The springs in Las Vegas Valley were the main water supply until a few years after well drilling started in 1907. The largest springs were Corn Creek, Tule, Kyle, Las Vegas, Grapevine, and Stevens. Corn Creek Springs are the only ones that still flow today. All the other springs dried up by the 1960's. The three Las Vegas (Little, Middle, and Big) Springs were the sole source of municipal water supply for the City of Las Vegas until 1924. Combined flow from the three Las Vegas Springs, based upon estimates of discharge reported in 1908 and 1912, was as much as 7,670 to 8,120 gallons per minute (Maxey and Jameson, 1948, p. 78). However, combined flow in 1912 was only about 2,576 gallons per minute (Carpenter, 1915, p. 39; Jones and Cahlan, 1975, p. 4) and combined flow in 1924 was about 2,020 gallons per minute (Maxey and Jameson, 1948, p. 79). Discharge from each of the Las Vegas Springs and their combined flow are shown in figure 3. Data were recompiled from Carpenter (1915, table facing p. 30) for spring discharge for 1912; from Maxey and Jameson (1948, p. 79) for spring discharge for 1924-46; and from Malmberg (1965, p. 60) for spring discharge for 1947-55.

Well Drilling

Although several hand-dug wells existed, the first well (map no. 10, table 1 and pl. 1) drilled in the Las Vegas Valley was probably in 1905 by the Las Vegas and Tonopah Railroad Company for domestic supplies and construction at its Corn Creek Station (Maxey and Jameson, 1948, p. 5). The water level was reported to be approximately 65 feet below land surface. The first flowing well (map no. 11, table 1 and pl. 1) was drilled in July 1907 by the Vegas Artesian Water Syndicate on the Oppedyk Ranch (Jones and Cahlan, 1975, p. 32-33). The well was drilled to a depth of 301 feet and reportedly produced five California miner's inches of water. In southern California, one miner's inch is

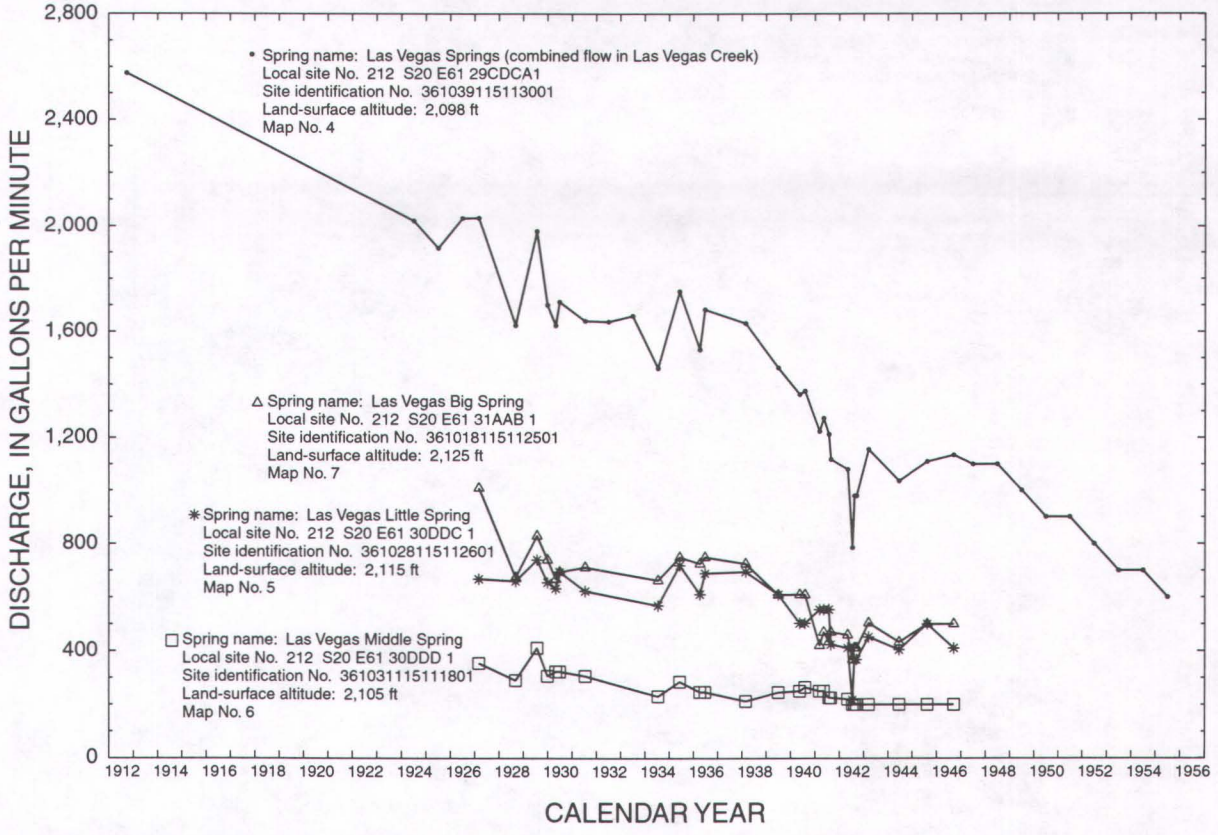

Figure 3. Reported discharge from three Las Vegas springs and Las Vegas Creek in Las Vegas Valley, Nevada, calendar years 1912-55. Data were recompiled from Maxey and Jameson (1948, p. 94-95) for spring discharge for 1905-07, 1912, and 1924-46 and for well discharge for 1912 and 1924-46; from Malmberg (1965, p. 60, 63) for discharge from springs and wells for 1947-55; and from Coache (1995, p. 18-19) for discharge from wells for 1956-95. Data for spring discharge were interpolated for 1908-11 and 1913-23 and estimated for 1956-95. Data were estimated as zero for everything but Corn Creek Springs by 1967.

equivalent to 1/50th of 1 cubic foot per second (second foot; Bixby and Hardman, 1928, p. 33). Therefore, the well flowed at a rate of approximately 45 gallons per minute. This marked the beginning of a mining-for-water practice that quickly spread throughout the valley (Jones and Cahlan, 1975, p. 34). About 125 wells had already been drilled by 1912; 75 of these were flowing wells (Carpenter, 1915, p. 39-40). By 1938, 200-300 flowing wells had been drilled in the basin. Most of the wells were unused and flowed unchecked from the day they were drilled (Livingston, 1941, p. 167). The study by Livingston led to the passage of the Comprehensive Underground Water Act in 1939 (Shamberger, 1991, p. 57). Following this act, the State Engineer indexed all wells in Las Vegas Valley and found that 340 wells had been drilled. An updated list containing 388 wells was submitted to the 1942 legislature (Shamberger, 1991, p. 58). The number of wells in Las Vegas Valley had increased to 570 by 1946 (Maxey and Jameson, 1946, p. 7).

The number of wells drilled in Las Vegas Valley during calendar years 1940-95 is shown in figure 4, and is based on the number of well drillers' reports submitted to the Nevada State Engineer's Office each year. Well drillers' reports prior to 1940 were not available in sufficient numbers to be included. Actual totals are not well documented until the early 1950's (fig. 4). Well drilling records are grouped into five categories: domestic, other, public supply, commercial/industrial, and irrigation. The category for "other" includes primarily "test" and "monitor" holes. The current version (Rev. 3-91) of the Nevada Division of Water Resources well driller's report combines "municipal" (which is synonymous with public supply) and "industrial" as "municipal/industrial" in the categories listed for "proposed use." Therefore, figure 4 may not reflect actual drilling for the "public supply" and "commercial/industrial" categories for wells drilled since 1991.

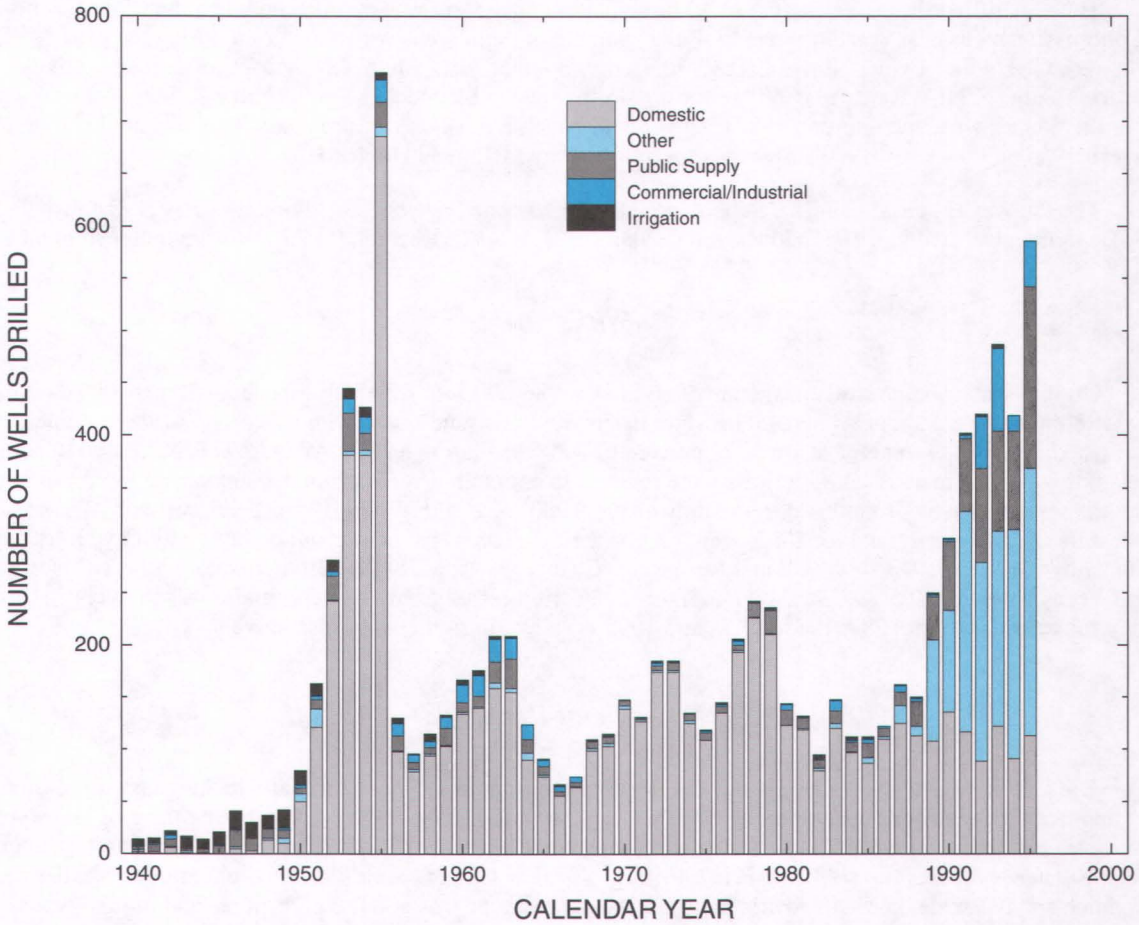

Figure 4. Number of wells drilled in Las Vegas Valley, Nevada, on the basis of well drillers' reports submitted to Nevada State Engineer's Office, calendar years 1940-95. Number may not reflect actual total until 1950's. Category "other" includes mostly test holes. Categories "public supply" and "commercial/industrial" may not reflect actual totals since 1991.

Major Water Suppliers

The Las Vegas Land and Water Company was formed in 1905 and relied on the flow from the three Las Vegas Springs until 1924 when they drilled a well (LVLWC W01, map no. 13) to supplement the spring flow (Jones and Cahlan, 1975, p. 72). Eventually, 15 wells were drilled by the Las Vegas Land and Water Company (Maxey and Jameson, 1946, p. 36-41; supporting data, in the form of well drillers' reports, field notes, and administrative reports were provided by personnel from the NDWR, SNWA, and LVVWD). However, two of the wells (LVLWC Bunker Brothers Mortuary, Inc., and LVLWC Elks Lodge) were not used for municipal water supply. Records for 3 springs and 15 wells are included in tables 1-3, which are in the supplemental data section at the back of the report. Table 1 shows the U.S. Geological Survey site designations, owner or local site name, land-surface altitude, and well construction data. Table 2 shows the Nevada Division of Water Resources site designations, date well completed, other owners or names, site type, site use, water use, latitude, and longitude. Table 3 shows the earliest available and either an early 1995 or the most recent water-level measurement.

The creation of the Las Vegas Valley Water District (LVVWD) was authorized in 1947 through an enabling act by the Nevada Legislature (Jones, 1975, p. 13). The Water District purchased the Las Vegas Land and Water Company and began operation in 1954 (Jones and Cahlan, 1975, p. 150). The Las Vegas Valley Water District purchased the three Las Vegas Springs (which by then flowed intermittently, depending on the rate of pumping from nearby wells) and 13 wells (Jones, 1975, p. 31). The Las Vegas Valley Water District drilled its first well (LVVWD W014, map no. 52) in 1961 (Jones, 1975, p. 84). Records for 125 wells are included in tables 1-3.

The City of North Las Vegas (CNLV) Municipal Water System was established when the Clark County Board of Commissioners passed a resolution in 1947. Ownership of eight wells was transferred during the process. These wells were CNLV Fun Center North, CNLV Fun Center South, CNLV Main, CNLV McCarran North, CNLV McCarran South, CNLV Railroad, CNLV Stocker North, and CNLV Stocker South (Larry K. McCutchen, City of North Las Vegas, written commun., 1997). The City of North Las Vegas acquired existing wells until sometime between 1955 and the early 1960's. Records for 54 wells are included in tables 1-3.

The Las Vegas Aerial Gunnery School, which later became the Nellis Air Force Base, was established by the U.S. Department of Army in 1941 (Jones and Cahlan, 1975, p. 113). Records for 22 wells are included in tables 1-3.

Withdrawals

Ground-water withdrawals peaked in 1968 at about 86,000 acre-ft, which was about 70 percent of total water use. Withdrawals were about 90 percent of water use in 1942. Ground-water withdrawals were about 70 percent of water use in 1955 and remained at about 70 percent of water use through 1971. Withdrawals decreased to about 50 percent of water use in 1972. Withdrawals were reduced to about 20 percent of total water use by 1989 and remained about the same in 1995. Ground-water withdrawals for 1980 were 70,636 acre-ft; for 1985, were 68,477 acre-ft; for 1990, were 61,291 acre-ft; and for 1995, were 72,538 acre-ft. Records of total ground-water withdrawals are reported annually by the Nevada Division of Water Resources (Coache, 1995, p. 18-19). Ground-water withdrawals from wells in Las Vegas Valley for 1956-95 are shown in figure 5. Distribution of ground-water withdrawals for wells in Las Vegas Valley for calendar years 1980, 1985, 1990, and 1995 is shown in figures 6-9, respectively.

Artificial Recharge

The Las Vegas Valley Water District developed a program in 1987 to artificially recharge ground water by injecting treated Lake Mead water into the principal-aquifer system. The reasons for initiating the program were (1) to bank water for future demands, (2) to store water for drought contingency, and (3) to minimize future subsidence by reducing water-level declines (Bell and Price, 1993, p. I-3). The City of North Las Vegas undertook a similar program, on a much smaller scale, in 1990. Artificial ground-water recharge was about 2 percent of total ground-water withdrawals in 1988, the first full year the program was in operation, increased to about 20 percent by 1990, and was about 25 percent in 1995. Artificial ground-water recharge for 1990 and 1995 were 10,759 and 19,172 acre-ft, respectively. Records of total artificial ground-water recharge are reported annually by the Nevada Division of Water Resources (Coache, 1995, p. 18-19). Artificial ground-water recharge to wells in Las Vegas Valley for 1987-95 is shown in figure 10. The distributions of artificial ground-water recharge to wells in Las Vegas Valley for calendar years 1990 and 1995 are shown in figures 11 and 12, respectively.

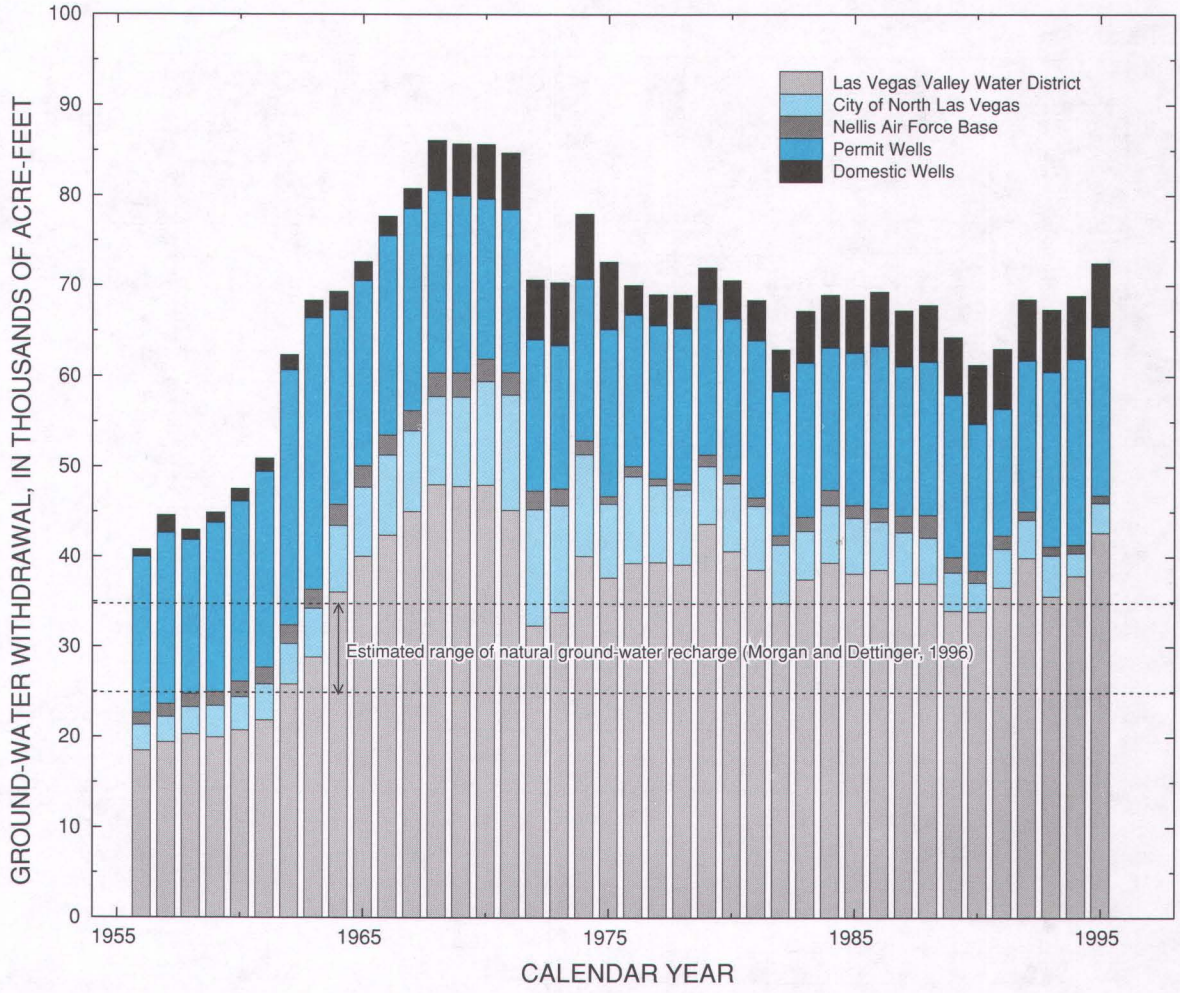

Figure 5. Ground-water withdrawals from wells in Las Vegas Valley, Nevada, calendar years 1956-95.

Water levels have rebounded steadily in the vicinity of artificial ground-water recharge since the program was initiated. Historically, more than 5 feet of vertical land subsidence, as a result of ground-water overdraft, has been measured (Bell and Price, 1993, p. F-5). Releveling of established level lines just north of the Water District's main well field indicated a substantial reduction in the rate of change in elevation previously measured across a fault scarp. However, subsurface sedimentary and hydrologic properties are not understood with the detail necessary to predict the extent that land subsidence will be arrested valleywide (Bell and Price, 1993, p. I-3).

Surface Water

Surface water has been imported to Las Vegas Valley from Lake Mead (Colorado River) continuously since the first water was delivered to Henderson in 1942 (Jones and Cahlan, 1975, p. 118) through the newly completed BMI pipeline. Treated water was first delivered to the City of Las Vegas by the Las Vegas Valley Water District in 1955 (Jones, 1975, p. 33) through the existing BMI pipeline. The Las Vegas Valley Water District delivered its first treated water through the Southern Nevada Water System (SNWS) pipeline in 1971 (Jones, 1975, p. 174). The volume of surface water exceeded the volume of ground-water withdrawals for the first time in 1973 and continuously since 1975.

Imports

Surface-water imports accounted for about 10 percent of water use in 1942, increased to about 30 percent by 1955, and did not change appreciably through 1971. During 1972, surface-water imports accounted for about 50 percent of water use. Imported surface water from Colorado River increased to about 80 percent of total water use by

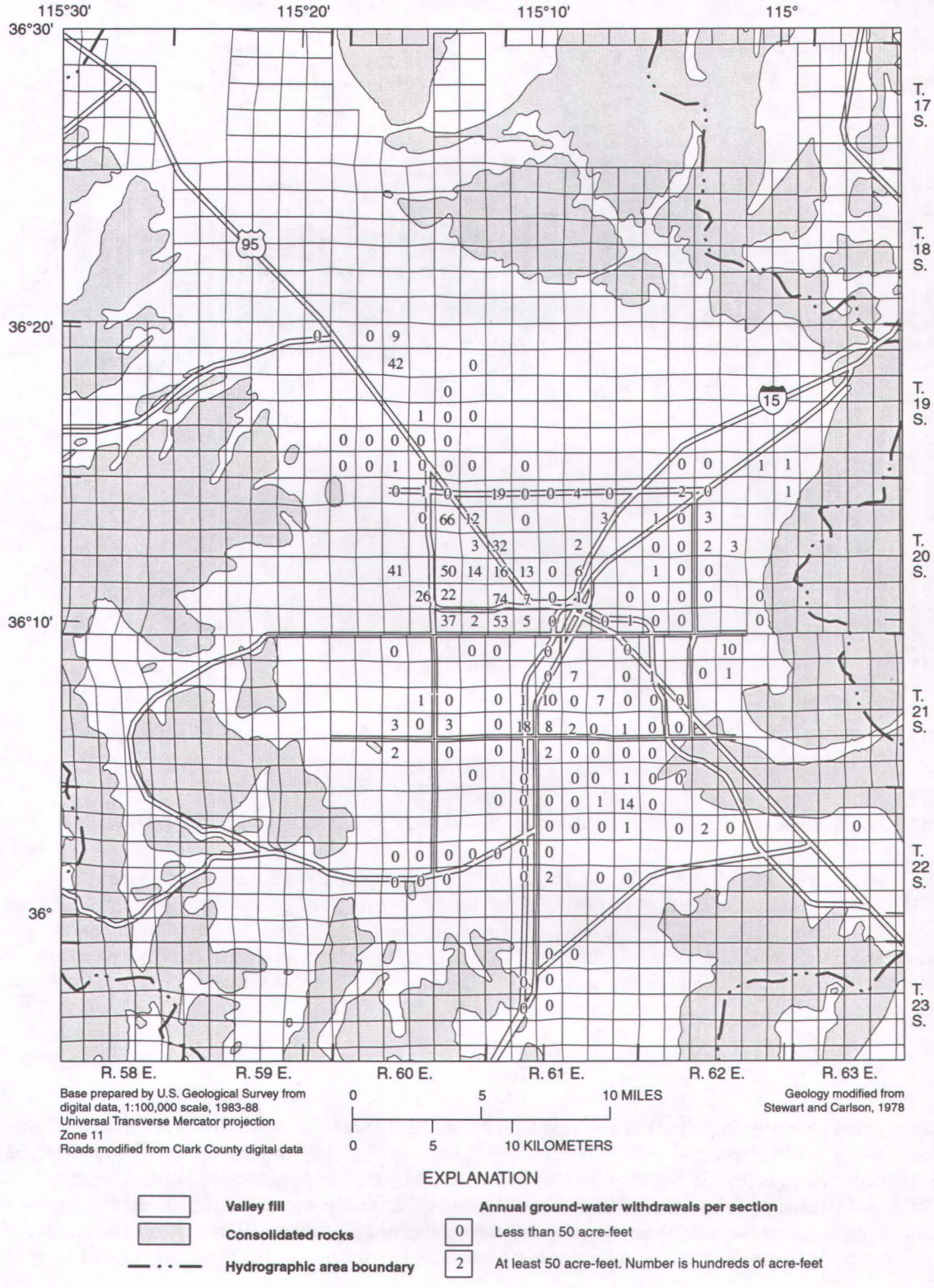

Figure 6. Distribution of ground-water withdrawals from wells in Las Vegas Valley, Nevada, calendar year 1980.

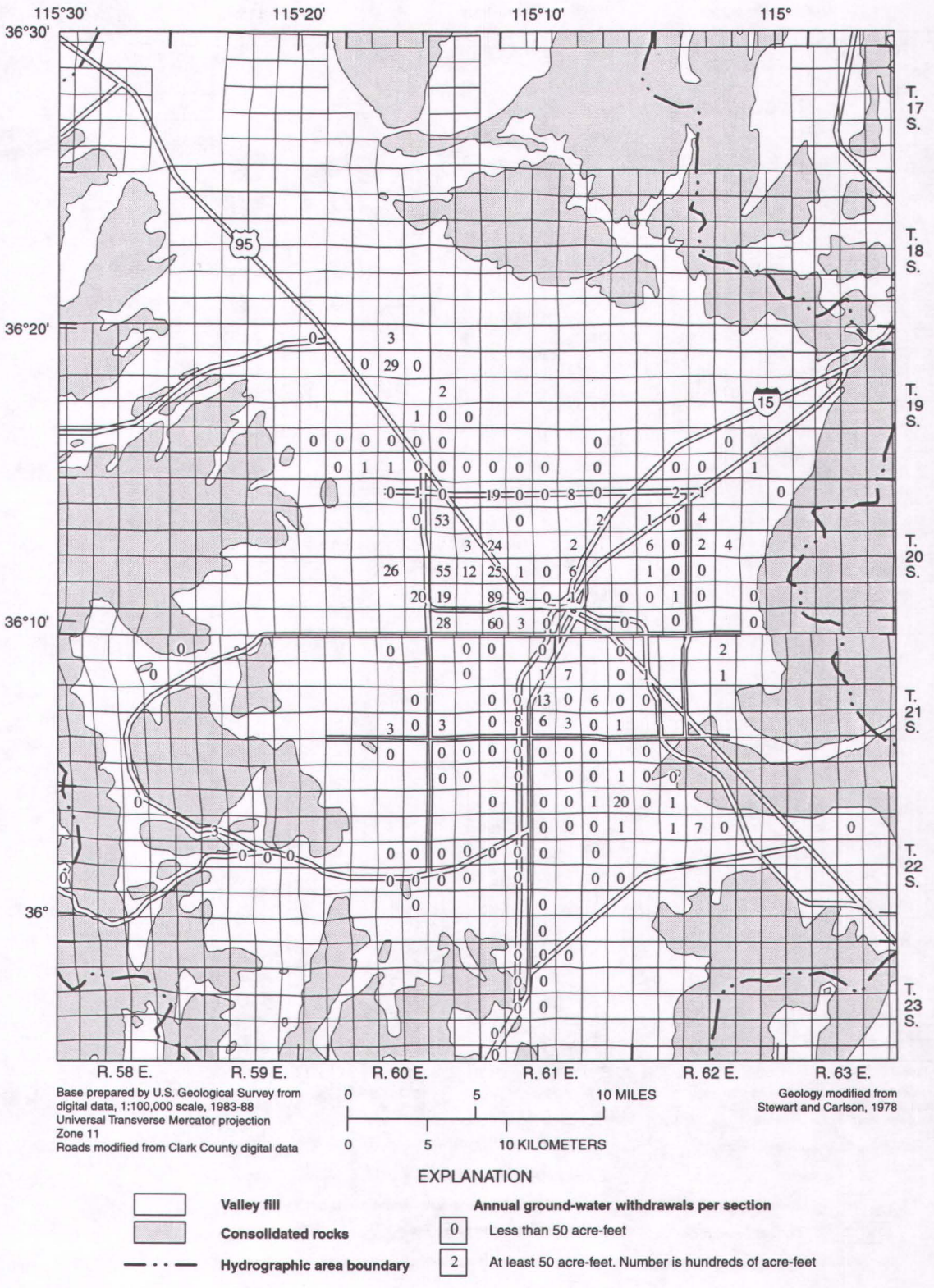

Figure 7. Distribution of ground-water withdrawals from wells in Las Vegas Valley, Nevada, calendar year 1985.

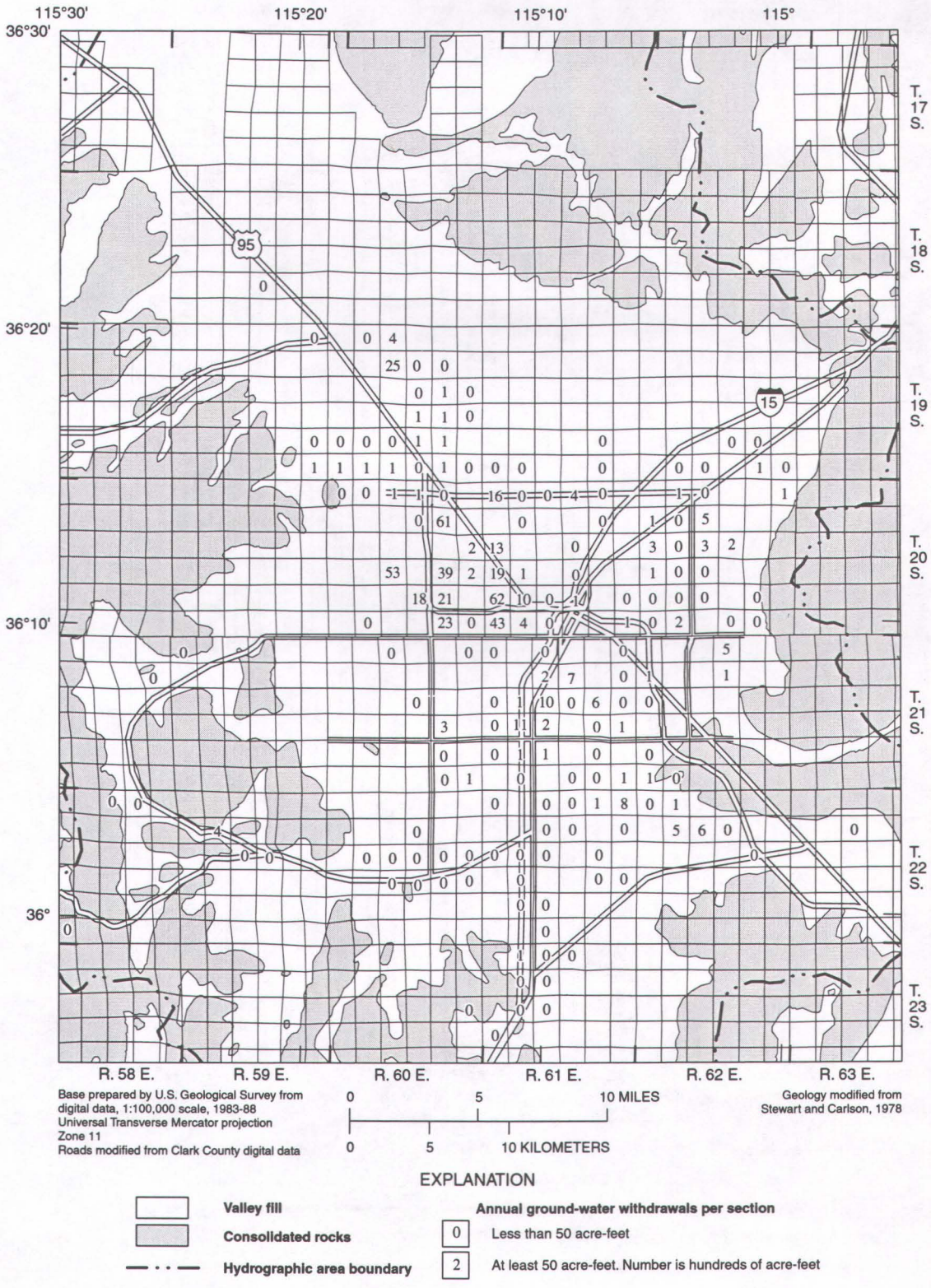

Figure 8. Distribution of ground-water withdrawals from wells in Las Vegas Valley, Nevada, calendar year 1990.

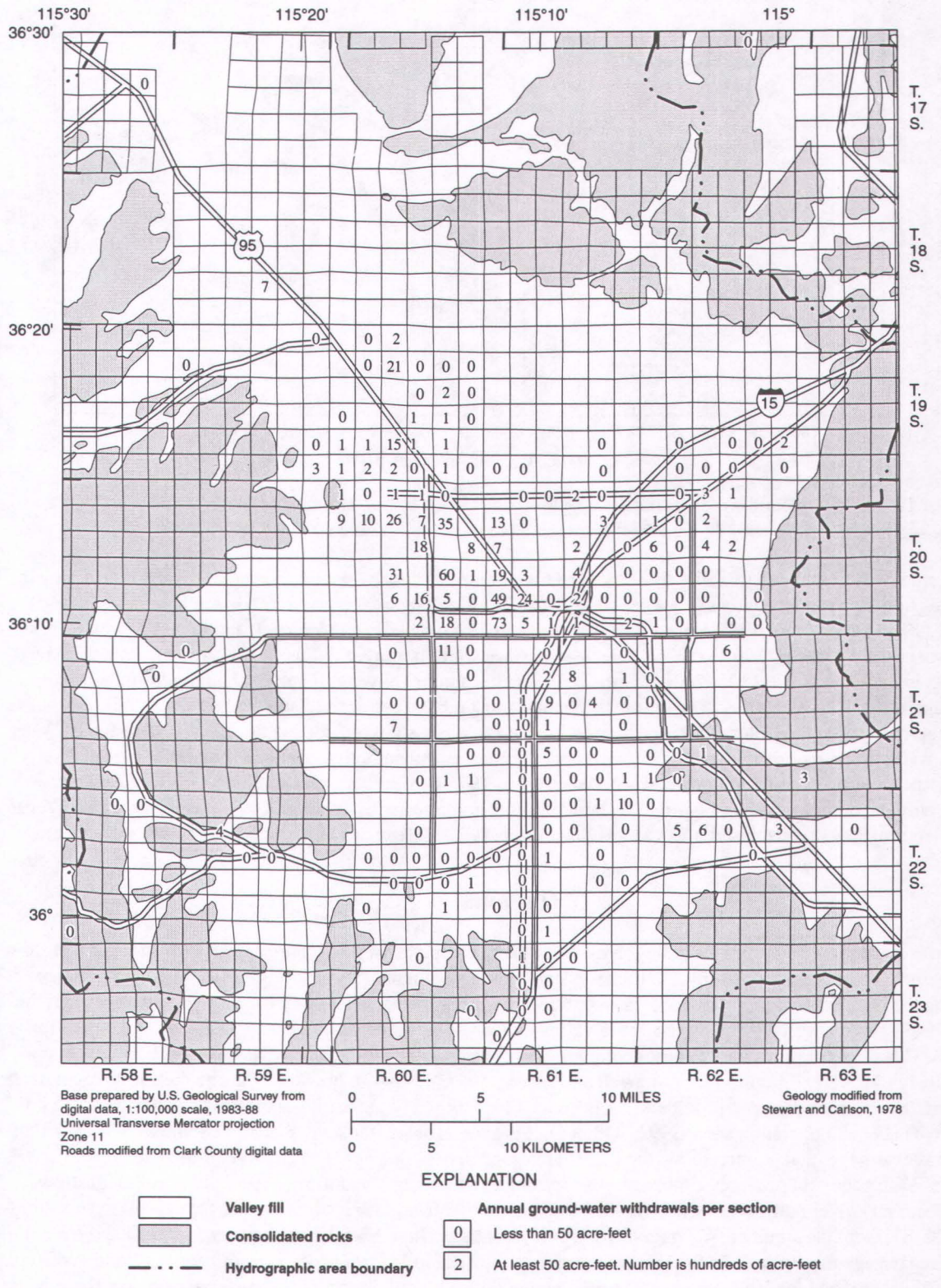

Figure 9. Distribution of ground-water withdrawals from wells in Las Vegas Valley, Nevada, calendar year 1995.

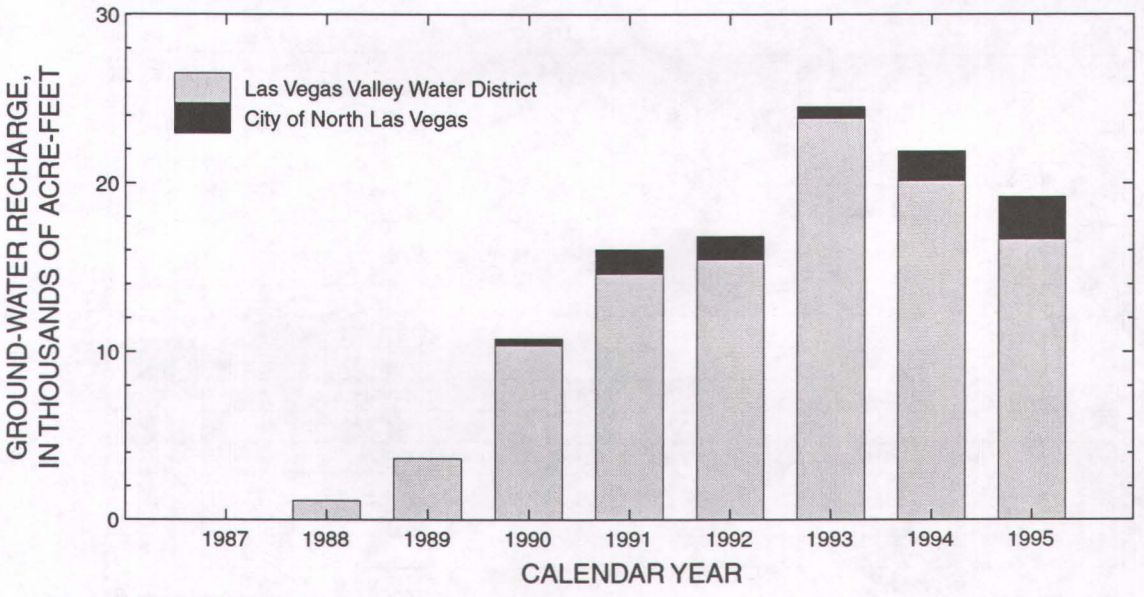

Figure 10. Artificial ground-water recharge to wells in Las Vegas Valley, Nevada, calendar years 1987-95. Water recharged during 1987 (2 acre-feet) is too small to show at this scale.

1989 and remained about the same in 1995. Records of total treated surface-water imports are reported annually by the Nevada Division of Water Resources (Coache, 1995, p. 20-21). Treated surface-water imports to Las Vegas Valley for 1980 were 119,318 acre-ft; for 1985, were 155,396 acre-ft; for 1990, were 261,436 acre-ft; and for 1995, were 326,785 acre-ft, respectively (Coache, 1995, p. 20-21). Treated surface water imported to Las Vegas Valley from Lake Mead for 1942-95 is shown in figure 13A. These imports represent the amount of water diverted annually from the Colorado River at Lake Mead. These data do not represent the annual consumptive use or "net" use for Las Vegas Valley, because credit for return flows to the Colorado River through Las Vegas Wash is not included in the Nevada Division of Water Resources water usage reports. Nevada has not exceeded its annual consumptive-use apportionment to date. The Bureau of Reclamation began to report return-flow credits in 1975 (Jeffrey A. Johnson, Southern Nevada Water Authority, written commun., 1998). Figure 13B shows the consumptive use of imported Lake Mead water in Las Vegas Valley and return-flow credits through Las Vegas Wash from 1942-95 (Bureau of Reclamation, 1996).

Outflow

Surface-water outflow from the valley (fig. 14) has been computed from discharge measured at four streamflow gaging stations on Las Vegas Wash (pl. 1). The Henderson gage was in operation during 1958-88; however, some inflow from the Henderson area entered the wash downstream from that site. The Boulder City gage was in operation during 1970-84 and measured virtually the entire valley outflow. The Three Kids Wash gage has been in operation since 1988. This gage may provide the best geohydrologic control in the wash because the channel has eroded to a bedrock divide (the Thumb Formation; Longwell and others, 1965, p. 42-43); however, the channel shifts regularly during high flows, which does not provide a stable control for accurately measuring total streamflow. The Lake Las Vegas gage has been in operation since 1992. Although this gage is below the dam, discharge represents the volume of water that enters the intake pipes above the Lake. This gage may not be as representative of total outflow as the Three Kids Wash gage, but provides a more stable control for measuring streamflow, especially during high-flow situations. Surface-water outflow shown in figure 14 was compiled from the Henderson gage for calendar years 1958-69 and 1985-87; from the Boulder City gage for 1970-83; from the Three Kids Wash gage for 1989-91; and from the Lake Las Vegas gage for 1992. Data for 1984 represent the total compiled from partial records of the Henderson and Boulder City gages. Data for 1988 represent the total compiled from partial records of the Henderson and Three Kids Wash gages. The Three Kids Wash gage probably has the better record during low flow and the Lake Las Vegas gage probably has the better record during high flow, therefore data for 1993-95 were compiled by averaging the values for both gages. An average was not computed for 1992 because most of the record for Three Kids Wash was estimated.

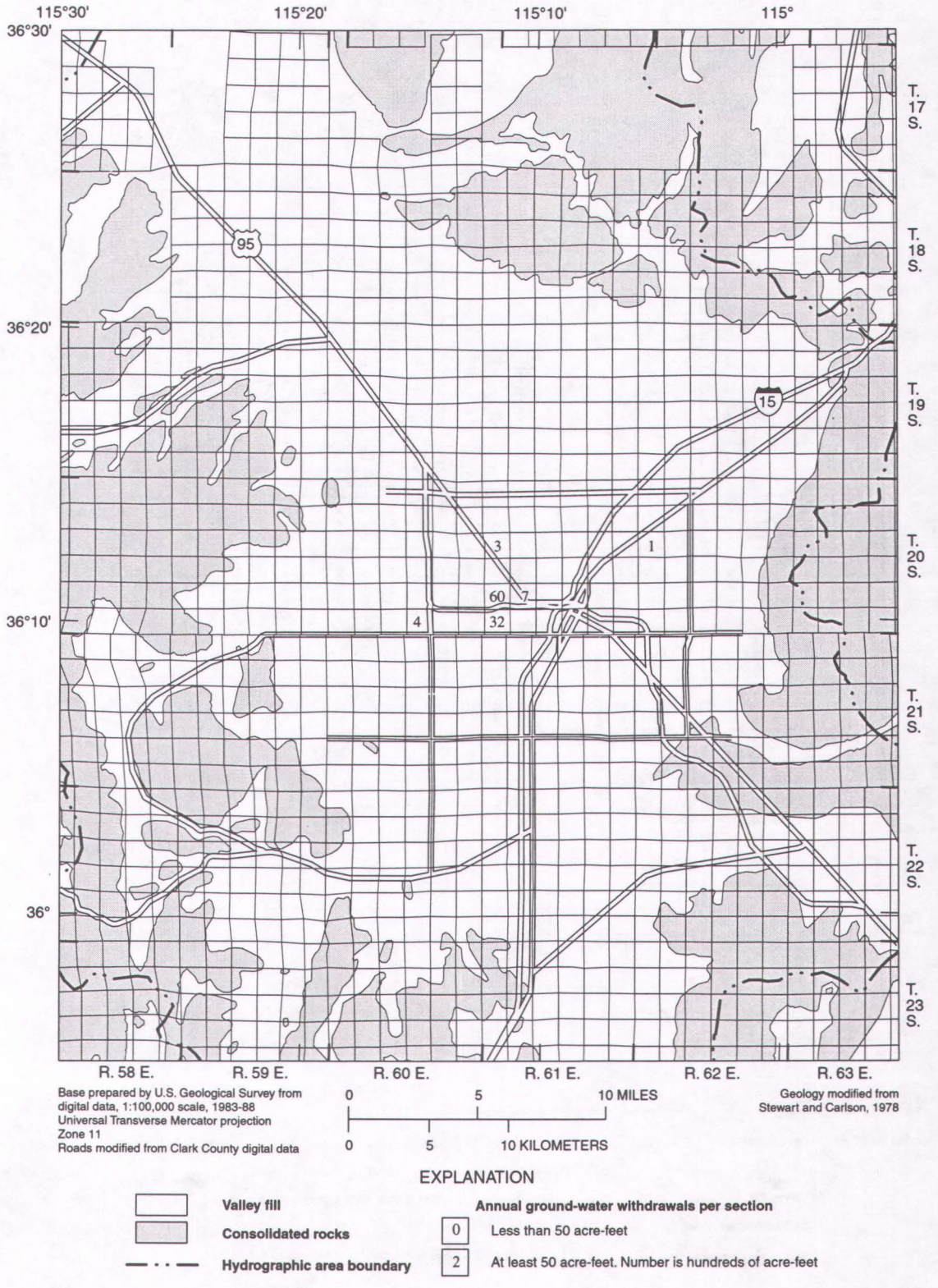

Figure 11. Distribution of artificial ground-water recharge to wells in Las Vegas Valley, Nevada, calendar year 1990.

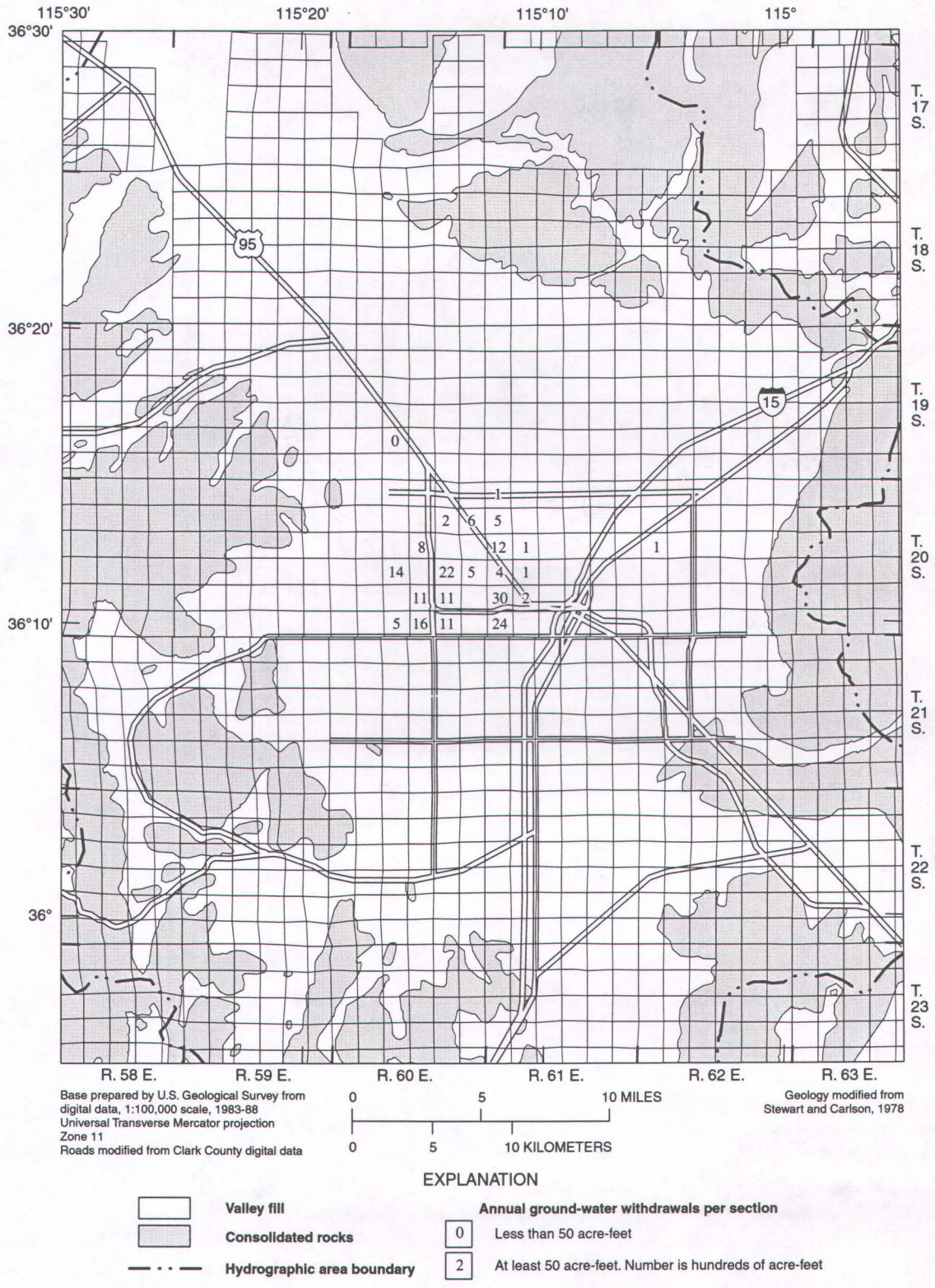

Figure 12. Distribution of artificial ground-water recharge to wells in Las Vegas Valley, Nevada, calendar year 1995.

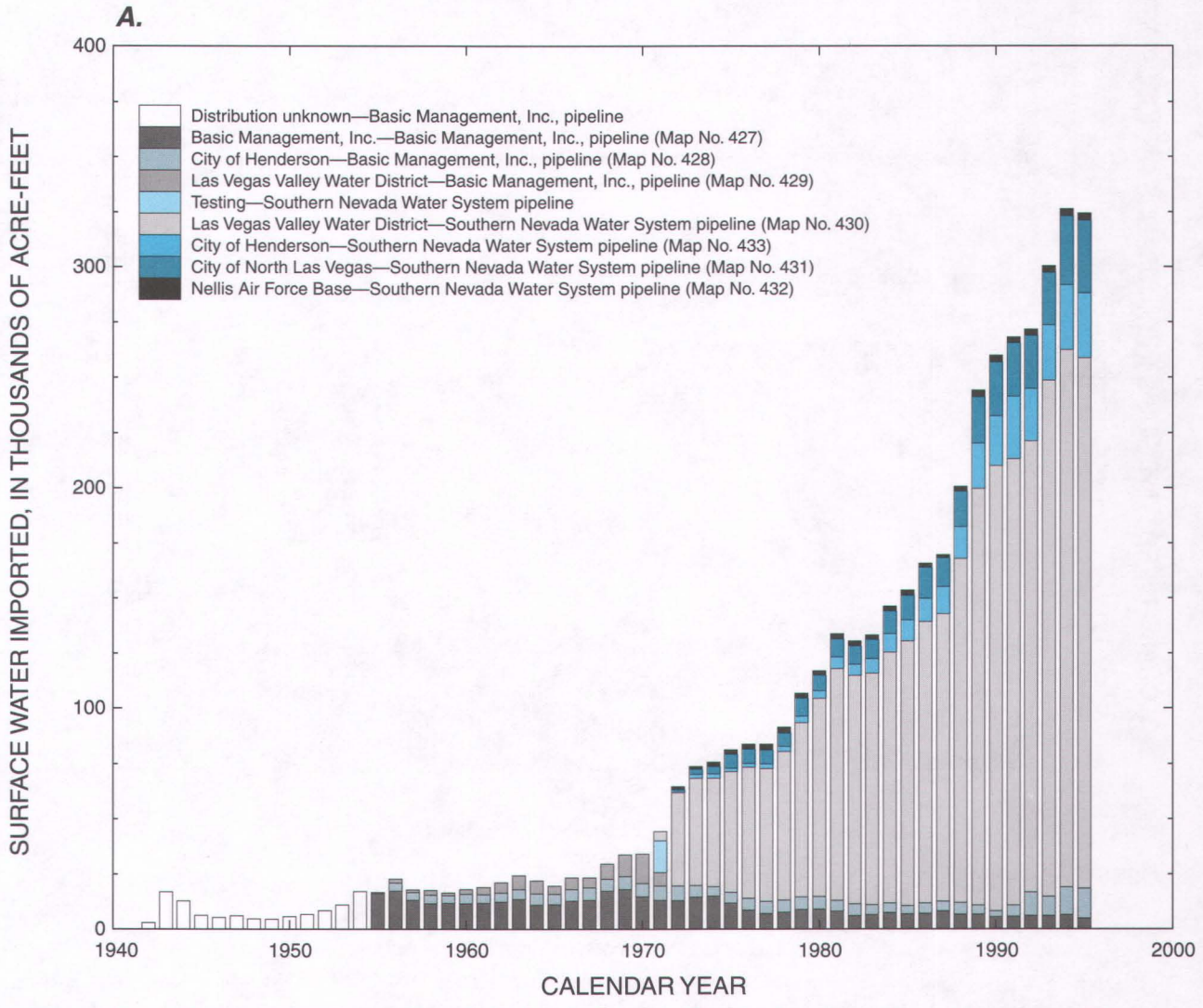

Figure 13. *(A)* Surface water imported from Lake Mead (Colorado River) to Las Vegas Valley, Nevada, and *(B)* consumptive use in Las Vegas Valley and return-flow credits through Las Vegas Wash, calendar years 1942-95.

Surface-water outflow to Lake Mead through Las Vegas Wash was about 25 percent of total water use during 1958 and increased to about 35 percent of water use by 1995. The quantities of surface-water outflow from Las Vegas Valley for calendar year 1980 were 72,780 acre-ft; for 1985, were 83,330 acre-ft; for 1990, were 125,000 acre-ft; and for 1995, were 142,650 acre-ft, respectively.

Although return-flow credits received by Nevada for Colorado River water are similar to annual surface-water outflows to the Colorado River at Lake Mead through Las Vegas Wash, only the portion of outflows attributable to Colorado River imports is considered return-flow credit. Nevada does not receive return-flow credits for storm runoff or contributions from ground-water withdrawals in Las Vegas Valley. That portion of the flow through Las Vegas Wash that is Colorado River water is determined using a formula derived by the Bureau of Reclamation (in consultation with the Lower Colorado River Basin States) and applied by the Colorado River Commission (R.L. Carson, Bureau of Reclamation, written commun., 1998). Return-flow credits through the Las Vegas Wash for 1980, were 43,253 acre-ft; for 1985, were 69,398 acre-ft; for 1990, were 112,580 acre-ft; and for 1995, were 136,588 acre-ft, respectively (Jeffrey A. Johnson, Southern Nevada Water Authority, written commun., 1998).

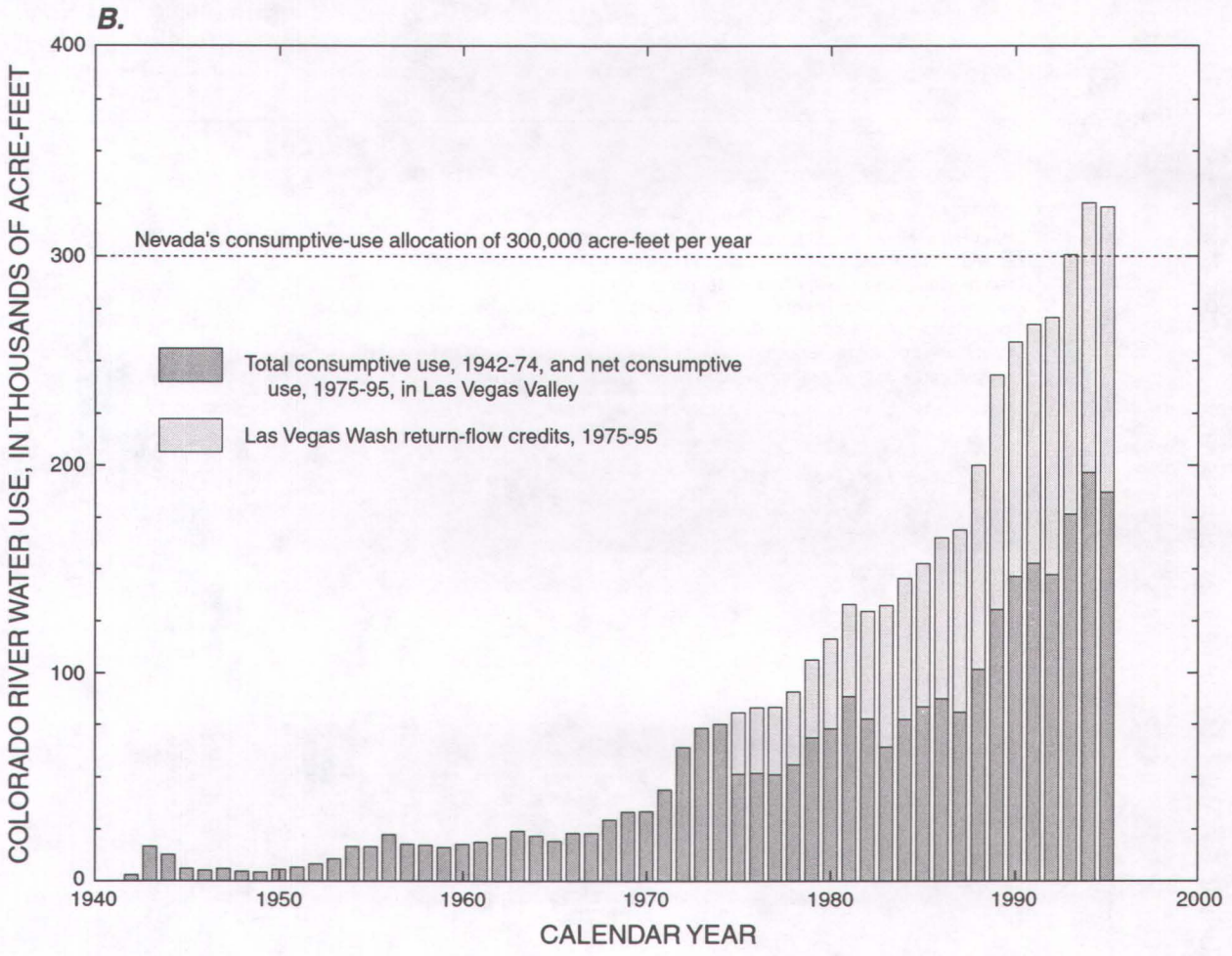

Figure 13. Continued.

Effects on Ground-Water Levels

The magnitude and location of historical ground-water withdrawals have a direct effect on water levels. About 70 percent of the ground-water withdrawn from the basin-fill deposits between 1968 and 1995 was pumped from an area that includes the Las Vegas Valley Water District's main well field and their auxiliary well fields a few miles to the north and west. The City of North Las Vegas, resort hotels along the Las Vegas "Strip," and wells in the vicinity of Floyd Lamb State Park each withdrew about 5 percent of the total. The remaining 15 percent of withdrawals were distributed throughout the valley. Distribution of cumulative ground-water withdrawals from wells in Las Vegas Valley during calendar years 1968-95 is shown in figure 15.

Water levels have risen dramatically in the vicinity of artificial ground-water recharge. Treated Lake Mead water has been used to artificially recharge water into the basin-fill deposits during the winter by injecting water into wells in the same general area where most of the ground water is withdrawn during the summer (figs. 11 and 12). This results in water levels that have rebounded in an area of heavy ground-water withdrawal.

Well construction has a direct bearing on measured water levels. Most wells in the valley penetrate between 200 and 1,000 feet of basin fill. However, a few of the water-supply wells extend 1,200 feet or more. The inventory of hundreds of Nevada well drillers' reports (logs) indicates that it was typical to perforate the well casing anytime a saturated zone was found, or thought to be found. Because this was common, some wells penetrate more than one aquifer and, accordingly, their water levels represent composites of heads in the aquifers tapped. Other wells penetrate different zones within the same aquifer and their water levels represent the degree of penetration within that aquifer.

Water levels are affected also by secondary recharge. Overwatering of golf courses, parks, school yards, and residential lawns produces an excess of water that infiltrates to the near-surface reservoir, and a small amount of this water may continue down to infiltrate the principal-aquifer system. However, much of this water discharges into streams and drains, as indicated by the increase in flows through the Las Vegas Wash (fig. 14).

Measurements

The number of water levels measured each spring has fluctuated because the ground-water monitoring network has changed considerably during the last two decades. A valley-wide monitoring network was developed by the USGS in spring 1971 as part of a cooperative agreement with the Nevada Division of Water Resources. This network consisted of 235 wells, of which 149 wells were measured by USGS personnel (Harrill, 1972). Data collected were used to evaluate the effects of ground-water withdrawals from Las Vegas Valley prior to and following large-scale importation of treated surface water from Lake Mead. The number of wells in the network fluctuated each year during 1971-82 as some wells were destroyed and other wells were added as a result of continued urban growth. The last comprehensive measurements were made during spring 1982 when the network consisted of 277 wells, of which 242 wells were measured by USGS personnel (Wood, 1991a). These data were used in developing a ground-water flow model for the Clark County Department of Comprehensive Planning (Morgan and Dettinger, 1996).

The number of water levels measured each spring has decreased because the USGS redesigned and downsized the ground-water monitoring network in 1982. The number of wells was reduced to about 110 and was divided into two smaller groups of about 55 wells each. One group was measured quarterly and the other group was measured annually. Where possible, two wells were selected at each general location: a shallow well extending into the near-surface reservoir and a deeper well extending into the principal-aquifer system. The intent was to design a network that would

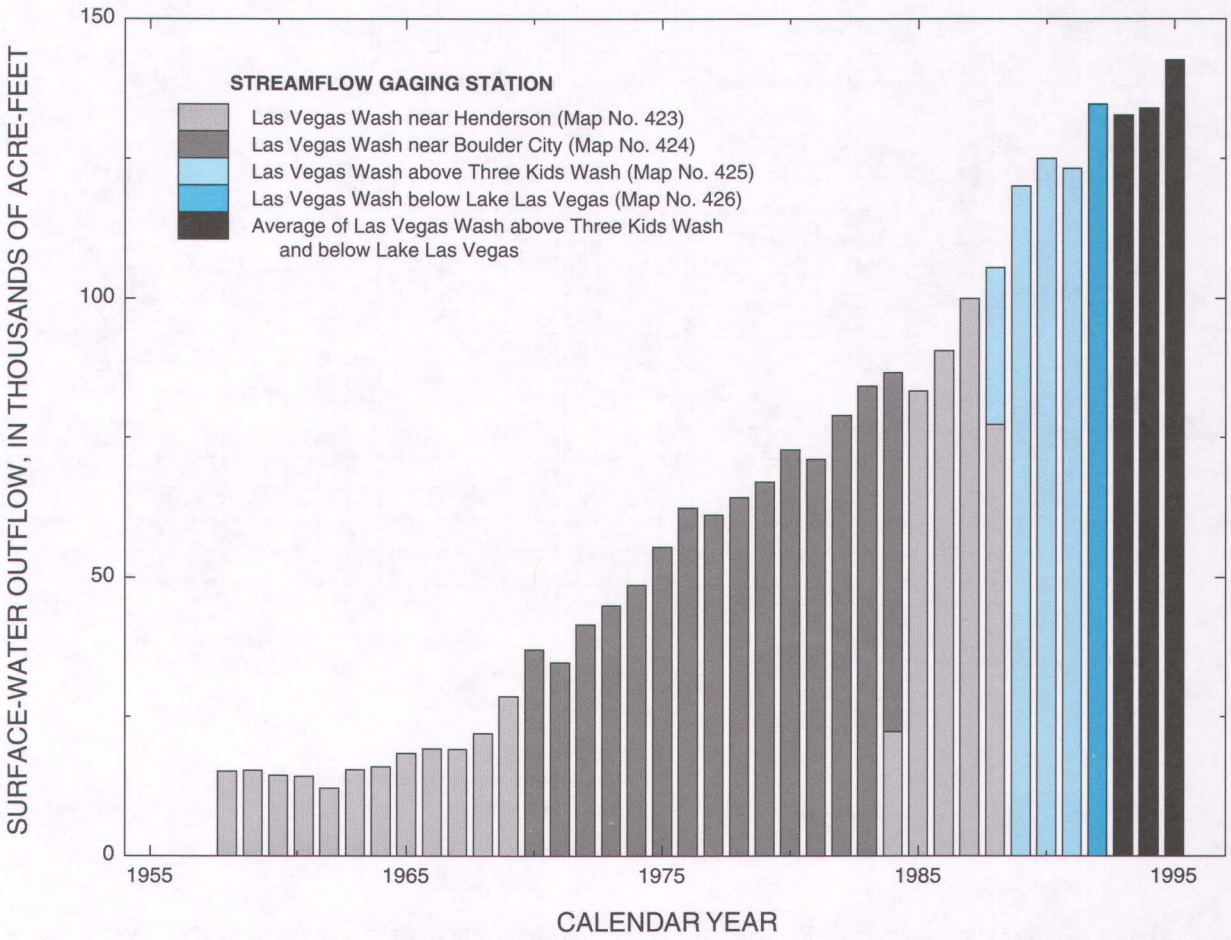

Figure 14. Surface-water outflow through Las Vegas Wash to Lake Mead from Las Vegas Valley, Nevada, calendar years 1958-95. Values for 1984 and 1988 are compiled from partial records for two gaging stations.

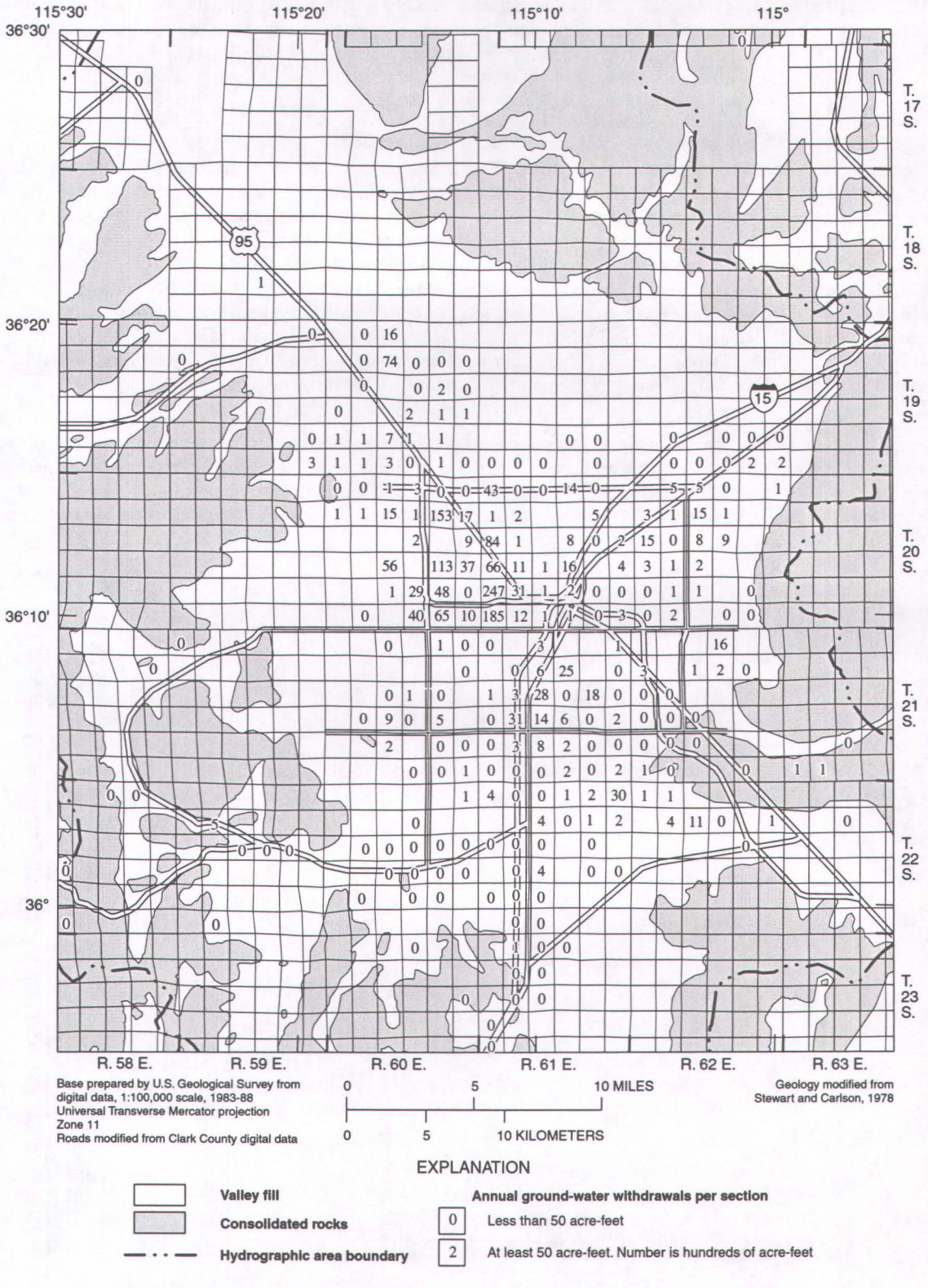

Figure 15. Distribution of cumulative ground-water withdrawals from wells in Las Vegas Valley, Nevada, calendar years 1968-95.

provide geographic coverage of the valley and reflect changes in both the near-surface and principal-aquifer systems. Unfortunately, some gaps existed in the network in areas where wells were not present or where wells were not perforated exclusively in the near-surface or developed-zone aquifers. Monitoring of this modified well network began in 1983. Since then, other wells also have been measured to provide data for recalibration of the existing ground-water flow model (Maurer, 1989), and as part of the ongoing land-subsidence investigation (Burbey, 1991). As of 1995, the network has 74 original wells and 2 wells and 3 piezometers have been added. Therefore, between 36 and 44 wells have been lost from the network since 1983.

Water levels are currently (1995) monitored primarily by four cooperating agencies: U.S. Geological Survey, Nevada Division of Water Resources, Southern Nevada Water Authority, and City of North Las Vegas. Prior to 1995, Las Vegas Valley Water District staff measured water levels in wells that are currently (1995) monitored by the Southern Nevada Water Authority. The earliest available water-level measurement and either an early 1995 or the most recent measurement are given in table 3. Historical water-level data are available in electronic format, upon request, at the nearest USGS office. Water-level measurements by USGS and NDWR represent the depth to water below land surface. Measurements by LVVWD, SNWA, and CNLV represent the depth to water below the measuring point. Because of this difference in convention, water-level measurements made by different agencies in the same well can differ by the height of the measuring point above or below land surface.

Twenty-two hydrographs of water-level measurements in wells (figs. 23-44 at back of report) show changes in water level at several locations throughout Las Vegas Valley. Wells were selected by considering length of available record, aquifer(s) penetrated, and geographic coverage of the valley. Figures 23-27, 29-30, 32-33, 36-38, 40, and 42-44 show water-level measurements in wells that are open to the principal-aquifer system. Figures 28, 34-35, 39, and 41 show water-level measurements in wells that are open to the near-surface reservoir. Figure 31 shows water-level measurements in a well that is open to an intermediate zone between the near-surface reservoir and the principal-aquifer system.

Net Change

Net change, as defined in this report, is the difference between seasonal (annual) high water levels measured in a well. Seasonal high water levels typically occur between January and mid-April. Net change computed between 1990 and 1995 at well 212 S19 E60 09BCC 1 is shown in figure 16. Seasonal highs were used in computing net change to provide continuity with published reports (Domenico and others, 1964, figs. 24-26; Malmberg, 1965, pls. 5-6; Harrill, 1972, pls. 3-6, 1973, figs. 4 and 6, 1974, figs. 2-3, 1976a, figs. 5-12, 1976b, figs. 11-15, 1977, figs. 3-4; Katzer, 1977, figs. 3-4; Wood, 1979, figs. 3-4, 1988a, figs. 3-4, 1988b, figs. 4-7, 1991a, figs. 4-7, 1991b, figs. 4-7; Bell, 1981, figs. 15-17; Burbey, 1995, figs. 8-10 and 13-16; Morgan and Dettinger, 1996, figs. 4.2.2.1-4.2.2.2). Investigators authoring these reports believed that net change derived from seasonal highs best represented water-level changes within the contributing units. This procedure reduced the potential for including change attributed to local effects associated with pumping from nearby ground-water withdrawal wells. Seasonal highs generally are considered more indicative of regional water-level changes within the principal-aquifer system, especially in and near any pumping wells used for observation. However, some caution is advised against this procedure after 1990 due to the recent practice of injecting treated Lake Mead water during the winter months to artificially recharge the principal-aquifer system. Seasonal highs in and near recharge wells are highly influenced by local injection. The use of seasonal highs to compute net change should be reconsidered if artificial recharge continues. Artificial recharge amounted to about 20 percent of withdrawals for 1990 and about 25 percent of withdrawals for 1995 and was restricted to a few locations in the central and northwestern parts of the basin (figs. 11-12).

Water levels were measured in 1995 during the brief period (a few days) between the seasonal end of artificial ground-water recharge and the beginning of ground-water withdrawals. However, this brief period is probably not of sufficient duration for water levels to reach equilibrium (static) conditions. Positive net water-level change indicates a rise in water levels and negative net water-level change indicates a decline in water levels during the reported interval.

Historic declines (negative net water-level changes) in the principal-aquifer system have been dramatic. Although the first flowing well was drilled in 1907, water-level data were not available until 1912 (Carpenter, 1915, table facing p. 30). Ground-water levels in the principal-aquifer system showed declines in excess of 40 feet between 1912 and 1944 (Domenico and others, 1964, fig. 24) near the Las Vegas Valley Water District's main well field in the west-central part of the valley. By 1963, maximum declines had increased to more than 130 feet (Domenico and others, 1964, fig. 25) and by 1973 declines had reached 240 feet (Harrill, 1976b, fig. 15). Maximum declines exceeded 300 feet by 1980, and by 1990 the area of declines exceeding 300 feet had expanded considerably (Burbey, 1995, figs. 8-9).

Net change in the water levels of the principal-aquifer system is documented for three 5-year intervals—1980-85, 1985-90, and 1990-95—in figures 17-19, respectively. Maps were constructed from water levels collected in wells that penetrate one or more saturated units in the principal-aquifer system. Contours are shown to approximate the area

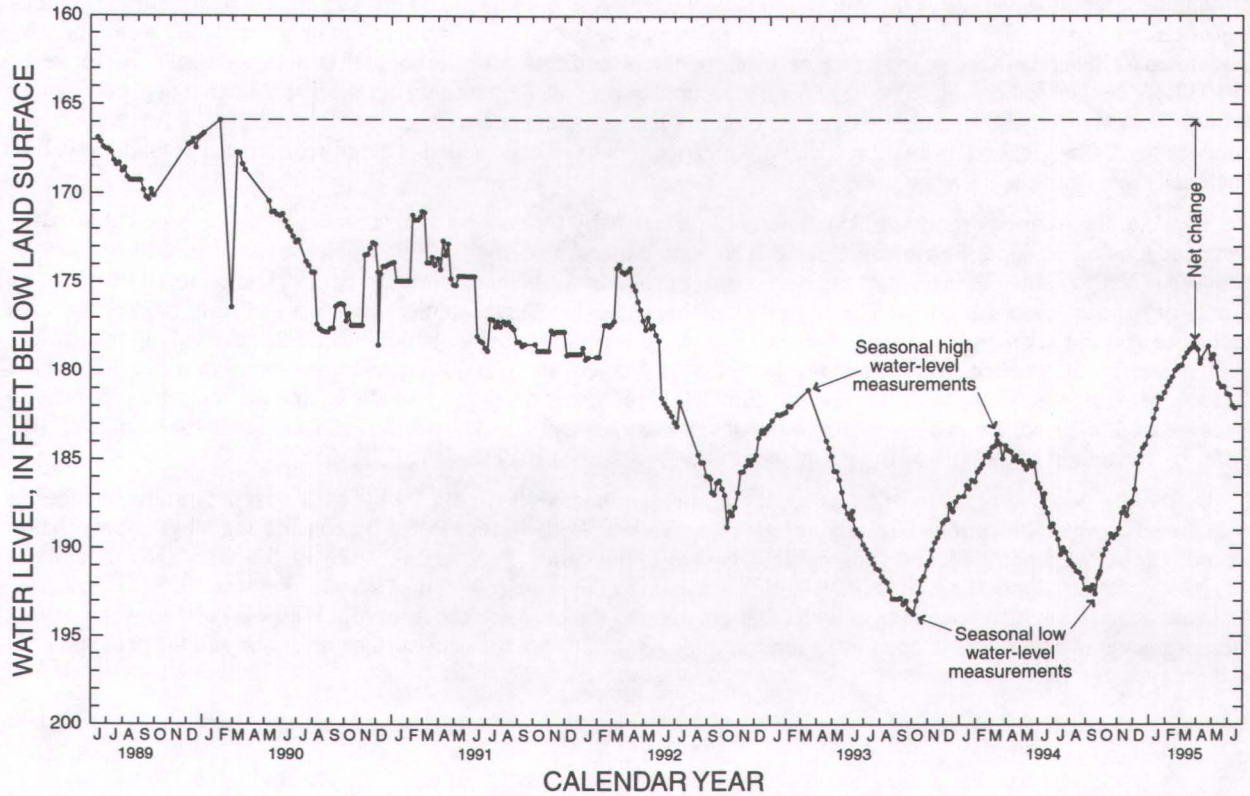

Figure 16. Net water-level change between 1990 and 1995 in well 212 S19 E60 09BCC 1 in Las Vegas Valley, Nevada.

and magnitude of negative (decline) and positive (rise) net water-level change. Although water levels continued to decline throughout most areas of the valley between 1980 and 1985, with maximum declines of about 20 feet in the southern part of the valley, water levels rose more than 20 feet in the areas just north and south of the main well field (fig. 17).

Declines in water levels were restricted to the northern and southern parts of the valley between 1985 and 1990, with maximum declines of about 40 feet in the northwest and 20 feet in the northeast and southwest (fig. 18). During this same period, water levels rose near the main well field and throughout the central part of Las Vegas Valley.

Declines in water levels were restricted to the extreme northern and southern parts of Las Vegas Valley between 1990 and 1995, with maximum declines of less than 20 feet. Water levels rose throughout most areas of the valley during this period, with a maximum rise of about 100 feet north of the main well field (fig. 19). The area of maximum rise, computed from seasonal high water-level measurements, may reflect a localized mound resulting from nearby artificial recharge. However, a net water-level change map of the principal-aquifer system between 1990 and 1995, computed from seasonal low measurements by the Las Vegas Valley Water District (Las Vegas Valley Water District, 1996, fig. 4), indicates a maximum rise of about 50 feet in the vicinity of the main well field. The difference (50 feet) in estimates of maximum water-level rise probably is related to local effects of both artificial recharge and ground-water withdrawals.

Although water levels have risen dramatically in the vicinity of the Las Vegas Valley Water District's main well field, water levels continue to decline in the northern and southern margins of Las Vegas Valley where residents draw their water from individual domestic wells. This may be the result of the distribution of withdrawals, artificial recharge, and secondary ground-water recharge. Annual ground-water withdrawals have declined from a peak of about 86,000 acre-ft in 1968 (Coache, 1995, p. 18). Withdrawals were about 61,000 acre-ft in 1990 and about 73,000 acre-ft in 1995.

About 11,000 acre-ft of treated Lake Mead water was recharged in 1990 and about 19,000 acre-ft was recharged in 1995. Natural ground-water recharge has been estimated between 25,000 and 35,000 acre-ft per year (Morgan and Dettinger, 1996, p. 24-25), resulting in a ground-water discharge exceeding recharge by between 16,000 and 26,000 acre-ft in 1990 and between 18,000 and 28,000 acre-ft in 1995. Most of the artificial recharge takes place (fig. 12) in the same general area, or northwest of the area, where most of the ground water is withdrawn (fig. 9).

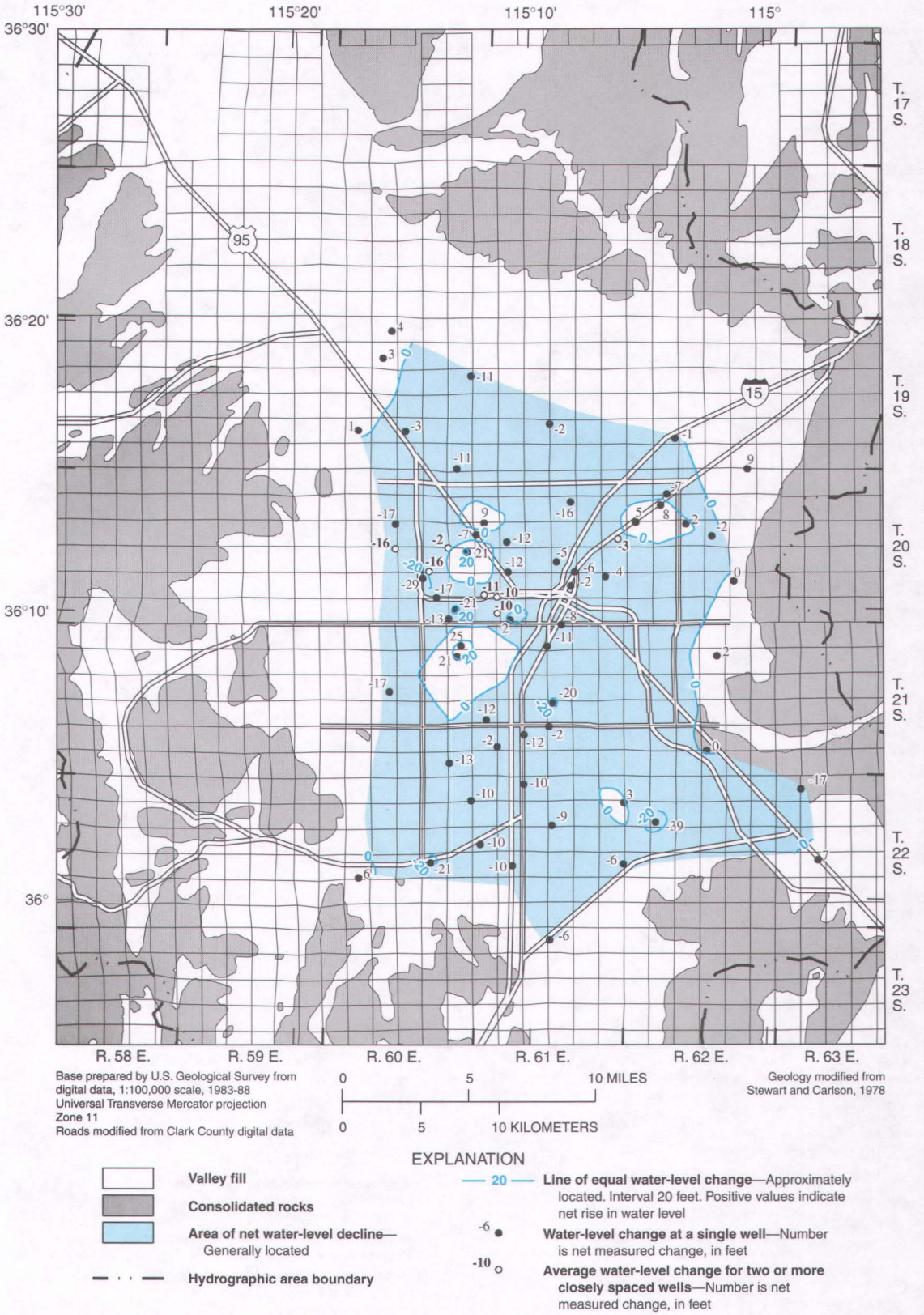

Figure 17. Approximate net water-level change in wells that penetrate the principal aquifer, Las Vegas Valley, Nevada, early 1980 to early 1985.

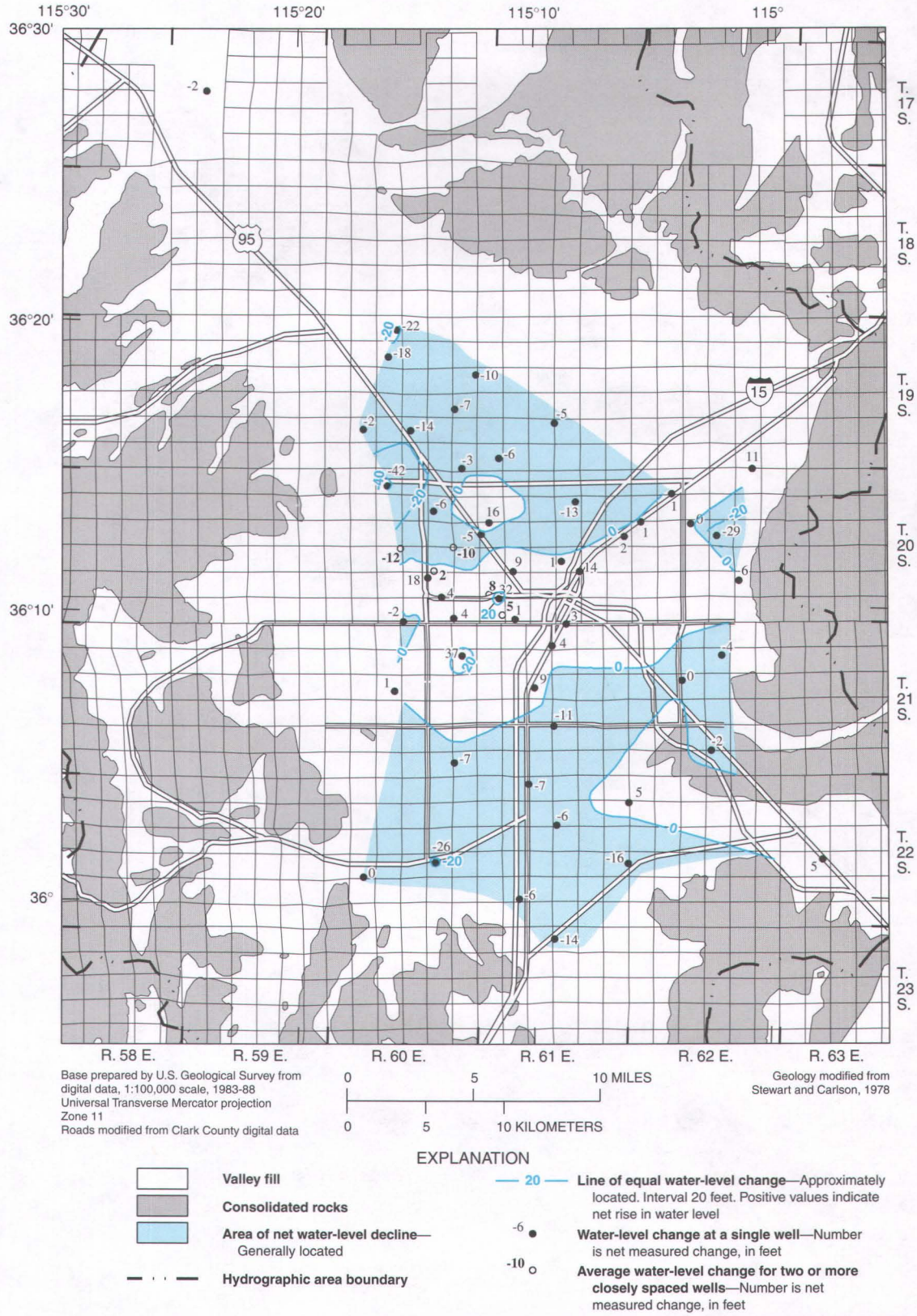

Figure 18. Approximate net water-level change in wells that penetrate the principal aquifer, Las Vegas Valley, Nevada, early 1985 to early 1990.

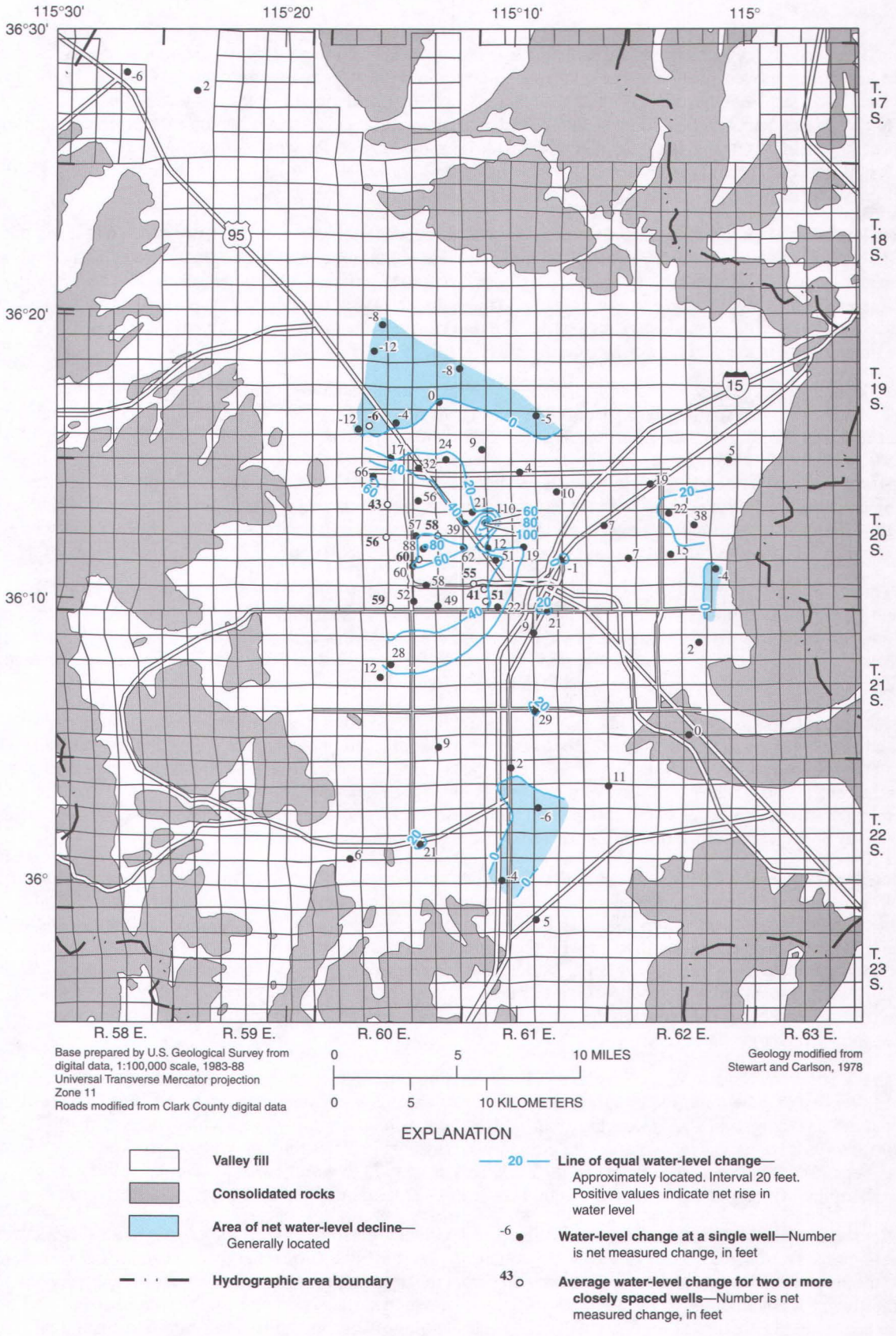

Figure 19. Approximate net water-level change in wells that penetrate the principal aquifer, Las Vegas Valley, Nevada, early 1990 to early 1995.

Some of the secondary recharge resulting from watering of lawns at private residences, school yards, parks, and golf courses potentially moves through the near-surface reservoir into the principal-aquifer system (Harrill, 1976b, pl. 1; Morgan and Dettinger, 1996, fig. 3.3.2-1). Because there is a general gradation of coarse- to fine-grained sediments from west to east in Las Vegas Valley, most of the secondary recharge that percolates down into the principal-aquifer system is probably coincident with the coarse-grained material and occurs to the west and northwest of the major withdrawals and artificial ground-water recharge. Although this unknown quantity of water reduces the overdraft, it also introduces water of poor quality (Morgan and Dettinger, 1996, p. 9).

Water-level data are not available to document changes in the near-surface reservoir prior to 1946 (Maxey and Jameson, 1948, pl. 7). Malmberg (1965, p. 66, pl. 8) indicated that although minor changes had occurred, the total amount of water stored in the near-surface reservoir had not changed significantly from natural conditions by 1956. Ground-water levels in the near-surface reservoir declined more than 160 feet in the northwest part of Las Vegas Valley between 1955 and 1973, with water-level rises restricted to the central and southeastern parts of the valley as well as small areas in the northeastern and far northwestern parts (Harrill, 1976b, fig. 12).

Water-level declines between 1963 and 1973 show maximum declines in excess of 80 feet and a more expansive area of water-level rise in the southeastern part of the valley (Harrill, 1976b, fig. 14). Subsequent data show a general rise in water levels in the near-surface reservoir through 1980 (Harrill, 1976a, fig. 11-12; 1977, fig. 4; Katzer, 1977, fig. 4; Wood, 1979, fig. 4; 1988a, fig. 4; 1988b, fig. 6-7). Available water-level data, however, are restricted to the southeast part of the valley since 1983. The water-level network was downsized and many observation wells were destroyed by construction in keeping up with the valley's rapid population increase causing a paucity of water-level data since 1982. Available water-level data through 1985 show a combination of declines and rises, which may be more a function of a lack of data than actual fluctuations in the aquifer (Wood, 1991a, fig. 6-7; 1991b, fig. 6-7).

Net change in water levels of the near-surface reservoir is documented for three 5-year intervals—1980-85, 1985-90, and 1990-95—in figures 20-22, respectively. Maps were constructed from water levels collected in wells that penetrate the near-surface reservoir. Contours could not be constructed owing to a lack of data; alternatively, shade patterns are used to generalize the area and magnitude of negative (decline) and positive (rise) net water-level change. Available data are restricted to the southeastern part of the Las Vegas Valley.

For the period 1980 to 1985, water levels in wells generally declined in the central and south-central parts of the valley and generally rose in the east-central, south-central, and southeastern parts of the valley. For the period 1985 to 1990, water levels in wells declined slightly in areas of the east-central, southeastern, and southern parts of the valley and rose in the central and southeastern parts of the valley. A general area of water-level rise in the eastern part of Las Vegas Valley, a small area of decline in the east-central part of the valley, and a larger area of water-level decline in the southeastern part of the valley are shown in figure 22 for the period 1990 to 1995.

Water-level change in the near-surface reservoir probably is a response to secondary recharge resulting from watering of lawns at private residences, school yards, parks, and golf courses and from industrial waste water and treated effluent. Although data are not available to assess net water-level change in the near-surface reservoir, storage in this aquifer apparently is increasing in extent. Furthermore, because of the general gradation of coarse- to fine-grained sediments from west to east in Las Vegas Valley, most of the secondary recharge retained in the near-surface reservoir is probably coincident with the fine-grained materials east and southeast of the major withdrawals and artificial ground-water recharge. Therefore, the available water-level data are coincident with much of the area retaining secondary recharge water.

When the Southern Nevada Water System pipeline went into full production in 1972, large quantities of treated Lake Mead water began to be imported into the valley and water use increased steadily from about 136,000 acre-ft in 1972 to about 400,000 acre-ft in 1995 (Coache, 1995, p. 18-21). Artificial ground-water recharge began in 1987 and about 19,000 acre-ft of water was recharged to the ground-water system in 1995. Surface-water outflow to Lake Mead through Las Vegas Wash has increased from about 42,000 acre-ft in 1972 to about 143,000 acre-ft in 1995 (fig. 14). This leaves a surplus, which grew from about 94,000 acre-ft in 1972 to about 238,000 acre-ft in 1995.

Obviously, not all of the excess water is consumed, evaporated, transpired by plants, or percolates down into the principal-aquifer system, which leaves a growing volume of water available to recharge the near-surface reservoir and expand the area of shallow ground water. Excess water from the near-surface reservoir is exemplified by perennial flow in formerly dry washes southeast of Interstate 15. This is shown in surface-water discharge records listed for Las Vegas Wash near Sahara (Bostic and others, 1996, p. 67) and Flamingo Wash at Nellis Boulevard (Bostic and others, 1996, p. 74) and by the increasing amount of surface water leaving the valley through Las Vegas Wash (fig. 14). The growing expanse of this water in the near-surface reservoir is generally of poor quality and is water-logging surface soils, thereby becoming an increasing problem for residents, developers, and local utility services.

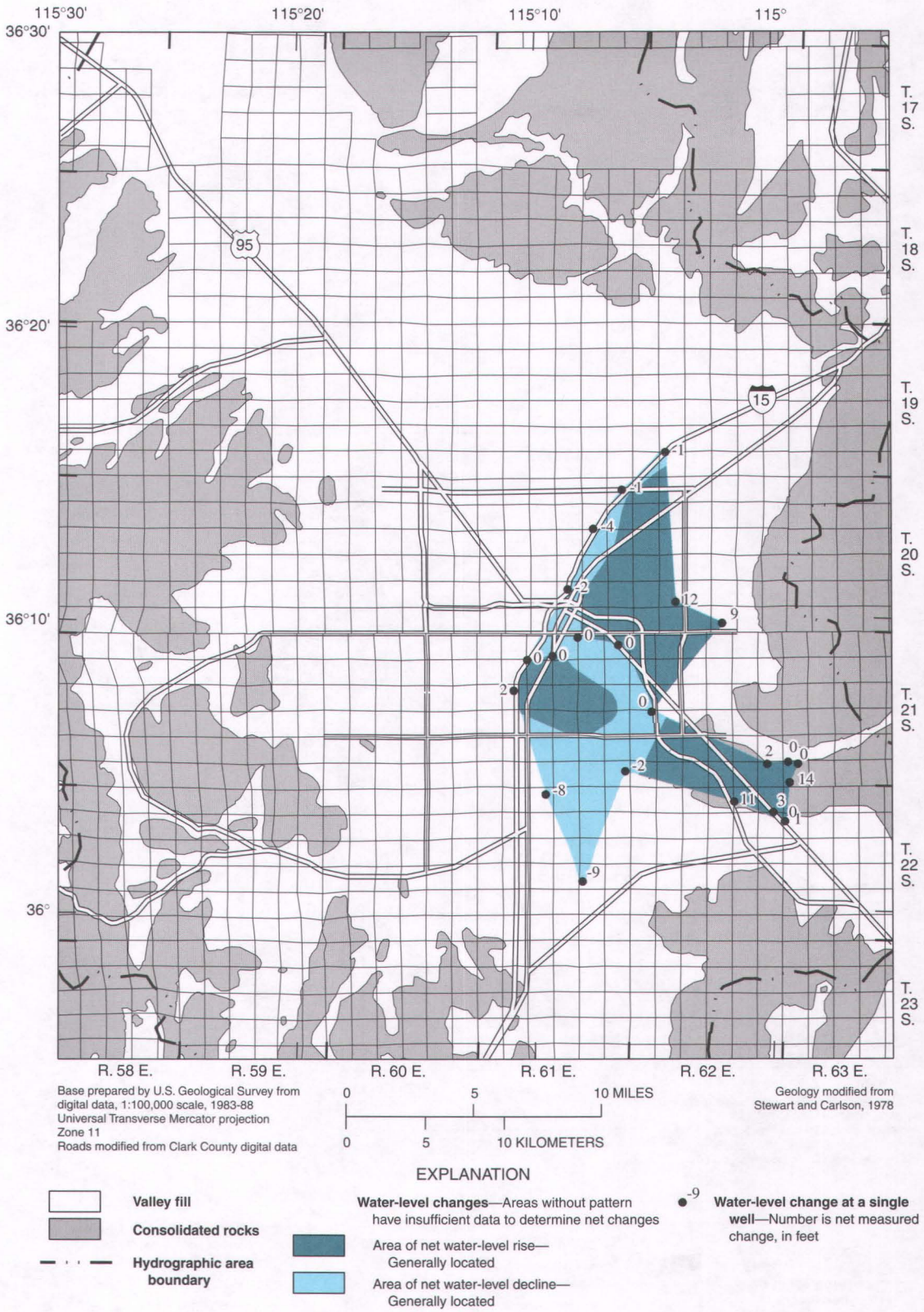

Figure 20. General net water-level change in wells that penetrate the near-surface reservoir, Las Vegas Valley, Nevada, early 1980 to early 1985.

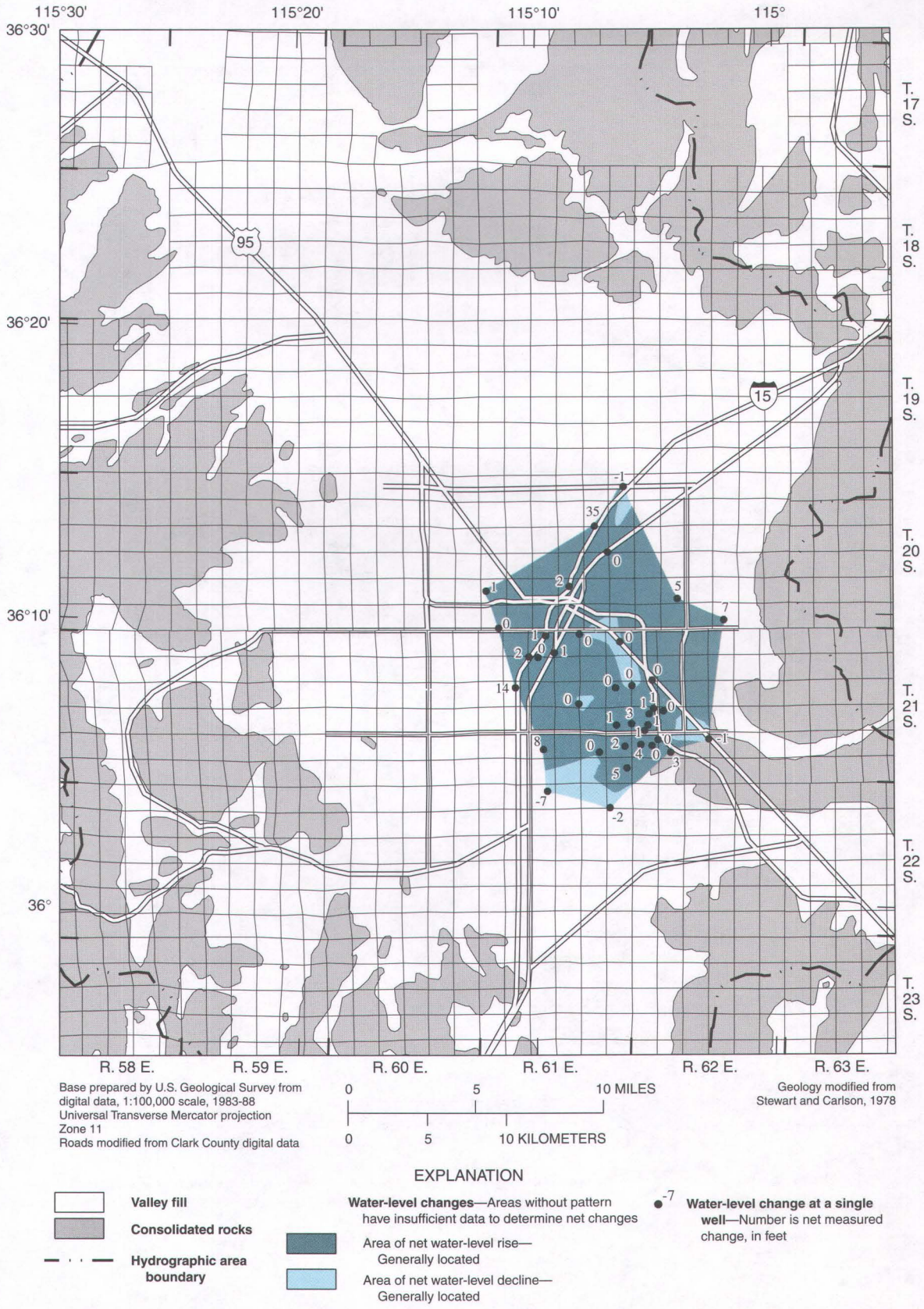

Figure 21. General net water-level change in wells that penetrate the near-surface reservoir, Las Vegas Valley, Nevada, early 1985 to early 1990.

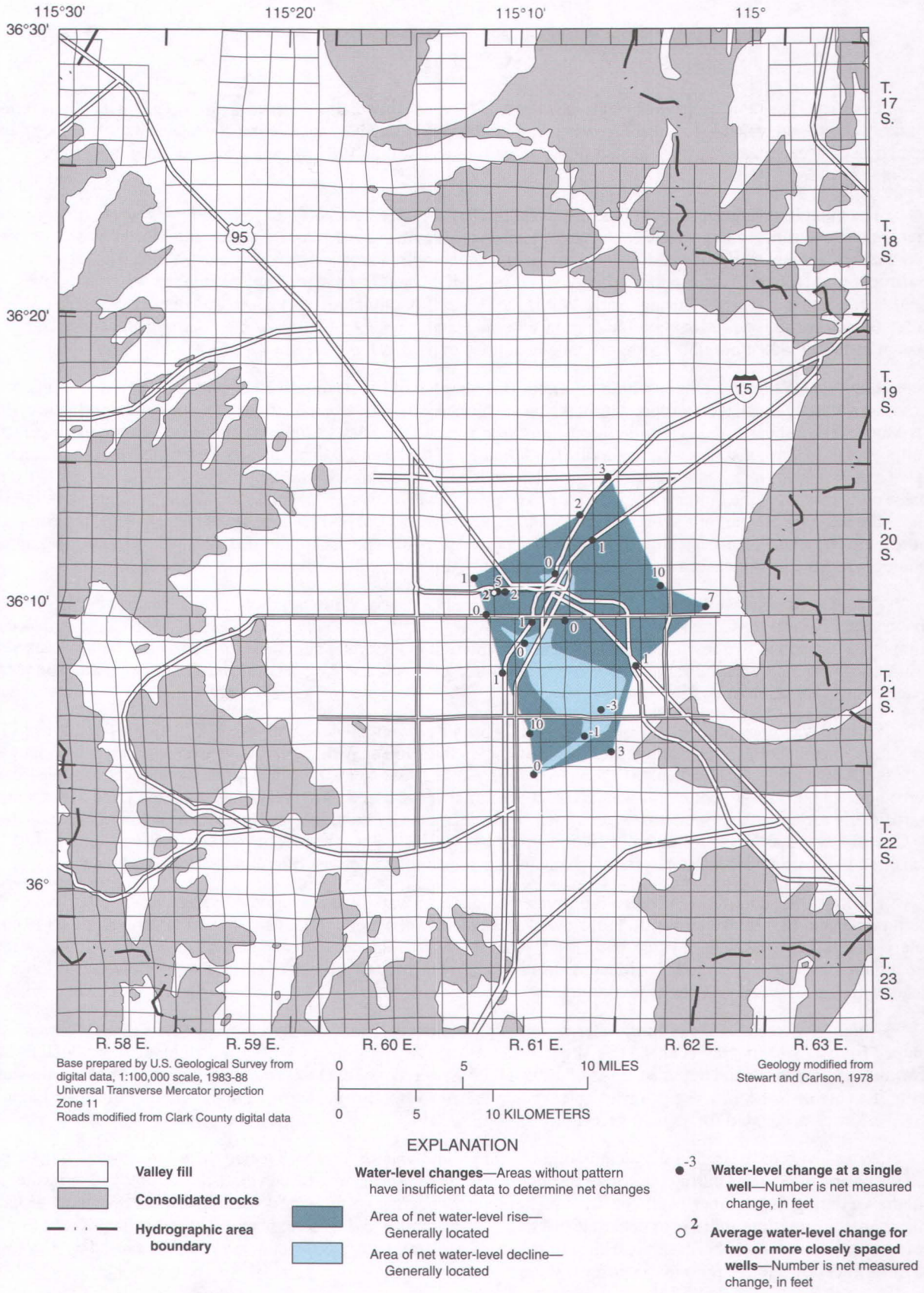

Figure 22. General net water-level change in wells that penetrate the near-surface reservoir, Las Vegas Valley, Nevada, early 1990 to early 1995.

SUMMARY

Las Vegas is a rapidly growing city where most of Nevada's population resides. Prior to 1973, Las Vegas relied primarily on ground water. Treated surface water imported from Lake Mead has become the primary source since then. Treated Lake Mead water has been artificially injected into wells since 1987 to bank water and to minimize land subsidence.

The numerous large springs in Las Vegas Valley first attracted residents and were the main water supply until after the railroad came to Las Vegas. Native Americans were the first residents of the valley and Mormon Missionaries were the first settlers of European descent. Completion of the railroad made Las Vegas a town in 1905. The construction of Hoover Dam supported Las Vegas through the Great Depression and ensured the water and power supply necessary for growth. During World War II, Lake Mead (Colorado River) water was imported into Las Vegas Valley to supply the Black Mountain Industrial Center in Henderson. Completion of the Southern Nevada Water System in 1971 made it possible to import large quantities of treated Lake Mead water for the first time.

Las Vegas Valley is entirely within the Great Basin region of the Basin and Range physiographic province and is characterized by localized aquifers within the basin-fill deposits. The basin contains a major structural feature, the Las Vegas Valley shear zone, that underlies the northern part of the valley. Numerous historical and prehistorical faulting episodes have displaced the basin fill. The lithology of the basin-fill deposits is complicated because of caliche layers and numerous interbedded lenses of gravels, sands, silts, and clays. However, basin-fill sediments grade from coarse on the west to fine on the east side of the valley. Earlier investigators understood that the aquifers contained within the basin fill are part of a heterogeneous multi-aquifer system, but for the purposes of data analysis, the complex hydrologic framework has been simplified. In this report, basin-fill deposits are divided into two water-bearing units, an upper unit (the near-surface reservoir) and a lower unit (the principal-aquifer system).

The first flowing well was drilled in 1907 by the Vegas Artesian Water Syndicate. These wells were allowed to flow constantly until the Comprehensive Underground Water Act was passed in 1939. The Las Vegas Land and Water Company was formed by the railroad in 1905 and was the first major water supplier. The Las Vegas Valley Water District was created by the Nevada Legislature in 1947 to replace the Las Vegas Land and Water Company and the Water District went into operation in 1954.

Ground water has been withdrawn continuously from the basin-fill deposits since 1907. All the large springs in the Valley, except Corn Creek Springs, stopped flowing by the 1960's. Withdrawals have exceeded natural recharge since the 1940's and reached a peak of about 86,000 acre-ft in 1968. Annual ground-water withdrawals during 1995 were about 73,000 acre-ft, which is about 20 percent of total water use. A program to inject treated Lake Mead water to artificially recharge the principal-aquifer system was undertaken by the Las Vegas Valley Water District in 1987 and the City of North Las Vegas followed in 1990. During 1995, about 19,000 acre-ft of treated water was artificially recharged to the principal-aquifer system, which amounts to about 25 percent of ground-water withdrawals.

During 1995, about 327,000 acre-ft of treated Lake Mead water was imported into Las Vegas Valley, which is about 80 percent of total water use. Return flow of treated effluent water and industrial wastewater and runoff from watering of golf courses, school yards, parks, and lawns at private residences has resulted in a continuous flow of water through the Las Vegas Wash to Lake Mead. During 1995, about 143,000 acre-ft of surface water flowed into Lake Mead, which is about 35 percent of total water use.

About 70 percent of the ground water withdrawn from the basin-fill deposits between 1968 and 1995 was pumped from an area that includes the Las Vegas Valley Water District's main well field and their auxiliary well fields a few miles to the north and to the west. As of 1995, about 25 percent of the total water pumped is from the main well field. The City of North Las Vegas, resort hotels along the Las Vegas Strip, and wells in the vicinity of Floyd Lamb State Park each accounted for about 5 percent.

Water levels have risen in the vicinity of artificial ground-water recharge. Treated Lake Mead water is injected into the basin-fill deposits during the winter through wells in the same general area where most of the ground water is withdrawn during the summer. Well construction has a direct bearing on measured water levels because most wells either penetrate multiple aquifers or penetrate different zones within a hydrogeologic unit. Therefore, their water levels represent either composite heads or the degree of penetration. Some water from secondary recharge caused by watering may infiltrate down to the principal-aquifer system.

The current monitoring network in the valley consists of about 110 wells. Water levels are monitored primarily by four cooperating agencies: USGS, Nevada Division of Water Resources, Southern Nevada Water Authority, and City of North Las Vegas.

Net water-level change, as defined in this report, is the difference between seasonal high (shallowest) water levels measured in a well. Water levels typically peak between January and mid-April, depending upon when the pumping season begins.

Between 1912 and 1980, water levels in the principal-aquifer system declined more than 300 feet in the west-central part of the valley. Between 1955 and 1973, water levels in the near-surface reservoir declined more than 160 feet in the northwest part of the valley. Between 1990 and 1995, water levels in the principal-aquifer system rose throughout most of the valley, with increases in excess of 100 feet in the central part of the valley near the Water District's main well field while water levels continue to decline in the northern and southern margins of the valley where residents continue to rely upon domestic water-supply wells. However, rises in the principal-aquifer system between 1990 and 1995 may be influenced by concentrated artificial recharge in the vicinity. During the same period, water levels in the near-surface reservoir continue to rise due to an increasing supply of secondary recharge. This recharge introduces poor-quality water to the aquifer and saturates surface soils, which is a growing concern for residents, developers, and local utilities.

REFERENCES CITED

Bell, J.W., 1981, Subsidence in Las Vegas Valley: Nevada Bureau of Mines and Geology Bulletin 95, 84 p.

Bell, J.W., and Price, J.G., 1993, Subsidence in Las Vegas Valley, 1980-91—Final project report: Nevada Bureau of Mines and Geology Open-File Report 93-4, 10 sections, 9 plates, unpaginated.

Bixby, F.L., and Hardman, George, 1928, The development of water supplies for irrigation in Nevada by pumping from underground sources: University of Nevada, Agricultural Experiment Station, Bulletin 112, 38 p.

Bostic, R.E., Kane, R.L., Kipfer, K.M., and Johnson, A.W., 1997, Water resources data, Nevada, water year 1996: U.S. Geological Survey Water-Data Report NV-96-1, 611 p.

Burbey, T.J., 1991, Water-level and pumpage data for Las Vegas Valley, Clark County, Nevada, 1986-90: U.S. Geological Survey Open-File Report 91-496, 122 p.

———1995, Pumpage and water-level change in the principal aquifer of Las Vegas Valley, Nevada, 1980-90: Nevada Division of Water Resources Information Report 34, 224 p.

Bureau of Reclamation, 1996, Compilation of records in accordance with Article V of the Decree of the Supreme Court of the United States in Arizona vs. California dated March 9, 1964, calendar year 1995: Bureau of Reclamation Report.

Cardinalli, J.L., Roach, L.M., Rush, F.E., and Vasey, B.J., 1968, State of Nevada hydrographic areas: Nevada Division of Water Resources map, scale 1:500,000.

Carpenter, Everett, 1915, Ground water in southeastern Nevada: U.S. Geological Survey Water-Supply Paper 365, 86 p.

Coache, Robert, 1995, Las Vegas Valley water usage report, Clark County, Nevada, 1995: Nevada Division of Water Resources report, 139 p.

Domenico, P.A., Stephenson, D.A., and Maxey, G.B., 1964, Ground water in Las Vegas Valley: Nevada Department of Conservation and Natural Resources, Water Resources Bulletin 29, 53 p.

Donovan, D.J., 1996, Hydrostratigraphy and allostratigraphy of the Cenozoic alluvium in the northwestern part of Las Vegas Valley, Clark County, Nevada: University of Nevada, Las Vegas, unpublished M.S. thesis, 199 p.

Fowler, D.D., and Madsen, D.B., 1986, Prehistory of the southeastern area, *in* D'Azevedo, W.L., ed., Handbook of North American Indians—Volume 11, Great Basin: Washington, D.C., Smithsonian Institution, p. 173-182.

Hafen, L.R., and Hafen, A.W., 1954, Old Spanish Trail, Santa Fe to Los Angeles—With extracts from contemporary records and including diaries of Antonio Armijo and Orville Pratt: Lincoln, University of Nebraska Press, 375 p.

Harrill, J.R., 1972, Water-level changes associated with ground-water development in Las Vegas Valley, Nevada, 1971-72—First progress report: U.S. Geological Survey Open-File Report, 20 p.

———1973, Water-level changes associated with ground-water development in Las Vegas Valley, Nevada, 1972-73—Second progress report: U.S. Geological Survey Open-File Report, 39 p.

———1974, Water-level changes associated with ground-water development in Las Vegas Valley, Nevada, 1973-74—Third progress report: U.S. Geological Survey Open-File Report, 36 p.

———1976a, Water-level changes associated with ground-water development in Las Vegas Valley, Nevada, 1971-75—Fourth progress report—Summary of data: Nevada Division of Water Resources, Information Report 22, 46 p.

———1976b, Pumping and ground-water storage depletion in Las Vegas Valley, Nevada, 1955-74: Nevada Division of Water Resources, Bulletin 44, 70 p.

———1977, Water-level changes associated with ground-water development in Las Vegas Valley, Nevada, March 1975 to March 1976: Nevada Division of Water Resources, Information Report 26, 31 p.

Jones, F.L., 1975, Water, a history of Las Vegas—Volume II: Las Vegas Valley Water District, 197 p.

Jones, F.L., and Cahlan, J.F., 1975, Water, a history of Las Vegas—Volume I: Las Vegas Valley Water District, 171 p.

Katzer, Terry, 1977, Water-level changes associated with ground-water development in Las Vegas Valley, Nevada, March 1976 to March 1977: Nevada Division of Water Resources, Information Report 27, 35 p.

Kelly, I.T., and Fowler, C.S., 1986, Southern Paiute, *in* D'Azevedo, W.L., ed., Handbook of North American Indians—Volume 11, Great Basin: Washington, D.C., Smithsonian Institution, p. 368-397.

Las Vegas Valley Water District, 1996, Las Vegas Valley Water District artificial recharge project 1995 year-end report: Las Vegas Valley Water District, 123 p.

Livingston, Penn, 1941, Underground leakage from artesian wells in the Las Vegas area, Nevada: U.S. Geological Survey Water-Supply Paper 849-D, p. 147-173.

Longwell, C.R., Pampeyan, E.H., Bowyer, Ben, and Roberts, R.J., 1965, Geology and mineral deposits of Clark County, Nevada: Nevada Bureau of Mines Bulletin 62, 217 p.

Malmberg, G.T., 1965, Available water supply of the Las Vegas ground-water basin, Nevada: U.S. Geological Survey Water-Supply Paper 1780, 116 p.

Maurer, D.K., 1989, Water-level data for Las Vegas Valley, Clark County, Nevada, 1986-87: U.S. Geological Survey Open-File Report 88-200, 45 p.

Maxey, G.B., and Jameson, C.H., 1946, Well data in Las Vegas and Indian Spring Valleys, Nevada: Nevada State Engineer, Water Resources Bulletin 4, 128 p.

———1948, Geology and water resources of Las Vegas, Pahrump, and Indian Spring Valleys, Clark and Nye Counties, Nevada: Nevada State Engineer, Water Resources Bulletin 5, 292 p.

Mendenhall, W.C., 1909, Some desert watering places in southeastern California and southwestern Nevada: U.S. Geological Survey Water-Supply Paper 224, 98 p.

Moehring, E.P., 1989, Resort city in the sunbelt, Las Vegas, 1930-70: Reno, University of Nevada Press, 329 p.

Morgan, D.S., and Dettinger, M.D., 1996, Ground-water conditions in Las Vegas Valley, Clark County, Nevada—Part 2, Hydrogeology and simulation of ground-water flow: U.S. Geological Survey Water-Supply Paper 2320-B, 124 p.

Myher, Keith, White, W.G., and Rolf, S.D., 1990, Contributions to the study of cultural resources—Archaeology of the Old Spanish Trail/Mormon Road from Las Vegas, Nevada to the California border: Bureau of Land Management Technical Report 17, 94 p.

Plume, R.W., 1989, Ground-water conditions in Las Vegas Valley, Clark County, Nevada—Part 1, Hydrogeologic framework: U.S. Geological Survey Water-Supply Paper 2320-A, 15 p.

Reisner, Marc, 1993, Cadillac desert—The American West and it's disappearing water: New York, Viking-Penguin Books, 582 p.

Rush, F.E., 1968, Index of hydrographic areas in Nevada: Nevada Division of Water Resources, Information Report 6, 38 p.

Shamberger, H.A., 1991, Evolution of Nevada's water laws, as related to the development and evaluation of the State's water resources, from 1866 to about 1960: Nevada Division of Water Resources Bulletin 46, 100 p.

Stewart, J.H., 1980, Geology of Nevada—A discussion to accompany the geologic map of Nevada: Nevada Bureau of Mines and Geology Special Publication 4, 136 p.

Stewart, J.H., and Carlson, J.E., 1978, Geologic map of Nevada: U.S. Geological Survey Map MF-930, scale 1:500,000.

Turner, R.M., and Bawiec, W.J., 1991, Digital geologic coverage of Nevada—A digital representation of the 1978 geologic map of Nevada: U.S. Geological Survey Digital Data Series 2, CD-ROM.

U.S. Congress, 1989, The containment of underground nuclear explosions: Office of Technology Assessment, Report OTA-ISC-414, 80 p.

U.S. Department of Energy, 1995, United States nuclear tests, July 1945 through September 1992: Nevada Operations Office, Office of External Affairs, Report NVO-209, Revision 14, 97 p.

U.S. Geological Survey, 1989, National Water Information System user's manual, volume 2, chapter 4, Ground-Water Site Inventory System: U.S. Geological Survey Open-File Report 89-587, 283 p.

U.S. Supreme Court, 1964, State of Arizona, plaintiff v. State of California, et al., defendants: Decree-March 9, 1964, no. 8, 14 p.

Warren, C.N., and Crabtree, R.H., 1986, Prehistory of the southwestern area, *in* D'Azevedo, W.L., ed., Handbook of North American Indians—Volume 11, Great Basin: Washington, D.C., Smithsonian Institution, p. 183-193.

Wood, D.B., 1979, Water-level changes associated with ground-water development in Las Vegas Valley, Nevada, March 1977 to March 1978: Nevada Division of Water Resources, Information Report 29, 38 p.

———1988a, Water-level changes associated with ground-water development in Las Vegas Valley, Nevada, 1978-79: Nevada Division of Water Resources, Information Report 30, 34 p.

———1988b, Water-level changes associated with ground-water development in Las Vegas Valley, Nevada, 1979-81: Nevada Division of Water Resources, Information Report 31, 41 p.

———1991a, Water-level changes associated with ground-water development in Las Vegas Valley, Nevada, 1981-83: Nevada Division of Water Resources, Information Report 32, 69 p.

———1991b, Water-level changes associated with ground-water development in Las Vegas Valley, Nevada, 1983-85: Nevada Division of Water Resources, Information Report 33, 70 p.

SUPPLEMENTAL DATA

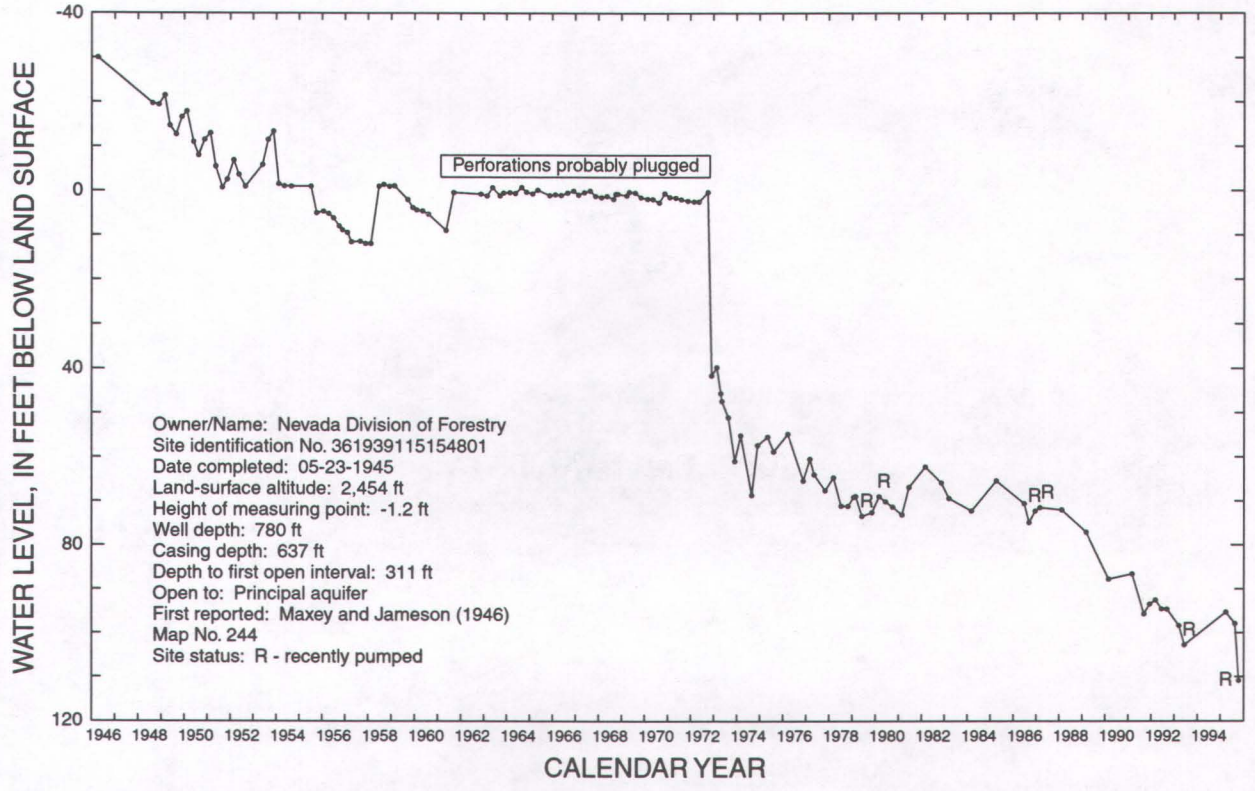

Figure 23. Water-level measurements in well 212 S19 E60 04DAB 1 in Las Vegas Valley, Nevada.

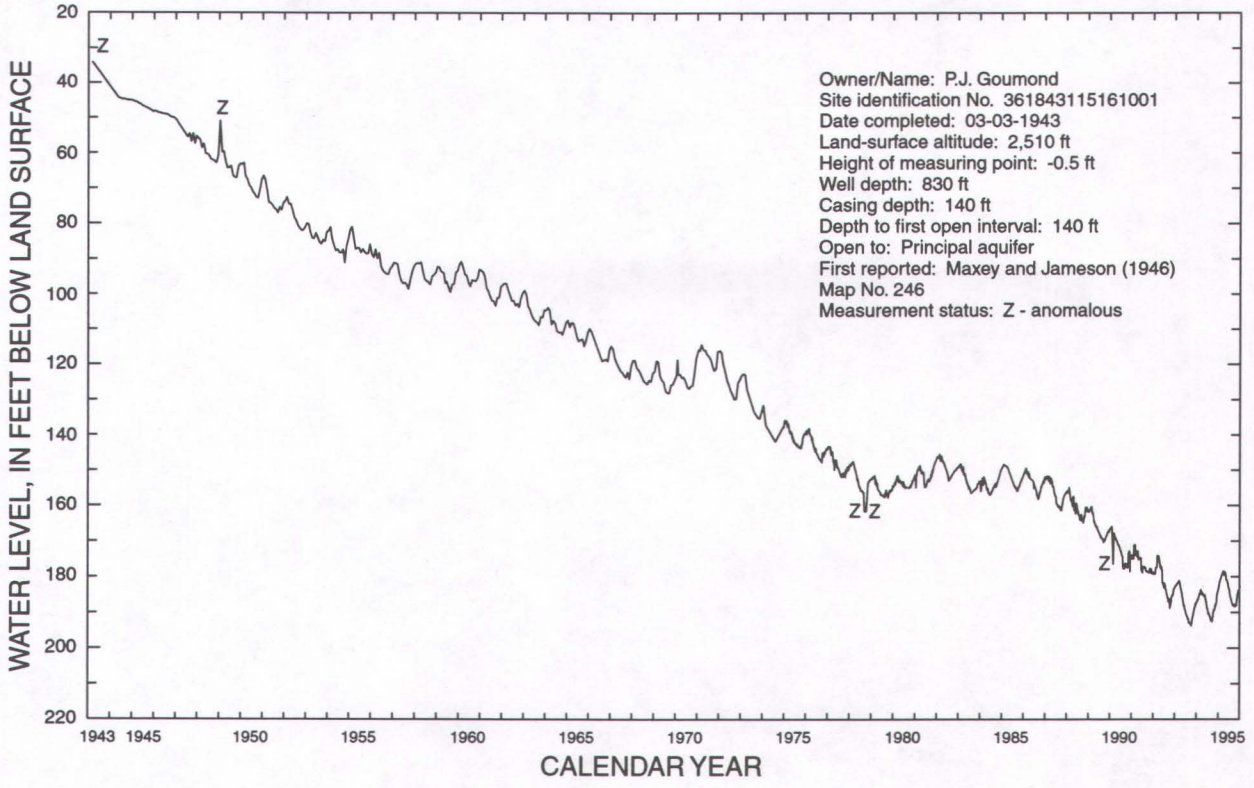

Figure 24. Water-level measurements in well 212 S19 E60 09BCC 1 in Las Vegas Valley, Nevada.

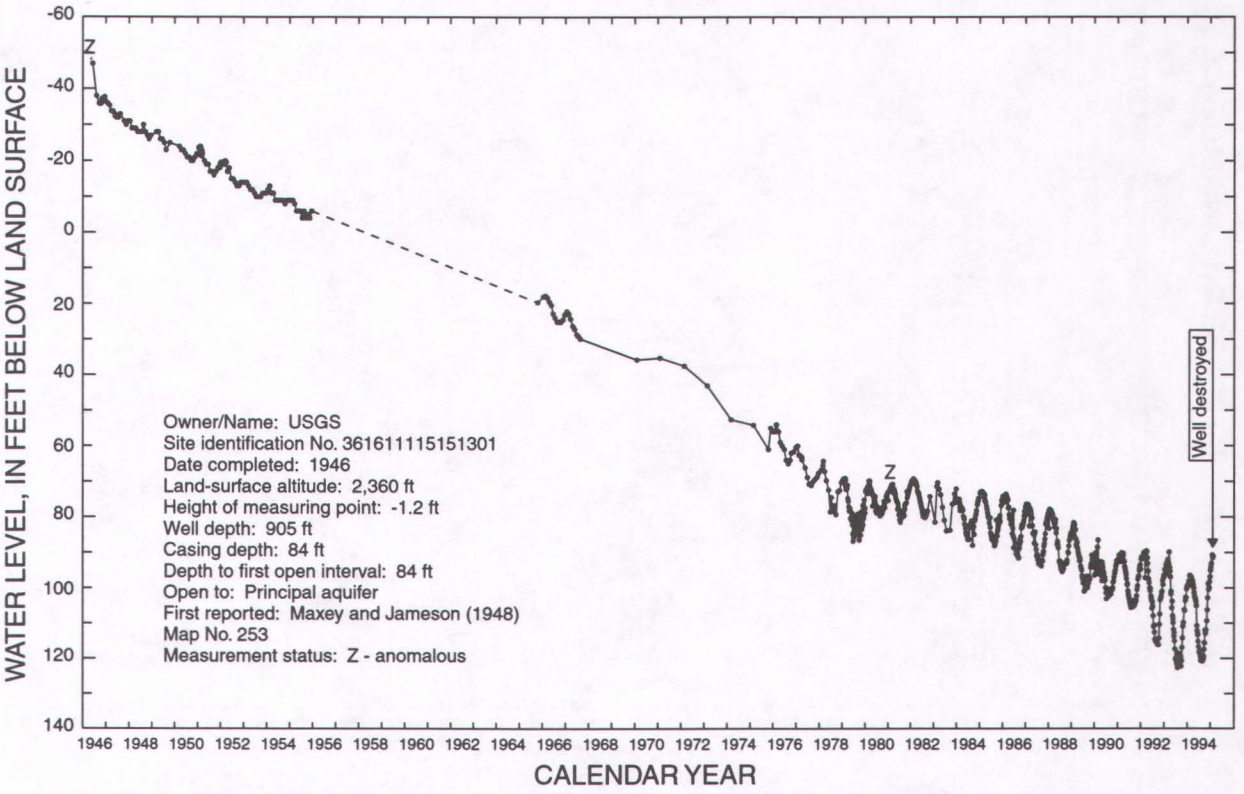

Figure 25. Water-level measurements in well 212 S19 E60 27BDC 1 in Las Vegas Valley, Nevada.

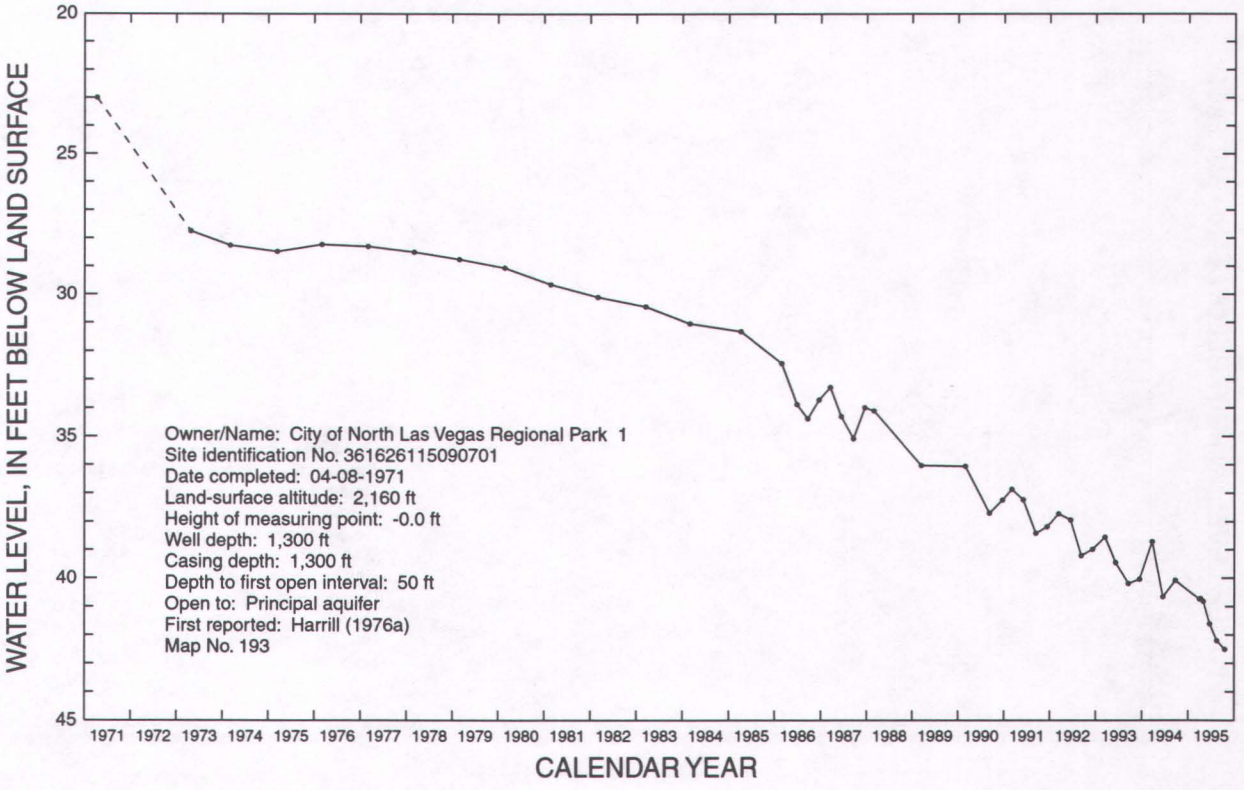

Figure 26. Water-level measurements in well 212 S19 E61 21DDB 1 in Las Vegas Valley, Nevada.

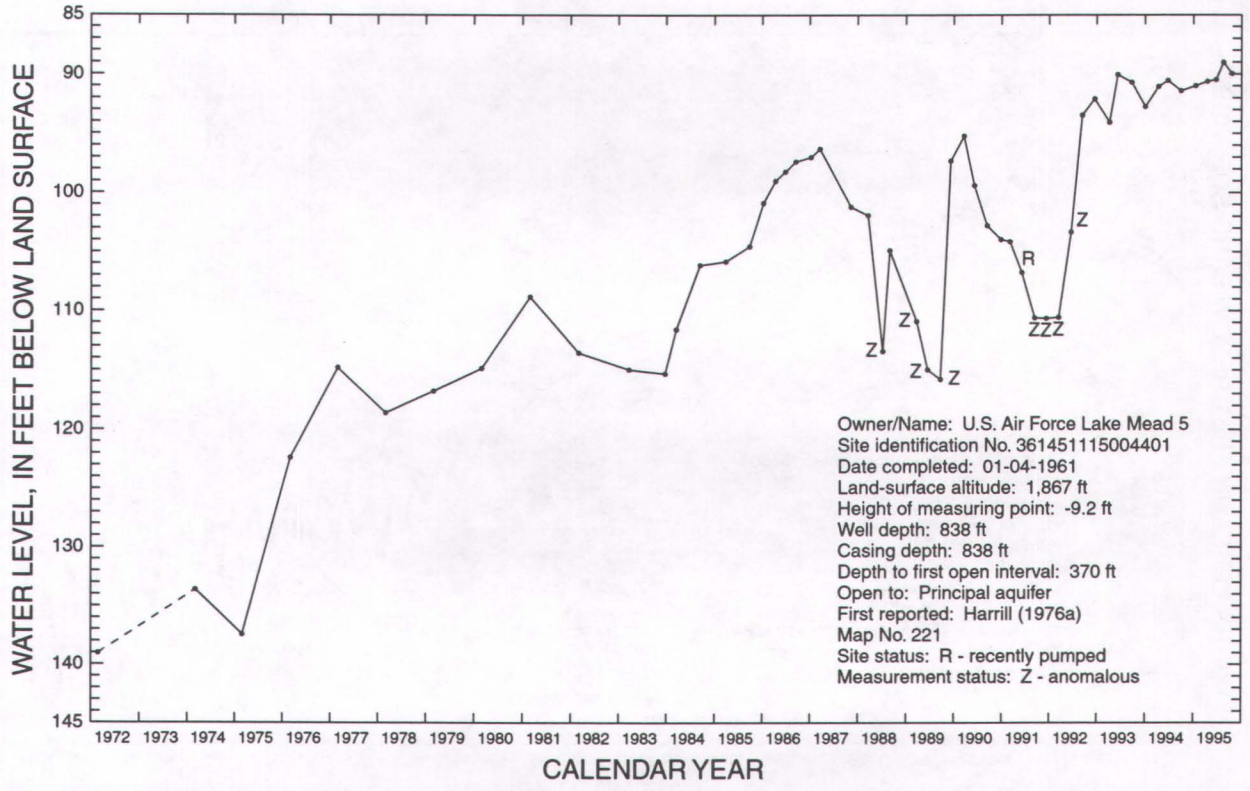

Figure 27. Water-level measurements in well 212 S19 E62 35DCD 1 in Las Vegas Valley, Nevada.

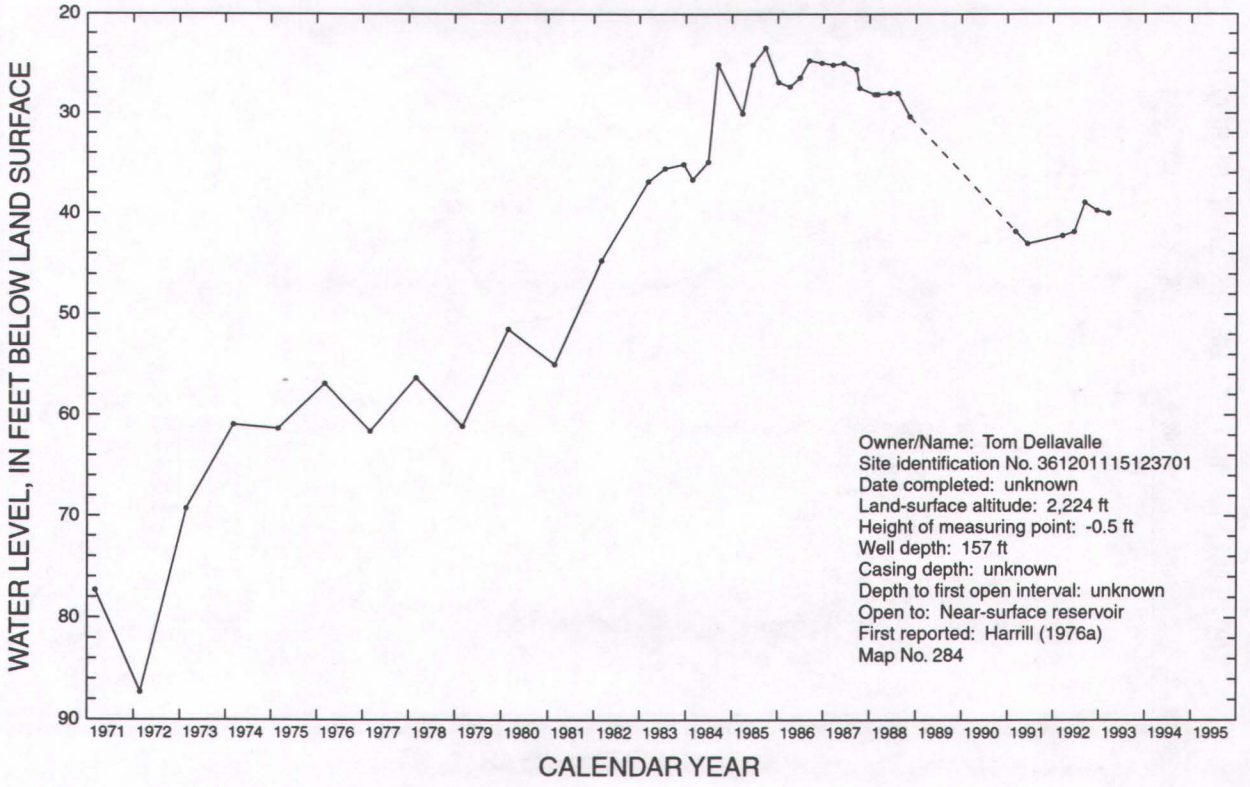

Figure 28. Water-level measurements in well 212 S20 E60 13DCC 1 in Las Vegas Valley, Nevada.

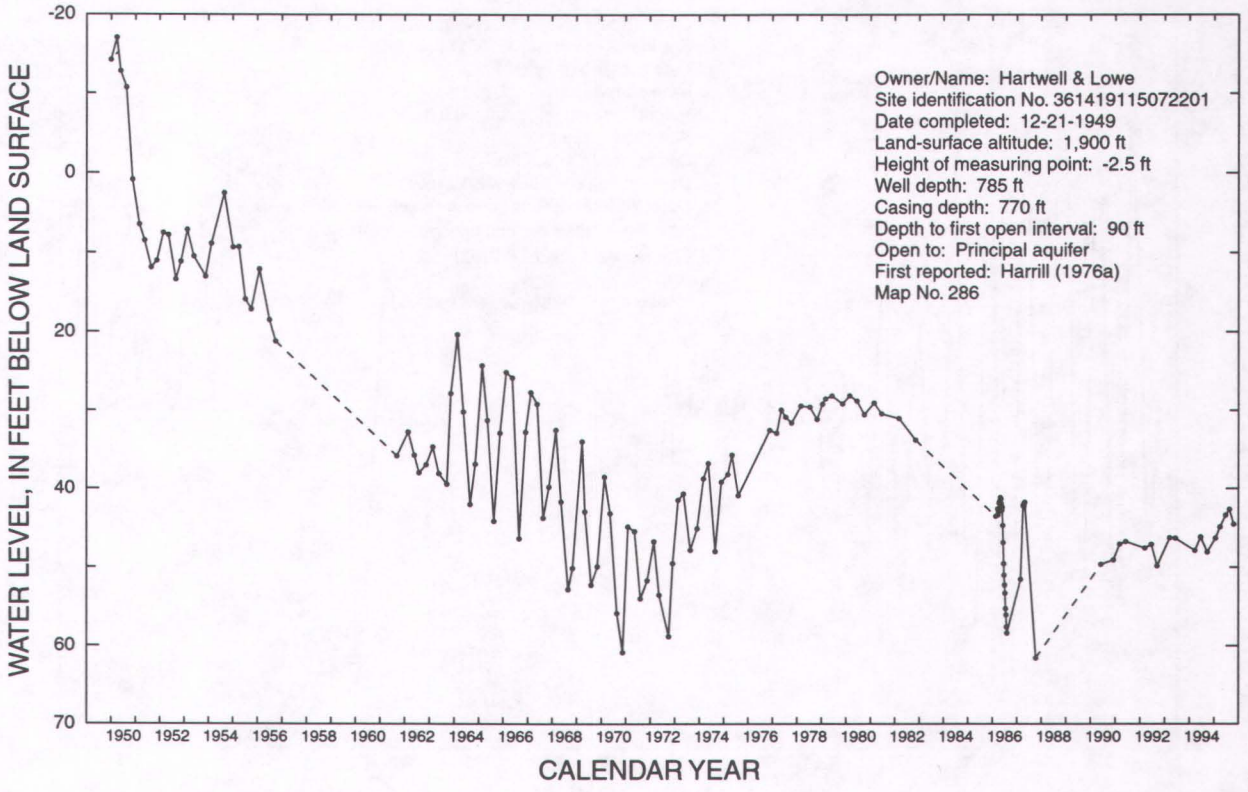

Figure 29. Water-level measurements in well 212 S20 E61 02DBB 1 in Las Vegas Valley, Nevada.

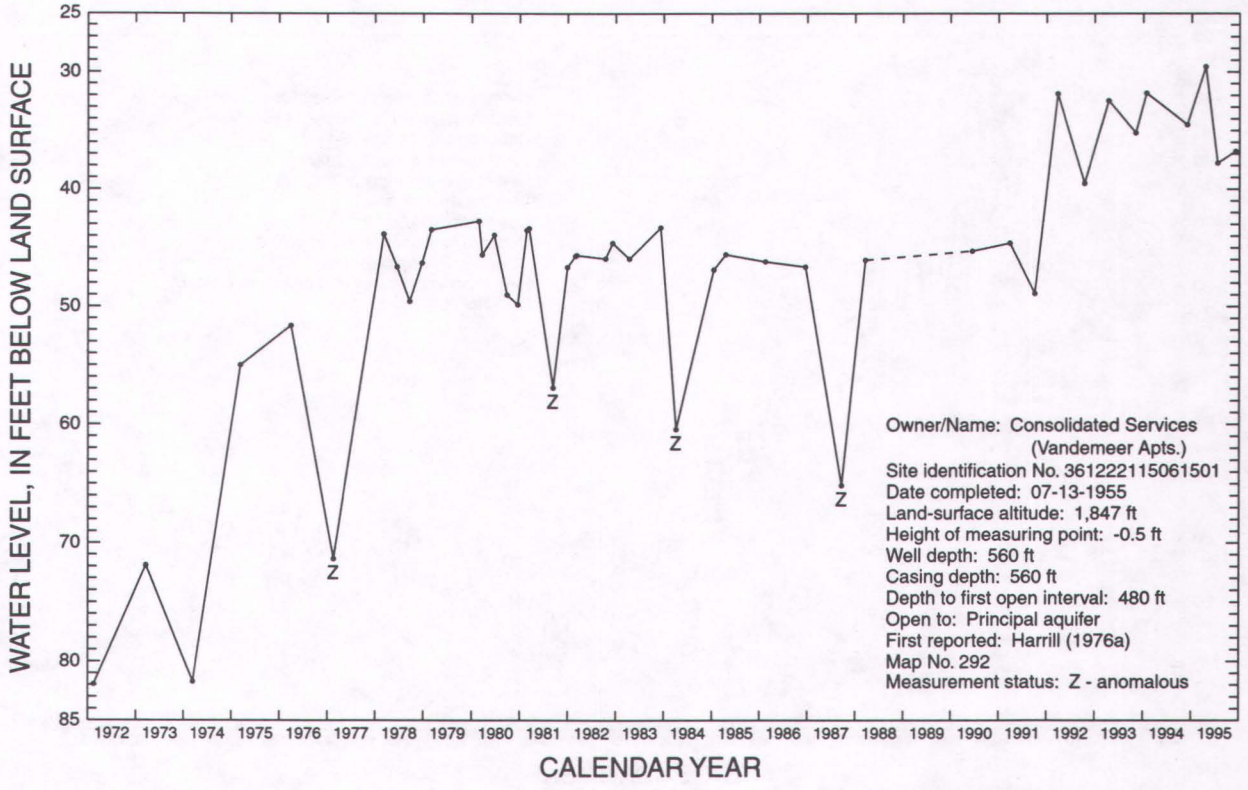

Figure 30. Water-level measurements in well 212 S20 E61 13ACD 1 in Las Vegas Valley, Nevada.

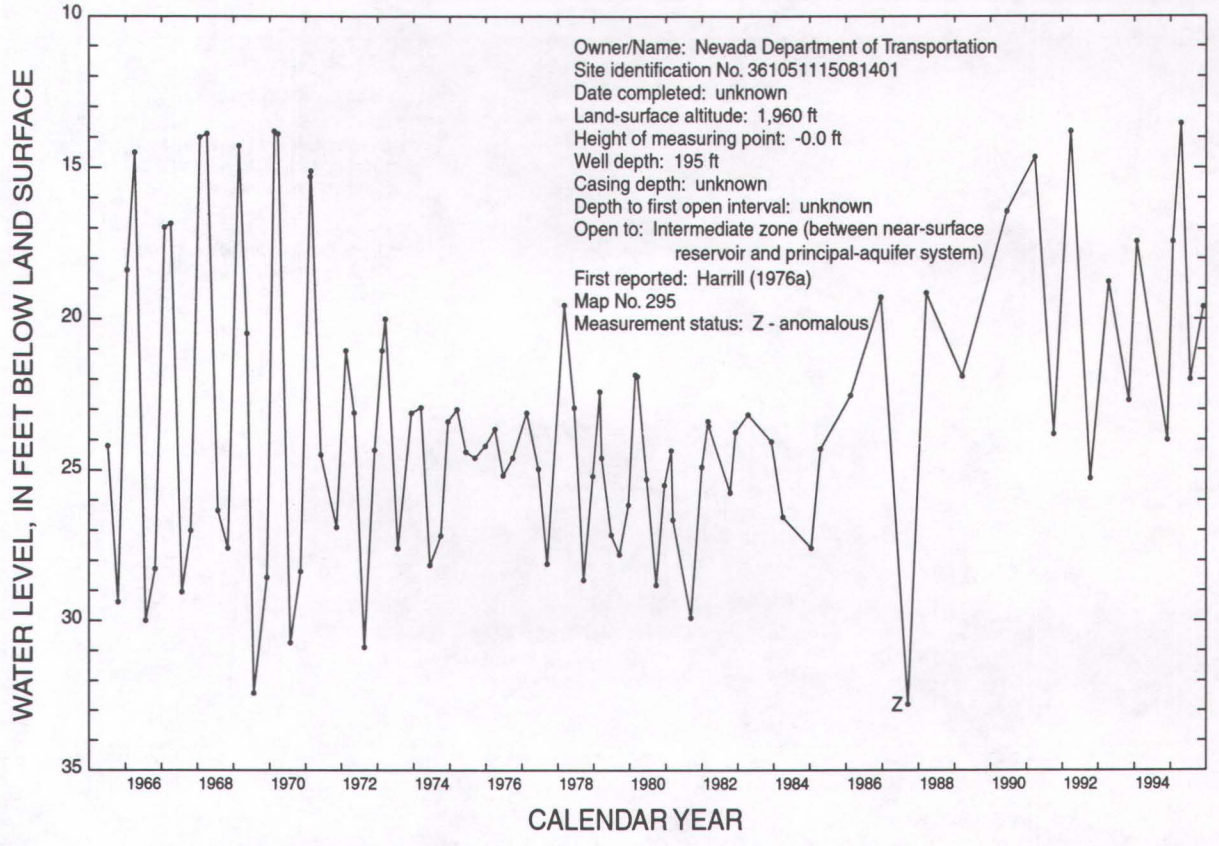

Figure 31. Water-level measurements in well 212 S20 E61 27ADB 1 in Las Vegas Valley, Nevada.

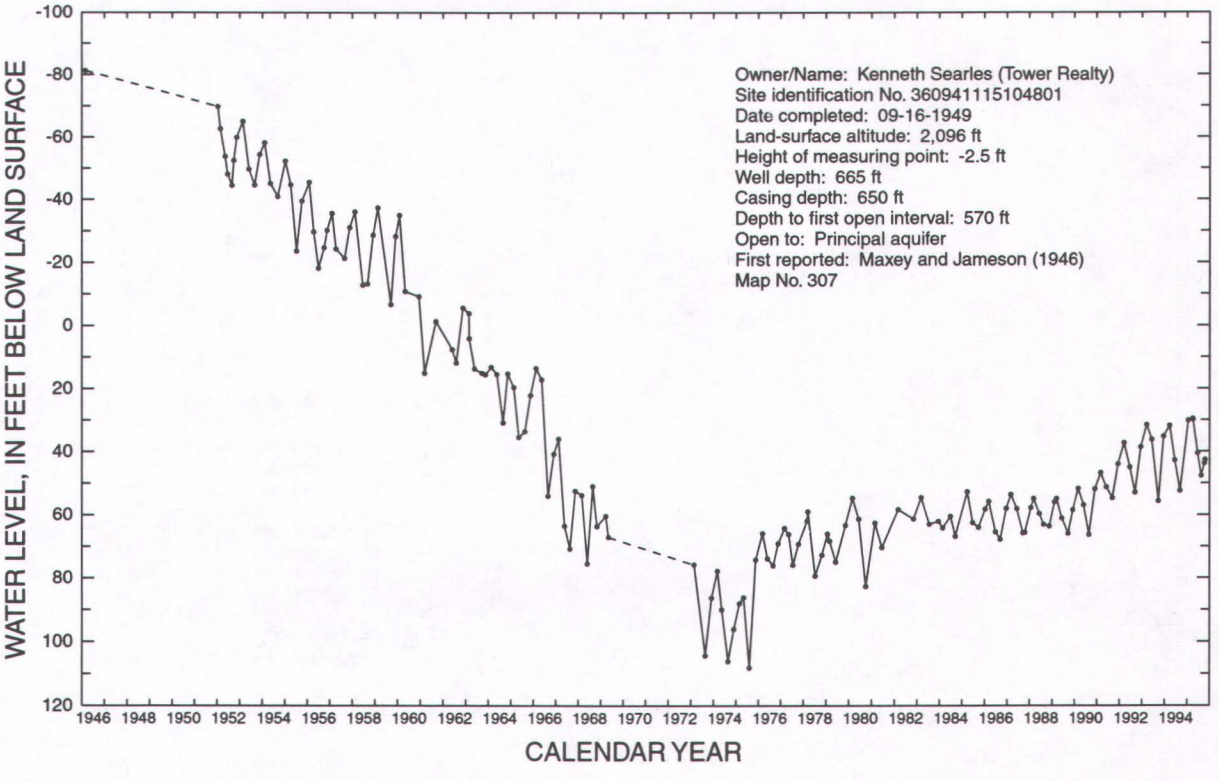

Figure 32. Water-level measurements in well 212 S20 E61 32CDC 1 in Las Vegas Valley, Nevada.

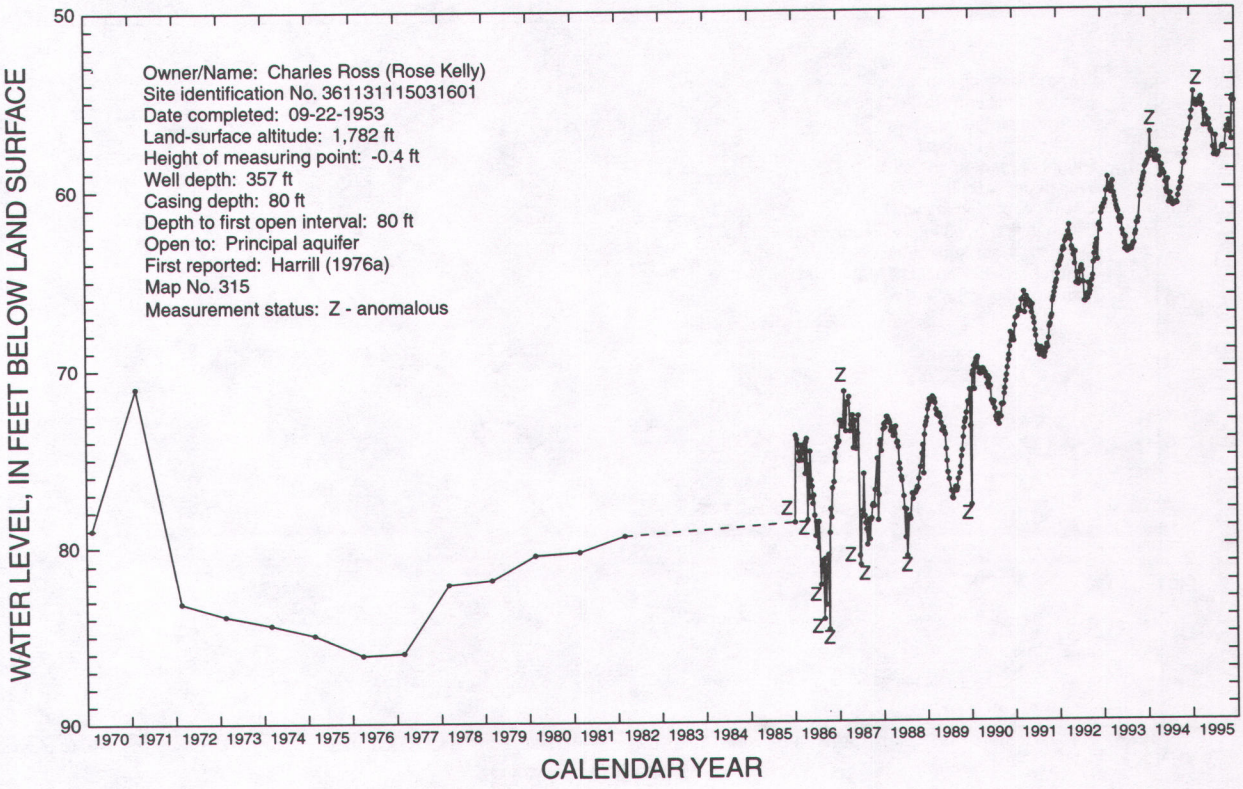

Figure 33. Water-level measurements in well 212 S20 E62 21CAB 1 in Las Vegas Valley, Nevada.

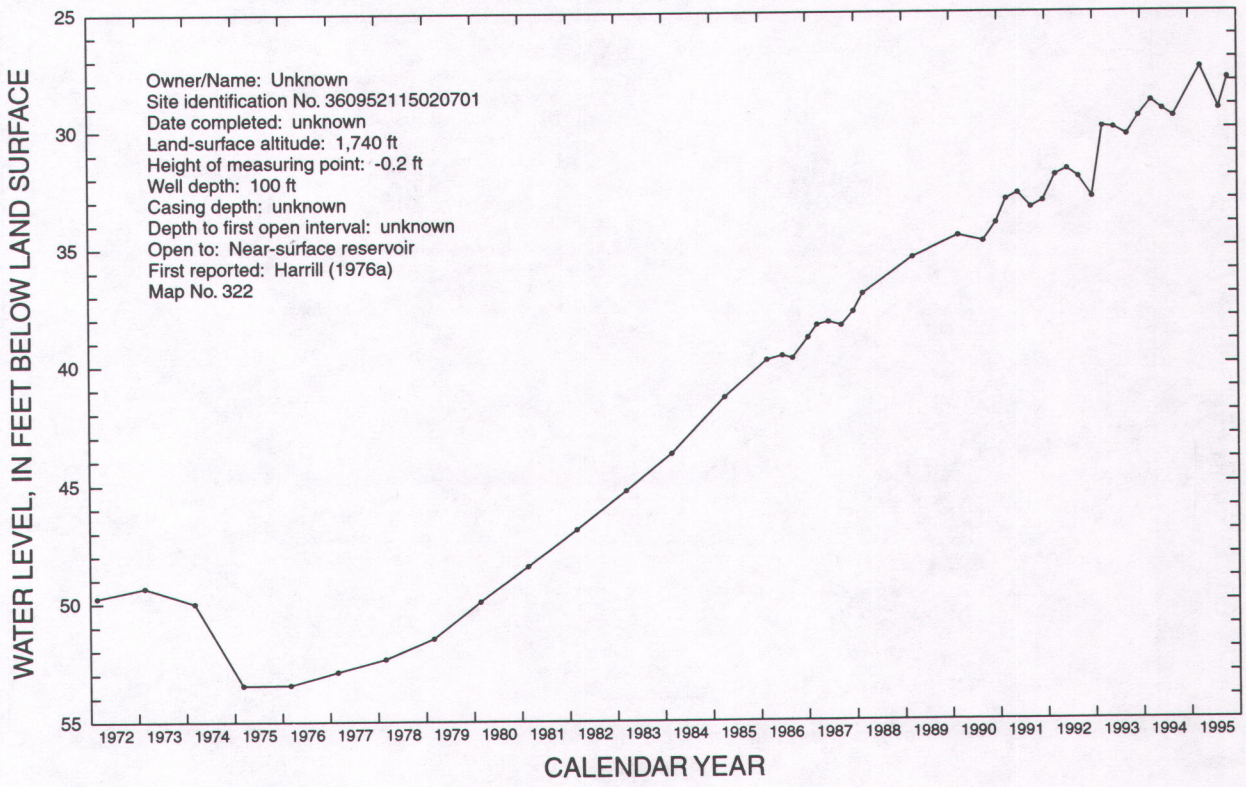

Figure 34. Water-level measurements in well 212 S20 E62 34CAB 1 in Las Vegas Valley, Nevada.

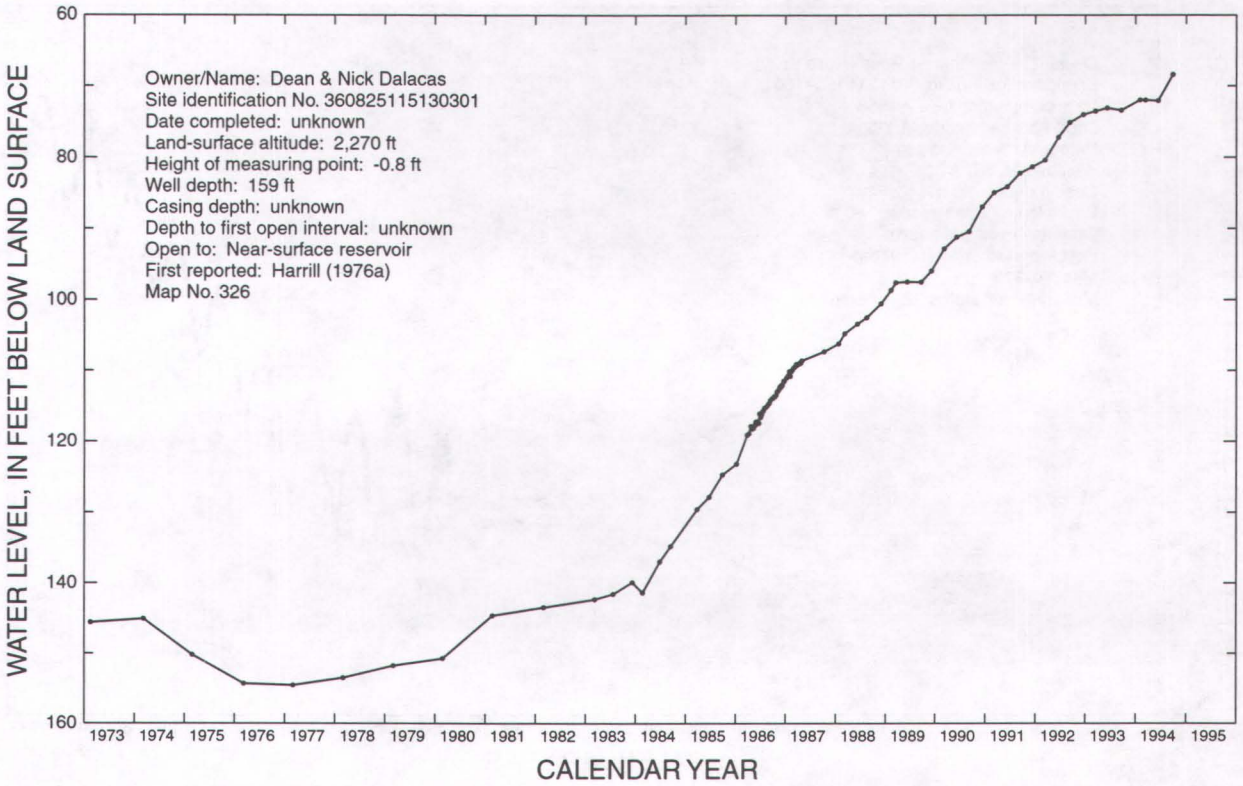

Figure 35. Water-level measurements in well 212 S21 E60 12BAB 1 in Las Vegas Valley, Nevada.

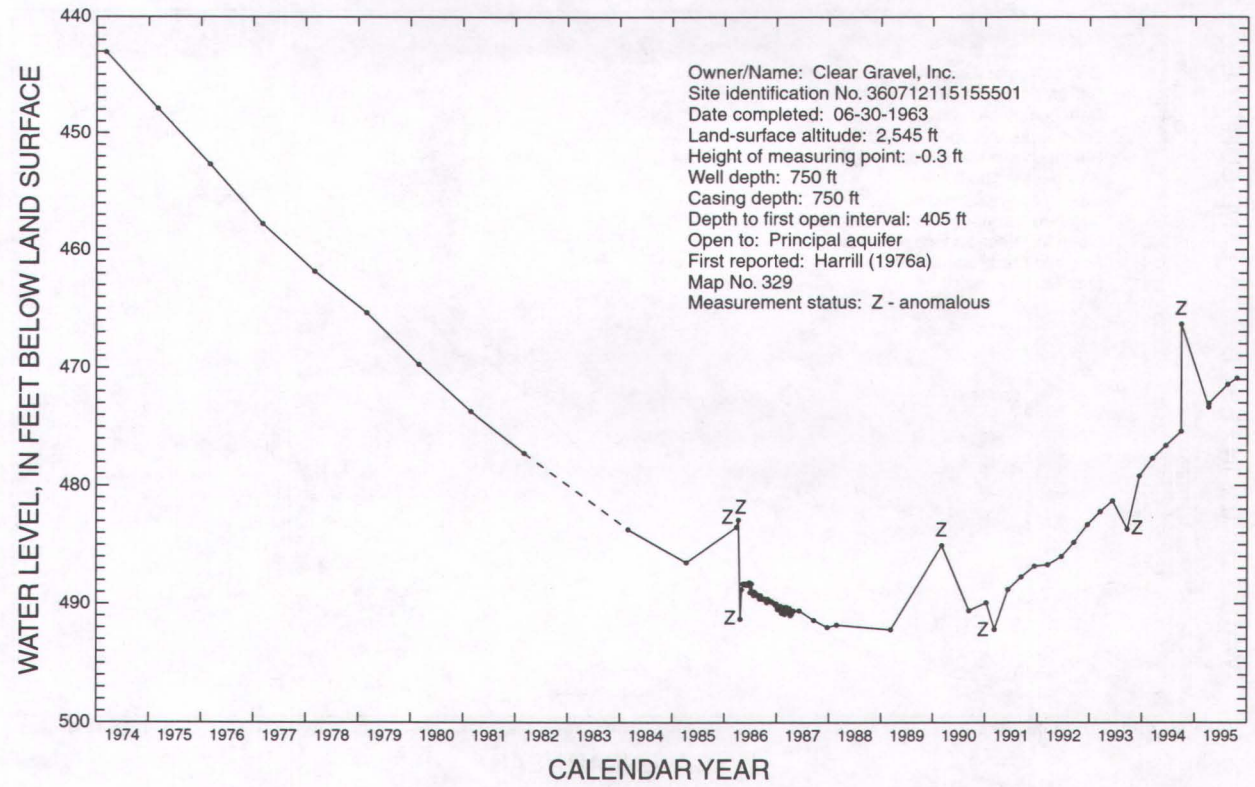

Figure 36. Water-level measurements in well 212 S21 E60 16BDD 1 in Las Vegas Valley, Nevada.

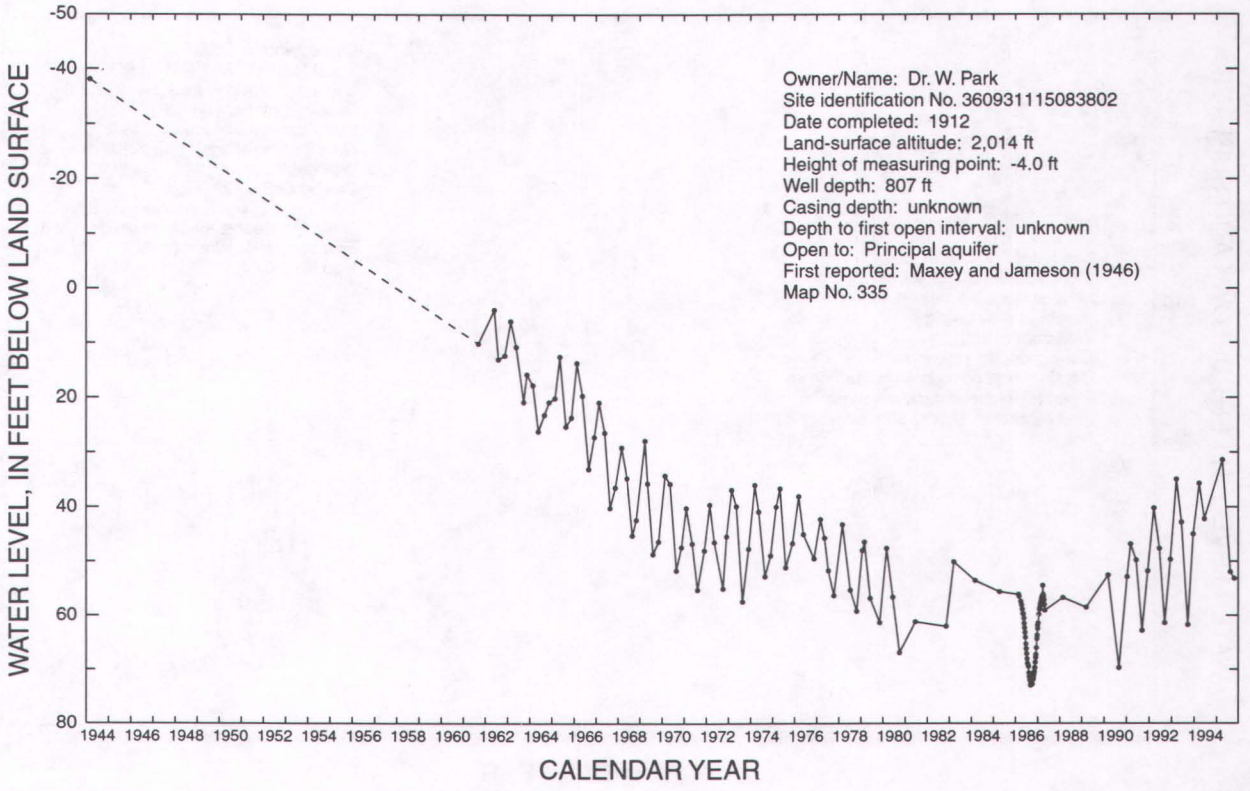

Figure 37. Water-level measurements in well 212 S21 E61 03ABB 2 in Las Vegas Valley, Nevada.

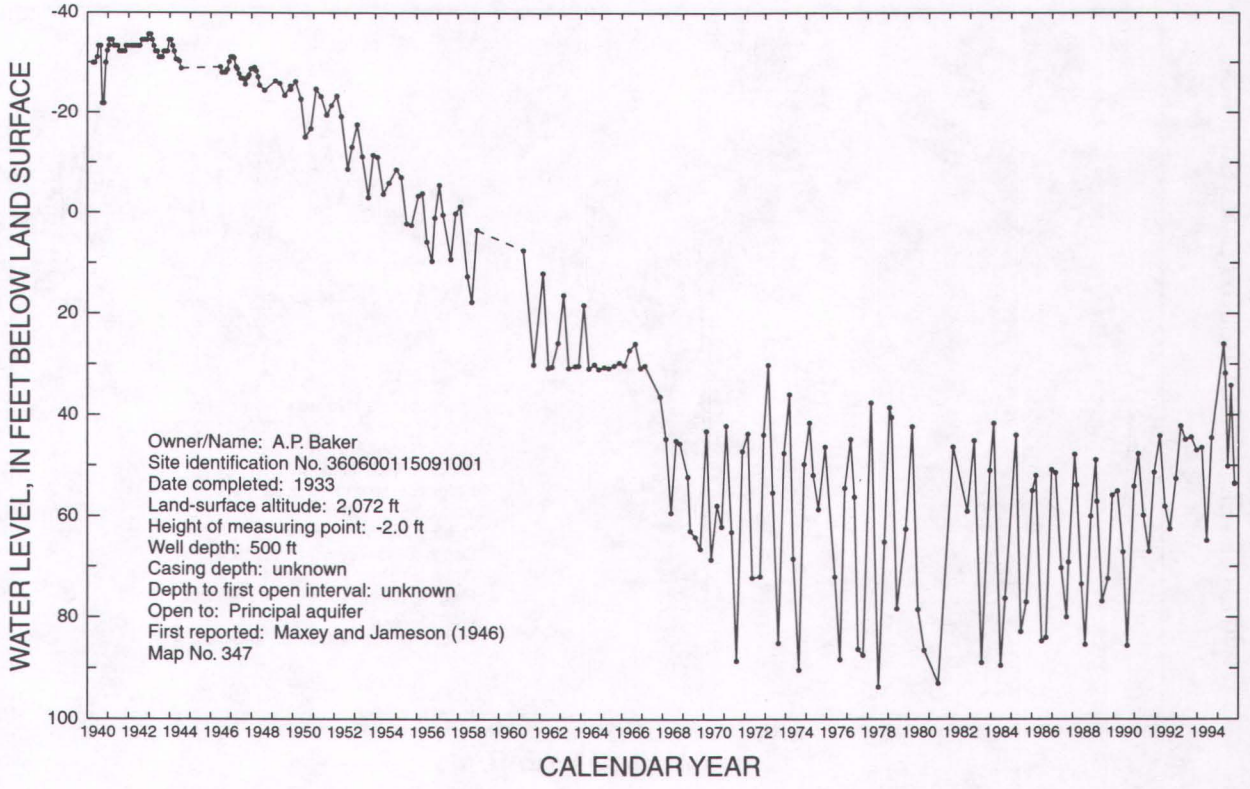

Figure 38. Water-level measurements in well 212 S21 E61 22CCC1 in Las Vegas Valley, Nevada.

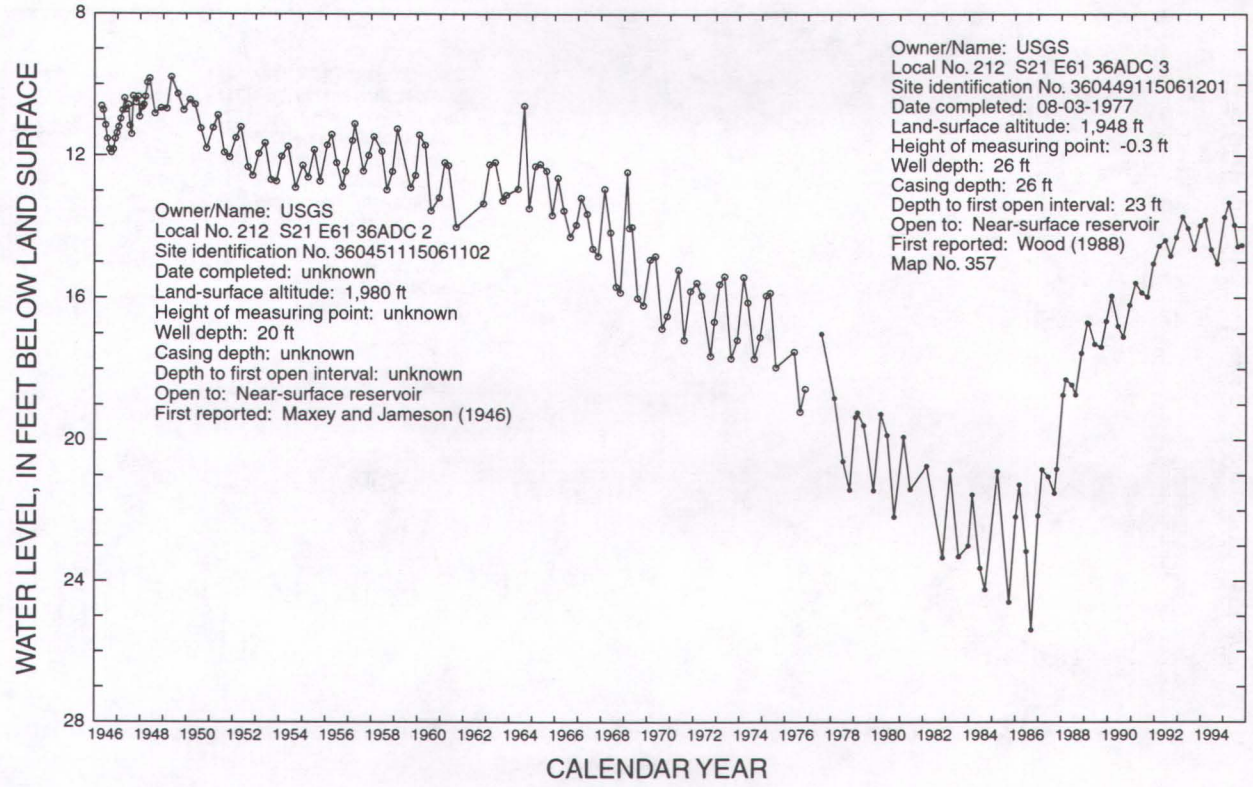

Figure 39. Water-level measurements in wells 212 S21 E61 36ADC 2 and 36ADC 3 in Las Vegas Valley, Nevada.

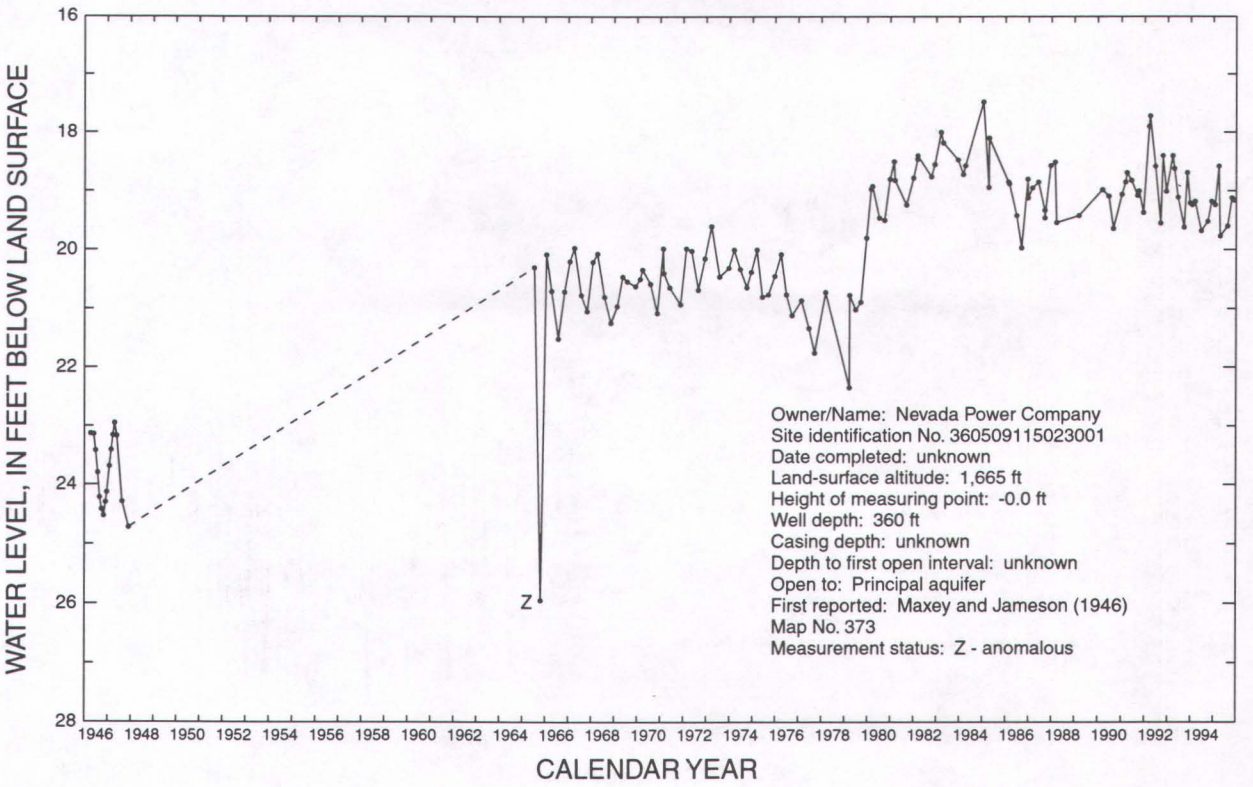

Figure 40. Water-level measurements in well 212 S21 E62 27CCC1 in Las Vegas Valley, Nevada.

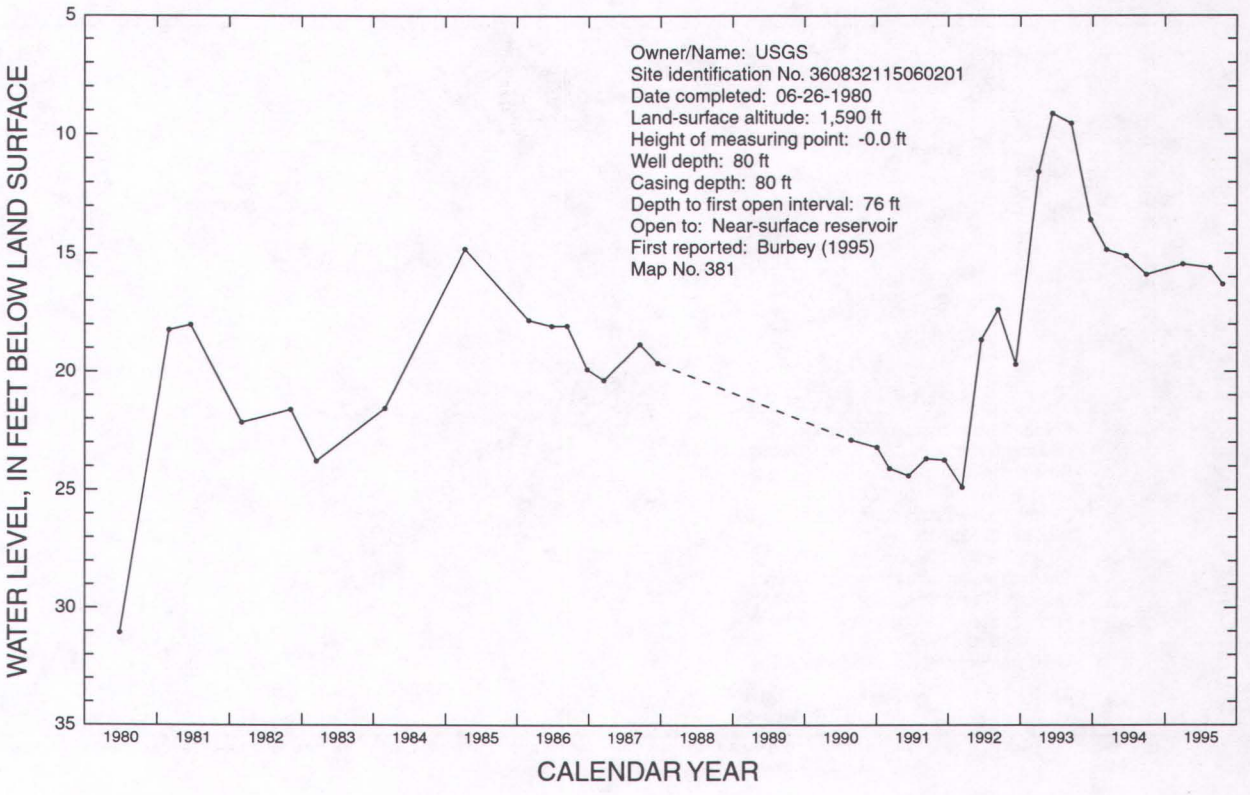

Figure 41. Water-level measurements in well 212 S21 E63 30AAA 1 in Las Vegas Valley, Nevada.

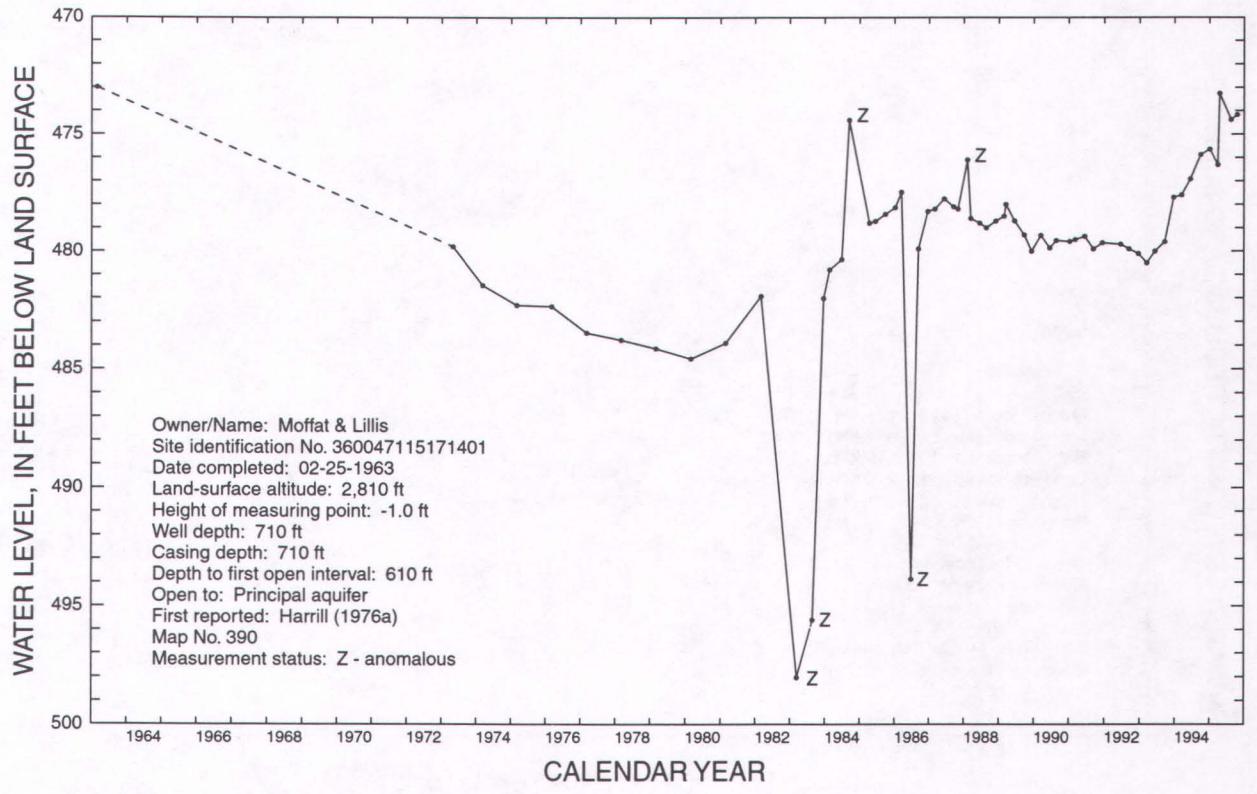

Figure 42. Water-level measurements in well 212 S22 E60 20CAC 1 in Las Vegas Valley, Nevada.

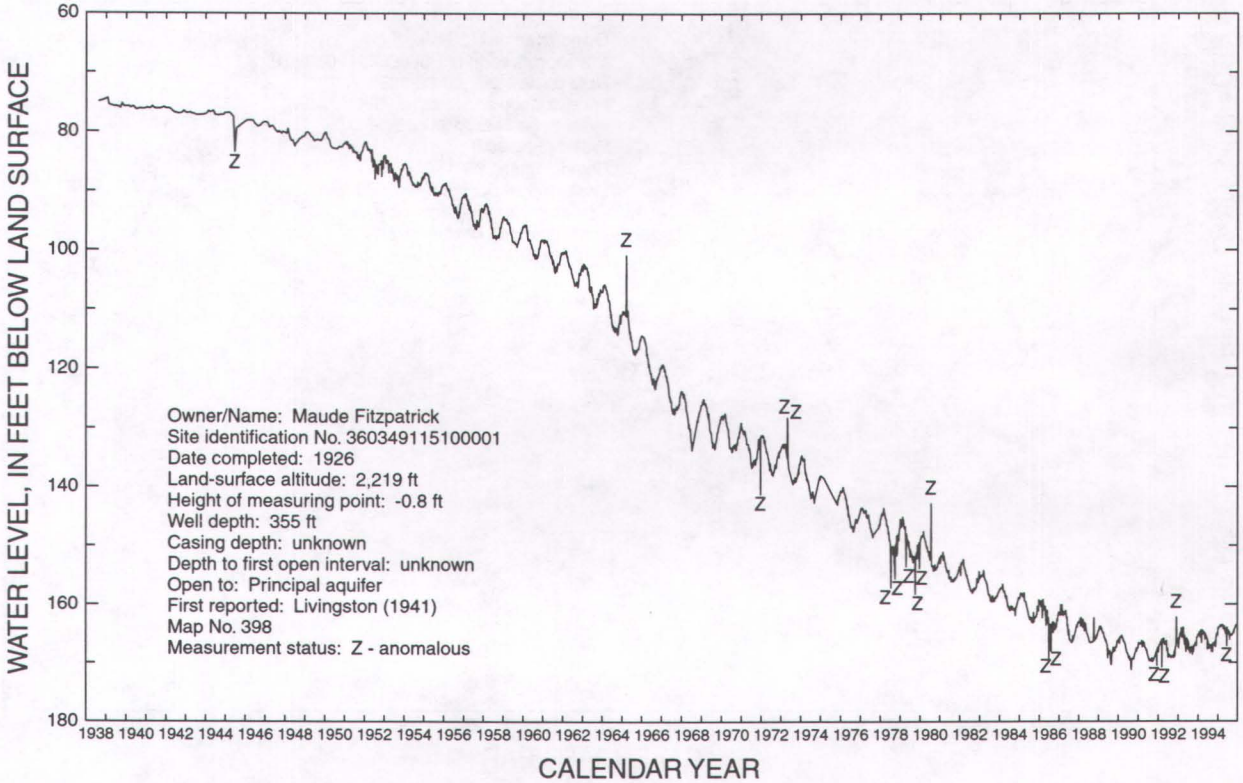

Figure 43. Water-level measurements in well 212 S22 E61 04BCB 1 in Las Vegas Valley, Nevada.

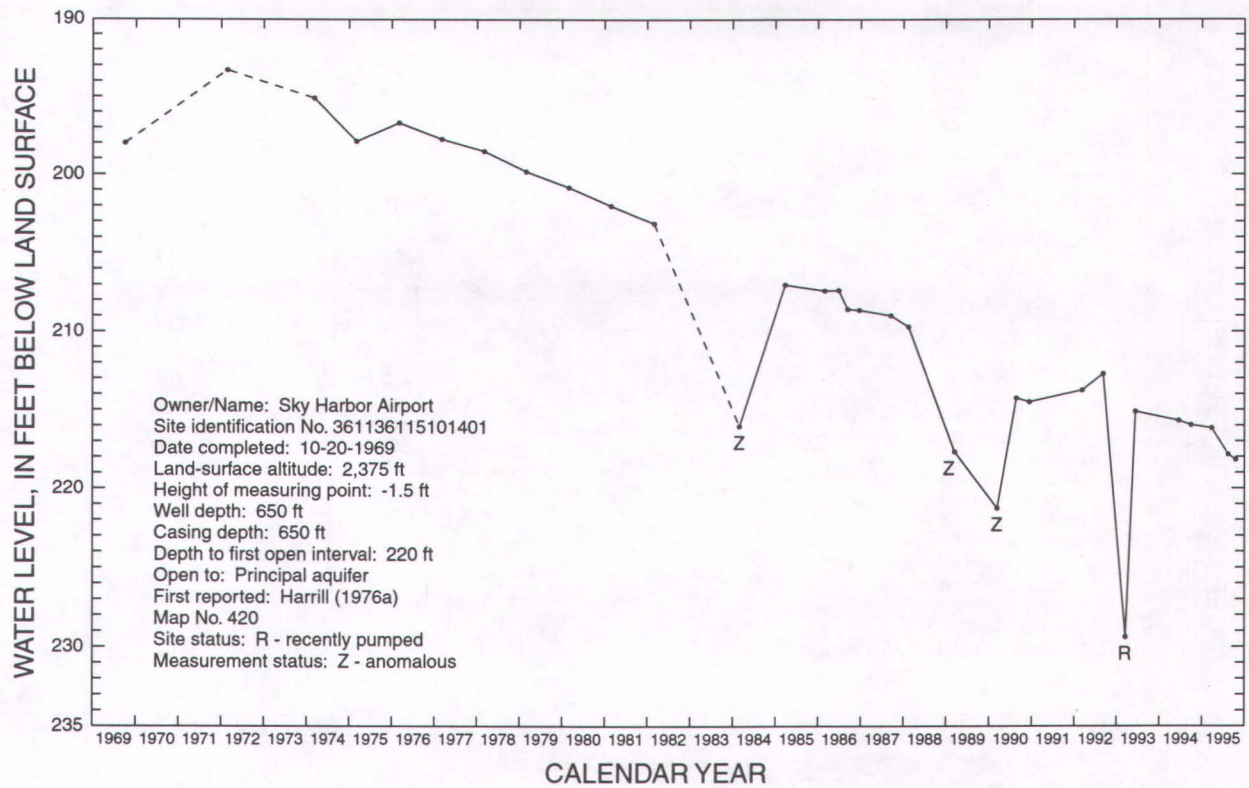

Figure 44. Water-level measurements in well 212 S23 E61 03BCC 1 in Las Vegas Valley, Nevada.

EXPLANATIONS AND ABBREVIATIONS FOR TABLES 1-3

Acronyms used for owners, local site names and monitoring agencies:

BMI	Basic Management, Inc.
CC	Clark County
CLV	City of Las Vegas
CNLV	City of North Las Vegas
DR	Desert Range
JHNwell	James Hardie gypsum mine, north well
JHSwell	James Hardie gypsum mine, south well
KENO	Call letters for local radio station
LG	Las Vegas ground water
LKMB	Lake Mead Base
LVLWC	Las Vegas Land and Water Company
LVVWD	Las Vegas Valley Water District
MPF	Maryland Parkway and Flamingo Road
NAFB	Nellis Air Force Base
NDF	Nevada Division of Forestry
NDOT	Nevada Department of Transportation
NDWR	Nevada Division of Water Resources
NVPN	Nevada Power Company, north well
NVPS	Nevada Power Company, south well
PVP	Paradise Vista Park
PZD	Piezometer, deep
PZM	Piezometer, middle
PZS	Piezometer, shallow
SBH	South of Black Hills
SNMRE	Unknown
SNWA	Southern Nevada Water Authority
SUB	Subsidence monitoring well
USAF	U.S. Air Force
USBLM	Bureau of Land Management
USBR	Bureau of Reclamation
USGS	U.S. Geological Survey

Application or permit number remarks:

#	Driller's log number duplicated in NDWR well log data base.
*	Number does not exist in NDWR water rights data base.
$	Number does not exist in NDWR well log data base.
?	May or may not be correct number or location.

Permit Type:

R	Reserved
S	Secondary
T	Temporary
V	Vested

Permit Status:

USGS abbrev.	Explanation	NDWR abbrev.
A	Abrogated	ABR
C	Cancelled	CAN
E	Expired	EXP
F	Forfeited	FOR
G	Certificate -or- Certified	CER -or- CET
M	Ready for action	RFA
N	Non-revocable	NRV
O	Proof -or- Proof of beneficial use	PRO -or- PBU
P	Permit -or- Permitted	PER
R	Revoked	RVK -or- REV
V	Revocable permit -or- Revocable	RVP
W	Withdrawn	WDR

Driller's Log Method:

A	Air-rotary
B	Bored or augered
C	Cable-tool
H	Hydraulic rotary
R	Reverse rotary
Z	Other

Site Type:

USGS abbrev.	Explanation	NDWR Abbrev.
A	Spring	SPR
C	Stream -or- Surface-water	STR -or- SUR
G	Other ground-water	OGW
L	Lake	LAK
S	Other surface-water	OSW
U	Underground	UG -or- UNG -or- UND

Site Use:

A	Abandoned [GWSI code: Anode]
O	Observation
R	Recharge
U	Unused
W	Withdrawal of water
X	Waste disposal
Z	Destroyed

Water use:

USGS abbrev.	Explanation	NDWR abbrev.
A	Artificial recharge -or- Recharge	AR -or- RE
C	Commercial -or- Construction -or- Washing of sand	CO -or- COM -or- CM -or- CON -or- CN -or- WS
D	Public supply and Artificial recharge	PR
H	Domestic	DO -or- DOM
I	Irrigation -or- Irrigation (Carey Act) -or- Irrigation (DLE)	IR -or- IRR -or- IRC -or- IRD
K	Mining -or- Milling -or -Mining & milling	MI -or- ML -or- MM
N	Industrial -or- Manufacturing -or- Railroad	IN -or- ID -or- IND -or- MA -or- RR
P	Public supply -or- Municipal -or- Quasi-Municipal -or- Production	MN -or- MUN -or- QM -or- PRO
R	Recreation -or- Parks & recreation	RC -or- REC -or- PR
S	Stock -or- Wildlife	AG -or- SW -or- STK -or- WL -or- WLD
U	Unused	

Depth to water:

Water-level measurements collected by NDWR and USGS represent the depth to water below land surface. Measurements collected by CNLV, LVVWD and SNWA represent the depth to water below the measuring point. Because of this difference in convention, water-level measurements collected by different agencies in the same well will differ by the height of the measuring point above or below land surface. Minus sign indicates water level above land surface; all other water levels are below land surface.

Water-level measurement method:

A	Airline
B	Analog or graphic recorder
C	County or local agency
E	Estimated
G	Pressure gage
R	Reported, method not known
S	Steel tape
T	Electric tape
Z	Nevada Division of Water Resources

Water-level measurement site status:

F	Flowing
J	Nearby site injected with water
P	Pumping
X	Surface-water affects
Z	Other

TABLE 1.--U.S. Geological Survey site designation, owner, and construction data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada

[Explanations at beginning of supplemental data section]

Map number (pl.1)	U.S. Geological Survey site designations: Standard identification number	U.S. Geological Survey site designations: Local number	Owner or local site name	Land-surface altitude (feet above sea level)	Well construction: Depth drilled (feet below land surface)	Well construction: Depth cased (feet below land surface)	Well construction: Casing diameter (inches)	Well construction: Depth to open intervals: Top of first (feet below land surface)	Well construction: Depth to open intervals: Bottom of last (feet below land surface)
			SELECTED HISTORICAL WATER-SUPPLY SPRINGS AND WELLS						
1	362620115212601	212 S17 E59 34ABB 1	Corn Creek Springs	2,931.					
2	361833115161201	212 S19 E60 09CDA 1	Tule Springs	2,463.					
3	361217115082201	212 S20 E61 15DCD 1	Kyle Springs	1,957.					
4	361039115113001	212 S20 E61 29CDCA1	Las Vegas Springs	2,098.					
5	361028115112601	212 S20 E61 30DDC 1	Las Vegas Little Spring	2,115.					
6	361031115111801	212 S20 E61 30DDD 1	Las Vegas Middle Spring	2,105.					
7	361018115112501	212 S20 E61 31AAB 1	Las Vegas Big Spring	2,125.					
8	360530115041701	212 S21 E62 29DBB 1	Grapevine Springs	1,785.					
9	360438115045801	212 S21 E62 31DAA 1	Stevens Springs	1,885.					
10	362516115225301	212 S18 E59 04B 1	Las Vegas & Tonopah Railroad Company	2,847.	--	--	--	--	--
11	361210115093501	212 S20 E61 21ABBB1	Vegas Artesian Water Syndicate Well 1	2,061.	236. 316.	214. 200.	10. 6.	214. 200.	236. 316.
12	361008115084101	212 S20 E61 34BCBC1	Union Pacific Railroad (Roundhouse well)	2,034.	780.	757.	10.	280.	594.
			LAS VEGAS LAND AND WATER COMPANY WATER-SUPPLY SPRINGS AND WELLS						
4	(SAME AS Las Vegas Springs)		LVLWC S01, S02, & S03						
5	(SAME AS Las Vegas Little Spring)		LVLWC S01						
6	(SAME AS Las Vegas Middle Spring)		LVLWC S02						
7	(SAME AS Las Vegas Big Spring)		LVLWC S03						
13	361027115110701	212 S20 E61 29CCCD1	LVLWC W01	2,110.	635.	572.	12.	572.	635.
14	360956115111401	212 S20 E61 31AADD1	LVLWC W02	2,148.	802.	802.	8.62	575.	797.
15	361049115080301	212 S20 E61 27DAAB1	LVLWC (Bunker Brothers Mortuary, Inc.)	1,965.	323.	270.	6.62	270.	323.
16	361033115112101	212 S20 E61 30DADD1	LVLWC W03	2,120.	800.	790.	8.62	531.	790.
17	361007115112001	212 S20 E61 31ADA 1	LVLWC W04	2,131.	806.	801.	7.	501.	801
18	361027115111401	212 S20 E61 30DDA 2	LVLWC W05	2,120.	489.	477.	10.75	268.	477.
19	361014115111401	212 S20 E61 31AADD2	LVLWC W06	2,133.	500.	498.	10.75	278.	498.
20	360952115110901	212 S20 E61 31ADD 1	LVLWC W07	2,125.	485.	460.	10.75	244.	460.
21	360942115111101	212 S20 E61 31DABA1	LVLWC W08	2,127.	776.	760.	10.75	477.	760.
22	360944115112701	212 S20 E61 31DDBB1	LVLWC W09	2,142.	472.	410.	10.75	193.	410.
23	360938115112801	212 S20 E61 31DDCB1	LVLWC W10	2,140.	1,250.	1,157.	7.	495.	1,157.
24	360946115112601	212 S20 E61 31DACC1	LVLWC W11	2,133.	940.	904.	10.75	541.	902.
25	361047115080001	212 S20 E61 27DAAD1	LVLWC (Elks Lodge)	1,947.	1,128.	1,128.	16.75	405.	1,128.
26	360938115111101	212 S20 E61 31DADC1	LVLWC W12	2,129.	1,200.	1,200.	16.	500.	1,184.
27	361019115111401	212 S20 E61 30DDDD1	LVLWC W13	2,119.	1,199.	1,199.	16.	584.	1,161.

TABLE 1.--U.S. Geological Survey site designation, owner, and construction data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Map number (pl.1)	U.S. Geological Survey site designations: Standard identification number	U.S. Geological Survey site designations: Local number	Owner or local site name	Land-surface altitude (feet above sea level)	Well construction: Depth drilled (feet below land surface)	Well construction: Depth cased (feet below land surface)	Well construction: Casing diameter (inches)	Well construction: Depth to open intervals: Top of first (feet below land surface)	Well construction: Depth to open intervals: Bottom of last (feet below land surface)
			LAS VEGAS VALLEY WATER DISTRICT WATER-SUPPLY SPRINGS AND WELLS AND ARTIFICIAL-RECHARGE WELLS						
4	(SAME AS LVLWC S01-03)		LVVWD S01, S02, & S03						
5	(SAME AS LVLWC S01)		LVVWD S01						
6	(SAME AS LVLWC S02)		LVVWD S02						
7	(SAME AS LVLWC S03)		LVVWD S03						
28	360918115144001	212 S21 E60 03ADBB1	LVVWD AR001	2,415.	1,220.	930.	12.	490.	920.
29	360744115133701	212 S21 E60 14AABA1	LVVWD AR002	2,298.	1,007.	780.	12.	200.	760.
30	360743115133501	212 S21 E60 14AABA2	LVVWD AR003	2,298.	780.	780.	12.	200.	760.
31	360728115165901	212 S21 E60 17ACAD1	LVVWD AR004	2,623.	904.	800.	12.	200.	760.
32	360731115165901	212 S21 E60 17ACAB1	LVVWD AR005	2,623.	800.	800.	12.	200.	760.
33	360935115154801	212 S20 E60 33DDCC1	LVVWD AR006	2,534.	805.	780.	12.75	280.	760.
34	360938115154201	212 S20 E60 33DDCA1	LVVWD AR007	2,540.	805.	780.	12.75	280.	760.
35	360945115153101	212 S20 E60 34CCBB1	LVVWD AR008	2,509.	807.	780.	12.75	280.	760.
36	360940115152501	212 S20 E60 34CCBD1	LVVWD AR009	2,502.	808.	780.	12.75	280.	760.
37	361235115151801	212 S20 E60 15CABC1	LVVWD AR010	2,368.	862.	840.	12.75	280.	820.
--	(NUMBERS NOT ASSIGNED)		LVVWD AR011 - LVVWD AR073						
38	361601115162101	212 S19 E60 28CAC 2	LVVWD AR074A	2,431.	450.	435.	12.	375.	415.
39	361602115162102	212 S19 E60 28CAC 3	LVVWD AR074B	2,430.	450.	435.	20.	315.	415.
--	(NUMBERS NOT ASSIGNED)		LVVWD AR075 - LVVWD AR097						
40	361425115171001	212 S20 E60 05DBBA2	LVVWD AR098	2,429.	830.	810.	20.	450.	790.
--	(NUMBERS NOT ASSIGNED)		LVVWD AR099 - LVVWD AR107						
41	361450115171801	212 S20 E60 05BAA 1	LVVWD AR108	2,454.	930.	880.	20.	360.	860
42	361448115171801	212 S20 E60 05BAAD1	LVVWD AR109	2,452.	912.	880.	12.75	480.	860.
--	(NUMBER NOT ASSIGNED)		LVVWD AR110						
43	360908115154501	212 S21 E60 04ADDC1	LVVWD AR111	2,546.	1,030.	1,010.	20.	570.	990.
--	(NUMBER NOT ASSIGNED)		LVVWD AR112						
44	361351115175101	212 S20 E60 07AADA1	LVVWD AR113	2,540.	1,000.	980.	20.	620.	960.
--	(NUMBERS NOT ASSIGNED)		LVVWD AR114 - LVVWD AR???						
45	360254115241801	212 S22 E59 07DBAA1	LVVWD BD001	3,385.	52.	52.	10.	42.	52.
13	(SAME AS LVLWC W01)		LVVWD W001						
46	360940115133701	212 S20 E60 35DDA 2	LVVWD W001A	2,295.	1,013.	1,006.	20.	550.	986.
14	(SAME AS LVLWC W02)		LVVWD W002						
47	361120115140101	212 S20 E60 23CDD 2	LVVWD W002A	2,332.	991.	991.	20.	500.	968.
16	(SAME AS LVLWC W03)		LVVWD W003						
48	361120115105301	212 S20 E61 20CDC 1	LVVWD W003A	2,125.	943.	925.	20.	483.	925.
--		212 S20 E61 30	LVVWD (Wells 3 & 13)						
17	(SAME AS LVLWC W04)		LVVWD W004						
--		212 S20 E61 31	LVVWD (Wells 4 & 6)						
18	(SAME AS LVLWC W05)		LVVWD W005						
49	361121115142701	212 S20 E60 23CCC 1	LVVWD W005A	2,358.	998.	992.	20.	480.	980.

TABLE 1.--U.S. Geological Survey site designation, owner, and construction data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Map number (pl.1)	U.S. Geological Survey site designations: Standard identification number	U.S. Geological Survey site designations: Local number	Owner or local site name	Land-surface altitude (feet above sea level)	Well construction: Depth drilled (feet below land surface)	Well construction: Depth cased (feet below land surface)	Well construction: Casing diameter (inches)	Well construction: Depth to open intervals: Top of first (feet below land surface)	Well construction: Depth to open intervals: Bottom of last (feet below land surface)
19	(SAME AS LVLWC W06)		LVVWD W006						
20	(SAME AS LVLWC W07)		LVVWD W007						
50	361002115112601	212 S20 E61 31ADD 2	LVVWD W007A	2,122.	932.	932.	20.	548.	905.
21	(SAME AS LVLWC W08)		LVVWD W008						
--		212 S20 E61 31	LVVWD(Wells 8,9,10,11,&12)						
22	(SAME AS LVLWC W09)		LVVWD W009						
23	(SAME AS LVLWC W10)		LVVWD W010						
24	(SAME AS LVLWC W11)		LVVWD W011						
51	360945115112501	212 S20 E61 31DACC2	LVVWD W011A	2,128.	1,019.	1,000.	20.	360.	980.
26	(SAME AS LVLWC W12)		LVVWD W012						
27	(SAME AS LVLWC W13)		LVVWD W013						
52	361012115112601	212 S20 E61 31AABB1	LVVWD W014	2,147.	1,014.	1,014.	16.	510.	1,002.
53	361027115112101	212 S20 E61 30DDB 1	LVVWD W015	2,152.	1,022.	1,022.	16.	517.	1,010.
54	361027115112501	212 S20 E61 30DDC 1	LVVWD W015A	2,145.	902.	902.	20.	560.	878.
55	361023115114401	212 S20 E61 30CDDD1	LVVWD W016	2,166.	1,050.	1,050.	16.	500.	1,030.
56	361037115114601	212 S20 E61 30CDAA1	LVVWD W017	2,172.	1,002.	1,002.	16.	250.	990.
57	360318115123501	212 S22 E60 01DDDC1	LVVWD W018	2,363.	1,071.	1,071.	16.	250.	1,055.
58	361106115143001	212 S20 E60 27AAD 1	LVVWD W018A	2,374.	1,000.	997.	20.	455.	985.
59	360934115151201	212 S20 E60 34CCB 1	LVVWD W019	2,510.	1,002.	1,002.	16.	500.	970.
60	360649115090001	212 S21 E61 22BBAD1	LVVWD W020	2,041.	1,200.	1,200.	16.	318.	786.
61	360935115153201	212 S20 E60 34CCCC2	LVVWD W021	2,506.	1,000.	1,000.	16.	475.	870.
62	360336115122101	212 S22 E61 06CCB 1	LVVWD W022	2,349.	1,000.	968.	16.	300.	850.
63	361206115153701	212 S20 E60 21AAD 1	LVVWD W022A	2,420.	937.	935.	20.	575.	915.
64	360346115121701	212 S22 E61 06CBA 1	LVVWD W023	2,343.	1,002.	1,002.	16.	250.	990.
65	361212115154201	212 S20 E60 21AAB 1	LVVWD W023A	2,421.	975.	975.	20.	500.	893.
66	361025115133801	212 S20 E60 26DCC 1	LVVWD W024	2,335.	960.	960.	16.	400.	930.
67	360355115121301	212 S22 E61 06BCD 1	LVVWD W025	2,331.	1,003.	1,000.	16.	328.	965.
68	361021115113701	212 S20 E61 30CDCC1	LVVWD W026	2,186.	1,005.	1,005.	16.	208.	980.
69	361029115114701	212 S20 E61 30CDBB1	LVVWD W027	2,187.	1,005.	998.	16.	205.	976.
70	361303115140301	212 S20 E60 11CAAA1	LVVWD W028	2,287.	1,003.	1,000.	16.	307.	965.
71	361301115141901	212 S20 E60 11CBA 1	LVVWD W029	2,299.	1,000.	1,000.	16.	177.	900.
72	361000115112901	212 S20 E61 31ACBB1	LVVWD W030	2,165.	1,000.	1,000.	16.	257.	905.
73	360952115113801	212 S20 E61 31DB	LVVWD W031	2,165.	1,000.	1,000.	16.	270.	932.
74	360936115112601	212 S20 E61 31DBC 1	LVVWD W032	2,166.	1,000.	1,000.	16.	260.	900.
75	361301115142401	212 S20 E60 11CBBB1	LVVWD W033	2,300.	1,000.	1,000.	16.	250.	900.
76	361021115105901	212 S20 E61 29CCCD2	LVVWD W034	2,106.	1,000.	1,000.	16.	550.	850.
77	360929115152201	212 S20 E60 34CCC 1	LVVWD W035	2,498.	1,000.	1,000.	16.	450.	970.
78	360604115035301	212 S21 E62 20DDD 1	LVVWD W036A	--	458.	230.	6.	--	--
79	360604115035302	212 S21 E62 20DDD 2	LVVWD W036B	--	500.	212.	6.	--	--
80	360926115055201	212 S21 E62 06BB	LVVWD W037A	--	480.	70.	11.	--	--

TABLE 1.--U.S. Geological Survey site designation, owner, and construction data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Map number (pl.1)	U.S. Geological Survey site designations: Standard identification number	Local number	Owner or local site name	Land-surface altitude (feet above sea level)	Well construction: Depth drilled (feet below land surface)	Depth cased (feet below land surface)	Casing diameter (inches)	Depth to open intervals: Top of first (feet below land surface)	Depth to open intervals: Bottom of last (feet below land surface)
81	360926115060901	212 S21 E61 01AA	LVVWD W037B	--	150.	45.	8.	--	--
82	360936115140801	212 S20 E60 35CBBC1	LVVWD W038	2,386.	883.	883.	16.	392.	883.
83	360557115083401	212 S21 E61 27AB	LVVWD W039	--	400.	400.	10.75.	60.	400.
84	360556115095501	212 S21 E61 28BA	LVVWD W040	--	--	--	--	--	--
85	360556115095502	212 S21 E61 28BA	LVVWD W041	--	905.	900.	12.	200.	900.
86	360530115083401	212 S21 E61 27DB	LVVWD W042	--	1,200.	1,200.	12.75	500.	1,135.
87	360518115082401	212 S21 E61 27DDBC1	LVVWD W043	2,050.	1,200.	1,200.	12.	500.	1,150.
88	361141115115701	212 S20 E61 19BCBA1	LVVWD W044	2,199.	1,004.	1,000.	16.	225.	895.
89	361134115115701	212 S20 E61 19BCCC1	LVVWD W045	2,200.	1,004.	1,000.	16.	225.	895.
90	361254115124701	212 S20 E60 12DCB 1	LVVWD W046	2,252.	400.	400.	10.75	100.	400.
91	361045115122701	212 S20 E60 25DA	LVVWD W047	--	503.	503.	6.62	208.	503.
92	361032115121701	212 S20 E60 25DD	LVVWD W048	--	504.	504.	10.	156.	500.
93	360739115055201	212 S21 E61 18BB	LVVWD W049A	--	267.	267.	8.	118.	267.
94	360739115055202	212 S21 E61 18BB	LVVWD W049B	--	405.	405.	8.	150.	400.
95	360730115051601	212 S21 E61 18ACA	LVVWD W049C	--	465.	465.	10.75	100.	465.
96	361002115130801	212 S20 E60 36BDDD1	LVVWD W050	2,255.	830.	830.	12.75	251.	824.
97	361143115133801	212 S20 E60 23AABA1	LVVWD W051	2,267.	900.	900.	16.	330.	886.
98	361141115130801	212 S20 E60 24BBBA1	LVVWD W052	2,255.	900.	900.	16.	200.	859.
99	361635115144001	212 S19 E60 27AAB 1	LVVWD W053	2,342.	605.	--	8.	--	--
100	361122115105301	212 S20 E61 20CDC 1	LVVWD W054A	2,109.	325.	325.	8.	300.	325.
101	361128115105301	212 S20 E61 20CDB 1	LVVWD W054B	2,110.	340.	320.	8.	300.	320.
102	360625115090601	212 S21 E61 22CB 1	LVVWD W055	2,055.	300.	300.	10.	85.	300.
103	361111115125901	212 S20 E60 25BA	LVVWD W056	--	250.	198.	10.	88.	198.
104	361222115105601	212 S20 E61 17CDB 1	LVVWD W057A	2,142.	--	--	8.	--	--
105	361214115105401	212 S20 E61 17CDC 1	LVVWD W057B	2,135.	--	--	8.	--	--
106	361159115104101	212 S20 E61 17CAB 1	LVVWD W057C	2,145.	655.	655.	8.	550.	640.
107	361145115094801	212 S20 E61 21BAB 1	LVVWD W057D	2,064.	400.	400.	10.	148.	400.
108	360938115064601	212 S20 E61 36CC	LVVWD W058	--	450.	439.	8.	--	--
109	360856115095901	212 S21 E61 04DAC 1	LVVWD W059A	--	810.	810.	7.62	500.	810.
110	360856115095902	212 S21 E61 04DAC 2	LVVWD W059B	--	650.	650.	7.	374.	650.
111	360859115095501	212 S21 E61 04DA	LVVWD W059C	--	400.	400.	10.	300.	380.
112	360859115095502	212 S21 E61 04DA	LVVWD W059D	--	430.	430.	10.75	150.	430.
					510.	510.	10.75	150.	495.
113	361206115031501	212 S20 E62 21BA	LVVWD W060A	--	205.	100.	10.	--	--
					350.	90.	10.	--	--
114	361206115024201	212 S20 E62 21AA	LVVWD W060B	--	225.	225.	8.	100.	225.
115	361206115024301	212 S20 E62 21AA	LVVWD W060C	--	200.	200.	10.	100.	200.
					400.	400.	10.75	100.	400.

TABLE 1.--U.S. Geological Survey site designation, owner, and construction data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Map number (pl.1)	U.S. Geological Survey site designations: Standard identification number	U.S. Geological Survey site designations: Local number	Owner or local site name	Land-surface altitude (feet above sea level)	Well construction: Depth drilled (feet below land surface)	Well construction: Depth cased (feet below land surface)	Well construction: Casing diameter (inches)	Well construction: Depth to open intervals: Top of first (feet below land surface)	Well construction: Depth to open intervals: Bottom of last (feet below land surface)
116	360757115064501	212 S21 E61 12CDB 1	LVVWD W061	1,893.	333.	--	8.	--	--
---	(NUMBERS NOT ASSIGNED)		LVVWD W062 - LVVWD W067						
117	361012115112901	212 S20 E61 31AACC1	LVVWD W068	2,145.	1,100.	970.	20.	270.	930.
118	361313115154301	212 S20 E60 09DD 1	LVVWD W069	2,367.	1,309.	1,143.	20.	500.	1,122.
119	360944115152901	212 S20 E60 34CCBB1	LVVWD W070	2,503.	1,200.	1,180.	20.	660.	1,160.
120	360935115152701	212 S20 E60 34CCCD1	LVVWD W071	2,500.	1,201.	1,070.	20.	650.	1,050.
121	361324115153601	212 S20 E60 09DADA1	LVVWD W072	2,352.	1,626.	1,595.	20.	855.	1,575.
122	361208115142401	212 S20 E60 23BB 1	LVVWD W073	2,318.	1,200.	1,034.	20.	450.	1,014.
123	361602115162101	212 S19 E60 28CAC 1	LVVWD W074	2,431.	1,155.	1,136.	20.	375.	1,116.
124	361609115160901	212 S19 E60 28CAA 1	LVVWD W075	2,420.	1,150.	1,150.	20.	650.	1,110.
125	361052115153801	212 S20 E60 28DAAB1	LVVWD W076	2,483.	1,321.	1,200.	20.	610.	1,190.
126	361139115140401	212 S20 E60 23CA 1	LVVWD W077	2,309.	1,130.	1,110.	20.	450.	1,090.
127	361312115180401	212 S20 E60 07DCDA1	LVVWD W078	2,594.	1,048.	1,020.	20.	700.	980.
128	361029115104701	212 S20 E61 29CDDB1	LVVWD W079	2,093.	1,280.	1,260.	20.	300.	1,240.
129	361026115105301	212 S20 E61 29CDCC1	LVVWD W080	2,098.	1,290.	1,270.	20.	300.	1,250.
130	361007115111501	212 S20 E61 31ADAD1	LVVWD W081	2,122.	1,200.	1,175.	20.	555.	1,155.
131	361001115112501	212 S20 E61 31AAC 1	LVVWD W082	2,129.	1,121.	910.	20.	290.	890.
132	360952115111601	212 S20 E61 31DADD1	LVVWD W083	2,120.	1,185.	1,160.	20.	540.	1,140.
133	360936115111601	212 S20 E61 31DDDA1	LVVWD W084	2,118.	1,190.	1,170.	20.	540.	1,150.
134	361135115135801	212 S20 E60 23CADD1	LVVWD W085	2,308.	1,200.	1,170.	20.	470.	1,150.
135	360912115144301	212 S21 E60 03ADCA1	LVVWD W086	2,428.	910.	890.	24.	560.	870.
136	361121115155001	212 S20 E60 21DDCC1	LVVWD W087	2,482.	1,367.	1,320.	20.	600.	1,280.
137	361235115151701	212 S20 E60 15CBAD1	LVVWD W088	2,366.	1,330.	1,310.	20.	530.	1,290.
138	360925115140001	212 S21 E60 02ABCB1	LVVWD W089	2,343.	1,140.	1,140.	20.	460.	1,100.
139	361315115171501	212 S20 E60 08CDAD1	LVVWD W090	2,484.	1,320.	1,290.	24.	600.	1,250.
140	361404115180601	212 S20 E60 06DCDD1	LVVWD W091	2,560.	1,130.	1,110.	24.	650.	1,090.
141	361330115160201	212 S20 E60 09DBBA1	LVVWD W092	2,380.	1,230.	1,180.	24.	520.	1,140.
142	361117115155701	212 S20 E60 28ABAB1	LVVWD W093	2,498.	1,198.	1,140.	24.	600.	1,120.
143	361354115153201	212 S20 E60 10BBBD1	LVVWD W094	2,339.	1,320.	1,300.	24.	540.	1,260.
144	361315115174101	212 S20 E60 08CCBD1	LVVWD W095	2,536.	1,260.	1,260.	24.	620.	1,220.
145	361316115182101	212 S20 E60 07CDA 1	LVVWD W096	2,632.	1,156.	1,120.	24.	680.	1,080.
146	361039115145701	212 S20 E60 27DBCC1	LVVWD W097	2,422.	1,190.	1,160.	24.	560.	1,040.
147	361426115171001	212 S20 E60 05DBBA1	LVVWD W098	2,430.	1,255.	1,240.	24.	540.	1,220.
---	(NUMBER NOT ASSIGNED)		LVVWD W099						
---	(NUMBER NOT ASSIGNED)		LVVWD W100						
148	361330115151701	212 S20 E60 10CABB1	LVVWD W101	2,334.	1,215.	1,200.	24.	460.	1,120.
149	361154115151901	212 S20 E60 22BCAD1	LVVWD W102	2,404.	1,205.	1,120.	24.	600.	1,100.
150	361356115150501	212 S20 E60 10BAAA1	LVVWD W103	2,329.	1,217.	1,200.	24.	400.	1,160.
151	360901115141401	212 S21 E60 02CBAC1	LVVWD W104	2,363.	1,098.	1,020.	24.	520.	1,000.

TABLE 1.--U.S. Geological Survey site designation, owner, and construction data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Map number (pl.1)	U.S. Geological Survey site designations: Standard identification number	U.S. Geological Survey site designations: Local number	Owner or local site name	Land-surface altitude (feet above sea level)	Well construction: Depth drilled (feet below land surface)	Well construction: Depth cased (feet below land surface)	Well construction: Casing diameter (inches)	Well construction: Depth to open intervals: Top of first (feet below land surface)	Well construction: Depth to open intervals: Bottom of last (feet below land surface)
152	361100115151401	212 S20 E60 27BDBC1	LVVWD W105	2,439.	1,210.	1,180.	24.	600.	1,140.
---	(NUMBERS NOT ASSIGNED)		LVVWD W106 - LVVWD W107						
42	(CHANGED TO AR109)		LVVWD W108						
---	(NUMBER NOT ASSIGNED)		LVVWD W109						
153	361359115165501	212 S20 E60 08AABB1	LVVWD W110	2,426.	1,290.	1,220.	24.	640.	1,200.
---	(NUMBER NOT ASSIGNED)		LVVWD W111						
154	361420115170401	212 S20 E60 05DBDB1	LVVWD W112	2,430.	1,200.	1,180.	24.	560.	1,160.
155	361353115175201	212 S20 E60 07AADA1	LVVWD W113	2,540.	1,222.	1,200.	24.	620.	1,180.
156	361333115170501	212 S20 E60 08DBAB1	LVVWD W114	2,458.	1,314.	1,270.	24.	550.	1,250.
157	361333115164601	212 S20 E60 08DAAB1	LVVWD W115	2,431.	1,317.	1,260.	24.	540.	1,240.
158	361239115143901	212 S20 E60 15DABA1	LVVWD W116	2,323.	1,315.	1,280.	24.	480.	1,260.
159	361305115152501	212 S20 E60 15BBAB1	LVVWD W117	2,357.	1,317.	1,300.	24.	480.	1,280.
			CITY OF NORTH LAS VEGAS WATER-SUPPLY AND ARTIFICIAL-RECHARGE WELLS						
160	361237115121401	212 S20 E61 18BCCD1	CNLV Airport	2,208.	500.	500.	10.	300.	500.
161	361456115111001	212 S19 E61 32CC	CNLV Allen & Lone Mountain	2,190.	650.	630.	12.75	470.	610.
162	361226115065901	212 S20 E61 14DA	CNLV Boris Terrace	1,859.	507.	507.	16.	80.	487.
163	361256115103101	212 S20 E61 08DCD 1	CNLV Carlton Square 1	2,193.	675.	470.	8.	230.	650.
164	361303115102301	212 S20 E61 08DBC 1	CNLV Carlton Square 2	2,190.	1,245.	1,172.	30.	150.	1,150.
165	361140115064901	212 S20 E61 24CBB 1	CNLV College Park 1	1,843.	606.	450.	20.	150.	450.
166	361110115064601	212 S20 E61 24CCAB1	CNLV College Park 2	1,840.	500.	500.	12.75	186.	490.
167	361704115121901	212 S19 E61 19BC	CNLV Deer Springs	2,300.	650.	640.	16.	250.	620.
168	361346115115901	212 S20 E61 06CBDD1	CNLV Desert Aire	2,211.	1,000.	1,000.	30.	758.	986.
169	361324115104901	212 S20 E61 13CB	CNLV Desert View	--	550.	550.	12.75	115.	550.
170	361232115061001	212 S20 E61 13ABDB1	CNLV Diana Terrace	1,857.	1,230.	1,080.	14.	102.	1,039.
171	362003115164801	212 S19 E60 05AA	CNLV Dollar Answer Well	--	1,005.	--	--	--	--
172	361141115060801	212 S20 E61 24ADB 1	CNLV East Vegas 1	1,827.	450.	450.	20.	90.	450.
173	361159115061001	212 S20 E61 13DCC 1	CNLV East Vegas 2	1,833.	450.	450.	10.5	200.	450.
174	361147115062101	212 S20 E61 24ACCC1	CNLV East Vegas 3	--	450.	450.	20.	78.	426.
175	361303115124501	212 S20 E60 12DBB 1	CNLV Elstner Estates	2,252.	800.	800.	16.	160.	800.
176	361327115125301	212 S20 E60 12DB	CNLV Elstner Estates 2	2,248.	990.	990.	16.	660.	990.
177	361226115072901	212 S20 E61 23BB	CNLV Federal Park	1,883.	550.	550.	20.	100.	540.
178	361148115080701	212 S20 E61 22ACD 2	CNLV Fun Center North	1,913.	853.	851.	10.25	273.	843.
179	361147115081201	212 S20 E61 22ACD 1	CNLV Fun Center South	1,915.	752.	712.	8.	628.	712.
180	361236115084201	212 S20 E61 15BDB 1	CNLV Galucci	2,035.	730.	730.	16.	226.	679.
181	361243115052501	212 S20 E62 18BBAD1	CNLV Gowen 1	1,847.	700.	700.	10.	350.	550.
182	361250115051801	212 S20 E62 18BABA1	CNLV Gowen 2	1,845.	450.	450.	8.62	80.	450.
183	361123115070101	212 S20 E61 23DD	CNLV Grandview	1,846.	450.	450.	10.	150.	450.
184	361147115094001	212 S20 E61 21BAAB1	CNLV Highland School	2,064.	397.	395.	10.	200.	395.

TABLE 1.--U.S. Geological Survey site designation, owner, and construction data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

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185	361349115070501	212 S20 E61 11AA 1	CNLV Leavitt	1,905.	1,040.	982.	14.75	499.	970.
186	361218115082901	212 S20 E61 15DCCB1	CNLV Losee	--	500.	298.	8.	--	--
187	361214115070501	212 S20 E61 14DDD 1	CNLV Main	1,858.	402.	--	8.	--	--
188	361213115064301	212 S20 E61 13CC	CNLV McCarran North	1,845.	400.	400.	12.	75.	400.
189	361156115064001	212 S20 E61 24BD	CNLV McCarran South	1,839.	422.	140.	8.	50.	140.
190	361252115071501	212 S20 E61 14DA	CNLV Northland Park	1,895.	472.	472.	12.75	110.	448.
					891.	891.	6.62	643.	891.
191	361522115091501	212 S19 E61 33AD	CNLV North Revere Well	--	1,070.	300.	6.	200.	300.
192	361132115082301	212 S20 E61 22DCB 1	CNLV Railroad	1,936.	740.	500.	12.	--	--
193	361626115090701	212 S19 E61 21DDB 1	CNLV Regional Park 1	2,160.	1,300.	1,300.	--	50.	1,300.
194	361531115093201	212 S19 E61 33ABCC1	CNLV Regional Park 2	2,117.	700.	700.	8.	300.	700.
195	361254115081201	212 S20 E61 15AAC 1	CNLV Reservoir 1	2,000.	1,171.	1,171.	14.	580.	1,160.
196	361254115081202	212 S20 E61 15AB	CNLV Reservoir 2	2,003.	1,925.	1,700.	14.	590.	1,660.
197	361257115082301	212 S20 E61 15AB	CNLV Reservoir 2A	--	1,220.	1,200.	30.	400.	1,200.
198	361201115111601	212 S20 E61 18DCB 1	CNLV Robinson	2,179.	1,000.	1,000.	14.	660.	990.
199	361121115082601	212 S20 E61 22DCB 2	CNLV Sakai	--	450.	--	8.	--	--
					855.	855.	16.	215.	725.
					500.	500.	12.75	470.	500.
200	361355115113901	212 S20 E61 07AB	CNLV Silver Mesa	2,215.	950.	930.	16.	700.	910.
201	361238115104601	212 S20 E61 17CA 1	CNLV Simmons & Evans	2,160.	1,000.	970.	12.	430.	950.
202	361148115104601	212 S20 E61 20BD 1	CNLV Simmons & Lake Mead	2,105.	1,040.	1,030.	16.	400.	1,010.
203	361120115082201	212 S20 E61 22DCA 2	CNLV Stocker North	1.944.	--	--	8.	--	--
204	361128115082201	212 S20 E61 22DCD 2	CNLV Stocker South	1,936.	250.	--	8.	--	--
205	361331115115501	212 S20 E61 07DB	CNLV Sun Valley	2,210.	910.	910.	26.	680.	890.
206	361120115080401	212 S20 E61 22DACD1	CNLV Tonopah	1,911.	1,105.	1,019.	14.	249.	1,019.
207	361458115142001	212 S20 E60 02AB	CNLV Torrey Pines	2,316.	250.	250.	8.	140.	240.
208	361844115121701	212 S19 E61 07BC 1	CNLV UNLV Well	2,340.	520.	520.	8.62	250.	500.
209	361141115085001	212 S20 E61 22BCDD1	CNLV Valley View	2,019.	1,000.	950.	14.75	500.	925.
210	361238115112101	212 S20 E61 18ABB 1	CNLV West Cheyenne 1	2,198.	975.	930.	16.	930.	975.
211	361238115112102	212 S20 E61 18ABB 2	CNLV West Cheyenne 2	2,198.	1,000.	978.	32.	506.	950.
212	361110115082401	212 S20 E61 22DCD 1	CNLV West Tank	1,957.	600.	--	8.	--	--
					450.	450.	12.	75.	450.
213	361400115040901	212 S20 E62 05CAAA1	CNLV Wilshire	1,869.	1,000.	952.	14.75	500.	940.
			NELLIS AIR FORCE BASE WATER-SUPPLY WELLS						
214	361423115081601	212 S20 E61 03ADC 1	Las Vegas Army Airfield	--	340.	--	7.62	--	--
215	361423115081602	212 S20 E61 03ADC 2	Las Vegas Army Airfield	--	400.	--	6.25	--	--
216	361418115081201	212 S20 E61 03DAB 1	Las Vegas Army Airfield	--	242.	--	8.	--	--
217	361452114594701	212 S19 E62 36DCC 1	USAF Lake Mead 1	--	1,502.	1,174.	14.	282.	1,154.
218	361453114594301	212 S19 E62 36DBB 1	USAF Lake Mead 2	1,895.	1,434.	1,434.	14.	288.	1,424.

TABLE 1.--U.S. Geological Survey site designation, owner, and construction data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Map number (pl.1)	U.S. Geological Survey site designations: Standard identification number	U.S. Geological Survey site designations: Local number	Owner or local site name	Land-surface altitude (feet above sea level)	Well construction: Depth drilled (feet below land surface)	Well construction: Depth cased (feet below land surface)	Well construction: Casing diameter (inches)	Well construction: Depth to open intervals: Top of first (feet below land surface)	Well construction: Depth to open intervals: Bottom of last (feet below land surface)
219	361421115001601	212 S20 E62 01BBC 1	USAF Lake Mead 3	1,865.	1,247.	1,026.	--	96.	1,026.
220	361445115001601	212 S19 E62 36CCB 1	USAF Lake Mead 4	1,874.	1,036.	882.	28.	96.	882.
221	361451115004401	212 S19 E62 35DCDC1	USAF Lake Mead 5	1,867.	838.	838.	30.	370.	810.
222	361412115023501	212 S20 E62 04ADD 1	USAF Nellis 1	1,871.	800.	800.	16.	90.	784.
223	361344115081401	212 S20 E61 03DAD 1	USAF Nellis 2	1,982.	300.	300.	20.	120.	300.
224	361410115025701	212 S20 E62 04DCA 1	USAF Nellis 3	1,865.	795.	786.	16.	150.	--
225	362748115081901	212 S20 E61 03ADC 3	USAF Nellis 4	1,990.	500.	449.	12.	203.	239.
226	361443115022001	212 S20 E62 03BBD 1	USAF Nellis 5	--	242.	--	8.	--	--
227	361331115025301	212 S20 E62 09ABC 1	USAF Nellis 6	1,840.	1,000.	850.	12.75	144.	826.
228	361327115032401	212 S20 E62 09BCC 1	USAF Nellis 7	1,837.	1,000.	760.	12.75	150.	760.
229	361412115080801	212 S20 E61 03DAD 2	USAF Nellis 8	1,973.	913.	912.	24.	150.	900.
---	(NUMBER NOT ASSIGNED)		USAF Nellis 9						
230	361449115022901	212 S20 E62 03BBCC1	USAF Nellis 10	1,889.	1,497.	1,497.	20.	100.	1,497.
231	361258115024301	212 S20 E62 09DCDD1	USAF Nellis 11 (X)	1,818.	802.	802.	12.	302.	778.
232	361233115021501	212 S20 E62 15BBAB1	USAF Nellis 12 (C)	1,816.	1,000.	1,000.	14.	320.	980.
233	361241115024801	212 S20 E62 16ACC 1	USAF Nellis 13 (B)	1,811.	1,000.	694.	14.	274.	674.
234	361258115032101	212 S20 E62 09CCC 1	USAF Nellis 14 (A)	1,827.	650.	650.	14.	290.	630.
235	362830115270501	212 S17 E58 14BCBA1	USAF Well 2372-1	3,180.	300.	--	--	--	--
			WATER-LEVEL MONITORING WELLS						
236	363332115244001	212 S16 E58 14A 1	DR-1	3,579.	960.	930.	8.	870.	930.
237	363212115240301	212 S16 E58 23DDD 1	SBH-1	3,475.	720.	720.	6.	665.	695.
238	362750115244001	212 S17 E59 20BD 1	USBLM	2,950.	515.		10.75	100.	260.
239	361622115350501	212 S19 E57 28ADA 1	Paul Kingston	5,660.	--	--	8.	--	--
240	362004115205401	212 S19 E59 02BBBD1	Lynn Haplin	3,112.	850.	850.	6.62	770.	840.
241	361907115212801	212 S19 E59 10ABCA1	Browning	3,298.	860.	860.	8.62	760.	860.
242	361614115182301	212 S19 E59 25ADDD1	Charles R. Phillips	2,673.	400.	400.	8.62	300.	400.
					600.	600.	6.62	560.	580.
243	361554115190801	212 S19 E59 25DDBC1	Linda Natale	2,770.	700.	700.	8.62	660.	680.
244	361939115154801	212 S19 E60 04DAB 1	Nevada Division of Forestry	2,454.	780.	637.	16.	311.	606.
245	361926115164501	212 S19 E60 05ABD 1	Ken Dowdy	2,570.	265.	265.	8.	185.	265.
246	361843115161001	212 S19 E60 09BCC 1	P.J. Goumond	2,510.	830.	140.	10.	140.	830.
247	361806115122701	212 S19 E60 12DB 1	Elmer Laub	2,350.	240.	240.	8.62	80.	240.
248	361804115142401	212 S19 E60 14BCB 1	John Koval	2,365.	350.	350.	6.62	90.	350.
249	361657115162401	212 S19 E60 21CACB1	Dick & Albert Radacy	2,480.	312.	312.	8.62	260.	300.
250	361703115150601	212 S19 E60 22BDD 1	Booker Reid	2,360.	400.	400.	8.62	200.	400.
251	361655115132101	212 S19 E60 24CBC 1	Don Fisk	2,315.	380.	380.	8.62	210.	380.
252	361604115140001	212 S19 E60 26CAD 1	Russel Irby	2,315.	320.	320.	6.62	200.	320.
253	361611115151301	212 S19 E60 27BDC 1	USGS	2,360.	905.	84.	6.	84.	905.
254	361603115161101	212 S19 E60 28CAD 1	LVVWD W075MS	2,423.	413.	413.	2.	383.	403.
255	361603115161102	212 S19 E60 28CAD 2	LVVWD W075MD	2,423.	734.	734.	2.	704.	724.

TABLE 1.--U.S. Geological Survey site designation, owner, and construction data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Map number (pl.1)	U.S. Geological Survey site designations: Standard identification number	U.S. Geological Survey site designations: Local number	Owner or local site name	Land-surface altitude (feet above sea level)	Well construction: Depth drilled (feet below land surface)	Well construction: Depth cased (feet below land surface)	Well construction: Casing diameter (inches)	Well construction: Depth to open intervals: Top of first (feet below land surface)	Well construction: Depth to open intervals: Bottom of last (feet below land surface)
256	361606115162701	212 S19 E60 28CBDA1	Max & Sandra Maserang	2,437.	410.	410.	8.62	370.	390.
257	361552115160401	212 S19 E60 28DCCA1	Bill Johnson	2,405.	350.	350.	6.62	260.	330.
258	361613115171401	212 S19 E60 29BDD 1	David Holland	2,530.	300.	300.	8.62	150.	300.
259	361602115165501	212 S19 E60 29DD 1	Charles Liefert	2,477.	350.	350.	8.62	210.	350.
260	361550115164801	212 S19 E60 29DDDB1	Robert Coache	2,462.	400.	400.	8.62	300.	400.
261	361629115181101	212 S19 E60 30ABCA1	Bob Olivero	2,660.	500.	500.	8.	440.	480.
262	361604115183401	212 S19 E60 30CACB1	Russ Mortenson	2,694.	595.	595.	8.62	535.	575.
263	361451115153401	212 S19 E60 33DDD 1	W.S. & Evelyn J. Milliken	2,360.	360.	360.	8.62	220.	360.
264	361457115152701	212 S19 E60 34CC 1	Verde & Tioga Well	2,340.	--	--	--	--	--
265	361453115130301	212 S19 E60 36CBB 1	SNMRE	2,290.	330.	--	8.	--	--
266	361649115080101	212 S19 E61 23CBCC1	Unknown	2,057.	--	--	8.62	--	--
267	361629115081201	212 S19 E61 27AABD1	John & Dorothy Cuellar	2,060.	258.	258.	8.62	130.	150.
268	361542115082501	212 S19 E61 27DCDC1	Unknown	2,050.	--	--	12.	--	--
269	361514115112901	212 S19 E61 31ADCD1	John Willis	2,200.	300.	300.	8.62	180.	300.
270	361516115112301	212 S19 E61 31ADDD1	Bob Miller	2,185.	360.	360.	8.	300.	360.
271	361507115082001	212 S19 E61 34DBDA1	Jonnie Seely	2,035.	350.	350.	8.	200.	350.
272	361459115070901	212 S19 E61 35DDB 1	Jerry H. Bradford	1,960.	200.	200.	8.62	70.	200.
273	361555115034801	212 S19 E62 29DDBA1	Lee Yoffe	1,975.	300.	300.	8.	150.	300.
274	361542115042901	212 S19 E62 32BBAA1	USGS 6	1,958.	95.	95.	4.	91.	95.
275	361410115141601	212 S20 E60 02BDA 1	Quick Stop Market	2,310.	300.	300.	8.62	260.	300.
276	361410115142601	212 S20 E60 02CCBB1	USGS-PZD	2,312.	697.	697.	2.75	677.	687.
277	361410115142602	212 S20 E60 02CCBB2	USGS-PZM	2,312.	467.	467.	2.	447.	457.
278	361410115142603	212 S20 E60 02CCBB3	USGS-PZS	2,312.	320.	320.	2.	300.	310.
279	361423115145401	212 S20 E60 03DBBA1	John & Lura Dell Lawrin	2,326.	300.	300.	8.	180.	295.
					500.	500.	6.62	400.	495.
280	361417115161301	212 S20 E60 04CAD 1	Edward Tomsik	2,380.	500.	500.	8.62	285.	500.
281	361415115172101	212 S20 E60 05CADC1	William D. Price	2,453.	580.	580.	8.62	540.	580.
282	361259115153901	212 S20 E60 09DCC 1	Lawrence Montello	2,400.	450.	450.	8.62	360.	450.
283	361320115152101	212 S20 E60 10CBDD1	Susan Halley	2,342.	550.	550.	8.	--	--
284	361201115123701	212 S20 E60 13DCCD1	Tom Dellavalle	2,224.	157.	--	8.	--	--
285	361425115061901	212 S20 E61 01ACCD1	USGS 4	1,919.	84.	84.	4.	80.	84.
286	361419115072201	212 S20 E61 02DBB 1	Hartwell & Lowe Company	1,900.	785.	770.	8.	90.	430.
287	361426115095001	212 S20 E61 04BDCA1	George & Olive Craig	2,103.	302.	150.	12.	50.	150.
288	361434115104201	212 S20 E61 05ACBB1	Alan Tucker	2,150.	300.	300.	8.62	140.	300.
289	361301115115401	212 S20 E61 07CCB 1	Rogers Rocking Chair Ranch	2,228.	240.	240.	10.75	80.	240.
290	361309115102701	212 S20 E61 08DCDA1	Unknown	2,194.	--	--	8.62	--	--

TABLE 1.--U.S. Geological Survey site designation, owner, and construction data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

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291	361305115073201	212 S20 E61 11CDDC1	USGS 2	1,920.	75.	62.	4.	58.	62.
292	361222115061501	212 S20 E61 13ACD 1	Consolidated Services	1,847.	200.	150.	10.	65.	75.
					560.	560.	6.	480.	560.
293	361212115065901	212 S20 E61 14CCCC1	USGS 15	1,910.	46.	46.	4.	43.	46.
294	361145115111401	212 S20 E61 20BC 1	Allen & Coran Well	2,130.	385.	385.	8.62	--	--
295	361051115081401	212 S20 E61 27ADB 1	NDOT	1,960.	195.	--	4.	--	--
296	361102115083601	212 S20 E61 27BDAA1	USGS 11	2,010.	15.	15.	4.	11.	15.
297	361047115111601	212 S20 E61 29CBB 2	CLV 161 (Lorenzi Park)	2,143.	967.	581.	10.	136.	581.
298	361046115101901	212 S20 E61 29DABD2	Unknown	2,079.	105.	--	8.62	--	--
299	361053115120501	212 S20 E61 30BDC 1	USGS 34	2,190.	33.	31.	4.	27.	31.
300	361023115111601	212 S20 E61 31AAA 1	LVVWD MDB02	2,113.	100.	100.	4.	80.	100.
301	361020115111601	212 S20 E61 31AAD 1	LVVWD MDB01	2,115.	260.	260.	4.	220.	260.
302	361014115111701	212 S20 E61 31AADD1	LVVWD MDB06	2,115.	40.	40.	4.	20.	40.
303	360937115113401	212 S20 E61 31DCD 1	USGS	2,155.	18.	18.	4.	14.	18.
304	361024115104501	212 S20 E61 32BAA 1	LVVWD MDB05	2,092.	60.	60.	4.	50.	60.
305	361025115110401	212 S20 E61 32BBA 1	LVVWD MDB04	2,100.	100.	100.	4.	80.	100.
306	361025115111201	212 S20 E61 32BBB 1	LVVWD MDB03	2,112.	40.	40.	4.	20.	40.
307	360941115104801	212 S20 E61 32CDC 1	Kenneth Searles	2,096.	585.	585.	10.	530.	565.
					665.	650.	8.	570.	650.
308	360837115095501	212 S20 E61 34CAA 1	USGS	2,010.	22.	22.	4.	18.	22.
309	360933115055201	212 S20 E61 36DDDD1	USBR LG048	1,807.	40.	--	--	36.	39.
310	361354115032401	212 S20 E62 04CBC 1	Central Telephone Company	1,865.	250.	250.	8.62	175.	245.
311	361337115042501	212 S20 E62 08BABA1	Nevada Drive-In Theater, Inc.	1,860.	200.	200.	8.	152.	200.
312	361250115033901	212 S20 E62 17AAA 1	Evans	1,826.	250.	250.	8.	82.	250.
313	361147115052301	212 S20 E62 19BBD 1	William E. Cook	1,822.	205.	--	--	--	--
314	361123115050601	212 S20 E62 19DC 1	Bramblewood Trailer Court	1,797.	300.	300.	8.	150.	300.
315	361131115031601	212 S20 E62 21CAB 1	Rose Kelly	1,782.	357.	80.	8.	80.	357.
316	361125115024801	212 S20 E62 21DBA 1	Unknown	1,780.	150.	--	8.	--	--
317	361100115011901	212 S20 E62 26BBCC1	John Lear	1,900.	330.	330.	8.62	160.	330.
318	361059115032501	212 S20 E62 28BCD 1	A.C. Owens	1,765.	100.	100.	8.	60.	100.
319	361116115040501	212 S20 E62 29ABB 1	Unknown	1,781.	83.	--	8.	--	--
320	361111115043101	212 S20 E62 29BB 1	Lamb & Owens Trailer Court	1,786.	300.	300.	8.62	265.	300.
321	361036115040401	212 S20 E62 29DCAB1	Unknown	1,766.	97.	--	8.	--	--
322	360952115020701	212 S20 E62 34CABB1	Unknown	1,740.	100.	--	--	--	--
323	360859115244201	212 S21 E59 06DBAC1	Unknown	3,590.	--	--	--	--	--
324	360847115125301	212 S21 E60 01DBB 1	Ira Luttrell	2,261.	210.	210.	8.62	160.	210.
325	360857115163301	212 S21 E60 04CBDA1	Jim Villani	2,648.	850.	850.	8.62	310.	330.

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326	360825115130301	212 S21 E60 12BABA1	Dean & Nick Dalacas	2,270.	159.	--	8.	--	--
327	360810115131701	212 S21 E60 12CBAB1	Genser	2,283.	359.	300.	8.	--	--
328	360739115152701	212 S21 E60 15BBDC1	Wells Cargo, Inc.	2,480.	680.	680.	10.	380.	680.
329	360712115155501	212 S21 E60 16BDDB1	Clear Gravel, Inc.	2,545.	750.	750.	8.	405.	750.
330	360518115152101	212 S21 E60 27CCAA1	Unknown	2,425.	--	--	--	--	--
331	360444115132301	212 S21 E60 35ADAB1	Frank Kim	2,359.	300.	300.	8.	230.	295.
					500.	500.	6.62	430.	490.
332	360908115062901	212 S21 E61 01ACCC1	USGS 1	1,840.	30.	24.	4.	20.	24.
333	360924115081101	212 S21 E61 03AAAD1	USGS 8	1,990.	15.	15.	4.	11.	15.
334	360930115083401	212 S21 E61 03ABAB1	USGS 10	2,008.	25.	25.	4.	21.	25.
335	360931115083802	212 S21 E61 03ABB 2	Dr. W. Park	2,014.	807.	--	12.	--	--
336	360910115092001	212 S21 E61 04AAD 1	Home Lumber	2,039.	793.	770.	13.	338.	770.
337	360921115093601	212 S21 E61 04ABC 1	USGS	2,047.	17.	17.	4.	13.	14.
338	360846115091401	212 S21 E61 04DDBA1	Boulder Dam Townsite Co.	2,042.	500.	500.	8.	--	--
339	360846115091402	212 S21 E61 04DDBA2	USGS 9	2,042.	20.	20.	4.	16.	20.
340	360838115101801	212 S21 E61 09BBBB1	USGS 3	2,075.	25.	25.	4.	21.	25.
341	360734115064001	212 S21 E61 13BDAB1	CC 11	1,889.	25.	--	2.	9.	17.
342	360728115072901	212 S21 E61 14ACA 1	LV Hilton Country Club No. 2	1,930.	750.	750.	16.	500.	746.
343	360701115081301	212 S21 E61 15DDDD1	USGS 57	2,000.	24.	24.	4.	21.	24.
344	360719115095903	212 S21 E61 16CA 3	Sands Hotel & Casino Well 3	2,090.	840.	840.	12.75	260.	820.
345	360735115105201	212 S21 E61 17BADD1	USGS 5	2,120.	45.	45.	4.	41.	45.
346	360614115114901	212 S21 E61 19CBA 1	KENO Radio Station	2,215.	300.	300.	8.62	210.	300.
347	360600115091001	212 S21 E61 22CCC 1	A.P. Baker	2,072.	500.	--	6.	--	--
348	360614115075001	212 S21 E61 23CBC 1	Unknown	2,010.	340.	--	8.	--	--
349	360617115063801	212 S21 E61 24CAD 1	USGS	1,950.	24.	24.	4.	20.	24.
350	360542115065001	212 S21 E61 25BDA 1	Clara M. McCoig	1,988.	120.	120.	8.	31.	94.
351	360534115061701	212 S21 E61 25DBAA1	CC 36	1,957.	27.	--	2.	20.	26.
352	360522115072101	212 S21 E61 26DDBB1	Paradise Vista Park	2,010.	30.	30.	4.	26.	30.
353	360528115094201	212 S21 E61 28CABB1	Dobe Docks	2,125.	93.	--	--	--	--
354	360543115101301	212 S21 E61 29AACA1	Morris Wollman	2,140.	540.	510.	8.	330.	510.
355	360518115112101	212 S21 E61 30DABB1	S.J. Hall	2,225.	304.	304.	8.62	70.	304.
356	360451115073101	212 S21 E61 35ACC 1	Unknown	2,030.	126.	--	8.5	--	--
357	360449115061201	212 S21 E61 36ADC 3	USGS	1,948.	26.	26.	1.5	23.	26.
358	360931115021201	212 S21 E62 03ABBB1	Gary Stewart	1,730.	250.	250.	10.5	100.	250.
359	360733115034402	212 S21 E62 08DBDA2	Ronald Okelberry	1,731.	200.	200.	8.62	50.	200.
360	360821115025001	212 S21 E62 09ADAD1	USGS	1,708.	59.	49.	2.	44.	49.

TABLE 1.--U.S. Geological Survey site designation, owner, and construction data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Map number (pl.1)	U.S. Geological Survey site designations: Standard identification number	Local number	Owner or local site name	Land-surface altitude (feet above sea level)	Well construction: Depth drilled (feet below land surface)	Well construction: Depth cased (feet below land surface)	Well construction: Casing diameter (inches)	Well construction: Depth to open intervals: Top of first (feet below land surface)	Well construction: Depth to open intervals: Bottom of last (feet below land surface)
361	360826115020001	212 S21 E62 10ACAA1	Nevada Power Company	1,705.	715.	412.	12.75	50.	80.
362	360744115050801	212 S21 E62 17DAB 1	USGS	1,730.	11.	11.	4.	7.	11.
363	360738115055901	212 S21 E62 18BBCB1	CC 10	1,856.	17.	--	2.	11.	14.
364	360651115050501	212 S21 E62 19AABA1	USGS	1,840.	23.	--	2.	--	--
365	360640115051601	212 S21 E62 19ACAB1	CC 24	1,872.	25.	--	2.	20.	25.
366	360644115054801	212 S21 E62 19BAC 1	USGS	1,890.	34.	34.	4.	30.	34.
367	360621115055901	212 S21 E62 19CBCB1	CC 27	1,938.	30.	30.	2.	24.	30.
368	360617115051901	212 S21 E62 19DBCD1	CC 25	1,893.	26.	--	2.	21.	26.
369	360605115052501	212 S21 E62 19DCCB1	CC 33	1,912.	24.	24.	2.	19.	24.
370	360647115044001	212 S21 E62 20BBDA1	CC 49	1,780.	25.	25.	2.	20.	25.
371	360601115034401	212 S21 E62 20DDD 2	J. Bunch, L. Netherton, & L. Thurman (erroneously reported as "L. Billman" for 1970-95)	1,720.	500.	212.	5.5	212.	500.
372	360529115010001	212 S21 E62 26DBA 2	USBR LG030	1,597.	30.	--	6.	27.	29.
373	360509115023001	212 S21 E62 27CCCB1	Nevada Power Company	1,665.	360.	--	8.	--	--
374	360548115024601	212 S21 E62 28AAC 1	USGS	1,665.	27.	27.	4.	23.	27.
375	360550115042501	212 S21 E62 29BADC1	Louis Mendosa	1,770.	250.	100.	8.	--	--
376	360547115045401	212 S21 E62 29BCBB1	CC 42	1,829.	31.	30.	2.	19.	30.
377	360521115042201	212 S21 E62 29CDAA1	CC 28	1,803.	20.	19.	2.	14.	19.
378	360535115050901	212 S21 E62 30ADCC1	CC 43	1,872.	20.	18.	2.	14.	18.
379	360537115053701	212 S21 E62 30BDCD1	CC 29	1,912.	25.	23.	2.	17.	23.
380	360506115001101	212 S21 E62 36BABD1	USBR LG027	1,583.	62.	--	6.	57.	62.
381	360832115060201	212 S21 E63 30AAAA1	USGS - BLM	1,590.	80.	80.	4.	76.	80.
382	360459114592201	212 S21 E63 31BBAA2	USBR LG020	1,552.	20.	18.	6.	14.	18.
383	360506114590001	212 S21 E63 31BBAA3	USBR LG017	1,546.	90.	83.	6.	80.	82.
384	360424114592201	212 S21 E63 31CCAD1	USBR LG021	1,613.	40.	40.	6.	37.	39.
385	360256115233801	212 S22 E59 08BDCC1	James Hardie Gypsum (North Well)	3,305.	75.	75.	20.	35.	75.
386	360256115233701	212 S22 E59 08BDCD1	James Hardie Gypsum (South Well)	3,305.	75.	75.	20.	35.	75.
387	360247115224401	212 S22 E59 09CBDB1	Southern Nevada Humane Society	3,250.	570.	570.	6.62	300.	--
388	360201115204701	212 S22 E59 15DAAB1	Elene Taddy	3,090.	532.	532.	6.62	225.	532.
389	360229115145401	212 S22 E60 10DCDC1	Don & Shirley Balding	2,578.	660.	660.	8.62	620.	660.
390	360047115171401	212 S22 E60 20CACA1	Moffat & Lillis	2,810.	710.	710.	8.	610.	710.
391	360118115141101	212 S22 E60 23BBD 1	Joe Hornyak	2,545.	500.	500.	8.25	410.	500.
392	360120115123001	212 S22 E60 24ADA 1	George Shiroky	2,388.	400.	400.	8.62	340.	400.
393	360042115150501	212 S22 E60 27ABB 1	Juan Villegas	2,580.	600.	600.	6.62	540.	600.
394	355947115132001	212 S22 E60 36BBCA1	Levia Davis	2,475.	570.	570.	8.62	530.	570.
395	360328115065501	212 S22 E61 01CCC 1	USGS	2,032.	55.	55.	4.	51.	55.

TABLE 1.--U.S. Geological Survey site designation, owner, and construction data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Map number (pl.1)	U.S. Geological Survey site designations: Standard identification number	Local number	Owner or local site name	Land-surface altitude (feet above sea level)	Well construction: Depth drilled (feet below land surface)	Well construction: Depth cased (feet below land surface)	Well construction: Casing diameter (inches)	Well construction: Depth to open intervals: Top of first (feet below land surface)	Well construction: Depth to open intervals: Bottom of last (feet below land surface)
396	360334115082901	212 S22 E61 03DCA 2	Unknown	2,081.	210.	--	8.	--	--
397	360400115092401	212 S22 E61 04ACDA1	James C. Snell	2,159.	150.	150.	8.	70.	150.
398	360349115100001	212 S22 E61 04BCB 1	Maude Fitzpatrick	2,219.	355.	--	8.	--	--
399	360307115112301	212 S22 E61 07BCB 1	Tosco Houston	2,365.	400.	400.	8.62	220.	400.
400	360235115090301	212 S22 E61 10CCD 1	Lewis J. Deatch	2,160.	300.	300.	6.62	168.	300.
401	360321115060001	212 S22 E61 12AAAD1	Josephine G. Brown	2,020.	500.	500.	8.62	160.	500.
402	360217115071201	212 S22 E61 14ADBA1	Carlyle Mortensen	2,140.	--	--	8.	--	--
403	360156115120501	212 S22 E61 18CACD1	Dennis Abby	2,356.	360.	--	8.	--	--
404	360112115104301	212 S22 E61 20BAD 1	Tom Howe	2,287.	210.	--	--	--	--
405	360120115100001	212 S22 E61 21BBD 1	Joe Ingersoll	2,232.	460.	460.	10.	130.	460.
406	360104115080001	212 S22 E61 23CBD 1	Andrea Ballard	2,190.	160.	160.	8.	120.	160.
407	360115115060201	212 S22 E61 24ADD 1	Neva Cotley	2,190.	300.	300.	8.62	200.	300.
408	360106115065501	212 S22 E61 24CBCA1	Mike Neilson	2,230.	250.	250.	6.	100.	250.
409	360002115103801	212 S22 E61 29DCDB1	Frank Tegano	2,275.	300.	300.	8.62	240.	295.
410	355918115100001	212 S22 E61 33CACC1	Unknown	2,336.	--	--	--	--	--
411	360346115013801	212 S22 E62 02CBBC1	USBR LG225	1,711.	50.	45.	6.	40.	45.
412	360322115030801	212 S22 E62 04DCCC1	City of Henderson	1,798.	655.	655.	16.	455.	655.
					780.	780.	8.62	430.	690.
413	360241115044001	212 S22 E62 08CBDC1	Paradise Valley Country Club	1,982.	712.	712.	10.75	565.	712.
414	360209115020401	212 S22 E62 15ACDB1	Fred Gibson Jr.	1,884.	245.	245.	12.75	213.	245.
415	360152115020001	212 S22 E62 15DBDD1	Frehner Construction	1,932.	340.	340.	8.	220.	320.
416	360344114582501	212 S22 E63 05CBBB1	USBR LG013	1,706.	250.	244.	6.	241.	243.
417	360308114592701	212 S22 E63 07BCBD1	USBR LG025	1,739.	24.	24.	6.	19.	23.
418	360307114592601	212 S22 E63 07BCBD2	USBR LG026	1,738.	100.	91.	6.	87.	90.
419	360122114574801	212 S22 E63 20ABCB1	City of Henderson	2,030.	580.	460.	--	--	--
					750.	700.	14.	460.	630.
420	361136115101401	212 S23 E61 03BCC 1	Sky Harbor Airport	2,375.	650.	650.	14.	220.	650.
421	355731115090601	212 S23 E61 10CCBA1	Battista Locatelli	2,474.	660.	660.	8.62	540.	640.
422	355650115103301	212 S23 E61 17DABB1	Lillian Roban	2,570.	500.	500.	8.62	460.	500.
					600.	600.	8.62	520.	580.
			SURFACE-WATER OUTFLOW DISCHARGE MONITORING SITES						
423	09419700	212 S21 E63 30CD	Las Vegas Wash near Henderson	1,540.					
424	09419800	212 S21 E63 14DA	Las Vegas Wash near Boulder City	1,280.					
425	09419753	212 S21 E63 28AB	Las Vegas Wash above Three Kids Wash below Henderson	1,450.					
426	09419790	212 S21 E63 14DB	Las Vegas Wash below Lake Las Vegas below Henderson	1,360.					

TABLE 1.--U.S. Geological Survey site designation, owner, and construction data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Map number (pl.1)	U.S. Geological Survey site designations: Standard identification number	U.S. Geological Survey site designations: Local number	Owner or local site name	Land-surface altitude (feet above sea level)	Well construction: Depth drilled (feet below land surface)	Well construction: Depth cased (feet below land surface)	Well construction: Casing diameter (inches)	Well construction: Depth to open intervals: Top of first (feet below land surface)	Well construction: Depth to open intervals: Bottom of last (feet below land surface)
			SURFACE-WATER IMPORTS INTAKE SITES						
427	360333114475501	215 S22 E64 11BDCA1	BMI (Lake Mead Water)	1,042.					
428	360333114475501	215 S22 E64 11BDCA2	Henderson (Lake Mead Water)	1,042.					
429	360333114475501	215 S22 E64 11BDCA3	LVVWD (Lake Mead Water)	1,042.					
430	360347114475201	215 S22 E64 11BADB1	LVVWD (Lake Mead Water)	1,040.					
431	360347114475201	215 S22 E64 11BADB2	CNLV (Lake Mead Water)	1,040.					
432	360347114475201	215 S22 E64 11BADB3	USAF Nellis AFB (Lake Mead Water)	1,040.					
433	360347114475201	215 S22 E64 11BADB4	Henderson (Lake Mead Water)	1,040.					
434	360347114475201	215 S22 E64 11BADB5	Boulder City (Lake Mead Water)	1,040.					

TABLE 2.--Nevada Division of Water Resources site designation, water-use, and location data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada

[Explanations at beginning of supplemental data section]

Nevada Division of Water Resources site designations														
Map number (pl.1)	Local field number	Application or permit number	Type	Status	Driller's log number	Method	Date well completed (month, day, year)	Other owners, other site names, or monitoring agency and name	Site type	Site use	Water use	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)
								SELECTED HISTORICAL WATER-SUPPLY SPRINGS AND WELLS					
1	-	--	-	-				--	A	W	S	36 26 20	115 21 25
2	-	--	-	-				--	A	Z	I	36 18 33	115 16 12
3	-	--	-	-				--	A	Z	I	36 12 17	115 08 22
4	-	--	-	-				(combined flow)	C	Z	P	36 10 30	115 10 50
5	-	--	-	-				--	A	Z	P	36 10 33	115 11 20
6	-	--	-	-				Open Spring	A	Z	P	36 10 31	115 11 18
7	-	--	-	-				--	A	Z	P	36 10 24	115 11 21
8	-	--	-	-				--	A	Z	I	36 05 30	115 04 17
9	-	--	-	-				Mesquite Springs	A	Z	I	36 04 38	115 04 58
10	---	--	-	-	--	C	- -1905	Corn Creek Station Well	G	Z	C	36 25 16	115 22 53
11	184	--	-	-	--	C	07- -1907	Rimmer Oppedyk Ranch	G	Z	I	36 12 10	115 09 35
				C			04- -1946	C. Gratz					
12	159	15140	-	G	54374	C	09-08-1921	San Pedro, Los Angeles, and Salt Lake Railroad (Roundhouse well)	U	Z	C	36 10 07	115 09 04
								LAS VEGAS LAND AND WATER COMPANY WATER-SUPPLY SPRINGS AND WELLS					
4								Las Vegas Land & Water Co. Springs 1-3					
5								Las Vegas Land & Water Co. Spring 1					
6								Las Vegas Land & Water Co. Spring 2					
7								Las Vegas Land & Water Co. Spring 3					
13	77	7200	-	A	27141	Z	05-20-1924	Las Vegas Land & Water Co. Well 1	U	Z	P	36 10 26	115 11 08
		7201	-	A	45253	B							
		7202	-	A									
		7660	V	O									
14	114	10127	-	A	27149	Z	10-04-1936	Las Vegas Land & Water Co. Well 2	U	Z	P	36 10 14	115 11 14
		29059	-	G	27158	Z							
					45254	B							
					51647	C							
15	180	10439	S	F	51648	C	09-30-1939	Las Vegas Land & Water Company	U	Z	S	36 10 50	115 08 05
		20898	-	W				Bunker Brothers Mortuary, Inc.					

TABLE 2.--Nevada Division of Water Resources site designation, water-use, and location data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Nevada Division of Water Resources site designations													
Map number (pl.1)	Local field number	Application or permit number	Type	Status	Driller's log number	Method	Date well completed (month, day, year)	Other owners, other site names, or monitoring agency and name	Site type	Site use	Water use	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)
16	179	10458	-	A	27147	C	03-08-1940	Las Vegas Land & Water Co. Well 3	U	Z	P	36 10 33	115 11 14
		40263	-	G	45255	B							
					51649	H							
17	277	10508	-	A	27152	Z	05-04-1940	Las Vegas Land & Water Co. Well 4	U	Z	P	36 10 07	115 11 20
		40264	-	G	45256	B							
					51650	H							
18	366	10706	-	A	27148	C	07-02-1941	Las Vegas Land & Water Co. Well 5	U	Z	P	36 10 31	115 11 16
					45257	B							
					51661	H							
19	367	10707	-	A	51662	H	07-10-1941	Las Vegas Land & Water Co. Well 6	U	Z	P	36 10 15	115 11 17
		40265	-	G									
20	398	10867	-	G	27151	Z	03-14-1942	Las Vegas Land & Water Co. Well 7	U	Z	P	36 10 02	115 11 19
		27796	-	A	51663	H							
		47765	-	G									
21	399	10868	-	A	27155	C	03-29-1942	Las Vegas Land & Water Co. Well 8	U	R	A	36 09 56	115 11 23
		47766	-	G	51664	H							
		52789	-	G									
		55300	-	G									
22	400	10869	-	A	27157	C	04-11-1942	Las Vegas Land & Water Co. Well 9	U	Z	P	36 09 44	115 11 26
		47767	-	G	51665	H							
		52790	-	G									
23	401	10870	-	A	51667	H	06-05-1942	Las Vegas Land & Water Co. Well 10	U	Z	P	36 09 36	115 11 24
		46994	-	G	43466	Z							
		47768	-	G									
24	457	11249	-	A	27154	Z	09-26-1942	Las Vegas Land & Water Co. Well 11	U	Z	P	36 09 46	115 11 26
					51669	H							
25	607	12460	-	F	883	C	04-05-1949	Las Vegas Land & Water Company Elks Lodge	U	U	I	36 10 47	115 08 00
26	935	15629	-	G	2633	H	06-22-1954	Las Vegas Land & Water Co. Well 12	U	W	D	36 09 51	115 11 25
		27841	-	G									
		27842	-	A									
		27843	-	A									
		27844	-	A									
		27845	-	G									
		55882	-	G									

TABLE 2.--Nevada Division of Water Resources site designation, water-use, and location data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Nevada Division of Water Resources site designations													
Map number (pl.1)	Local field number	Application or permit number	Type	Status	Driller's log number	Method	Date well completed (month, day, year)	Other owners, other site names, or monitoring agency and name	Site type	Site use	Water use	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)
27	936	15628	-	G	2751	C	08-28-1954	Las Vegas Land & Water Co. Well 13	U	W	D	36 10 26	115 11 15
		27882	-	A	52935	C							
		27883	-	A									
		27884	-	A									
		47769	-	G									
		55301	-	G									
		55302	-	G									
		55881	-	P									
LAS VEGAS VALLEY WATER DISTRICT WATER-SUPPLY SPRINGS AND WELLS AND ARTIFICIAL-RECHARGE WELLS													
4													
5													
6													
7													
28	-	--	-	-	47482	R	11-07-1994	--	U	R	U	36 09 18	115 14 40
29	-	--	-	-	43470	R	07-23-1993	--	U	R	U	36 07 44	115 13 37
30	-	--	-	-	43471	R	11-15-1993	--	U	R	U	36 07 43	115 13 35
31	-	--	-	-	43472	R	07-11-1993	--	U	R	U	36 07 28	115 16 59
32	-	--	-	-	43473	R	08-24-1993	--	U	R	U	36 07 31	115 16 59
33	-	--	-	-	43954	H	06-22-1993	--	U	R	A	36 09 35	115 15 48
34	-	--	-	-	43953	H	07-08-1992	--	U	R	A	36 09 38	115 15 42
35	-	--	-	-	43955	H	06-22-1993	--	U	R	A	36 09 45	115 15 31
36	-	--	-	-	43956	H	07-26-1993	--	U	R	A	36 09 40	115 15 25
37	-	--	-	-	43952	H	08-16-1993	--	U	R	A	36 12 35	115 15 18
--													
38	-	--	-	-	47481	R	11-16-1994	--	U	R	A	36 16 01	115 16 21
39	-	--	-	-	47485	R	11-16-1994	--	U	R	A	36 16 02	115 16 21
--													
40	-	--	-	-	47698	H	04-25-1995	--	U	R	U	36 14 25	115 17 10
					48192	H							
--													
41	-	--	-	-	47700	H	05-26-1995	--	U	R	U	36 14 50	115 17 18
					48190	H							
42	-	60524	-	W	49119	R	09-23-1995	(formerly LVVWD W108)	U	R	A	36 14 48	115 17 18
					49615	R							
--													
43	-	--	-	-	47480	R	12-19-1994	--	U	R	U	36 09 08	115 15 45
--													

TABLE 2.--Nevada Division of Water Resources site designation, water-use, and location data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Nevada Division of Water Resources site designations													
Map number (pl.1)	Local field number	Application or permit number	Type	Status	Driller's log number	Method	Date well completed (month, day, year)	Other owners, other site names, or monitoring agency and name	Site type	Site use	Water use	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)
44	-	--	-	-	47708	H	06-15-1995	--	U	R	U	36 13 51	115 17 51
					48191	H							
45	-	27306	-	C	14087	C	05-24-1974	--	U	W	P	36 02 54	115 24 18
		45587	-	A									
		58319	T	E									
		58459	-	P									
13													
46	-	27141	-	W	17850	H	12-24-1977	--	U	W	D	36 09 43	115 13 24
		27142	-	W									
		27143	-	W									
		27144	-	W									
		30914	-	G									
		48589	-	A									
14													
47	-	28405	-	G	14700	C	03-27-1975	--	U	W	D	36 11 20	115 14 06
		28406	-	A	27113	C							
		40264	-	G									
		40265	-	G									
		45983	-	A									
16													
48	-	27796	-	A	14543	C	12-20-1974	--	U	W	D	36 11 20	115 10 53
		60766	-	P									
--								Clark Group; Section 30					
17													
--								Clark Group; Section 31					
18													
49	-	28404	-	G	14861	C	05-25-1975	--	U	W	D	36 11 22	115 14 22
		45952	-	G									
19													
20													
50	-	10867	-	G	13792	C	01-10-1974	Main Well Field	U	W	D	36 10 01	115 11 17
		28056	-	G	27153	C							
		28057	-	G									
		28058	-	G									
		55022	-	G									
		55023	-	G									
		55024	-	G									
21													

TABLE 2.--Nevada Division of Water Resources site designation, water-use, and location data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Nevada Division of Water Resources site designations													
Map number (pl.1)	Local field number	Application or permit number	Type	Status	Driller's log number	Method	Date well completed (month, day, year)	Other owners, other site names, or monitoring agency and name	Site type	Site use	Water use	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)
--								Charleston & Hyde Park Group; Section 31					
22													
23													
24													
51	-	36111	-	G	27156	Z	01-24-1978	--	U	W	D	36 09 44	115 11 24
26													
27													
52	-	19105	-	A	5792#	C	02-28-1961	--	U	W	D	36 10 24	115 11 29
		19107	-	A	5800	C							
		36110	-	A	31591	Z							
		40263	-	G									
53	-	19104	-	A	5877	C	04-21-1961	--	U	W	D	36 10 27	115 11 21
		19106	-	A									
54	-	26917	-	G	13683	C	11-01-1973	--	U	W	D	36 10 33	115 11 26
		26918	-	G									
		26919	-	G									
		40267	-	G									
55	-	20181	-	G	6718	C	07-31-1962	--	U	W	D	36 10 26	115 11 46
		47769	-	A	27146	C							
56	-	20182	-	G	7368	C	10-03-1962	--	U	W	D	36 10 37	115 11 46
					27143	C							
57	-	20467	-	A	7773	C	01-14-1963	--	U	W	D	36 03 26	115 12 28
58	-	29059	-	G	27116	C	12-05-1975	--	U	W	D	36 11 07	115 14 30
59	-	20899	-	R	7282	C	03-28-1963	--	U	W	D	36 09 34	115 15 12
		27158	-	A	27118	Z							
		27159	-	A	51515	C							
		27160	-	A									
		27843	-	A									
60	-	20474	-	R	7057	C	03-05-1963	--	U	W	D	36 06 49	115 09 00
					27179	Z							
61	-	20815	-	R	7369	C	07-27-1963	--	U	R	A	36 09 36	115 15 32
		21139	-	R	10360	C							
		24331	-	R									
		27883	-	A									
		60767	-	P									
62	-	21009	-	R	7462	C	10-19-1963	--	U	W	D	36 03 36	115 12 21
63	-	28990	-	G	27112	C	09-20-1975	--	U	W	D	36 12 04	115 15 36
		28991	-	G									
		46992	-	G									
		52789	-	G									
		52790	-	G									

TABLE 2.--Nevada Division of Water Resources site designation, water-use, and location data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Nevada Division of Water Resources site designations														
Map number (pl.1)	Local field number	Application or permit number	Type	Status	Driller's log number	Method	Date well completed (month, day, year)	Other owners, other site names, or monitoring agency and name	Site type	Site use	Water use	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)
64	-	20924	-	R	7449	C	10-18-1963	--	U	W	D	36 03 46	115 12 17
65	-	28987	-	G	27111	C	01-12-1976	--	U	W	D	36 12 11	115 15 42
		28988	-	G									
		28989	-	G									
		46993	-	G									
		51103	-	G									
		52788	-	G									
		52791	-	G									
		52792	-	G									
		52793	-	G									
		52794	-	G									
66	-	20116	-	R	7283	C	05-13-1963	Torrey Pines Well	U	W	D	36 10 27	115 13 55
		27841	-	G	27115	C							
		47770	-	A									
		47775	-	G									
		48590	-	G									
		48591	-	G									
67	-	21139	-	R	7369	C	08-01-1963	--	U	W	D	36 03 55	115 12 13
68	-	21516	-	R	7746	C	02-07-1964	--	U	W	D	36 10 27	115 12 02
		27826	-	G	27145	C							
69	-	21515	-	R	8073	C	06-16-1964	--	U	W	D	36 10 37	115 12 02
		27827	-	G	27144	C							
70	-	21426*	-	-	8033	C	04-28-1964	--	U	W	D	36 13 29	115 14 00
		25426	-	G									
		27845	-	G									
		46994	-	G									
71	-	21512	-	R	8593	C	06-11-1965	--	U	W	D	36 13 25	115 14 15
		22019	-	R	9453	C							
		27882	-	A									
		30407	-	G									
		47765	-	G									
		47771	-	A									
72	-	22199	-	R	8487	C	03-10-1965	--	U	W	D	36 10 00	115 11 29
					27150	Z							
73	-	22197	-	R	8597	C	05-11-1965	--	U	Z	D	36 09 52	115 11 38
74	-	22198	-	R	8654	C	07-17-1965	--	U	Z	D	36 09 36	115 11 26

TABLE 2.--Nevada Division of Water Resources site designation, water-use, and location data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Nevada Division of Water Resources site designations													
Map number (pl.1)	Local field number	Application or permit number	Type	Status	Driller's log number	Method	Date well completed (month, day, year)	Other owners, other site names, or monitoring agency and name	Site type	Site use	Water use	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)
75	-	23326	-	R	10425	C	12-05-1968	--	U	W	D	36 13 31	115 14 27
		27863	-	G	43703	Z							
		27864	-	G									
		27865	-	G									
		40266	-	G									
		47773	-	A									
76	-	24036	-	A	27142	C	09-05-1968	--	U	W	D	36 10 26	115 11 09
		24037	-	G									
		24038	-	R									
		24306*	-	-									
		24307*	-	-									
		24308*	-	-									
77	-	24331	-	R	10469	C	06-15-1968	--	U	W	D	36 09 29	115 15 22
					27119	Z							
78	407	10948	-	A	51917	C	02-05-1943	Whitney Water Company Well 1 John Bunch & L. Netherton	U	Z	P	36 06 04	115 03 53
79	408	10949	-	A	51919	C	08-17-1943	Whitney Water Company Well 2 John Bunch & L. Netherton	U	Z	P	36 06 04	115 03 53
80	-	12424	-	A	737	C	10-17-1948	Meadows Water & Land Company Well 1	U	Z	P	36 09 26	115 05 52
81	-	13106	-	A	2456?	C	12-19-1953	Meadows Water & Land Company Well 2	U	Z	P	36 09 26	115 06 09
		15239?	-	F									
82	-	20167	-	A	27120	R	07-10-1962	Brandywine	U	W	D	36 09 53	115 14 27
		23552	-	R	31592	Z							
		27858	-	G									
		27859	-	G									
		47691	-	G									
83	-	16991	-	A	3667	C	12-26-1956	Wilrad Improvement Company, Inc. Well	U	U	P	36 05 57	115 08 34
84	-	20430	-	C	--	-	--	Tropicana Park Well 2 (South Well) Western Industries, Inc.	U	Z	P	36 05 56	115 09 55
85	-	20431	-	C	7074	C	02-15-1963	Tropicana Park Well 1 (North Well) Western Industries, Inc.	U	Z	P	36 05 56	115 09 55
86	-	19365	-	R	6815	C	07-31-1962	Southgate Well 1	U	W	D	36 05 30	115 08 34
87	-	19366	-	R	7509	H	04-24-1963	Southgate Well 2	U	W	D	36 05 18	115 08 24
88	-	20905	-	R	7264	C	04-21-1963	Decatur B	U	W	D	36 11 41	115 11 57
		27842	-	A	27136	Z		College Heights 1					
89	-	20705*	-	-	7168	C	05-13-1963	Decatur A	U	W	D	36 11 46	115 12 17
		20906	-	R	38524	Z		College Heights 2					
		27844	-	A									
		47766	-	G									
		47767	-	G									

TABLE 2.--Nevada Division of Water Resources site designation, water-use, and location data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Nevada Division of Water Resources site designations														
Map number (pl.1)	Local field number	Application or permit number	Type	Status	Driller's log number	Method	Date well completed (month, day, year)	Other owners, other site names, or monitoring agency and name	Site type	Site use	Water use	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)
90	-	20053	-	R	27110	C	06-21-1962	Mountain View Well; Spring Mountain Park	U	W	D	36 12 54	115 12 47
91	-	15775	-	A	3044	H	06-16-1955	Brentwood North	U	W	D	36 10 45	115 12 27
		27142	-	W	51514	C							
92	-	15776	-	W	3573	C	08-24-1957	Brentwood South	U	W	D	36 10 32	115 12 17
					3934	H							
93	-	13821	-	A	3000	C	05-29-1955	Spring Mountain West Well 1 Spring Mountain Estates c/o Eunice W. Cooper; Drake Estates	U	W	P	36 07 39	115 05 52
94	-	--	-	-	--	-	10-02-1964	Spring Mountain West Well 2 Spring Mountain Water Company; Drake Estates	U	Z	P	36 07 39	115 05 52
95	-	20054	-	R	7476	C	04-07-1963	Spring Mountain East Well	U	Z	P	36 07 30	115 05 16
		21221	-	R				Spring Mountain Water Company;					
		22515	-	R				Drake Estates					
96	-	15068	-	A	2730	H	09-04-1954	Old Charleston Heights	U	W	D	36 10 02	115 13 08
		15774	-	A	27121	Z							
		23972	-	A									
		23973	-	A									
97	-	21376	-	R	8110	C	05-27-1964	Smoke Ranch 2	U	W	D	36 12 10	115 13 30
		27828	-	A	31590	Z							
		47768	-	G									
98	-	21017	-	A	7356	C	06-19-1963	Smoke Ranch 1	U	W	D	36 12 10	115 13 19
		23666	-	R									
		27849	-	G									
		27850	-	G									
		47772	-	A									
		47774	-	A									
99	384	10795	-	C	--	-	- -1943	Taylor Well H.M. Dixon	U	W	I	36 16 30	115 14 42
100	360	10679	-	A	51547	C	11-10-1941	Cannon Well 1 M.D. Butler Eloise Bunker	U	W	I	36 11 22	115 10 53
101	411	11144	-	A	51548	C	12-30-1941	Cannon Well 2 M.D. & F. Butler Eloise Bunker	U	W	I	36 11 28	115 10 53
102	-	14316	-	A	2072	C	10-14-1952	Naples Water Company	U	W	P	36 06 25	115 09 06
		24397	-	R				Kelly F. Naples					
103	-	15174	-	A	2874	C	06-02-1954	Shadow Mountain Well Pat McCartney	U	W	D	36 11 11	115 12 59

TABLE 2.--Nevada Division of Water Resources site designation, water-use, and location data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Nevada Division of Water Resources site designations													
Map number (pl.1)	Local field number	Application or permit number	Type	Status	Driller's log number	Method	Date well completed (month, day, year)	Other owners, other site names, or monitoring agency and name	Site type	Site use	Water use	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)
104	307	--	-	-	--	-	- -1928	Town of Vegas Heights	U	Z	P	36 12 21	115 10 57
105	308	11551	-	A	--	-	- -1928	Town of Vegas Heights	U	Z	P	36 12 14	115 10 54
106	548	11549	-	A	391	C	11-27-1946	Vegas Heights 1	U	Z	P	36 11 59	115 10 41
					27134	Z							
107	-	15752	-	A	2921	C	04-07-1955	Vegas Heights 2	U	Z	P	36 11 45	115 09 48
108	-	9652	-	A	1587	C	12-01-1950	Sunrise Park	U	Z	P	36 09 38	115 06 46
		27861	-	A									
109	347	10582	-	A	51682	C	- -1940	Michelas Water Company Well 1	U	Z	P	36 08 56	115 09 59
		27862	-	A									
110	420	10942	-	A	51670	C	06-07-1944	Michelas Water Company Well 2	U	Z	P	36 08 56	115 09 59
111	-	13626	-	A	1718	C	06-08-1951	Michelas Water Company Well 3	U	Z	P	36 08 59	115 09 55
112	-	15063	-	A	2375	C	09-14-1953	Michelas Water Company Well 4	U	Z	P	36 08 59	115 09 55
					51636	C	05-29-1969						
113	-	13509	-	A	2368	C	08-15-1953	Desert Water District Well 1	U	Z	P	36 12 06	115 03 15
		16750	-	A	2648	C	04-30-1954	William L. Meikle					
114	-	16986	-	R	3504	C	06-18-1956	Desert Water District Well 2 William L. Meikle Trailer Estates, Inc.	U	Z	P	36 12 06	115 02 43
115	-	16039	-	A	4013	C	01-28-1958	Desert Water District Well 3	U	Z	P	36 12 06	115 02 43
					10429	C	02-29-1968	William L. Meikle					
116	436	11102	-	A	--	-	- -1944	Silvestri Well Charles R. & Vassie Martin Charles A. Silvestri	U	W	I	36 07 57	115 06 45

117	-	53729	T	E	34520	H	08-15-1989	--	U	W	P	36 10 12	115 11 29
		53732	-	G	47115	Z							
		53733	-	G									
		53734	-	G									
		55882	-	G									
118	-	53730	T	E	34516	H	11-12-1989	--	U	W	P	36 13 09	115 15 36
		53736	-	G									
		55886	-	P									
		55887	-	P									
		55889	-	P									
119	-	53731	T	E	34518	H	10-05-1989	--	U	W	D	36 09 44	115 15 29
		53735	-	P									
		55885	-	P									
120	-	53815	T	E	34519	H	10-25-1989	--	U	W	D	36 09 35	115 15 27
		53918	-	P									
		55884	-	P									

TABLE 2.--Nevada Division of Water Resources site designation, water-use, and location data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Nevada Division of Water Resources site designations													
Map number (pl.1)	Local field number	Application or permit number	Type	Status	Driller's log number	Method	Date well completed (month, day, year)	Other owners, other site names, or monitoring agency and name	Site type	Site use	Water use	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)
121	-	53816	T	E	34515	H	10-20-1989	--	U	W	P	36 13 24	115 15 36
		53920	-	G									
		55881	-	P									
		55890	-	P									
122	-	53817	T	E	34517	H	12-03-1989	--	U	W	P	36 12 11	115 14 21
		53919	-	G									
		55883	-	G									
		55888	-	G									
123	-	54299	T	E	33955	H	05-05-1990	--	U	W	P	36 16 02	115 16 21
		55300	-	G									
124	-	54300	T	E	36069	H	06-15-1990	--	U	W	P	36 16 09	115 16 09
		55301	-	G									
125	-	57492	-	P	39651	H	08-26-1992	--	U	W	P	36 10 52	115 15 38
		57493	T	E									
		57834	-	M									
126	-	54301	T	E	34010	H	06-26-1990	--	U	W	P	36 11 44	115 14 02
		55302	-	G									
127	-	56736	-	P	39649	H	07-15-1992	--	U	W	P	36 13 12	115 18 04
		56737	-	G	39650	H							
128	-	56344	T	E	36154	H	01-16-1992	--	U	W	P	36 10 29	115 10 47
		56351	-	G									
129	-	56345	T	E	37682	H	03-13-1992	--	U	W	P	36 10 26	115 10 53
		56353	-	G									
130	-	56346	T	E	36155	H	12-06-1991	--	U	W	P	36 10 07	115 11 15
		56358	-	G									
131	-	56347	T	E	36156	H	09-22-1991	--	U	W	P	36 10 00	115 11 25
		56359	-	G									
132	-	56348	T	E	36157	H	12-20-1991	--	U	W	P	36 09 52	115 11 16
		56360	-	P									
133	-	56349	T	E	36158	H	01-16-1992	--	U	W	P	36 09 36	115 11 16
		56361	-	P	38244	H							
134	-	56350	T	E	36159	H	09-03-1991	--	U	W	P	36 11 35	115 13 58
		56352	-	G									
		56354	-	G									
		56355	-	G									
		56356	-	P									
		56357	-	G									

TABLE 2.--Nevada Division of Water Resources site designation, water-use, and location data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Nevada Division of Water Resources site designations														
Map number (pl.1)	Local field number	Application or permit number	Type	Status	Driller's log number	Method	Date well completed (month, day, year)	Other owners, other site names, or monitoring agency and name	Site type	Site use	Water use	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)
135	-	58258	-	P	47991	R	08-01-1995	--	U	W	P	36 09 12	115 14 43
		58259	-	P									
136	-	58260	-	P	41186	H	01-29-1993	--	U	W	P	36 11 21	115 15 50
		58320	T	E									
137	-	58535	-	P	42281	H	05-20-1993	--	U	W	P	36 12 35	115 15 17
		58536	T	E									
138	-	58893	-	P	45424	H	06-29-1994	City of Las Vegas; Angel Park	U	W	P	36 09 25	115 14 00
		59010	T	E									
		61282	-	P									
		61283	-	P									
		61284	-	P									
139	-	59009	-	P	45562	H	08-28-1994	--	U	W	P	36 13 15	115 17 15
		59011	T	E									
140	-	61491	-	P	57861	R	04-01-1996	--	U	W	P	36 14 04	115 18 06
141	-	60523	-	P	51019	R	10-30-1995	--	U	W	P	36 13 30	115 16 02
142	-	59821	-	P	47484	R	10- -1994	--	U	W	P	36 11 17	115 15 57
		59826	T	E									
143	-	59820	-	P	47483	H	10-05-1994	--	U	W	P	36 13 54	115 15 32
		59825	T	E									
144	-	59819	-	P	46328	R	08-18-1994	--	U	W	P	36 13 15	115 17 41
		59824	T	E									
145	-	59818	-	P	46753	R	01-14-1995	--	U	W	P	36 13 16	115 18 21
		59823	T	E									
146	-	59817	-	P	46917	H	12- -1994	--	U	W	P	36 10 39	115 14 57
		59822	T	E									
147	-	61497	-	P	52752	R	04-30-1996	--	U	W	P	36 14 26	115 17 10
---		60516	-	W									
---		60517	-	W									
148	-	60518	-	P	50061	H	07-06-1995	--	U	W	P	36 13 30	115 15 17
149	-	60519	-	P	49118	H	08-03-1995	--	U	W	P	36 11 54	115 15 19
					50846	H							
150	-	60520	-	P	48642	R	09-16-1995	--	U	W	P	36 13 56	115 15 05
151	-	60521	-	P	49121	H	10-07-1995	--	U	W	P	36 09 01	115 14 14
					49616	H							
152	-	60522	-	P	49120	R	08-31-1995	--	U	W	P	36 11 00	115 15 14
					50848	H							

TABLE 2.--Nevada Division of Water Resources site designation, water-use, and location data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Nevada Division of Water Resources site designations													
Map number (pl.1)	Local field number	Application or permit number	Type	Status	Driller's log number	Method	Date well completed (month, day, year)	Other owners, other site names, or monitoring agency and name	Site type	Site use	Water use	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)
42								(changed to LVVWD AR109)					
153	-	61496	-	P	52753	R	05-30-1996	--	U	W	P	36 13 59	115 16 55
		61497	-	P									
154	-	61431	-	P	57862	R	05-04-1996	--	U	W	P	36 14 20	115 17 04
155	-	61495	-	P	57863	R	06-06-1996	--	U	W	P	36 13 53	115 17 52
156	-	61494	-	P	58158	R	06-25-1996	--	U	W	P	36 13 33	115 17 05
		62537	-	P									
157	-	61493	-	P	58157	R	08-20-1996	--	U	W	P	36 13 33	115 16 46
158	-	61432	-	P	52529	R	04-15-1996	--	U	W	P	36 12 39	115 14 39
159	-	61492	-	P	52531	R	06-20-1996	--	U	W	P	36 13 05	115 15 25
CITY OF NORTH LAS VEGAS WATER-SUPPLY AND ARTIFICIAL-RECHARGE WELLS													
160	-	22030	-	A	8002	C	05-27-1964	Thunderbird	U	A	U	36 12 28	115 12 04
		23701	-	A				LVVWD Nlvair					
		24956	-	W									
161	-	57868	T	E	40349	H	09-30-1992	LVVWD Allen	U	A	A	36 14 55	115 11 16
162	800	15371	-	C	2698	C	06-10-1954	Helen Boris	U	Z	P	36 12 26	115 06 59
		15762	-	A									
		15763*											
163	-	15972	-	A	54089	C	02-21-1955	Carlton Square Water Association	U	Z	P	36 12 56	115 10 31
		20259	-	W	7296	C	11-19-1961						
		20421	-	C	3982$								
		24279	-	R									
164	-	15971	-	C	7540	H	01-06-1963	--	U	Z	U	36 13 03	115 10 23
		20419	-	C									
		24687	-	W									
165	-	15796	-	A	2639	H	05-18-1954	--	U	Z	P	36 11 40	115 06 49
166	-	15863	-	A	3278	R	08-16-1955	--	U	Z	P	36 11 10	115 06 46
167	-	57768	T	E	40348	H	08-25-1992	LVVWD Deer Springs	U	A	A	36 17 04	115 12 14

TABLE 2.--Nevada Division of Water Resources site designation, water-use, and location data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Nevada Division of Water Resources site designations													
Map number (pl.1)	Local field number	Application or permit number	Type	Status	Driller's log number	Method	Date well completed (month, day, year)	Other owners, other site names, or monitoring agency and name	Site type	Site use	Water use	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)
168	-	20418	-	R	7511	H	07-31-1963	LVVWD Desert Aire	U	R	D	36 14 09	115 12 08
		25547	-	R	27127	R	07-31-1965						
		26467	-	A									
		26505	-	A									
		27711	-	A									
		34798	-	A									
		34799	-	A									
		48843	-	A									
		50103	-	A									
		50104	-	A									
		50105	-	A									
		50106	-	A									
		50107	-	A									
		50108	-	A									
		54272	-	A									
		54273	-	A									
		56876	-	A									
169	-	15823	-	A	3120	H	07-21-1955	--	U	Z	P	36 13 24	115 10 49
		15878	-	A									
170	-	11942	-	A	6793	H	06-16-1962	Callihan Well	U	W	P	36 12 57	115 06 16
		20420	-	A	27132	R		LVVWD Diana Terrace					
		24108	-	C									
171	-	22035	-	C	53194	H	06-01-1964	--	U	U	U	36 20 03	115 16 48
172	-	13332	-	A	4554	C	04-30-1959	--	U	Z	P	36 11 41	115 06 08
		24107	-	W									
173	-	13329	-	A	3319	C	02-04-1956	--	U	Z	P	36 11 59	115 06 10
		24106	-	A	4218	C	07-03-1958						
174	-	13331	-	A	5361	C	08-09-1960	--	U	Z	P	36 11 47	115 06 21
		24105	-	W									
175	-	22501	-	R	11219$		07-18-1970	LVVWD Elstner PR	U	R	D	36 13 25	115 12 53
		25576	-	R	27109	R							
		26668	-	A									
176	-	28886	-	A	47114	H	01-23-1995	LVVWD Elstner AR	U	W	P	36 13 27	115 12 53
		60950	-	P									
		60951	-	P									
		60952	-	P									
		60953	-	P									
		60954	-	P									

TABLE 2.--Nevada Division of Water Resources site designation, water-use, and location data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Nevada Division of Water Resources site designations													
Map number (pl.1)	Local field number	Application or permit number	Type	Status	Driller's log number	Method	Date well completed (month, day,year)	Other owners, other site names, or monitoring agency and name	Site type	Site use	Water use	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)
177	802	15597	-	A	2876	C	07-20-1954	--	U	Z	P	36 12 26	115 07 29
178	479	11437	-	A	51553	H	04-06-1946	--	U	Z	P	36 11 48	115 08 07
179	156	11131	-	A	51554	C	- -1931 04-18-1945	--	U	Z	P	36 11 47	115 08 12
180	-	19689	-	A	6379	H	08-03-1961	--	U	Z	P	36 12 36	115 08 42
		24109	-	A									
181	-	20243	-	A	6418	C	02-22-1961	LVVWD Gowan 1	U	W	D	36 13 02	115 05 28
		20542	-	R	6419	C							
		21266	-	C									
		21746	-	R									
		57329	-	G									
182	-	20244	-	A	6420	C	02-05-1962	LVVWD Gowan 2	U	W	D	36 12 59	115 05 36
		20543	-	R									
		21267	-	C									
		21747	-	R									
		51930	-	G									
183	-	15306	-	A	2647	C	04-21-1954	--	U	Z	P	36 11 23	115 07 01
		15806*											
184	810	15474	-	G	2707	H	07-09-1954	(turned over to Clark County School Dist)	U	A	P	36 11 47	115 09 40
		24735	-	R				LVVWD Highland					
185	-	20848	-	R	7623$		09-20-1962	--	U	W	P	36 13 49	115 07 05
		24953	-	W	27131	R							
		27392	-	G									
		46920	-	A									
		56499	-	A									
		58327	-	G									
		58328	-	G									
		58329	-	A									
		62144	-	P									
		62145	-	P									
186	310	24697	-	R	27133	Z	- -1925	LVVWD Losee	U	A	P	36 12 18	115 08 22
		50555	-	A			07-28-1962						
		52523	-	A									
187	89	11542	-	A	--	-	- -1938	--	U	Z	P	36 12 14	115 07 05
188	-	11747	-	A	2483	C	08-22-1953	--	U	Z	P	36 12 13	115 06 43
189	-	11746	-	A	6	C	06-30-1947	--	U	Z	P	36 11 56	115 06 40
190	-	15732	-	A	2983	H	- -1955	--	U	Z	P	36 12 52	115 07 15
					51523	H							

TABLE 2.--Nevada Division of Water Resources site designation, water-use, and location data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Nevada Division of Water Resources site designations													
Map number (pl.1)	Local field number	Application or permit number	Type	Status	Driller's log number	Method	Date well completed (month, day,year)	Other owners, other site names, or monitoring agency and name	Site type	Site use	Water use	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)
191	-	22482	-	W	9875	H	03-28-1967	--	U	U	U	36 15 22	115 09 15
192	46	10181	-	A	51556	C	- -1936	--	U	Z	P	36 11 32	115 08 23
193	-	25149	-	R	11657	C	04-08-1971	LVVWD Regional Park	U	A	U	36 16 52	115 09 31
194	-	47958	-	R	25609	H	06-21-1984	Mini Airport Well	U	Z	P	36 15 31	115 09 32
		51175	-	W	41180	H							
		52522	-	W									
		57833	T	E									
195	-	16751	-	A	3371	H	03-02-1956	--	U	Z	P	36 12 54	115 08 12
196	-	16752	-	C	7539	H	01-30-1956	--	U	Z	P	36 12 54	115 08 12
					51524	Z	03-19-1962						
197	-	16914	-	A	4122	H	04-09-1958	--	U	Z	P	36 12 57	115 08 23
198	-	20877	-	A	7510	H	05-26-1963	--	U	W	D	36 12 01	115 11 16
		23860	-	A	27135	R							
		23861	-	A									
		23862	-	A									
		23863	-	A									
		23864	-	R									
		23865	-	A									
		23866	-	A									
		23867	-	A									
		23868	-	A									
		23869	-	G									
		24457	-	R									
		24591	-	G									
		24686	-	A									
		24955	-	W									
		35918	-	G									
		46921	-	G									
199	191	12504	-	A	6380	H	- -1918	Henry Sakai	U	Z	P	36 11 21	115 08 26
		19230	-	A	7538	H	06-03-1961						
							04-01-1963						
200	-	58090	T	E	40357	R	01-28-1993	Allen & Alexander	U	W	D	36 13 55	115 11 39
		60936	-	P									
		60937	-	P									
		60938	-	P									
		60939	-	P									
		60946	-	P									
		60949	-	P									
		60955	-	P									
		60956	-	P									
		60959	-	P									
		60960	-	P									

TABLE 2.--Nevada Division of Water Resources site designation, water-use, and location data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Nevada Division of Water Resources site designations													
Map number (pl.1)	Local field number	Application or permit number	Type	Status	Driller's log number	Method	Date well completed (month, day, year)	Other owners, other site names, or monitoring agency and name	Site type	Site use	Water use	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)
201	-	59402	T	E	44236	R	01-11-1994	--	U	R	A	36 12 38	115 10 46
202	-	59401	T	E	44238	R	01-04-1994	--	U	R	A	36 11 48	115 10 46
203	194	11130	-	A	--	-	- -1939	--	U	Z	P	36 11 20	115 08 22
204	11	9992	-	G	--	-	- -1933	--	U	Z	P	36 11 28	115 08 22
205	-	59782	T	E	45423	R	06-22-1994	Gowan & Valley	U	W	P	36 13 31	115 11 55
		60935	-	P									
		60940	-	P									
		60941	-	P									
		60942	-	P									
		60943	-	P									
		60944	-	P									
		60945	-	P									
		60948	-	P									
		60957	-	P									
		60961	-	P									
		62143	-	P									
		62149	-	P									
		62150	-	P									
		62151	-	P									
206	-	13366	-	A	6794	R	06-16-1962	LVVWD Tonopah	U	U	P	36 11 20	115 08 04
		23932	-	A									
207	-	24771	-	W	10471	C	10-24-1963	Hugh E. Holtzapple	U	Z	P	36 14 58	115 14 20
208	-	58443	-	W	41187	R	04-07-1993	--	U	W	P	36 18 44	115 12 17
		58461	T	E									
209	-	20475	-	R	7622	R	08-18-1962	LVVWD Valley View	U	U	P	36 11 41	115 08 50
210	-	21759	-	R	8852	R	05-09-1964	LVVWD Wcheyobs	U	A	U	36 12 55	115 11 40
		23700	-	C									
		24429	-	A									
		24954	-	W									
211	-	46919	-	G	15625	H	06-02-1976	--	U	W	D	36 12 55	115 11 40
		46922	-	G									
		51459	-	G									
		51460	-	G									
212	10	9992	-	G	10462	C	- -1936	Stocker	U	Z	P	36 11 24	115 08 22
		60947	-	P	27140	C	02-22-1969	LVVWD Stocker					
		60958	-	P	57888	Z							
		61883	-	W									
213	-	20003	-	R	7621	R	09-05-1962	LVVWD Wilshire	U	A	U	36 14 00	115 04 09
		21268	-	C	27126	R							
		27710	-	A									
		27712	-	A									
		27713	-	A									

TABLE 2.--Nevada Division of Water Resources site designation, water-use, and location data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Nevada Division of Water Resources site designations													
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NELLIS AIR FORCE BASE WATER-SUPPLY WELLS													
214	315	--	-	-	--	-	- -1939	--	U	Z	P	36 14 23	115 08 16
215	419	--	-	-	--	-	- -1941	--	U	Z	P	36 14 23	115 08 16
216	314	--	-	-	--	-	- -1933	--	U	Z	P	36 14 18	115 08 12
217	-	--	-	-	27094	H	03-13-1952	--	U	W	P	36 14 52	114 59 47
218	-	--	-	-	27093	H	04-09-1952	LVVWD LKMB 2	U	W	P	36 14 53	114 59 43
219	-	--	-	-	2872	H	11-07-1953	LVVWD LKMB 3	U	W	P	36 14 21	115 00 16
					27159	H		USGS SUB 25					
220	-	--	-	-	2873	H	11-22-1953	LVVWD LKMB 4	U	W	P	36 14 45	115 00 16
					27092	H							
221	-	--	-	-	6839	H	01-04-1961	LVVWD LKMB 5	U	W	P	36 14 51	115 00 44
222	416	13764	-	N	27160	Z	04-21-1941	USGS SUB 26	U	W	P	36 14 12	115 02 35
					30851	C							
223	-	13765	-	N	27125	C	08-02-1951	LVVWD NAFB 2	U	W	P	36 13 44	115 08 14
224	417	13766	-	N	51898	C	06-25-1942	--	U	Z	P	36 14 10	115 02 57
225	418	13767	-	N	27124	Z	01-01-1943	LVVWD NAFB 4	U	W	P	36 14 26	115 08 15
					51899	C	09-06-1943						
226	---	13768	-	W	27091	Z	- -1941	--	U	W	P	36 14 43	115 02 20
227	-	13769	-	N	1827	C	11-20-1951	LVVWD NAFB 6	U	W	P	36 13 31	115 02 53
228	-	13770	-	N	1863	C	01-18-1952	LVVWD NAFB 7	U	W	P	36 13 27	115 03 24
		52727	-	W	27161	Z	- -1986						
		53109	-	C									
229	-	17522	-	V	4901	H	09-02-1959	LVVWD NAFB 8	U	W	P	36 13 44	115 08 14
		18722	-	V									
		7616	R	O									
		7621	R	O									

230	-	16936	-	V	3981	H	03-28-1957	--	U	Z	P	36 14 49	115 02 29
					43317	Z	10-02-1993						
231	-	--	-	-	27162	R	07-10-1962	--	U	W	P	36 12 58	115 02 43
					54430	H	10-29-1993						
232	-	--	-	-	7085	H	02-20-1963	LVVWD NAFB 12	U	W	P	36 12 33	115 02 15

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Nevada Division of Water Resources site designations													
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233	-	--	-	-	7084	H	12-16-1962	USGS SUB 28	U	W	P	36 12 41	115 02 48
					54432	A	05-24-1983						
234	-	--	-	-	7083	H	01-29-1963	LVVWD NAFB 14	U	W	P	36 12 58	115 03 21
					54431	A	10-21-1993						
235	-	52280	-	C	--	-	--	Silver Flag Alpha; Alpha 1; T-2372	U	W	P	36 28 30	115 26 57
		55000	-	W				LVVWD Silver Flag					
WATER-LEVEL MONITORING WELLS													
236	-	--	-	-	--	H	01-26-1989	Desert Range Well 1	U	U	U	36 33 28	115 24 38
237	-	--	-	-	28422	H	02-24-1987	South of Black Hills Well 1	U	O	U	36 32 12	115 24 03
238	---	23501	-	F	310	C	04-17-1940	LVVWD Corn Creek	U	U	S	36 27 52	115 23 53
239	-	--	-	-	--	-	--	--	U	W	H	36 16 22	115 35 05
240	-	--	-	-	27005	H	07-20-1985	Jack Hess	U	W	H	36 20 04	115 20 54
								USGS SUB 1					
241	-	--	-	-	27006	H	03-23-1985	John Stevenson	U	W	H	36 19 07	115 21 28
								USGS SUB 2					
242	-	--	-	-	60269	A	08-16-1975	Roger Phillips	U	O	P	36 16 14	115 18 23
					35575	H	06-20-1991	LVVWD Tropical					
243	-	--	-	-	43426	A	11-30-1993	LVVWD Natale	U	O	H	36 15 54	115 19 08
244	450	11142	-	A	51598	Z	05-23-1945	P.J. Goumond	U	W	I	36 19 39	115 15 48
								LVVWD NDF					
245	-	--	-	-	53176	C	12-20-1972	USGS SUB 4	U	W	H	36 19 26	115 16 45
								LVVWD Doudy					
246	427	10931	-	W	4945	H	03-03-1943	NDWR Goumond	U	U	I	36 18 52	115 16 37
								LVVWD Goumond					
247	-	--	-	-	59826	H	12-15-1972	LVVWD Laub	U	W	H	36 18 41	115 12 46
248	-	--	-	-	59887	C	02-27-1975	USGS SUB 5	U	W	H	36 18 04	115 14 24
249	-	--	-	-	59852	C	02-13-1974	LVVWD Rome	U	O	H	36 16 57	115 16 24
250	-	29374	-	C	18178	Z	01-23-1976	Elwyn E. Guinn	U	U	P	36 17 03	115 15 06
		41957	-	V				LVVWD Reid					
251	-	--	-	-	60141	A	07-21-1977	Douglas L. O'Hair	U	W	H	36 16 55	115 13 21
								LVVWD Fisk					
252	-	--	-	-	60014	A	07-17-1979	USGS SUB 6	U	W	H	36 16 04	115 14 00
253	554	--	-	-	--	-	01-01-1946	NDWR USGS	U	Z	U	36 16 11	115 15 13
								LVVWD USGS					
254	-	--	-	-	--	-	--	--	U	O	U	36 16 03	115 16 11
255	-	--	-	-	--	-	--	--	U	O	U	36 16 03	115 16 11

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256	-	51896	-	V	31003	H	09-21-1988	LVVWD Mandm	U	O	P	36 16 06	115 16 27
257	-	49653	-	V	32312	H	09-15-1983	LVVWD Kiowa	U	O	P	36 15 52	115 16 04
258	-	--	-	-	60175	C	06-05-1968	Patrick E. Edmundsen	U	W	H	36 16 13	115 17 14
259	-	--	-	-	60199	H	12-18-1973	LVVWD El Campo Grande	U	W	H	36 15 58	115 16 52
260	-	54374	-	V	55118	H	05-20-1976	Nancy O. Tinker	U	W	P	36 15 50	115 16 48
261	-	45179	-	V	27058	C	07-17-1985	Sal Dimodicak Sun Valley Estates Water Users Assoc. USGS SUB 7	U	W	P	36 16 29	115 18 11
262	-	50300	-	V	28006	H	10-31-1986	Ronald H. Beal LVVWD Russ	U	O	P	36 16 04	115 18 34
263	-	--	-	-	60257	C	11-07-1966	Thomas H. Jones USGS SUB 8	U	W	H	36 14 51	115 15 34
264	-	--	-	-	--	-	--	NDWR Lone Mountain Well LVVWD Lonemtn	U	W	U	36 14 56	115 15 37
265	-	--	-	-	--	-	--	LVVWD SNMRE	U	W	P	36 15 11	115 13 26
266	-	--	-	-	--	-	--	USGS SUB 9	U	W	H	36 16 49	115 08 01
267	-	--	-	-	29551	H	01-11-1988	USGS SUB 10	U	W	H	36 16 29	115 08 12
268	-	--	-	-	--	-	--	USGS SUB 11	U	U	U	36 15 42	115 08 25
269	-	--	-	-	60677	A	07-21-1977	William Styres LVVWD Willis	U	W	H	36 15 14	115 11 29
270	-	48058	-	V	27086	A	02-04-1985	Robert C. & Barbara E. Miller Steven J. & Leslie J. Kragness LVVWD Miller	U	H	P	36 18 01	115 13 36
271	-	--	-	-	28600	C	05-22-1987	USGS SUB 12	U	W	H	36 15 07	115 08 20
272	-	50635	-	V	33778	C	03-12-1978	Jerry H. & Sara B. Bradford USGS SUB 13	U	W	P	36 14 59	115 07 09
273	-	--	-	-	60558	C	07-08-1971	Duane Engleson	U	W	C	36 15 55	115 03 48
274	-	--	-	-	--	B	09-27-1979		U	O	U	36 15 42	115 04 29
275	-	27885	-	V	13345 37677	C Z	08-01-1973	Thomas Jones	U	Z	C	36 14 10	115 14 16
276	-	--	-	-	--	-	05-17-1994	--	U	O	U	36 14 10	115 14 26
277	-	--	-	-	--	-	05-17-1994	--	U	O	U	36 14 10	115 14 26
278	-	--	-	-	--	-	05-17-1994	--	U	O	U	36 14 10	115 14 26
279	-	--	-	-	53426 53424	C C	02-20-1963 03-16-1971	USGS SUB 16	U	W	H	36 14 23	115 14 54
280	-	--	-	-	53526	C	02-22-1973	Harold Tomsik LVVWD Tomsik	U	W	H	36 14 17	115 16 13
281	-	--	-	-	27107	H	01-24-1986	USGS SUB 18	U	W	H	36 14 15	115 17 21
282	-	--	-	-	53542	H	07-22-1970	LVVWD Sftbrz	U	O	H	36 13 06	115 15 59
283	-	--	-	-	27603	H	07-10-1986	USGS SUB 20	U	W	H	36 13 20	115 15 21
284	-	--	-	-	--	-	--	Mike Tomaselli	U	Z	H	36 12 01	115 12 37
285	-	--	-	-	--	B	09-14-1979	LVVWD USGS 19	U	O	U	36 14 25	115 06 19

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Nevada Division of Water Resources site designations													
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286	-	12804	-	C	1155	C	12-21-1949	LVVWD Handl	U	U	I	36 14 22	115 07 28
287	-	14329	-	C	2206	C	02-27-1953	LVVWD Craig	U	O	I	36 14 26	115 09 50
288	-	--	-	-	31092	C	12-27-1988	USGS SUB 21	U	W	H	36 14 34	115 10 42
289	-	--	-	-	54077	C	01-25-1961	S.B. Rodgers NDWR Rogers Rocking Chair Ranch USGS SUB 22	U	U	U	36 13 01	115 11 54
290	-	--	-	-	--	-	--	USGS SUB 23	U	U	U	36 13 09	115 10 27
291	-	--	-	-	--	-	09-12-1979	LVVWD USGS/Chey	U	O	U	36 13 05	115 07 32
292	-	15470	-	F	3064	C	01-28-1954	Vandemeer Apartments	U	U	P	36 12 22	115 06 15
					54122	C	07-13-1955	Lambert & Malena VanDerMeer Kenneth J. Pilkington NDWR Consolidated Services					
293	-	--	-	-	--	B	09-01-1980	LVVWD USGS 15	U	O	U	36 12 12	115 06 59
294	-	11101	-	G	15834	H	08-16-1976	Coran Lane Water Company R.J. Kaltenborn NDWR Lake Mead Well	U	U	I	36 11 45	115 11 14
295	-	--	-	-	--	-	--	NDWR State Highway Department	U	O	U	36 10 51	115 08 14
296	-	--	-	-	--	B	10-01-1979	--	U	O	U	36 11 02	115 08 36
297	535	11567	-	A	51833	H	10-19-1946	City of Las Vegas Well 161 (Lorenzi Park) Thomas E. Sharp NDWR Lorenzi Park LVVWD Lorenzi	U	O	U	36 10 47	115 11 13
298	-	--	-	-	--	-	--	USGS SUB 24	U	W	H	36 10 46	115 10 19
299	-	--	-	-	--	B	09-24-1980	Las Vegas Municipal Golf Course LVVWD USGS 34	U	O	U	36 10 53	115 11 58
300	-	--	-	-	--	-	--	--	U	O	U	36 10 23	115 11 16
301	-	--	-	-	--	-	--	--	U	O	U	36 10 20	115 11 16
302	-	--	-	-	--	R	01-23-1989	--	U	O	U	36 10 20	115 11 16
303	-	--	-	-	--	B	09-27-1980	LVVWD USGS 37	U	O	U	36 09 37	115 11 34
304	-	--	-	-	--	-	--	--	U	O	U	36 10 24	115 10 45
305	-	--	-	-	--	-	--	--	U	O	U	36 10 25	115 11 04
306	-	--	-	-	--	-	--	--	U	O	U	36 10 25	115 11 12
307	465	11323	-	F	51831	C	03-04-1946	LVVWD Campbell	U	U	I	36 09 38	115 10 54
					1090	C	09-16-1949						
308	-	--	-	-	--	B	09-24-1980	Clark County Annex LVVWD USGS 48	U	O	U	36 09 55	115 08 36
309	-	--	-	-	--	-	--	LVVWD LG048	U	O	U	36 09 33	115 05 51
310	-	22330	-	V	9074	C	07-09-1966	USGS SUB 27	U	W	C	36 13 54	115 03 24
311	-	16309	-	V	54429	H	04-15-1955	--	U	W	C	36 13 37	115 04 25
312	-	14596	-	G	2990	C	05-20-1955	A.F. & G.A. Buck Charles M. McGinty USGS SUB 29	U	W	H	36 12 50	115 03 39

TABLE 2.--Nevada Division of Water Resources site designation, water-use, and location data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Nevada Division of Water Resources site designations													
Map number (pl.1)	Local field number	Application or permit number	Type	Status	Driller's log number	Method	Date well completed (month, day, year)	Other owners, other site names, or monitoring agency and name	Site type	Site use	Water use	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)
313	-	--	-	-	--	-	--	USGS SUB 30	U	W	H	36 11 47	115 05 23
314	-	26492	-	R	12944	C	08-01-1972	William Steel NDWR Bramblewood Trailer Park	U	W	P	36 11 23	115 05 06
315	-	14488	-	G	2399	C	09-22-1953	Charles W. Ross Barbara E. Pedigo NDWR Charles Ross LVVWD Ross	U	W	I	36 11 31	115 03 16
316	-	--	-	-	--	-	--	USGS SUB 31	U	U	U	36 11 25	115 02 48
317	-	25300	-	V	11114	C	07-07-1969	Forrest Purdy LVVWD Lear	U	W	P	36 11 00	115 01 19
318	-	24972	-	R	10744	C	05-11-1957	Edna M. Owens USGS SUB 32	U	W	C	36 10 54	115 03 25
319	-	--	-	-	--	-	--	USGS SUB 33	U	W	U	36 11 16	115 04 05
320	-	24498	-	R	10396	C	04-19-1967	Joe & Myrtle Merling NDWR Lamb & Owens Trailer Court	U	U	C	36 11 11	115 04 31
321	-	--	-	-	--	-	--	--	U	O	U	36 10 36	115 04 04
322	-	--	-	-	--	-	--	LVVWD Beesley	U	W	I	36 09 52	115 02 07
323	-	--	-	-	--	-	--	USGS SUB 34	U	W	H	36 08 59	115 24 42
324	-	--	-	-	55243	C	12-18-1954	Harmon Coleman Luttrell LVVWD Luttrell	U	O	U	36 08 47	115 12 53
325	-	--	-	-	31725	H	04-12-1989	USGS SUB 35	U	W	H	36 08 57	115 16 33
326	-	--	-	-	--	-	--	--	U	Z	U	36 08 25	115 13 03
327	-	--	-	-	27172	H	03-25-1985	USGS SUB 36	U	Z	H	36 08 10	115 13 17
328	-	24910	-	V	10855	C	08-23-1969	LVVWD Wells Cargo	U	W	N	36 07 39	115 15 27
329	-	21273	-	C	7486	C	06-30-1963	Clear Gravel Enterprises, Inc. LVVWD Clear Gravel	U	O	N	36 07 23	115 16 13
330	-	--	-	-	--	-	--	USGS SUB 37	U	W	H	36 05 18	115 15 21
331	-	--	-	-	40157	Z	06-28-1963	Charles F. Mann	U	W	H	36 04 44	115 13 23
					15565	C	04-24-1976	Frank Kim LVVWD Kim					
332	-	--	-	-	--	B	09-12-1979	LVVWD USGS 11	U	O	U	36 09 08	115 06 29
333	-	--	-	-	--	B	09-28-1979	LVVWD USGS 47	U	O	U	36 09 24	115 08 11
334	-	--	-	-	--	B	10-01-1979	USGS SUB 38	U	O	U	36 09 30	115 08 34
335	238	--	-	-	--	-	- -1912	W.S. Sparks LVVWD Dr. Park	U	W	H	36 09 31	115 08 38
336	386	10818	-	A	51816	C	09-21-1942	M & R Investment, Inc. Opaco Lumber & Realty Co. USGS SUB 39	U	O	U	36 09 10	115 09 20
337	-	--	-	-	--	B	09-24-1980	LVVWD USGS 43	U	O	U	36 09 21	115 09 36

TABLE 2.--Nevada Division of Water Resources site designation, water-use, and location data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Nevada Division of Water Resources site designations													
Map number (pl.1)	Local field number	Application or permit number	Type	Status	Driller's log number	Method	Date well completed (month, day,year)	Other owners, other site names, or monitoring agency and name	Site type	Site use	Water use	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)
338	88	9323	-	W	--	-	--	Boulder Dam Insurance Company NDWR Boulder Dam, Inc.	U	Z	I	36 08 46	115 09 14
339	-	--	-	-	--	B	09-28-1979	--	U	O	U	36 08 46	115 09 14
340	-	--	-	-	--	B	09-13-1979	LVVWD USGS 3A	U	O	U	36 08 38	115 10 18
341	-	--	-	-	--	-	--	LVVWD C11	U	O	U	36 07 34	115 06 40
342	-	19121 19127	- -	G G	5675	H	01-07-1961	Sahara Country Club No. 2 Wilbur Clark's Desert Inn David G. Price Bay Cities Finance Co. LVVWD Sahara 2	U	W	R	36 07 28	115 07 29
343	-	--	-	-	--	B	09-01-1980	LVVWD MPF	U	O	U	36 07 01	115 08 13
344	-	23901 23903 23904	- - -	G G G	10528	H	12-23-1968	Las Vegas Sands, Inc.	U	W	P	36 07 19	115 09 59
345	-	--	-	-	--	B	09-26-1979	LVVWD USGS 40	U	O	U	36 07 35	115 10 52
346	-	26155	-	R	12293	C	03-15-1972	Lotus Broadcasting Corporation	U	O	C	36 06 14	115 11 49
347	117	10243	-	C	--	-	- -1933	Alpha Pearl Baker L.B. Scherer LVVWD Baker	U	U	I	36 06 00	115 09 10
348	-	--	-	-	--	-	--	USGS SUB 41	U	U	U	36 06 14	115 07 50
349	-	--	-	-	--	B	06-26-1980	Paradise Park LVVWD USGS 56	U	O	U	36 06 17	115 06 38
350	-	--	-	-	56095	C	06-30-1953	David McCoig USGS SUB 42	U	W	H	36 05 42	115 06 50
351	-	--	-	-	--	-	--	LVVWD C36	U	O	U	36 05 34	115 06 17
352	-	--	-	-	--	B	09-22-1980	Clark County LVVWD PVP	U	O	U	36 05 22	115 07 21
353	-	--	-	-	--	-	--	NDWR Dobe Docks LVVWD Dobe Docks	U	O	U	36 05 28	115 09 42
354	534	11560	-	C	51936	C	09-06-1946	Murray Woolman Murray Wollman Vincent & Mary LoBue NDWR Morris Wollman	U	Z	P	36 05 43	115 10 13
355	-	21476	-	C	8800	H	09-08-1965	Las Vegas Concrete Contractors, Inc.	U	U	N	36 05 18	115 11 21
356	-	--	-	-	--	-	--	--	U	W	H	36 04 51	115 07 31
357	-	--	-	-	--	B	08-03-1977	LVVWD USGS 68	U	O	U	36 04 49	115 06 12
358	-	17311	-	V	4219	C	07-17-1958	Ideal Asphalt Paving Co., Inc. USGS SUB 44	U	W	N	36 09 31	115 02 12
359	-	--	-	-	58621	C	09-15-1971	LVVWD Omalley	U	W	H	36 07 33	115 03 44
360	-	--	-	-	--	B	08-10-1993	Desert Rose Golf Course LVVWD Drose	U	O	U	36 08 21	115 02 50
361	-	--	-	-	6791	C	08-17-1962	LVVWD NVPN	U	O	U	36 08 25	115 02 03
362	-	--	-	-	--	B	06-26-1980	LVVWD USGS 5	U	O	U	36 07 18	115 04 05

TABLE 2.--Nevada Division of Water Resources site designation, water-use, and location data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Nevada Division of Water Resources site designations													
Map number (pl.1)	Local field number	Application or permit number	Type	Status	Driller's log number	Method	Date well completed (month, day,year)	Other owners, other site names, or monitoring agency and name	Site type	Site use	Water use	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)
363	-	--	-	-	--	-	--	LVVWD C10	U	O	U	36 07 38	115 05 59
364	-	--	-	-	--	-	--	--	U	O	U	36 06 51	115 05 05
365	-	--	-	-	--	-	--	LVVWD C24	U	O	U	36 06 40	115 05 16
366	-	--	-	-	--	B	09-22-1980	USGS SUB 46	U	O	U	36 06 44	115 05 48
367	-	--	-	-	--	B	04-05-1985	LVVWD C27	U	O	U	36 06 21	115 05 59
368	-	--	-	-	--	-	--	LVVWD C25	U	O	U	36 06 17	115 05 19
369	-	--	-	-	--	B	05-01-1985	LVVWD C33	U	O	U	36 06 05	115 05 25
370	-	--	-	-	--	B	01-07-1985	--	U	O	U	36 06 47	115 04 40
371	408	10949	-	A	51919	C	08-17-1943	John Bunch, Leffel Netherton, and Leo Thurman (erroneously reported as Local field number 430, Permit number 10971, owned by "Leonard E. Billman" from 1970 - 1995) LVVWD Billman	U	U	P	36 06 01	115 03 44
372	-	--	-	-	--	-	--	LVVWD LG030	U	O	U	36 05 29	115 00 60
373	491	--	-	-	--	-	--	Floyd Francis NDWR Nevada Power Company LVVWD NVPS	U	O	U	36 05 09	115 02 30
374	-	--	-	-	--	B	09-28-1980	LVVWD USGS 3B	U	O	U	36 05 48	115 02 46
375	-	--	-	-	59343	C	03-14-1961	Earl Thomason USGS SUB 47	U	W	H	36 05 50	115 04 25
376	-	--	-	-	--	B	04-03-1985	LVVWD C42	U	O	U	36 05 47	115 04 54
377	-	--	-	-	--	B	03-04-1985	LVVWD C28	U	O	U	36 05 21	115 04 22
378	-	--	-	-	--	B	04-05-1985	LVVWD C43	U	O	U	36 05 35	115 05 09
379	-	--	-	-	--	B	04-05-1985	LVVWD C29	U	O	U	36 05 37	115 05 37
380	-	--	-	-	--	-	01-01-1970	--	U	O	U	36 05 03	115 00 14
381	-	--	-	-	--	B	06-26-1980	LVVWD USGS-SE	U	O	U	36 05 59	114 58 27
382	-	--	-	-	--	-	01-01-1970	--	U	O	U	36 05 07	114 59 22
383	-	--	-	-	--	-	01-01-1970	--	U	O	U	36 05 03	114 58 57
384	-	--	-	-	--	-	01-01-1970	--	U	O	U	36 04 25	114 59 18
385	-	17385	-	G	4145	-	--	Blue Diamond Corporation LVVWD JHNwell	U	O	H	36 02 56	115 23 38
386	-	23689	-	G	5222	C	05-31-1956	Blue Diamond Corporation LVVWD JHSwell	U	O	K	36 02 56	115 23 37
387	-	48092	-	C	29640	H	10-30-1987	LVVWD Humane	U	O	C	36 02 47	115 22 44
388	-	--	-	-	54292	A	07-17-1980	USGS SUB 49	U	W	H	36 02 01	115 20 47
389	-	--	-	-	29654	H	03-16-1988	USGS SUB 50	U	W	H	36 02 29	115 14 54
390	-	--	-	-	54855	C	02-25-1963	G.E. Moffatt & Art Lillis LVVWD Mandl	U	O	U	36 01 01	115 17 28
391	-	49730	-	C	12893	C	03-02-1970	Joseph D. & Ann Hornyak	U	O	C	36 01 18	115 14 11
392	-	--	-	-	54893	H	02-09-1979	USGS SUB 53	U	O	U	36 01 20	115 12 30

TABLE 2.--Nevada Division of Water Resources site designation, water-use, and location data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Nevada Division of Water Resources site designations													
Map number (pl.1)	Local field number	Application or permit number	Type	Status	Driller's log number	Method	Date well completed (month, day,year)	Other owners, other site names, or monitoring agency and name	Site type	Site use	Water use	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)
393	-	--	-	-	54905	H	11-12-1979	USGS SUB 54	U	W	H	36 00 42	115 15 05
394	-	--	-	-	28180	H	02-17-1987	Lynae Winkle USGS SUB 55	U	W	H	35 59 47	115 13 20
395	-	--	-	-	--	B	06-26-1980	LVVWD USGS 66	U	O	U	36 03 28	115 06 55
396	-	--	-	-	--	-	--	USGS SUB 56	U	O	U	36 03 34	115 08 29
397	-	--	-	-	57775	C	07-13-1955	LVVWD Placid	U	O	U	36 04 02	115 09 32
398	41	--	-	-	--	-	- -1926	NDWR Fitzpatrick LVVWD Fitzpatrick	U	O	U	36 03 58	115 10 16
399	-	--	-	-	58344	H	02-01-1976	USGS SUB 57	U	W	H	36 03 07	115 11 23
400	-	--	-	-	59668	C	06-13-1970	LVVWD Deatch	U	W	H	36 02 35	115 09 03
401	-	36232	-	C	16551	A	05-20-1977	LVVWD Brown	U	U	P	36 03 21	115 06 00
402	-	--	-	-	--	-	--	USGS SUB 58	U	W	H	36 02 17	115 07 12
403	-	--	-	-	--	-	--	James Knez	U	O	U	36 01 56	115 12 05
404	-	--	-	-	--	-	--	Ed Clover LVVWD Howe	U	O	U	36 01 12	115 10 43
405	-	21892 24952	-	C C	3086	C	04-02-1955	Hot Well Herman Bryant NDWR Joe Ingersoll	U	O	C	36 01 20	115 10 00
406	-	--	-	-	57369	C	03-05-1957	Curtis Lee & Kathleen Pettis	U	O	U	36 01 04	115 08 00
407	-	--	-	-	57467	A	02-22-1979	--	U	W	H	36 01 15	115 06 02
408	-	--	-	-	57485	Z	09-16-1977	NDWR Mike Neilson	U	W	H	36 01 06	115 06 55
409	-	20879*	-	-	12046	C	12-29-1971	LVVWD Cactus	U	O	U	36 00 02	115 10 38
410	-	--	-	-	--	-	--	USGS SUB 59	U	W	H	35 59 18	115 10 00
411	-	--	-	-	--	C	05-20-1980	--	U	O	U	36 03 46	115 01 38
412	-	17961	-	C	3771 8107	C C	04-12-1957 07-23-1964	--	U	U	N	36 03 22	115 03 08
413	-	18013	-	A	4339	H	07-10-1958	Herman M. Greenspun	U	U	I	36 02 41	115 04 40
414	-	17656	-	A	4316	H	08-25-1958	Bonanza Materials, Inc. Pacific Engineering & Production Co. USGS SUB 60	U	W	N	36 02 09	115 02 04
415	-	--	-	-	30363	H	08-15-1987	USGS SUB 61	U	U	U	36 01 52	115 02 00
416	-	--	-	-	--	-	01-01-1970	--	U	O	U	36 03 48	114 58 31
417	-	--	-	-	--	-	01-01-1970	--	U	O	U	36 03 05	114 59 30
418	-	--	-	-	--	-	01-01-1970	--	U	O	U	36 03 05	114 59 30
419	-	18608	-	C	5146 56788 39729	Z C C	03-11-1960 03-11-1960 09-16-1992	--	U	O	P	36 01 22	114 57 48
420	-	25130	-	V	10856	C	10-20-1969	Arby Alper LVVWD Sky Harbor	U	W	C	35 58 39	115 09 06
421	-	--	-	-	29559	H	01-18-1988	USGS SUB 63	U	W	H	35 57 31	115 09 06
422	-	--	-	-	53984 31126	C H	08-23-1972 11-04-1988	Edward D. & Lillian Roban USGS SUB 64	U	W	H	35 56 50	115 10 33

TABLE 2.--Nevada Division of Water Resources site designation, water-use, and location data for wells, springs, and surface-water outflow and intake sites in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Nevada Division of Water Resources site designations													
Map number (pl.1)	Local field number	Application or permit number	Type	Status	Driller's log number	Method	Date well completed (month, day,year)	Other owners, other site names, or monitoring agency and name	Site type	Site use	Water use	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)
								SURFACE-WATER OUTFLOW DISCHARGE MONITORING SITES					
423								Las Vegas Wash	S	X	U	36 05 20	114 59 05
424								Las Vegas Wash	S	X	U	36 07 20	114 54 15
425								Las Vegas Wash	S	X	U	36 05 53	114 56 42
426								Las Vegas Wash	S	X	U	36 07 14	114 54 34
								SURFACE-WATER IMPORTS INTAKE SITES					
427								Basic Management, Inc. Pipeline	L	W	N	36 03 33	114 47 55
428								Basic Management, Inc. Pipeline	L	W	P	36 03 33	114 47 55
429								Basic Management, Inc. Pipeline	L	W	P	36 03 33	114 47 55
430								Southern Nevada Water System	L	W	P	36 03 47	114 47 52
431								Southern Nevada Water System	L	W	P	36 03 47	114 47 52
432								Southern Nevada Water System	L	W	P	36 03 47	114 47 52
433								Southern Nevada Water System	L	W	P	36 03 47	114 47 52
434								Southern Nevada Water System	L	W	P	36 03 47	114 47 52

TABLE 3.--Earliest available and most recent (as of 1995) water-level measurement from wells in Las Vegas Valley and vicinity, Clark County, Nevada

[Explanations at beginning of supplemental data section]

Map number (pl.1)	Local site number	Owner or local site name	Water-level measurements: Earliest available: Date (month, day, year)	Depth to water (feet)	Method; source	Site status	Early 1995 or most recent: Date (month, day, year)	Depth to water (feet)	Method; source	Site status
		SELECTED HISTORICAL WATER-SUPPLY WELLS								
10	212 S18 E59 04B 1	Las Vegas & Tonopah Railroad Company	- -1905	65.	R	-	--	--	-	-
11	212 S20 E61 21ABBB1	Vegas Artesian Water Syndicate Well 1	07- -1907	--	R	F	--	--	-	-
12	212 S20 E61 34BCBC1	Union Pacific Railroad (Roundhouse well)	09-08-1921	--	R	F	06-05-1990	72.55	S	-
		LAS VEGAS LAND AND WATER COMPANY WATER-SUPPLY WELLS								
13	212 S20 E61 29CCCD1	LVLWC W01	05-20-1924	--	R	F	03-04-1982	142.62	S	-
14	212 S20 E61 31AADD1	LVLWC W02	02-18-1946	-38.2	R	-	03-04-1982	175.71	S	-
15	212 S20 E61 27DAAB1	LVLWC (Bunker Brothers Mortuary, Inc.)	09-30-1939	--	R	F	--	--	-	-
16	212 S20 E61 30DADD1	LVLWC W03	02-18-1944	-67.7	R	-	--	--	-	-
17	212 S20 E61 31ADA 1	LVLWC W04	02-18-1946	-52.9	R	-	--	--	-	-
18	212 S20 E61 30DDA 2	LVLWC W05	02-18-1944	-35.4	R	-	--	--	-	-
19	212 S20 E61 31AADD2	LVLWC W06	02-18-1946	-33.22	R	-	03-09-1995	112.65	C	-
20	212 S20 E61 31ADD 1	LVLWC W07	02-18-1946	-54.3	R	-	01-19-1971	155.	R	-
21	212 S20 E61 31DABA1	LVLWC W08	02-18-1946	-58.1	R	-	03-09-1995	99.45	C	-
22	212 S20 E61 31DDBB1	LVLWC W09	02-18-1944	-53.7	R	-	03-20-1989	194.23	S	-
23	212 S20 E61 31DDCB1	LVLWC W10	02-18-1944	-52.15	R	-	03-20-1989	178.73	S	-
24	212 S20 E61 31DACC1	LVLWC W11	02-18-1946	-56.3	R	-	03-04-1982	164.20	T	-
25	212 S20 E61 27DAAD1	LVLWC (Elks Lodge)	04-05-1949	--	R	F	--	--	-	-
26	212 S20 E61 31DADC1	LVLWC W12	06-22-1954	--	R	F	04-19-1995	110.00	C	-
27	212 S20 E61 30DDDD1	LVLWC W13	08-28-1954	--	R	F	04-04-1995	98.85	C	-
		LAS VEGAS VALLEY WATER DISTRICT WATER-SUPPLY AND ARTIFICIAL-RECHARGE WELLS								
28	212 S21 E60 03ADBB1	LVVWD AR001	11-07-1994	407.	R	-	04-07-1995	388.65	C	-
29	212 S21 E60 14AABA1	LVVWD AR002	07-23-1993	280.	R	-	04-07-1995	274.23	E	-
30	212 S21 E60 14AABA2	LVVWD AR003	11-15-1993	280.	R	-	04-07-1995	272.23	C	-
31	212 S21 E60 17ACAD1	LVVWD AR004	07-11-1993	550.	R	-	03-01-1995	553.08	E	-
32	212 S21 E60 17ACAB1	LVVWD AR005	08-24-1993	550.	R	-	03-01-1995	557.08	C	-
33	212 S20 E60 33DDCC1	LVVWD AR006	06-22-1993	532.	R	-	04-07-1995	499.43	C	-
34	212 S20 E60 33DDCA1	LVVWD AR007	07-08-1993	532.	R	-	04-07-1995	497.64	C	-
35	212 S20 E60 34CCBB1	LVVWD AR008	06-22-1993	515.	R	-	05-10-1995	484.00	C	-
36	212 S20 E60 34CCBD1	LVVWD AR009	07-26-1993	515.	R	-	04-21-1995	464.36	A	-
37	212 S20 E60 15CABC1	LVVWD AR010	08-16-1993	382.	R	-	04-06-1995	344.23	C	-
38	212 S19 E60 28CAC 2	LVVWD AR074A	--	--	-	-	04-18-1995	117.65	C	-
39	212 S19 E60 28CAC 3	LVVWD AR074B	--	--	-	-	03-09-1995	112.27	C	-
40	212 S20 E60 05DBBA2	LVVWD AR098	04-25-1995	375.	R	-	05-10-1995	372.95	C	-
41	212 S20 E60 05BAA 1	LVVWD AR108	05-26-1995	344.	R	-	05-10-1995	330.57	C	-
42	212 S20 E60 05BAAD1	LVVWD AR109	09-23-1995	361.	R	-	--	--	-	-

TABLE 3.--Earliest available and most recent (as of 1995) water-level measurement from wells in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Map number (pl.1)	Local site number	Owner or local site name	Water-level measurements							
			Earliest available				Early 1995 or most recent			
			Date (month, day, year)	Depth to water (feet)	Method; source	Site status	Date (month, day, year)	Depth to water (feet)	Method; source	Site status
43	212 S21 E60 04ADDC1	LVVWD AR111	12-19-1994	524.	R	-	04-07-1995	520.90	C	-
44	212 S20 E60 07AADA1	LVVWD AR113	06-15-1995	485.	R	-	05-12-1995	487.00	C	-
45	212 S22 E59 07DBAA1	LVVWD BD001	05-24-1974	44.	R	-	05-12-1995	47.75	C	-
46	212 S20 E60 35DDA 2	LVVWD W001A	12-24-1977	318.	R	-	04-07-1995	275.40	C	-
47	212 S20 E60 23CDD 2	LVVWD W002A	03-27-1975	327.	R	-	04-19-1995	311.00	C	-
48	212 S20 E61 20CDC 1	LVVWD W003A	12-20-1974	119.	R	-	03-27-1995	86.97	C	-
49	212 S20 E60 23CCC 1	LVVWD W005A	05-25-1975	345.	R	-	04-21-1995	332.57	C	-
50	212 S20 E61 31ADD 2	LVVWD W007A	01-10-1974	124.	R	-	04-04-1995	102.70	C	-
51	212 S20 E61 31DACC2	LVVWD W011A	01-24-1978	152.	R	-	04-04-1995	107.58	C	-
52	212 S20 E61 31AABB1	LVVWD W014	02-28-1961	25.	R	-	02-24-1995	124.70	C	-
53	212 S20 E61 30DDB 1	LVVWD W015	02-04-1970	112.50	R	-	02-15-1973	133.30	S	-
54	212 S20 E61 30DDC 1	LVVWD W015A	11-01-1973	155.	R	-	03-09-1995	117.07	C	-
55	212 S20 E61 30CDDD1	LVVWD W016	07-31-1962	73.	R	-	02-09-1995	154.04	C	J
56	212 S20 E61 30CDAA1	LVVWD W017	02-15-1973	154.	A	-	04-04-1995	152.43	C	J
57	212 S22 E60 01DDDC1	LVVWD W018	01-14-1963	232.	R	-	03-20-1989	297.22	S	-
58	212 S20 E60 27AAD 1	LVVWD W018A	12-05-1975	380.	R	-	04-19-1995	352.10	C	-
59	212 S20 E60 34CCB 1	LVVWD W019	03-28-1963	388.	R	-	03-07-1978	528.	A	-
60	212 S21 E61 22BBAD1	LVVWD W020	03-05-1963	53.	R	-	09-26-1985	104.93	S	-
61	212 S20 E60 34CCCC2	LVVWD W021	07-27-1963	389.	R	-	04-07-1995	473.74	C	J
62	212 S22 E61 06CCB 1	LVVWD W022	10-19-1963	211.	R	-	03-11-1974	251.34	S	-
63	212 S20 E60 21AAD 1	LVVWD W022A	09-20-1975	397.	R	-	04-19-1995	398.80	A	-
64	212 S22 E61 06CBA 1	LVVWD W023	10-18-1963	196.	R	-	06-05-1979	255.81	S	-
65	212 S20 E60 21AAB 1	LVVWD W023A	01-12-1976	398.	R	-	04-19-1995	394.60	A	-
66	212 S20 E60 26DCC 1	LVVWD W024	05-13-1963	244.	R	-	04-19-1995	312.90	A	-
67	212 S22 E61 06BCD 1	LVVWD W025	08-01-1963	193.	R	-	03-01-1980	257.71	S	-
68	212 S20 E61 30CDCC1	LVVWD W026	02-07-1964	90.	R	-	03-09-1995	165.05	C	-
69	212 S20 E61 30CDBB1	LVVWD W027	06-16-1964	106.	R	-	02-01-1988	240.	A	-
70	212 S20 E60 11CAAA1	LVVWD W028	04-28-1964	152.	R	-	04-27-1995	258.58	C	-
71	212 S20 E60 11CBA 1	LVVWD W029	06-11-1965	162.	R	-	04-27-1995	265.50	C	-
72	212 S20 E61 31ACBB1	LVVWD W030	03-10-1965	80.	R	-	03-04-1982	200.3	T	-
73	212 S20 E61 31DB	LVVWD W031	05-11-1965	90.	R	-	--	--	-	-
74	212 S20 E61 31DBC 1	LVVWD W032	07-17-1965	94.	R	-	02-05-1970	114.	R	-
75	212 S20 E60 11CBBB1	LVVWD W033	12-05-1968	216.	R	-	04-27-1995	269.95	C	-
76	212 S20 E61 29CCCD2	LVVWD W034	02-15-1973	88.5	S	-	04-04-1995	85.50	C	-
77	212 S20 E60 34CCC 1	LVVWD W035	06-15-1968	450.	R	-	03-05-1975	502.	A	-
78	212 S21 E62 20DDD 1	LVVWD W036A	02-05-1944	-31.6	R	-	--	--	-	-
79	212 S21 E62 20DDD 2	LVVWD W036B	03-07-1944	-41.4	R	-	--	--	-	-
80	212 S21 E62 06BB	LVVWD W037A	10-17-1948	5.	R	-	--	--	-	-
81	212 S21 E61 01AA	LVVWD W037B	12-19-1953	9.	R	-	--	--	-	-

TABLE 3.--Earliest available and most recent (as of 1995) water-level measurement from wells in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Map number (pl.1)	Local site number	Owner or local site name	Water-level measurements: Earliest available: Date (month, day, year)	Earliest available: Depth to water (feet)	Earliest available: Method; source	Earliest available: Site status	Early 1995 or most recent: Date (month, day, year)	Early 1995 or most recent: Depth to water (feet)	Early 1995 or most recent: Method; source	Early 1995 or most recent: Site status
82	212 S20 E60 35CBBC1	LVVWD W038	07-10-1962	267.	R	-	04-12-1995	365.90	C	J
83	212 S21 E61 27AB	LVVWD W039	12-26-1956	4.	R	-	--	--	-	-
84	212 S21 E61 28BA	LVVWD W040	--	--	-	-	--	--	-	-
85	212 S21 E61 28BA	LVVWD W041	02-15-1963	39.	R	-	--	--	-	-
86	212 S21 E61 27DB	LVVWD W042	07-31-1962	--	R	F	--	--	-	-
87	212 S21 E61 27DDBC1	LVVWD W043	04-24-1963	0.	R	-	02-16-1989	22.67	S	-
88	212 S20 E61 19BCBA1	LVVWD W044	04-21-1963	77.	R	-	06-14-1985	248.92	S	-
89	212 S20 E61 19BCCC1	LVVWD W045	05-13-1963	74.	R	-	03-27-1995	179.02	C	-
90	212 S20 E60 12DCB 1	LVVWD W046	06-21-1962	58.	R	-	06-25-1986	98.7	T	-
91	212 S20 E60 25DA	LVVWD W047	05-23-1955	35.	R	-	--	--	-	-
92	212 S20 E60 25DD	LVVWD W048	08-24-1957	75.	R	-	--	--	-	-
93	212 S21 E61 18BB	LVVWD W049A	05-29-1955	63.	R	-	--	--	-	-
94	212 S21 E61 18BB	LVVWD W049B	10-02-1964	120.	R	-	--	--	-	-
95	212 S21 E61 18ACA	LVVWD W049C	04-07-1963	50.	R	-	--	--	-	-
96	212 S20 E60 36BDDD1	LVVWD W050	09-04-1954	70.	R	-	09-24-1985	275.50	S	-
97	212 S20 E60 23AABA1	LVVWD W051	05-27-1964	145.	R	-	04-21-1995	244.32	C	-
98	212 S20 E60 24BBBA1	LVVWD W052	06-19-1963	145.	R	-	04-21-1995	235.00	C	-
99	212 S19 E60 27AAB 1	LVVWD W053	--	--	-	-	--	--	-	-
100	212 S20 E61 20CDC 1	LVVWD W054A	--	--	-	-	--	--	-	-
101	212 S20 E61 20CDB 1	LVVWD W054B	--	--	-	-	--	--	-	-
102	212 S21 E61 22CB 1	LVVWD W055	--	--	-	-	--	--	-	-
103	212 S20 E60 25BA	LVVWD W056	03-03-1967	3.	R	-	--	--	-	-
104	212 S20 E61 17CDB 1	LVVWD W057A	--	--	-	-	--	--	-	-
105	212 S20 E61 17CDC 1	LVVWD W057B	01-31-1944	-19.7	R	-	--	--	-	-
106	212 S20 E61 17CAB 1	LVVWD W057C	11-27-1946	--	R	F	02-22-1972	123.97	S	-
107	212 S20 E61 21BAB 1	LVVWD W057D	04-07-1955	12.	R	-	09-24-1985	186.80	S	-
108	212 S20 E61 36CC	LVVWD W058	--	--	-	-	--	--	-	-
109	212 S21 E61 04DAC 1	LVVWD W059A	03-02-1944	-49.2	R	-	--	--	-	-
110	212 S21 E61 04DAC 2	LVVWD W059B	06-19-1944	-8.4	R	-	--	--	-	-
111	212 S21 E61 04DA	LVVWD W059C	06-08-1951	12.	R	-	--	--	-	-
112	212 S21 E61 04DA	LVVWD W059D	09-14-1953	14.	R	-	--	--	-	-
113	212 S20 E62 21BA	LVVWD W060A	08-15-1953	55.	R	-	--	--	-	-
114	212 S20 E62 21AA	LVVWD W060B	06-18-1956	42.	R	-	--	--	-	-
115	212 S20 E62 21AA	LVVWD W060C	01-28-1958	42.	R	-	--	--	-	-
116	212 S21 E61 12CDB 1	LVVWD W061	12-07-1944	-33.3	R	-	--	--	-	-
117	212 S20 E61 31AACC1	LVVWD W068	08-15-1989	207.	R	-	03-09-1995	120.25	C	-
118	212 S20 E60 09DD 1	LVVWD W069	11-12-1989	394.	R	-	04-06-1995	339.98	E	-
119	212 S20 E60 34CCBB1	LVVWD W070	--	--	-	-	04-07-1995	474.57	C	J
120	212 S20 E60 34CCCD1	LVVWD W071	10-25-1989	534.	R	-	04-07-1995	469.78	C	J
121	212 S20 E60 09DADA1	LVVWD W072	10-20-1989	373.	R	-	04-06-1995	326.37	A	-

TABLE 3.--Earliest available and most recent (as of 1995) water-level measurement from wells in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Map number (pl.1)	Local site number	Owner or local site name	Water-level measurements: Earliest available: Date (month, day, year)	Depth to water (feet)	Method; source	Site status	Early 1995 or most recent: Date (month, day, year)	Depth to water (feet)	Method; source	Site status
122	212 S20 E60 23BB 1	LVVWD W073	12-03-1989	350.	R	-	04-12-1995	295.30	C	-
123	212 S19 E60 28CAC 1	LVVWD W074	05-05-1990	100.26	R	-	03-27-1995	107.60	C	-
124	212 S19 E60 28CAA 1	LVVWD W075	--	--	-	-	04-18-1995	92.70	C	-
125	212 S20 E60 28DAAB1	LVVWD W076	08-26-1992	510.	R	-	04-06-1995	463.70	C	-
126	212 S20 E60 23CA 1	LVVWD W077	06-21-1990	345.78	R	-	04-19-1995	287.70	C	-
127	212 S20 E60 07DCDA1	LVVWD W078	07-15-1992	565.	R	-	04-06-1995	537.58	A	-
128	212 S20 E61 29CDDB1	LVVWD W079	01-16-1992	103.	R	-	03-09-1995	67.85	C	-
129	212 S20 E61 29CDCC1	LVVWD W080	03-13-1992	105.	R	-	03-09-1995	71.80	C	-
130	212 S20 E61 31ADAD1	LVVWD W081	12-06-1991	130.	R	-	03-09-1995	94.55	C	-
131	212 S20 E61 31AAC 1	LVVWD W082	09-22-1991	175.	R	-	02-24-1995	105.91	C	-
132	212 S20 E61 31DADD1	LVVWD W083	12-20-1991	138.	R	-	03-09-1995	94.00	C	-
133	212 S20 E61 31DDDA1	LVVWD W084	01-16-1992	127.	R	-	04-18-1995	97.20	C	-
134	212 S20 E60 23CADD1	LVVWD W085	09-03-1991	355.	R	-	04-19-1995	288.05	C	-
135	212 S21 E60 03ADCA1	LVVWD W086	08-01-1995	480.	R	-	--	--	-	-
136	212 S20 E60 21DDCC1	LVVWD W087	01-29-1993	493.7	R	-	04-06-1995	461.71	C	-
137	212 S20 E60 15CBAD1	LVVWD W088	05-20-1993	378.	R	-	04-18-1995	340.10	C	-
138	212 S21 E60 02ABCB1	LVVWD W089	06-29-1994	334.	R	-	04-07-1995	321.50	C	-
139	212 S20 E60 08CDAD1	LVVWD W090	08-28-1994	454.	R	-	04-06-1995	441.50	C	-
140	212 S20 E60 06DCDD1	LVVWD W091	04-01-1996	493.	R	-	--	--	-	-
141	212 S20 E60 09DBBA1	LVVWD W092	10-30-1995	361.	R	-	--	--	-	-
142	212 S20 E60 28ABAB1	LVVWD W093	10- -1994	511.	R	-	03-01-1995	483.20	C	-
143	212 S20 E60 10BBBD1	LVVWD W094	--	--	-	-	04-06-1995	303.71	C	-
144	212 S20 E60 08CCBD1	LVVWD W095	08-18-1994	497.	R	-	03-01-1995	487.95	C	-
145	212 S20 E60 07CDA 1	LVVWD W096	01-14-1995	583.2	R	-	03-01-1995	580.94	C	-
146	212 S20 E60 27DBCC1	LVVWD W097	12- -1994	425.	R	-	04-07-1995	402.25	C	-
147	212 S20 E60 05DBBA1	LVVWD W098	04-30-1996	380.	R	-	--	--	-	-
148	212 S20 E60 10CABB1	LVVWD W101	07-06-1995	316.	R	-	--	--	-	-
149	212 S20 E60 22BCAD1	LVVWD W102	08-03-1995	390.55	R	-	--	--	-	-
150	212 S20 E60 10BAAA1	LVVWD W103	09-16-1995	318.	R	-	--	--	-	-
151	212 S21 E60 02CABC1	LVVWD W104	10-07-1995	357.42	R	-	--	--	-	-
152	212 S20 E60 27BDBC1	LVVWD W105	08-31-1995	443.70	R	-	--	--	-	-
153	212 S20 E60 08AABB1	LVVWD W110	05-30-1996	385.	R	-	--	--	-	-
154	212 S20 E60 05DBDB1	LVVWD W112	05-04-1996	369.	R	-	--	--	-	-
155	212 S20 E60 07AADA1	LVVWD W113	06-06-1996	494.	R	-	--	--	-	-
156	212 S20 E60 08DBAB1	LVVWD W114	06-25-1996	423.	R	-	--	--	-	-
157	212 S20 E60 08DAAB1	LVVWD W115	08-20-1996	408.	R	-	--	--	-	-
158	212 S20 E60 15DABA1	LVVWD W116	04-15-1996	296.	R	-	--	--	-	-
159	212 S20 E60 15BBAB1	LVVWD W117	06-20-1996	338.	R	-	--	--	-	-

TABLE 3.--Earliest available and most recent (as of 1995) water-level measurement from wells in Las Vegas Valley and vicinity, Clark County, Nevada--continued

Map number (pl.1)	Local site number	Owner or local site name	Water-level measurements: Earliest available: Date (month, day, year)	Depth to water (feet)	Method; source	Site status	Early 1995 or most recent: Date (month, day, year)	Depth to water (feet)	Method; source	Site status
		CITY OF NORTH LAS VEGAS WATER-SUPPLY AND ARTIFICIAL-RECHARGE WELLS								
160	212 S20 E61 18BCCD1	CNLV Airport	05-27-1964	160.	R	-	03-08-1995	190.50	T	X
161	212 S19 E61 32CC	CNLV Allen & Lone Mountain	09-30-1992	171.38	R	-	01-15-1995	151.2	C	-
162	212 S20 E61 14DA	CNLV Boris Terrace	06-10-1954	36.	R	-	--	--	-	-
163	212 S20 E61 08DCD 1	CNLV Carlton Square 1	11-19-1961	101.	R	-	02-14-1973	167.28	S	-
164	212 S20 E61 08DBC 1	CNLV Carlton Square 2	01-06-1963	78.	R	-	03-05-1971	161.47	S	-
165	212 S20 E61 24CBB 1	CNLV College Park 1	05-18-1954	34.	R	-	03-02-1982	3.72	S	-
166	212 S20 E61 24CCAB1	CNLV College Park 2	08-16-1955	56.	R	-	03-14-1989	4.62	S	-
167	212 S19 E61 19BC	CNLV Deer Springs	08-25-1992	147.	R	-	01-15-1995	127.3	C	-
168	212 S20 E61 06CBDD1	CNLV Desert Aire	07-31-1963	69.	R	-	03-27-1995	22.6	C	-
169	212 S20 E61 13CB	CNLV Desert View	07-21-1955	61.	R	-	--	--	-	-
170	212 S20 E61 13ABDB1	CNLV Diana Terrace	06-16-1962	74.	R	-	04-02-1995	42.70	S	-
171	212 S19 E60 05AA	CNLV Dollar Answer Well	--	--	-	-	--	--	-	-
172	212 S20 E61 24ADB 1	CNLV East Vegas 1	04-30-1959	49.	R	-	03-01-1978	37.10	S	-
173	212 S20 E61 13DCC 1	CNLV East Vegas 2	07-03-1958	64.	R	-	02- -1972	111.	A	-
174	212 S20 E61 24ACCC1	CNLV East Vegas 3	08-09-1960	55.	R	-	--	--	-	-
175	212 S20 E60 12DBB 1	CNLV Elstner Estates	07-18-1970	193.	R	-	03-27-1995	114.2	C	-
176	212 S20 E60 12DB	CNLV Elstner Estates 2	01-23-1995	240.	R	-	03-20-1995	216.6	C	-
177	212 S20 E61 23BB	CNLV Federal Park	07-20-1954	20.	R	-	--	--	-	-
178	212 S20 E61 22ACD 2	CNLV Fun Center North	--	--	-	-	--	--	-	-
179	212 S20 E61 22ACD 1	CNLV Fun Center South	02-19-1944	-45.6	R	-	--	--	-	-
180	212 S20 E61 15BDB 1	CNLV Galucci	08-03-1961	54.	R	-	03-01-1977	74.51	S	-
181	212 S20 E62 18BBAD1	CNLV Gowen 1	02-22-1962	66.	R	-	03-23-1994	44.48	S	-
182	212 S20 E62 18BABA1	CNLV Gowen 2	02-05-1962	64.	R	-	10-21-1991	73.6	C	-
183	212 S20 E61 23DD	CNLV Grandview	04-21-1954	7.	R	-	--	--	-	-
184	212 S20 E61 21BAAB1	CNLV Highland School	07-09-1954	14.	R	-	03-30-1995	55.70	S	-
185	212 S20 E61 11AA 1	CNLV Leavitt	09-20-1962	50.	R	-	04-06-1995	69.5	C	-
186	212 S20 E61 15DCCB1	CNLV Losee	08-23-1944	-0.63	R	-	04-08-1993	27.7	C	-
187	212 S20 E61 14DDD 1	CNLV Main	04-06-1946	-6.3	R	-	--	--	-	-
188	212 S20 E61 13CC	CNLV McCarran North	08-31-1953	42.10	R	-	--	--	-	-
189	212 S20 E61 24BD	CNLV McCarran South	06-30-1947	6.5	R	-	--	--	-	-
190	212 S20 E61 14DA	CNLV Northland Park	- -1955	8.	R	-	--	--	-	-
191	212 S19 E61 33AD	CNLV North Revere Well	03-28-1967	40.	R	-	--	--	-	-
192	212 S20 E61 22DCB 1	CNLV Railroad	04-24-1943	-3.7	R	-	--	--	-	-
193	212 S19 E61 21DDB 1	CNLV Regional Park 1	04-08-1971	23.	R	-	04-08-1995	40.72	S	-
194	212 S19 E61 33ABCC1	CNLV Regional Park 2	03-13-1989	120.82	S	-	06-03-1991	122.48	S	-
195	212 S20 E61 15AAC 1	CNLV Reservoir 1	03-02-1956	--	R	F	--	--	-	-
196	212 S20 E61 15AB	CNLV Reservoir 2	01-30-1956	--	R	F	--	--	-	-
197	212 S20 E61 15AB	CNLV Reservoir 2A	04-09-1958	81.	R	-	--	--	-	-
198	212 S20 E61 18DCB 1	CNLV Robinson	05-26-1963	76.	R	-	04-11-1995	267.	A	-
199	212 S20 E61 22DCB 2	CNLV Sakai	06-03-1961	33.	R	-	--	--	-	-

TABLE 3.--Earliest available and most recent (as of 1995) water-level measurement from wells in Las Vegas Valley and vicinity, Clark County, Nevada--continued

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200	212 S20 E61 07AB	CNLV Silver Mesa	01-28-1993	213.	R	-	04-11-1995	107.7	C	-
201	212 S20 E61 17CA 1	CNLV Simmons & Evans	01-11-1994	142.	R	-	04-06-1995	121.8	C	-
202	212 S20 E61 20BD 1	CNLV Simmons & Lake Mead	01-04-1994	102.	R	-	04-06-1995	85.0	C	-
203	212 S20 E61 22DCA 2	CNLV Stocker North	04-10-1946	-18.4	R	-	--	--	-	-
204	212 S20 E61 22DCD 2	CNLV Stocker South	01-28-1939	-35.1	R	-	--	--	-	-
205	212 S20 E61 07DB	CNLV Sun Valley	06-22-1994	230.71	R	-	04-06-1995	169.8	C	-
206	212 S20 E61 22DACD1	CNLV Tonopah	06-16-1962	90.	R	-	03-30-1995	10.18	S	-
207	212 S20 E60 02AB	CNLV Torrey Pines	10-24-1963	71.	R	-	--	--	-	-
208	212 S19 E61 07BC 1	CNLV UNLV Well	04-07-1993	122.	R	-	--	--	-	-
209	212 S20 E61 22BCDD1	CNLV Valley View	08-18-1962	92.	R	-	09-21-1994	60.62	S	-
210	212 S20 E61 18ABB 1	CNLV West Cheyenne 1	05-09-1964	80.	R	-	05-17-1995	113.34	T	J
211	212 S20 E61 18ABB 2	CNLV West Cheyenne 2	06-02-1976	192.	R	-	12-15-1993	264.	A	-
212	212 S20 E61 22DCD 1	CNLV West Tank	02-22-1969	8.	R	-	01-15-1995	71.2	C	-
213	212 S20 E62 05CAAA1	CNLV Wilshire	09-05-1962	101.	R	-	03-30-1995	76.32	S	-
		NELLIS AIR FORCE BASE WATER-SUPPLY WELLS								
214	212 S20 E61 03ADC 1	Las Vegas Army Airfield	08-11-1944	9.45	R	-	--	--	-	-
215	212 S20 E61 03ADC 2	Las Vegas Army Airfield	--	--	-	-	--	--	-	-
216	212 S20 E61 03DAB 1	Las Vegas Army Airfield	08-23-1944	-5.35	R	-	--	--	-	-
217	212 S19 E62 36DCC 1	USAF Lake Mead 1	03-13-1952	130.	R	-	--	--	-	-
218	212 S19 E62 36DBB 1	USAF Lake Mead 2	04-09-1952	129.	R	-	03-03-1982	131.85	S	-
219	212 S20 E62 01BBC 1	USAF Lake Mead 3	11-07-1953	131.	R	-	09-11-1991	124.97	S	-
220	212 S19 E62 36CCB 1	USAF Lake Mead 4	11-22-1953	132.	R	-	03-03-1982	130.80	S	-
221	212 S19 E62 35DCDC1	USAF Lake Mead 5	01-04-1961	108.	R	-	04-17-1995	90.63	S	-
222	212 S20 E62 04ADD 1	USAF Nellis 1	04-19-1942	20.0	R	-	09-11-1991	72.64	S	-
223	212 S20 E61 03DAD 1	USAF Nellis 2	08-02-1951	17.	R	-	03-03-1982	55.92	S	-
224	212 S20 E62 04DCA 1	USAF Nellis 3	08- -1942	51.0	R	-	--	--	-	-
225	212 S20 E61 03ADC 3	USAF Nellis 4	--	--	-	-	03-03-1982	63.16	S	-
226	212 S20 E62 03BBD 1	USAF Nellis 5	07-27-1945	60.0	R	-	--	--	-	-
227	212 S20 E62 09ABC 1	USAF Nellis 6	11-16-1951	58.11	R	-	03-03-1982	92.51	S	-
228	212 S20 E62 09BCC 1	USAF Nellis 7	01-18-1952	54.	R	-	03-03-1982	77.82	S	-
229	212 S20 E61 03DAD 2	USAF Nellis 8	09-02-1959	12.	R	-	04-17-1995	63.17	S	-
230	212 S20 E62 03BBCC1	USAF Nellis 10	03-28-1957	68.	R	-	03-14-1988	95.18	S	-
231	212 S20 E62 09DCDD1	USAF Nellis 11 (X)	07-10-1962	84.	R	-	03-03-1982	92.50	S	-
232	212 S20 E62 15BBAB1	USAF Nellis 12 (C)	02-20-1963	59.	R	-	04-17-1995	85.31	S	-
233	212 S20 E62 16ACC 1	USAF Nellis 13 (B)	12-16-1962	72.	R	-	09-11-1991	116.94	S	-
234	212 S20 E62 09CCC 1	USAF Nellis 14 (A)	01-29-1963	70.	R	-	04-17-1995	64.48	S	-
235	212 S17 E58 14BCBA1	USAF Well 2372-1	05-12-1990	211.5	T	-	04-13-1995	217.08	S	-

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Map number (pl.1)	Local site number	Owner or local site name	Water-level measurements: Earliest available: Date (month, day, year)	Depth to water (feet)	Method; source	Site status	Early 1995 or most recent: Date (month, day, year)	Depth to water (feet)	Method; source	Site status
		WATER-LEVEL MONITORING WELLS								
236	212 S16 E58 14A 1	DR-1	02-02-1989	815.37	R	-	11-30-1994	815.97	T	-
237	212 S16 E58 23DDD 1	SBH-1	02-25-1987	581.81	R	-	10-06-1994	579.55	T	-
238	212 S17 E59 20BD 1	USBLM	04-17-1940	30.	R	-	03-28-1995	27.17	S	-
239	212 S19 E57 28ADA 1	Paul Kingston	08-21-1978	384.5	T	-	03-28-1995	562.86	T	-
240	212 S19 E59 02BBBD1	Lynn Haplin	07-20-1985	611.	R	-	02-26-1990	644.6	T	-
241	212 S19 E59 10ABCA1	Browning	03-23-1985	637.	R	-	03-06-1991	712.14	S	-
242	212 S19 E59 25ADDD1	Charles R. Phillips	06-20-1991	345.	R	-	02-03-1995	356.75	C	-
243	212 S19 E59 25DDBC1	Linda Natale	11-30-1993	510.	R	-	04-07-1995	533.80	C	-
244	212 S19 E60 04DAB 1	Nevada Division of Forestry	04-05-1946	-30.6	R	-	03-28-1995	95.28	S	-
245	212 S19 E60 05ABD 1	Ken Dowdy	12-20-1972	185.	R	-	09-09-1991	219.80	S	-
246	212 S19 E60 09BCC 1	P.J. Goumond	03-03-1943	34.	R	-	03-28-1995	178.42	S	-
247	212 S19 E60 12DB 1	Elmer Laub	12-15-1972	74.	R	-	03-28-1995	139.72	S	-
248	212 S19 E60 14BCB 1	John Koval	02-27-1975	66.	R	-	03-06-1991	109.08	S	-
249	212 S19 E60 21CACB1	Dick & Albert Radacy	02-13-1974	110.	R	-	04-07-1995	138.11	C	-
250	212 S19 E60 22BDD 1	Booker Reid	01-23-1976	76.	R	-	04-07-1995	135.75	S	-
251	212 S19 E60 24CBC 1	Don Fisk	07-21-1977	85.	R	-	03-28-1995	130.45	S	-
252	212 S19 E60 26CAD 1	Russel Irby	07-17-1979	121.	R	-	06-06-1991	145.90	S	-
253	212 S19 E60 27BDC 1	USGS	06-03-1946	-46.9	G	-	01-31-1995	90.64	Z	-
254	212 S19 E60 28CAD 1	LVVWD W075MS	--	--	-	-	03-27-1995	119.45	C	-
255	212 S19 E60 28CAD 2	LVVWD W075MD	--	--	-	-	03-27-1995	91.40	C	-
256	212 S19 E60 28CBDA1	Max & Sandra Maserang	09-21-1988	130.	R	-	03-09-1995	121.82	C	-
257	212 S19 E60 28DCCA1	Bill Johnson	09-15-1983	172.	R	-	02-03-1995	149.80	C	-
258	212 S19 E60 29BDD 1	David Holland	06-05-1968	140.	R	-	06-14-1994	214.15	T	-
259	212 S19 E60 29DD 1	Charles Liefert	12-18-1973	113.	R	-	02-03-1995	155.10	C	-
260	212 S19 E60 29DDDB1	Robert Coache	05-20-1976	110.	R	-	04-08-1995	150.66	S	-
261	212 S19 E60 30ABCA1	Bob Olivero	07-17-1985	366.	R	-	09-09-1991	335.14	S	-
262	212 S19 E60 30CACB1	Russ Mortenson	10-31-1986	385.	R	-	03-09-1995	377.70	C	-
263	212 S19 E60 33DDD 1	W.S. & Evelyn J. Milliken	11-07-1966	227.	R	-	09-09-1991	196.14	S	-
264	212 S19 E60 34CC 1	Verde & Tioga Well	05-01-1990	170.50	Z	-	05-03-1995	153.25	Z	-
265	212 S19 E60 36CBB 1	SNMRE	03-05-1971	127.15	S	-	03-28-1995	149.85	S	-
266	212 S19 E61 23CBCC1	Unknown	02-28-1990	86.4	T	-	03-04-1991	87.8	T	-
267	212 S19 E61 27AABD1	John & Dorothy Cuellar	01-11-1988	85.	R	-	09-11-1991	93.59	S	-
268	212 S19 E61 27DCDC1	Unknown	02-28-1990	95.34	S	-	09-11-1991	88.95	S	-
269	212 S19 E61 31ADCD1	John Willis	07-21-1977	147.	R	-	03-30-1995	135.72	S	-
270	212 S19 E61 31ADDD1	Bob Miller	02-04-1985	118.	R	-	03-30-1995	133.80	S	-
271	212 S19 E61 34DBDA1	Jonnie Seely	05-22-1987	70.	R	-	06-03-1991	87.76	S	-
272	212 S19 E61 35DDB 1	Jerry H. Bradford	03-12-1978	42.	R	-	06-03-1991	59.94	S	-
273	212 S19 E62 29DDBA1	Lee Yoffe	07-08-1971	115.	R	-	03-13-1989	98.32	S	-
274	212 S19 E62 32BBAA1	USGS 6	10-22-1979	91.44	S	-	03-13-1989	93.50	S	-
275	212 S20 E60 02BDA 1	Quick Stop Market	08-01-1973	140.	R	-	03-02-1982	191.78	S	-

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Map number (pl.1)	Local site number	Owner or local site name	Water-level measurements							
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276	212 S20 E60 02CCBB1	USGS-PZD	11-20-1994	298.10	B	-	04-25-1995	275.56	B	-
277	212 S20 E60 02CCBB2	USGS-PZM	11-20-1994	294.00	B	-	04-25-1995	273.29	B	-
278	212 S20 E60 02CCBB3	USGS-PZS	11-20-1994	241.23	B	-	04-25-1995	231.71	B	-
279	212 S20 E60 03DBBA1	John & Lura Dell Lawrin	03-01-1990	22.58	S	-	09-10-1991	178.16	S	-
280	212 S20 E60 04CAD 1	Edward Tomsik	02-22-1973	285.	R	-	03-28-1995	327.74	T	-
281	212 S20 E60 05CADC1	William D. Price	01-24-1986	391.	R	-	09-09-1991	412.15	S	-
282	212 S20 E60 09DCC 1	Lawrence Montello	07-22-1970	330.	R	-	12-10-1991	425.76	S	-
283	212 S20 E60 10CBDD1	Susan Halley	07-10-1986	348.	R	-	09-10-1991	367.90	S	-
284	212 S20 E60 13DCCD1	Tom Dellavalle	03-05-1971	77.32	S	-	03-17-1993	39.98	S	-
285	212 S20 E61 01ACCD1	USGS 4	09-20-1979	61.95	S	-	03-30-1995	59.90	S	-
286	212 S20 E61 02DBB 1	Hartwell & Lowe Company	12-29-1949	-14.20	R	-	03-30-1995	44.90	S	-
287	212 S20 E61 04BDCA1	George & Olive Craig	02-27-1953	35.	R	-	05-01-1995	91.87	S	-
288	212 S20 E61 05ACBB1	Alan Tucker	12-27-1988	128.	R	-	09-11-1991	135.87	S	-
289	212 S20 E61 07CCB 1	Rogers Rocking Chair Ranch	01-25-1961	38.	R	-	04-18-1995	22.60	Z	Z
290	212 S20 E61 08DCDA1	Unknown	03-02-1990	144.65	S	-	12-20-1990	110.50	S	-
291	212 S20 E61 11CDDC1	USGS 2	09-13-1979	38.91	S	-	04-01-1995	4.70	S	-
292	212 S20 E61 13ACD 1	Consolidated Services	07-13-1955	42.	R	-	04-18-1995	29.55	Z	-
293	212 S20 E61 14CCCC1	USGS 15	03-02-1981	27.55	S	-	04-02-1995	28.14	S	-
294	212 S20 E61 20BC 1	Allen & Coran Well	08-16-1976	72.	R	-	05-03-1995	62.30	Z	-
295	212 S20 E61 27ADB 1	NDOT	07-07-1965	24.20	Z	-	04-18-1995	13.55	Z	-
296	212 S20 E61 27BDAA1	USGS 11	10-22-1979	10.67	S	-	03-30-1995	10.45	S	-
297	212 S20 E61 29CBB 2	CLV 161 (Lorenzi Park)	10-19-1946	-42.0	R	-	03-08-1995	115.20	C	-
298	212 S20 E61 29DABD2	Unknown	07-10-1978	26.14	S	-	09-09-1991	21.64	S	-
299	212 S20 E61 30BDC 1	USGS 34	03-02-1981	11.92	S	-	01-20-1995	7.46	S	-
300	212 S20 E61 31AAA 1	LVVWD MDB02	02-28-1990	16.18	R	-	03-09-1995	14.19	C	-
301	212 S20 E61 31AAD 1	LVVWD MDB01	02-28-1990	68.34	R	-	04-19-1995	42.47	C	-
302	212 S20 E61 31AADD1	LVVWD MDB06	02-28-1990	3.51	R	-	03-09-1995	12.26	C	-
303	212 S20 E61 31DCD 1	USGS	03-02-1981	13.21	S	-	01-20-1995	9.50	C	-
304	212 S20 E61 32BAA 1	LVVWD MDB05	02-28-1990	15.42	R	-	03-09-1995	12.90	C	-
305	212 S20 E61 32BBA 1	LVVWD MDB04	02-28-1990	30.01	R	-	03-09-1995	24.44	C	-
306	212 S20 E61 32BBB 1	LVVWD MDB03	02-28-1990	20.62	R	-	02-24-1995	18.22	C	-
307	212 S20 E61 32CDC 1	Kenneth Searles	02-27-1946	-81.3	R	-	04-02-1995	29.61	S	-
308	212 S20 E61 34CAA 1	USGS	04-15-1981	6.89	S	-	01-20-1995	6.18	S	-
309	212 S20 E61 36DDDD1	USBR LG048	02-01-1972	11.87	C	-	05-05-1981	12.16	C	-
310	212 S20 E62 04CBC 1	Central Telephone Company	07-09-1966	50.	R	-	09-11-1991	74.57	S	-
311	212 S20 E62 08BABA1	Nevada Drive-In	04-15-1955	70.	R	-	01-09-1986	78.45	S	-
312	212 S20 E62 17AAA 1	Evans	05-20-1955	50.	R	-	09-10-1991	73.12	S	-
313	212 S20 E62 19BBD 1	William E. Cook	02-21-1972	61.79	S	-	09-10-1991	23.78	S	-
314	212 S20 E62 19DC 1	Bramblewood Trailer Court	08-01-1972	100.	R	-	05-02-1995	17.30	Z	-
315	212 S20 E62 21CAB 1	Rose Kelly	09-22-1953	38.	R	-	01-31-1995	54.70	Z	-

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316	212 S20 E62 21DBA 1	Unknown	02-17-1973	84.58	S	-	09-10-1991	73.48	S	-
317	212 S20 E62 26BBCC1	John Lear	07-07-1969	140.	R	-	04-06-1995	144.35	S	-
318	212 S20 E62 28BCD 1	A.C. Owens	05-11-1957	30.	R	-	09-10-1991	47.78	S	-
319	212 S20 E62 29ABB 1	Unknown	02-21-1972	81.42	S	-	03-01-1982	71.26	S	-
320	212 S20 E62 29BB 1	Lamb & Owens Trailer Court	04-19-1967	66.	R	-	05-03-1995	24.75	Z	-
321	212 S20 E62 29DCAB1	Unknown	03-04-1971	61.90	S	-	04-06-1995	24.59	S	-
322	212 S20 E62 34CABB1	Unknown	02-21-1972	49.76	S	-	03-30-1995	27.42	S	-
323	212 S21 E59 06DBAC1	Unknown	03-05-1990	116.22	S	-	09-10-1991	108.90	S	-
324	212 S21 E60 01DBB 1	Ira Luttrell	12-18-1954	115.	R	-	04-09-1995	87.80	S	-
325	212 S21 E60 04CBDA1	Jim Villani	04-12-1989	650.	R	-	09-10-1991	645.6	T	-
326	212 S21 E60 12BABA1	Dean & Nick Dalacas	02-15-1973	145.60	S	-	09-28-1994	68.43	S	-
327	212 S21 E60 12CBAB1	Genser	03-05-1990	85.87	S	-	12-10-1990	79.95	S	-
328	212 S21 E60 15BBDC1	Wells Cargo, Inc.	08-23-1969	372.	R	-	04-07-1995	410.70	S	-
329	212 S21 E60 16BDDB1	Clear Gravel, Inc.	06-30-1963	405.	R	-	04-07-1995	473.03	T	-
330	212 S21 E60 27CCAA1	Unknown	03-06-1990	--	-	P	09-10-1991	--	-	P
331	212 S21 E60 35ADAB1	Frank Kim	04-30-1976	278.	R	-	01-04-1995	304.40	S	-
332	212 S21 E61 01ACCC1	USGS 1	09-13-1979	7.65	S	-	06-05-1990	7.87	S	-
333	212 S21 E61 03AAAD1	USGS 8	10-22-1979	7.43	S	-	04-03-1995	7.26	S	-
334	212 S21 E61 03ABAB1	USGS 10	10-22-1979	11.20	S	-	09-09-1991	10.70	S	-
335	212 S21 E61 03ABB 2	Dr. W. Park	03-06-1944	-38.11	S	-	04-06-1995	31.38	S	-
336	212 S21 E61 04AAD 1	Home Lumber	08-19-1944	-17.2	R	-	09-09-1991	77.66	S	-
337	212 S21 E61 04ABC 1	USGS	03-02-1981	9.54	S	-	04-02-1995	7.76	S	-
338	212 S21 E61 04DDBA1	Boulder Dam Townsite Co.	03-02-1944	-13.35	S	-	02-06-1995	14.17	Z	-
339	212 S21 E61 04DDBA2	USGS 9	10-22-1979	9.23	S	-	09-10-1992	6.19	S	-
340	212 S21 E61 09BBBB1	USGS 3	09-14-1979	17.15	S	-	12-17-1993	7.17	S	-
341	212 S21 E61 13BDAB1	CC 11	04-01-1985	9.40	C	-	04-26-1994	10.51	C	-
342	212 S21 E61 14ACA 1	LV Hilton Country Club No. 2	01-07-1961	--	R	F	01-20-1995	8.47	S	-
343	212 S21 E61 15DDDD1	USGS 57	05-22-1981	15.53	S	-	06-05-1991	15.22	S	-
344	212 S21 E61 16CA 3	Sands Hotel & Casino Well 3	12-23-1968	100.	R	-	09-09-1991	165.38	S	-
345	212 S21 E61 17BADD1	USGS 5	10-22-1979	25.77	S	-	01-20-1995	8.89	S	-
346	212 S21 E61 19CBA 1	KENO Radio Station	03-15-1972	180.	R	-	05-30-1986	215.5	T	-
347	212 S21 E61 22CCC 1	A.P. Baker	04-13-1940	-29.9	G	-	04-06-1995	26.00	S	-
348	212 S21 E61 23CBC 1	Unknown	03-05-1971	79.49	S	-	09-09-1991	28.06	S	-
349	212 S21 E61 24CAD 1	USGS	03-02-1981	14.30	S	-	01-18-1995	15.15	S	-
350	212 S21 E61 25BDA 1	Clara M. McCoig	06-30-1953	47.	R	-	09-10-1991	26.71	S	-
351	212 S21 E61 25DBAA1	CC 36	04-01-1985	11.20	C	-	08-08-1995	9.36	C	-
352	212 S21 E61 26DDBB1	Paradise Vista Park	02-26-1981	14.19	S	-	03-30-1995	15.73	S	-
353	212 S21 E61 28CABB1	Dobe Docks	02-01-1970	34.00	S	-	01-18-1995	18.91	S	-
354	212 S21 E61 29AACA1	Morris Wollman	09-06-1946	-17.4	R	-	11-28-1988	93.08	Z	-
355	212 S21 E61 30DABB1	S.J. Hall	09-08-1965	111.	R	-	03-10-1989	171.40	S	-

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356	212 S21 E61 35ACC 1	Unknown	03-05-1979	20.89	S	-	02-24-1981	22.20	S	-
357	212 S21 E61 36ADC 3	USGS	08-03-1977	17.	R	-	03-26-1995	13.32	S	-
358	212 S21 E62 03ABBB1	Gary Stewart	07-17-1958	13.	R	-	09-10-1991	40.09	S	-
359	212 S21 E62 08DBDA2	Ronald Okelberry	09-15-1971	21.	R	-	12-16-1993	12.53	S	-
360	212 S21 E62 09ADAD1	USGS	09-15-1993	20.	R	-	02-02-1995	17.50	C	-
361	212 S21 E62 10ACAA1	Nevada Power Company	02-22-1972	19.97	S	-	01-18-1995	13.99	S	-
362	212 S21 E62 17DAB 1	USGS	03-02-1981	6.79	S	-	04-06-1995	6.00	S	-
363	212 S21 E62 18BBCB1	CC 10	04-01-1985	6.90	C	-	12-01-1995	12.59	C	-
364	212 S21 E62 19AABA1	USGS	03-07-1979	11.60	S	-	03-06-1990	11.46	S	-
365	212 S21 E62 19ACAB1	CC 24	04-01-1985	14.10	C	-	07-18-1991	14.62	C	-
366	212 S21 E62 19BAC 1	USGS	03-02-1981	23.86	S	-	09-09-1991	16.04	S	-
367	212 S21 E62 19CBCB1	CC 27	05-13-1985	21.	R	-	08-08-1995	20.87	C	-
368	212 S21 E62 19DBCD1	CC 25	04-01-1985	14.80	C	-	08-08-1995	16.41	C	-
369	212 S21 E62 19DCCB1	CC 33	05-13-1985	19.	R	-	08-08-1995	20.23	C	-
370	212 S21 E62 20BBDA1	CC 49	04-01-1985	8.70	C	-	08-08-1995	10.29	C	-
371	212 S21 E62 20DDD 2	J. Bunch, L. Netherton, & L. Thurman (erroneously reported as "L. Billman" from 1970 - 1995)	03-07-1944	-41.4	R	-	01-18-1995	-61.00	G	-
372	212 S21 E62 26DBA 2	USBR LG030	04-29-1971	6.40	C	-	05-04-1981	6.93	C	-
373	212 S21 E62 27CCCB1	Nevada Power Company	04-09-1946	23.13	R	-	03-26-1995	18.58	S	-
374	212 S21 E62 28AAC 1	USGS	03-02-1981	19.85	S	-	06-06-1991	19.24	S	-
375	212 S21 E62 29BADC1	Louis Mendosa	02-21-1972	14.14	S	-	03-13-1990	11.78	S	-
376	212 S21 E62 29BCBB1	CC 42	05-13-1985	11.	R	-	08-08-1995	11.33	C	-
377	212 S21 E62 29CDAA1	CC 28	05-13-1985	10.	R	-	08-08-1995	7.50	C	-
378	212 S21 E62 30ADCC1	CC 43	05-13-1985	7.	R	-	08-08-1995	7.05	C	-
379	212 S21 E62 30BDCD1	CC 29	05-17-1985	15.	R	-	08-08-1995	11.67	C	-
380	212 S21 E62 36BABD1	USBR LG027	04-29-1971	12.	R	-	06-23-1987	15.76	S	-
381	212 S21 E63 30AAAA1	USGS - BLM	06-26-1980	31.06	S	-	03-30-1995	15.45	S	-
382	212 S21 E63 31BBAA2	USBR LG020	03-02-1972	6.	R	-	01-13-1987	5.70	S	-
383	212 S21 E63 31BBAA3	USBR LG017	04-29-1971	8.16	R	-	06-23-1987	14.06	S	-
384	212 S21 E63 31CCAD1	USBR LG021	03-02-1972	28.42	R	-	06-23-1987	24.90	S	-
385	212 S22 E59 08BDCC1	James Hardie Gypsum (North Well)	06-27-1994	7.55	C	-	04-12-1995	4.05	C	-
386	212 S22 E59 08BDCD1	James Hardie Gypsum (South Well)	05-31-1956	6.	R	-	04-12-1995	4.50	C	-
387	212 S22 E59 09CBDB1	Southern Nevada Humane Society	11-04-1993	102.30	C	-	04-12-1995	122.88	C	-
388	212 S22 E59 15DAAB1	Elene Taddy	03-14-1990	267.21	S	-	03-14-1990	267.21	S	-
389	212 S22 E60 10DCDC1	Don & Shirley Balding	03-16-1988	468.	R	-	03-16-1990	480.68	S	-
390	212 S22 E60 20CACA1	Moffat & Lillis	02-25-1963	473.	R	-	04-19-1995	473.26	T	-
391	212 S22 E60 23BBD 1	Joe Hornyak	03-02-1970	400.	R	-	03-31-1995	439.07	T	-
392	212 S22 E60 24ADA 1	George Shiroky	02-09-1979	265.	R	-	09-11-1991	296.55	S	-
393	212 S22 E60 27ABB 1	Juan Villegas	11-12-1979	428.	R	-	09-11-1991	444.6	T	-
394	212 S22 E60 36BBCA1	Levia Davis	02-17-1987	315.	R	-	09-11-1991	346.55	S	-
395	212 S22 E61 01CCC 1	USGS	06-25-1981	46.69	S	-	12-12-1990	49.82	S	-

TABLE 3.--Earliest available and most recent (as of 1995) water-level measurement from wells in Las Vegas Valley and vicinity, Clark County, Nevada--continued

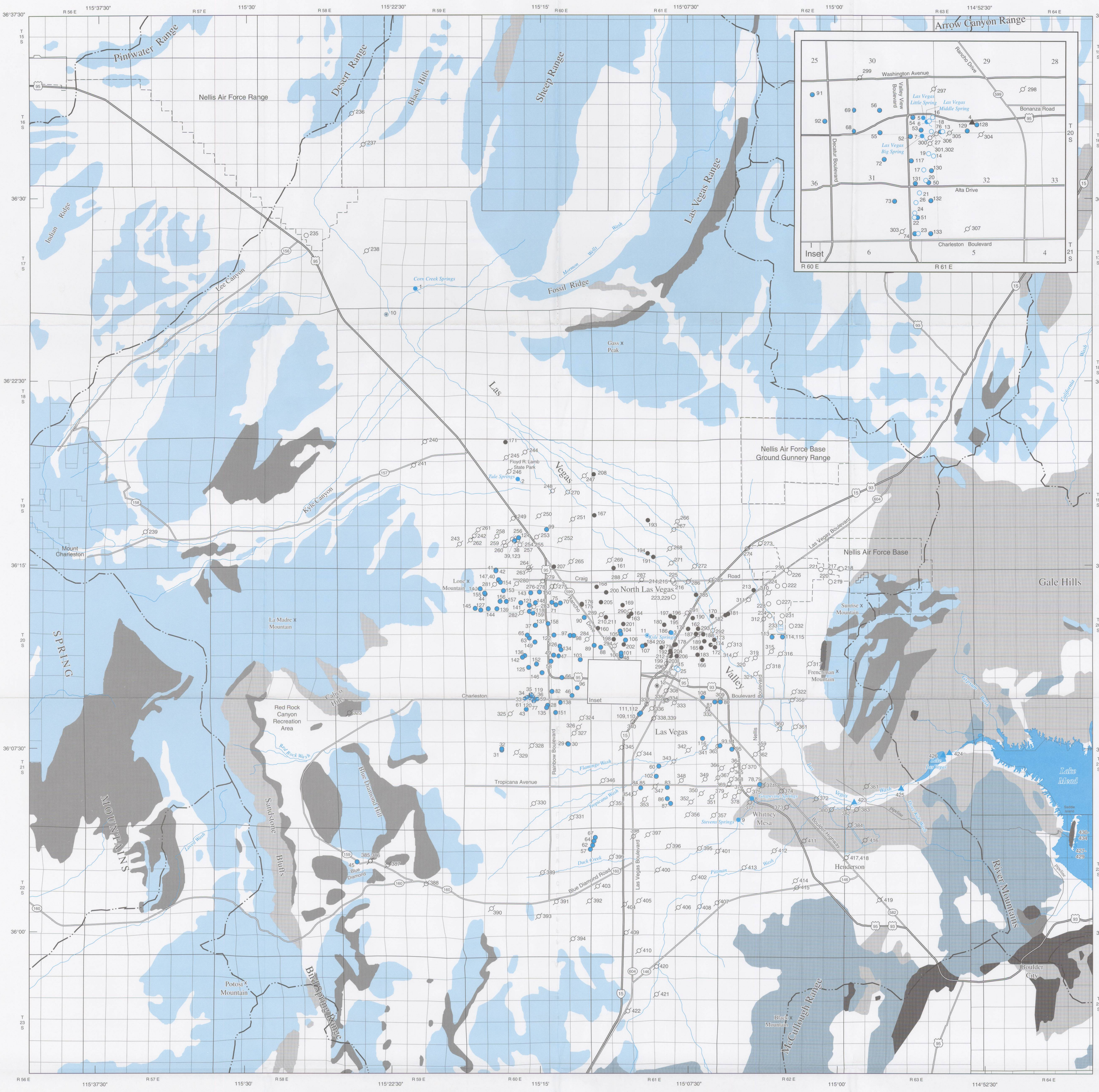
Map number (pl.1)	Local site number	Owner or local site name	Water-level measurements: Earliest available: Date (month, day, year)	Depth to water (feet)	Method; source	Site status	Early 1995 or most recent: Date (month, day, year)	Depth to water (feet)	Method; source	Site status
396	212 S22 E61 03DCA 2	Unknown	02-28-1979	50.28	S	-	09-10-1991	63.66	S	-
397	212 S22 E61 04ACDA1	James C. Snell	07-13-1955	40.	R	-	03-25-1995	100.05	S	-
398	212 S22 E61 04BCB 1	Maude Fitzpatrick	08-14-1938	74.99	S	-	03-25-1995	163.51	S	-
399	212 S22 E61 07BCB 1	Tosco Houston	02-25-1981	285.40	S	-	09-11-1991	325.20	S	-
400	212 S22 E61 10CCD 1	Lewis J. Deatch	06-13-1970	90.	R	-	01-04-1995	124.64	S	-
401	212 S22 E61 12AAAD1	Josephine G. Brown	05-20-1977	37.	R	-	03-26-1995	19.18	S	-
402	212 S22 E61 14ADBA1	Carlyle Mortensen	03-13-1990	103.6	T	-	06-11-1991	107.0	T	-
403	212 S22 E61 18CACD1	Dennis Abby	02-24-1972	228.30	S	-	03-25-1995	269.94	S	-
404	212 S22 E61 20BAD 1	Tom Howe	03-10-1975	181.62	S	-	09-29-1994	213.55	S	-
405	212 S22 E61 21BBD 1	Joe Ingersoll	04-02-1955	82.	R	-	05-03-1995	159.94	Z	-
406	212 S22 E61 23CBD 1	Andrea Ballard	03-05-1957	75.	R	-	09-11-1986	125.03	C	-
407	212 S22 E61 24ADD 1	Neva Cotley	02-22-1979	205.	R	-	06-16-1994	173.96	S	-
408	212 S22 E61 24CBCA1	Mike Neilson	09-16-1977	95.	R	-	01-12-1993	134.44	Z	-
409	212 S22 E61 29DCDB1	Frank Tegano	12-29-1971	120.	R	-	03-25-1995	133.06	T	-
410	212 S22 E61 33CACC1	Unknown	03-12-1990	185.8	T	-	09-10-1991	190.48	S	-
411	212 S22 E62 02CBBC1	USBR LG225	05-16-1980	22.	R	-	06-24-1987	21.31	S	-
412	212 S22 E62 04DCCC1	City of Henderson	07-23-1964	3.	R	-	06-11-1991	0.44	S	-
413	212 S22 E62 08CBDC1	Paradise Valley Country Club	07-10-1958	65.	R	-	03-15-1989	157.92	S	-
414	212 S22 E62 15ACDB1	Fred Gibson Jr.	08-25-1958	86.	R	-	09-10-1991	82.76	S	-
415	212 S22 E62 15DBDD1	Frehner Construction	08-15-1987	160.	R	-	08-23-1990	129.20	S	-
416	212 S22 E63 05CBBB1	USBR LG013	02-01-1972	49.71	R	-	06-25-1987	65.74	S	-
417	212 S22 E63 07BCBD1	USBR LG025	03-02-1972	11.41	R	-	06-29-1986	14.65	S	-
418	212 S22 E63 07BCBD2	USBR LG026	03-02-1972	11.80	R	-	06-26-1987	21.26	S	-
419	212 S22 E63 20ABCB1	City of Henderson	03-11-1960	325.	R	-	09-09-1992	308.19	S	-
420	212 S23 E61 03BCC 1	Sky Harbor Airport	10-20-1969	198.	R	-	03-25-1995	216.18	S	-
421	212 S23 E61 10CCBA1	Battista Locatelli	01-18-1988	283.	R	-	09-10-1991	290.80	S	-
422	212 S23 E61 17DABB1	Lillian Roban	11-04-1988	407.	R	-	09-10-1991	409.49	S	-

See caption on inside of front cover

NEVADA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF WATER RESOURCES

Prepared cooperatively by the
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WATER-RESOURCES INFORMATION REPORT 35
PLATE 1



Base from U.S. Geological Survey digital data 1:100,000 scale, 1983-88;
Universal Transverse Mercator projection, Zone 11
Roads modified from Clark County digital data

Geology modified from Stewart and Carlson, 1978

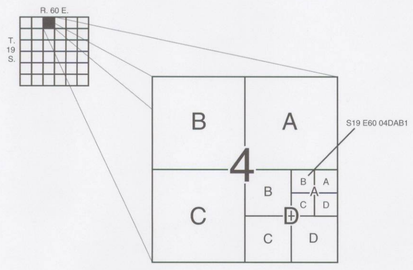
5 0 5 10 15 MILES

5 0 5 10 15 KILOMETERS

EXPLANATION

- Basin-fill deposits
- Carbonate rocks
- Clastic rocks
- Other sedimentary rocks
- Volcanic rocks
- Other igneous and metamorphic rocks
- Hydrographic area boundary

- First well drilled in the Las Vegas Valley (site 10)
- First flowing well drilled in Las Vegas Valley (site 11)
- First railroad well drilled in Las Vegas Valley (site 12)
- Las Vegas Land & Water Company wells (sites 13-27)
- Las Vegas Valley Water District artificial-recharge and water-supply wells (sites 28-159)
- City of North Las Vegas artificial-recharge and water-supply wells (sites 160-213)
- Nellis Air Force Base water-supply wells (sites 214-235)
- Water-level monitoring wells (sites 236-422)
- Major historical (artesian) springs (sites 1-3, 5-9)
- Spring discharge monitoring site (site 4)
- Surface-water outflow monitoring sites (sites 423-426)
- Lake Mead intakes for surface-water imports (sites 427-434)



MAP SHOWING LOCATION OF SPRINGS AND WELLS USED FOR WATER-SUPPLY, ARTIFICIAL GROUND-WATER RECHARGE, OR WATER-LEVEL MONITORING, INTAKES FOR SURFACE-WATER IMPORTS, AND SURFACE-WATER GAGING STATIONS IN AND AJACENT TO LAS VEGAS VALLEY, NEVADA

By
David B. Wood
2000